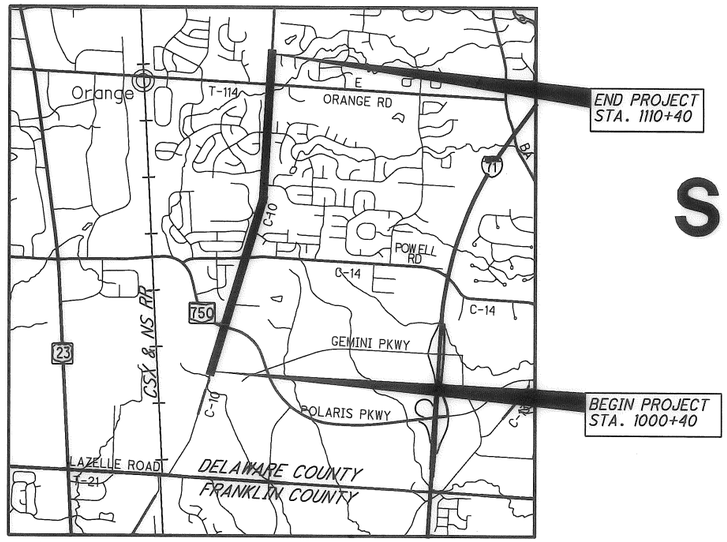


LOCATION MAP

LATITUDE: 40°09'01" LONGITUDE: -82°59'52"

SCALE IN MILES

0 1 2 3 4

N

PORTION TO BE IMPROVED

INTERSTATE HIGHWAY

STATE & FEDERAL ROUTES

COUNTY & TOWNSHIP ROADS

OTHER ROADS

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DEL-CR10-0.90
S. OLD STATE RD.
CITY OF COLUMBUS
ORANGE TOWNSHIP
DELAWARE COUNTY

FOR INDEX OF SHEETS, SEE SHEET 3

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION AND WIDENING OF 2.08 MILES OF EXISTING SOUTH OLD STATE ROAD (CR 10) FROM TWO (2) LANES WITH TURN LANES AT EXISTING INTERSECTIONS TO A FIVE (5) LANE FACILITY. THESE IMPROVEMENTS INCLUDE TURN LANES, NEW PAVEMENT, CURB, SIDEWALK ALONG THE EAST SIDE OF THE ROAD AND A TEN-FOOT (10') SHARED USE PATH ALONG THE WEST SIDE OF THE ROAD, STREET LIGHTING AT INTERSECTIONS, STORM SEWER, TRAFFIC SIGNALS, SIGNAGE AND PAVEMENT MARKINGS.

PROJECT EARTH DISTURBED AREA:	42.97 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	1.11 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	44.08 ACRES

2013 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FOR ON THE PLANS AND ESTIMATES.

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

DELAWARE COUNTY

DELAWARE COUNTY ENGINEER
FOR WORK WITHIN THE RIGHT-OF-WAY ONLY — DATE 6-3-15

CHIEF DEPUTY ENGINEER
FOR WORK WITHIN THE RIGHT-OF-WAY ONLY — DATE 6/3/15

CITY OF COLUMBUS

DESIGN SECTION ENGINEER, DIVISION OF DESIGN AND CONSTRUCTION — DATE 4-30-15

ADMINISTRATOR, DIVISION OF POWER — DATE 5-22-15

ADMINISTRATOR, DIVISION OF SEWERAGE AND DRAINAGE — DATE 5-19-15

ADMINISTRATOR, DIVISION OF WATER — DATE 5-15-15

DIRECTOR, DEPARTMENT OF PUBLIC UTILITIES — DATE 5.27.2015

FIRE PREVENTION BUREAU, DIVISION OF FIRE — DATE 05/04/15

ENGINEERING SUPERVISOR, DIVISION OF TECHNOLOGY — DATE 5-6-15

DIRECTOR, DEPARTMENT OF RECREATION AND PARKS — DATE 6.9.15

CITY ENGINEER, ADMINISTRATOR, DIVISION OF DESIGN AND CONSTRUCTION — DATE 5-28-15

DIRECTOR, DEPARTMENT OF PUBLIC SERVICE — DATE 5-28-15

DESIGN DESIGNATION

	CR-10	POLARIS PKWY	POWELL ROAD	ORANGE ROAD
CURRENT ADT (2015	26,300	43,500	11,900	16,100
DESIGN YEAR ADT (2035)	39,200	61,800	16,200	26,500
DESIGN HOURLY VOLUME (2035)	3,870	6,120	1,620	2,580
DIRECTIONAL DISTRIBUTION	64%	59%	57%	53%
TRUCKS (24 HOUR B&C)	4%	4%	4%	4%
DESIGN SPEED	45 MPH	45 MPH	45 MPH	45 MPH
LEGAL SPEED	45 MPH	45 MPH	45 MPH	45 MPH
DESIGN FUNCTIONAL CLASSIFICATION:	URBAN MINOR ARTERIAL	URBAN PRINCIPAL ARTERIAL	URBAN MAJOR COLLECTOR	URBAN MAJOR COLLECTOR
NHS PROJECT				

DESIGN EXCEPTIONS NONE

PLAN PREPARED BY:

URS

COLUMBUS, OHIO

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

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

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

ENGINEERS SEAL:

STATE OF OHIO — DAVID BECKER — 61010 — REGISTERED PROFESSIONAL ENGINEER

SIGNED: DATE: 04/28/2015

ENGINEERS SEAL:

SIGNED: DATE:

CITY OF COLUMBUS STANDARD CONSTRUCTION DRAWINGS

TRANSPORTATION			TRAFFIC	WATER	ELECT.	SEWER	
1441	2302	4160	S-1063	L-1001	MIS-4	AA-SI33	AA-SI51
2000	2303	4162	S-1089	L-6309A	MIS-15	AA-SI51	AA-SI54
2160	2304	4163	S-1610	L-6310	MIS-17	AA-SI37	AA-SI55
2161	2319	4170	S-1630	L-6311	MIS-23	AA-SI39	
2170	2320	4202		L-6312	MIS-63	AA-SI00	
2179	4001	4205		L-6316A	MIS-68	AA-SI01	
2185	4020	4230		L-6316B	MIS-81	AA-SI02	
2191	4021	4250		L-6637A	MIS-107	AA-SI06	
2195	4023	4300		L-6640	MIS-151	AA-SI07	
2201	4051			L-7102A	MIS-152	AA-SI12	
2202	4100			L-7102C	MIS-190	AA-SI15	
2220	4101			L-7401	MIS-191	AA-SI16	
2225	4105					AA-SI48	
2300	4110					AA-SI49	

STANDARD CONSTRUCTION DRAWINGS

BP-1.1	07/28/00	DM-1.1	01/18/13	CB-1.1	01/18/13	MT-95.30	07/18/14	TC-21.20	10/18/13	TC-83.20	10/18/13		
BP-4.1	07/19/13	DM-1.4	01/18/13	CB-2.1	01/18/13	MT-95.40	07/18/14	TC-22.10	10/18/13	TC-84.20	10/18/13		
BP-5.1	07/19/13	DM-3.1	01/18/13	CB-2.2	01/18/13	MT-97.11	07/18/14	TC-22.20	10/18/13	TC-85.20	10/18/13		
BP-7.1	07/18/14	DM-4.1	07/19/13	CB-3.1	01/18/13	MT-99.20	07/19/13	TC-41.20	10/18/13				
RM-1.1	07/18/14	DM-4.3	07/19/13	CB-1.2	01/18/13	MT-99.30	07/18/14	TC-41.40	10/18/13	HL-10.11	4/17/09		
RM-2.1	07/19/13	DM-4.4	07/20-12	HW-2.1	01/18/13	MT-95.50	07/19/13	TC-42.10	10/18/13	HL-10.12	10/15/10		
RM-3.1	07/19/13			MH-1.2	01/18/03	MT-97.10	07/18/14	TC-42.20	10/18/13	HL-30.11	10/18/13		
RM-5.1	07/18/14			MH-1.3	01/18/03	MT-101.70	07/19/13	TC-52.10	10/18/13	HL-30.22	01/18/13		
RM-5.2	01/21/11					MT-101.90	07/18/14	TC-52.20	07/18/14	HL-60.31	01/18/13		
RM-7.1	07/18/14					MT-102.10	07/18/14	TC-71.10	10/19/12				
LA-1.2	01/16/09					MT-105.10	07/18/14	TC-72.20	07/18/14				
						MT-110.10	07/18/14	TC-73.10	04/20/12				
NBS-1-09	07/18/14					MT-120.00	07/18/14	TC-81.21	07/19/13				
								TC-82.10	10/18/13				
								TC-83.10	01/18/13				

SUPPLEMENTAL SPECIFICATIONS

804	04/18/14
815	01/19/07
811	01/18/13
816	01/20/12
832	01/17/14
861	07/19/13
906	10/15/00
907	01/20/12

CITY OF COLS SUPP. SPECS.

1100	02/01/15
1551	03/01/04

FEDERAL PROJECT NO. E110(272)

PID NO. 90243

CONSTRUCTION PROJECT NO. DEL-CR10-0.90

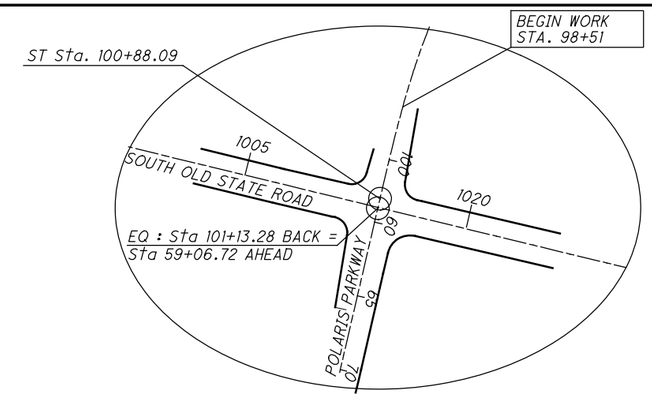
RAILROAD INVOLVEMENT NONE

2952-DR.E

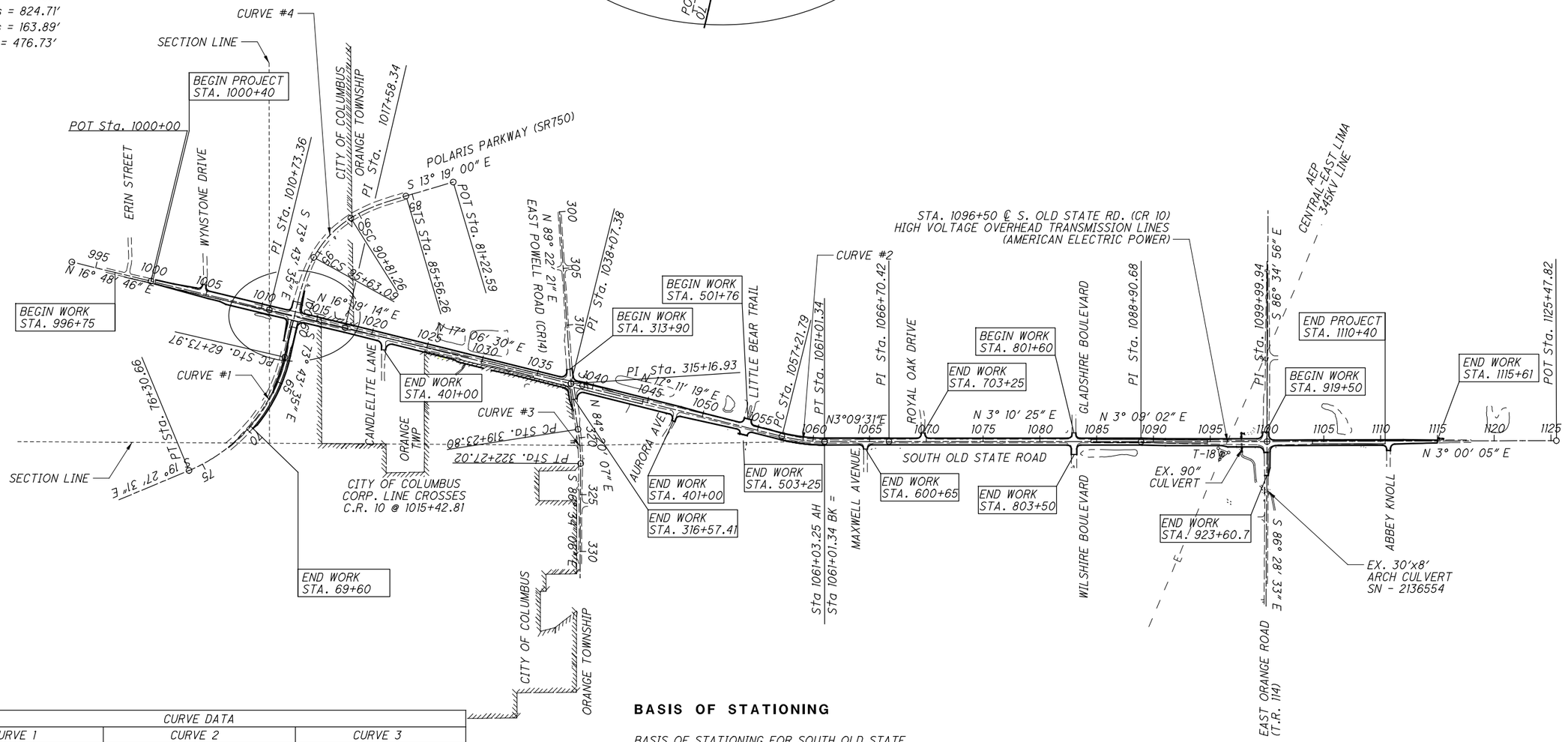
1 / 437

L:\Projects\14577229\TRANS\DEL\90243\roadway\sheets\90243GT001.dgn - 4/29/2015 10:32:32 AM - brian_wallace

CURVE #4
P.I. Sta. 93+80.97
Δ = 60° 24′ 35″ (LT)
Dc = 6° 00′ 00″
R = 954.93′
Ls = 525.00′
Ls = 525.00′
θs = 15° 45′ 00″
LT = 351.40′
ST = 176.27′
x = 521.05′
y = 47.85′
k = 261.84′
p = 11.99′
Δc = 28° 54′ 35″ (LT)
Lc = 481.83′
Ts = 824.71′
Es = 163.89′
C = 476.73′



MAINLINE	CROSS ROAD
STA. 1004+65.76 S. OLD STATE RD. (CR 10) =	STA. 4+46.11 WYNSTONE DR.
STA. 1012+95.17 S. OLD STATE RD. (CR 10) =	STA.101+11.06 POLARIS PARKWAY ℄ RIGHT-OF-WAY
STA. 1013+00.77 S. OLD STATE RD. (CR 10) =	STA.101+05.81 POLARIS PARKWAY ℄ CONSTRUCTION
STA. 1021+05.43 S. OLD STATE RD. (CR 10) =	STA. 200+01.00 CANDLELITE LN.
STA. 1038+07.38 S. OLD STATE RD. (CR 10) =	STA. 315+16.93 E. POWELL RD.
STA. 1047+63.80 S. OLD STATE RD. (CR 10) =	STA. 400+00.00 AURORA AVE.
STA. 1053+93.77 S. OLD STATE RD. (CR 10) =	STA. 502+51.86 LITTLE BEAR TRL.
STA. 1064+63.63 S. OLD STATE RD. (CR 10) =	STA. 600+00.00 MAXWELL AVE.
STA. 1069+70.91 S. OLD STATE RD. (CR 10) =	STA. 703+99.54 ROYAL OAK DR.
STA. 1082+99.83 S. OLD STATE RD. (CR 10) =	STA. 802+36.15 GLADSHIRE BLVD. END/WILSHIRE BLVD. BEGINNING
STA. 1099+99.94 S. OLD STATE RD. (CR 10) =	STA. 920+32.59 E. ORANGE RD.
STA. 1110+70.55 S. OLD STATE RD. (CR 10) =	STA. 950+00.00 ABBEY KNOLL DR.



CURVE DATA		
CURVE 1	CURVE 2	CURVE 3
POLARIS PARKWAY (SR750)	SOUTH OLD STATE ROAD (CR10)	EAST POWELL ROAD (CR14)
P.I. Sta. 70+08.03	P.I. Sta. 1059+12.52	P.I. Sta. 320+75.73
Δ = 54° 16′ 04″ (RT)	Δ = 14° 01′ 48″ (LT)	Δ = 9° 05′ 47″ (RT)
Dc = 4° 00′ 00″	Dc = 3° 41′ 47″	Dc = 3° 00′ 00″
R = 1,432.39′	R = 1,550.00′	R = 1,909.86′
T = 734.06′	T = 190.73′	T = 151.93′
L = 1,356.69′	L = 379.55′	L = 303.21′
E = 177.14′	E = 11.69′	E = 6.03′
C = 1,306.54′	C = 378.60′	C = 302.90′
C.B. = S 46° 35′ 33″ E	C.B. = N 10° 10′ 25″ E	C.B. = N 88° 53′ 00″ E
e_{max} = 0.057	e_{max} = 0.046	NORMAL CROWN

BASIS OF STATIONING

BASIS OF STATIONING FOR SOUTH OLD STATE ROAD IS PER THE "SOUTH OLD STATE ROAD INTERSECTION IMPROVEMENTS" PLAN DATED SEPTEMBER, 2004

BASIS OF STATIONING FOR POLARIS PARKWAY WEST OF SOUTH OLD STATE ROAD IS PER ODOT RECORD PLANS FOR DEL-CR. 14-1.39 DATED SEPTEMBER 23, 1973

BASIS OF STATIONING FOR POLARIS PARKWAY EAST OF SOUTH OLD STATE ROAD IS PER THE CITY OF COLUMBUS RECORD PLANS 1411 DR E DATED MARCH 1991

FOR INTERSECTION ANGLES SEE INTERSECTION DETAIL SHEETS, 248 TO 257

N

HORIZONTAL SCALE IN FEET
0 250 500 1000

CALCULATED FGW
CHECKED PHF

SCHEMATIC PLAN

DEL-CR10-0.90

2952-DR.E

INDEX OF SHEETS:

HORIZONTAL AND VERTICAL CONTROL MONUMENTS

POINT #	TYPE	STATION	OFFSET	SIDE	NORTHING	EASTING	ELEVATION	DESCRIPTION
TBM 1	TRAVERSE	998+40.94	25.76	LT	175322.95	1828960.70	930.48	IRON PIN SET
TBM 2	TRAVERSE	1005+02.14	59.48	RT	175931.23	1829233.55	937.20	IRON PIN SET
TBM 3	TRAVERSE	1010+37.53	65.82	LT	176479.98	1829268.46	944.82	IRON PIN SET
TBM 4	TRAVERSE	1016+40.91	60.72	RT	177022.86	1829559.59	947.12	IRON PIN SET
TBM 5	TRAVERSE	1025+37.48	34.89	LT	177907.54	1829730.18	954.54	IRON PIN SET
TBM 6	TRAVERSE	1032+60.90	70.56	RT	178567.93	1830043.78	962.54	IRON PIN SET
TBM 7	TRAVERSE	1039+64.69	58.43	LT	179278.54	1830127.78	969.33	IRON PIN SET
TBM 8	TRAVERSE	1048+33.20	61.17	LT	180109.07	1830381.82	969.61	IRON PIN SET
TBM 9	TRAVERSE	1058+90.33	33.54	RT	181096.92	1830776.74	973.37	IRON PIN SET
TBM 10	TRAVERSE	1066+05.35	53.26	LT	181816.82	1830744.21	973.49	IRON PIN SET
TBM 11	TRAVERSE	1078+59.15	51.80	RT	183062.89	1830918.51	953.47	IRON PIN SET
TBM 12	TRAVERSE	1085+68.29	58.25	LT	183777.04	1830847.89	947.32	IRON PIN SET
TBM 13	TRAVERSE	1093+65.91	59.74	RT	184566.94	1831009.66	946.06	IRON PIN SET
TBM 14	TRAVERSE	1104+23.98	28.00	LT	185628.22	1830979.10	941.58	IRON PIN SET
TBM 15	TRAVERSE	1115+38.53	21.02	RT	186738.67	1831086.41	942.79	IRON PIN SET

IRON PINS SET ARE 5/8" DIAMETER IRON PINS WITH A RED CAP THAT READS "CW DESIGN GROUP".

GRID COORDINATES ABOVE ARE BASED ON THE OHIO STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NAD 83 (CORS96) AND THE ELEVATIONS ARE BASED ON THE NAVD88 DATUM. THE CONTROL POINTS ORIGINATED FROM A FIELD TRAVERSE WHICH WAS REFERENCED TO COORDINATE SYSTEM BY GPS OBSERVATION OF SELECTED STATIONS IN THE OHIO DEPARTMENT OF TRANSPORTATION VIRTUAL REFERENCE STATION NETWORK.

SCALE FACTOR: 1.000062915
COMBINED FACTOR: 1.000016272

NOTES:
THE CONTRACTOR SHALL NOT DISTURB EXISTING PROPERTY CORNER PINS/MARKERS DURING CONSTRUCTION. IF DISTURBED OR DESTROYED DURING CONSTRUCTION, THE PINS/MARKERS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AS PER THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATION, SECTION 107.12.

IF PROPERTY CORNER PINS/MARKERS WITHIN DELAWARE COUNTY (OUTSIDE THE CITY OF OLUMBUS), THIS NOTE SHALL APPLY EXCEPT THAT WHERE SPECIFICATION 107.12 MENTIONS THE WORD "CITY" IN THE SPECIFICATION, THIS WORD SHALL BE REPLACE WITH THE WORD "COUNTY".

CALCULATED AWF
CHECKED DWB

SURVEY CONTROL DATA

DEL-CR10-0.90

2952-DR.E

UTILITIES

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

AMERICAN ELECTRIC POWER
850 TECH CENTER DRIVE
GAHANNA, OH 43230
ROD SLONEKER
PH: 614-883-6817
RISLONEKER@AEP.COM
AEP SOLUTION CENTER: 800-277-2177

AT&T - OHIO
111 NORTH 4TH STREET
COLUMBUS, OH 43215
ROGER MIKESELL
PH: 614-223-7162
RX8936@ATT.COM
AT&T REPAIR SERVICE: 888-611-4966
DAMAGE PREVENTION: 937-296-3929

TCG OHIO/AT&T BUSINESS FIBER
300 NORTH POINT PARKWAY
ALPHARETTA, GA 30005
JOEL C. MCKINNEY
PH: 770-750-6416
JM2814LIO@ATT.COM

AT&T-METRO
5980-G WILCOX PLACE
DUBLIN, OH 43017
GREG BELEW
PH: 614-760-8320
GBELEW@HLGENGINEERING.COM

COLUMBIA GAS OF OHIO
3550 JOHNNY APPLESEED COURT
COLUMBUS, OH 43231
MIKE SUCHARSKI
PH: 614-818-2104
MSUCHARSKI@NISOURCE.COM
CUSTOMER SERVICE: 800-344-4077
DAMAGE PREVENTION: 866-632-6243

COLUMBUS FIBERNET
1600 WALCUTT ROAD
COLUMBUS, OH 43228
BILL VERHOFF
PH: 614-351-6265
BAVERHOFF@COLUMBUSFIBER.NET

COLUMBUS DEPT. OF PUBLIC UTILITIES
DIVISION OF SEWERS & DRAINS
1250 FAIRWOOD AV
COLUMBUS, OH 43206
PH: 614-645-7361
FAX: 614-645-8156
EMERGENCY: 614-645-7102

COLUMBUS DEPT. OF PUBLIC UTILITIES
DIVISION OF WATER
910 DUBLIN ROAD
COLUMBUS, OH 43215
PH: 614-645-7788
FAX: 614-645-5967
EMERGENCY: 614-645-7788

COLUMBUS DEPT. OF PUBLIC UTILITIES
DIVISION OF POWER
3500 INDIANOLA AVE.
COLUMBUS, OH 43214
PH: 614-645-7267

DEL-CO WATER
6773 OLENTANGY RIVER ROAD
DELAWARE, OH 43015
SHANE CLARK
PH: 740-201-0133
SCLARK@DELCOWATER.COM

FIBERTECH NETWORKS
300 MERIDIAN CENTER
ROCHESTER, NY 14618
JAMES HIGHSMITH
PH: 585-697-5145
JHIGHSMITH@FIBERTECH.COM

LEVEL 3 COMMUNICATIONS
226 N. 5TH ST - SUITE 100
JARAMIE MYERS
PH: 614-324-5199
JARAMIE.MYERS@LEVEL3.COM

TIME WARNER COMMUNICATIONS/INSIGHT
3760 INTERCHANGE ROAD
COLUMBUS, OH 43204
JEFFREY WHATLEY
PH: 614-255-0855J
JEFFREY.WHATLEY1@TWCABLE.COM

JP MORGAN CHASE BANK
1111 POLARIS PARKWAY
COLUMBUS, OH 43240
PAUL MELLOR
PH: 614-213-0041

MCI METRO ACCESS/
VERIZON BUSINESS
120 RAVINE ST
AKRON, OH 44303
AL GUEST
PH: 330-253-8267
ALLAN.GUEST@VERIZON.COM

SUBURBAN NATURAL GAS
2626 LEWIS CENTER RD
LEWIS CENTER, OH 43035
AARON ROLL
PH:740-548-2450 EXT. 213
AROLL@SNGCO.COM

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

TIME WARNER CABLE
3760 INTERCHANGE RD
COLUMBUS, OH 43204
RAY MAURER
PH: 614-481-5262
RAY.MAURER@TWCABLE.COM

TIME WARNER TELECOM
250 WEST OLD WILSON BRIDGE RD STE 130
WORTHINGTON, OH 43085
MARK BLACKBURN
PH: 614-255-2148
MARK.BLACKBURN@TWTELECOM.COM

WIDE OPEN WEST
3675 CORPORATE DR
COLUMBUS, OH 43231
ROB CARPENTER
PH: 614-948-4653
R_CARPENTER20@WIDEOPENWEST.COM

FRONTIER COMMUNICATIONS
2780 LIBERTY ROAD
DELAWARE, OH 43015
CHRIS AVERY & ROBERT CHANDLER
740-369-0829
IRA.AVERY@FTR.COM
ROBERT.L.CHANDLER@FTR.COM

THE FOLLOWING CITY OF COLUMBUS UTILITIES MAY BE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT AND DO NOT SUBSCRIBE TO A REGISTERED UNDERGROUND PROTECTION SERVICE:

CITY OF COLUMBUS
DEPARTMENT OF PUBLIC SERVICE
TRAFFIC MAINTENANCE
1820 17TH AVENUE
COLUMBUS, OHIO 43219
PH:614-645-7393
FAX:614-645-5967

CITY OF COLUMBUS
DEPARTMENT OF TECHNOLOGY
90 W. BROAD ST. ROOM 316
COLUMBUS, OH 43215
CONTRACTOR LINE: 614-645-7756
CABLE LOCATE FAX: 614-645-6627

CITY OF COLUMBUS
DIVISION OF SUPPORT SERVICES - COMMUNICATIONS
4211 GROVES ROAD
COLUMBUS, OH 43232-4104
PH: 614-724-7047
FAX: 614-645-6588
RADIO ROOM: 614-724-4006

ROUNDING

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

PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT-OF-WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30 FEET FROM THE EDGE OF PAVEMENT.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, DO NOT OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES BETWEEN THE HOURS OF 7 PM AND 7 AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

SURVEYING PARAMETERS

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:
VERTICAL POSITIONING
ORTHOMETRIC HEIGHT DATUM: NAVD88
GEOID: GEOID03
HORIZONTAL POSITIONING
REFERENCE FRAME: NAD83(CORS96)
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE, NORTH ZONE
COMBINED SCALE FACTOR: 1.000016272
UNITS ARE IN U.S. SURVEY FEET. USE THE FOLLOWING CONVERSION FACTOR: 1 METER = 3.280833333 U.S. SURVEY FEET.

WORK LIMITS

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

CLEARING AND GRUBBING

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

SIZES	NO. TREES	NO. STUMPS	TOTAL
18"	80	5	85
30"	29	2	31
48"	7	1	8

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

EXCAVATION AND EMBANKMENT CONSTRUCTION

EXCAVATED SOILS ON THE PROJECT SITE MAY NOT BE SUITABLE FOR EMBANKMENT USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ANY ON-SITE SOIL USED AS EMBANKMENT MEETS THE REQUIREMENTS OF 203.

ITEM 203, EXCAVATION, INCLUDES WASTING ANY EXCAVATED MATERIAL WITHIN THE RIGHT-OF-WAY WITH THE APPROVAL OF THE ENGINEER OR OUTSIDE THE RIGHT-OF-WAY AT THE CONTRACTOR'S EXPENSE, IF NO SUITABLE AREAS EXIST FOR WASTING WITHIN THE RIGHT-OF-WAY.

ITEM 203, EMBANKMENT INCLUDES CONSTRUCTING EMBANKMENTS TO PLAN LINES AND INCLUDES FURNISHING AND PLACING SUITABLE BORROW MATERIAL AS SPECIFIED IN 203, WHEN REQUIRED. FOR SOIL BORROW OR OTHER MATERIALS NOT ALREADY CERTIFIED TO MEET 203 REQUIREMENTS, THE CONTRACTOR SHALL ALLOW THE ENGINEER 10 DAYS TO PERFORM IN SITU TESTS PRIOR TO USING THE MATERIAL.

PRIOR TO EARTH DISTURBING ACTIVITIES, INSTALL ALL REQUIRED EROSION CONTROL ITEMS AS SPECIFIED ON THE STORMWATER POLLUTION PREVENTION PLAN PREPARED BY THE CONTRACTOR.

FOR EARTH DISTURBING WORK OUTSIDE THE WORK LIMITS, THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS, IF REQUIRED, INCLUDING FOR BORROW AREAS. PROVIDE THE APPROPRIATE EROSION CONTROL MEASURES AS REQUIRED.

SITE PREPARATION FOR SEEDING AND MULCHING

IN ADDITION TO THE REQUIREMENTS OF 659.10, IN MAINTAINED LAWN AREAS REMOVE ALL STONES LARGER THAN 1/2-INCH BY RAKING OR OTHER METHODS APPROVED BY THE ENGINEER. IF THERE IS EXCESSIVE GRAVEL OR DEBRIS THAT CANNOT BE REMOVED BY CONVENTIONAL METHODS, PROVIDE 4-INCHES OF TOPSOIL AT NO ADDITIONAL COST TO THE COUNTY OVER THESE AREAS. TOPSOIL SHALL BE FERTILE, LOOSE, FRIABLE AND LOAMY AND NOT CONTAIN DEBRIS OR PARTICLES LARGER THAN 1/2-INCH IN ANY DIMENSION. TOPSOIL SHALL CONTAIN BETWEEN 6 AND 20 PERCENT ORGANIC MATERIAL AND NO MORE THAN 18% MOISTURE. TEST TOPSOIL ACCORDING TO SUPPLEMENT 1016.

CALCULATED FGW CHECKED GEE

GENERAL NOTES

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PROTECTION OF RIGHT-OF-WAY LANDSCAPING

PRIOR TO BEGINNING WORK, THE CONTRACTOR, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY WILL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT OF WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS) A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE.

CONSTRICT ALL ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS SHOWN ON THE PLAN SHEETS.

SUBMIT A WRITTEN REQUEST TO THE PROJECT ENGINEER TO USE ANY AREA OUTSIDE THESE LIMITS. THE DOCUMENT SUBMITTED MUST CLEARLY IDENTIFY THE AREA AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. USE OF THESE AREAS FOR DISPOSAL OF WASTE MATERIAL AND CONSTRUCTION DEBRIS, EXCAVATION OF BORROW MATERIAL AND PLACEMENT OF PORTABLE PLANTS IS PROHIBITED. THE REQUEST MUST BE APPROVED, IN WRITING, BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA.

ANY ITEMS DAMAGED BEYOND THE CONSTRUCTION LIMITS AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS APPROVED BY THE PROJECT ENGINEER.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS 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 27.75 INCHES FROM THE EDGE OF THE SHOULDER.

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

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

ITEM 442, ASPHALT CONCRETE, SURFACE COURSE, 12.5MM, TYPE A, AS PER PLAN

THIS ITEM SHALL MEET THE SPECIFICATION OF ITEM 442, ASPHALT CONCRETE, SURFACE COURSE, 12.5MM, WITH THE ASPHALT BINDER MEETING THE SPECIFICATIONS OF PG76-22M.

ITEM SPECIAL - MAILBOX SUPPORT

THIS WORK SHALL CONSIST OF FURNISHING AND ERECTING MAILBOX SUPPORTS AND ANY ASSOCIATED MOUNTING HARDWARE IN ACCORDANCE WITH PLAN DETAILS, AND ATTACHING AN OWNER-SUPPLIED MAILBOX AT LOCATIONS SPECIFIED IN THE PLAN, OR OTHERWISE 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. THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR:

ITEM SPECIAL MAILBOX SUPPORT SYSTEM, SINGLE 30 EACH
ITEM SPECIAL MAILBOX SUPPORT SYSTEM, DOUBLE 3 EACH

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

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

TREE PLANTING

WHEN A TREE IS TO BE PLANTED WITHIN THE CITY OF COLUMBUS RIGHT-OF-WAY, PRIOR TO PLANTING, THE CONTRACTOR WILL CONTACT AND RECEIVE APPROVAL FROM THE FORESTRY OFFICE @ 614-456-6640.

TREE TRIMMING/CUTTING/PROTECTION

THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES NOT WITHIN THE CITY RIGHT-OF-WAY A PERMIT MUST BE ACQUIRED FROM THE COC FORESTER @ 614-456-6640. NO CONSTRUCTION SHALL TAKE PLACE WITHIN TEN FEET (10') OF ANY TREE WITHOUT PRIOR APPROVAL OF THE COC FORESTER

EXISTING TREES

ALL TREES AND BUSHES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL NOT BE DESTROYED UNLESS CLEARLY DESIGNATED FOR REMOVAL ON THE PLANS OR IF PRIOR APPROVAL BY THE PROJECT ENGINEER HAS BEEN GIVEN. THE CONTRACTOR SHALL USE SPECIAL PRECAUTIONS DURING THE CLEARING PROCESS TO AVOID DAMAGE TO ALL OTHER TREES AND BUSHES.

CONSTRUCTION DAMAGE

ALL SIGNS, FENCES, SHRUBS, DRAINAGE STRUCTURES, OR OTHER PHYSICAL FEATURES DISTURBED DURING CONSTRUCTION UNDER THIS CONTRACT SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR, AT THE EXPENSE OF THE CONTRACTOR UNLESS OTHERWISE PROVIDED FOR IN THE CONTRACT.

CLEANUP

THE CONTRACTOR AND HIS SUB-CONTRACTORS SHALL PERFORM DAILY CLEANUP OF THE WORK SITE. ALL TRASH, INCLUDING CANS, BOTTLES, FOOD SCRAPS, CONTAINERS AND WRAPPERS SHALL BE PROPERLY DISPOSED OF OFF SITE AND SHALL NOT BE TROWN IN THE CONSTRUCTION AREA. COST SHALL BE INCIDENTAL TO THE PROJECT.

CITY OF COLUMBUS (COC) DIVISION OF POWER

THE DIVISION OF POWER (DOP) HAS UNDERGROUND STREET LIGHTING IN THE PROJECT WORK AREA THE CONTRACTOR IS HEREBY REQUIRED TO CONTACT OUPS AT 800-363-2764 OR 811 48 HOURS PRIOR TO CONDUCTION ANY ACTIVITY WITHIN THE CONSTRUCTION AREA. THE DOP DISPATCH OFFICE NUMBER IS 614-645-7627.

ANY REQUIRED RELOCATION, SUPPORT, PROTECTION OR ANY OTHER ACTIVITY CONCERNED WITH THE CITY'S ELECTRICAL FACILITIES IN THE CONSTRUCTION ARE IS TO BE PERFORMED BY THE CONTRACTOR UNDER THE DIRECTION OF DOP PERSONNEL AND AT THE EXPENSE OF THE PROJECT. DOP SHALL MAKE ALL FINAL CONNECTIONS TO THE DOP EXISTING ELECTRICAL SYSTEM AT THE EXPENSE OF THE PROJECT. THE CONTRACTOR SHALL USE MATERIAL AND MAKE REPAIRS TO A COC STREET LIGHTING SYSTEM BY FOLLOWING DOP "MATERIAL AND INSTALLATION SPECIFICATION (MIS) AND THE COC "CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS). ANY NEW OR REINSTALLED UNDERGROUND STREET LIGHTING SYSTEM SHALL REQUIRE TESTING AS REFERRED TO IN SECTION 1000.18 OF THE COC'S CMS MANUAL. THE CONTRACTOR SHALL CONFORM TO DOWP(P)'S EXISTING CONDUCTOR SAFETY POLICY AND HOLD CARD SYSTEM, MIS-95, COPIES OF WHICH ARE AVAILABLE FROM DOPW(P). IF YOU HAVE ANY QUESTIONS, CALL CHRIS VOGEL AT 614-645-6963 OR CHRIS STORTS AT 614-645-6851.

IF ANY ELECTRIC FACILITIES BELONGING TO DOP IS DAMAGED IN ANY MANNER BY THE CONTRACTOR, IT'S AGENTS OR EMPLOYEES AND REQUIRES EMERGENCY REPAIRS, DOP SHALL MAKE ALL NECESSARY REPAIRS AND THE EXPENSE OF SUCH REPAIRS AND OTHER RELATED COSTS SHALL BE PAID BY THE CONTRACTOR TO THE DOPW(P), CITY OF COLUMBUS.

SEEDING AND MULCHING

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

QUANTITES FROM CROSS SECTIONS:

ITEM 659 - TOPSOIL	848 CU YD
ITEM 659 - SEEDING AND MULCHING	77,050 SQ YD
ITEM 659 - REPAIR SEEDING AND MULCHING	3,853 SQ YD
ITEM 659 - INTER-SEEDING	3,853 SQ YD
ITEM 659 - COMMERCIAL FERTILIZER	10.75 TON
ITEM 659 - LIME	15.92 ACRES
ITEM 659 - WATER	426 M GAL
ITEM 659 - MOWING	173 M SQ FT

QUANTITES FOR RETENTION BASINS:

ITEM 659 - TOPSOIL	1,454 CU YD
ITEM 659 - SEEDING AND MULCHING	132,200 SQ YD
ITEM 659 - REPAIR SEEDING AND MULCHING	6,610 SQ YD
ITEM 659 - INTER-SEEDING	6,610 SQ YD
ITEM 659 - COMMERCIAL FERTILIZER	18.44 TON
ITEM 659 - LIME	27.31 ACRES
ITEM 659 - WATER	732 M GAL
ITEM 659 - MOWING	297 M SQ FT

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, CHANNEL EASEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

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

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

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 811 CONDUIT ITEM.

ITEM - 609, CONCRETE MEDIAN, AS PER PLAN

CONCRETE MEDIANS CONSTRUCTED WITHIN THE CITY OF COLUMBUS SHALL BE BUILD ACCORDING TO SECTION 609 OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATION, CURRENT EDITION AND COLUMBUS STANDARD CONSTRUCTION DRAWING 2331

CONCRETE MEDIAN NOSES SHALL BE TAPERED FROM 6" TO 2" IN 4'-0" OR GREATER.

THE CONTRACTOR IS TO CONTACT THE CITY OF COLUMBUS PAVEMENT MARKING MANAGER AT 614 645-7799 FOR DIRECTION ON PAINTING REQUIREMENTS OF MEDIAN NOSE.

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GENERAL NOTES

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CONCRETE ENCASEMENT FOR PIPES

FOR ALL CULVERT AND SEWER PIPES SPECIFIED IN THE PLANS AND/OR PIPES WITH LESS THAN 24", 36" IN CITY OF COLUMBUS, OF COVER BETWEEN TOP OF PIPE AND PAVEMENT OR TREATED SHOULDER SUBGRADE, CONCRETE ENCASEMENT SHALL BE PROVIDED FOR THE FULL WIDTH OF THE TRENCH AND WITHIN LIMITS OF THE PAVEMENT OR TREATED SHOULDERS. CONCRETE SHALL EXTEND VERTICALLY TO THE PAVEMENT OR SHOULDER SUBGRADE, OR MAY EXTEND INTO THE PAVEMENT SECTION IF ALLOWED BY THE ENGINEER.

FOR AREAS NOT REQUIRING OPENING TO TRAFFIC WITHIN 3 DAYS, PROVIDE CLASS F OR CLASS C CONCRETE. FOR AREAS THAT REQUIRE OPENING TO TRAFFIC WITHIN 24 HOURS, PROVIDE CLASS MS OR FS CONCRETE, AT NO ADDITIONAL COST. CONCRETE SHALL BE PLACED AT A MAXIMUM SLUMP OF 7 INCHES, PROVIDED THE INCREASE IN SLUMP IS ACHIEVED BY ADDING A CHEMICAL ADMIXTURE CONFORMING TO THE REQUIREMENTS OF 705.12, TYPE F OR G.

CONCRETE SHALL NOT BE DROPPED WITH A FREE-FALL DISTANCE OF GREATER THAN 5 FEET. CONCRETE PLACED WHEN THE ATMOSPHERIC TEMPERATURE IS 32 °F OR LESS, OR IF WEATHER FORECASTS PREDICT THESE TEMPERATURES DURING THE CURING PERIOD, NON-CHLORIDE ACCELERATING ADMIXTURES SHALL BE PROVIDED. CHLORIDE ADMIXTURES MAY BE USED ONLY WITH APPROVAL OF THE ENGINEER.

PAYMENT SHALL BE BASED ON THE NUMBER OF LINEAR FEET OF PIPE ENCASED AS MEASURED FROM THE REQUIRED LIMITS. NO ADDITIONAL COMPENSATION WILL BE MADE FOR OVER-EXCAVATED TRENCHES OR ADDITIONAL LENGTH OF PIPE ENCASED WHEN NOT PRE-APPROVED BY THE ENGINEER.

UNSUITABLE SUBGRADE SOILS

IF UNSUITABLE SUBGRADE SOILS ARE ENCOUNTERED IN THE AREAS OF THE PROPOSED ROADBED, REMOVE AND REPLACE WITH SUITABLE MATERIAL MEETING THE REQUIREMENTS OF 203.02.R., OR WHEN REQUIRED BY THE ENGINEER, USE GRANULAR MATERIAL MEETING THE SPECIFICATIONS OF 703.16.C TYPE B GRANULAR MATERIAL (304, 411 OR 617 MATERIALS WITH 0 TO 20 PERCENT PASSING THE NO. 200 SIEVE). THE LIMITS OF THE MATERIAL TO BE REMOVED AND REPLACED SHALL BE AS DETERMINED BY THE ENGINEER.

UNDERCUT THE FOLLOWING ESTIMATED AREAS TO THE SPECIFIED DEPTH. THESE LOCATIONS AND DEPTHS WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER DURING PROOF ROLLING OPERATIONS:
STA. 1068+75 TO STA. 1071+50 = 275 FT, DEPTH VARIES
STA. 1080+30 TO STA. 1084+25 = 395 FT, DEPTH VARIES
STA. 1105+00 TO STA. 1107+50, RT = 250 FT, DEPTH VARIES
STA. 1109+50 TO STA. 1114+50, LT = 500 FT, DEPTH VARIES

PLACE ITEM 204 GEOTEXTILE FABRIC IN THE BOTTOM OF UNDERCUTS. ON THE STATION RANGES SHOWN ABOVE, BACK FILL THE TOP FOOT OF UNDERCUT WITH ITEM 204 GRANULAR MATERIAL, TYPE B, AND THE REMAINDER OF THE UNDERCUT AREA WITH ITEM 203 EMBANKMENT. PLACE ITEM 690 GEOGRID BETWEEN THE LAYER OF ITEM 204 EMBANKMENT AND ITEM 204 GRANULAR MATERIAL, TYPE B, WHERE APPLICABLE.

PRIOR TO PLACING FILL, THE CONTRACTOR SHALL CROSS SECTION THE EXCAVATED AREAS AND DETERMINE THE VOLUME. THIS AREA CALCULATION SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTING EMBANKMENTS. MEASUREMENT SHALL BE MADE USING THE AVERAGE END AREA METHOD. IN SMALL OR IRREGULARLY SHAPED AREAS, MEASUREMENT MAY BE MADE BY WEIGHT WHEN APPROVED BY THE ENGINEER.

UNSUITABLE SUBGRADE SOILS CONTINUED

THE FOLLOWING QUANTITIES ARE PROVIDED FOR USE AS DIRECTED BY THE ENGINEER FOR USE IN THE WORK NOTED ABOVE:

ITEM 204 - EXCAVATION OF SUBGRADE	3574 CU YD
ITEM 204 - EMBANKMENT	1996 CU YD
ITEM 204 - GRANULAR MATERIAL, TYPE B	2104 CU YD
ITEM 204 - GEOTEXTILE FABRIC, TYPE D	6579 SQ YD
ITEM 204 - PROOF ROLLING	2 HOUR
ITEM 204 - SUBGRADE COMPACTION	6187 SQ YD
ITEM 690 - SPECIAL - GEOGRID	6187 SQ YD

SAWCUTS AND ASPHALT CONCRETE JOINTS

THE COST OF SAWCUTS, BUTT JOINTS AND SEALING THESE JOINTS THAT ARE NOT SEPARATELY ITEMIZED IN THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THE PAVING ITEMS.

ALL JOINTS BETWEEN EXISTING AND PROPOSED ASPHALT CONCRETE PAVEMENT SHALL BE REINFORCED PER DCEO SCD DCED-R1451 AND SEALED WITH AN 8" WIDE ASPHALT CEMENT (AC) BAND OF LIQUID ASPHALT MEETING 702.02, 702.03 OR 702.04 AT NO ADDITIONAL COST.

ITEM 204 - PROOF ROLLING

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

ITEM 204 - PROOF ROLLING 30 HOUR

ITEM 407 - TACK COAT AND ITEM 408 - PRIME COAT

THE ENGINEER SHALL ADJUST THE RATE OF APPLICATION IN THE FIELD OF THE 407 TACK COAT AND 408 PRIME COAT AS NEEDED. FOR ESTIMATING PURPOSES ONLY, THE PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE FOR THESE ITEMS. DO NOT ORDER MATERIALS FOR THESE ITEMS UNLESS AUTHORIZED BY THE ENGINEER.

DRIVEWAY PROVIDED FOR EMERGENCY SERVICES ONLY

THE DRIVEWAY, DR-16 LOCATED AT STA. 1026+50, RIGHT, IS A DRIVE PROVIDED BY THE DEVELOPER FOR USE BY EMERGENCY SERVICES ONLY. QUANTITIES FOR DEPRESSED CURB, CONCRETE APRON AND CONCRETE SIDEWALK HAVE BEEN PROVIDED AT THIS LOCATION.

THE EXISTING DRIVEWAY IS COMPOSED OF GRASSCRETE GRASS PAVERS. THE CONTRACTOR IS TO REMOVE THE PAVERS, STORING THEM ON SITE, AND AFTER CONSTRUCTING THE CURB CUT, CONCRETE APRON AND SIDEWALK, RESET THE PAVERS FOLLOWING THE MANUFACTURES INSTALLATION RECOMMENDATIONS FOR FIRELANE ACCESS VISIT:

http://www.grasscrete.com/docs/technical/index.html

FOR LAYING DETAILS. COST FOR THIS PROVISION IS INCLUDED IN THE VARIOUS CONTRACT ITEMS.

ITEM 659 - TOP SOIL

PROVIDE PULVERIZED TOPSOIL THAT IS FERTILE, LOOSE, FRIABLE AND LOAMY AT LOCATIONS SHOWN IN THE PLAN OR AS DIRECTED BY THE ENGINEER. TOPSOIL SHALL BE FURNISHED FROM COMMERCIAL SOURCES (TOPSOIL SUPPLIERS) OR SHALL BE FURNISHED FROM STOCKPILES THAT ARE APPROVED BY THE DEPARTMENT.

IN ADDITION TO THE REQUIREMENTS OF 659, TOPSOIL SHALL CONTAIN BETWEEN 6 PERCENT AND 20 PERCENT ORGANIC MATERIAL. TOPSOIL SHALL NOT CONTAIN MORE THAN 18% MOISTURE AND SHALL BE FREE OF WEEDS AND OTHER DELETERIOUS MATERIAL. TOPSOIL SHALL NOT CONTAIN MORE THAN 5 PERCENT OF MATERIAL NOT PASSING THE 1/2-INCH SIEVE, OR ANY MATERIAL 1-INCH OR LARGER IN ANY DIMENSION. FOR TOPSOIL TO BE CONSIDERED LOAMY, ENSURE THAT THE FRACTION PASSING THE NO. 10 SIEVE DOES NOT CONTAIN MORE THAN 40 PERCENT CLAY. TEST FOR ACIDITY OR ALKALINITY AND ENSURE THAT PH IS BETWEEN 6 AND 7. TEST TOPSOIL ACCORDING TO SUPPLEMENT 1016.

CITY OF COLUMBUS (COC) PERMITS

WHEN EXCAVATING WITHIN COLUMBUS PUBLIC RIGHT-OF-WAY LIMITS, THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM CITY OF COLUMBUS, DEPARTMENT OF PUBLIC SERVICE-PERMIT OFFICE BETWEEN THE HOURS OF 7:30AM AND 4:00PM MONDAY - FRIDAY. PHONE (614) 645-1876.
EMAIL: colspermits@columbus.gov.

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 CONDUIT ITEMS.

INFILTRATION TRENCH (OR BASIN)

THIS PLAN UTILIZES INFILTRATION FOR POST CONSTRUCTION STORM WATER TREATMENT. CONSTRUCT THE COMPLETED IN-FILTRATION TRENCH(ES) (AND OR BASIN(S)) AFTER ALL CON-TRIBUTING DRAINAGE AREAS ARE STABILIZED AS SHOWN IN THE CONTRACT PLANS AND TO THE SATISFACTION OF THE ENGINEER. DO NOT USE INFILTRATION DEVICES AS TEMPORARY SEDIMENT CONTROL FACILITIES DURING CONSTRUCTION. DO NOT OPERATE HEAVY EQUIPMENT WITHIN THE PERIMETER OF AN INFILTRATION DEVICE DURING EXCAVATION OR BACKFILLING OF THE FACILITY.

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GENERAL NOTES

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POST CONSTRUCTION BMP MAINTENANCE

THE CITY OF COLUMBUS, DIVISION OF SEWERAGE AND DRAINS SHALL BE RESPONSIBLE FOR THE INSPECTION AND MAINTENANCE OF THE STORMWATER BASIN AT POLARIS PKWY AND OLD STATE ROAD, ASSOCIATED OUTLET STRUCTURE AND ALL OTHER MAINTENANCE PROCEDURES LISTED ABOVE. THESE RESPONSIBILITIES ARE FOR PERPETUITY AND APPLY TO THIS SUBDIVISION AND ITS RESIDENTS OR ANY FUTURE OWNER.

STORMWATER BASINS TREAT INCOMING STORMWATER RUNOFF BY PHYSICAL, BIOLOGICAL, AND CHEMICAL PROCESSES. THE PRIMARY REMOVAL MECHANISM IS THE GRAVITATIONAL SETTLING OF PARTICULATES, ORGANIC MATTER, METALS, BACTERIA AND ORGANIC AS STORMWATER RUNOFF RESIDES IN THE BASIN. ANOTHER MECHANISM FOR POLLUTANT REMOVAL IS UPTAKE BY ALGAE AND WETLAND PLANTS IN THE WET BASIN PERMANENT POOL, PARTICULARLY REMOVING NUTRIENTS. OTHER CONTAMINANTS SUCH AS HYDROCARBONS ARE BROKEN DOWN AND ELIMINATED BY VOLATILIZATION AND CHEMICAL ACTIVITY. STORMWATER BASINS ARE UTILIZED TO REMOVE 80% OF TOTAL SUSPENDED SOLIDS LOAD IN TYPICAL URBAN POST-DEVELOPMENT RUNOFF WHEN DESIGNED AND MAINTAINED PROPERLY.

STORMWATER BASINS NATURALLY COLLECT SEDIMENT, INCLUDING GRAVEL, SAND, AND MUD, AS WELL AS OTHER DEBRIS LIKE LITTER. TO MAINTAIN ITS CAPACITY AND FUNCTION, A BASIN IS DESIGNED TO BE EIGHT FEET IN DEPTH. THIS DESIGN DEPTH SHOULD BE VERIFIED EVERY 5-10 YEARS TO ENSURE THAT THE BASIN WILL CONTINUE TO FUNCTION PROPERLY. PERSONNEL SHALL USE A BOAT, CANOE, KAYAK, OR SIMILAR MEANS TO POSITION THEMSELVES IN THE MIDDLE OF THE STORMWATER BASIN. SEVERAL MEASUREMENTS AROUND CENTER OF THE STORMWATER BASIN SHALL BE TAKEN USING A STADIA ROD TO DETERMINE THE DEPTH OF THE PERMANENT POOL. MEASUREMENT TAKEN WHEN BASIN WATER LEVEL IS A N.P. ELEVATION (MIN. 72 HOURS AFTER RAIN EVENT. ONCE THE DEPTH OF THE STORMWATER BASIN REACHES THREE FEET OR LESS, THE ACCUMULATED SEDIMENT SHALL BE EXCAVATED TO RESTORE THE PERMANENT POOL DEPTH TO EIGHT FEET IN DEPTH. THE STORMWATER BASIN IS TO BE TEMPORARILY DRAINED/PUMPED DOWN SO THAT THE ACCUMULATED SEDIMENT CAN BE REMOVED. SEDIMENT EXCAVATED FROM STORMWATER BASIN IS REQUIRED TO BE TESTED TO DETERMINE WHERE TO APPROPRIATELY DISPOSE TO ENSURE NO EXPOSURE TO STORMWATER RUNOFF AND PROPERLY DISPOSED OF PER LOCAL GUIDELINES.

SEE PROJECT SITE PLAN SHEET 125 FOR ADDITIONAL INFORMATION.
SEE DRY EXTENDED DETENTION BASIN SHEETS 277 & 278 FOR LAYOUT AND GRADING PLAN.

INSPECTION ITEM	MAINTENANCE PROCEDURES	FREQUENCY OF INSPECTION
INLET/OUTLET STRUCTURE & SIDE SLOPES	DO NOT FERTILIZE VEGETATION SURROUNDING BASIN. REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM OUTLET STRUCTURES. MOW SIDE SLOPES.	MONTHLY
BASIN EMBANKMENT	REPAIR UNDERCUT/ERODED AREAS AND STABILIZE	EVERY 6 MONTHS
STORM SEWER SYSTEM	REMOVE DEBRIS FROM THE SEWER SYSTEM TO ENSURE POSITIVE FLOW TO THE BASIN	EVERY 6 MONTHS
STORMWATER BASIN	INSPECT FOR DAMAGE, PAYING PARTICULAR ATTENTION TO THE OUTLET CONTROL STRUCTURE. CHECK FOR SIGNS OF EUTROPHIC CONDITIONS (ALGEA BUILD-UP). NOTE SIGNS OF HYDROCARBON BUILD-UP REMOVE APPROPRIATELY. CHECK SEDIMENT ACCUMULATION: THE ELEVATION SHALL BE CHECKED WITH A LEVEL IN A MINIMUM OF 3 PLACES IN THE CENTER OF THE POND. REMOVE SEDIMENT IF ACCUMULATED, WITHIN 6" NORMAL POOL. DISPOSE OF ACCORDING TO ALL LOCAL, STATE & FEDERAL REGULATIONS. EXAMINE TO ENSURE INLET AND OUTLET DEVICES ARE FREE OF DEBRIS AND ARE OPERATIONAL. INSPECT FOR INVASIVE VEGETATION IF WETLAND COMPONENTS INCLUDED.	ANNUALLY
STORMWATER BASIN SEDIMENT ACCUMULATION	CHECK SEDIMENT ACCUMULATION: THE ELEVATION SHALL BE CHECKED WITH A LEVEL IN A MINIMUM OF 3 PLACES IN THE CENTER OF THE POND. REMOVE SEDIMENT IF ACCUMULATED, WITHIN 6" OF NORMAL POOL. DISPOSE OF ACCORDING TO LOCAL, STATE AND FEDERAL REGULATIONS	5-10 YEARS

ITEM SPECIAL-GEOGRID

PROVIDE BIAXIAL GEOGRID REINFORCEMENT MATERIAL AS DIRECTED BY THE ENGINEER AT LOCATIONS SPECIFIED. THIS ITEM IS INTENDED FOR STRENGTHENING WEAK OR POORLY DRAINED EXISTING SOILS UNDER PLANNED EMBANKMENTS OR SUBGRADE.

GEOGRIDS SHALL NOT BE PLACED ON SOILS WHICH ARE EXPOSED TO LIME OR OTHER CHEMICALS. GEOGRIDS SHALL BE COVERED WITH A MINIMUM OF 6" OF 304, 411 OR 617 MATERIALS UNLESS DIRECTED OTHERWISE BY THE ENGINEER. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR THE INSTALLATION OF THE MATERIAL.

MATERIAL SHALL MANUFACTURED FROM POLYETHYLENE, POLYPROPYLENE, OR POLYESTER, AND MEETING THE FOLLOWING PROPERTIES:

a. MINIMUM APERTURE DIMENSIONS - 0.50 IN. X 0.50 IN.
b. MAXIMUM APERTURE AREA - 1.25 SQ. IN.
   PERCENT OPEN AREA - 50% TO 85%
c. MASS PER UNIT AREA - 6.0 TO 15.0 OZ. / SQ.YD.
   (ASTM D 5261)
d. MINIMUM ULTIMATE TENSILE STRENGTH (T ULT) -
   2000 X 1300 LB. / FT. (ASTM D 6637)
e. MINIMUM TENSILE STRENGTH AT 2% STRAIN -
   600 X 400 LB. / FT. (ASTM D 6637)
f. REDUCTION IN REQUIRED ULTIMATE STRENGTH
   AFTER 500 HOURS UV EXPOSURE - NONE (ASTM D 4355)

PAYMENT SHALL BE BASED ON THE NUMBER OF SQUARE YARDS OF PLAN AREA COVERED BY GEOGRID NOT INCLUDING OVERLAPS REQUIRED BY THE MANUFACTURER.

RECYCLED ASPHALT CONCRETE PAVEMENT (RACP)

DO NOT USE RECYCLED MATERIAL OR RACP AS EMBANKMENT WITHIN 3 FEET OF THE ROAD SUBGRADE OR FINISHED SHOULDER GRADE. IF RACP IS USED OUTSIDE THESE LIMITS, THE MATERIAL SHALL BE BLENDED WITH A MINIMUM OF 30% NATURAL SOILS OR GRANULAR MATERIAL AS SPECIFIED IN 703.16.

POST CONSTRUCTION STORM WATER TREATMENT

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

INFILTRATION TRENCH (OR BASIN)

THIS PLAN UTILIZES INFILTRATION FOR POST CONSTRUCTION STORM WATER TREATMENT. CONSTRUCT THE COMPLETED INFILTRATION TRENCH(ES) (AND OR BASIN(S)) AFTER ALL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED AS SHOWN IN THE CONTRACT PLANS AND TO THE SATISFACTION OF THE ENGINEER. DO NOT USE INFILTRATION DEVICES AS TEMPORARY SEDIMENT CONTROL FACILITIES DURING CONSTRUCTION. DO NOT OPERATE HEAVY EQUIPMENT WITHIN THE PERIMETER OF AN INFILTRATION DEVICE DURING EXCAVATION OR BACKFILLING OF THE FACILITY.

SANITARY MANHOLE FRAMES AND COVERS

THE TOP OF NEW OR MODIFIED MANHOLE CASTINGS SHALL BE SET FLUSH WITH THE EXISTING OR PROPOSED SURFACE. THE CONTRACTOR SHALL FIELD VERIFY THE TOP OF CASTING ELEVATION PRIOR TO ORDERING MATERIALS.

FARM DRAINS

ALL FARM DRAINS, WHICH ARE ENCOUNTERED DURING CONSTRUCTION, SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS, AND WHICH CROSS THE ROADWAY, SHALL BE REPLACED WITHIN THE CONSTRUCTION LIMITS BY ITEM 811 CONDUIT, TYPE B, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS, WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF ROADWAY DITCHES, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 811 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE ONE FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL FIELD TILES WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY 811, TYPE E CONDUIT, AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

EROSION CONTROL PADS AND ANIMAL GUARDS SHALL BE PROVIDED AT THE OUTLET END OF ALL FARM DRAINS AS PER STANDARD CONSTRUCTION DRAWING DM-1.1, EXCEPT WHEN THEY OUTLET INTO A DRAINAGE STRUCTURE. PAYMENT FOR THE EROSION CONTROL PADS AND ANIMAL GUARDS AND ANY NECESSARY BENDS OR BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEMS.

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

ITEM 811 - 6" CONDUIT, TYPE B 300 FT
ITEM 811 - 6" CONDUIT, TYPE E 300 FT
ITEM 811 - 6" CONDUIT, TYPE F 300 FT

STORM WATER FACILITIES WITHIN THE CITY OF COLUMBUS AND DELAWARE COUNTY

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY OF COLUMBUS AND DELAWARE COUNTY, THE ENGINEER AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL EXISTING SEWER WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTANCES SHALL BE DETERMINED BY FIELD OBSERVATIONS. THE ENGINEER SHALL KEEP RECORDS OF THE INSPECTION IN WRITING.

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

ALL EXISTING MANHOLES, CATCH BASIN, DRAINS, SEWERS AND APPURTANCES INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THE DETERMINED BY THE ORIGINAL INSPECTION. THE CONTRACTOR SHALL CORRECT ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS TO THE SATISFACTION OF THE ENGINEER. THE ABOVE IN APPLICABLE FOR STRUCTURES TO BE ABANDONED. THE CONTRACTOR SHALL REMOVE DEBRIS, SILT, ETC..., FOR THE EXISTING MANHOLES AND CATCH BASINS THAT HAVE BEEN AFFECTED BY CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL MAINTAIN SERVICE IN EXISTING SEWERS DURING CONSTRUCTION.

EXISTING DRAINAGE SYSTEMS WITHIN THE CITY OF COLUMBUS AND DELAWARER COUNTY

EXISTING DRAINAGE SYSTEMS (FIELD TILES, ROOF DRAINS OUTLETS, SUMP PUMP OUTLETS, ETC.) ENCOUNTERED DURING CONSTRUCTION OF THE NEW STORM SEWER OR REMOVAL OF EXISTING STORM SEWERS SHALL BE EXTENDED AS NECESSARY AND BLIND TAPPED TO THE NEW STORM SEWER PER DIVISION OF SEWERAGE AND DRAINAGE STANDARD CONSTRUCTION (SCD) AA-S159 OR CONNECTED TO THE CATCH BASIN AS DIRECTED BY THE ENGINEER. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR 811.

CLEAN WATER CONNECTIONS TO SANITARY SYSTEMS

ROOF DRAINS OUTLETS, SUMP PUMP OUTLETS, DRAIN TILES AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SYSTEM ARE PROHIBITED.

CERTIFICATIONS OF PIPE AND STRUCTURES

ALL CONCRETE PIPE, STORM AND SANITARY STRUCTURES WILL BE STAMPED OR HAVE SUCH IDENTIFICATION NOTING THAT SAID ITEM HAVE BEEN INSPECTED BY THE DESIGNATED REPRESENTATIVE OF THE CITY OF COLUMBUS AND DELAWARE COUNTY AND MEETS THEIR SPECIFICATIONS. PIPE AND STRUCTURES NOT STAMPED AND NOTED WILL NOT BE PERMITTED FOR INSTALLATION.

ITEM 608, CONCRETE WALK (4" & 8") CURB RAMPS, AS PER PLAN

THESE ITEMS SHALL MEET THE REQUIREMETS OF THE CITY OF COLUMBUS (COC) CONSTRUCTION AND MATERIAL SPECIFICATIONS 608 AND THE COC STANDARD CONSTRUCTION DRAWINGS 2300, 2303 AND 2319.

CALCULATED FGW CHECKED GEE

GENERAL NOTES

DEL-CR10-0.90

2952-DR.E

UNRECORDED TREATED NON-STORMWATER DRAINAGE

FURNISH A CONTINUANCE FOR ALL UNRECORDED TREATED NON-STORMWATER DRAINAGE, SUCH AS TREATED SEPTIC, TREATED WASTEWATER, TREATED CURTAIN/GRADIENT DRAINS, AND TREATED FOUNDATION FLOOR DRAINS DISTURBED BY THE WORK. FURNISH EITHER AN OPEN CONTINUANCE OR AN UNOBSTRUCTED CONTINUANCE BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT. A CONTINUANCE MAY ALSO REQUIRE A NPDES PERMIT FROM THE OHIO ENVIRONMENTAL PROTECTION AGENCY. REPORT ALL CONTINUANCE TO THE LOCAL HEALTH DEPARTMENT.

WHERE MAKING A CONNECTION INTO A HIGHWAY DRAINAGE CONDUIT, AN INSPECTION WELL SHALL BE PROVIDED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING DM-3.1.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER IN MAKING THE ABOVE CONTINUANCE:

ITEM 811 - 6" CONDUIT, TYPE C 100 FT

ITEM 811 - INSPECTION WELL 1 EACH

UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS

FURNISH A CONTINUANCE FOR ALL UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS SUCH AS SANITARY, WASTEWATER, CURTAIN/GRADIENT DRAINS, AND FOUNDATION FLOOR DRAINS DISTURBED BY THE WORK. FURNISH AN UNOBSTRUCTED CONTINUANCE OF THE UNRECORDED ACTIVE SANITARY SEWER CONNECTIONS TO THE SATISFACTION OF THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT. ALL SANITARY AND SANITARY WASTEWATER CONTINUANCE MAY ALSO REQUIRE A NPDES PERMIT FROM THE OHIO ENVIRONMENTAL PROTECTION AGENCY. REPORT ALL CONTINUANCE TO THE LOCAL HEALTH DEPARTMENT.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.42, 707.43, 707.44, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35, 706.01, 706.02, OR 706.08 WITH JOINTS AS PER 706.11 OR 706.12.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

ITEM 811 - 6" CONDUIT, TYPE B (FOR SANITARY) 100 FT

ITEM 811 - 6" CONDUIT, TYPE C (FOR SANITARY) 100 FT

SPRING DRAINS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR DRAINING ANY SPRINGS SHOWN IN THE PLAN OR ENCOUNTERED DURING CONSTRUCTION. THE FOLLOWING TYPES OF PIPES MAY BE USED: 707.33, 707.41, 707.42 or 707.45 PERFORATED PER 707.31.

SPRING DRAINS SHALL BE CONSTRUCTED AS SHOWN ON STANDARD CONSTRUCTION DRAWING DM-1.1 AND PAID FOR AT THE CONTRACT PRICE FOR:

ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAINS FOR SPRINGS 100 FT

ITEM 605 - AGGREGATE DRAINS FOR SPRINGS 100 FT

ITEM 811 - PRECAST REINFORCED CONCRETE OUTLET 1 EACH

ITEM 253 PAVEMENT REPAIR MISC.: PAVEMENT REINFORCEMENT (5 FEET WIDE)

PAVEMENT REINFORCEMENT MATERIAL SHALL BE PLACED OVER THE JOINT BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT FOR ALL PAVEMENT SALVAGE AREAS AND PAVEMENT WIDENING SECTIONS. THE MATERIAL SHALL BE A MINIMUM OF 5.0 FEET WIDE AND PLACED CENTERED OVER THE JOINT BETWEEN THE OLD AND NEW PAVEMENT. THE PAVEMENT REINFORCEMENT MATERIAL SHALL BE PLACED BETWEEN THE ITEM 301 ASPHALT CONCRETE BASE AND THE ITEM 448 ASPHALT CONCRETE, INTERMEDIATE COURSE. THE MATERIAL SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

THE MATERIAL TO BE PROVIDED SHALL BE GLASSGRID 8502, OR APPROVED EQUALIVALENT. ALL MATERIAL, LABOR, EQUIPMENT, AND OTHER COSTS FOR THIS WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 253 PAVEMENT REPAIR, MISC: PAVEMENT REINFORCEMENT, SQUARE YARD.

PROVIDE A SELF ADHESIVE PAVEMENT JOINT REINFORCING MESH AT THE LOCATIONS SHOWN IN THE PLAN OR AS DIRECT BY THE ENGINEER, MEETING THE FOLLOWING SPECIFICATIONS:

a. MINIMUM APERTURE DIMENSIONS 0.375 IN. X 0.375 IN.
b. MAXIMUM APERTURE AREA 0.75 SQ. IN.
c. PERCENT OPEN AREA 40% TO 70%
d. MINIMUM ULTIMATE TENSILE STRENGTH (T ULT) MACHINE DIRECTION (MD) 500 LB/FT
e. MINIMUM ULTIMATE TENSILE STRENGTH (T ULT) ACROSS MACHINE DIRECTION (XMD OR CMD) 500 LB/FT
f. MINIMUM WEIGHT 10 OZ PER SQ YD PER ASTM D 5261-92
g. MAXIMUM ELONGATION AT BREAK 6% AS PER ASTM D 6637
h. MINIMUM MELTING POINT 400°F

PAVEMENT AREAS SHALL BE CLEANED AND FREE OF DEBRIS PRIOR TO PLACEMENT. MESH SHALL BE APPLIED TO PAVEMENT IN A MANNER THAT WILL RESIST MOVEMENT OR DEBONDING FROM CONSTRUCTION AND PAVING TRAFFIC. MESH SHALL BE PULLED TIGHT TO ELIMINATE RIPPLES. FOLLOW ALL OTHER MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF THE MATERIAL.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR:

ITEM 253 - PAVEMENT REPAIR MISC.: PAVEMENT REINFORCING - 3,890 SQ YD

CURTAIN DRAINS OUTLETS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN PROVIDED FOR THE WORK NECESSARY TO CONNECT THE EXISTING CURTAIN DRAINS TO THE NEAREST PROPOSED STORM SEWER (OR DITCH IF A ONE FOOT MINIMUM ELEVATION DIFFERENCE CAN BE PROVIDED FROM THE FLOW OF THE CONDUIT ABOVE THE FLOW LINE OF DITCH).

THE CURTAIN DRAIN OUTLETS ARE NOT SEWAGE BUT DISCHARGE THE GROUND WATER FROM THE AREA SURROUNDING THE LEACH BEDS / FIELD LINES FOR THE HOUSEHOLD SEWAGE TREATMENT SYSTEMS.

THE APPROXIMATE LOCATION OF THE LEACH BEDS HAVE BEEN SHOWN BASED UPON THE PERMITS ON FILE AT THE DELAWARE COUNTY GENERAL HEALTH DEPARTMENT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING THESE EXISTING CONDUITS AND ENSURING THAT THEY REMAIN OPERATIONAL DURING CONSTRUCTION AND MAKING APPROPRIATE CONNECTIONS TO THE PROPOSED DRAINAGE SYSTEM AS DIRECTED BY THE ENGINEER. A CLEANOUT SHALL BE PROVIDED AT EACH CONNECTION WITH THE EXISTING CONDUIT.

THE UNIT BID PRICE FOR THESE ITEMS SHALL INCLUDE ALL COSTS SUCH AS BUT NOT LIMITED TO MATERIALS, LABOR, EQUIPMENT, MATERIALS, BEDDING, BACKFILL, AND FITTINGS.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR:

KNOWN ON SITE SEWAGE DISPOSAL LOCATIONS			
ADDRESS	ITEM 811, CONDUIT, TYPE F		
	4"	6"	8"
7040 SOUTH OLD STATE ROAD	15	15	15
7060 SOUTH OLD STATE ROAD	15	15	15
7085 SOUTH OLD STATE ROAD	15	15	15
7110 SOUTH OLD STATE ROAD	15	15	15
7130 SOUTH OLD STATE ROAD	15	15	15
7180 SOUTH OLD STATE ROAD	15	15	15
7200 SOUTH OLD STATE ROAD	15	15	15
7559 SOUTH OLD STATE ROAD	15	15	15
7787 SOUTH OLD STATE ROAD	15	15	15
7811 SOUTH OLD STATE ROAD	15	15	15
7871 SOUTH OLD STATE ROAD	15	15	15
7886 SOUTH OLD STATE ROAD	15	15	15
8010 SOUTH OLD STATE ROAD	15	15	15
8040 SOUTH OLD STATE ROAD	15	15	15
8076 SOUTH OLD STATE ROAD	15	15	15
8144 SOUTH OLD STATE ROAD	15	15	15
8255 SOUTH OLD STATE ROAD	15	15	15
8813 SOUTH OLD STATE ROAD	15	15	15
9250 SOUTH OLD STATE ROAD	15	15	15
9270 SOUTH OLD STATE ROAD	15	15	15
UNKNOWN/UNRECORDED	15	15	15
TOTAL	315	315	315

ENVIRONMENT COMMITMENTS

THE PROJECT IS LOCATED NEAR THE CITY OF WESTERVILLE S DRINKING WATER SOURCE AREA. IN ORDER TO MINIMIZE THE POTENTIAL FOR A RELEASE IN THIS SENSITIVE AREA, PROJECT-RELATED REFUELING AND MAINTENANCE ACTIVITIES SHALL NOT BE PERFORMED FROM STA 92+00 TO STA 103+00. SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO THE DRINKING WATER SOURCE AREA SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT THE ORANGE TOWNSHIP FIRE STATION 362 AT 740-548-5315 AND THE WESTERVILLE CITY MANAGER AT 614-901-6400.

THE CONTRACTOR IS REQUIRED TO NOTIFY IN WRITING LOCAL EMERGENCY AND PUBLIC SERVICE AGENCIES AT LEAST FOURTEEN (14) DAYS IN ADVANCE OF THE SCHEDULED START OF PROJECT CONSTRUCTION. PROVIDE A COPY OF THE DATED NOTIFICATIONS TO THE ENGINEER. THESE AGENCIES SHALL INCLUDE:

ORANGE TOWNSHIP TRUSTEES
1680 E. ORANGE ROAD
LEWIS CENTER, OH 43035-9502
740-548-5430
FAX: 740-548-7537

ORANGE TWP. FIRE DEPARTMENT
STATION 362
7307 S. OLD STATE ROAD
LEWIS CENTER, OH 43035
740-548-5315

DELAWARE COUNTY SHERIFF
149 N. SANDUSKY ST.
DELAWARE OHIO 43015
(740) 833-2810
FAX: (740) 833-2809

COLUMBUS DEPARTMENT
OF PUBLIC SERVICE
109 N. FRONT ST., 3RD FLOOR
COLUMBUS, OH 43215
614-645-8290
FAX: 614-645-7805

COLUMBUS DEPARTMENT
OF PUBLIC UTILITIES
910 DUBLIN ROAD
COLUMBUS, OH 43215
614-645-8276

COLUMBUS DIVISION OF FIRE
ADMINISTRATION BUREAU
3675 PARSONS AVENUE
COLUMBUS, OH 43207
614-645-8308
FAX: 614-645-3040

COLUMBUS DIVISION OF POLICE
120 MARCONI BLVD.
COLUMBUS, OHIO 43215
614-645-4545

ONE DRINKING WATER WELL IS PRESENT AT 8859 S. OLD STATE ROAD, LEWIS CENTER, OH 43035. THIS DRINKING WATER WELL SHALL BE ABANDONED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO DEPARTMENT OF NATURAL RESOURCES (ODNR) TECHNICAL GUIDELINES FOR SEALING UNUSED WELLS.

ACCESS TO TOWNSHIP HALL AND PARK WILL BE MAINTAINED DURING CONSTRUCTION WITH THE EXCEPTION OF ACCESS TO THE SHARED USE PATH BETWEEN ORANGE ROAD AND GLADSHIRE ROAD. THIS SHARED USE PATH WILL BE TEMPORARILY CLOSED FOR NO MORE THAN 180 DAYS DURING CONSTRUCTION.

ANY DISTURBED AREAS DISTURBED BY THE PROJECT WILL BE RESTORED TO A CONDITION AS GOOD AS OR BETTER THAN EXISTING PRIOR TO CONSTRUCTION ACTIVITIES.

TEMPORARY CONSTRUCTION FENCING WILL BE INSTALLED ALONG PROPOSED PROJECT LIMITS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES TO PROTECT EXISTING SECTION 4(F) PROPERTIES AND THE PUBLIC.

THE CONTRACTOR WILL BE REQUIRED TO CLOSELY COORDINATE THE CONSTRUCTION SCHEDULE WITH ORANGE TOWNSHIP, ODOT AND DELAWARE COUNTY.

CALCULATED FGW CHECKED GEE

GENERAL NOTES

DEL-CR10-0.90

2952-DR.E

ITEM 811 - CATCH BASIN NO. 3, AS PER PLAN (APP)

THIS ITEM SHALL MEET THE REQUIREMENTS OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION AND STANDARD CONSTRUCTION DRAWING AA-S125A.

ITEM 811 - CATCH BASIN NO. 3A, AS PER PLAN

THIS ITEM SHALL MEET THE REQUIREMENTS OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION AND STANDARD CONSTRUCTION DRAWING AA-S125.

ITEM 811 - CATCH BASIN NO. 2-2B, AS PER PLAN

THIS ITEM SHALL MEET THE REQUIREMENTS OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION AND STANDARD CONSTRUCTION DRAWING AA-S135.

ITEM 811 - CATCH BASIN NO. 2-4, AS PER PLAN

THIS ITEM SHALL MEET THE REQUIREMENTS OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION AND STANDARD CONSTRUCTION DRAWING AA-S133B.

ITEM 811 - MANHOLE NO. 3, AS PER PLAN

THIS ITEM SHALL MEET THE REQUIREMENTS OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION AND STANDARD CONSTRUCTION DRAWING AA-S102 FOR 42" DIAMETER AND SMALLER PIPE AND STANDARD CONSTRUCTION DRAWING AA-S105 FOR 48" DIAMETER AND LARGER PIPE.

ITEM 811 - MANHOLE ADJUSTED TO GRADE, AS PER PLAN

THIS ITEM SHALL MEET THE REQUIREMENTS OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION AND STANDARD CONSTRUCTION DRAWING AA-S171.

ITEM 811 - 12" CONDUIT, TYPE B, AS PER PLAN
ITEM 811 - 12" CONDUIT, TYPE C, AS PER PLAN
ITEM 811 - 15" CONDUIT, TYPE B, AS PER PLAN
ITEM 811 - 15" CONDUIT, TYPE C, AS PER PLAN
ITEM 811 - 18" CONDUIT, TYPE B, AS PER PLAN
ITEM 811 - 18" CONDUIT, TYPE C, AS PER PLAN
ITEM 811 - 21" CONDUIT, TYPE B, AS PER PLAN
ITEM 811 - 21" CONDUIT, TYPE C, AS PER PLAN
ITEM 811 - 24" CONDUIT, TYPE B, AS PER PLAN
ITEM 811 - 24" CONDUIT, TYPE C, AS PER PLAN
ITEM 811 - 30" CONDUIT, TYPE B, AS PER PLAN
ITEM 811 - 30" CONDUIT, TYPE C, AS PER PLAN
ITEM 811 - 36" CONDUIT, TYPE C, AS PER PLAN

THESE ABOVE ITEMS SHALL MEET THE REQUIREMENTS OF THE CITY OF COLUMBUS, STANDARD CONSTRUCTION DRAWINGS AA-S150, AA-S151 AND AA-S1544; THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS; AND THE CITY OF COLUMBUS STORMWATER DRAINAGE MANUAL, CURRENT EDITIONS, AS FOLLOWS:

THE MINIMUM HEIGHT OF COVER FROM THE OUTSIDE TOP OF PIPE TO THE GROUND SURFACE OR PAVEMENT SURFACE SHALL BE 36 INCHES. IN INSTANCES WHERE THE HEIGHT OF COVER IS LESS THAN 36 INCHES, THE ENGINEER OF RECORD SHALL PROVIDE ONE OF THE FOLLOWING ALTERNATIVES: SIGNED AND SEALED DRAWINGS BY THE PIPE MANUFACTURER AS PART OF THE DESIGN PLANS, CLASS A CONCRETE ENCASEMENT PER CMSC 901.12 FROM STRUCTURE TO STRUCTURE FOR ACCEPTED PIPE MATERIALS AND DIMENSIONS OR REINFORCED CONCRETE PIPE PROVIDED PROPER CLASS OF CONCRETE PIPE IS SPECIFIED BY THE ENGINEER OF RECORD.

THE FOLLOWING TABLE IS A GUIDE FOR THE CLASS OF PIPE TO USE WHEN THE HEIGHT OF COVER IS 36 INCHES OR LESS. IN NO CASE SHALL THE HEIGHT OF COVER BE LESS THAN 12 INCHES.

ACCEPTABLE CLASS OF PIPE WHEN HEIGHT OF COVER IS 30 INCHES OR LESS

PIPE DIAMETER (INCHES)	CLASS OF PIPE	MINIMUM D-LOAD
12	IV	2000
15	IV	2000
18	III	1250
21	III	1250
24	III	1250
27 OR LARGER	II	1000

NOTES FOR HEIGHT OF COVER TABLE

1. THE DESIGN OF THE PROPER CLASS OF CONCRETE PIPE IS BASED ON ODOT CMS 706.02, ASTM C-76 SPECIFICATION FOR REINFORCED CONCRETE ROUND PIPE, ASTM C-507 SPECIFICATION FOR HORIZONTAL ELLIPTICAL CONCRETE PIPE AND ASTM C-655.

2. THE INSTALLATION TYPE SHALL BE TYPE 2.

3. THE STORM SEWERS IN ROADWAY AND OUTSIDE OF ROADWAY ARE DESIGNED FOR AN AASHTO HS-20 LIVE LOAD CONDITION.

4. THE HEIGHT OF COVER TABLE ASSUMES A SOIL DENSITY EQUAL TO 120 POUNDS PER CUBIC FOOT.

ITEM 901 PIPE SEWERS COMPLETE IN PLACE

901.1 DESCRIPTION. THIS WORK CONSISTS OF THE CONSTRUCTION OF PIPE SEWERS COMPLETE IN PLACE IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN CONFORMITY WITH THE LINES AND GRADES SHOWN ON THE PLANS, OR AS ESTABLISHED BY THE ENGINEER. THIS WORK INCLUDES: EXCAVATING FOR PIPES AND PIPE BEDDING, CLEARING AND GRUBBING, FILL OR EMBANKMENT, AND THE REMOVAL OF ALL MATERIALS NECESSARY FOR PLACING THE PIPE EXCEPT REMOVALS LISTED SEPARATELY; FURNISHING AND PLACING CONCRETE OR GRANULAR BEDDING, CONCRETE BACKING OR ENCASEMENT, AND COMPACTED BACKFILL, GRANULAR BACKFILL, COMPACTED GRANULAR BACKFILL OR CONCRETE BACKFILL AS REQUIRED; PLACING TRENCH DAMS; CONSTRUCTING AND SUBSEQUENTLY REMOVING ALL NECESSARY COFFERDAMS, CRIBS AND SHEETING; CONSTRUCTING AND PLACING ALL NECESSARY BULKHEADS; REMOVAL OF WATER; INSTALLING ALL PIPE JOINTS; FURNISHING, INSTALLING AND TESTING ALL NECESSARY PIPE OF THE TYPES SPECIFIED OR SHOWN ON THE PLANS; JOINING TO EXISTING AND PROPOSED SEWERS AND APPURTENANCES AS REQUIRED; RESTORATION OF DISTURBED FACILITIES AND SURFACES; MAINTENANCE OF TRAFFIC, DRAINAGE AND EXISTING FACILITIES ALL AS SHOWN ON THE DRAWINGS AND AS SPECIFIED, UNLESS OTHERWISE PROVIDED FOR BY SEPARATE PAY ITEMS. THE CITY WILL SPECIFY AND PAY FOR STRUCTURES UNDER ITEM 604.

901.2MATERIALS AND MATERIAL HANDLING. PROVIDE PIPE OF THE SIZE AND KIND SPECIFIED IN THE PROPOSAL AND SHOWN ON THE PLANS AND MEETING THE REQUIREMENTS OF THE RELEVANT PARTS OF SECTION 706, SECTION 720 OR SECTION 801. IF THE PROPOSAL OR PLANS DO NOT SPECIFICALLY ITEMIZE THE TYPE OF PIPE , THE CONTRACTOR MAY USE PIPE FROM ITS LIST OF APPROVED MANUFACTURERS. THE CITY WILL MAINTAIN A LIST OF CURRENT APPROVED MANUFACTURERS, PRODUCT TYPES AND SIZES, AND AUTHORIZATION LETTERS ON FILE AT THE LABORATORY.

PROVIDE SPECIFIC MATERIALS AS FOLLOWS UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS:

1. CONCRETE FOR ENCASEMENT, CRADLE, BACKING AND BACKFILL CLASS A	499, 905
2. CONCRETE FOR BLOCKING - CLASS C	499
3. STONE OR GRAVEL BEDDING - NO. 57	703
4. COMPACTED GRANULAR MATERIAL	912.02
5. CEMENT FOR MORTAR	701
6. SAND FOR MORTAR	703.03
7. LIME FOR MORTAR	712.04
8. GASKETS FOR CONCRETE PIPE JOINTS	901.15
9. GASKETS FOR VITRIFIED CLAY PIPE JOINTS	901.15
10. GASKETS FOR PVC PIPE JOINTS.	901.15
11. GASKETS FOR DUCTILE IRON PIPE JOINTS	901.15
12. NON-REINFORCED CONCRETE PIPE	706.01
13. REINFORCED CONCRETE PIPE	706.02
14. REINFORCED ELLIPTICAL CONCRETE PIPE	706.04
15. VITRIFIED CLAY PIPE, EXTRA STRENGTH	706.08
16. POLYVINYL CHLORIDE (PVC) SEWER PIPE	720
17. DUCTILE IRON PIPE	801.03
18. PRECAST REINFORCED CONCRETE BOX SECTIONS	706.05
19. HIGH DENSITY POLYETHYLENE PIPE (HDPE)	720

EXERCISE CARE IN MATERIAL HANDLING TO PREVENT FIELD AND INSTALLATION DAMAGE THAT COULD IMPAIR THE FUNCTION AND DURABILITY OF THE INSTALLATION. IN PARTICULAR, CAREFULLY HANDLE THERMOPLASTIC CONDUITS DURING COLD WEATHER.

901.3 EXCAVATION. EXCAVATE ALL MATERIAL OF WHATEVER NATURE ENCOUNTERED, INCLUDING ROCK IN PLACE, AS DEFINED IN ITEM 903, EXCEPT FOR ROCK EXCAVATION AS SPECIFIED SEPARATELY, MADE NECESSARY FOR THE CONSTRUCTION OF WORK AS SHOWN ON THE STANDARD DRAWINGS OR PLANS AND AS SPECIFIED. PROVIDE OPEN TRENCH EXCAVATIONS, EXCEPT AS OTHERWISE REQUIRED, PERMITTED OR ORDERED IN WRITING BY THE ENGINEER.

SAWCUT ALL EXISTING PAVEMENTS, WALKWAYS, CURBS, ETC. BEFORE REMOVAL. IF DURING CONSTRUCTION, THE CONTRACTOR DAMAGES PAVEMENTS, WALKWAY, CURB, ETC. BEYOND THE ORIGINAL SAW CUT, RECUT THE DAMAGED AREA TO NEAT LINES AS DIRECTED BY THE ENGINEER. INCLUDE THE COST OF SAW CUTTING IN THE ITEMS OF THE CONTRACT AND THE CITY WILL NOT PAY SEPARATELY.

901.4 LIMIT AS TO WIDTH OF TRENCH. DO NOT EXCEED THE SPECIFIED WIDTH OF TRENCH BELOW THE ELEVATION OF THE OUTSIDE TOP OF THE BARREL OF THE SEWER AS SHOWN ON THE STANDARD DRAWINGS, UNLESS INCLUDED ON THE PLANS OR PERMITTED IN WRITING BY THE ENGINEER. PROVIDE, INSTALL, AND USE SUFFICIENT SHEETING, BRACING, TIMBERING, ETC., TO MAINTAIN THE SIDES OF THE TRENCH IN A SUBSTANTIALLY VERTICAL POSITION; AND, IN SUCH A MANNER TO PROTECT AND PRESERVE, LIFE, PROPERTY OR THE USE OF SUCH PROPERTY. THE CITY WILL NOT PAY SEPARATELY FOR SUCH SHEETING, BRACING, TIMBERING, ETC. NECESSITATED BY THE CONTRACTOR'S OPERATIONS TO ACCOMPLISH AND CARRY OUT THIS RESPONSIBILITY.

FOR SEWER INSTALLATIONS WITHIN AN EMBANKMENT OR FOR SEWERS ABOVE EXISTING GROUND, CONSTRUCT THE EMBANKMENT, IN ACCORDANCE WITH SECTION 203 REQUIREMENTS, AT LEAST TO 30 INCHES (0.76 M) ABOVE THE OUTSIDE TOP OF THE SEWER PIPE BEFORE TRENCHING. THEN EXCAVATE THE TRENCH TO THE MINIMUM WIDTH NECESSARY FOR PROPER PLACING AND BACKFILLING OF THE SEWER AS DESCRIBED IN 901.17.

FOR INSTALLATION OF THERMOPLASTIC PIPE, EXCAVATE THE TRENCH IN ACCORDANCE WITH THE STANDARD DRAWINGS OR ASTM D2321, 6.1 THROUGH 6.5 WHERE MORE RESTRICTIVE THAN SET FORTH ABOVE.

901.5UNAUTHORIZED EXCAVATION. THE ENGINEER WILL CLASSIFY AS UNAUTHORIZED EXCAVATION ALL EXCAVATION OUTSIDE OR BELOW THE LIMITING LINES FOR BEDDING AS SHOWN ON THE STANDARD DRAWINGS. FILL WITH MATERIAL AND IN A MANNER APPROVED BY THE ENGINEER AT NO ADDITIONAL COST TO THE CITY.

901.6SUBGRADE. THE CITY EXPECTS THE CONTRACTOR WILL FIND SATISFACTORY MATERIAL AT THE SUBGRADE OF THE TRENCH IF THE CONTRACTOR PERFORMS ADEQUATE WATER REMOVAL . IF THE CONTRACTOR ENCOUNTERS SOFT, SPONGY, UNSUITABLE OR SIMILARLY UNACCEPTABLE MATERIAL AT THE BEDDING SUBGRADE, REMOVE THIS UNSUITABLE MATERIAL AS DIRECTED BY THE ENGINEER IN WRITING. THE FOLLOWING WILL GOVERN THE PROSECUTION OF THE WORK DIRECTED BY THE ENGINEER.

1.IF CONTRACTOR DEWATERING OF THE SUBGRADE MATERIALS IN ACCORDANCE WITH ITEM 901.16, PRODUCES A SUBGRADE ACCEPTABLE TO THE ENGINEER FOR PLACING THE BEDDING MATERIAL, THE CITY WILL NOT MAKE ADDITIONAL PAYMENT FOR THE WORK.

2. AFTER DEWATERING OF SUBGRADE MATERIALS IN ACCORDANCE WITH ITEM 901.16, FOR UNSUITABLE MATERIAL REMOVED BY WRITTEN ORDER OF THE ENGINEER, REPLACE WITH A STONE FOUNDATION AS SPECIFIED IN ITEM 906 AND PAID FOR AS INDICATED THEREIN.

901.7 EXCAVATION MATERIAL. DISPOSE OF ALL EXCAVATED MATERIAL IN EXCESS OF THAT REQUIRED FOR BACKFILLING. DO NOT USE PUBLIC OR PRIVATE PROPERTY FOR THIS PURPOSE WITHOUT THE WRITTEN PERMISSION OF THE OWNER. THE CONTRACTOR MAY STORE EXCAVATED MATERIAL REQUIRED FOR BACKFILL, EXCEPT AS PROVIDED FOR UNDER SURFACE SOIL AS PER SECTION 901.18, ON THE BANK OF THE TRENCH IN ACCORDANCE WITH APPLICABLE SAFETY AND ENVIRONMENTAL REGULATIONS WHERE SPACE IS AVAILABLE WITHIN THE RIGHT-OF-WAY ACQUIRED FOR THE WORK. DO NOT INTERFERE WITH THE ACCESS TO AND MAINTENANCE OF TRAFFIC, DRAINAGE AND UTILITIES AS HEREIN SPECIFIED.

SECURE THE ENGINEER S APPROVAL OF THE LOCATION OF AN OFF-SITE DISPOSAL AREA BEFORE USING.

MAINTAIN INGRESS AND EGRESS TO ALL PROPERTIES ALONG THE LINE OF THE WORK, EXCEPT AS PERMITTED, IN WRITING, BY THE ENGINEER.

901.8 REMOVAL OF OBSTRUCTIONS. REMOVE ANY OBSTRUCTIONS, INCLUDING ABANDONED SEWERS OR WATER LINES, ENCOUNTERED OR NECESSARY FOR THE CONSTRUCTION OF THE WORK AT NO ADDITIONAL COST TO THE CITY AS APPROVED BY THE ENGINEER.

FOR EXISTING PIPES ENCOUNTERED IN REMOVAL OPERATIONS, DETERMINED INACTIVE BY THE ENGINEER, FILL AND PLUG OR SEAL AT BOTH ENDS WHERE BROKEN.

FOR ABANDONED AND REMOVED PORTIONS OF AN EXISTING CONCRETE OR CLAY SEWER UNDER THIS CONTRACT, CONSTRUCT BRICK OR CONCRETE BULKHEADS IN THE UNDISTURBED SECTION OF THE ABANDONED SEWER AS DIRECTED BY THE ENGINEER. THE DRAWINGS MAY OR MAY NOT SHOW THE

LOCATIONS OF BULKHEADS. FOR ABANDONING EXISTING SEWER MADE OF A MATERIAL OTHER THAN CLAY, BRICK OR CONCRETE, CAP OR PLUG THE UNDISTURBED SECTION AS DIRECTED. THE COST OF THIS WORK IS INCLUDED IN THE VARIOUS ITEMS OF THE CONTRACT AND THE CITY WILL NOT MAKE A SEPARATE PAYMENT, UNLESS A SEPARATE PAY ITEM IS SPECIFIED.

CALCULATED AWF
CHECKED PHF

DRAINAGE NOTES

DEL-CR10-0.90

2845-DR.E

ITEM 901 - CONTINUED

901.11 BEDDING AND EMBEDMENT. PLACE CUTOFF TRENCH DAMS OF NATIVE CLAY OR IMPERVIOUS SOIL ACROSS AND ALONG THE TRENCH AT 150 FOOT (45.7 M) INTERVALS. PLACE AT LEAST 1 TRENCH DAM BETWEEN ADJACENT MANHOLES REGARDLESS OF SPACING. COMPACT THE TRENCH DAMS 6 FEET (1.8 M) IN LENGTH, AS MEASURED ALONG THE SEWER CENTERLINE AND BENCH INTO THE UNDISTURBED TRENCH SIDES FROM THE SUBGRADE OR TOP OF CRADLE, TO WITHIN 5 FEET (1.5 M) OF THE EXISTING SURFACE. IF CONSTRUCTING TRENCH DAMS IN ROCK OR HARDPAN, EXTEND TO THE TOP THEREOF WHICHEVER IS GREATER. WHERE PIPE COVER IS LESS THAN 5 FEET (1.5 M) THE EXTEND THE DAM TO WITHIN 1 FOOT (0.3 M) OF THE EXISTING SURFACE. PROVIDE THE TRENCH DAM INSTALLATION WITH A MINIMUM OF 3 FEET (0.9 M) OF COMPACTED MATERIAL ABOVE THE CROWN OF THE PIPE.

TYPE I.
1. FOR FLEXIBLE SANITARY AND STORM SEWERS 6 INCHES (152 MM) IN DIAMETER UP TO AND INCLUDING 60 INCHES (1524 MM) IN DIAMETER, PROVIDE A BEDDING OF NO. 57 STONE OR COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH SECTION 912.02 EXTENDING FROM A POINT 4 INCHES (101 MM) BELOW THE BOTTOM OF THE PIPE TO A POINT 12 INCHES (305 MM) ABOVE THE OUTSIDE TOP OF PIPE AS SHOWN ON THE STANDARD DRAWINGS.

2. FOR RIGID SANITARY AND STORM SEWERS 6 INCHES (152 MM) IN DIAMETER UP TO AND INCLUDING 27 INCHES (685 MM) IN DIAMETER, PROVIDE A BEDDING OF NO.57 STONE OR COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH SECTION 912.02 EXTENDING FROM A POINT 4 INCHES (102 MM) BELOW THE BOTTOM OF THE PIPE TO SPRING LINE OF THE PIPE AS SHOWN ON THE STANDARD DRAWINGS.

3. FOR RIGID SANITARY AND STORM SEWERS 30 INCHES (762 MM) IN DIAMETER UP TO AND INCLUDING 108 INCHES (2743 MM) IN DIAMETER, PROVIDE A BEDDING OF NO. 57 STONE OR COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH 912.02 EXTENDING FROM A POINT 6 INCHES (152 MM) BELOW THE BOTTOM OF THE PIPE TO THE SPRING LINE OF THE PIPE AS SHOWN ON THE STANDARD DRAWINGS.

IF USING TYPE I BEDDING, INCLUDE THE COST OF ALL BEDDING AS DESCRIBED ABOVE IN THE PRICE BID FOR THE VARIOUS PIPE ITEMS. IF COMPACTED GRANULAR MATERIAL FAILS TO MEET THE COMPACTION REQUIRED UNDER SECTION 912.03, UNDER PIPE HAUNCHES AND AROUND THE PIPE, THE ENGINEER WILL DIRECT THE USE OF STONE BEDDING, NO. 57, IN LIEU OF COMPACTED GRANULAR MATERIAL AT NO ADDITIONAL COST TO THE CITY.

PROVIDE EMBEDMENT FOR THERMOPLASTIC PIPE USED IN AREAS WHERE LATERAL SOIL SUPPORT IS NEGLIGIBLE OR QUESTIONABLE IN ACCORDANCE WITH THE RECOMMENDATIONS OF ASTM D2321 APPENDIX XI COMMENTARY.

901.9 MAINTAINING DRAINAGE. MAINTAIN THE FLOW OF ALL SEWERS, DRAINS, STREETS, GUTTERS, FIELD TILES AND WATERCOURSES ENCOUNTERED AT NO ADDITIONAL COST TO THE CITY. RESTORE TO A CONDITION SATISFACTORY TO THE ENGINEER AND APPLICABLE JURISDICTIONAL AUTHORITY ANY WATERCOURSES AND DRAINS DISTURBED OR DESTROYED DURING THE PROSECUTION OF THE WORK AT NO ADDITIONAL COST TO THE CITY.

901.10 MAINTENANCE OF SERVICE IN EXISTING STRUCTURES. MAINTAIN IN SERVICE ALL EXISTING OVERHEAD, SURFACE OR SUBSURFACE STRUCTURES, TOGETHER WITH ALL APPURTENANCES AND SERVICE CONNECTIONS, EXCEPT THOSE OTHERWISE PROVIDED FOR HEREIN, ENCOUNTERED OR AFFECTED IN ANY WAY DURING THE CONSTRUCTION OF ANY OF THE WORK UNDER THIS CONTRACT AT ALL TIMES, UNLESS THE CONTRACTOR MAKES OTHER ARRANGEMENTS, SATISFACTORY TO THE AUTHORITY RESPONSIBLE FOR THEIR OPERATION.

FOR CONNECTIONS MADE TO EXISTING SEWERS, MAKE SUITABLE PROVISIONS FOR MAINTAINING THE FLOW IN THE EXISTING SEWER UNTIL THE COMPLETION OF THE CONNECTION.

INCLUDE THE COST OF THIS WORK IN THE PRICES BID FOR ALL THE VARIOUS ITEMS OF THE CONTRACT.

TYPE II.
SET SANITARY AND STORM SEWERS TO LINE AND GRADE ON CLASS C CONCRETE BLOCKING MEETING THE FOLLOWING MINIMUM REQUIREMENTS:

1.PROVIDE CONCRETE BLOCKING WITH A HORIZONTAL BEARING AREA IN CONTACT WITH THE SUBGRADE CREATING THE BEARING LOAD NOT EXCEEDING 3,000 POUNDS PER SQUARE FOOT (14,646 KG/M2).

2.PROVIDE CONCRETE BLOCKING THAT SUPPORTS THE PIPE AT LEAST 6 INCHES (152 MM) ABOVE THE SUBGRADE.

3.ALLOW CONCRETE TO REMAIN EXPOSED UNTIL COMPLETION OF THE INITIAL SET.

CONSTRUCT A CLASS A CONCRETE CRADLE TO FILL ALL THE SPACE AROUND THE CONCRETE BLOCKING AND BELOW THE PIPE AS SHOWN ON THE STANDARD DRAWINGS. THE CITY WILL DEEM ALL CONCRETE PLACED OUTSIDE THE LIMITING LINES FOR TRENCH WIDTH AND ELEVATION AS UNAUTHORIZED AND WILL NOT INCLUDE FOR PAYMENT. PROVIDE BACKING OF STONE BEDDING OR COMPACTED GRANULAR MATERIAL AS DESCRIBED IN TYPE I BEDDING UNLESS CLASS A CONCRETE IS SPECIFIED, OR SHOWN ON THE DRAWINGS.

FOR TYPE II BEDDING, INCLUDE THE COST OF ALL BEDDING AS DESCRIBED ABOVE IN THE PRICE BID FOR THE VARIOUS PIPE ITEMS.

FILL ALL THE SPACE WITHIN THE WIDTH OF THE TRENCH EXCAVATION, INSIDE OR OUTSIDE THE AUTHORIZED LIMITS AND BETWEEN THE ELEVATION LIMITS, WITH THE SAME MATERIAL AS SPECIFIED ON THE APPLICABLE STANDARD DRAWING.

901.12 LAYING PIPE. EXAMINE EACH PIPE FOR DEFECTS AND DAMAGE. DO NOT USE DEFECTIVE OR DAMAGED PIPE. LAY PIPELINES TO THE GRADES AND ALIGNMENT INDICATED. PROVIDE PROPER FACILITIES FOR LOWERING SECTIONS OF PIPE INTO TRENCHES. DO NOT, UNDER ANY CIRCUMSTANCES LAY PIPE IN WATER OR WHEN TRENCH CONDITIONS OR WEATHER PROVE UNSUITABLE FOR SUCH WORK. PROVIDE FOR THE DIVERSION OF DRAINAGE OR DEWATERING OF TRENCHES DURING CONSTRUCTION AS NECESSARY. INSPECT ALL PIPE IN PLACE BEFORE BACKFILLING, AND REMOVE AND REPLACE THOSE PIPES DAMAGED DURING PLACEMENT.

LAY PIPES IN FINISHED TRENCHES STARTING AT THE LOWEST POINT SO THAT THE SPIGOT ENDS POINT IN THE DIRECTION OF FLOW. LAY ALL PIPES WITH ENDS ABUTTING AND TRUE TO LINE AND GRADE.

WHERE NECESSARY WITH BELL END PIPE, EXCAVATE SUITABLE BELL-HOLES IN THE BEDDING MATERIAL FOR THE BELL OF EACH PIPE SO THAT THE BELLS WILL NOT SUPPORT THE WEIGHT OF THE PIPE. FIT AND MATCH THE PIPES SO THAT WHEN PLACED, THEY WILL FORM A CONDUIT WITH A SMOOTH AND UNIFORM INVERT. USE ALL POSSIBLE CARE WHEN SHOVING THE PIPES TOGETHER TO MINIMIZE THE JOINTS AND CAREFULLY CLEAN THE PIPE ENDS BEFORE PLACING THE PIPES. INSTALL GASKETS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

USE CLASS A CONCRETE ENCASEMENT, IN ACCORDANCE WITH TO THE DIMENSIONAL STANDARD DRAWING, WITHIN THE LIMITS OF EXISTING OR PROPOSED PAVED AREAS INSIDE RIGHT-OF-WAY WHERE MINIMUM COVER DURING CONSTRUCTION OR PROPOSED COVER OVER THE OUTSIDE TOP OF THE PIPE TO TOP OF FINISHED GRADE IS 48 INCHES (762 MM) OR LESS.

MAKE ALL CONNECTIONS WITH EXISTING STRUCTURES AFTER CLEANING THE STRUCTURES IN A THOROUGH, FIRST CLASS, NEAT AND WORKMANLIKE MANNER ACCEPTABLE TO THE ENGINEER. INCLUDE THE COST OF THIS WORK IN THE PRICE BID FOR THE VARIOUS PIPE ITEMS.

901.13 BULKHEADS. CONSTRUCT A BULKHEAD AT THE START OF CONSTRUCTION OF SANITARY SEWERS, AND REMOVE SAME BULKHEAD AFTER PLACING ALL PIPES AND MANHOLES, REMOVING ALL WATER, TESTING THE SEWER, AND RECEIVING APPROVAL FROM THE CITY.

SEAL THE OUTER ENDS OF ALL CONCRETE, BRICK OR CLAY PIPE STUBS WITH A BRICK MASONRY BULKHEAD. CONSTRUCT BULKHEADS 8 INCHES (203 MM) THICK FOR STUBS 21 INCHES (533 MM) AND LARGER IN DIAMETER, AND 4 INCHES (102 MM) THICK FOR STUBS SMALLER THAN 21 INCHES (533 MM) IN DIAMETER. PLASTER ALL BULKHEADS WITH A 1/2 INCH (13 MM) COAT OF MORTAR. INCLUDE THE COST OF THIS WORK IN THE PRICE BID FOR VARIOUS PIPE ITEMS.

PLUG OR CAP ALL THERMOPLASTIC PIPE STUBS IN A MANNER ACCEPTABLE TO THE ENGINEER USING A FITTING AS APPROVED BY THE PIPE MANUFACTURER.

901.14SANITARY SEWERS. DO NOT CONNECT ROOF DRAINS, FOUNDATION DRAINS AND OTHER CLEAN WATER CONNECTIONS TO SANITARY SEWERS.

901.15PIPE JOINTS. SANITARY SEWERS CONCRETE. PROVIDE PIPE JOINTS CONFORMING TO THE REQUIREMENTS OF ASTM C 443 AND AS SPECIFIED HEREIN. USE SOLID GASKETS OF CIRCULAR CROSS SECTION CONFINED IN AN ANNULAR SPACE FORMED BY THE SHOULDER ON THE BELL AND SPIGOT OR IN THE GROOVE IN THE SPIGOT OF THE PIPE SO THAT MOVEMENT OF THE PIPE OR HYDROSTATIC AND HYDRODYNAMIC PRESSURE CANNOT DISPLACE THE GASKET. WHEN THE JOINT IS ASSEMBLED, COMPRESS THE GASKET TO FORM A WATERTIGHT SEAL.
PROVIDE ALL ELLIPTICAL REINFORCED CONCRETE PIPE FOR SANITARY SEWERS WITH TYPE B - MORTAR JOINTS AND ASTM C 877 RUBBER AND MASTIC SEALING BAND.

VITRIFIED CLAY. PROVIDE PIPE JOINTS CONFORMING TO THE REQUIREMENTS OF ASTM C 425 COMPRESSION JOINTS FOR VITRIFIED CLAY BELL AND SPIGOT PIPE.

TYPE PSM POLY VINYL CHLORIDE (PVC) SEWER PIPE. PROVIDE PIPE JOINTS CONFORMING TO THE REQUIREMENTS OF ASTM D 3212.

DUCTILE IRON. USE MECHANICAL OR PUSH ON JOINTS MEETING AWWA C111 OR RESTRAINED JOINTS MEETING AWWA C110 OR C153.

STORM SEWERS CONCRETE. USE PIPE JOINTS CONFORMING TO ONE OF THE FOLLOWING: TYPE A RUBBER GASKET. MEET THE REQUIREMENTS OF ASTM C 443.
TYPE B MORTAR. ON SEWERS 30 INCHES (762 MM) IN DIAMETER AND LARGER, LAY THE GROOVE END OF THE PIPE TO LINE AND GRADE AND WASH WITH A WET BRUSH AND BUTTER THE BOTTOM HALF OF

THE GROOVE WITH 1 TO 2 PORTLAND CEMENT MORTAR. CLEAN THE TONGUE OF THE NEXT SECTION OF PIPE WITH A WET BRUSH AND APPLY A LAYER OF 1 TO 2 PORTLAND CEMENT MORTAR TO THE TOP HALF OF IT. THEN FIT THE TONGUE END OF THE SECOND PIPE INTO THE GROOVE END OF THE FIRST PIPE UNTIL THE MORTAR IS SQUEEZED OUT ONTO THE INNER AND OUTER SURFACES. POINT THE INNER SURFACE OF THE PIPE AT THE JOINT AND SMOOTH WITH A LONG HANDLED BRUSH. POINT THE OUTSIDE WITH A BEAD OF MORTAR. IF THE JOINT OPENING ON THE BOTTOM HALF OF THE PIPE EXCEEDS 1/2 INCH (13 MM), FILL WITH 1 TO 2 PORTLAND CEMENT MORTAR.

TYPE C BITUMINOUS PIPE JOINT FILLER. MEET THE REQUIREMENTS OF SECTION 706.10.

TYPE D PREFORMED BUTYL RUBBER MATERIAL. MEET THE REQUIREMENTS OF 706.14. FOR CONCRETE PIPE 78 INCH (2.0 M) DIAMETER AND OVER, PRIME THE ANNULAR MATING SURFACES

VITRIFIED CLAY. CONSTRUCT PIPE JOINTS CONFORMING TO ONE OF THE FOLLOWING:

TYPE A COMPRESSION. MEET THE REQUIREMENTS FOR VITRIFIED CLAY PIPE JOINTS USED IN SANITARY SEWERS AS SPECIFIED HEREIN.

TYPE C BITUMINOUS FILLER. MEET THE REQUIREMENTS OF 706.10.

TYPE D PREFORMED BUTYL RUBBER MATERIAL. MEETING THE REQUIREMENTS OF 706.14.

HIGH DENSITY POLYETHYLENE. CONSTRUCT PIPE JOINTS CONFORMING TO ONE OF THE FOLLOWING:

TYPE A PIPE JOINTS. MEET THE REQUIREMENTS OF ASTM D 3212.

TYPE B PIPE JOINTS. MEET THE REQUIREMENTS OF AASHTO M-252, M-294, AND SECTION 23 OF THE STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, DIVISION II. CONSTRUCT JOINTS "SILT TIGHT" WITH BELL AND SPIGOT CONNECTION. PROVIDE BELLS EITHER INTEGRALLY JOINED TO THE PIPE, OR WITH SEPARATE SLEEVES (DOUBLE-BELLED) DESIGNED TO JOIN THE PIPE IN THE FIELD. THE CONTRACTOR MAY USE SPLIT COUPLINGS OR SEPARATE SLEEVES TO MAKE FIELD REPAIRS.

FOR ALL ELLIPTICAL REINFORCED CONCRETE PIPE FOR STORM SEWERS, USE TYPE B MORTAR OR, TYPE C BITUMINOUS PIPE JOINT FILLER. WHERE CONDITIONS DICTATE THE USE OF OTHER TYPES OF JOINTS, THE CITY WILL NOTE SUCH ON THE PLANS.

THE CONTRACTOR MAY USE PREFORMED RUBBER COUPLING RINGS, FERNCO 5000 SERIES OR APPROVED EQUAL, IF APPROVED BY THE ENGINEER, WHEN PERFORMING FIELD REPAIRS ON BOTH RIGID AND FLEXIBLE PIPES FOR BOTH SANITARY AND STORM SEWER APPLICATIONS. ENSURE THE RUBBER SLEEVE AND STEEL BANDS MAKE A TIGHT SEAL CAPABLE OF MEETING THE LEAKAGE REQUIREMENTS AS SPECIFIED IN ITEM 901.20. USE PREFORMED RUBBER COUPLING RINGS, FERNCO 5000 SERIES, ONLY TO JOIN PIPE OF SIMILAR MATERIAL. PERFORM ALL INSTALLATIONS OF THE PREFORMED RUBBER COUPLING RING, FERNCO 5000 SERIES, IN CONJUNCTION WITH THE CITY OF COLUMBUS STANDARD DRAWINGS.

WHEN CONNECTING PIPES OF DISSIMILAR MATERIALS, USE THE TYPE OF COUPLER SPECIFICALLY MANUFACTURED FOR MAKING THE CONNECTION BETWEEN SAID MATERIALS (I.E. CONCRETE TO CLAY, CLAY TO PLASTIC, ETC.). COMPLETE THE REPAIR BY REMOVING THE EXISTING PIPE TO THE NEAREST STRUCTURALLY SOUND JOINT AND INSTALL THE NEW PIPE IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF ITEM 901. SAWCUT EXISTING PIPE IN A NEAT WORKMANLIKE MANNER, MAKING THE CUT PERPENDICULAR TO THE LONGITUDINAL AXIS OF THE PIPE. INCLUDE THE COST OF THIS WORK IN THE PRICE BID FOR THE VARIOUS PIPE ITEMS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

901.16 REMOVAL AND DISPOSAL OF WATER. DURING CONSTRUCTION, PROVIDE PROPER AND SATISFACTORY MEANS AND DEVICES FOR THE REMOVAL AND DISPOSAL OF ALL WATER ENTERING THE EXCAVATIONS AND REMOVE ALL SUCH WATER AS FAST AS IT COLLECTS TO PREVENT INTERFERENCE WITH THE PROSECUTION OF THE WORK. DISPOSE OF WATER IN ACCORDANCE WITH APPLICABLE EROSION AND SEDIMENT CONTROL REQUIREMENTS.

901.17 BACKFILLING. BACKFILL ALL TRENCHES AND EXCAVATIONS, IN GENERAL, FROM 12 INCHES (305 MM) ABOVE THE TOP OF THE PIPE, AS SPECIFIED IN THIS SECTION, AS SOON AFTER THE COMPLETION OF SEWERS OR OTHER STRUCTURES AS CIRCUMSTANCES ALLOW, IN THE OPINION OF THE ENGINEER.

FOR RIGID PIPE SIZES 6 INCHES (152 MM) TO AND INCLUDING 108 INCHES (2743 MM) IN DIAMETER, SELECT AND PLACE BACKFILL USING FINELY DIVIDED JOB EXCAVATED EARTH THAT IS FREE FROM DEBRIS, ORGANIC OR FROZEN MATERIAL AND STONES LARGER THAN 2 INCHES (50 MM) IN THEIR GREATEST DIMENSION, FROM THE TOP OF THE GRANULAR BEDDING OR CONCRETE BACKING, AS SHOWN ON THE STANDARD DRAWING, TO A LEVEL NOT LOWER THAN 12 INCHES (305 MM) ABOVE THE OUTSIDE TOP OF THE PIPE. PLACE THE SELECTED BACKFILL LAYER ABOVE THE CROWN OF THE PIPE IN LIFTS OF 6 INCHES (152 MM) OR LESS, CAREFULLY TAMPED, IN ORDER TO PRODUCE A CUSHION OVER THE PIPE TO PREVENT ITS BREAKAGE DURING THE PLACING OF THE REMAINING TRENCH BACKFILL MATERIAL. THE CONTRACTOR MAY USE GRANULAR BEDDING MATERIAL FOR THE SELECTED BACKFILL LAYER, AT NO ADDITIONAL COST TO THE CITY.

WHEN EARTH BACKFILLING OPEN TRENCH EXCAVATIONS, USE THE BEST EXCAVATED EARTH, FREE FROM RUBBISH, AND EXCESSIVE FROZEN MATERIAL. THE CONTRACTOR MAY DEPOSIT OCCASIONAL BOULDERS OR STONES NOT LARGER

CALCULATED AWF
CHECKED PHF

DRAINAGE NOTES

DEL-CR10-0.90

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ITEM 901 - CONTINUED

THAN 1 CUBIC FOOT (CUBIC METER) AT LEAST 2 FEET (0.6 M) ABOVE THE TOP OF THE SEWER, SUBJECT TO THE APPROVAL OF THE ENGINEER. WHERE THE CONTRACT REQUIRES CONCRETE CRADLE, ENCASEMENT OR BACKING, , ALLOW AT LEAST 2 HOURS OR SUFFICIENT TIME FOR INITIAL SET TO ELAPSE BEFORE PLACING GRANULAR BACKING, PIPE PROTECTION OR BACKFILL. EMPLOY A METHOD FOR DEPOSITING THE BACKFILL TO PREVENT DAMAGE TO THE SEWER OR OTHER STRUCTURES. DO NOT BACKFILL CONCRETE STRUCTURES BUILT IN PLACE UNTIL APPROVED BY THE ENGINEER.

WHERE CRADLING, ENCASING OR BACKING DUCTILE IRON SEWER PIPE, WRAP THE PIPE THE LENGTH OF THE ENCASEMENT AND AT LEAST 30 FEET BEYOND BOTH ENDS OF THE CONCRETE APPLIED.

WHERE CRADLING AND/OR ENCASING THERMOPLASTIC PIPE IN CONCRETE, THE LENGTH OF THE ENCASEMENT SHALL EXTEND FROM MANHOLE TO MANHOLE FOR THE ENCASED SECTION OF PIPE.

EXCEPT WHERE THE PLANS NOTE OTHER REQUIREMENTS, OR PROVIDED FOR IN THE SPECIFICATIONS, OR DIRECTED BY THE ENGINEER, PROVIDE MATERIAL FOR ALL OPEN TRENCH BACKFILL ABOVE THE ELEVATION OF THE BEDDING MATERIAL OF THE SEWER HAVING THE SAME AS OR BETTER SOILS CHARACTERISTICS THAN THE ADJACENT UNDISTURBED SOIL OR MATERIALS, SUBJECT TO OTHER PROVISIONS OF THE SPECIFICATIONS FOR COMPACTION OR SPECIAL FILL, IN A MANNER SATISFACTORY TO THE ENGINEER. PERFORM ALL BACKFILLING OPERATIONS AND PLACEMENT OF THE BACKFILL MATERIAL BY SUCH MEANS TO ELIMINATE DAMAGE TO THE SEWER, ITS APPURTENANT STRUCTURES, AND OTHER ADJACENT STRUCTURES.

PERFORM SETTLEMENT OF THE BACKFILL BY FLUSHING OR PONDING AS SHOWN BY NOTES ON THE PLANS OR AS OTHERWISE APPROVED IN WRITING BY THE ENGINEER.

BACKFILL ALL TRENCHES THAT CROSS EXISTING OR PROPOSED PAVEMENT (INCLUDING BERM) OR WHERE THE FRONT FACE OF TRENCHES, PARALLELING THE PAVEMENT, IS WITHIN 36 INCHES (0.9 M) OF

THE FACE OF CURB OR EDGE OF PAVEMENT (INCLUDING BERM) WITH COMPACTED GRANULAR MATERIAL IN ACCORDANCE WITH THE STANDARD DRAWINGS. COMPACT OTHER AREAS OUTSIDE THE ABOVE REQUIREMENT, BUT INSIDE THE RIGHT-OF-WAY, IN ACCORDANCE WITH ITEM 911.

WHERE SEWER CONSTRUCTION IS IN EXISTING LAWN AREAS OUTSIDE PROPOSED OR EXISTING RIGHT- OF-WAY, COMPACT THE BACKFILL TO A MINIMUM 90 PERCENT MAXIMUM DRY DENSITY.

BACKFILL OR SECURELY PLATE ALL TRENCHES WITHIN THE ROAD RIGHT OF WAY DURING NON- WORKING HOURS.

EXERCISE CARE DURING BACKFILLING AND COMPACTION TO AVOID DISPLACEMENT OF OR INJURY TO PIPE. MOVEMENT OF CONSTRUCTION MACHINERY OVER A PIPE AT ANY STAGE OF CONSTRUCTION SHALL BE AT THE CONTRACTOR'S OWN RISK. REPAIR OR REPLACE ANY DAMAGED PIPE AT NO ADDITIONAL COST TO THE CITY.

REFILL ANY SETTLEMENT IN THE OPEN TRENCH BACKFILL TAKING PLACE WITHIN THE GUARANTEE PERIOD WITH SATISFACTORY MATERIALS AND REPAIR THE AFFECTED SURFACE AT NO ADDITIONAL COST TO THE CITY.

901.18 SURFACE SOIL AND RESTORATION OF SURFACE. BEFORE STARTING TRENCH EXCAVATION, REMOVE THE SURFACE SOIL TO A DEPTH OF NOT LESS THAN THAT OF THE TOPSOIL MATERIAL TO A MAXIMUM OF 12 INCHES (305 MM) BELOW THE ORIGINAL SURFACE OF THE GROUND WITHIN THE EXCAVATION LIMITS, EXCEPT WHERE OTHERWISE SPECIFICALLY EXEMPTED OR PROVIDED. SEGREGATE AND STORE SURFACE SOIL SEPARATELY FROM THE REMAINING STORED EXCAVATED MATERIAL. IN CULTIVATED AREAS, STRIP THE ENTIRE WORK AREA, INCLUDING STORAGE AREAS FOR BACKFILL, UP TO 12 INCHES (305 MM) DEEP AND STORE FOR REUSE. IF NECESSARY, ACQUIRE ADDITIONAL AREA TO PROVIDE FOR SUCH SEPARATE STORAGE OF SURFACE SOIL. AFTER THE COMPLETION OF SEWER CONSTRUCTION AND BASIC TRENCH BACKFILL, PLACE A MINIMUM OF 4 INCHES (102 MM) OF SUITABLE SURFACE SOIL WITHIN THE CONSTRUCTION LIMITS UP TO A DEPTH OF NOT LESS THAN THAT OF THE ORIGINAL TOPSOIL, OR A MAXIMUM OF 12 INCHES (305 MM).ALLOW FOR ADEQUATE SURFACE SOIL THICKNESS AND LEVELING IN EMBANKMENTS AND RE-EXCAVATE THE BASIC TRENCH BACKFILL IF NECESSARY TO ALLOW FOR THE SURFACE SOIL FILL. PROVIDE FINAL GRADES CONFORMING TO THOSE SHOWN ON THE PLANS. OBTAIN THE SURFACE SOIL FOR THIS REQUIREMENT DURING INITIAL TRENCH EXCAVATION OR FURNISH FROM OTHER SOURCES AT NO ADDITIONAL COST TO THE CITY.

PERFORM RESTORATION OF ALL SURFACES AS THE WORK PROGRESSES AND CEASE EXCAVATION AND PIPE LAYING UNTIL SUCH RESTORATION WORK IS ACCOMPLISHED, AS DIRECTED BY THE ENGINEER. IN LOCATIONS WHERE SURFACE SOIL IS REPLACED AND SETTLEMENT BELOW THE ORIGINAL GROUND SURFACE OCCURS WITHIN THE GUARANTEE PERIOD, REFILL WITH SURFACE SOIL EQUIVALENT TO THE ORIGINAL MATERIAL . INCLUDE THE COST OF ALL WORK AND OTHER EXPENSES CONNECTED WITH THE SURFACE SOIL OPERATION IN THE CONTRACT PRICE FOR THE VARIOUS SEWER ITEMS. THE CITY WILL NOT PAY SEPARATELY.

REPLACE ALL SURFACES, INCLUDING GRASS OR LAWN, PAVEMENT, SIDEWALK, CURBING AND OTHER SURFACES DISTURBED OR DESTROYED DURING AND AS A RESULT OF THE CONSTRUCTION OF THE WORK.

SEED ALL AREAS DISTURBED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION, UNLESS OTHERWISE STATED ON THE PLANS. PERFORM THE SEEDING OPERATION IN CONFORMANCE WITH THE REQUIREMENTS SET FORTH UNDER ITEM 659, WITHIN 30 DAYS WEATHER PERMITTING.

REPAIR OR REPLACE ALL FENCES DAMAGED OR REMOVED IN CONNECTION WITH THE CONSTRUCTION OF THE SEWER TO THE SATISFACTION OF THE ENGINEER. IF NECESSARY, PROVIDE TEMPORARY FENCING.

INCLUDE IN THE PRICES BID FOR THE SEWER ITEMS, THE COST OF ALL SUCH RESTORATION IN ALL AREAS INVOLVED ABOVE AND ADJACENT TO THE WORK. THE CITY WILL NOT PAY SEPARATELY UNLESS SPECIFICALLY PROVIDED FOR UNDER OTHER ITEMS.

901.19 TREES. THE CONTRACTOR MY REMOVE ALL BRANCHES OR GROWTH FROM TREES THE PLANS CALL FOR SAVING THAT INTERFERE WITH THE FREE CONSTRUCTION OF THE PIPE SEWER, IN ACCORDANCE WITH ITEM 666 AND AT THE DIRECTION OF THE ENGINEER. INCLUDE THE COST OF ALL WORK AND EXPENSES CONNECTED WITH THE REMOVAL OF BRANCHES IN THE PRICE BID FOR THE VARIOUS SEWER ITEMS. THE CITY WILL NOT PAY SEPARATELY.

901.20 LEAKAGE TESTS. DO NOT EXCEED THE ALLOWABLE LIMITS OF LEAKAGE FOR ALL COMPLETED AND INSTALLED SANITARY AND STORM SEWER PIPE AS FOLLOWS:

1. SANITARY SEWERS: 100 GALLONS PER INCH (378.5 L/MM) OF TRIBUTARY PIPE DIAMETER PER 24 HOURS PER MILE (KM) OF LENGTH OR THE COMPUTED EQUIVALENT FOR SHORTER LENGTHS AND SHORTER PERIODS OF TIME. TEST ALL SANITARY SEWERS.

2. STORM SEWERS: 1,000 GALLONS PER INCH (3785 L/MM) OF TRIBUTARY PIPE DIAMETER PER 24 HOURS PER MILE (KM) OF LENGTH OR THE COMPUTED EQUIVALENT FOR SHORTER LENGTHS AND SHORTER PERIODS OF TIME. PERFORM TESTS ON STORM SEWERS ONLY USING THE INFILTRATION METHOD AND ONLY IF INDICATED ON THE PLANS.

PERFORM LEAKAGE TESTS AFTER THE DEFLECTION TESTS FOR FLEXIBLE SEWER PIPE APPLICATIONS.

PERFORM THE FOLLOWING LEAKAGE TESTS AFTER CLEANING ALL INSTALLED PIPE AND MANHOLES AND REMOVING OBSTRUCTIONS:

1.INFILTRATION TEST. CONDUCT THIS TEST WHEN THE HEIGHT OF THE GROUND WATER TABLE IS TWO FEET OR MORE ABOVE THE ELEVATION OF THE INSIDE CROWN OF PIPE AT THE UPSTREAM LIMIT OF THE TESTED SECTION. PERFORM THE INFILTRATION TEST BY INSTALLING A WEIR OR OTHER MEASURING DEVICE APPROVED BY THE ENGINEER IN THE LOWER END OF THE SEWER TESTED SECTION. MEASURE THE QUANTITY OF GROUND WATER INFILTRATION INTO THE SEWER DO NOT EXCEED THE ALLOWABLE LEAKAGE.

2.EXFILTRATION TEST. CONDUCT THIS TEST WHEN THE HEIGHT OF THE GROUND WATER TABLE IS LESS THAN TWO FEET ABOVE THE ELEVATION OF THE INSIDE CROWN OF PIPE AT THE UPSTREAM LIMIT OF THE TESTED SECTION. UNLESS OTHERWISE DIRECTED BY THE ENGINEER
OR INDICATED ON THE PLANS, PERFORM TESTING SECTION BY SECTION WHERE A SECTION CONSISTS OF THE DISTANCE BETWEEN THE SUCCESSIVE MANHOLES. CLOSE THE INLET ENDS OF THE UPSTREAM AND DOWNSTREAM MANHOLES WITH WATERTIGHT BULKHEADS. FILL WITH WATER THE SEWER AND THE UPSTREAM MANHOLE UNTIL THE ELEVATION OF THE WATER IN THE UPSTREAM MANHOLE IS TWO FEET HIGHER THAN THE INSIDE CROWN OF THE PIPE IN THE TESTED, OR TWO FEET ABOVE THE EXISTING GROUND WATER IN THE TRENCH, WHICHEVER IS THE HIGHER ELEVATION. THE CONTRACTOR MAY FILL AND MAINTAIN FULL OF WATER THE LENGTH OF TESTED SECTION FOR A PERIOD OF APPROXIMATELY 24 HOURS PRIOR TO THE START OF THE TEST. IF THE WATER LEVEL IN THE UPPER MANHOLE DROPS DURING THIS 24 HOUR PERIOD, RAISE THE LEVEL TO THE TEST ELEVATION MARK BEFORE MEASURING THE LEAKAGE. IF PERFORMING THE TEST AT ANY TIME DURING THE 24 HOUR PERIOD, SET THE WATER AT THE TEST ELEVATION MARK AND PERFORM THE TEST.

DETERMINE THE EXFILTRATION BY MEASURING THE VOLUME OF WATER ADDED TO RETURN THE SURFACE OF THE WATER IN THE UPSTREAM MANHOLE TO THE TEST ELEVATION MARK. USE A TEST PERIOD OF AT LEAST 1 HOUR DURATION FROM THE START OF THE TEST.

AFTER THE COMPLETION OF THE EXFILTRATION TEST, THE ENGINEER, MAY ORDER THE TEST SECTION DRAINED AND MEASUREMENT OF INFILTRATION FROM EXISTING GROUND CONDITIONS WITHIN THREE HOURS BY MEANS OF A WEIR LOCATED IN THE DOWNSTREAM MANHOLE.

THE ALLOWABLE LEAKAGE IS BASED ON A MAXIMUM DIFFERENCE IN ELEVATION OF 8 FEET (2.4 M) BETWEEN THE LEVEL OF WATER IN THE UPPER MANHOLE AND THE INVERT OF THE BULKHEADED PIPE AT THE DOWNSTREAM MANHOLE. IF THE DIFFERENCE IN ELEVATION EXCEEDS 8 FEET (2.4 M), INCREASE THE ALLOWABLE LEAKAGE FIVE PERCENT FOR EACH 1 FOOT (0.3 M) IN EXCESS OF 8 FEET (2.4 M).

3. MANHOLE TEST. TEST MANHOLES BY PLUGGING CONNECTING PIPES AND FILLING WITH WATER TO 2 FEET (0.6 M) ABOVE THE CROWN OF THE HIGHEST ENTERING PIPE. FILL THE MANHOLE AND LET STAND FOR 24 HOURS. A PASSING TEST REQUIRES NO LOSS OF WATER IN A 4 HOUR PERIOD. AS AN ALTERNATIVE TO THIS TEST PROCEDURE, AND IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY PERFORM A VACUUM TEST IN ACCORDANCE WITH THE PROCEDURES SET FORTH IN ASTM-C-1244.

4. AIR TEST. IN LIEU OF EXFILTRATION TESTS REQUIRED FOR PIPE SIZES 8 INCHES (203 MM) THROUGH 24 INCHES (610 MM) UNDER SECTION 901.20 (B) AND IF APPROVED BY THE ENGINEER, THE CONTRACTOR MAY REQUEST AN AIR TEST FOR CHECKING TIGHTNESS OF SANITARY SEWER PIPE CONSTRUCTION. TEST ALL SECTIONS OF PIPE BETWEEN MANHOLES.

AIR TEST PIPES USING EQUIPMENT APPROVED BY THE ENGINEER AND IN ACCORDANCE WITH THE FOLLOWING STEPS:

A. PLUG ALL PIPE OUTLETS WITH SUITABLE TEST PLUGS. BRACE EACH PLUG SECURELY.

B. ADD AIR SLOWLY TO THE PORTION OF THE PIPE INSTALLATION UNDER TEST UNTIL THE INTERNAL AIR PRESSURE IS RAISED TO 4.0 PSIG.

C. AFTER OBTAINING AN INTERNAL PRESSURE OF 4.0 PSIG, ALLOW AT LEAST 2 MINUTES FOR AIR TEMPERATURE TO STABILIZE, ADDING ONLY THE AMOUNT OF AIR REQUIRED TO MAINTAIN PRESSURE.

D.WHEN PRESSURE DECREASES TO 3.5 PSIG, START STOP-WATCH. DETERMINE THE TIME IN SECONDS REQUIRED FOR THE INTERNAL AIR PRESSURE TO REACH 2.5 PSIG. USE MINIMUM PERMISSIBLE PRESSURE HOLDING TIMES FOR RUNS OF SINGLE PIPE DIAMETER AND FOR SYSTEMS OF 6 INCHES OR 8 INCHES (152 OR 203 MM) LATERALS IN COMBINATION WITH TRUNK LINES PUBLISHED IN TABLES BY THE NATIONAL CLAY PIPE INSTITUTE FOR VITRIFIED CLAY PIPE, ASTM C-924 FOR CONCRETE PIPE, AND TABLE 1 IN UNI-B-690 BY UNI-BELL PVC PIPE ASSOCIATION FOR PVC PIPE.

IF THE LEAKAGE EXCEEDS THE ALLOWABLE LIMITS , DETERMINE THE LOCATION WHERE EXCESS WATER IS ENTERING OR LEAVING

THE SEWER. REPLACE OR REPAIR THE SEWER AND/OR MANHOLES WITH MATERIALS APPROVED BY THE ENGINEER. RETEST UNTIL THE LEAKAGE IS WITHIN THE ALLOWABLE LIMITS. INCLUDE, IN THE PRICE BID PER LINEAR FOOT OF SEWER, THE COST OF ALL BULKHEADS, PLUGS, PIPE STOPPER, PUMPS, COMPRESSORS, WATER, WEIRS, LABOR, DELAY, AND ANY OTHER ITEMS

OF COST NECESSARY FOR THE PERFORMANCE AND COMPLETION OF THE REQUIRED LEAKAGE TEST AND FOR THE COST OF ANY REPAIRS OR ADJUSTMENTS NECESSARY TO CONFORM TO THE REQUIRED ALLOWABLE LEAKAGE LIMITS.

CONDUCT ALL LEAKAGE TESTS IN THE PRESENCE OF THE ENGINEER.

901.21 DEFLECTION. BEFORE FINAL ACCEPTANCE OF COMPLETED FLEXIBLE SEWER LINES BY THE ENGINEER, PERFORM A PIPE DEFLECTION TEST ON ALL MAIN LINE SANITARY SEWERS AND STORM SEWERS WHERE REQUIRED AT NO ADDITIONAL COST TO THE CITY.

MEASURE ALL LINES FOR VERTICAL RING DEFLECTION NO SOONER THAN 30 DAYS AFTER COMPLETION OF BACKFILLING OPERATIONS, IF SUFFICIENT SETTLEMENT OF THE BACKFILL HAS OCCURRED, AS DETERMINED BY THE ENGINEER. THE ENGINEER S DETERMINATION OF SUFFICIENT SETTLEMENT IS FINAL.

DO NOT EXCEED THE MAXIMUM LIMIT OF VERTICAL DEFLECTION OF 5 PERCENT. CALCULATE THE 5 PERCENT USING THE APPLICABLE ASTM OR AASHTO PROCEDURES. PERFORM THE TEST BY MANUALLY PULLING A CITY OF COLUMBUS APPROVED "GO, NO-GO" MANDREL WITH 9 ARMS.

PROVIDE ALL EQUIPMENT AND LABOR, INCLUDING MANDREL, TO PERFORM AND CONDUCT THE REQUIRED TEST. NOTIFY THE ENGINEER AT LEAST 48 HOURS IN ADVANCE OF THE ANTICIPATED DATE OF THE TESTING TO SCHEDULE PERSONNEL NEEDED TO MONITOR THE TESTING OPERATIONS.

IN AREAS WHERE DEFLECTIONS EXCEED THE 5 PERCENT LIMIT, CORRECT THE PROBLEM AREA(S) AT NO ADDITIONAL COST TO THE CITY. WHERE CORRECTION IS REQUIRED, THE CITY WILL PRE-APPROVED ONE OF THE FOLLOWING PROCEDURES FOR THE CONTRACTOR TO UTILIZE:

1. RE-EXCAVATE THE TRENCH, AND REMOVE AND REPLACE THE BACKFILL AND PIPE IN ACCORDANCE WITH THE ORIGINAL PLANS AND SPECIFICATIONS. IF, IN THE OPINION OF THE ENGINEER OR HIS REPRESENTATIVE, THE CONTRACTOR HAS DAMAGED THE PIPE, REPLACE THE PIPE WITH NEW PIPE AND INSTALL PER THE PLANS AND SPECIFICATIONS. RETEST THE FAILED SECTIONS OF PIPE CORRECTED BY THIS METHOD IN ACCORDANCE WITH SECTION 901.21 NO SOONER THAN 30 DAYS AFTER THE CORRECTION IS MADE OR AS OTHERWISE DIRECTED BY THE ENGINEER.

2. RE-ROUND THE FAILED SECTION(S) USING AN APPROVED COMPANY PROVIDING THIS SERVICE. SUBMIT METHODS, TYPES OF EQUIPMENT, AND COMPANY TO PROVIDE SERVICE IN WRITING TO THE ENGINEER FOR APPROVAL 5 WORKING DAYS BEFORE PERFORMING THIS PROCEDURE. USE THIS METHOD ONLY IF APPROVED BY THE ENGINEER AND THE DEFLECTION HAS NOT EXCEEDED 10 PERCENT OF THE BASE INSIDE DIAMETER OF THE PIPE. DETERMINE THE DEFLECTION BY PULLING A 9 ARM "GO, NO-GO" MANDREL HAVING A DIAMETER EQUAL TO 90 PERCENT OF THE BASE INSIDE DIAMETER OF THE PIPE.

CALCULATED AWF
CHECKED PHF

DRAINAGE NOTES

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AFTER COMPLETING EITHER PROCEDURE 1 OR 2, RETEST THE REPAIRED AREA(S) IN ACCORDANCE WITH SECTION 901.20 AND SECTION 901.21 BEFORE FINAL ACCEPTANCE.

901.22 METHOD OF MEASUREMENT. THE ENGINEER WILL MEASURE AND ACCEPT THE LENGTH OF PIPE BY THE LINEAR FEET (METERS), AS MEASURED ALONG THE CENTERLINE OF THE SEWER, COMPLETE IN PLACE, INCLUDING LENGTHS TO THE CENTER OF MANHOLES, INLETS, AND TUNNEL SHAFTS. FOR AN EXTENDED STUB OR BRANCH STUB AT A MANHOLE, IF MORE THAN ONE LENGTH OF PIPE EXTENDS BEYOND THE WALL OF A MANHOLE, THE ENGINEER WILL MEASURE FROM THE CENTER OF THE MANHOLE TO THE END OF THE STUB, UNLESS THE PAYMENT FOR SUCH STUB IS OTHERWISE PROVIDED.

ITEM 905 CONCRETE

905.1 DESCRIPTION
905.2 MATERIALS
905.3 GENERAL
905.4 METHOD OF MEASUREMENT
905.5 BASIS OF PAYMENT

905.1 DESCRIPTION. THIS WORK CONSISTS OF FURNISHING AND PLACING PORTLAND CEMENT CONCRETE CONSISTING OF A MIXTURE OF PORTLAND CEMENT, FINE AGGREGATE, COARSE AGGREGATE AND WATER, PROPERLY PROPORTIONED OF THE VARIOUS CLASSES OF CONCRETE NOTED ON THE PLANS, IN ACCORDANCE WITH THESE SPECIFICATIONS AND TO THE LINES, GRADES, AND DIMENSIONS SHOWN ON THE PLANS, OR ORDERED IN WRITING BY THE ENGINEER.

905.2 MATERIALS. USE THE FOLLOWING MATERIALS:
1. CONCRETE, CLASS A 499
2. CONCRETE, CLASS C 499

905.3 GENERAL. THE ENGINEER MAY FREQUENTLY TEST CYLINDERS AS SPECIFIED IN SECTION 511.06 THROUGHOUT THE WORK TO DETERMINE THE QUALITY AND STRENGTH OF THE CONCRETE. FURNISH ALL THE MATERIALS REQUIRED FOR TESTING AND COOPERATE IN EVERY WAY TO ENSURE THAT CONCRETE OF THE DESIRED QUALITY AND STRENGTH IS OBTAINED, AT NO ADDITIONAL COST TO THE CITY. DO NOT PLACE CONCRETE IN WATER, OR ALLOW WATER TO RISE ON OR FLOW OVER ANY CONCRETE UNTIL IT HAS SET AT LEAST 24 HOURS. IMMEDIATELY BEFORE PLACING CONCRETE, REMOVE ALL WATER, SOFTENED MATERIAL AND DEBRIS FROM THE EXCAVATION.

905.4 METHOD OF MEASUREMENT. THE CITY WILL PAY FOR CONCRETE SHOWN ON THE PLANS UNDER THE RESPECTIVE ITEM 901 OR ITEM 904 AND WILL NOT PAY SEPARATELY UNDER THIS ITEM.

THE ENGINEER WILL MEASURE AND ACCEPT CONCRETE UNDER THIS ITEM WITHIN THE LIMITS, AS ORDERED IN WRITING BY THE ENGINEER, OF THE STANDARD DRAWINGS OR AS SPECIFIED BY THE ENGINEER.

905.5 BASIS OF PAYMENT. THE CITY WILL PAY FOR ACCEPTED QUANTITIES OF PORTLAND CEMENT CONCRETE ORDERED IN WRITING BY THE ENGINEER AT THE CONTRACT UNIT PRICE PER CUBIC YARD (CUBIC METER).

ITEM 910 CONCRETE ENCASEMENT FOR SEWERS

910.1 DESCRIPTION
910.2 MATERIALS
910.3 EXCAVATING AND BACKFILLING
910.4 PIPE
910.5 METHOD OF MEASUREMENT
910.6 BASIS OF PAYMENT

910.1 DESCRIPTION. THIS WORK CONSISTS OF FURNISHING AND INSTALLING REINFORCED OR PLAIN CONCRETE ENCASEMENT OF SEWER PIPES AS SHOWN ON THE PLANS AND AS SPECIFIED IN THIS SECTION.

910.2 MATERIALS. USE THE FOLLOWING MATERIALS:
1. CONCRETE, CLASS A 499, 511
2. REINFORCING STEEL 709

910.3 EXCAVATING AND BACKFILLING. PERFORM EXCAVATING AND BACKFILLING AS SPECIFIED UNDER SECTION 901.03 AND SECTION 901.17. THE CITY WILL PAY FOR EXCAVATING AND BACKFILLING UNDER ITEM 901.

910.4 PIPE. ENCASE PIPE IN ACCORDANCE WITH THE STANDARD DRAWINGS AND AS SPECIFIED UNDER ALL THE APPLICABLE PARTS OF ITEM 901 PERTAINING TO FURNISHING AND INSTALLING PIPE. THE CITY WILL PAY FOR PIPE UNDER ITEM 901. WHEN ENCASING FLEXIBLE PIPE, EXTEND THE CONCRETE ENCASEMENT FROM STRUCTURE TO STRUCTURE ALONG THE ENTIRE LENGTH OF THE PIPE.

910.5 METHOD OF MEASUREMENT. THE ENGINEER WILL MEASURE THE LENGTH OF ENCASEMENT OF SEWER BY THE ACTUAL NUMBER OF LINEAR FEET (METERS) ACCEPTED, MEASURED ALONG THE CENTERLINE OF THE SEWER COMPLETE IN PLACE.

910.6 BASIS OF PAYMENT. THE CITY WILL PAY FOR THE ACCEPTED NUMBER OF LINEAR FEET OF REINFORCED OR NON REINFORCED ENCASEMENT WORK OF THE SIZES SPECIFIED AT THE CONTRACT UNIT PRICE PER LINEAR FOOT COMPLETE IN PLACE.

ITEM 911 COMPACTED BACKFILL

911.1 DESCRIPTION
911.2 MATERIALS
911.3 GENERAL
911.4 METHOD OF MEASUREMENT
911.5 BASIS OF PAYMENT

911.1 DESCRIPTION. THIS WORK CONSISTS OF COMPACTING NATIVE OR EXCAVATED MATERIAL AS TRENCH BACKFILL WHERE SHOWN ON THE PLANS OR ORDERED BY THE ENGINEER AND AS SPECIFIED IN THIS SECTION.

911.2 MATERIALS. USE SUITABLE MATERIAL NATIVE TO THE PROJECT OR A GRANULAR MATERIAL MEETING THE REQUIREMENTS OF SECTION 912.02 AND AS APPROVED BY THE ENGINEER.

911.3 GENERAL. IF EXCAVATED MATERIAL IS UNSUITABLE FOR COMPACTED BACKFILL OR IF IT IS IMPRACTICABLE TO USE THE EXCAVATED MATERIAL TO MEET THE REQUIREMENTS OF THIS ITEM, PROVIDE SUITABLE BACKFILL MATERIAL ELSEWHERE AND DISPOSE OF THE UNSUITABLE MATERIAL AT NO ADDITIONAL COST TO THE CITY.

ENSURE BACKFILLING CONFORMS IN EVERY RESPECT WITH THE PROVISIONS OF 901.17 AND THE COMPACTION REQUIREMENTS OF SECTION 912.03, AS DETERMINED BY THE RESULTS OF TESTS ORDERED BY THE ENGINEER. SPREAD SOIL, GRANULAR MATERIAL, OR OTHER APPROVED MATERIAL IN SUCCESSIVE LEVEL LAYERS OF A DEPTH NOT MORE THAN 8 INCHES (203 MM) IN THICKNESS (LOOSE MEASUREMENT), UNLESS OTHERWISE SPECIFIED AND/OR AUTHORIZED IN WRITING BY THE ENGINEER.

911.4 METHOD OF MEASUREMENT. THE ENGINEER WILL CALCULATE THE NUMBER OF CUBIC YARDS OF COMPACTED BACKFILL FOR PAYMENT ON THE FOLLOWING BASIS:

VOLUME IN CUBIC YARDS EQUALS (WxLxD)/27 WHERE W IS THE SPECIFIED TRENCH WIDTH IN FEET , L IS THE LENGTH OF TRENCH IN FEET AS SPECIFIED OR ORDERED COMPACTED AND D IS THE DISTANCE IN FEET FROM:

1) THE TOP OF THE BEDDING OR ENCASEMENT ON 6 THROUGH 27 INCH (152-686 MM) PIPE OR

2) THE TOP OF THE OUTSIDE BARREL OF THE PIPE OR ENCASEMENT ON 30 INCH (762 MM) AND LARGER PIPE TO A POINT 1 FOOT (0.3 M) BELOW THE EXISTING GROUND ELEVATION.

VOLUME IN CUBIC YARDS EQUALS (WxLxD)/27 WHERE W IS THE SPECIFIED TRENCH WIDTH IN FEET , L IS THE LENGTH OF TRENCH IN FEET AS SPECIFIED OR ORDERED COMPACTED AND D IS THE DISTANCE IN FEET FROM:

1) THE TOP OF THE BEDDING OR ENCASEMENT ON 6 THROUGH 27 INCH (152-686 MM) PIPE OR

2) THE TOP OF THE OUTSIDE BARREL OF THE PIPE OR ENCASEMENT ON 30 INCH (762 MM) AND LARGER PIPE TO A POINT 1 FOOT (0.3 M) BELOW THE EXISTING GROUND ELEVATION.

THESE DEFINITIONS FOR THE D MEASUREMENT MAY VARY AS INDICATED IN THE PLANS OR AS SPECIFIED OR AS ORDERED BY THE ENGINEER. THE ENGINEER WILL MEASURE THE LENGTH OF TRENCH ALONG THE CENTERLINE OF THE SEWER IN PLACE WITHOUT DEDUCTION FOR MANHOLES OR OTHER STRUCTURES BUILT IN THE OPEN TRENCH. THE CITY WILL NOT PAY EXTRA FOR COMPACTED BACKFILL IN THE EXTRA EXCAVATION WIDTHS NECESSARY AT MANHOLES AND OTHER STRUCTURES ALONG THE CENTERLINE OF THE WORK. AT EXISTING MANHOLES OR STRUCTURES, WHERE THE WORK CONNECTS, THE ENGINEER WILL MEASURE THIS ITEM FROM THE CENTERLINE OF THE EXISTING MANHOLE OR STRUCTURE. AT TERMINAL MANHOLES OR STRUCTURES, CONSTRUCTED AS PART OF THE WORK, THE ENGINEER WILL MEASURE FOR THIS ITEM THROUGH THE MANHOLE OR STRUCTURE TO A POINT 1 FOOT (0.3 M) BEYOND THE MANHOLE OR STRUCTURE BASE. WHERE BUILDING MANHOLES OR STRUCTURES OVER EXISTING SEWERS, AS PART OF THE WORK, THE ENGINEER WILL MEASURE COMPACTED BACKFILL ALONG THE CENTERLINE OF THE SEWER BETWEEN TWO POINTS 1 FOOT (0.3 M) BEYOND AND ON EITHER SIDE OF THE MANHOLE OR STRUCTURE BASE. WHERE SEWER TRENCHES INTERSECT, AT DIFFERENT ELEVATIONS OR AT A MANHOLE OR STRUCTURE CONSTRUCTED AS PART OF THE WORK, THE ENGINEER WILL DEDUCT FROM THE ABOVE MEASUREMENT A LENGTH EQUAL TO THE SPECIFIED WIDTH OF TRENCH FOR THE LESSER DIAMETER PIPE FOR THE LENGTH OF THE INTERSECTION. 911.05

THE CITY WILL NOT PAY FOR THE FOLLOWING:
1. SUBSTITUTION OF GRANULAR OR ANY OTHER MATERIAL FOR BACKFILL MATERIAL.
2. PROCUREMENT OF SUITABLE BACKFILL MATERIAL ELSEWHERE.
3. WORK NECESSITATED OR MATERIAL PLACED OUTSIDE OF THE PAYMENT LIMITS DESCRIBED ABOVE, WHICH IS NECESSARY TO SECURE THE REQUIRED COMPACTION WITHIN THE LENGTH OF TRENCH SPECIFIED OR ORDERED, DUE TO UNAUTHORIZED EXCAVATION.

911.5 BASIS OF PAYMENT. THE CITY WILL PAY THE COMPUTED NUMBER OF CUBIC YARDS OF COMPACTED BACKFILL MEASURED AT THE CONTRACT UNIT PRICE PER CUBIC YARD (CUBIC METER).

ITEM 912 COMPACTED GRANULAR MATERIAL

912.1 DESCRIPTION
912.2 MATERIALS
912.3 GENERAL
912.4 METHOD OF MEASUREMENT
912.5 BASIS OF PAYMENT

912.1 DESCRIPTION. THIS WORK CONSISTS OF FURNISHING, PLACING AND COMPACTING GRANULAR MATERIAL FOR BEDDING, BACKFILL OR OTHER USE WHERE SHOWN ON THE PLANS, SPECIFIED OR ORDERED BY THE ENGINEER, INCLUDING THE DISPOSAL OF EXCESS MATERIAL.

912.2 MATERIALS. USE THE FOLLOWING MATERIALS:

GRANULAR MATERIAL CONSISTING OF NATURAL OR SYNTHETIC MINERAL AGGREGATE SUCH AS BROKEN OR CRUSHED ROCK, GRAVEL, SLAG, SAND OR CINDERS INCORPORATED IN AN 8 INCH (203 MM) LAYER, AND CONFORMING TO THE GRADATION SPECIFIED IN SECTION 703.11, TYPE 1.

THE CONTRACTOR MAY USE CONTROLLED DENSITY FILL MIXES AS AN ALTERNATE TO COMPACTED GRANULAR MATERIAL, CONFORMING TO THE REQUIREMENTS OF ITEM 613.

912.3 COMPACTION REQUIREMENTS. APPLY THE FOLLOWING COMPACTION REQUIREMENTS TO GRANULAR MATERIALS AND TO NATIVE BACKFILL MATERIALS IF SUCH MATERIALS REQUIRE COMPACTION IN ACCORDANCE WITH ITEM 911.

MAX. LAB. DRY WT. LBS./CU. FT. (KG/M3)	Min. Comp. Requirements % Lab. Max.
90-104.9 (1442-1680)	102%
105-119.9 (1682-1920)	100%
120 AND MORE (1922)	98%

CONSIDER MATERIALS HAVING A MAXIMUM LABORATORY DRY WEIGHT OF LESS THAN 90 LBS./CU. FT. (1442 KG/M3) UNSUITABLE FOR COMPACTION. SPREAD SOIL, GRANULAR MATERIAL, OR OTHER APPROVED MATERIAL IN SUCCESSIVE LEVEL LAYERS OF A DEPTH TO ALLOW COMPACTION TO THE SPECIFIED DENSITY AND OF NOT MORE THAN 8 INCHES (203 MM) IN THICKNESS (LOOSE MEASUREMENT), UNLESS OTHERWISE SPECIFIED AND/OR AUTHORIZED IN WRITING BY THE ENGINEER.

COOPERATE TO THE FULLEST EXTENT TO ACCOMMODATE COMPACTION TESTS. THE CITY WILL NOT PAY FOR DELAY OR TIME LOST DUE TO VERIFICATION OF COMPACTION REQUIRED.

912.1 METHOD OF MEASUREMENT. THE ENGINEER WILL CALCULATE THE NUMBER OF CUBIC YARDS (CUBIC METERS) OF COMPACTED GRANULAR MATERIAL ON THE FOLLOWING BASIS:

THE NUMBER OF CUBIC YARDS (CUBIC METERS) IS EQUAL TO W TIMES L TIMES D DIVIDED BY 27 (0) WHERE W IS THE SPECIFIED TRENCH WIDTH IN FEET (METERS), L IS THE LENGTH OF TRENCH IN FEET (METERS) SPECIFIED OR ORDERED BACKFILLED WITH COMPACTED GRANULAR MATERIAL AND D IS THE DISTANCE IN FEET (METERS) FROM 1) THE TOP OF THE BEDDING OR ENCASEMENT ON 6 THROUGH 27 INCH (152-686 MM) PIPE OR 2) THE OUTSIDE TOP OF THE BARREL OF THE PIPE OR ENCASEMENT ON 30 INCH (762 MM) AND LARGER PIPE TO A POINT 1 FOOT (0.3 M) BELOW THE EXISTING GROUND SURFACE. THESE DEFINITIONS FOR THE D MEASUREMENT MAY VARY AS INDICATED ON THE PLANS OR AS SPECIFIED OR AS ORDERED BY THE ENGINEER. THE ENGINEER WILL MEASURE THE LENGTH OF TRENCH ALONG THE CENTERLINE OF THE SEWER IN PLACE WITHOUT DEDUCTION FOR MANHOLES OR OTHER STRUCTURES BUILT IN THE OPEN TRENCH. THE CITY WILL NOT PAY EXTRA FOR COMPACTED BACKFILL IN THE EXTRA EXCAVATION WIDTHS NECESSARY AT MANHOLES AND OTHER STRUCTURES ALONG THE CENTERLINE OF THE WORK.

AT EXISTING MANHOLES OR STRUCTURES, WHERE THE WORK CONNECTS, THE ENGINEER WILL MEASURE THIS ITEM FROM THE CENTERLINE OF THE EXISTING MANHOLE OR STRUCTURE. AT TERMINAL MANHOLES OR STRUCTURES, CONSTRUCTED AS PART OF THE WORK, THE ENGINEER WILL MEASURE THIS ITEM THROUGH THE MANHOLE OR STRUCTURE TO A POINT 1 FOOT (0.3 M) BEYOND THE MANHOLE OR STRUCTURE BASE. WHERE BUILDING MANHOLES OR STRUCTURES OVER EXISTING SEWERS, AS PART OF THE WORK, THE ENGINEER WILL MEASURE COMPACTED BACKFILL ALONG THE CENTERLINE OF THE SEWER BETWEEN TWO POINTS 1 FOOT (0.3 M) BEYOND AND ON EITHER SIDE OF THE MANHOLE OR STRUCTURE BASE. WHERE SEWER TRENCHES INTERSECT, AT DIFFERENT ELEVATIONS OR AT A MANHOLE OR STRUCTURE CONSTRUCTED AS PART OF THE WORK, THE ENGINEER WILL DEDUCT FROM THE ABOVE MEASUREMENT A LENGTH EQUAL TO THE SPECIFIED WIDTH OF TRENCH FOR THE LESSER DIAMETER PIPE FOR THE LENGTH OF THE INTERSECTION.

THE CITY WILL NOT PAY FOR THE FOLLOWING:

1. WORK NECESSITATED OR MATERIAL PLACED OUTSIDE OF THE PAYMENT LIMITS DEFINED ABOVE, WITHIN THE LENGTH OF TRENCH SPECIFIED OR ORDERED, DUE TO UNAUTHORIZED EXCAVATION.

2. COMPACTED GRANULAR MATERIAL FOR BEDDING, BACKING OR OTHER USE WHICH IS PAID FOR UNDER SECTION 901 AS A PART OF THE PRICE PER FT. (METER) OF PIPE.

BASIS OF PAYMENT. THE CITY WILL PAY THE CALCULATED NUMBER OF CUBIC YARDS (CUBIC METERS) OF GRANULAR BACKFILL MEASURED AT THE CONTRACT UNIT PRICE PER CUBIC YARD (CUBIC METER).

CALCULATED AWF
CHECKED PHF

DRAINAGE NOTES

DEL-CR10-0.90

2845-DR.E

SPECIFICATIONS:
THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2012 EDITION, INCLUDING REVISIONS, SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT, UNLESS OTHERWISE NOTED.

ALL WATER LINE MATERIALS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS OF THE CITY OF COLUMBUS, DIVISION OF WATER. ALL CITY OF COLUMBUS, DIVISION OF WATER STANDARD DRAWINGS SHALL APPLY TO THE PROJECT, UNLESS OTHERWISE NOTED. ONLY PRODUCTS LISTED ON THE CURRENT APPROVED MATERIALS AND SPECIFICATIONS LIST WILL BE PERMITTED TO BE INSTALLED.

FOR ANY EMERGENCIES INVOLVING THE WATER DISTRIBUTION SYSTEM, PLEASE CONTACT THE DIVISION OF WATER DISTRIBUTION MAINTENANCE OFFICE AT 614-645-7788.

ALL WATER MAINS SHALL BE CLEANED AND FLUSHED, ALSO ANY WATER MAIN 12-INCH AND LARGER MUST BE PROPERLY PIGGED, IN ACCORDANCE WITH SECTION 801.13 OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS.

ALL WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH SECTION 801.14 OF THE CITY OF COLUMBUS, CONSTRUCTION AND MATERIAL SPECIFICATIONS. 150 PSI OF PRESSURE SHALL BE MAINTAINED FOR AT LEAST TWO HOURS IN ANY TESTED SECTION. THE CITY MAY NOT APPROVE ANY TEST LASTING LESS THAN TWO HOURS REGARDLESS OF THE AMOUNT OF LEAKAGE.

ALL WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH SECTION 801.15 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS. SPECIAL ATTENTION IS DIRECTED TO APPLICABLE SECTIONS OF A.W.W.A. C-651. WHEN THE WATER MAINS ARE READY FOR DISINFECTION, THE INSPECTOR SHALL SUBMIT A WRITTEN REQUEST FOR CHLORINATION OF THE MAINS THAT NEED DISINFECTED, THREE (3) SETS OF "AS-BUILT" PLANS (FULL SIZE SHEETS ONLY), THE AS-BUILT SURVEY COORDINATES, WATER SERVICE REPORTS AND A PRESSURE TEST TO THE CITY OF COLUMBUS, DIVISION OF WATER. THE CONTRACTOR SHALL BE RESPONSIBIBLE FOR ALL COSTS ASSOCIATED WITH THE DISINFECTION OF ALL WATER MAINS CONSTRUCTED UNDER THIS PLAN.

NO SERVICE CONNECTION PERMITS SHALL BE ISSUED OR CONNECTIONS MADE TO ANY SERVICE TAPS UNTIL WATER MAINS HAVE BEEN DISINFECTED BY THE CITY OF COLUMBUS, DIVISION OF WATER. WHEN A 3-INCH OR LARGER TAP IS TO OCCUR ON A 20-INCH OR LARGER WATER MAIN, THE CONTRACTOR SHALL NOTIFICY THE DIVISION OF WATER OPERATIONS CONTROL CENTER AT 614-645-7168 TWENTY-FOUR (24) HOURS IN ADVANCE OF PERFORMING THE TAP.

WATER SERVICE BOXES SHALL BE PLACED 1' FROM THE EDGE OF THE PROPOSED OR EXISTING SIDEWALK BETWEEN THE SIDEWALK AND THE CURB, OR 2 FEET INSIDE THE RIGHT-OF-WAY OR EASEMENT LINE WHEN NO SIDEWALK IS PRESENT OR PROPOSED. REFER TO STANDARD DRAWING L-9901 FOR ADDITIONAL INFORMATION.

SAFETY REQUIREMENTS:
THE CONTRACTOR AND SUB-CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUB-CONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.

RIGHTS OF WAY:
IN ADDITION TO THE DIRECT REQUIREMENTS OF THE CONTRACT SPECIFICATIONS, THE CONTRACTOR SHALL OBSERVE AND CONFORM TO THE REQUIREMENTS OF ALL RIGHTS-OF-WAY INCLUDING EASEMENTS, COURT ENTRIES, RIGHTS OF ENTRY OR ACTION FILED IN COURT IN ACCORDANCE WITH THE CODE OF THE APPLICABLE GOVERNING AGENCY. THE COST OF THE OPERATIONS, NECESSARY TO FULFILL SUCH REQUIREMENTS, SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS ITEMS OF THE CONTRACT UNLESS SPECIFIC PROVISION IS MADE IN THE CONTRACT SPECIFICATIONS FOR SUCH COST UNDER SPECIFIC ITEMS OF THE CONTRACT.

EXISTING UTILITIES:
THE IDENTITY AND LOCATION OF THE EXISTING UTILITY FACILITIES KNOWN TO BE LOCATED IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE PLANS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY. THE CITY OF COLUMBUS AND/OR THE ENGINEER ASSUMES NO RESPONSIBILITY AS TO THE ACCURACY OR THE DEPTHS OF THE UNDERGROUND FACILITIES SHOWN ON THE PLANS.

LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, PRIOR TO CONSTRUCTION, TO DETERMINE IN THE FIELD THE ACTUAL LOCATION AND ELEVATIONS OF ALL EXISTING UTILITIES WHETHER SHOWN ON THE PLAN OR NOT. COST TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS WATER MAIN ITEMS.

THE CONTRACTOR SHALL CAUSE NOTICE TO BE GIVEN TO THE OHIO UTILITIES PROTECTION SERVICE (TELEPHONE 1-800-362-2764 TOLL FREE) AND TO THE OWNERS OF THE UNDERGROUND UTILITY FACILITIES SHOWN ON THE PLANS WHO ARE NOT MEMBERS OF A REGISTERED PROTECTION SERVICE IN ACCORDANCE WITH SECTION 153.64 OF THE REVISED CODE. THE ABOVE MENTIONED NOTICE SHALL BE GIVEN AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION.

FOR A LIST OF UTILITIES WITHIN THE PROJECT LIMITS, SEE SHEET 4

EXPOSE:
THE CONTRACTOR SHALL EXPOSE ALL EXISTING UNDERGROUND UTILITIES, SERVICES, AND STRUCTURES SUFFICIENTLY IN ADVANCE OF LAYING THE PROPOSED WATER LINE IN ORDER TO VERIFY THE PROPOSED LOCATION, ELEVATION, SIZE, AND MATERIAL TYPE. COST TO BE INCLUDED IN THE PRICES BID FOR THE VARIOUS WATER MAIN ITEMS.

EXTRA COMPENSATION:
NO EXTRA COMPENSATION WILL BE PAID THE CONTRACTOR BY REASON OF COMPLIANCE WITH ANY OF THE REQUIREMENTS INDICATED ON THE PLANS, BUT PAYMENT SHALL BE DEEMED TO BE INCLUDED AMONG THE SEVERAL ITEMS, AS BID UPON, UNLESS OTHERWISE SPECIFICALLY PROVIDED.

STATIONING:
ALL STATIONING REFERS TO WATER LINE STATIONING UNLESS OTHERWISE NOTED ON THE PLANS.

NON-RUBBER TIRE VEHICLES:
NON-RUBBER TIRED VEHICLES SHALL NOT BE MOVED ON PUBLIC STREETS. THE CITY ENGINEER MAY GRANT EXCEPTIONS WHEN SHORT DISTANCES AND SPECIAL CIRCUMSTANCES ARE INVOLVED. GRANTING OF EXCEPTIONS MUST BE IN WRITING, AND ANY DAMAGE MUST BE REPAIRED TO THE SATISFACTION OF THE CITY OF COLUMBUS AND THE FRANKLIN COUNTY ENGINEER WHERE COUNTY AND/OR TOWNSHIP ROADS ARE INVOLVED.

DURING NON-CONSTRUCTION HOURS, ALL EXCAVATIONS SHALL BE FILLED, PLATED OR PROTECTED (BARRELS AND FENCING) IN SUCH A MANNER AS TO POSITIVELY SEPARATE VEHICLES OR PEDESTRIANS FROM THE WORK.

LONG AND SHORT WATER SERVICE INSTALLATIONS:
WHERE LONG WATER SERVICE TRANSFERS ARE SPECIFIED, I.E., TAPS ON THE OPPOSITE SIDE OF THE STREET FROM THE WATER MAIN, THE SERVICES SHALL BE INSTALLED BY TRENCHLESS METHODS UNLESS OTHERWISE APPROVED BY THE ENGINEER. WATER SERVICE TRANSFERS SPECIFIED AS SHORT MAY BE INSTALLED BY OPEN-CUT METHODS.

SERVICE TRANSFER AND WATER LINE ABANDONMENT:
WHERE INDICATED ON PLANS, THE EXISTING WATER LINES SHALL BE ABANDONED AND EXISTING WATER SERVICES OFF THESE LINES, INDICATED ON THE PLANS AND SHOWN BY HOUSE NUMBER, SHALL BE TRANSFERRED TO THE NEW WATER LINE. CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL EXISTING WATER SERVICES PRIOR TO BEGINNING THE TAP INSTALLATIONS ON THE NEW MAIN.

PRIOR TO ABANDONMENT OF EXISTING WATER LINES, THE PROPOSED NEW WATER LINES SHALL BE TESTED AND CHLORINATED AND THEN THE EXISTING SERVICES, INDICATED ON THE PLANS AND SHOWN BY HOUSE NUMBER, SHALL BE TRANSFERRED TO THE NEW WATER LINES. THE CONTRACTOR SHALL MAINTAIN WATER SERVICE TO ALL WATER CUSTOMERS AFFECTED BY TRANSFER OF SERVICE.

ALL OTHER EXISTING SERVICES SHOWN ON THE PLANS AND NOT INDICATED AS TRANSFERS SHALL BE ABANDONED IN PLACE.

TO ENSURE THAT ALL EXISTING WATER SERVICES ARE TRANSFERRED TO THE NEW WATER LINE, NO WATER LINE SHALL BE ABANDONED UNTIL ALL AFFECTED WATER SERVICES HAVE BEEN TRANSFERRED; THE NEW WATER LINE IS PUT IN SERVICE; AND THE EXISTING WATER LINE TO BE ABANDONED HAS BEEN SHUT DOWN FOR 24 HOURS.

WHERE INDICATED ON THE PLANS, THE EXISTING WATER MAIN SHALL BE ABANDONED; AND ANY EXISTING WATER SERVICES OFF THIS MAIN SHALL BE TRANSFERRED TO THE NEW WATER MAIN. PRIOR TO ABANDONMENT OF THE EXISTING WATER MAIN, THE PROPOSED WATER MAIN SHALL BE PIGGED (IF REQUIRED), TESTED, CHLORINATED AND PUT IN SERVICE AND THEN THE EXISTING WATER SERVICES SHALL BE TRANSFERRED. THE CONTRACTOR SHALL MAINTAIN WATER SERVICES TO ALL PROPERTIES DURING CONSTRUCTION OF THE NEW WATER MAIN AND SHALL NOTIFY ALL CUSTOMERS AFFECTED BY THE TRANSFER OF SERVICES. TO ENSURE THAT ALL EXISTING SERVICES ARE TRANSFERRED TO THE NEW MAIN, NO WATER MAIN SHALL BE ABANDONED UNTIL THE NEW WATER MAIN HAS BEEN PUT IN SERVICE; ALL AFFECTED WATER SERVICES HAVE BEEN TRANSFERRED; AND THE EXISTING WATER MAIN TO BE ABANDONED HAS BEEN SHUT DOWN FOR 24 HOURS. ALL VISIBLE VALVE BOXES, FIRE HYDRANTS, AND SERVICE BOXES ON THE WATER MAIN TO BE ABANDONED, WHICH WILL NO LONGER BE IN SERVICE, SHALL BE REMOVED. ALL WATER MAINS TO BE ABANDONED SHALL BE MADE WATER TIGHT. THE REQUIRED SURFACE RESTORATION SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM(S).

THE CONTRACTOR SHALL NOTIFY THE DIVISION OF FIRE ALARM OFFICE, 221-3132 WHENEVER FIRE HYDRANTS ARE TAKEN OUT OF SERVICE AND PLACED BACK IN SERVICE.

ALL VISIBLE VALVES BOXES, FIRE HYDRANTS, AND SERVICE BOXES ON THE WATER LINE TO BE ABANDONED, WHICH WILL NO LONGER BE IN SERVICE, SHALL BE REMOVED. FIRE HYDRANTS SHALL BE DELIVERED TO THE DIVISION OF WATER AT 910 DUBLIN ROAD, COLUMBUS, OHIO. ALL WATER MAINS TO BE ABANDONED SHALL BE MADE WATERTIGHT. THE COST TO REMOVE ABANDONED VALVE AND SERVICE BOXES, REMOVE HYDRANTS AND DELIVER HYDRANTS TO THE DIVISION OF WATER IS TO BE INCLUDED IN THE PRICE BID UNDER ITEM 801. THE REQUIRED SURFACE RESTORATION SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM(S).

EXTREME CARE SHALL BE TAKEN BY THE CONTRACTOR WHEN INSTALLING WATER SERVICES NEAR TREES. PRIOR TO INSTALLING ANY SERVICE NEAR A TREE A LICENSED ARBORIST SHALL EVALUATE THE TREE AND RECOMMEND PROPER INSTALLATION METHODS. ANY DAMAGE TO THE TREE DURING THE INSTALLATION OF THE WATER SERVICE SHALL ALSO BE EVALUATED BY A LICENSED ARBORIST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF THE LICENSED ARBORIST AND ANY RECOMMENDATIONS MADE BY THE LICENSED ARBORIST. ALL WORK SHALL BE APPROVED BY THE DIVISION OF WATER PRIOR TO COMMENCING.

EXISTING PLUGS, CAPS, ETC.:
PLUGS AND CAPS REMOVED FROM EXISTING WATER LINES SHALL BE DELIVERED TO THE WATER SERVICES CENTER, 910 DUBLIN ROAD, COLUMBUS, OHIO, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS DELIVERY.

FIRE HYDRANT REPLACED OR RELOCATED:
NO EXISTING FIRE HYDRANTS TO BE REPLACED OR RELOCATED SHALL BE REMOVED, OR TAKEN OUT OF SERVICE, UNTIL THE NEW WATER LINES ARE IN SERVICE AND THE NEW FIRE HYDRANTS ARE ACCEPTED BY THE DIVISION OF FIRE. THE CONTRACTOR SHALL CONTACT THE DIVISION OF FIRE AT 645-7641 EXT. 5658 TO SCHEDULE THE INSPECTION OF THE NEW FIRE HYDRANTS. ALL COORDINATION AND WORK REQUIRED TO TEST AND ACCEPT NEW FIRE HYDRANTS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 809.

SIGNS, FENCES, DRAINAGE STRUCTURES, ETC.:
ALL SIGNS, FENCES, SHRUBS, DRAINAGE STRUCTURES OR OTHER PHYSICAL FEATURES DISTURBED OR DAMAGED DURING WORK UNDER THIS CONTRACT SHALL BE RESTORED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR. UNLESS OTHERWISE PROVIDED IN THE CONTRACT, THE COST OF ALL SUCH WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS WATER MAIN ITEMS.

REPLACEMENT OF DRAIN TILE AND STORM SEWERS:
ALL DRAIN TILE AND STORM SEWERS DAMAGED, DISTURBED OR REMOVED AS A RESULT OF THE CONTRACTORS OPERATIONS SHALL BE REPLACED WITH THE SAME QUALITY PIPE OR BETTER, MAINTAINING THE SAME GRADIENT AS EXISTING. REPLACED DRAIN TILE SHALL BE LAID ON COMPACTED GRANULAR BEDDING. COST TO BE INCLUDED IN THE PRICE BID FOR THE VARIOUS WATER MAIN ITEMS.

CALCULATED AWF
CHECKED PHF

WATERLINE NOTES - CITY OF COLUMBUS

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TRACKING OF MUD:
ANY MUD TRACKED OR DEPOSITION OF BUILDING MATERIALS OR DEBRIS UPON PUBLIC RIGHT-OF-WAY SHALL BE CLEANED OFF IMMEDIATELY. ANY WORK DONE BY THE CITY TO CLEAN STREETS AS A RESULT OF NEGLIGENCE BY THE CONTRACTOR SHALL BE AT THE CONTRACTOR S EXPENSE.

SEWER LINES:
ALL EXISTING SEWER LINES MAY OR MAY NOT BE SHOWN ON THE PLAN. INDIVIDUAL SERVICE LINES ARE NOT SHOWN AND SHOULD BE LOCATED BY THE CONTRACTOR PRIOR TO COMMENCING ANY WORK.

LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL SEWER LINES, SERVICES AND APPURTENANCES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. IF A FACILITY IS DAMAGED BY THE CONTRACTOR, ALL REPAIRS SHALL BE MADE IN ACCORDANCE WITH THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, AT THE CONTRACTOR S EXPENSE.

MAINTAIN EIGHTEEN (18) INCHES VERTICAL AND TEN (10) FEET HORIZONTAL SEPARATION BETWEEN ANY EXISTING SANITARY OR STORM SEWERS AND ALL PROPOSED WATER MAINS.

THE CITY OF COLUMBUS WILL ONLY LOCATE AND MARK MAIN LINE SEWERS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL SERVICE LATERALS WHETHER SHOWN ON THE PLAN OR NOT. ANY DAMAGE TO MAIN SEWER LINES OR SERVICE LATERALS IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL REPAIRS MUST BE PERFORMED BY A LICENSED SEWER CONTRACTOR, UNDER A SEPARATE SEWER PERMIT.

CONSTRUCTION SEQUENCING
THE CONTRACTOR SHALL SEQUENCE CONSTRUCTION AS TO MINIMIZE THE NUMBER OF TIMES THAT CUSTOMERS ARE WITHOUT WATER SERVICE. THE MAXIMUM NUMBER OF SERVICE INTERRUPTIONS TO ANY ONE CUSTOMER DURING THE CONSTRUCTION OF THE PROJECT SHALL BE TWO (2). THE SERVICE INTERRUPTION SHALL LAST NO LONGER THAN 4 HOURS UNLESS APPROVED IN WRITING BY THE CITY. THE CONTRACTOR SHALL GIVE WRITTEN NOTICE TO ALL AFFECTED PROPERTY OWNERS AT LEAST 24 HOURS, BUT NOT MORE THAN 72 HOURS, PRIOR TO ANY DISRUPTION OF WATER SERVICE. NO SHUTS ARE PERMITTED TO OCCUR ONE (1) BUSINESS DAY BEFORE A FEDERAL HOLIDAY OR FEDERAL HOLIDAY WEEKEND, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

THE CONTRACTOR IS REQUIRED TO SUBMIT A SEQUENCE OF CONSTRUCTION TO THE CITY AT THE PRECONSTRUCTION CONFERENCE. THIS SEQUENCE OF CONSTRUCTION SHOULD ALSO DETAIL THE CONTRACTOR S PLANS FOR TESTING AND CHLORINATION OF NEW MAINS INCLUDING THE SOURCE OF WATER AND LOCATION OF TEMPORARY CHLORINATION AND BLOW-OFF TAPS. THE CITY SHALL HAVE THE RIGHT TO APPROVE, REJECT OR MODIFY THE CONSTRUCTION SEQUENCE TO ENSURE THAT THE INTERRUPTIONS ARE HELD TO A MINIMUM. NOTE: THE CITY MAY TAKE UP TO 10 WORKING DAYS TO RESPOND TO THIS SUBMITTAL.

WATER LINE CONNECTIONS:
ONLY ONE CONNECTION TO AN EXISTING WATER LINE IS PERMITTED BEFORE DISINFECTION OF A NEW WATER LINE HAS BEEN COMPLETED. ALL OTHER CONNECTIONS MUST BE MADE AFTER THE LINE HAS BEEN DISINFECTED.

COTA:
TWO WEEKS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT ANDREW M. VOLENIK OF THE CENTRAL OHIO TRANSIT AUTHORITY (COTA) AT 614-308-4373, FAX 614-275-5933, OR EMAIL VOLENIKAM@COTA.COM TO COORDINATE PROPER BUS MOVEMENTS THROUGH AND AROUND THE JOBSITE DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE TEMPORARY RELOCATION OR REMOVAL OF COTA SIGNS AND/OR BUS STOP LOCATIONS.

FIRE HYDRANT PAINT COLOR:
ALL FIRE HYDRANTS TO BE INSTALLED IN THE CITY OF COLUMBUS SHALL BE PAINTED WITH THE COLOR SAFETY ORANGE . THE FIRE HYDRANTS SHALL BE PROVIDED WITH TWO COATS IN A GLOSS ENAMEL OF THE SAFETY ORANGE COLOR FOR THE ENTIRE HYDRANT. THE TOPS OF THE FIRE HYDRANTS ARE NO LONGER REQUIRED TO BE PAINTED BLACK. AFTER INSTALLATION OF FIRE HYDRANTS, THE CONTRACTOR IS RESPONSIBLE TO APPLY TOUCH UP PAINT TO ANY DAMAGE TO THE FACTORY APPLIED HYDRANT PAINT. HYDRANTS WILL NOT BE ACCEPTED UNTIL ANY PAINT DAMAGE FROM SHIPPING OR INSTALLATION HAS BEEN REPAIRED. USE HYDRANT TOUCH UP PAINT IN ACCORDANCE WITH THE APPROVED MATERIALS LIST. THIS GENERAL NOTE SHALL SUPERSEDE THE CURRENT PAINT DESCRIPTION SPECIFIED IN ITEM 809.02 IN THE 2012 CMSC SPECIFICATIONS.

HYDRANT USAGE:
THE CONTRACTOR SHALL OBTAIN THE PROPER HYDRANT PERMIT(S), AND PAY ANY APPLICABLE FEES, FOR ANY APPROVED HYDRANT USAGE DEEMED NECESSARY FOR WORK UNDER THIS IMPROVEMENT. PERMITS MAY BE OBTAINED THROUGH THE DIVISION OF WATER PERMIT OFFICE (645-7330). THE CONTRACTOR SHALL ADHERE TO ALL RULES & REGULATIONS GOVERNING SAID PERMIT AND MUST HAVE THE ORIGINAL PERMIT ON SITE ANYTIME IN WHICH THE HYDRANT IS IN USE. COST TO BE INCLUDED IN THE VARIOUS BID ITEMS.

FIRE HYDRANT MAINTENANCE:
THE BARREL OF ANY FIRE HYDRANT USED BETWEEN THE DATES OF SEPTEMBER 15 AND APRIL 15 SHALL BE PUMPED DRY TO THE FOOT VALVE OF THE HYDRANT OR A MINIMUM OF 5 FEET BELOW SURFACE OF EXISTING GROUND, BY THE CONTRACTOR, IMMEDIATELY AFTER EACH TIME THE HYDRANT IS OPERATED.

FIRE HYDRANT RELOCATIONS:
FIRE HYDRANT RELOCATIONS SHALL CONFORM TO APPLICABLE SECTIONS OF ITEM 809 OF THE COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS. WORK SHALL CONSIST OF REMOVING THE EXISTING HYDRANT, INSTALLING NEW 6" PIPE AND FITTING AS REQUIRED TO LOCATE THE FIRE HYDRANT 2 FEET FROM BACK OF PROPOSED CURB OR 8 FEET OFF EDGE OF PAVEMENT, RESETTING HYDRANT AND BLOCKING AS REQUIRED. ALL 6" PIPE SHALL BE INSTALLED AT 4'-0" MINIMUM COVER. HYDRANT EXTENSIONS SHALL BE PROVIDED PER ITEM 810, AS REQUIRED. RELOCATED FIRE HYDRANTS SHALL BE ADJUSTED TO PROPER GRADE AND FACED IN THE PROPER DIRECTION. WHEN A HYDRANT IS RELOCATED FIFTEEN (15) FEET OR MORE FROM THE "TYPICAL HYDRANT SETTING" VALVE LOCATION (SEE L-6409 & L-6637), AN ADDITIONAL VALVE SHALL BE INSTALLED, AND RESTRAINED, WITHIN TWO (2) FEET OF THE RELOCATED HYDRANT. PAYMENT IS TO BE INCLUDED UNDER ITEM 809, FIRE HYDRANT RELOCATED.

NO TWO (2) ADJACENT FIRE HYDRANTS SHALL BE TAKEN OUT OF SERVICE CONCURRENTLY.

RELOCATED FIRE HYDRANTS SHALL BE PUT BACK IN SERVICE AS SOON AS POSSIBLE.

WATER CONTRACTOR LICENSE REQUIREMENT:
IT SHALL BE UNLAWFUL FOR ANY PERSON TO PERFORM ANY WORK ON CITY OF COLUMBUS WATER LINE SYSTEMS WITHOUT FIRST SECURING LICENSE TO ENGAGE IN SUCH WORK, AS INDICATED IN COLUMBUS CITY CODE SECTION 1103.02 AND 1103.06. THIS WORK INCLUDES ANY ATTACHMENTS, ADDITIONS TO OR ALTERATIONS IN ANY CITY SERVICE PIPE OR APPURTENANCES (INCLUDING WATER SERVICE LINES AND TAPS). THIS REQUIREMENT MAY BE MET BY UTILIZATION OF A SUBCONTRACTOR WHO HOLDS A CITY OF COLUMBUS WATER CONTRACTOR LICENSE OR A COMBINED WATER/SEWER CONTRACTOR LICENSE TO PERFORM THIS WORK. UTILIZATION OF A SUBCONTRACTOR MUST MEET THE LICENSING REQUIREMENTS OF CITY OF COLUMBUS BUILDING CODE, IN PARTICULAR SECTION 4114.119 AND 4114.529.

BRASS FITTINGS:
ALL BRASS FITTINGS ASSOCIATED WITH WATER WORK, INCLUDING REPAIRS TO THE EXISTING SYSTEM, SHALL CONFORM TO THE REVISED ALLOWABLE LEAD EXTRACTION LIMIT PER THE UPDATED NSF/ANSI 61 STANDARD. THE DIVISION OF WATER S APPROVED MATERIALS LIST HAS BEEN UPDATED TO REFLECT THIS REQUIREMENT.

CALCULATED AWF
CHECKED PHF

WATERLINE NOTES - CITY OF COLUMBUS

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EXISTING WATERLINE

THE WATERLINE SHOWN ON THE PLANS WERE LOCATED BY STANDARD SURVEY METHOD. ANY WATERLINE WITHIN THE PROJECT LIMITS ENCOUNTERED DURING CONSTRUCTION NOT ALREADY NOTED IN THE PLANS FOR RELOCATION/LOWERING, SHALL BE ADJUSTED VERTICALLY AND HORIZONTALLY AS DIRECTED BY THE ENGINEEER UTILITIZING COC, SCD L-7102C.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY AND ARE TO BE USED AS DIRECTED BY THE ENGINEER AND FOR:

ITEM 638 - 12" DUCTILE IRON WATER PIPE & FITTINGS (COL 801)

EXISTING WATERLINE VALVES

THE WATERLINE VALVES SHOWN ON THE PLANS WERE LOCATED BY STANDARD SURVEY METHOD. ANY CITY OF COLUMBUS WATERLINE VALVES ENCOUNTERED BUT NOT SHOWN ON THE PLANS ARE TO BE ADJUSTED TO GRADE AND IF WITHIN ANY PAVEMENT SURFACE, CHANGED TO COC, STANDARD HEAVY DUTY VALVE BOX. VALVE BOXES LOCATED WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO GRADE AS INDICATED ON THE PLANS

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY AND ARE TO BE USED AS DIRECTED BY THE ENGINEER AND FOR:

ITEM 807 - SERVICE BOX ADJUSTED TO GRADE	1 EACH
ITEM 807 - VALVE BOX ADJUSTED TO GRADE	10 EACH
ITEM 807 - COLUMBUS STD. H.D. VALVE BOX	5 EACH
ITEM 807 - COLUMBUS STD. VALVE BOX	5 EACH

WATERLINE CONTINGENCY QUANTITIES:
THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY. THESE ITEMS ARE TO BE USED ONLY AT THE DISCRETION OF TH ENGINEER. THE LOCATIONS, TYPES AND SIZES OF REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER AND PAYMENT SHALL BE MADE BASED ON FINAL MEASUREMENTS ACCORDING TO THE CITY OF COLUMBUS STANDARDS AND SPECIFICATIONS.

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

ITEM 801 -DUCTILE IRON FITTINGS,
INCREASE OR DECREASE 460 LBS
ITEM 801 -CONCRETE BLOCKING CLASS C,
INCREASE OR DECREASE 7.00 CY
ITEM 805 - 3/4" WATER SERVICE TAP, TRANSFERRED 1 EACH
ITEM 811 - INCREASE OR DECREASE IN
EXCAVATION AND BACKFILL 18.00 CY

ITEM SPECIAL SURVEY COORDINATES:
"ITEM SPECIAL - SURVEY COORDINATES" SHALL INCLUDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO OBTAIN HORIZONTAL AND VERTICAL (NORTHING, EASTING, AND ELEVATION) SURVEY COORDINATES FOR THE WATER MAIN IMPROVEMENTS. THE SURVEY COORDINATES SHALL BE OBTAINED FOR THE COMPLETED WATER MAIN CONSTRUCTION AND SHALL INCLUDE ALL VALVES, TEES, CROSSES, BENDS, DEFLECTIONS, PLUGS, REDUCERS, TAPPING SLEEVES, BLOW OFFS, CHLORINATION TAPS, FIRE HYDRANTS, AIR RELEASES, CURB STOPS, CASING PIPE TERMINI, AND OTHER FITTINGS. ADDITIONAL SURVEY COORDINATES ARE REQUIRED ON THE WATER MAIN EVERY 500' WHERE NO FITTING OR OTHER WATER MAIN STRUCTURE IS BEING INSTALLED WITHIN THAT LENGTH OF THE IMPROVEMENT.

ALL SURVEY COORDINATES SHALL BE REFERENCED TO THE APPLICABLE COUNTY ENGINEER'S MONUMENTS, AND SHALL BE BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83) WITH THE (NSRS2007) ADJUSTMENT, WITH FURTHER REFERENCE MADE TO THE OHIO STATE PLANE SOUTH COORDINATE SYSTEM, SOUTH ZONE, WITH ELEVATIONS BASED ON NAVD 88 DATUM. ALL COORDINATES (NORTHING, EASTING, ELEVATION) SHALL BE REFERENCED TO THE NEAREST HUNDREDTH (N XXXXXX.XX, E XXXXXX.XX, ELEV. XXX.XX). ALL SURVEY COORDINATES SHALL BE ACCURATE TO WITHIN 1.0 FOOT HORIZONTAL AND A TENTH OF A FOOT (0.10) OR LESS VERTICAL.

THE COORDINATES SHALL BE DOCUMENTED TO THE ENGINEER IN DIGITAL SPREADSHEET FORM AND SHALL INCLUDE THE APPLICABLE ITEM, STATION, NORTHING, EASTING, AND ELEVATION. COORDINATES SHALL BE SUBMITTED TO THE ENGINEER ON A BI-WEEKLY BASIS. COORDINATES SHALL ALSO BE REQUIRED TO BE SUBMITTED TO THE DIVISION OF WATER AS PART OF THE REQUEST FOR CHLORINATION.

LUMP SUM PAYMENT IS FULL COMPENSATION FOR ALL WORK INVOLVED IN OBTAINING AND DOCUMENTING THE SURVEY COORDINATES AS DESCRIBED IN THIS SPECIFICATION.

WATERLINE COORDINATES				AS BUILT		
REF. #	SHEET #	℄ CONSTR. STATION	DESCRIPTION	NORTHING	EASTING	ELEVATION
	227	100+53.81	12" X 45° HORIZONTAL BEND			
	227	100+53.95	CONNECT TO EXISTING 12" WL			
	232	100+55.30	12" X 45° VERTICAL BEND			
	232	100+56.90	12" X 45° VERTICAL BEND			
	227	100+62.35	12" X 45° VERTICAL BEND			
	227	100+62.35	12" TEE			
	227	100+62.35	12" X 45° VERTICAL BEND			
	227	100+65.36	12" X 45° HORIZONTAL BEND			
	227	100+73.65	12" X 45° HORIZONTAL BEND, CONNECT TO EX. WL			
	279	1002+82.47	12" X 45° HORIZ. & VERT. BEND, CONNECT TO EX WL			
	279	1002+88.00	12" X 45° VERTICAL GRADE BREAK, 928.20			
	279	1003+17.07	12" X 45° HORIZONTAL BEND			
	279	1003+83.00	12" X 6" ANCHORING TEE			
	279	1003+83.00	6" VALVE			
	279	1003+83.00	6" X 90° VERTICAL BEND			
	279	1003+84.96	6" VALVE			
	279	1003+88.00	FIRE HYDRANT, TYPE A			
	279	1004+35.61	12" VALVE			
	279	1004+60.00	GRADE BREAK, 932.49			
	279	1004+91.38	12" X 8" ANCHORING TEE			
	279	1004+91.38	8" VALVE			
	279	1005+40.00	GRADE BREAK, 932.49			
	279	1005+80.00	GRADE BREAK, 934.98			
	279	1006+56.01	4" VALVE			
	279	1007+00.00	12" X 6" ANCHORING TEE, GRADE BREAK, 936.82			
	279	1007+00.00	6" VALVE			
	279	1006+93.00	FIRE HYDRANT, TYPE A			
	279	1006+53.01	1" WATER SERVICE TAP, TRANSFERRED			
	279	1006+56.01	4" WATER SERVICE TAP, TRANSFERRED			
	280	1008+53.04	3/4" WATER SERVICE TAP, TRANSFERRED			
	280	1009+64.62	1 1/2" WATER SERVICE TAP, TRANSFERRED			
	280	1010+24.99	12" X 6" ANCHORING TEE			
	280	1010+24.99	6" VALVE			
	280	1010+24.99	6" X 90° VERTICAL BEND			
	280	1010+17.99	FIRE HYDRANT, TYPE A			
	280	1011+00.00	GRADE BREAK, 936.82			
	280	1011+35.00	GRADE BREAK, 934.69			
	280	1011+75.11	12" X 45° HORIZONTAL BEND			
	280	1012+01.10	12" X 45° HORIZONTAL BEND			
	136	1031+29.02	12" x 6" ANCHORING TEE			
	136	1031+29.02	12" X 45° HORIZONTAL BEND			
	136	1031+29.02	12" X 45° HORIZONTAL BEND			
	136	1031+29.02	12" X 45° HORIZONTAL BEND			
	136	1031+29.02	12" X 45° HORIZONTAL BEND			
	136	1031+29.02	12" X 6" ANCHORING TEE, GRADE BREAK, 936.82			
	136	1031+29.02	6" VALVE			
	136	1031+29.02	FIRE HYDRANT, TYPE A			

CALCULATED AWF CHECKED PHF

WATERLINE NOTES - CITY OF COLUMBUS

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LEGEND

1	442	1 1/2" ASPHALT CONCRETE, SURFACE COURSE, 12.5MM, TYPE A (446)
1A	442	1 1/2" ASPHALT CONCRETE, SURFACE COURSE, 12.5MM, TYPE A (446), AS PER PLAN
2	442	1 ¾" ASPHALT CONCRETE, INTERMEDIATE COURSE, 19MM, TYPE A (446)
3	301	9" ASPHALT CONCRETE BASE, PG64-22
3A	301	3" ASPHALT CONCRETE BASE, PG64-22
4	304	6" AGGREGATE BASE
5	407	TACK COAT FOR INTERMEDIATE COURSE (0.04 GALLONS/SQ YD)
6	407	TACK COAT (0.075 GALLONS/SQ YD)
7	408	PRIME COAT (0.4 GALLONS/SQ YD)
8	204	SUBGRADE COMPACTION
9		FENCE, MISC., WOOD FENCE PER SCD RM-5.2
10	254	3" PAVEMENT PLANING, ASPHALT CONCRETE
11	605	6" BASE PIPE UNDERDRAINS, 18" DEEP (TYP.) (707.31)
12	609	COMBINATION CURB AND GUTTER, TYPE 2
13	609	CONCRETE MEDIAN
14	608	4" CONCRETE WALK
15	448	1 ¼" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, PG64-22
16	448	2" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, PG64-22
17	304	4" AGGREGATE BASE

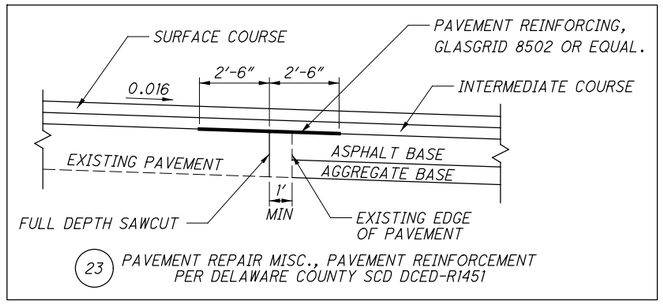
MULTI USE PATH

18	659	SEEDING AND MULCHING, CLASS 1
19	609	CURB, TYPE 6
20	653	TOPSOIL FURNISHED AND PLACED (6")
21	660	SODDING
22	252	FULL DEPTH SAWCUT
23	253	PAVEMENT REPAIR MISC., PAVEMENT REINFORCEMENT (5 FEET WIDE)
24	254	1 1/2" PAVEMENT PLANING, ASPHALT CONCRETE
25	448	ASPHALT CONCRETE, LEVELING COURSE, TYPE 1, PG64-22
26	304	VARIABLE THICKNESS AGGREGATE BASE

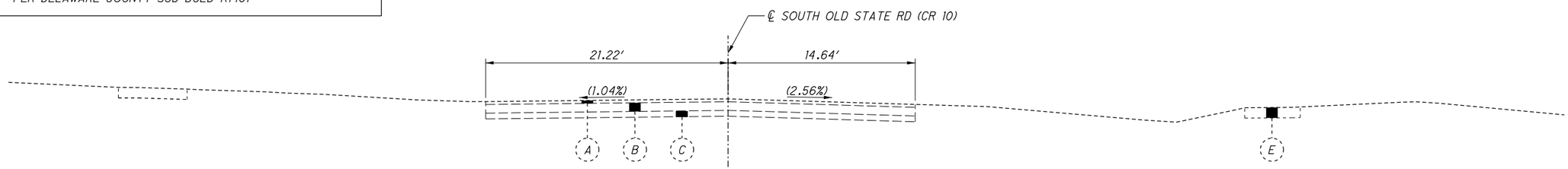
A	EXISTING ASPHALT PAVEMENT
B	EXISTING ASPHALT BASE
C	EXISTING AGGREGATE BASE
D	EXISTING SHOULDER
E	EXISTING SIDEWALK
F	EXISTING CURB & GUTTER

(24) (25) (26) USED IN AREAS OF PAVEMENT SALVAGING:

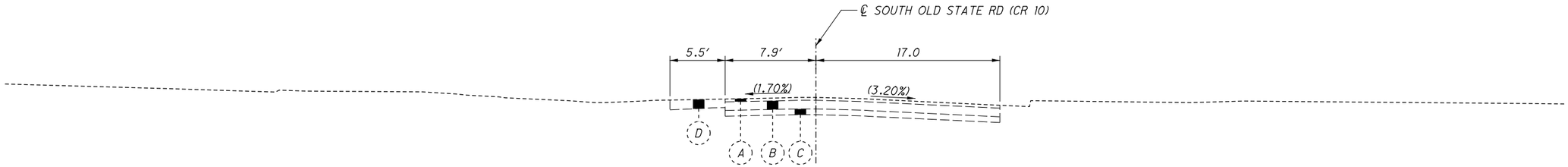
1) STA. 1030+00 TO STA. 1044+60
2) STA. 1084+50 TO STA. 1094+90
3) STA. 1104+00 TO STA. 11110+40
4) STA. 315+46 TO STA. 316+57.4 (POWELL ROAD)



(23) PAVEMENT REPAIR MISC., PAVEMENT REINFORCEMENT PER DELAWARE COUNTY SCD DCED-R1451



NORMAL SECTION - CR 10
STA. 1000+40 - EXISTING ADJOINING SECTION



NORMAL SECTION - CR 10
STA. 1115+00 - EXISTING ADJOINING SECTION

TYPICAL SECTIONS

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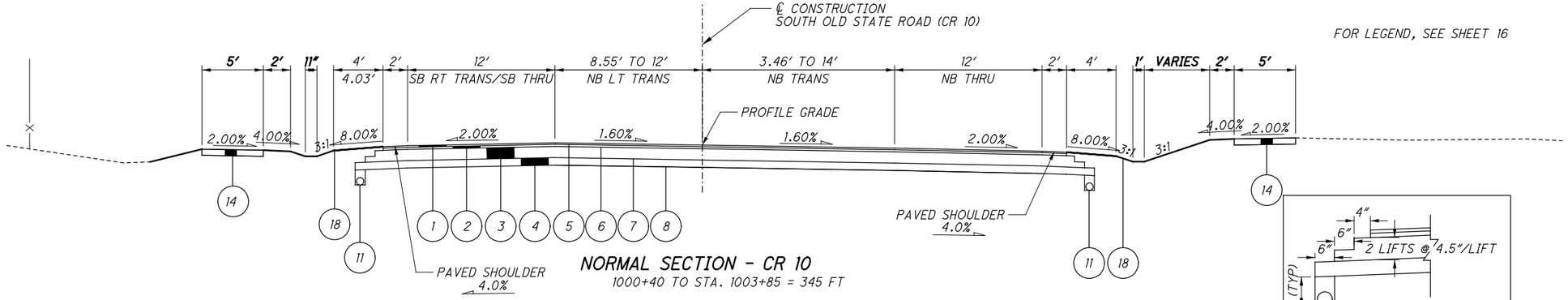
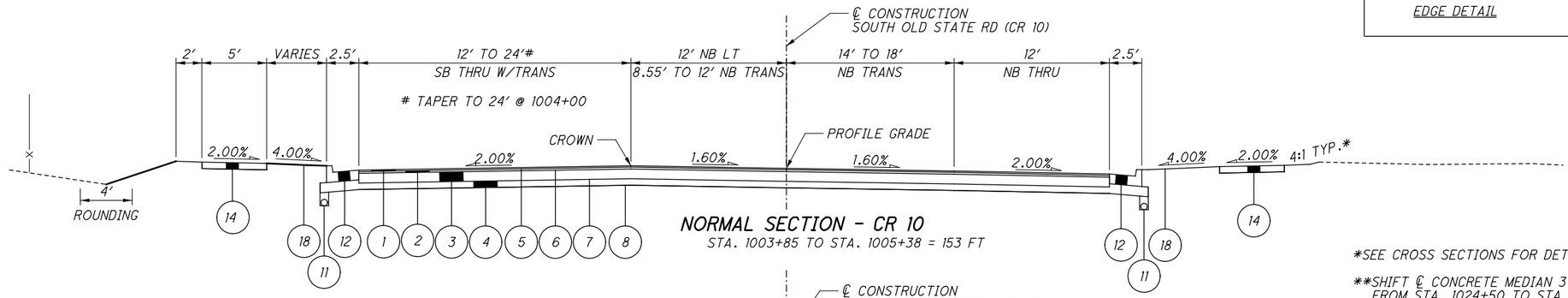
FOR LEGEND, SEE SHEET 16



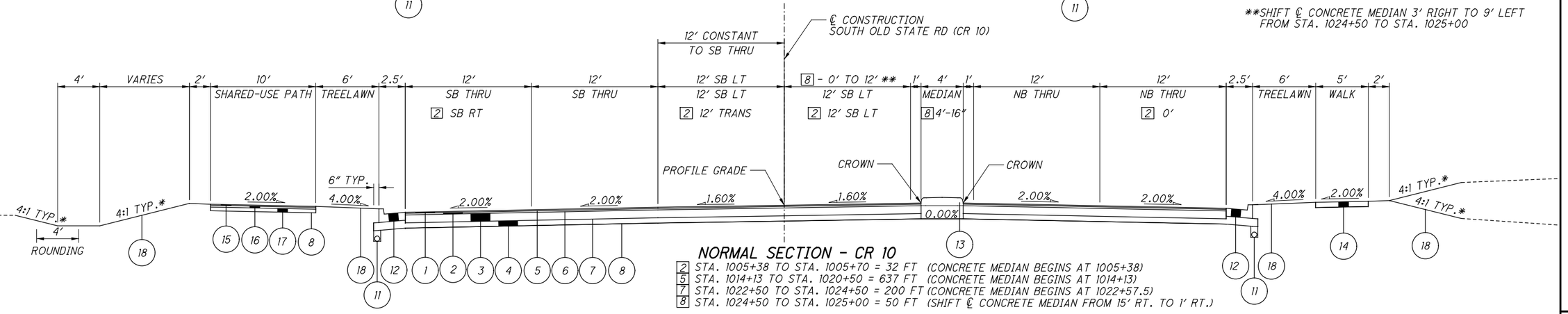
NORMAL SECTION - CR 10
1000+40 TO STA. 1003+85 = 345 FT



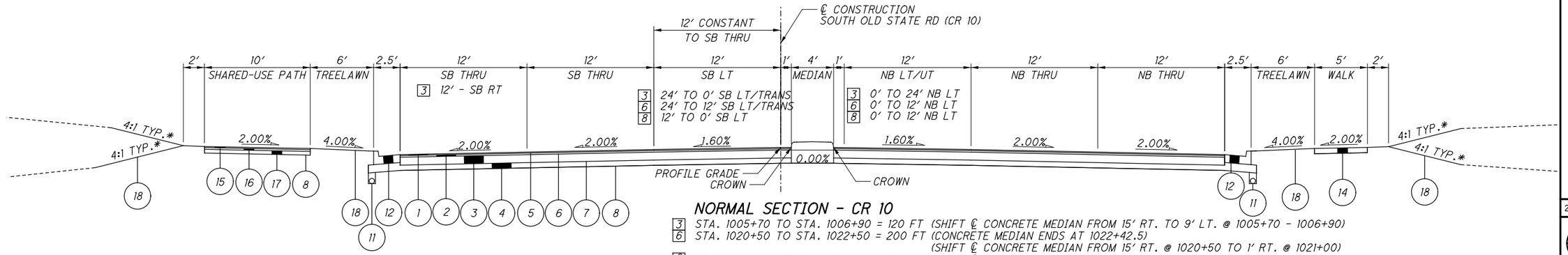
NORMAL SECTION - CR 10
STA. 1003+85 TO STA. 1005+38 = 153 FT

*SEE CROSS SECTIONS FOR DETAILS

**SHIFT ℄ CONCRETE MEDIAN 3′ RIGHT TO 9′ LEFT FROM STA. 1024+50 TO STA. 1025+00



NORMAL SECTION - CR 10
2 STA. 1005+38 TO STA. 1005+70 = 32 FT (CONCRETE MEDIAN BEGINS AT 1005+38)
5 STA. 1014+13 TO STA. 1020+50 = 637 FT (CONCRETE MEDIAN BEGINS AT 1014+13)
7 STA. 1022+50 TO STA. 1024+50 = 200 FT (CONCRETE MEDIAN BEGINS AT 1022+57.5)
8 STA. 1024+50 TO STA. 1025+00 = 50 FT (SHIFT ℄ CONCRETE MEDIAN FROM 15′ RT. TO 1′ RT.)



NORMAL SECTION - CR 10
3 STA. 1005+70 TO STA. 1006+90 = 120 FT (SHIFT ℄ CONCRETE MEDIAN FROM 15′ RT. TO 9′ LT. @ 1005+70 - 1006+90)
6 STA. 1020+50 TO STA. 1022+50 = 200 FT (CONCRETE MEDIAN ENDS AT 1022+42.5)
(SHIFT ℄ CONCRETE MEDIAN FROM 15′ RT. @ 1020+50 TO 1′ RT. @ 1021+00)
8 STA. 1025+00 TO STA. 1026+08 = 108 FT (SHIFT ℄ CONCRETE MEDIAN FROM 15′ RT. TO 1′ RT. @ 1024+50 - 1025+00)

TYPICAL SECTIONS

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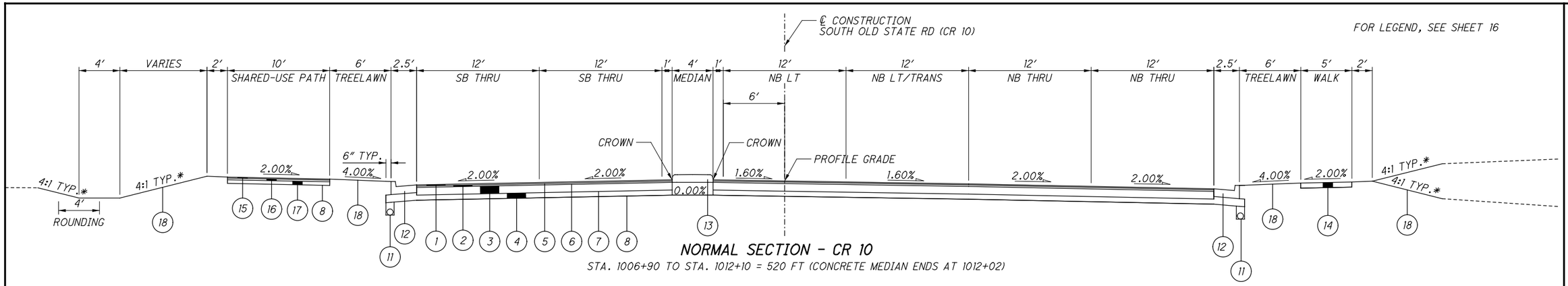
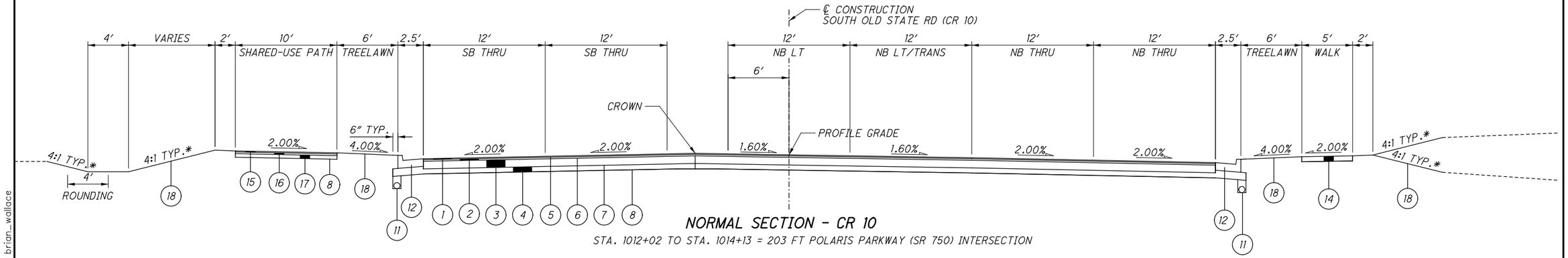
FOR LEGEND, SEE SHEET 16



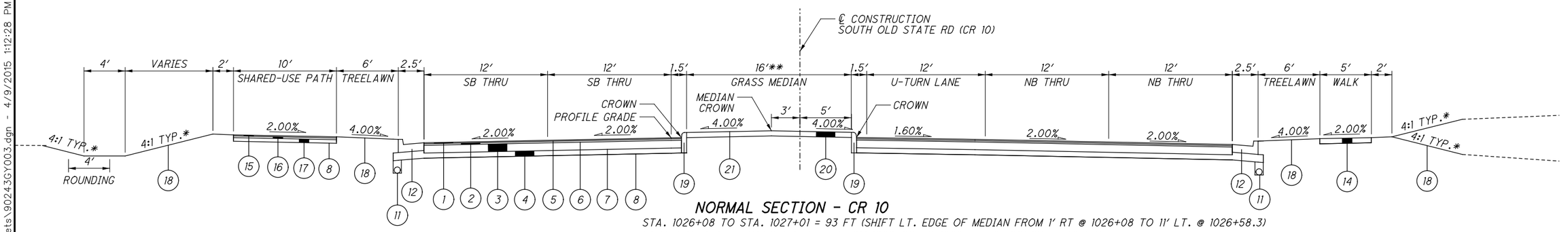
NORMAL SECTION - CR 10

STA. 1006+90 TO STA. 1012+10 = 520 FT (CONCRETE MEDIAN ENDS AT 1012+02)



NORMAL SECTION - CR 10

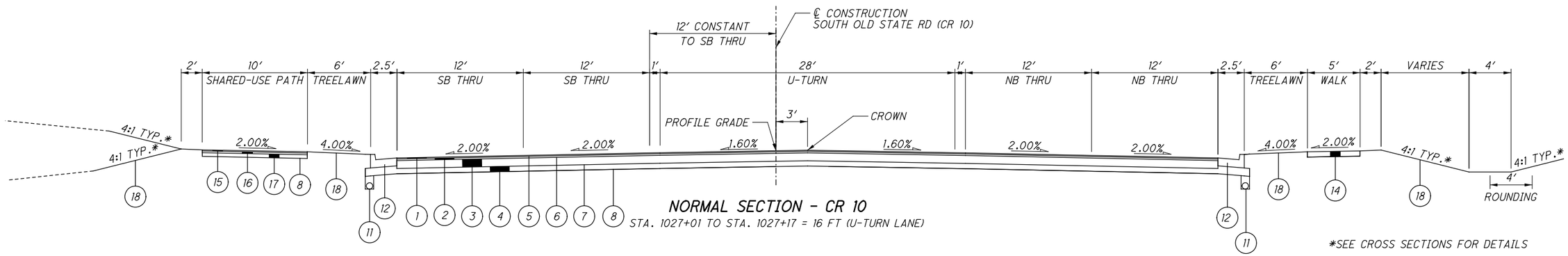
STA. 1012+02 TO STA. 1014+13 = 203 FT POLARIS PARKWAY (SR 750) INTERSECTION



NORMAL SECTION - CR 10

STA. 1026+08 TO STA. 1027+01 = 93 FT (SHIFT LT. EDGE OF MEDIAN FROM 1′ RT @ 1026+08 TO 11′ LT. @ 1026+58.3)

** MEDIAN WIDTH VARIES 4-10 FEET FROM 1026+08 TO 1026+35.50, CONCRETE MEDIAN
MEDIAN WIDTH VARIES 10-16 FEET FROM 1026+35.50 TO 1026+58.0, GRASS MEDIAN



NORMAL SECTION - CR 10

STA. 1027+01 TO STA. 1027+17 = 16 FT (U-TURN LANE)

*SEE CROSS SECTIONS FOR DETAILS

TYPICAL SECTIONS

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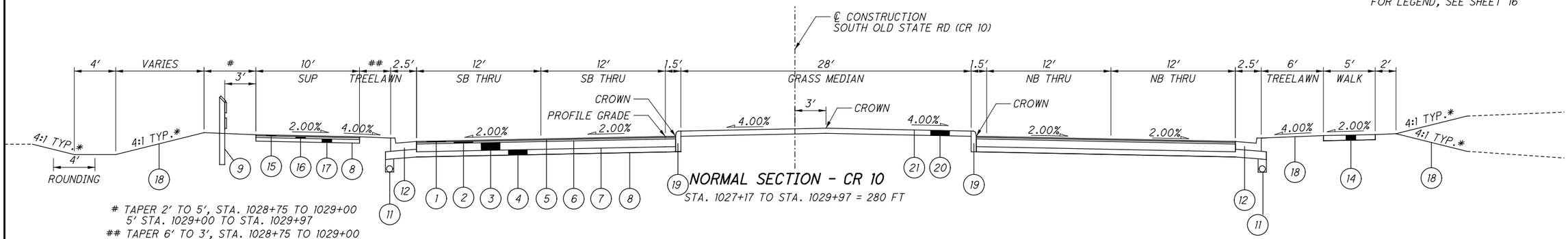
FOR LEGEND, SEE SHEET 16

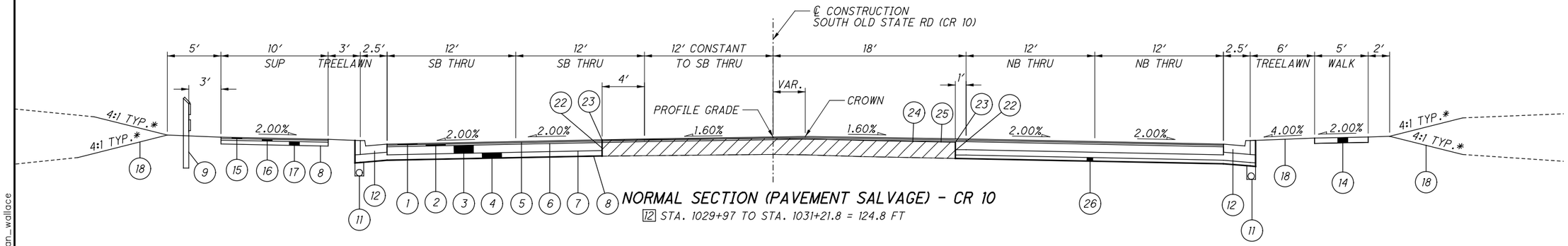


NORMAL SECTION - CR 10

STA. 1027+17 TO STA. 1029+97 = 280 FT

\# TAPER 2′ TO 5′, STA. 1028+75 TO 1029+00
5′ STA. 1029+00 TO STA. 1029+97

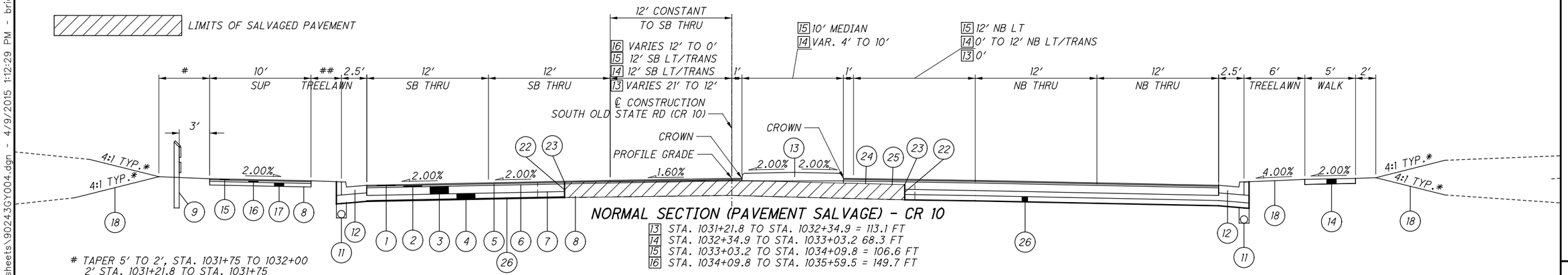
TAPER 6′ TO 3′, STA. 1028+75 TO 1029+00
3′ STA. 1029+00 TO STA. 1029+97



NORMAL SECTION (PAVEMENT SALVAGE) - CR 10

[12] STA. 1029+97 TO STA. 1031+21.8 = 124.8 FT

LIMITS OF SALVAGED PAVEMENT



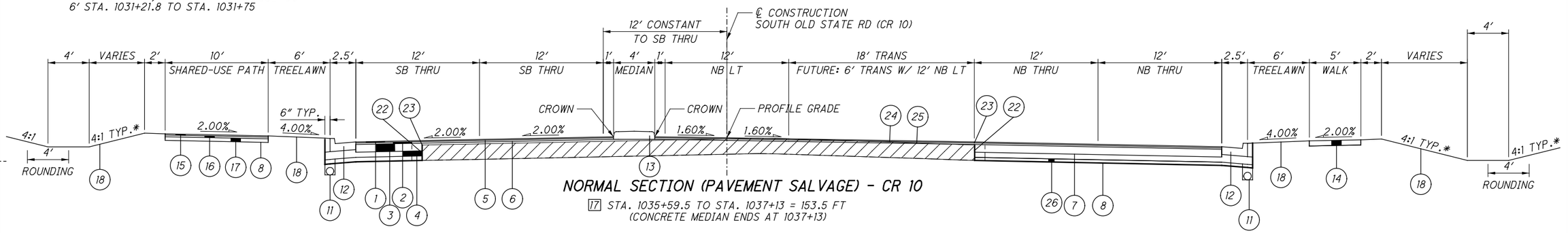
NORMAL SECTION (PAVEMENT SALVAGE) - CR 10

[13] STA. 1031+21.8 TO STA. 1032+34.9 = 113.1 FT
[14] STA. 1032+34.9 TO STA. 1033+03.2 68.3 FT
[15] STA. 1033+03.2 TO STA. 1034+09.8 = 106.6 FT
[16] STA. 1034+09.8 TO STA. 1035+59.5 = 149.7 FT

FOR CONCRETE MEDIAN LAYOUT, SEE SHEETS 136, 137& 138

\# TAPER 5′ TO 2′, STA. 1031+75 TO 1032+00
2′ STA. 1031+21.8 TO STA. 1031+75

TAPER 3′ TO 6′, STA. 1031+75 TO 1032+00
6′ STA. 1031+21.8 TO STA. 1031+75



NORMAL SECTION (PAVEMENT SALVAGE) - CR 10

[17] STA. 1035+59.5 TO STA. 1037+13 = 153.5 FT
(CONCRETE MEDIAN ENDS AT 1037+13)

STA. 1037+53 TO STA. 1039+00 = 147 FT EAST POWELL ROAD (CR 14) INTERSECTION

*SEE CROSS SECTIONS FOR DETAILS

TYPICAL SECTIONS

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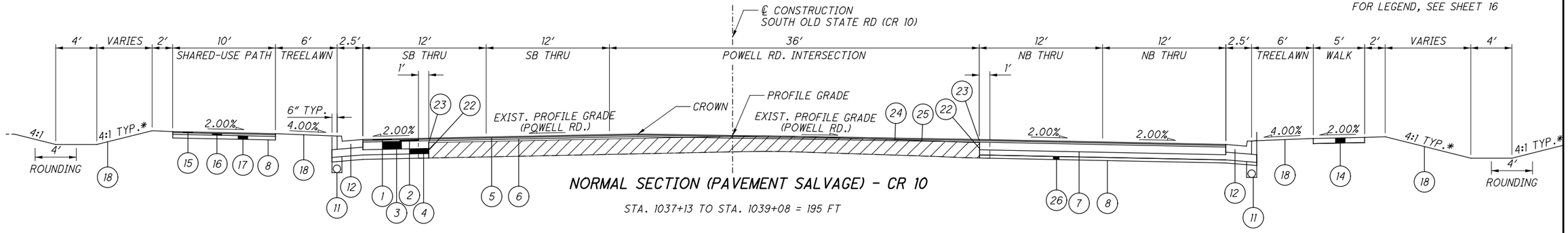
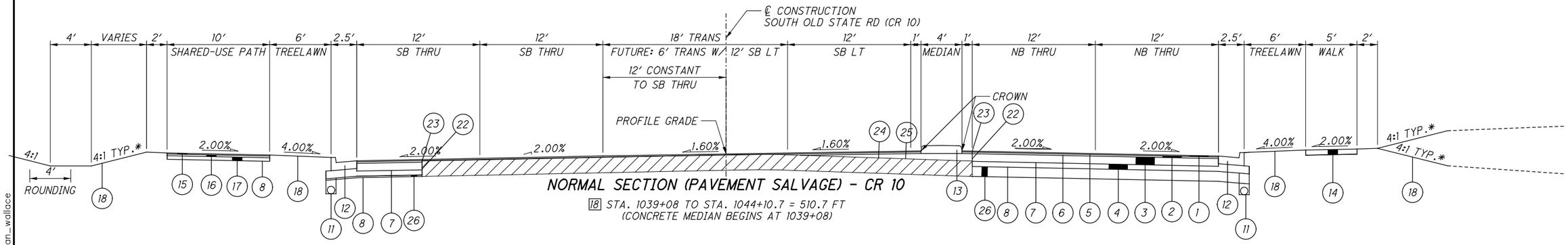
FOR LEGEND, SEE SHEET 16



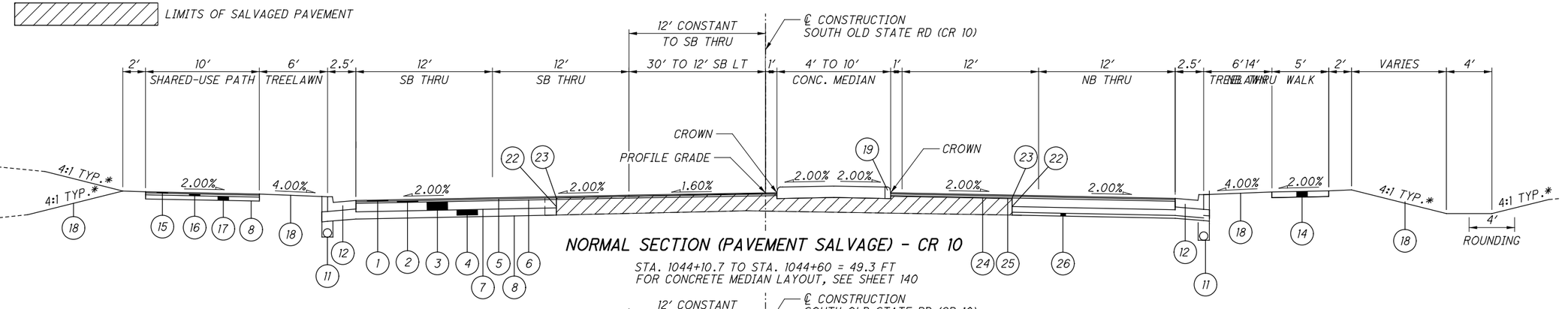
NORMAL SECTION (PAVEMENT SALVAGE) - CR 10

STA. 1037+13 TO STA. 1039+08 = 195 FT



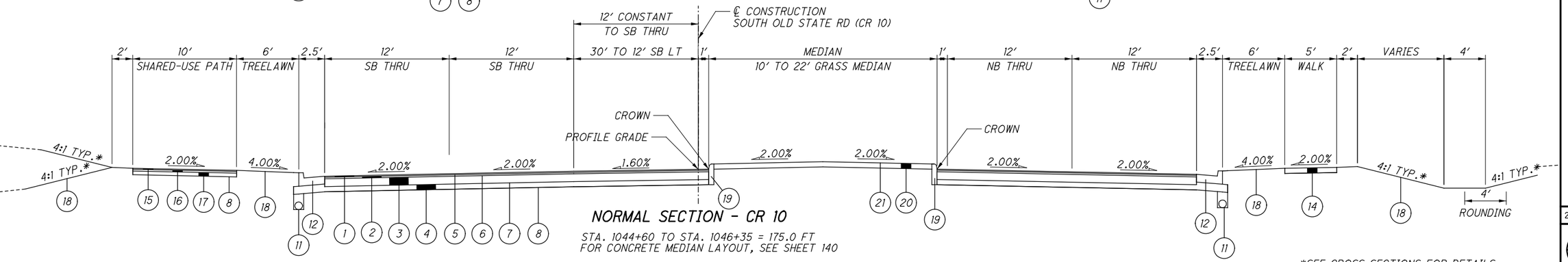
NORMAL SECTION (PAVEMENT SALVAGE) - CR 10

[18] STA. 1039+08 TO STA. 1044+10.7 = 510.7 FT
(CONCRETE MEDIAN BEGINS AT 1039+08)



NORMAL SECTION (PAVEMENT SALVAGE) - CR 10

STA. 1044+10.7 TO STA. 1044+60 = 49.3 FT
FOR CONCRETE MEDIAN LAYOUT, SEE SHEET 140



NORMAL SECTION - CR 10

STA. 1044+60 TO STA. 1046+35 = 175.0 FT
FOR CONCRETE MEDIAN LAYOUT, SEE SHEET 140

*SEE CROSS SECTIONS FOR DETAILS

TYPICAL SECTIONS

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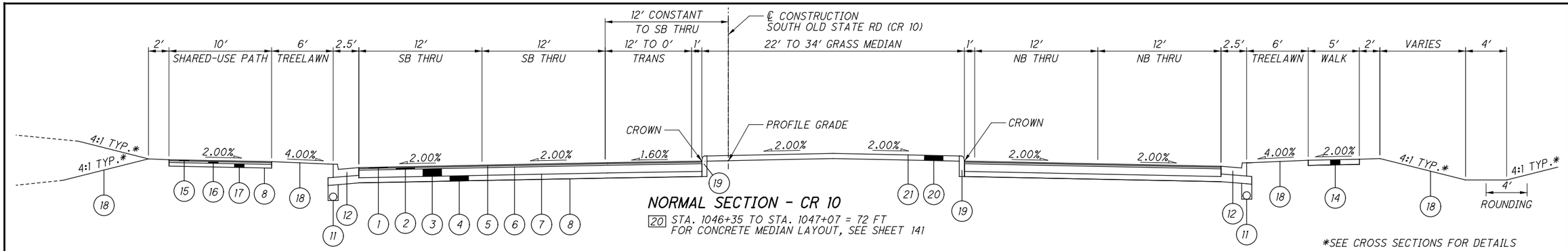
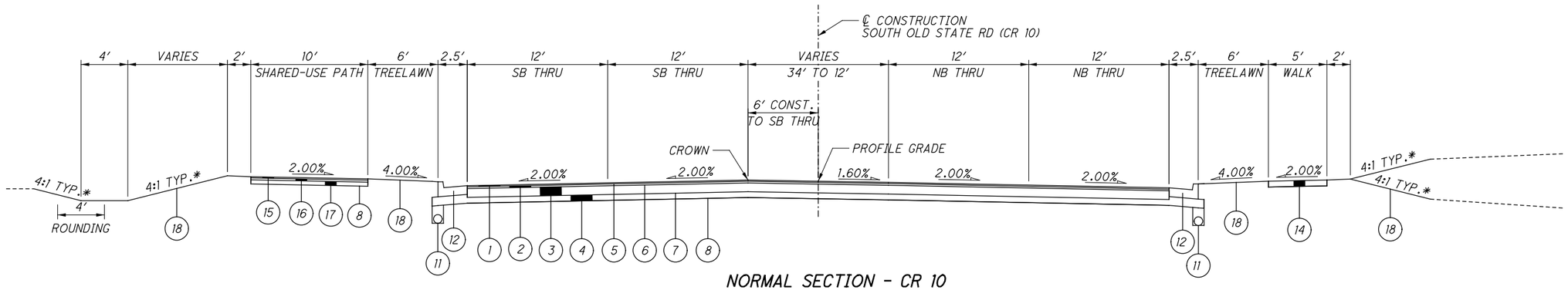


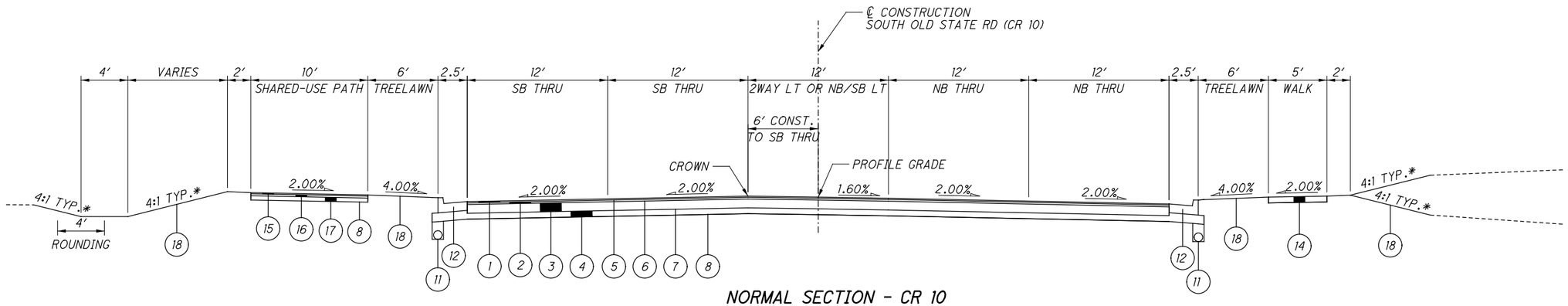
NORMAL SECTION - CR 10

20 STA. 1046+35 TO STA. 1047+07 = 72 FT
FOR CONCRETE MEDIAN LAYOUT, SEE SHEET 141



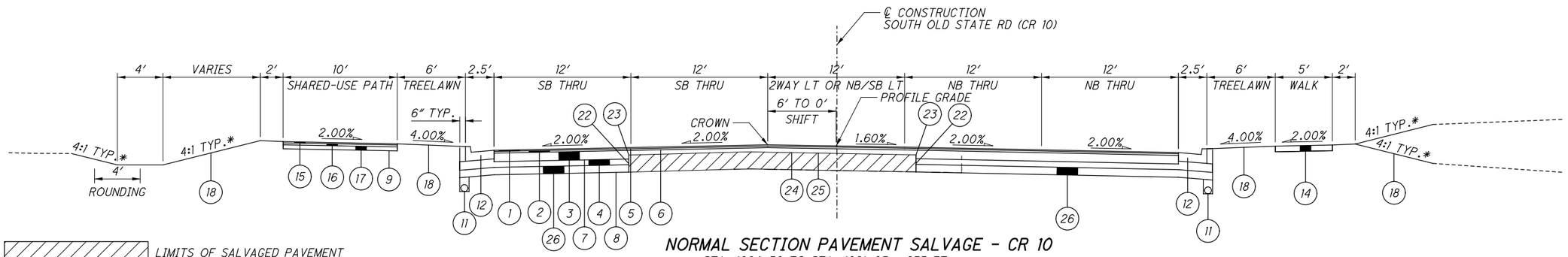
NORMAL SECTION - CR 10

STA. 1047+07 TO STA. 1053+39.2 = 632.2 FT



NORMAL SECTION - CR 10

STA. 1053+39.2 TO STA. 1084+50 = 3110.8 FT



LIMITS OF SALVAGED PAVEMENT

NORMAL SECTION PAVEMENT SALVAGE - CR 10

STA. 1084+50 TO STA. 1091+05 = 655 FT

FOR LEGEND, SEE SHEET 16

TYPICAL SECTIONS

DEL-CR10-0.90

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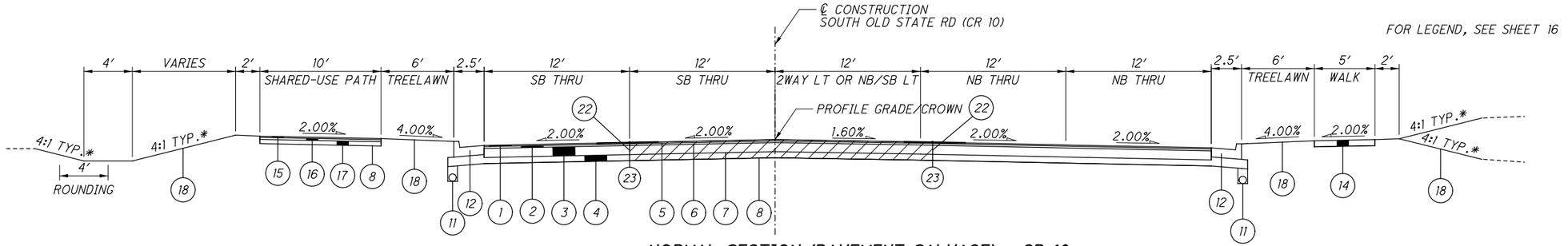
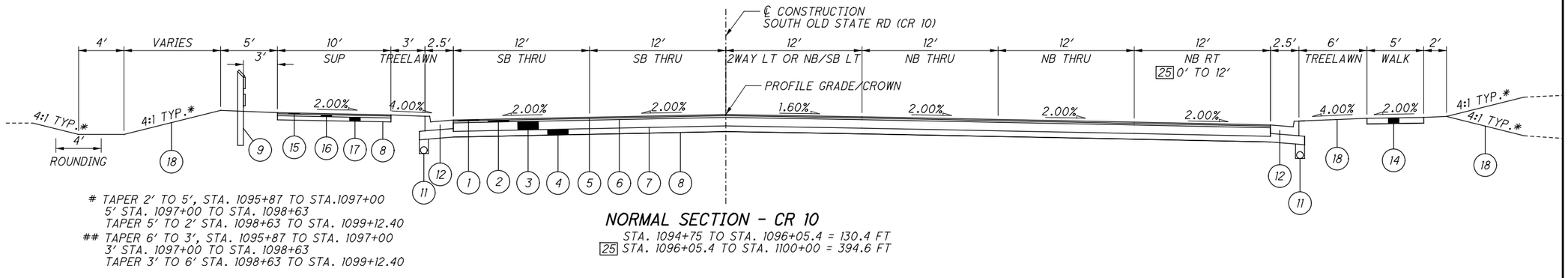


NORMAL SECTION (PAVEMENT SALVAGE) - CR 10

24 STA. 1091+05 TO STA. 1094+75 = 370 FT

*SEE CROSS SECTIONS FOR DETAILS



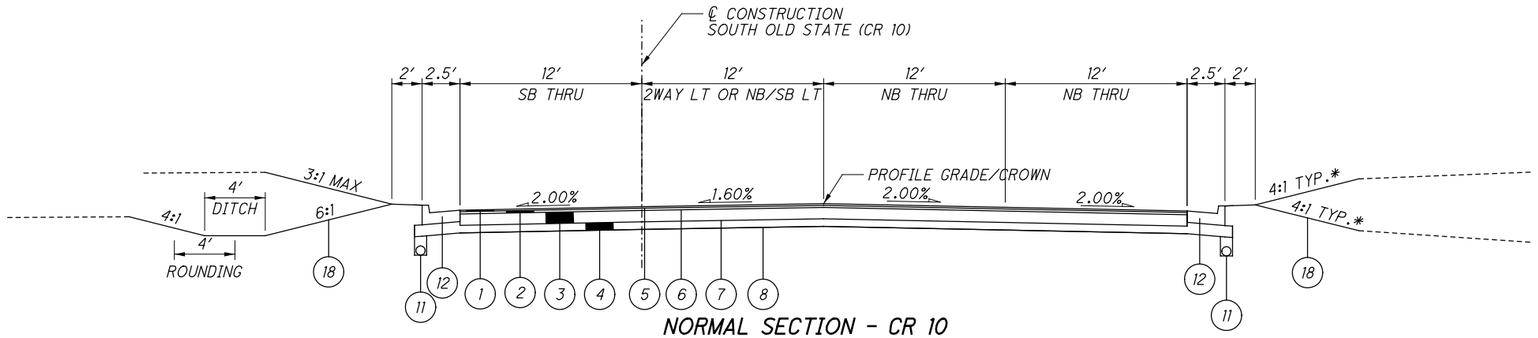
\# TAPER 2′ TO 5′, STA. 1095+87 TO STA.1097+00
5′ STA. 1097+00 TO STA. 1098+63
TAPER 5′ TO 2′ STA. 1098+63 TO STA. 1099+12.40

\## TAPER 6′ TO 3′, STA. 1095+87 TO STA. 1097+00
3′ STA. 1097+00 TO STA. 1098+63
TAPER 3′ TO 6′ STA. 1098+63 TO STA. 1099+12.40

NORMAL SECTION - CR 10

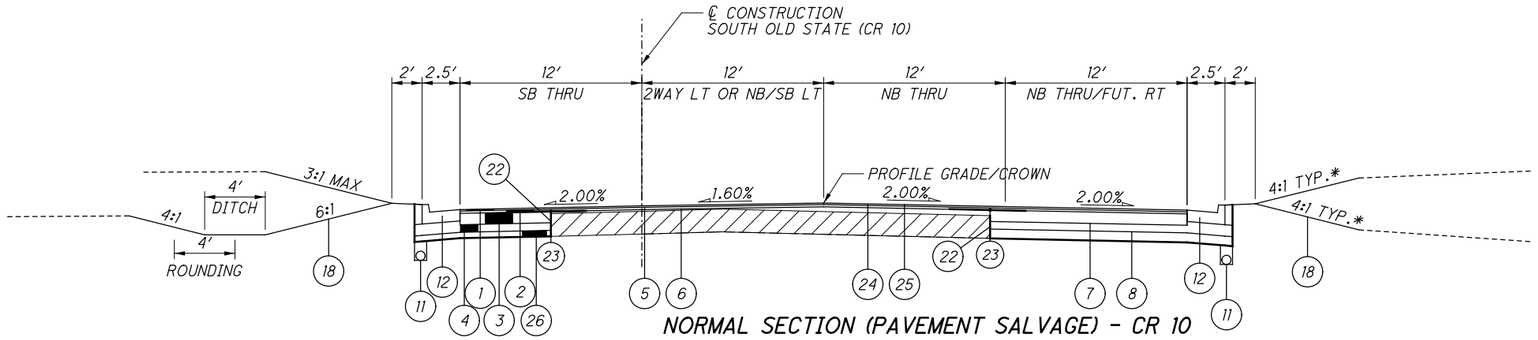
STA. 1094+75 TO STA. 1096+05.4 = 130.4 FT

25 STA. 1096+05.4 TO STA. 1100+00 = 394.6 FT



NORMAL SECTION - CR 10

STA. 1100+00 TO STA. 1104+00 = 400 FT ORANGE ROAD (TR 114) INTERSECTION



NORMAL SECTION (PAVEMENT SALVAGE) - CR 10

STA. 1104+00 TO STA. 1110+40 = 640 FT

*SEE CROSS SECTIONS FOR DETAILS

LIMITS OF SALVAGED PAVEMENT

TYPICAL SECTIONS

DEL-CR10-0.90

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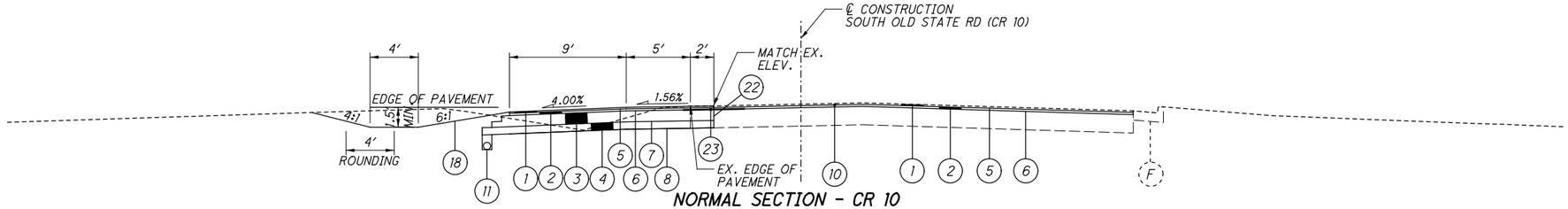
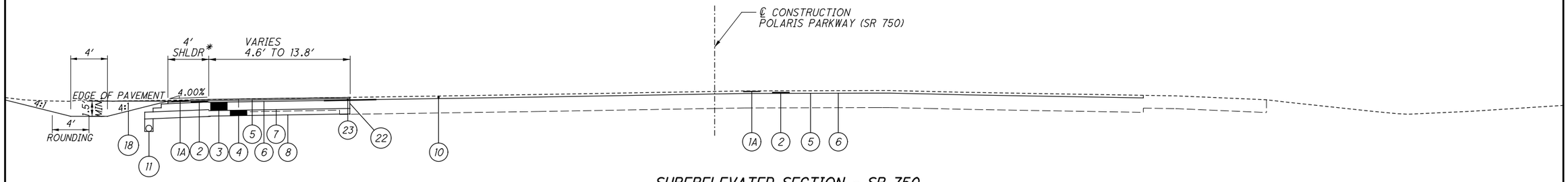
FOR LEGEND, SEE SHEET 16



NORMAL SECTION - CR 10

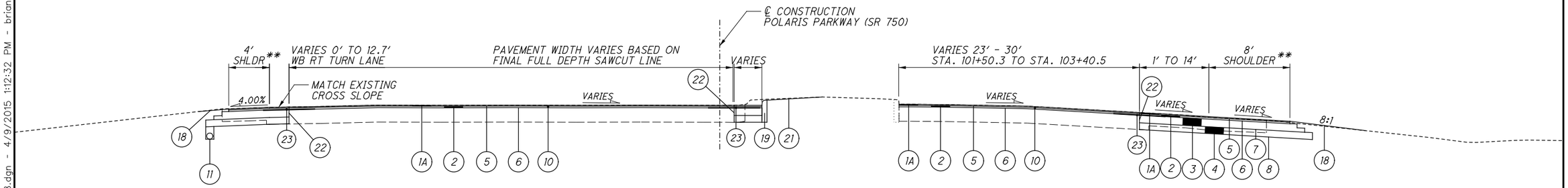
LEFT SIDE WIDENING SECTION
27 STA. 1110+40 TO STA. 1115+00 = 460 FT



SUPERELEVATED SECTION - SR 750

STA. 98+51 TO STA. 58+61.16 = 193.55 FT

* CURB AND GUTTER, TYPE 2 AROUND RADIUS RETURN, TRANSITION GUTTER PAN WIDTH FROM 4' AT STA. 58+04.75 TO 2' AT STA. 58+16.45. END 4' SHOULDER AT STA. 58+04.75

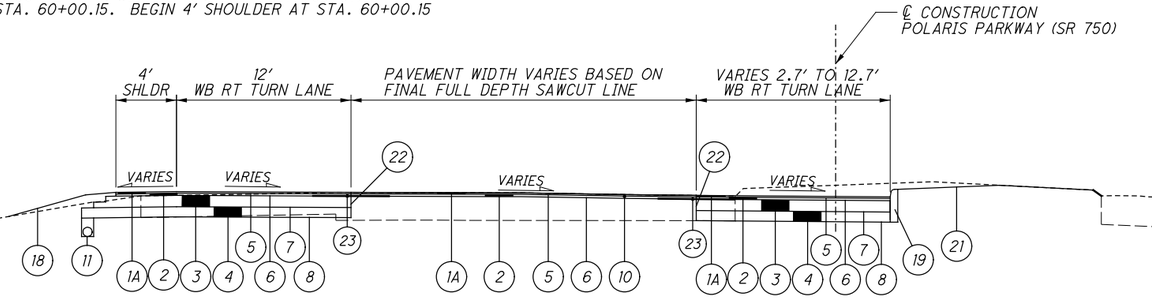


SUPERELEVATED SECTION - SR 750

STA. 59+43.75 TO STA. 61+34.05 = 190.2 FT

** CURB AND GUTTER, TYPE 2 AROUND RADIUS RETURN, TRANSITION GUTTER PAN WIDTH FROM 2' AT STA. 59+91.75 TO 4' AT STA. 60+00.15. BEGIN 4' SHOULDER AT STA. 60+00.15

** CURB AND GUTTER, TYPE 2 AROUND RADIUS RETURN, TRANSITION GUTTER PAN WIDTH FROM 2' AT STA. 59+85.05 TO 4' AT STA. 59+91.95. BEGIN 4' SHOULDER AT STA. 59+91.95 AND TRANSITION TO 8' SHOULDER AT STA. 60+02.25.



SUPERELEVATED SECTION - SR 750

STA. 61+34.05 TO STA. 66+03.35 = 469.3 FT (WB LT TURN LANE)
STA. 61+33.95 TO 69+58.25 = 824.3 FT (WB RT TURN LANE)

TYPICAL SECTIONS

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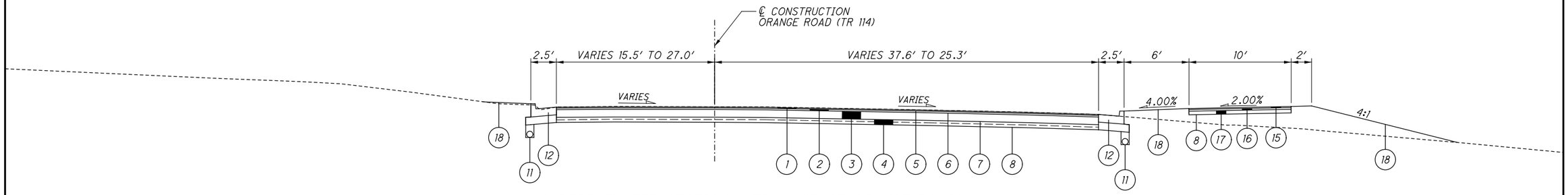
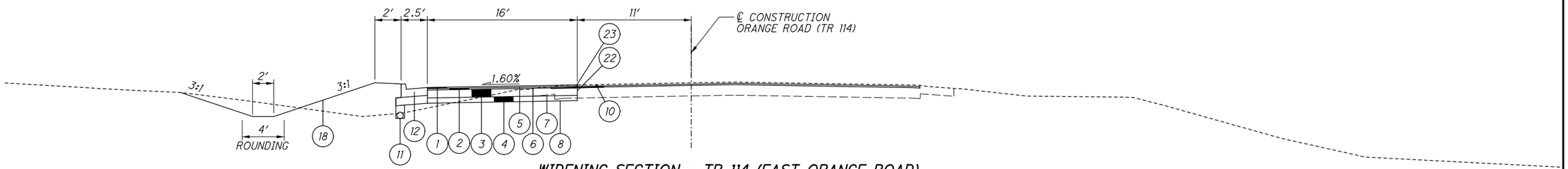
FOR LEGEND, SEE SHEET 16



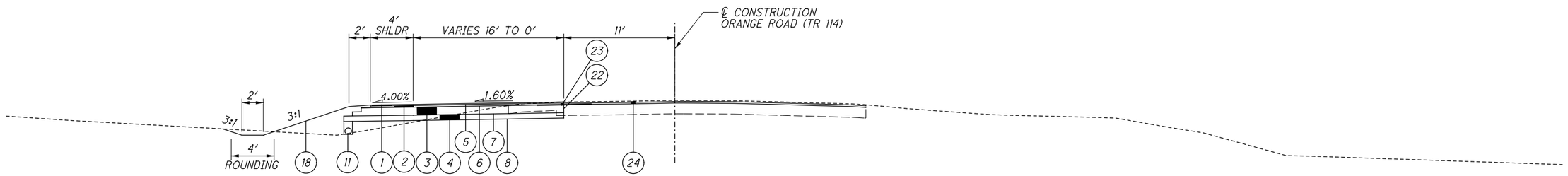
SUPERELEVATED SECTION - TR 114 (EAST ORANGE ROAD)

30 STA. 919+50 TO STA. 921+29 = 179 FT



WIDENING SECTION - TR 114 (EAST ORANGE ROAD)

31 STA. 921+29 TO STA. 922+65 = 136 FT



WIDENING SECTION - TR 114 (EAST ORANGE ROAD)

32 STA. 922+65 TO STA. 923+32 = 67 FT

TYPICAL SECTIONS

DEL-CR10-0.90

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MAINTENANCE OF TRAFFIC

1. ALL TEMPORARY TRAFFIC CONTROL (TTC) DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (CURRENT EDITION). COPIES ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION, OFFICE OF CONTRACTS, 1980 WEST BROAD STREET, COLUMBUS, OHIO 43216. NOTE: ALL DEVICES SHALL COMPLY, FOR CONDITION AND LOCATION, WITH THE CURRENT EDITION OF THE NCHRP 350 CRASH TESTING GUIDELINES.

2. CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND APPROVED BY THE ENGINEER. IF THE CONTRACTOR DOES NOT COMPLY WITH THE STANDARDS, INCLUDING THE INSTALLATION OF TEMPORARY PAVEMENT MARKINGS AND THE REMOVAL OF CONFLICTING TRAFFIC CONTROLS, THEIR PERMIT SHALL BE REVOKED AND ALL WORK SHALL BE TERMINATED. TEMPORARY PAVEMENT MARKINGS TO INCLUDE, BUT NOT LIMITED TO, CHANNELIZING LINES, EDGE LINES, AND CENTERLINES SHALL BE INSTALLED AND MAINTAINED ON ALL CONSTRUCTION OPERATIONS LASTING A MINIMUM OF 14 CALENDAR DAYS OR AS DIRECTED BY THE ENGINEER.

3. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE INSTALLED A MINIMUM OF 14 DAYS PRIOR TO CLOSURE OF A ROADWAY. THE MESSAGE SHALL ADVISE THE MOTORIST OF THE DATES, TIMES, AND DURATION OF THE CLOSURE. THE PCMS SHALL REMAIN IN PLACE FOR NO MORE THAN 7 DAYS AFTER THE START OF THE CLOSURE. SEE THE SECTION ON PCMS FOR PROGRAMMING.

4. THE CONTRACTOR SHALL GIVE ADVANCE NOTIFICATION (WRITTEN AND VERBALLY) TO THE FOLLOWING PARTIES, INFORMING THEM OF ALL UPCOMING MAINTENANCE OF TRAFFIC CHANGES ON A WEEKLY BASIS:

   a. DELAWARE COUNTY ENGINEER'S OFFICE AT 740-833-2400
   b. COLUMBUS TEMPORARY TRAFFIC CONTROL COORDINATOR AT 645-6269 OR 645-5845,
   c. COLUMBUS PAVING THE WAY PROGRAM COORDINATOR AT 645-7283 OR 645-6016,
   d. THE PROJECT ENGINEER

   NOTIFICATION SHALL INCLUDE, BUT NOT BE LIMITED TO, WHAT, WHERE, WHEN, AND HOW PEDESTRIAN AND VEHICULAR TRAFFIC WILL BE AFFECTED, AND THE TEMPORARY TRAFFIC CONTROL PROCEDURES THE CONTRACTOR IS PLANNING TO USE. THE TYPE OF TRAFFIC CHANGE SHALL DETERMINE THE LENGTH OF ADVANCE NOTIFICATION REQUIRED:

TYPE OF CLOSURE	ADVANCE NOTIFICATION NEEDED
DETOURS/ROAD CLOSURES	30-DAY NOTICE PRIOR TO CLOSURE
LANE CLOSURES LASTING TWO WEEKS OR MORE	2 WEEKS
LANE CLOSURES OF LESS THAN TWO WEEKS	3 DAYS
LANE CLOSURES OF TWO DAYS OR LESS	1 DAY

5. TYPE C STEADY-BURN OR TYPE D 360-DEGREE STEADY-BURN WARNING LIGHTS SHALL BE REQUIRED ON ALL BARRICADES, DRUMS, AND SIMILAR TRAFFIC CONTROL DEVICES IN USE AT NIGHT. ONLY 42" REFLECTORIZED CHANNELIZING DEVICES (CONES) MEETING ODOT STANDARDS SHALL BE PERMITTED FOR NIGHTTIME WORK WITH THE FOLLOWING APPROVALS

   a. THE COLUMBUS TTC COORDINATOR AT 645-6269 OR 645-5845 FOR WORK BETWEEN STATION 996+00 AND STATION 1015+42
   b. DELAWARE COUNTY ENGINEER'S OFFICE AT 740-833-2400 FOR WORK BETWEEN STATION 1015+42 AND STATION 1123+50

6. A FLASHING ARROW PANEL (48" X 96"-TYPE C) SHALL BE USED IN LANE CLOSURES AS PER THE OHIO MANUAL.

7. ALL TRENCHES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS. THE CITY OF COLUMBUS GENERAL POLICY ON STEEL PLATE USAGE DATED 11/15/2006 AND 2007 STD. DWG. 1441 SHALL APPLY BETWEEN STATION 996+00 AND STATION 1015+42

8. ACCESS FOR PEDESTRIAN AND VEHICULAR TRAFFIC TO ALL ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND SAFE MOVEMENT OF PEDESTRIANS THROUGH, AROUND, OR DETOURED AWAY FROM THE CONSTRUCTION SITE. TRAFFIC CONTROL FOR PEDESTRIAN MOVEMENT SHALL BE AS PER FIGURE 6H-28 (TA-28) OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

10. TRAFFIC OPERATIONS' PERSONNEL SHALL LOCATE AND MARK ALL UNDERGROUND TRAFFIC CONTROL CABLES.
   a. FOR WORK BETWEEN STATION 996+00 AND STATION 1015+42, THE COLUMBUS TRAFFIC OPERATIONS SHOP SHALL BE NOTIFIED 645-7393 (FAX 645-5967). THE SIGNAL OPERATION ENGINEER (645-6418) SHALL BE NOTIFIED SIX (6) WEEKS IN ADVANCE FOR SIGNAL REVISIONS OR POLE RELOCATIONS.
   b. FOR WORK BETWEEN 1015+42 AND STATION 1123+50, THE DELAWARE COUNTY ENGINEER'S OFFICE SHALL BE NOTIFIED AT 740-833-2400

   ALL NOTIFICATIONS SHALL BE MADE AT LEAST FORTY-EIGHT (48) HOURS (EXCLUDING SAT. & SUN.) PRIOR TO THE BEGINNING OF ANY WORK WITHIN 450 FEET OF ANY SIGNALIZED INTERSECTION(S) OR WITHIN ANY POSTED AREA WHERE UNDERGROUND SIGNAL CABLE IS PRESENT. NOTIFICATIONS SHALL BE MADE SIX (6) WEEKS IN ADVANCE FOR SIGNAL REVISIONS OR POLE RELOCATIONS.

11. NO EXCAVATION SHALL BE MADE WITHIN FIVE (5) FEET OF ANY POLE THAT SUPPORTS TRAFFIC SIGNAL DISPLAYS OR SIGNS BY MAST ARM OR SIGNAL SPAN. EXCAVATION WITHIN EIGHT (8) FEET, BUT MORE THAN FIVE (5) FEET SHALL REQUIRE ADDITIONAL SUPPORT (DOWN GUY, HEAD GUY, BASE GUY, ETC.). THE CONTRACTOR SHALL CONTACT THE APPROPRIATE AGENCY LISTED BELOW AT LEAST FORTY-EIGHT (48) HOURS (EXCLUDING SAT. & SUN.) PRIOR TO THE BEGINNING OF SUCH EXCAVATION SO THAT THE OWNER CAN APPROVE THE STABILIZATION SETUP BY THE CONTRACTOR. PAYMENT FOR STABILIZATION WILL BE MADE UNDER ITEM

   POLARIS PARKWAY - THE CONTRACTOR SHALL CONTACT SIGNAL OPERATION PERSONNEL AT 645-0423 (CELL 419-4501) AT LEAST FORTY-EIGHT (48) HOURS (EXCLUDING SAT. & SUN.) IF UNABLE TO MAKE CONTACT THROUGH ABOVE NUMBERS, CALL 645-7393.

   POWELL RD, WILSHIRE BLVD, ORANGE RD - THE CONTRACTOR SHALL CONTACT THE DELAWARE COUNTY ENGINEER'S OFFICE, 740-833-2400

12. WHEN ANY TRAFFIC CONTROL DEVICE, CONDUIT, OR CABLE IS DAMAGED, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING SIGNAL OPERATION PERSONNEL:

   POLARIS PARKWAY - COLUMBUS SIGNAL OPERATIONS AT 645-0423 (CELL 419-4501) AT LEAST FORTY-EIGHT (48) HOURS (EXCLUDING SAT. & SUN.) IF UNABLE TO MAKE CONTACT THROUGH ABOVE NUMBERS, CALL 645-7393.

   POWELL RD, WILSHIRE BLVD, ORANGE RD - DELAWARE COUNTY ENGINEER'S OFFICE, 740-833-2400

13. THE CONTRACTOR SHALL MAINTAIN ALL PERMANENT TRAFFIC CONTROLS NOT IN CONFLICT WITH THE TEMPORARY TRAFFIC CONTROLS THROUGHOUT THIS PROJECT. PERMANENT TRAFFIC CONTROLS MAY BE TEMPORARILY RELOCATED OR COVERED, AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL ASSUME ALL LIABILITY FOR MISSING, DAMAGED, OR IMPROPERLY PLACED SIGNS.

14. ANY WORK DONE BY THE CITY OF COLUMBUS OR THE DELAWARE COUNTY ENGINEER'S OFFICE, INCLUDING INSTALLATION, RELOCATION, REMOVAL AND/OR REPLACEMENT OF TEMPORARY TRAFFIC CONTROL DEVICES AS A RESULT OF WORK DONE BY THE CONTRACTOR OR AS A RESULT OF NEGLIGENCE OF THE CONTRACTOR, SHALL BE AT THE CONTRACTORS' EXPENSE.

15. THE CONTRACTOR SHALL PROVIDE ONE (1) LAW ENFORCEMENT OFFICER FOR THE PURPOSE OF CONTROLLING TRAFFIC WHEN WORK ACTIVITY IS TAKING PLACE WITHIN ANY SIGNALIZED INTERSECTION. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR THESE SERVICES, AT THE CONTRACTOR'S EXPENSE, AS FOLLOWS:

   POLARIS PARKWAY - THE COLUMBUS POLICE DIVISION (614)-645-4795

   POWELL RD, WILSHIRE BLVD, ORANGE RD - THE DELAWARE COUNTY SHERIFF'S OFFICE, LT. SHELLY FANN, (740)-833-2831

   THE L.E.O. SHALL CONFORM TO ALL PERMIT CONDITIONS THAT APPLY TO THE CONTRACTOR.

16. UNLESS CHANGED BY THE TRANSPORTATION DIVISION SIGNAL INSPECTOR, THE VIDEO DETECTION CAMERAS SHALL BE INSTALLED ON THE POLES SHOWN ON THE PLANS. CONNECT THE VIDEO DETECTION SYSTEM TO THE PHASE SHOWN ON THE PLANS.

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

SEQUENCE OF CONSTRUCTION

MAKE-READY

TWO WEEKS PRIOR TO BEGINNING ANY WORK, THE CONTRACTOR SHALL PLACE THE PORTABLE CHANGEABLE MESSAGE SIGNS AS DESCRIBED BELOW.

PRIOR TO BEGINNING PHASE 1 CONSTRUCTION, THE CONTRACTOR SHALL PLACE ALL TEMPORARY PAVEMENT BETWEEN WYNSTONE DR AND AURORA AVE, AS SHOWN ON THE PLANS.

THE CONTRACTOR MAY PERFORM OTHER TASKS DURING THIS PERIOD THAT DO NOT REQUIRE LONG TERM CLOSURE OF EXISTING TRAFFIC LANES.

ALL TRAFFIC LANES SHALL BE FULLY OPEN TO TRAFFIC FROM 6:00 TO 9:00 A.M. AND 4:00 TO 6:00 P.M., MONDAY THROUGH FRIDAY ON OLD STATE ROAD AND ALL INTERSECTING STREETS. ONE LANE MAY BE CLOSED TO TRAFFIC DURING WORKING HOURS.

TWO-WAY, ONE-LANE TRAFFIC MAY BE MAINTAINED AT OTHER TIMES DURING CONSTRUCTION OPERATIONS ON OLD STATE ROAD AND ALL INTERSECTING STREETS, EXCEPT POLARIS PKWY, POWELL RD, OR E. ORANGE RD. PER FIGURE TA-10 TYPICAL APPLICATION 10 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. A UNIFORMED LAW ENFORCEMENT OFFICER (LEO) SHALL BE SUBSTITUTED FOR EACH FLAGGER POSITION SHOWN AND SHALL BE PRESENT WHENEVER TWO-WAY, ONE-LANE OPERATION IS IN EFFECT.

PHASE 1

SHIFT TRAFFIC ONTO THE TEMPORARY PAVEMENT AS SHOWN ON THE PLANS. ADJUST ALL SIGNAL HEADS, AND SIGNAL DETECTION AS SHOWN. ALL SIGNAL WORK SHALL BE COMPLETED ON THE DAY PHASE 1 OPERATION BEGINS.

ALL TRAFFIC LANES SHALL BE FULLY OPEN TO TRAFFIC FROM 6:00 TO 9:00 A.M. AND 4:00 TO 6:00 P.M., MONDAY THROUGH FRIDAY ON OLD STATE ROAD AND ALL INTERSECTING STREETS. ONE LANE MAY BE CLOSED TO TRAFFIC DURING WORKING HOURS.

TWO-WAY, ONE-LANE TRAFFIC MAY BE MAINTAINED AT OTHER TIMES DURING CONSTRUCTION OPERATIONS ON OLD STATE ROAD AND ALL INTERSECTING STREETS EXCEPT POLARIS PKWY, PER FIGURE TA-10 TYPICAL APPLICATION 10 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. A UNIFORMED LAW ENFORCEMENT OFFICER (LEO) SHALL BE SUBSTITUTED FOR EACH FLAGGER POSITION SHOWN AND SHALL BE PRESENT WHENEVER TWO-WAY, ONE-LANE OPERATION IS IN EFFECT.

THE CONTRACTOR SHALL PROVIDE ONE LAW ENFORCEMENT OFFICERS FOR THE PURPOSE OF CONTROLLING TRAFFIC IN SIGNALIZED INTERSECTIONS WHEN SIGNAL MODIFICATIONS ARE TAKING PLACE. SEE NOTE #15 ABOVE FOR CONTACT INFORMATION.

COMPLETE THE WESTBOUND LANE ADDITION AND THE EASTBOUND CURB WORK ON POLARIS PARKWAY.

COMPLETE THE WESTBOUND LANE ADDITION ON EAST ORANGE ROAD.

SEE SHEET 27 FOR STAGED WORK WITHIN THE POLARIS AND POWELL ROAD INTERSECTION.

WORK NORTH OF STATION 1084+50

DUE TO RESTRICTIONS WITHIN THE INTERSECTION OF ORANGE RD AND OLD STATE RD AND ACCESS LIMITATIONS TO THE ORANGE TWP FIRE STATION, WORK BETWEEN STA 1084+50 AND 1110+50 IS BROKEN UP INTO PHASE 1A AND PHASE 1B. IT IS THE INTENT THAT THIS WORK BE COMPLETED PRIOR TO BEGINNING PHASE 2 CONSTRUCTION. THE SEQUENCE OF CONSTRUCTION SHALL BE AS FOLLOWS:

PHASE 1A:

1. BEGINNING FROM THE TIME THAT THE NORTHBOUND AND/OR SOUTHBOUND LEFT TURN LANES ON OLD STATE RD AT ORANGE RD ARE RESTRICTED. THE TOP PAVING COURSE SHALL NOT BE APPLIED UNTIL THE COMPLETION OF CONSTRUCTION PHASE 2.
2. THE EAST APPROACH OF ORANGE ROAD SHALL BE COMPLETED OVER ONE WEEKEND WITHIN THIS TIME PERIOD.

PHASE 1B:

1. BEGINNING FROM THE TIME THAT THE NORTHBOUND TRAFFIC IS SWITCHED FROM PHASE 1A TO PHASE 1B. THE TOP PAVING COURSE SHALL NOT BE APPLIED UNTIL THE COMPLETION OF CONSTRUCTION PHASE 2.
2. THE WEST APPROACH OF ORANGE ROAD SHALL BE COMPLETED OVER ONE WEEKEND WITHIN THIS TIME PERIOD.
3. AT THE END OF PHASE 1B, ALL PAVEMENT SHALL BE FULLY OPENED TO TRAFFIC. THE CONTRACTOR SHALL MAINTAIN TRAFFIC ON THE INTERMEDIATE PAVEMENT COURSE (REMOVING THE PHASE 1B MARKINGS) BY REPLICATING THE PERMANENT PAVEMENT MARKINGS WITH TEMPORARY MARKINGS. THE PAVEMENT SURFACE COURSE AND PERMANENT PAVEMENT MARKINGS SHALL NOT BE APPLIED UNTIL THE END OF CONSTRUCTION PHASE 2. PHASES 1A AND 1B SHALL BE COMPLETED WITHIN 90 DAYS AND SHALL CONSTITUTE AN INTERIM COMPLETION DATE. LIQUIDATED DAMAGES IN THE AMOUNT OF $1000 PER DAY OR PART OF A DAY THAT THE ROADWAY IS NOT FULLY OPEN TO TRAFFIC.
   ALL WORK ON PHASES 1A AND 1B SHALL TAKE PLACE DURING THE OLENTANGY LOCAL SCHOOL DISTRICT SUMMER BREAK.

PHASE 2

SHIFT TRAFFIC ONTO THE COMPLETED NORTHBOUND LANES AS SHOWN ON THE PLANS. ADJUST ALL SIGNAL HEADS, AND SIGNAL DETECTION AS SHOWN. ALL SIGNAL WORK SHALL BE COMPLETED ON THE DAY PHASE 2 OPERATION BEGINS.

ALL TRAFFIC LANES SHALL BE FULLY OPEN TO TRAFFIC FROM 6:00 TO 9:00 A.M. AND 4:00 TO 6:00 P.M., MONDAY THROUGH FRIDAY ON OLD STATE ROAD AND ALL INTERSECTING STREETS. ONE LANE MAY BE CLOSED TO TRAFFIC DURING WORKING HOURS.

TWO-WAY, ONE-LANE TRAFFIC MAY BE MAINTAINED AT OTHER TIMES DURING CONSTRUCTION OPERATIONS ON OLD STATE ROAD AND ALL INTERSECTING STREETS EXCEPT POLARIS PKWY, PER FIGURE TA-10 TYPICAL APPLICATION 10 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. A UNIFORMED LAW ENFORCEMENT OFFICER (LEO) SHALL BE SUBSTITUTED FOR EACH FLAGGER POSITION SHOWN AND SHALL BE PRESENT WHENEVER TWO-WAY, ONE-LANE OPERATION IS IN EFFECT.

THE CONTRACTOR SHALL PROVIDE ONE LAW ENFORCEMENT OFFICERS FOR THE PURPOSE OF CONTROLLING TRAFFIC IN SIGNALIZED INTERSECTIONS WHEN MODIFICATIONS ARE TAKING PLACE. SEE NOTE #15 ABOVE FOR CONTACT INFORMATION.

THE EXTENSION OF THE WESTBOUND LEFT TURN LANE ON POLARIS PARKWAY SHALL BE COMPLETED.

SEE SHEET 27 FOR STAGED WORK WITHIN THE POLARIS AND POWELL INTERSECTIONS.

FINAL PAVING AND CLEANUP

THE CONTRACTOR SHALL APPLY THE SURFACE PAVEMENT COURSE, PAVEMENT MARKINGS, AND PERMANENT SIGNS AND COMPLETE ALL TRAFFIC SIGNAL WORK. TEMPORARY SIGNAL DETECTION SHALL REMAIN IN SERVICE UNTIL THE PERMANENT DETECTION IS FUNCTIONAL.

ALL TRAFFIC LANES SHALL BE FULLY OPEN TO TRAFFIC FROM 6:00 TO 9:00 A.M. AND 4:00 TO 6:00 P.M., MONDAY THROUGH FRIDAY ON SOUTH OLD STATE ROAD AND ALL INTERSECTING STREETS. ONE LANE MAY BE CLOSED TO TRAFFIC DURING WORKING HOURS.

TWO-WAY, ONE-LANE TRAFFIC MAY BE MAINTAINED AT OTHER TIMES DURING CONSTRUCTION OPERATIONS ON OLD STATE ROAD AND ALL INTERSECTING STREETS EXCEPT POLARIS PKWY, PER FIGURE TA-10 TYPICAL APPLICATION 10 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. A UNIFORMED LAW ENFORCEMENT OFFICER (LEO) SHALL BE SUBSTITUTED FOR EACH FLAGGER POSITION SHOWN AND SHALL BE PRESENT WHENEVER TWO-WAY, ONE-LANE OPERATION IS IN EFFECT.

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MAINTENANCE OF TRAFFIC GENERAL NOTES

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THE CONTRACTOR SHALL PROVIDE ONE LAW ENFORCEMENT OFFICERS FOR THE PURPOSE OF CONTROLLING TRAFFIC IN SIGNALIZED INTERSECTIONS WHEN SIGNAL MODIFICATIONS ARE TAKING PLACE. SEE NOTE #15 ABOVE FOR CONTACT INFORMATION.

ITEM 632 VIDEO DETECTION SYSTEM, AS PER PLAN

THE CONTRACTOR SHALL SUPPLY AND INSTALL A TEMPORARY VIDEO DETECTION SYSTEM FOR THE PURPOSE OF VEHICULAR DETECTION AND THE EXTENSION OF A LOCAL PHASE GREEN INTERVAL. THE VIDEO DETECTION SYSTEM SHALL CONSIST OF THE ITERIS VERSICAM FLEX RACK-MOUNT SYSTEM, ITERIS MODEL NO. VCFLEXSM-PAK, INCLUDING THE VERSICAM FLEX INTEGRATED CAMERA PROCESSOR, SHELF-MOUNT INTERFACE COMMUNICATION CONTROLLER, POWER CABLE, MONITOR CABLE, MATING CONNECTOR, AND MOUSE; MOUNTING BRACKET ASSEMBLY, ITERIS MODEL NO. CAMBRKT4; EDCO SURGE PROTECTOR, EDCO PART NO. HVCP-48; AND IMSA 39-2, 3-PAIR, 19AWG, STRANDED COMMUNICATION CABLE OF AN APPROPRIATE LENGTH TO RUN FROM THE CAMERA AND CONNECT TO THE INTERFACE COMMUNICATION CONTROLLER IN THE CONTROLLER CABINET.

THIS SYSTEM SHALL BE USED THROUGHOUT THE PROJECT DURATION UNTIL ALL PROPOSED SENSORS (SIDESTREET, ALL MAINLINE NEAR THROUGH FOR NON-COORDINATED SIGNALS AND, IF PRESENT, DUAL MAINLINE LEFT TURNS) ARE FUNCTIONING FOR THAT GIVEN APPROACH. THE CONTRACTOR SHALL HAVE THIS SYSTEM OPERATING WHEN ANY APPROACH SENSOR THAT THE UNIT IS REPLACING HAS BEEN DESTROYED OR RENDERED INOPERABLE FOR THE CURRENT TRAFFIC FLOW PATTERN. THE SYSTEM NEED NOT OPERATE IF THE EXISTING OR PROPOSED SENSORS ARE OPERATING AND DETECTING VEHICLES. THE CAMERA SHALL BE BRACKET MOUNTED AND BANDED TO A FAR-SIDE POLE. THE "U" BRACKET OF THE MOUNTING BRACKET ASSEMBLY SHALL BE REMOVED. ALTERNATE POSITIONING OF THE CAMERA SHALL BE PERMITTED ONLY WITH APPROVAL BY THE DIVISION OF PLANNING AND OPERATIONS (POLARIS PKWY) OR THE DELAWARE COUNTY ENGINEER'S OFFICE (POWELL RD, WILSHIRE BLVD, ORANGE RD). THE CAMERA SHALL BE MOUNTED AS HIGH AS POSSIBLE AND AIMED SO THE SYSTEM DETECTS INCOMING VEHICLES AT A DISTANCE FROM THE STOP LINE BACK 100 TO 200 FEET FOR THE MAINLINE AND 30 TO 50 FEET FOR THE SIDESTREET. PERSONNEL FROM THE DIVISION OF PLANNING AND OPERATIONS SHALL APPROVE THE FINAL POSITIONING OF THIS CAMERA. THE COMMUNICATION CABLE SHALL BE TEMPORARILY ROUTED OVER EXISTING OR PROPOSED SPAN AND ATTACHED BY USING PLASTIC TIE WRAPS. IN CASES WHERE NO SPAN EXISTS, THE CONTRACTOR SHALL INSTALL 1/4" MESSENGER WIRE. THE INSTALLATION AND REMOVAL OF MESSENGER WIRE SHALL BE INCIDENTAL TO THIS ITEM.

WHEN THE USE OF THE VIDEO DETECTION SYSTEM IS NO LONGER REQUIRED, THE CONTRACTOR SHALL REMOVE ALL COMPONENTS OF THE SYSTEM, INCLUDING COMMUNICATION CABLE, AND DELIVER THEM TO THE DELAWARE COUNTY ENGINEER'S OFFICE AT 50 CHANNING ST, DELAWARE, OH 43015, ATTN: NATE MEYER. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY COMPONENT NOT FUNCTIONING PROPERLY BEFORE DELIVERY. THE COUNTY SHALL INSPECT THE CONDITION OF ALL COMPONENTS BEING PRESENTED FOR DELIVERY. NO DAMAGED COMPONENT WILL BE ACCEPTED, AND NO COMPONENT SHALL BE CONSIDERED DELIVERED UNTIL THE COUNTY ISSUES A RECEIPT TO THE CONTRACTOR ACKNOWLEDGING ACCEPTANCE OF DELIVERY. REMOVAL, REPAIR, AND DELIVERY OF THE VIDEO DETECTION SYSTEM COMPONENTS SHALL BE INCIDENTAL TO THIS ITEM.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A PORTABLE CHANGEABLE MESSAGE SIGN (PCMS), FOR USE AS OUTLINED BELOW. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF ODOT APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THE APPROVED LIST OF PORTABLE CHANGEABLE MESSAGE SIGNS CAN BE FOUND ON THE ODOT WEBSITE BY CLICKING ON THE SERVICES MENU, THEN CLICKING ON MATERIALS MANAGEMENT. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 650 FT. AND 475 FT., RESPECTIVELY. EITHER CLASS A OR CLASS B UNITS MAY BE USED FOR THIS APPLICATION.

FOR A TWO WEEK PERIOD PRIOR TO BEGINNING THE MAKE READY WORK, THE CONTRACTOR SHALL PLACE A PCMS AT APPROXIMATELY STATION 1015+00 (OR AS DIRECTED BY THE ENGINEER) FACING NORTHBOUND TRAFFIC AND AT APPROXIMATELY 1095+00 (OR AS DIRECTED BY THE ENGINEER) FACING SOUTHBOUND TRAFFIC. THE SIGNS SHALL BE PROGRAMED TO READ:

WORK BEGINS AUG 15	**CONSIDER ALTERNATE ROUTES**

ALL DATES SHALL BE KEPT CURRENT. THESE SIGNS SHALL BE REMOVED WITHIN ONE WEEK AFTER MAKE-READY WORK BEGINS

FOR A TWO WEEK PERIOD PRIOR TO BEGINNING OF PHASE 1 WORK, THE CONTRACTOR SHALL PLACE A PCMS AT APPROXIMATELY STATION 1015+00 (OR AS DIRECTED BY THE ENGINEER) FACING NORTHBOUND TRAFFIC AND AT APPROXIMATELY 1095+00 (OR AS DIRECTED BY THE ENGINEER) FACING SOUTHBOUND TRAFFIC. THE SIGNS SHALL BE PROGRAMED TO READ:

TRAFFIC PATTERN CHANGES	**AUG 15**

ALL DATES SHALL BE KEPT CURRENT. THESE SIGNS SHALL BE REMOVED WITHIN ONE WEEK AFTER PHASE 1 WORK BEGINS.

FOR A TWO WEEK PERIOD PRIOR TO BEGINNING OF PHASE 2 WORK, THE CONTRACTOR SHALL PLACE A PCMS AT APPROXIMATELY STATION 1015+00 (OR AS DIRECTED BY THE ENGINEER) FACING NORTHBOUND TRAFFIC AND AT APPROXIMATELY 1095+00 (OR AS DIRECTED BY THE ENGINEER) FACING SOUTHBOUND TRAFFIC. THE SIGNS SHALL BE PROGRAMED TO READ:

TRAFFIC PATTERN CHANGES	**AUG 15**

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS

A) PROPOSED TRAFFIC SIGNAL INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PROPOSED TRAFFIC SIGNAL DEVICES UNDER THE FOLLOWING CONDITIONS FROM THE TIME OF INSTALLATION UNTIL THE DEVICE HAS BEEN ACCEPTED BY THE TRANSPORTATION DIVISION.

THE CONTRACTOR SHALL PROVIDE TWO CONTACT PERSONS WHO CAN RECEIVE ALL DEVICE OUT-OF-SERVICE CALLS THAT FALL UNDER THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL DISPATCH MAINTENANCE PERSONNEL TO CORRECT THE PROBLEM. THE CONTRACTOR SHALL PROVIDE THIS DIVISION AND THE PROJECT ENGINEER WITH ADDRESSES AND PHONE NUMBERS OF THESE CONTACT PERSONS. MAINTENANCE PERSONNEL MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS CONTINUOUSLY AVAILABLE TWENTY-FOUR (24) HOURS A DAY AND SEVEN (7) DAYS A WEEK. THE CONTRACTOR SHALL PROVIDE MAINTENANCE SERVICE ENTIRELY WITH HIS PERSONNEL.

THE CONTRACTOR SHALL CORRECT ALL BULB OUTAGES, DEVICE MALFUNCTIONS OF ANY TYPE, INTERNAL CABINET POWER LOSES, SPAN OR CABLE PROBLEMS AND MISALIGNED OR DAMAGED VEHICULAR OR PEDESTRIAN SIGNAL HEADS WITHIN TWO (2) HOURS AFTER THE CONTRACTOR'S CONTACT PERSON HAS BEEN NOTIFIED OF ANY ONE OF THE ABOVE. IN THE EVENT A NEW SIGNAL DEVICE IS DAMAGED PRIOR TO ACCEPTANCE, THE DAMAGED DEVICE EXCEPT POLES SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE MAINTIAINING AGENCY. ANY DAMAGED CABINET ASSEMBLY DEVICE IF REPAIRED SHALL BE TESTED ONCE AGAIN BY THIS DIVISION BEFORE THE DEVICE CAN BE INSTALLED.

IN THE EVENT OF A LOSS OF POWER TO THE SIGNAL INDICATIONS OTHER THAN AN ELECTRIC COMPANY GENERAL POWER OUTAGE, THE CONTRACTOR AT HIS EXPENSE SHALL IMMEDIATELY TAKE ACTION [WITHIN 30 MINUTES] TO PROPERLY ERECT TEMPORARY STOP SIGN(S) AND PROVIDE POLICE OFFICER(S) TO DIRECT TRAFFIC UNTIL THE SIGNAL IS BACK ON "FLASH" OR OPERATING PROPERLY.

IF A TRAFFIC STRAIN, SUPPORT OR PEDESTAL POLE IS DAMAGED AND THAT DAMAGE CAUSED POLE INSTABILITY, THEN THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION (WITHIN 2 HOURS) TO STABILIZE IT. THE CONTRACTOR SHALL STILL BE RESPONSIBLE FOR PROVIDING THE PROJECT WITH A NEW UNDAMAGED POLE.

WHERE OUT-OF-SERVICE CALLS ARE THE DIRECT RESULT OF A VEHICULAR ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COLLECTION OF ANY COMPENSATION FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE TO THE CONTRACTOR'S MATERIALS.

WHERE THE CONTRACTOR HAS FAILED TO RESPOND OR CANNOT RESPOND TO AN OUT-OF-SERVICE CALL WITHIN THE TIME PERIOD SPECIFIED ABOVE AT LOCATIONS UNDER HIS RESPONSIBILITY, THE MAINTAINING AGENCY MAY TAKE ACTION AS IT DEEMS NECESSARY TO CORRECT THE SITUATION. THIS ACTION MAY INCLUDE CONTROLLING THE INTERSECTION USING LEOS, COMPLETELY REMOVING OR REPLACING ANY MALFUNCTIONING TRAFFIC CONTROL DEVICE, AND/OR INSTALLING ANY DEVICE(S) REQUIRED TO RETURN THE INTERSECTION TO REGULAR SIGNAL OPERATION. ALL COSTS ASSOCIATED WITH THESE ACTIONS SHALL BE BILLED DIRECTLY TO THE CONTRACTOR AND NOT INCLUDED IN ITEM 614 MAINTAINING TRAFFIC.

ANY NON-OPERATING VEHICULAR OR PEDESTRIAN SIGNAL HEAD OR PUSHBUTTON SHALL BE COVERED AS REFERENCED TO IN THESE PLANS. ALL SIGNAL HEADS WHILE COVERED SHALL BE DARK BY DISCONNECTING POWER TO THE SIGNAL INDICATIONS. NO COVERED HEAD SHALL BLOCK THE VIEW OF AN OPERATING HEAD. A MINIMUM OF TWO (2) VEHICULAR SIGNAL HEADS PER TRAVELLED DIRECTION (SPACED 8' APART MINIMUM AND 12' MAXIMUM) SHALL BE OPERATING AT ALL TIMES. NO EXCEPTIONS!

B) TEMPORARY CONTROLLER OR TRAFFIC SIGNALS

IN ADDITION TO ITEM 614.10, THE FOLLOWING SHALL APPLY.

IF THE CONTRACTOR IS REQUIRED TO ERECT AND/OR INSTALL ANY TEMPORARY TRAFFIC CONTROL DEVICE OR TEMPORARY SIGNAL/SUPPORT POLE THAT IS NOT SPECIFIED IN THESE PLANS, THEN THE CONTRACTOR SHALL SUBMIT THE DESIGN CHANGE TO THE CITY OF COLUMBUS, TRANSPORTATION DIVISION, FOR APPROVAL PRIOR TO THEIR INSTALLATION. THIS DIVISION ALSO RESERVES THE RIGHT TO MAKE OR HAVE THE CONTRACTOR MAKE CHANGES TO THE TRAFFIC SIGNAL OPERATION.

IF THE CONTRACTOR NEEDS TO INSTALL A TEMPORARY CONTROLLER AND/OR A TS1 CABINET ASSEMBLY AT ANY INTERSECTION, THEN THE EQUIPMENT SHALL MEET NEMA STANDARDS TS1-1989 OR TS2-1998 (TYPE 2) AND SHALL BE APPROVED BY:

- POLARIS PARKWAY - THE CITY OF COLUMBUS, TRANSPORTATION DIVISION.
- POWELL RD, WILSHIRE BLVD, ORANGE RD THE DELAWARE COUNTY ENGINEER'S OFFICE

C) EXISTING TRAFFIC SIGNAL DEVICES

AT POLARIS PARKWAY, THE CITY OF COLUMBUS, DIVISION OF PLANNING AND OPERATIONS (ELECTRONICS MAINTENANCE SHOP 614-645-7933), SHALL PERFORM ROUTINE MAINTENANCE ON ALL EXISTING CABINET ASSEMBLY ITEMS ONLY.

AT POWELL RD, WILSHIRE BLVD AND ORANGE RD, THE DELAWARE COUNTY ENGINEER'S OFFICE (NATE MEYER 740-272-2801), SHALL PERFORM ROUTINE MAINTENANCE ON ALL EXISTING CABINET ASSEMBLY ITEMS ONLY.

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL OTHER EXISTING TRAFFIC SIGNAL DEVICES ONCE ANY PROJECT SIGNAL WORK HAS STARTED. IF, IN THE COURSE OF WORK, THE GENERAL CONTRACTOR OR ANY PROJECT SUB-CONTRACTOR CAUSED DAMAGE TO ANY EXISTING TRAFFIC SIGNAL DEVICE OTHER THAN THE CABINET ASSEMBLY, THEN THE CONTRACTOR AT THE CONTRACTOR'S COST SHALL REPAIR AND/OR REPLACE THE DAMAGED DEVICE TO THE SATISFACTION OF THIS DIVISION. DAMAGE TO THE CABINET ASSEMBLY BY ANY PROJECT CONTRACTOR SHALL BE REPAIRED BY THIS DIVISION AND BILLED TO THE GENERAL CONTRACTOR.

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

ALL DATES SHALL BE KEPT CURRENT. THESE SIGNS SHALL BE REMOVED WITHIN ONE WEEK AFTER PHASE 2 WORK BEGINS.

MAINTENANCE OF TRAFFIC - TEMPORARY SIGNALS

POLARIS PARKWAY - CITY OF COLUMBUS

THE CONTRACTOR SHALL NOTIFY THE COLUMBUS SIGNAL MAINTENANCE SHOP (614-645-7933) THREE (3) CITY WORKDAYS PRIOR TO BEGINNING INSTALLATION OF THE TEMPORARY SIGNAL, PRIOR TO ANY LANE SHIFTING THAT AFFECTS TRAFFIC PASSING THROUGH A SIGNALIZED INTERSECTION OR PRIOR TO ANY SIGNAL WORK, SO THAT REQUIRED SIGNAL TIMING, PHASING OR CONTROL CABINET CHANGES CAN BE MADE TO THE EXISTING EQUIPMENT.

THE TEMPORARY WOOD POLES SHALL BE SET FOR THE POLES ON THE EAST SIDE OF THE INTERSECTION PRIOR TO SHIFTING TRAFFIC INTO THE PHASE 1 PATTERN. THE TEMPORARY WOOD POLES ON THE WEST SIDE MAY BE SET AT THIS TIME, OR ANYTIME BEFORE TRAFFIC IS SHIFTED IN TO THE PHASE 2 TRAFFIC PATTERN.

AN ITEM 632 VIDEO DETECTION SYSTEM SHALL BE IN PLACE BEFORE ANY EXISTING DETECTION IS REMOVED FROM SERVICE. ALL EXISTING EASTBOUND DETECTION SHALL REMAIN IN SERVICE IN PHASE 1.

THE CONTRACTOR SHALL PLACE TRAFFIC SIGNAL HEADS AS SHOWN ON THE PLANS. ANY EXISTING SIGNS ON THE SPANS SHALL BE RELOCATED ALONG WITH THE ASSOCIATED SIGNAL HEAD. ANY NON-OPERATING SIGNAL HEADS SHALL BE COVERED AS PER 632.25.

CABLE SPLICING SHALL BE PERMITTED WHEN A WATERPROOF SPLICE IS USED.

TEMPORARY SIGNAL TIMING WILL BE PROVIDED BY THE CITY OF COLUMBUS. THIS INFORMATION SHALL BE AVAILABLE TO THE CONTRACTOR PRIOR TO THE START OF ANY SIGNAL MODIFICATION.

PAYMENT FOR SIGNAL HEAD RELOCATION AND RESTORATION AT THIS INTERSECTION SHALL BE INCIDENTAL TO ITEM 614, WORK ZONE TRAFFIC SIGNAL, POLARIS PARKWAY, AS PER PLAN, AND SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THE WORK NOT SHOWN AS A SEPARATE PAY ITEM. LAW ENFORCEMENT OFFICERS NEEDED TO DIRECT TRAFFIC DURING SIGNAL WORK ARE PAID AS A SEPARATE ITEM.

ITEM 614 WORK ZONE TRAFFIC SIGNAL, AS PER PLAN - COLUMBUS

THE CONTRACTOR SHALL INSTALL, MAINTAIN & REMOVE A WORK ZONE TRAFFIC SIGNAL INSTALLATION AS PER PLAN. USE THESE LISTED ESTIMATED QUANTITIES, PROPOSED QUANTITIES AS SPECIFIED AND REUSED ITEMS. OTHER NON-LISTED ITEMS REQUIRED FOR THE ERECTION OF THE WORK ZONE SIGNAL SHALL BE INCIDENTAL TO THIS BID ITEM. INSTALL THE SPAN TO OBTAIN A FIVE (5) TO SIX (6) PERCENT SAG FOR WOOD POLES. ATTACH THE SPAN NO CLOSER THAN TWO (2) FEET FROM THE POLE TOP. METAL POLES ARE ACCEPTABLE SUBSTITUTES. THE LOWEST VEHICULAR HEAD IN EACH DIRECTION SHALL BE 16.5' ABOVE PAVEMENT SURFACE WITH THE REMAINING VEHICULAR HEAD(S) FALLING WITHIN THE OMUTCD MOUNTING HEIGHTS.

1)	137	FEET OF 7 STRAND, 3/8" MESSENGER WIRE WITH ACCESSORIES
2)	520	FEET OF 9 CONDUCTOR CABLE
3)	600	FEET OF 7 CONDUCTOR CABLE
4)	4	EACH WOOD POLE
5)	8	EACH DOWN GUY
6)	4	GROUND ROD

EACH TEMPORARY SIGNAL POLE LOCATION IS TO BE STAKED AND THE LOCATION APPROVED BY THE TRANSPORTATION DIVISION SIGNAL INSPECTOR. THE CONTRACTOR MAY REUSE EXISTING SPAN AND PIGTAILS OR INSTALL NEW AS REQUIRED. AS PER PLAN, THE CONTRACTOR SHALL TRANSFER EXISTING SIGNAL ITEMS AND EXTEND EXISTING CABLE AS NEEDED. WEATHERPROOF CABLE SPLICING IS PERMITTED. ONE OR TWO DOWN GUYS ARE TO BE USED AS SPECIFIED.

THE FOLLOWING ITEMS CAN BE REUSED. RESTORATION IS NOT REQUIRED EXCEPT AS NOTED. ANY BASE MOUNTED CABINET WILL REQUIRE A STURDY & SECURE FOUNDATION THAT IS SEALED FROM ANIMALS & WEATHER. ANY POLE MOUNTED CABINET SHALL BE POLE MOUNTED USING THE EXISTING CABLE ENTRY OPENINGS. THE TRANSPORTATION DIVISION WILL REPLACE ANY DAMAGED DEVICE THAT IS ON THE DIVISION'S EXISTING INSTALLATION. REPLACEMENT OF DAMAGED DEVICES AFTER THE ITEM IS TRANSFERRED TO THE WORK ZONE TRAFFIC SIGNAL INSTALLATION IS THE RESPONSIBILITY OF THE CONTRACTOR EXCEPT AS STATED ELSEWHERE IN THE GENERAL NOTES OR PLAN.

1) CONTROL CABINET ASSEMBLY (DIVISION TO MAINTAIN EXISTING CABINET ASSEMBLY)
2) ALL PEDESTRIAN UNITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING BRACKET ARMS FOR EXISTING UNITS THAT HAVE NONE.
3) VEHICULAR SIGNAL HEADS AND MOUNTING HARDWARE. RELAMP ALL HEADS.
4) PUSHBUTTONS AND THEIR SIGNS

CALCULATED EJT CHECKED RAM

GENERAL NOTES OF TRAFFIC MAINTENANCE

DEL-CR10-0.90

2952-DR.E

ANY CHANGE TO THE POLE LOCATION OR SPAN CONFIGURATION AS INDICATED IN THE PLANS MUST BE APPROVED BY TRANSPORTATION DIVISION SIGNAL PERSONNEL. THE CONTRACTOR SHALL SUBMIT A DIAGRAM TO THE DIVISION DETAILING ANY CHANGE.

SEPARATE, VIA CONDUITS, ALL 120VAC CABLES FROM NON-120VAC CABLES. CONDUIT CABLE CAPACITY CAN RANGE BETWEEN 50% & 75% FILL. ABOVE GROUND CONDUITS USED FOR BASE MOUNTED CABINETS SHALL BE PAINTED FLUORESCENT ORANGE OR YELLOW & LOCATED OUT OF HARMS WAY.

AN ITEM 632 VIDEO DETECTION SYSTEM SHALL BE IN PLACE BEFORE ANY EXISTING DETECTION IS REMOVED FROM SERVICE.

POWELL RD, ORANGE RD - DELAWARE COUNTY

THE CONTRACTOR SHALL NOTIFY NATE MEYER (740-272-2801) THREE (3) COUNTY WORKDAYS PRIOR TO ANY LANE SHIFTING THAT AFFECTS TRAFFIC PASSING THROUGH A SIGNALIZED INTERSECTION OR PRIOR TO ANY SIGNAL WORK, SO THAT REQUIRED SIGNAL TIMING, PHASING OR CONTROL CABINET CHANGES CAN BE MADE TO THE EXISTING EQUIPMENT.

AN ITEM 632 VIDEO DETECTION SYSTEM SHALL BE IN PLACE BEFORE ANY EXISTING DETECTION IS REMOVED FROM SERVICE. ALL EASTBOUND DETECTION SHALL REMAIN IN SERVICE.

THE CONTRACTOR SHALL PLACE TRAFFIC SIGNAL HEADS AS SHOWN ON THE PLANS. ANY EXISTING SIGNS ON THE SPANS SHALL BE RELOCATED ALONG WITH THE ASSOCIATED SIGNAL HEAD. ANY NON-OPERATING SIGNAL HEADS SHALL BE COVERED AS PER 632.25.

CABLE SPLICING SHALL BE PERMITTED WHEN A WATERPROOF SPLICE IS USED.

TEMPORARY SIGNAL TIMING IS SHOWN ON THE PLANS. FOR FIELD ADJUSTMENTS, CALL NATE MEYER AT 740-272-2801.

PAYMENT FOR SIGNAL HEAD RELOCATION AND RESTORATION AT THESE INTERSECTIONS SHALL BE INCIDENTAL TO ITEM 614, MAINTENANCE OF TRAFFIC, AND SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THE WORK. LAW ENFORCEMENT OFFICERS NEEDED TO DIRECT TRAFFIC DURING SIGNAL WORK ARE PAID AS A SEPARATE ITEM.

ITEM 614 WORK ZONE TRAFFIC SIGNAL, AS PER PLAN - DELCO

THE CONTRACTOR SHALL INSTALL, MAINTAIN & REMOVE A WORK ZONE TRAFFIC SIGNAL INSTALLATION AS PER PLAN. USE THESE LISTED ESTIMATED QUANTITIES, PROPOSED QUANTITIES AS SPECIFIED AND REUSED ITEMS. OTHER NON-LISTED ITEMS REQUIRED FOR THE ERECTION OF THE WORK ZONE SIGNAL SHALL BE INCIDENTAL TO THIS BID ITEM. INSTALL THE SPAN TO OBTAIN A FIVE (5) TO SIX (6) PERCENT SAG FOR WOOD POLES. ATTACH THE SPAN NO CLOSER THAN TWO (2) FEET FROM THE POLE TOP. METAL POLES ARE ACCEPTABLE SUBSTITUTES. THE LOWEST VEHICULAR HEAD IN EACH DIRECTION SHALL BE 16.5' ABOVE PAVEMENT SURFACE WITH THE REMAINING VEHICULAR HEAD(S) FALLING WITHIN THE OMUTCD MOUNTING HEIGHTS.

1) 406 FEET OF 7 STRAND, 3/8" MESSENGER WIRE WITH ACCESSORIES
2) 100 FEET OF 9 CONDUCTOR CABLE
3) 400 FEET OF 7 CONDUCTOR CABLE
4) 6 EACH WOOD POLE
5) 10 EACH DOWN GUY
6) 4 GROUND ROD

EACH TEMPORARY SIGNAL POLE LOCATION IS TO BE STAKED AND THE LOCATION APPROVED BY THE TRANSPORTATION DIVISION SIGNAL INSPECTOR. THE CONTRACTOR MAY REUSE EXISTING SPAN AND PIGTAILS OR INSTALL NEW AS REQUIRED. AS PER PLAN, THE CONTRACTOR SHALL TRANSFER EXISTING SIGNAL ITEMS AND EXTEND EXISTING CABLE AS NEEDED. WEATHERPROOF CABLE SPLICING IS PERMITTED. ONE OR TWO DOWN GUYS ARE TO BE USED AS SPECIFIED.

THE FOLLOWING ITEMS CAN BE REUSED. RESTORATION IS NOT REQUIRED EXCEPT AS NOTED. ANY BASE MOUNTED CABINET WILL REQUIRE A STURDY & SECURE FOUNDATION THAT IS SEALED FROM ANIMALS & WEATHER. ANY POLE MOUNTED CABINET SHALL BE POLE MOUNTED USING THE EXISTING CABLE ENTRY OPENINGS. THE TRANSPORTATION DIVISION WILL REPLACE ANY DAMAGED DEVICE THAT IS ON THE DIVISION'S EXISTING INSTALLATION. REPLACEMENT OF DAMAGED DEVICES AFTER THE ITEM IS TRANSFERRED TO THE WORK ZONE TRAFFIC SIGNAL INSTALLATION IS THE RESPONSIBILITY OF THE CONTRACTOR EXCEPT AS STATED ELSEWHERE IN THE GENERAL NOTES OR PLAN.

1) CONTROL CABINET ASSEMBLY (COUNTY TO MAINTAIN EXISTING CABINET ASSEMBLY)
2) ALL PEDESTRIAN UNITS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING BRACKET ARMS FOR EXISTING UNITS THAT HAVE NONE.
3) VEHICULAR SIGNAL HEADS AND MOUNTING HARDWARE. RELAMP ALL HEADS.
4) PUSHBUTTONS AND THEIR SIGNS

ANY CHANGE TO THE POLE LOCATION OR SPAN CONFIGURATION AS INDICATED IN THE PLANS MUST BE APPROVED BY TRANSPORTATION DIVISION SIGNAL PERSONNEL. THE CONTRACTOR SHALL SUBMIT A DIAGRAM TO THE DIVISION DETAILING ANY CHANGE.

SEPARATE, VIA CONDUITS, ALL 120VAC CABLES FROM NON-120VAC CABLES. CONDUIT CABLE CAPACITY CAN RANGE BETWEEN 50% & 75% FILL. ABOVE GROUND CONDUITS USED FOR BASE MOUNTED CABINETS SHALL BE PAINTED FLUORESCENT ORANGE OR YELLOW & LOCATED OUT OF HARMS WAY.

AN ITEM 632 VIDEO DETECTION SYSTEM SHALL BE IN PLACE BEFORE ANY EXISTING DETECTION IS REMOVED FROM SERVICE.

WILSHIRE BLVD/GLADSHIRE BLVD - SIGNAL MODIFICATION - DELAWARE COUNTY

THE CONTRACTOR SHALL NOTIFY NATE MEYER (740-272-2801) THREE (3) COUNTY WORKDAYS PRIOR TO ANY LANE SHIFTING THAT AFFECTS TRAFFIC PASSING THROUGH A SIGNALIZED INTERSECTION OR PRIOR TO ANY SIGNAL WORK, SO THAT REQUIRED SIGNAL TIMING, PHASING OR CONTROL CABINET CHANGES CAN BE MADE TO THE EXISTING EQUIPMENT.

THE EXISTING STOP BAR DETECTION RADAR AND ADVANCE/DILEMMA ZONE DETECTION SHALL BE REPROGRAMMED TO REFLECT ALL MODIFIED SIGNAL APPROACH CONDITIONS

THE CONTRACTOR SHALL PLACE TRAFFIC SIGNAL HEADS AS SHOWN ON THE PLANS. ANY EXISTING SIGNS SHALL BE RELOCATED ALONG WITH THE ASSOCIATED SIGNAL HEAD. ANY NON-OPERATING SIGNAL HEADS SHALL BE COVERED AS PER 632.25.

CABLE SPLICING SHALL BE PERMITTED WHEN A WATERPROOF SPLICE IS USED.

EXISTING SIGNAL TIMING SHALL BE USED. THE CONTRACTOR SHALL MONITOR TRAFFIC AND CALL NATE MEYER AT 740-272-2801 IF CONGESTION IS OCCURRING AND SIGNAL TIMING ADJUSTMENTS ARE NECESSARY.

PAYMENT FOR SIGNAL HEAD RELOCATION AND RESTORATION AT THIS INTERSECTION SHALL BE INCIDENTAL TO ITEM 614, MAINTENANCE OF TRAFFIC, AND SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO PERFORM THE WORK. LAW ENFORCEMENT OFFICERS NEEDED TO DIRECT TRAFFIC DURING SIGNAL WORK ARE PAID AS A SEPARATE ITEM.

MAINTAINING DRIVEWAYS

ACCESS SHALL BE MAINTAINED TO ALL PROPERTIES AT ALL TIMES FOR RESIDENTS' AND OWNERS' VEHICLES AND EQUIPMENT, SERVICE VEHICLES AND EMERGENCY VEHICLES. THIS MAY BE ACCOMPLISHED WITH THE USE OF TEMPORARY DRIVEWAYS OR BY PROVIDING ACCESS DURING THE EXCAVATION/FILL PROCESS AND A TEMPORARY 410 TRAFFIC COMPACTED SURFACE DURING NON-WORKING HOURS. IN EITHER CASE, THE FOLLOWING CRITERIA SHALL APPLY:

- MINIMUM WIDTH OF 10' FOR RESIDENTIAL DRIVES AND 20' FOR COMMERCIAL DRIVES. THE SURFACE SHALL BE ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B, A MINIMUM OF 6 INCHES DEEP.
- MAXIMUM GRADE OF 10%. GRADE BREAKS SHALL BE SUCH THAT VEHICLES NORMALLY USING THE DRIVEWAY WILL NOT BOTTOM OUT OR SCRAPE.
- ALIGNMENT, GRADE AND DRAINAGE SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF TEMPORARY SURFACE.

THE FOLLOWING QUANTITY HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 410 TRAFFIC COMPACTED SURFACE, TYPE A OR B, 1565 CU YD

WORK WITHIN THE POLARIS PARKWAY INTERSECTION, PHASE 1

CONSTRUCTION OF THE EAST HALF OF THE POLARIS PARKWAY INTERSECTION SHALL TAKE PLACE IN STAGES A, B AND C AS SHOWN ON SHEETS 43 THRU 50. THE STAGES MAY BE SEQUENCED IN ANY ORDER APPROVED BY THE ENGINEER.

ONCE THE NUMBER OF LANES AVAILABLE FOR POLARIS PARKWAY TRAFFIC ARE REDUCED, ALL OF THE WORK SHOWN IN STAGES A, B AND C SHALL BE COMPLETED, UP TO BUT NOT INCLUDING THE PAVEMENT SURFACE COURSE, WITHIN 14 CALENDAR DAYS. LIQUIDATED DAMAGES WILL BE ASSESSED IN THE AMOUNT OF $1,000 FOR EACH DAY, OR PART OF A DAY THAT TRAFFIC IS RESTRICTED BEYOND THE PERMITTED 14 DAY PERIOD.

THE USE OF 740.06 TYPE A (REMOVABLE) MATERIAL AND BLACKOUT TAPE IS PERMITTED FOR THESE TEMPORARY MARKINGS.

THE VIDEO DETECTION USED FOR THE SIGNAL MODIFICATIONS (SHEETS 57 AND 89) SHALL BE ADJUSTED TO COVER THE SHIFTED TRAFFIC LANES ON POLARIS PARKWAY. COLUMBUS SIGNAL OPERATIONS AT 614-645-0423 (CELL 614-419-4501) SHALL BE NOTIFIED A MINIMUM OF 48 HOURS (EXCLUDING SAT & SUN) TO ADJUST THE SIGNAL TIMING. COLUMBUS SIGNAL OPERATIONS SHALL BE CONTACTED WHEN ALL POLARIS TRAFFIC LANES ARE RESTORED TO THE PHASE 1 CONFIGURATION.

WORK WITHIN THE POWELL ROAD INTERSECTION, PHASE 1

CONSTRUCTION OF THE EAST HALF OF THE POWELL ROAD INTERSECTION SHALL TAKE PLACE IN STAGES A AND B AS SHOWN ON SHEETS 51 THRU 56. THE STAGES MAY BE SEQUENCED IN ANY ORDER APPROVED BY THE ENGINEER.

ONCE THE NUMBER OF LANES AVAILABLE FOR POWELL ROAD TRAFFIC ARE REDUCED, ALL OF THE WORK SHOWN IN STAGES A AND B SHALL BE COMPLETED, UP TO BUT NOT INCLUDING THE PAVEMENT SURFACE COURSE, WITHIN 10 CALENDAR DAYS. LIQUIDATED DAMAGES WILL BE ASSESSED IN THE AMOUNT OF $1,000 FOR EACH DAY, OR PART OF A DAY THAT TRAFFIC IS RESTRICTED BEYOND THE PERMITTED 10 DAY PERIOD.

THE USE OF 740.06 TYPE A (REMOVABLE) MATERIAL AND BLACKOUT TAPE IS PERMITTED FOR THESE TEMPORARY MARKINGS.

THE VIDEO DETECTION USED FOR THE SIGNAL MODIFICATIONS (SHEETS 58 AND 90) SHALL BE ADJUSTED TO COVER THE SHIFTED TRAFFIC LANES ON POWELL ROAD. THE DELAWARE COUNTY ENGINEER'S OFFICE, 740-833-2400 SHALL BE NOTIFIED A MINIMUM OF 48 HOURS (EXCLUDING SAT & SUN) TO ADJUST THE SIGNAL TIMING. THE DELAWARE COUNTY ENGINEER 'S OFFICE SHALL BE CONTACTED WHEN ALL POWELL ROAD TRAFFIC LANES ARE RESTORED TO THE PHASE 1 CONFIGURATION.

WORK WITHIN THE POLARIS PARKWAY INTERSECTION, PHASE 2

CONSTRUCTION OF THE EAST HALF OF THE POLARIS PARKWAY INTERSECTION SHALL TAKE PLACE IN STAGES A, B AND C AS SHOWN ON SHEETS 75 THRU 82. THE STAGES MAY BE SEQUENCED IN ANY ORDER APPROVED BY THE ENGINEER.

ONCE THE NUMBER OF LANES AVAILABLE FOR POLARIS PARKWAY TRAFFIC ARE REDUCED, ALL OF THE WORK SHOWN IN STAGES A, B AND C SHALL BE COMPLETED, UP TO BUT NOT INCLUDING THE PAVEMENT SURFACE COURSE, WITHIN 14 CALENDAR DAYS. LIQUIDATED DAMAGES WILL BE ASSESSED IN THE AMOUNT OF $1,000 FOR EACH DAY, OR PART OF A DAY THAT TRAFFIC IS RESTRICTED BEYOND THE PERMITTED 14 DAY PERIOD.

THE USE OF 740.06 TYPE A (REMOVABLE) MATERIAL AND BLACKOUT TAPE IS PERMITTED FOR THESE TEMPORARY MARKINGS.

THE VIDEO DETECTION USED FOR THE SIGNAL MODIFICATIONS (SHEETS 57 AND 89) SHALL BE ADJUSTED TO COVER THE SHIFTED TRAFFIC LANES ON POLARIS PARKWAY. COLUMBUS SIGNAL OPERATIONS AT 614-645-0423 (CELL 614-419-4501) SHALL BE NOTIFIED A MINIMUM OF 48 HOURS (EXCLUDING SAT & SUN) TO ADJUST THE SIGNAL TIMING. COLUMBUS SIGNAL OPERATIONS SHALL BE CONTACTED WHEN ALL POLARIS TRAFFIC LANES ARE RESTORED TO THE PHASE 1 CONFIGURATION.

WORK WITHIN THE POWELL ROAD INTERSECTION, PHASE 2

CONSTRUCTION OF THE EAST HALF OF THE POWELL ROAD INTERSECTION SHALL TAKE PLACE IN STAGES A AND B AS SHOWN ON SHEETS 83 THRU 88. THE STAGES MAY BE SEQUENCED IN ANY ORDER APPROVED BY THE ENGINEER.

ONCE THE NUMBER OF LANES AVAILABLE FOR POWELL ROAD TRAFFIC ARE REDUCED, ALL OF THE WORK SHOWN IN STAGES A AND B SHALL BE COMPLETED, UP TO BUT NOT INCLUDING THE PAVEMENT SURFACE COURSE, WITHIN 10 CALENDAR DAYS. LIQUIDATED DAMAGES WILL BE ASSESSED IN THE AMOUNT OF $1,000 FOR EACH DAY, OR PART OF A DAY THAT TRAFFIC IS RESTRICTED BEYOND THE PERMITTED 10 DAY PERIOD.

THE USE OF 740.06 TYPE A (REMOVABLE) MATERIAL AND BLACKOUT TAPE IS PERMITTED FOR THESE TEMPORARY MARKINGS.

THE VIDEO DETECTION USED FOR THE SIGNAL MODIFICATIONS (SHEETS 58 AND 90) SHALL BE ADJUSTED TO COVER THE SHIFTED TRAFFIC LANES ON POWELL ROAD. THE DELAWARE COUNTY ENGINEER'S OFFICE, 740-833-2400 SHALL BE NOTIFIED A MINIMUM OF 48 HOURS (EXCLUDING SAT & SUN) TO ADJUST THE SIGNAL TIMING. THE DELAWARE COUNTY ENGINEER'S OFFICE SHALL BE CONTACTED WHEN ALL POWELL ROAD TRAFFIC LANES ARE RESTORED TO THE PHASE 1 CONFIGURATION.

CALCULATED EJT CHECKED RAM

MAINTENANCE OF TRAFFIC GENERAL NOTES

DEL-CR10-0.90

2952-DR.E

TABLE OF TRAFFIC SUBSUMMARY - CITY

CALCULATED EJT | CHECKED RAM

MAINTENANCE OF TRAFFIC

DEL-CR10-0.90

2952-DR.E

SHEET NO.	PHASE	410 TRAFFIC COMPACTED SURFACE, TYPE A (CU YD)	614 SPECIAL - WORK ZONE TRAFFIC SIGNAL (EACH)	614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN (DAY)	614 WORK ZONE EDGE LINE, CLASS I WHITE (MILE)	614 WORK ZONE CENTERLINE, CLASS I (MILE)	614 WORK ZONE LANE LINE, CLASS I (MILE)	614 WORK ZONE CHANNELIZING LINE, CLASS I (FEET)	614 WORK ZONE DOTTED LINE, CLASS I (FEET)	614 WORK ZONE ARROW, CLASS I (EACH)	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I (FEET)	614 WORK ZONE STOP LINE, CLASS I (FEET)	614 WORK ZONE WORD ON PAVEMENT, 72", CLASS I (EACH)	614 LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE (HOURS)	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A (SQ YD)	630 SIGN, FLAT SHEET (SQ FT)	632 MESSENGER WIRE, 7 STRAND 3/8" DIA., WITH ACCESSORIES (FEET)	632 SIGNAL CABLE, 9-CONDUCTOR NO. 14 AWG (FEET)	632 SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG (FEET)	632 WOOD POLE (EACH)	632 DOWN GUY (EACH)	632 GROUND ROD (EACH)	
25	ALL													48					520	600				
26	ALL			63																				
37	1															20								
40	1	275			0.59	0.43	0.02	422		6		104			1257									
41	1				0.01	0.01		66		1					235									
50	1				0.20		0.20	80																
51	1					0.01	0.01	131		1														
52	1				0.05	0.04	0.03	434	132	3		22												
53	1				0.17		0.16	50																
54	1				0.04	0.07		85																
55	1				0.13	0.06	0.05	155	210	3		22			99									
56	1				0.23	0.17																		
57	1				0.02	0.08	0.01	446	165															
58	1				0.13	0.11	0.10	635	350	3		44			157									
59	1				0.32	0.05	0.17	130																
66	1		1															137				4	8	4
75	2	148			0.63	0.44	0.01	349		6		92												
76	2	60			0.03	0.01		66		0		0												
82	2				0.35		0.30	255		0		0												
83	2				0.05	0.03		147																
84	2				0.20	0.03	0.04	678	144	1		44												
85	2				0.29		0.14	958																
86	2				0.08	0.08		387																
87	2				0.28	0.05	0.04	755	109	2		66												
88	2																							
89	2				0.05		0.01																	
90	2				0.08		0.04					22												
91	2																							
98	2																							
TOTALS CARRIED TO GENERAL SUMMARY		483	1	63	3.91	1.66	1.33	6229	1110	26	0	416	0	48	1748	20	137	520	600	4	8	4	0	

SHEET NO.	PHASE	410 TRAFFIC COMPACTED SURFACE, TYPE A	614 SPECIAL - WORK ZONE TRAFFIC SIGNAL	614 PORTABLE CHANGEABLE MESSAGE SIGN	614 WORK ZONE EDGE LINE, CLASS I WHITE	614 WORK ZONE CENTERLINE, CLASS I	614 WORK ZONE LANE LINE, CLASS I	614 WORK ZONE CHANNELIZING LINE, CLASS I	614 WORK ZONE DOTTED LINE, CLASS I	614 WORK ZONE ARROW, CLASS I	614 WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	614 WORK ZONE STOP LINE, CLASS I	614 WORK ZONE CROSSWALK LINE, CLASS I	614 WORK ZONE WORD ON PAVEMENT, 72", CLASS I	614 LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	615 PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A	630 SIGN, FLAT SHEET	632 MESSENGER WIRE, 7 STRAND 3/8" DIA., WITH ACCESSORIES	632 SIGNAL CABLE, 9-CONDUCTOR NO. 14 AWG	632 SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	632 WOOD POLE	632 DOWN GUY	632 GROUND ROD	632 COVERING OF VEHICULAR SIGNAL HEAD
		CU YD	EACH	DAY	MILE	MILE	MILE	FEET	FEET	EACH	FEET	FEET	FT	EACH	HOURS	SQ YD	SQ FT	FEET	FEET	FEET	EACH	EACH	EACH	EACH
25	ALL														120									
26	ALL			63															100	400				
32	1																24							
35	1A																118							
36	1B																100							
41	1	75			0.66	0.62		208								4153								
42	1	74			0.77	0.50		447		2		22				729								
43	1	123			0.75	0.37										368								
44	1/1A	226			0.62	0.38		196		2		55												
45	1A	252			0.79	0.35		60	131	1		44				96								
46	1A				0.06	0.08																		
47	1B				0.32	0.16																		
48	1B	35			0.84	0.37		491		4		114												
49	1B	15			0.11	0.04																		
60	1									1														
61	1				0.05	0.07			75	1		22												
62	1				0.09	0.09																		
63	1																							
64	1				0.11	0.04		69	108	1		24												
65	1				0.11																			
67	1		1															136			4	8	4	
68	1																	115						2
69	1A		1															35			2	2	2	
70	1B																							
71	2																26							
72	2																34							
76	2	121			0.67	0.57		170								326								
77	2				0.78	0.48		524		2		135	133											
78	2	161			0.75	0.35																		
79	2				0.75	0.45		160		1		48												
80	2				0.79	0.62	0.07	1737	618	18	390	166	258	2										
81	2				0.08	0.08					120													
92	2				0.07																			
93	2				0.13	0.06			145			11												
94	2				0.02	0.01																		
95	2				0.04	0.04																		
96	2				0.07	0.05			186			23												
97	2				0.08																			
100	2																							
101	2																	120						2
TOTALS CARRIED TO GENERAL SUMMARY		1082	2	63	9.52	5.77	0.07	4062	1263	33	510	664	391	2	120	5672	302	406	100	400	6	10	6	4

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC SUBSUMMARY - COUNTY

DEL-CR10-0.90

2952-DR.E

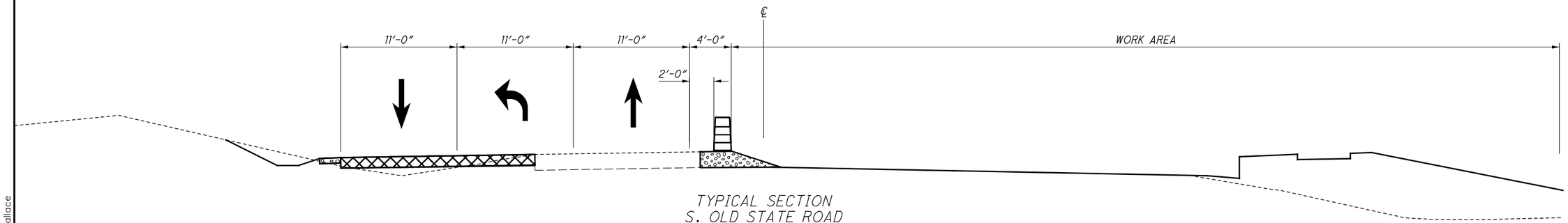
LEGEND

CONSTRUCTION

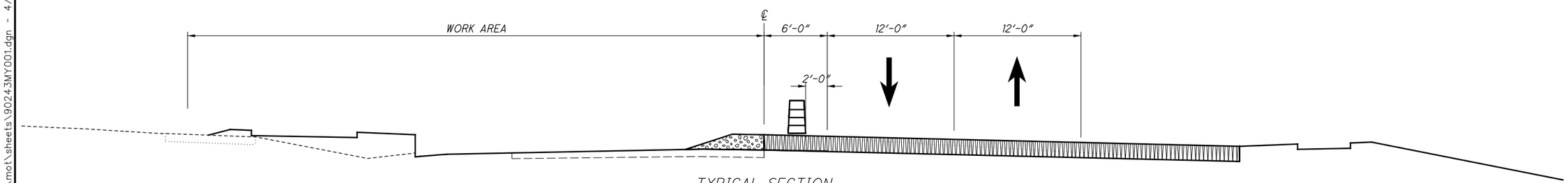
NEW PAVEMENT

COMPACTED MATERIAL 3:1 SLOPE MAX

TEMP. PAVEMENT CLASS B



TYPICAL SECTION
S. OLD STATE ROAD
STA 1000+50 TO 1030+00 - FULL DEPTH REPLACEMENT
STA. 1030+00 TO 1044+60 - PAVEMENT SALVAGE
STA 1044+60 TO 1084+50 - FULL DEPTH REPLACEMENT
STA 1094+90 TO 1104+00 - FULL DEPTH REPLACEMENT
PHASE 1



TYPICAL SECTION
S. OLD STATE ROAD
STA 1000+50 TO 1030+00
STA 1044+60 TO 1084+50
STA. 1094+90 TO 1104+00
FULL DEPTH PAVEMENT REPLACEMENT
PHASE 2

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS

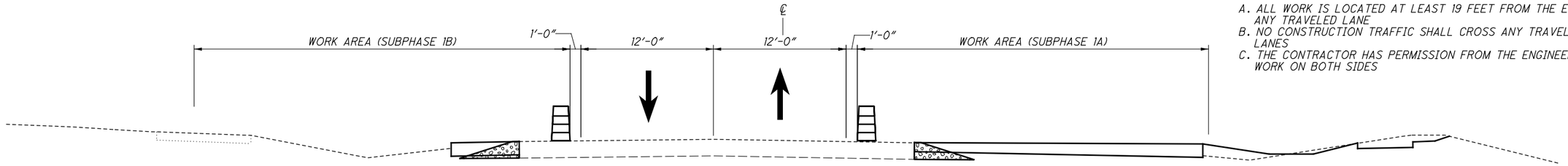
DEL-CR10-0.90

2952-DR.E

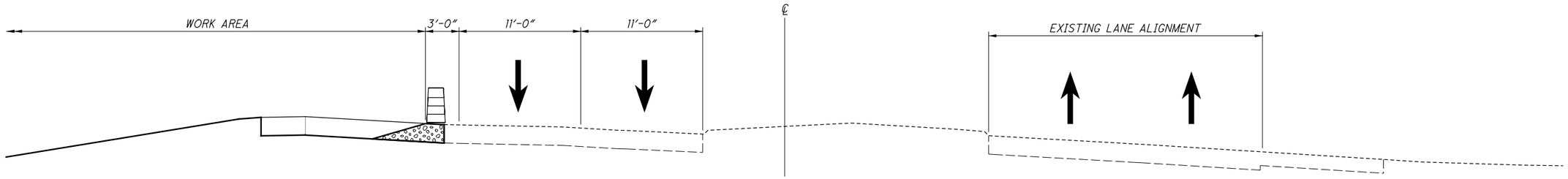
30
437

NOTES:
1. WORK SHALL NOT TAKE PLACE IN WORK AREA (SUBPHASE 1A) AND WORK AREA (SUBPHASE 1B) AT THE SAME TIME UNLESS ALL THE FOLLOWING CONDITIONS APPLY:

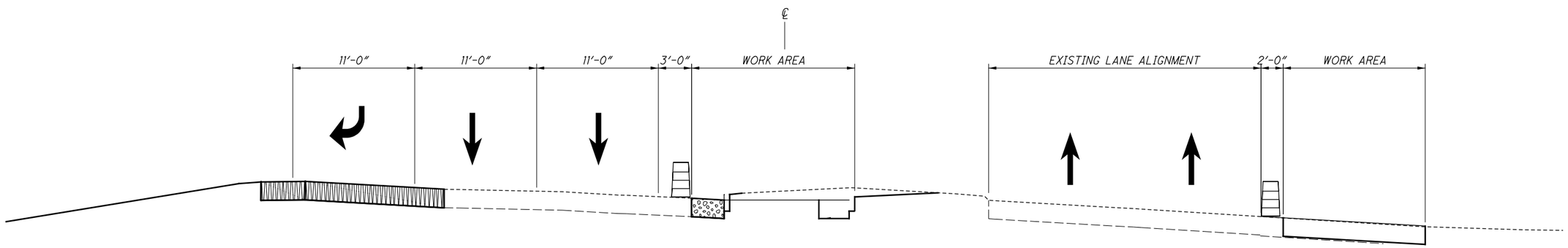
   A. ALL WORK IS LOCATED AT LEAST 19 FEET FROM THE EDGE OF ANY TRAVELED LANE
   B. NO CONSTRUCTION TRAFFIC SHALL CROSS ANY TRAVELED LANES
   C. THE CONTRACTOR HAS PERMISSION FROM THE ENGINEER TO WORK ON BOTH SIDES



TYPICAL SECTION
S. OLD STATE ROAD
STA 1084+50 TO 1094+90
STA 1104+00 TO 1110+40
SALVAGE EXISTING PAVEMENT
TWO SUBPHASES (1A & 1B) IN THIS AREA



TYPICAL SECTION
POLARIS PARKWAY
PHASE 1 - WB RIGHT LANE WIDENING



TYPICAL SECTION
POLARIS PARKWAY
PHASE 2 - WB LEFT TURN LANE WIDENING

LEGEND

- CONSTRUCTION
- NEW PAVEMENT
- COMPACTED MATERIAL 3:1 SLOPE MAX
- TEMP. PAVEMENT CLASS B

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - TYPICAL SECTIONS

DEL-CR10-0.90

2952-DR.E

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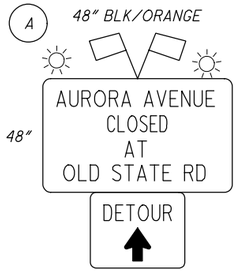
SEVEN (7) DAYS PRIOR TO CLOSURE OF AURORA AVE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING ENTITIES, PROVIDEING THE DATE OF CLOSURE, DATE OF ANTICIPATED OPENING AND THE POSTED DETOUR ROUTE:

ORANGE TWP FIRE STATION 362
740-548-5315

OLENTANGY LOCAL SCHOOL DISTRICT SCHOOL BUS SUPERVISOR
740-657-4080

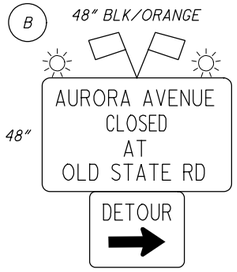
THE CONTRACTOR SHALL ALSO NOTIFY THE ABOVE ENTITIES OF ANY CHANGES IN THE REOPENING DATE (EARLY OR LATE) AS NEEDED.

A — 48" BLK/ORANGE



M4-9

B — 48" BLK/ORANGE



M4-9R

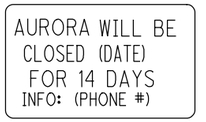
C — BLACK/ORANGE

M4-9L

D

R11-3-66
ON TYPE III BARRICADE W/ TYPE "B" FLASHING WARNING LIGHT

E



W20-H13-60
SIGN SHALL ERECTED 7 DAYS BEFORE THE CLOSURE

PHASE 1 CLOSURE
AURORA AVENUE

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
DETOUR DETAILS - AURORA AVENUE

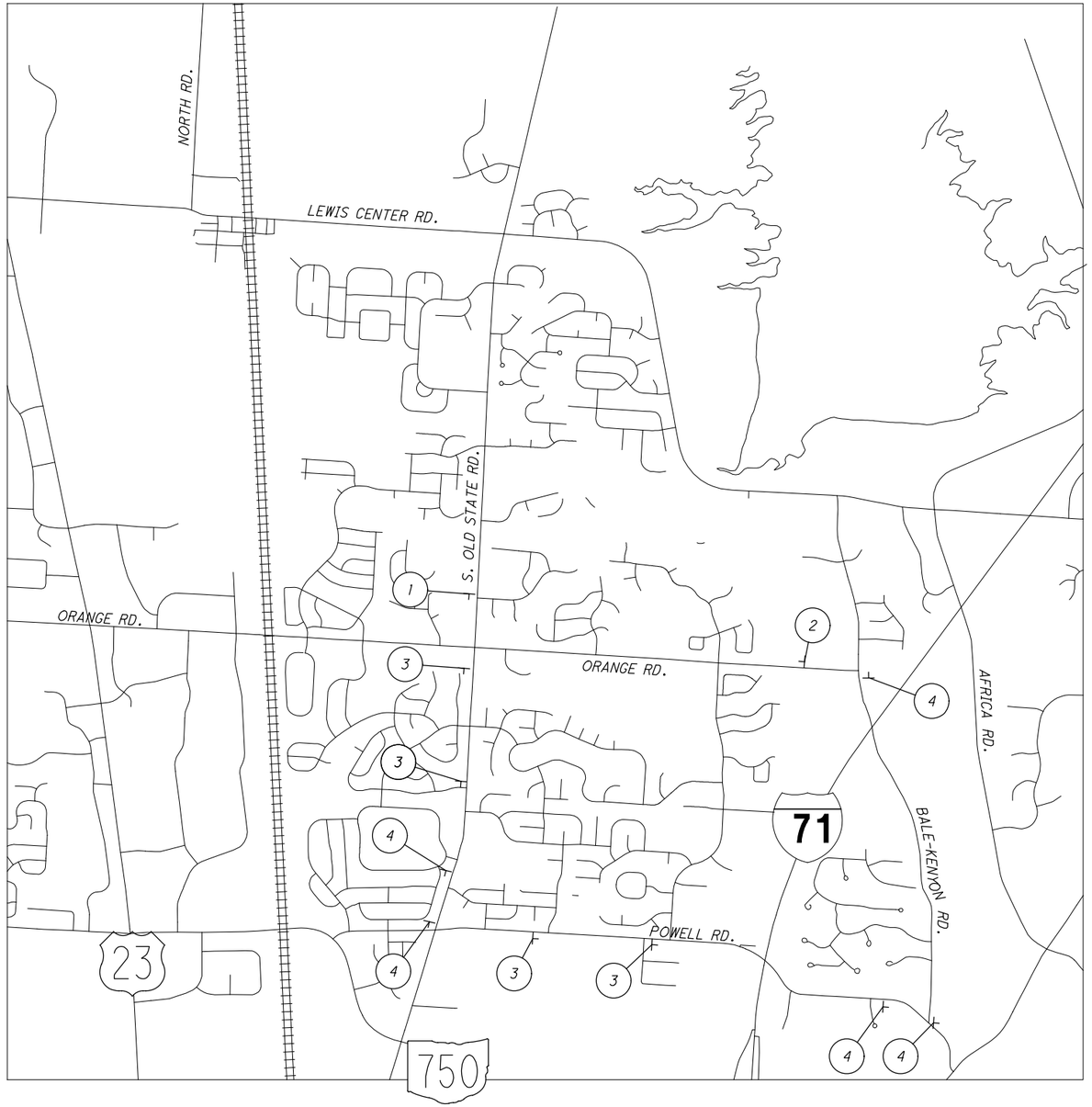
DEL-CR10-0.90

2952-DR.E

32
437

L:\Projects\14577229\TRANS\DEL\90243\mot\sheets\90243MD001.dgn - 4/9/2015 1:12:41 PM - brian_wallace

ORANGE ROAD SOUTHBOUND
LEFT TURN RESTRICTION DETOUR

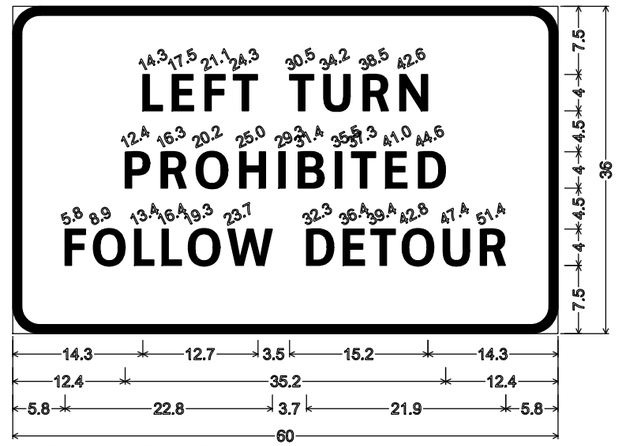


D3-1-48
SIGN SPECIAL
1

M4-8A
2

SIGN SPECIAL
M4-9R
3

SIGN SPECIAL
M4-9L
4



3.0" Radius, 1.0" Border, Black on Orange;
"LEFT TURN" Clearview-Hwy-4-W; "PROHIBITED" Clearview-Hwy-4-W;
"FOLLOW DETOUR" Clearview-Hwy-4-W 80% spacing;

HORIZONTAL SCALE IN FEET
0 750 1500 3000

CALCULATED EJT
CHECKED RAM

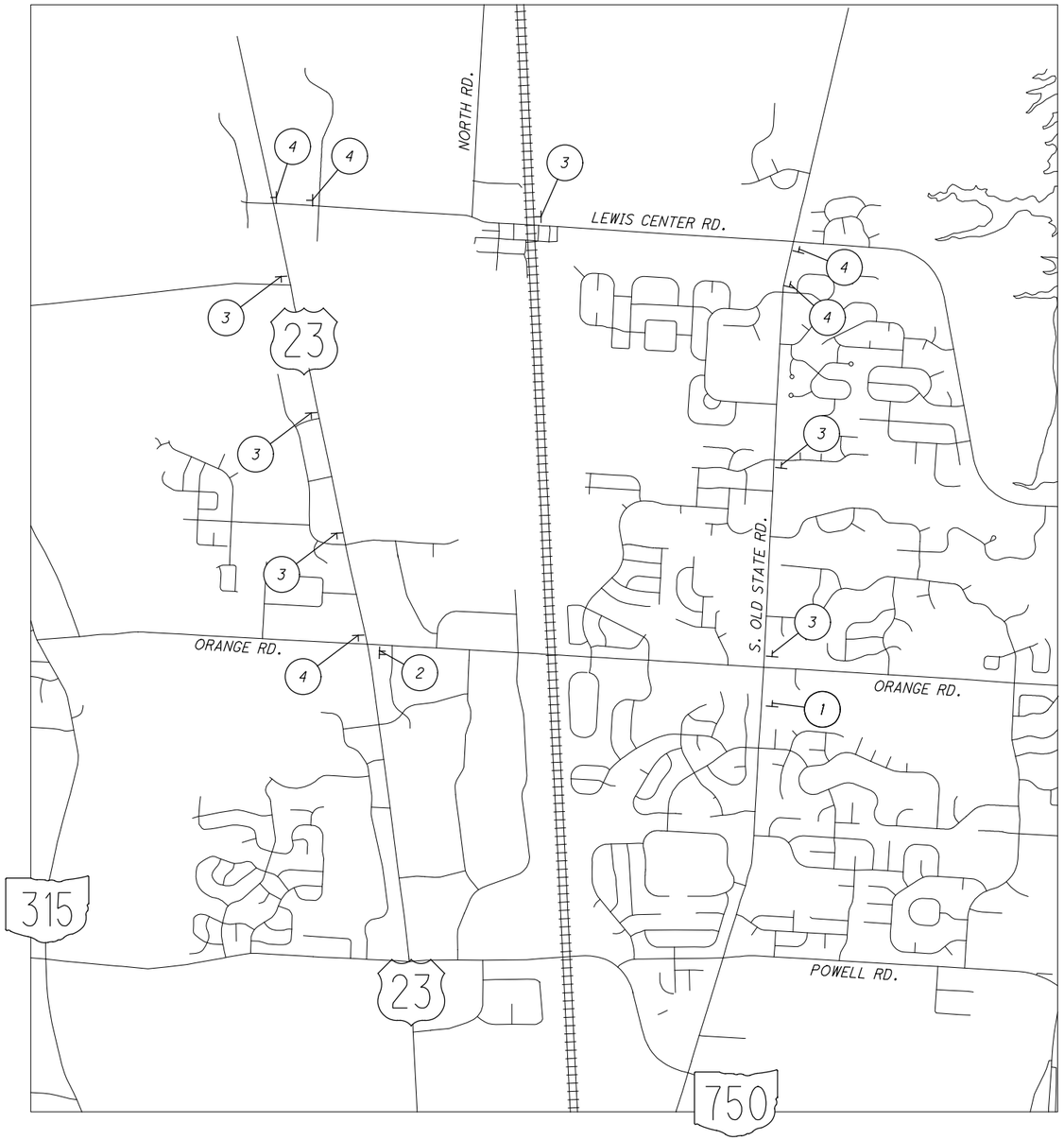
MAINTENANCE OF TRAFFIC
ORANGE RD SB LEFT TURN RESTRICTION DETOUR

DEL-CR10-0.90

2952-DR.E

33
437

SOUTH OLD STATE ROAD NORTHBOUND
LEFT TURN ONTO WESTBOUND ORANGE
ROAD RESTRICTION DETOUR



Orange Road
LEFT TURN PROHIBITED FOLLOW DETOUR
D3-1-48
SIGN SPECIAL
1

END DETOUR
M4-8A
2

Orange Rd
DETOUR
SIGN SPECIAL
M4-9R
3

Orange Rd
DETOUR
SIGN SPECIAL
M4-9L
4

HORIZONTAL SCALE IN FEET
0 750 1500 3000

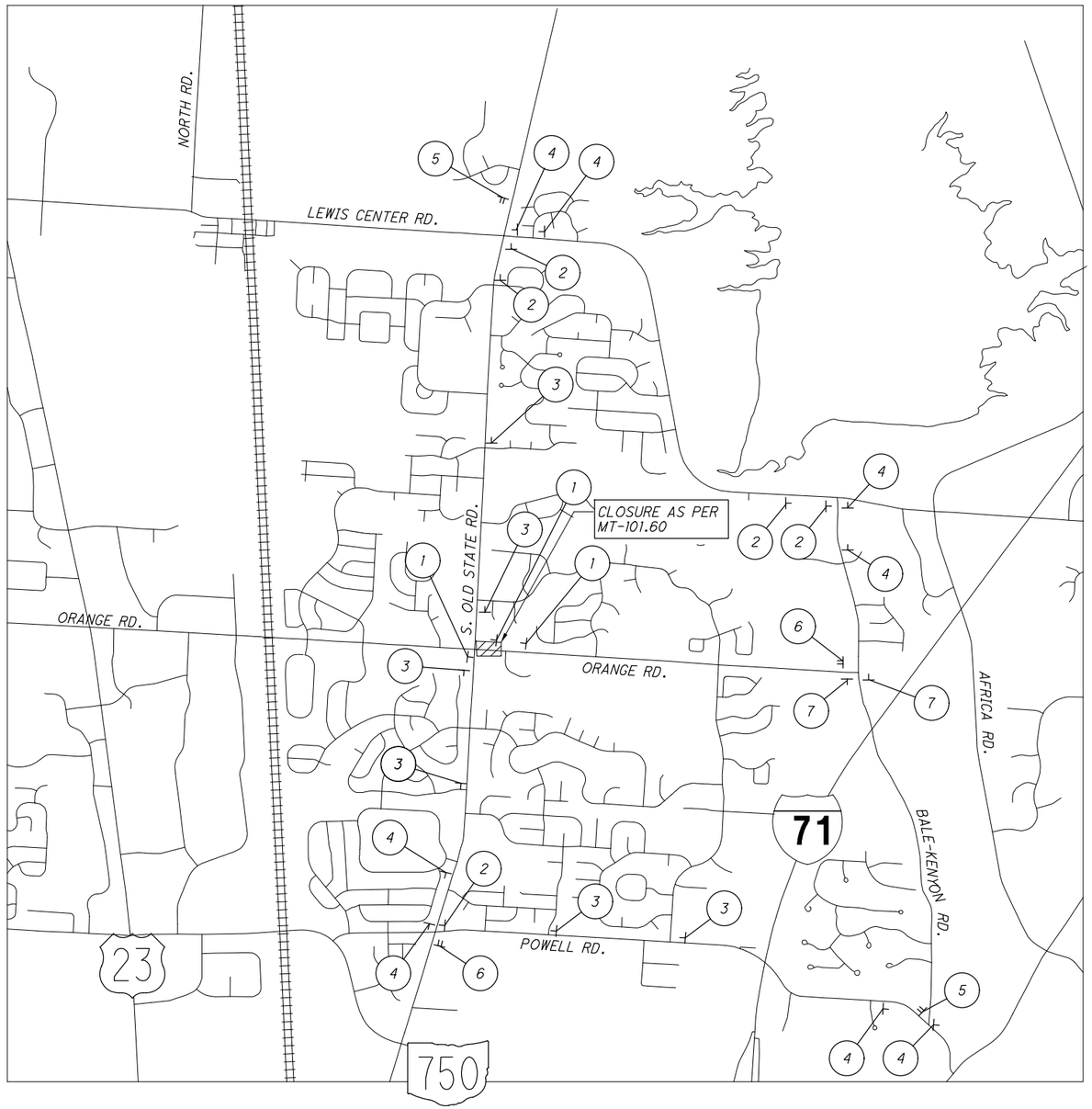
CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC
ORANGE RD SB LEFT TURN RESTRICTION DETOUR

DEL-CR10-0.90

2952-DR.E

ORANGE ROAD WEEKEND DETOUR FOR EAST APPROACH



EAST ORANGE ROAD CLOSURE

THE EAST APPROACH OF ORANGE ROAD SHALL BE CONSTRUCTED OVER ONE WEEKEND DURING THE TIME WHEN PHASE 1A OF ORANGE ROAD IS IN OPERATION. ALL PROPOSED PAVEMENT BETWEEN STATION 920+81 AND STATION 921+89 SHALL BE COMPLETED UP TO, BUT NOT INCLUDING THE SURFACE PAVEMENT COURSE. THE FOLLOWING CONDITIONS SHALL APPLY:

1. THE CONTRACTOR SHALL NOTIFY BOTH ORANGE TWP FIRE STATIONS A MINIMUM OF 7 DAYS IN ADVANCE OF THE CLOSURE, INFORMING THEM OF THE TIME AND ANTICIPATED DURATION OF THE CLOSURE.

   STATION 361 - 740-548-6346
   STATION 362 - 740-548-5315

2. THE CLOSURE SHALL BE NOT BE MADE BEFORE 7:00 PM ON A FRIDAY.

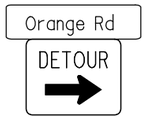
3. THE EXISTING TWO WESTBOUND LANES SHALL BE OPEN TO TRAFFIC NO LATER THAN 5:00 AM THE FOLLOWING MONDAY. THE PROPOSED WESTBOUND RIGHT TURN LANE IS TO BE COMPLETED DURING THE NORMAL COURSE OF PHASE 1 CONSTRUCTION AND DOES NOT HAVE TO BE OPEN AT THE COMPLETION OF THIS CLOSURE.

4. THE CLOSURE SHALL NOT TAKE PLACE OVER MEMORIAL DAY WEEKEND, THE WEEKEND NEAREST TO JULY 4", OR LABOR DAY WEEKEND.

5. LIQUIDATED DAMAGES IN THE AMOUNT OF $600 PER HOUR, OR PART OF AN HOUR SHALL BE ASSESSED FOR ANY PERIOD THE ROAD IS CLOSED PRIOR TO 7:00 PM ON A FRIDAY OR REMAINS CLOSED BEYOND 5:00 AM THE FOLLOWING MONDAY.

W20-H13-60
SIGN SHALL ERECTED 14 DAYS BEFORE THE CLOSURE

1

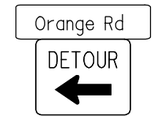


SIGN SPECIAL M4-9R

2

SIGN SPECIAL M4-9R

3

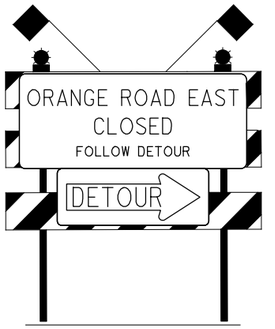


SIGN SPECIAL M4-9L

4

TYPE III BARRIER
TYPE "A" WARNING LIGHTS
SIGN SPECIAL 48" X 60"
M4-10L

5



TYPE III BARRIER
TYPE "A" WARNING LIGHTS
SIGN SPECIAL 48" X 60"
M4-10R

6

M4-8A

7

HORIZONTAL SCALE IN FEET
0 750 1500 3000

CALCULATED EJT
CHECKED RAM

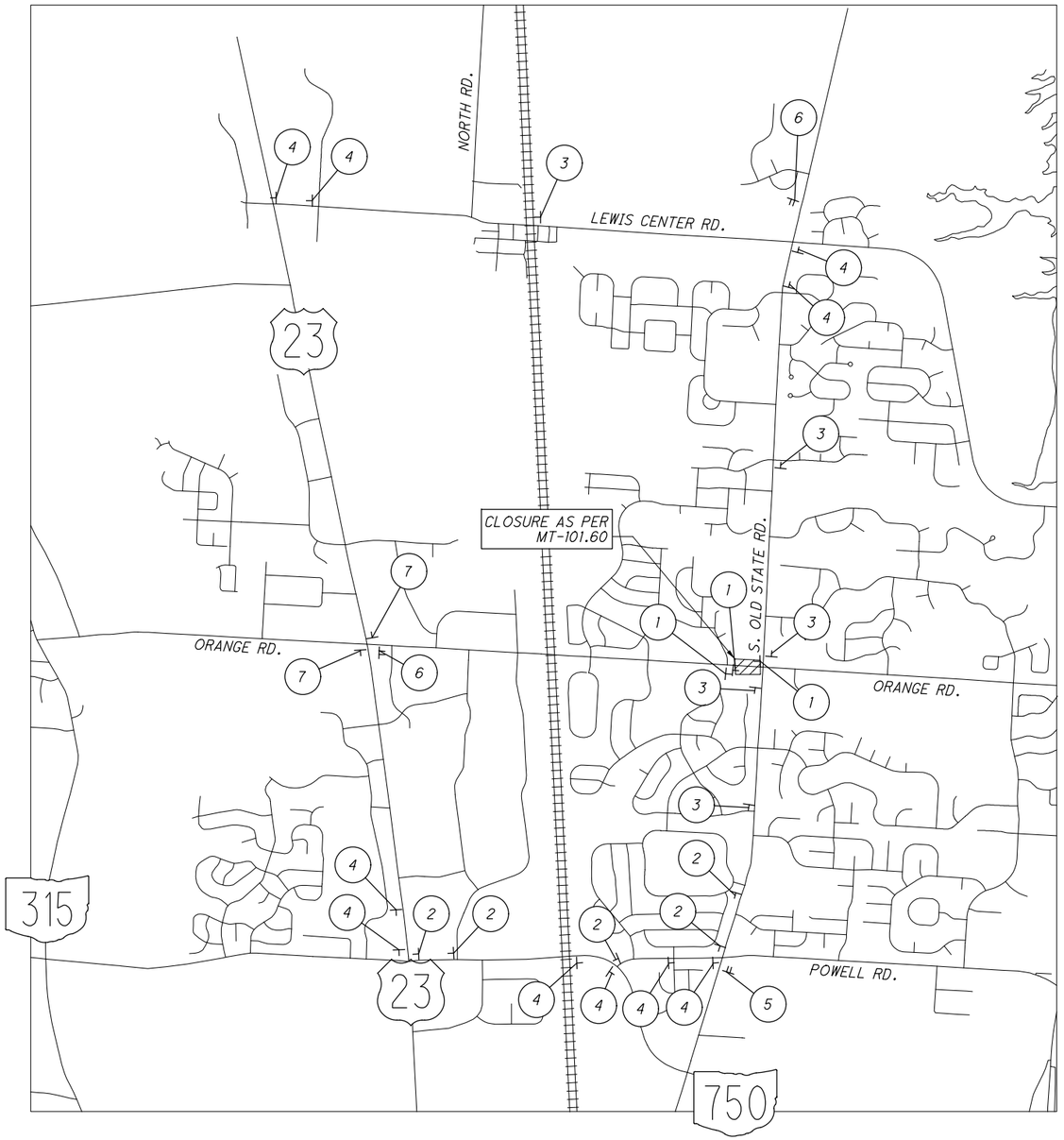
MAINTENANCE OF TRAFFIC
ORANGE ROAD EAST APPROACH DETOUR

DEL-CR10-0.90

2952-DR.E

35
437

ORANGE ROAD WEEKEND DETOUR FOR WEST APPROACH



WEST ORANGE ROAD CLOSURE

THE WEST APPROACH OF ORANGE ROAD SHALL BE CONSTRUCTED OVER ONE WEEKEND DURING THE TIME WHEN PHASE 1B OF ORANGE ROAD IS IN OPERATION. ALL PROPOSED PAVEMENT BETWEEN STATION 917+50 AND STATION 920+46 SHALL BE COMPLETED UP TO, BUT NOT INCLUDING THE SURFACE PAVEMENT COURSE. THE FOLLOWING CONDITIONS SHALL APPLY:

1. *THE CONTRACTOR SHALL NOTIFY BOTH ORANGE TWP FIRE STATIONS A MINIMUM OF 7 DAYS IN ADVANCE OF THE CLOSURE, INFORMING THEM OF THE TIME AND ANTICIPATED DURATION OF THE CLOSURE*

   STATION 361 - 740-548-6346
   STATION 362 - 740-548-5315

2. *THE CLOSURE SHALL BE NOT BE MADE BEFORE 7:00 PM ON A FRIDAY*
3. *THE EXISTING THREE WESTBOUND LANES SHALL BE OPEN TO TRAFFIC NO LATER THAN 5:00 AM THE FOLLOWING MONDAY.*
4. *THE CLOSURE SHALL NOT TAKE PLACE OVER MEMORIAL DAY WEEKEND, THE WEEKEND NEAREST TO JULY 4", OR LABOR DAY WEEKEND.*
5. *LIQUIDATED DAMAGES IN THE AMOUNT OF $600 PER HOUR, OR PART OF AN HOUR SHALL BE ASSESSED FOR ANY PERIOD THE ROAD IS CLOSED PRIOR TO 7:00 PM ON A FRIDAY OR REMAINS CLOSED BEYOND 5:00 AM THE FOLLOWING MONDAY.*

W20-H13-60
SIGN SHALL ERECTED 14 DAYS BEFORE THE CLOSURE

(1)

SIGN SPECIAL M4-9R

(2)

SIGN SPECIAL M4-9R

(3)

SIGN SPECIAL M4-9L

(4)

TYPE III BARRIER
TYPE "A" WARNING LIGHTS
SIGN SPECIAL 48" X 60"
M4-10L

(5)

TYPE III BARRIER
TYPE "A" WARNING LIGHTS
SIGN SPECIAL 48" X 60"
M4-10R

(6)

M4-8A

(7)

0 750 1500 3000
HORIZONTAL SCALE IN FEET

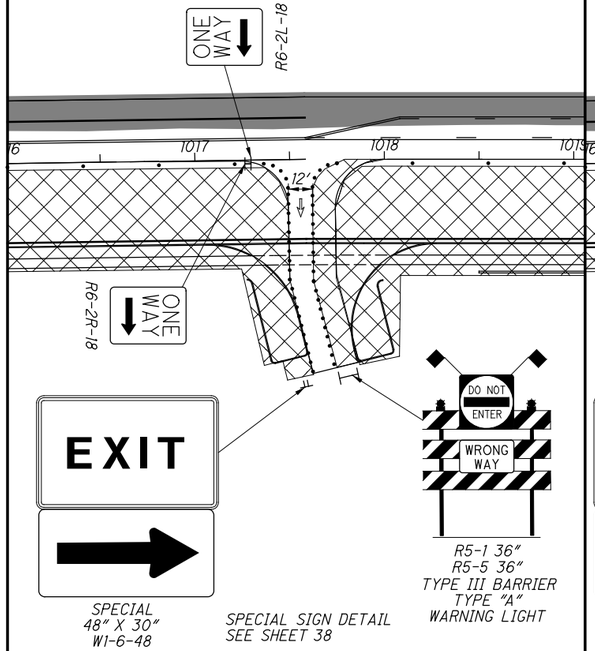
CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC
ORANGE ROAD WEST APPROACH DETOUR

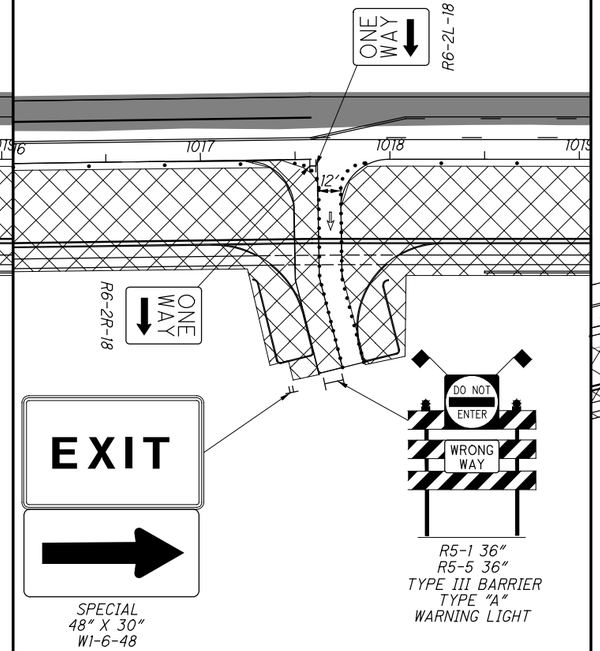
DEL-CR10-0.90

2952-DR.E

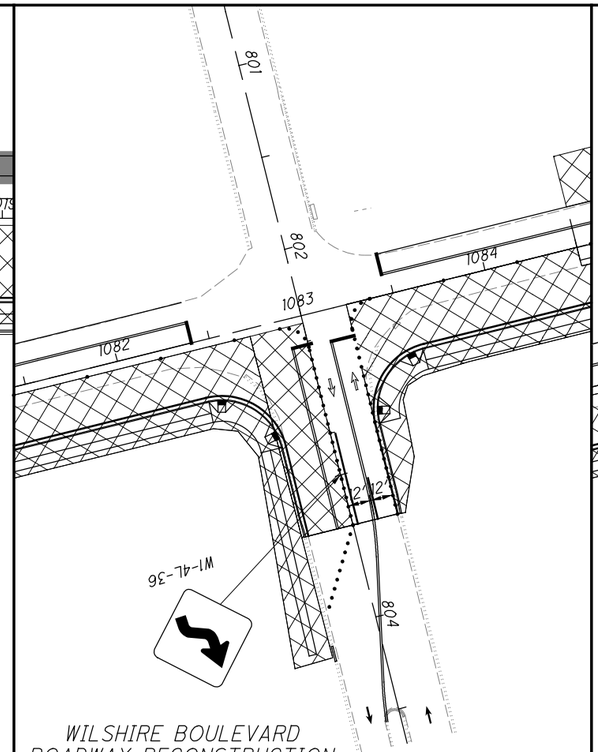
36
437



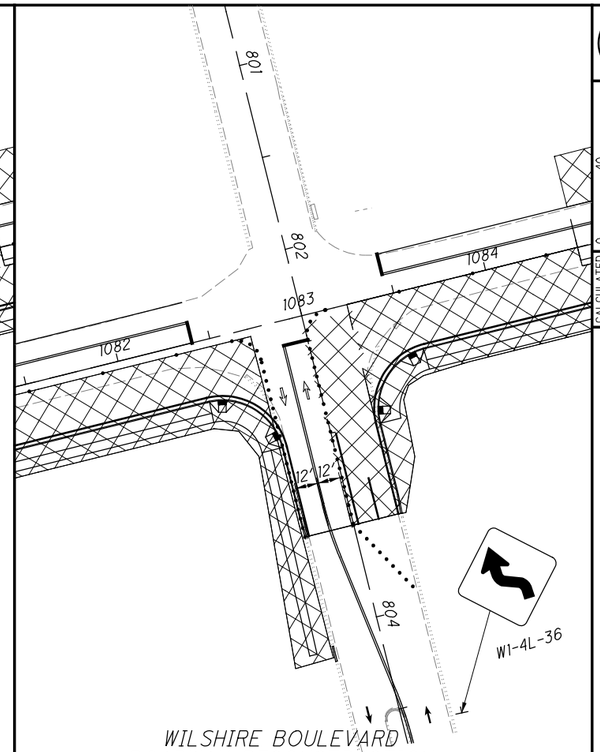
TYPICAL COMMERCIAL DRIVE - ONE WAY STAGE 1



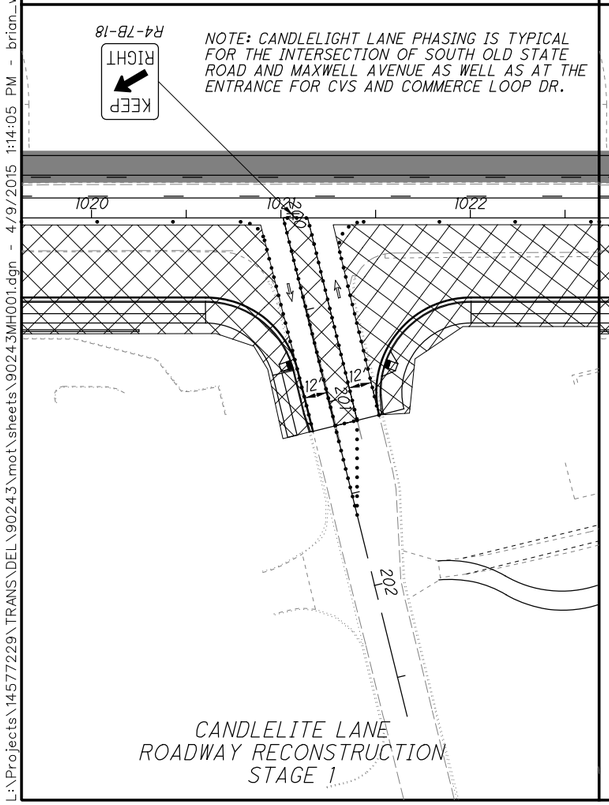
TYPICAL COMMERCIAL DRIVE - ONE WAY STAGE 2



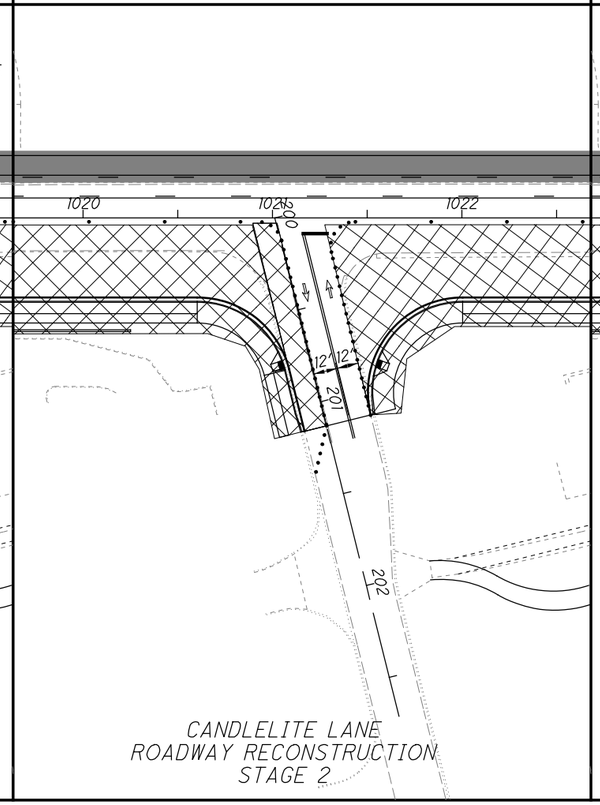
WILSHIRE BOULEVARD ROADWAY RECONSTRUCTION STAGE 1



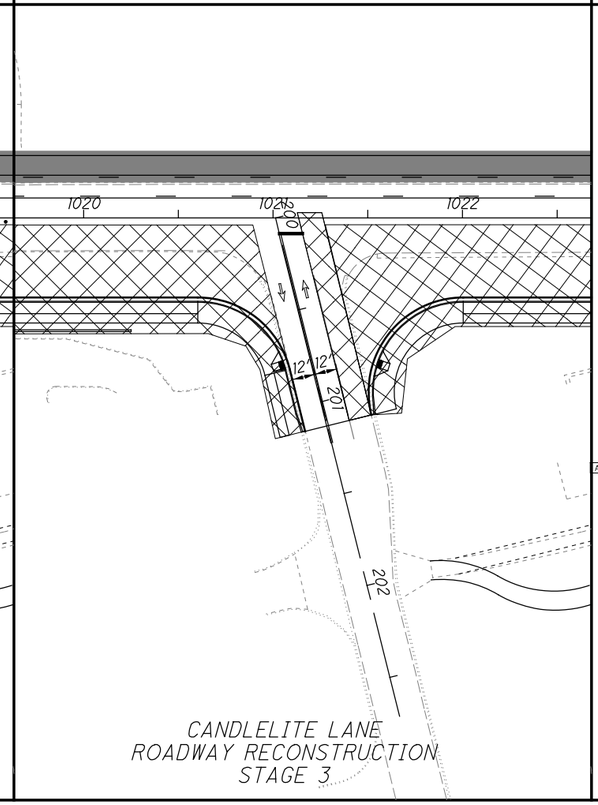
WILSHIRE BOULEVARD ROADWAY RECONSTRUCTION STAGE 2



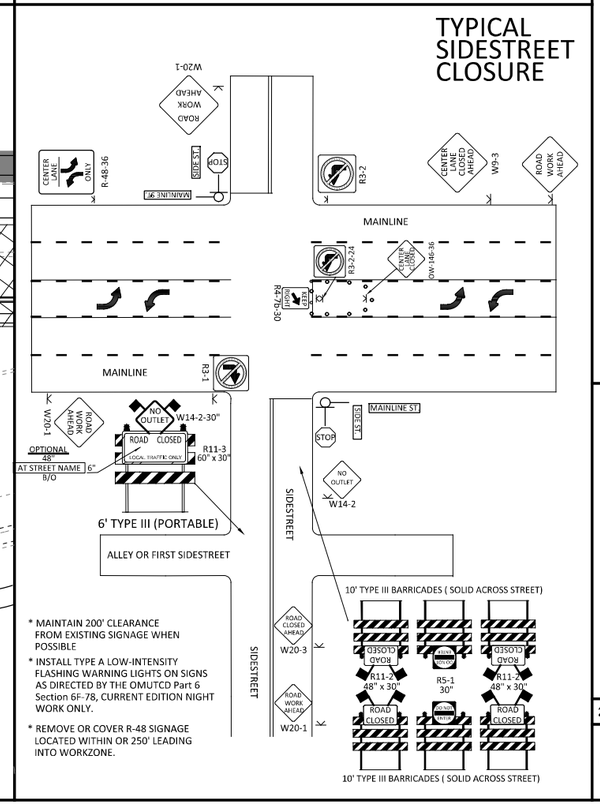
CANDLELITE LANE ROADWAY RECONSTRUCTION STAGE 1



CANDLELITE LANE ROADWAY RECONSTRUCTION STAGE 2



CANDLELITE LANE ROADWAY RECONSTRUCTION STAGE 3



HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1 SIDE STREET AND DRIVEWAY DETAILS

DEL-CR10-0.90

2952-DR.E

37
437

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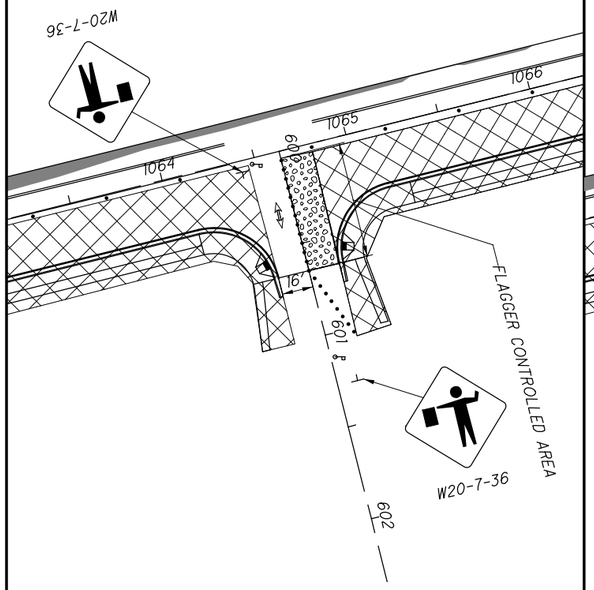
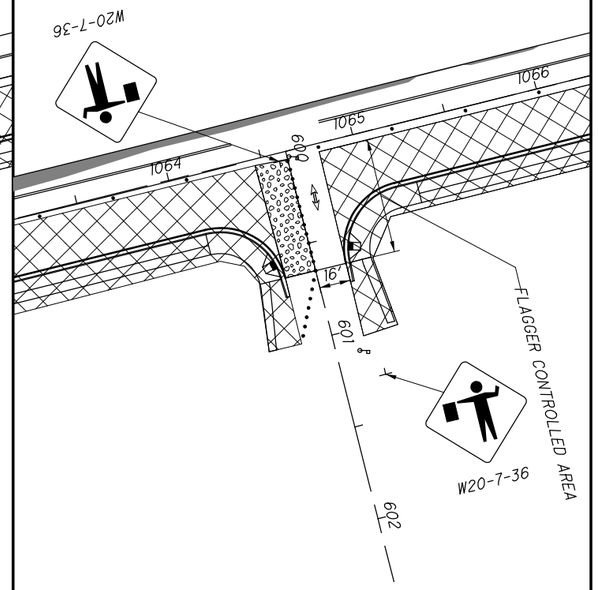


MAXWELL AVENUE
ROADWAY RECONSTRUCTION
STAGE 1

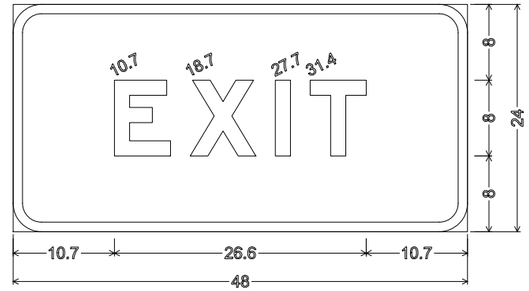


MAXWELL AVENUE
ROADWAY RECONSTRUCTION
STAGE 2

NOTES FOR MAXWELL AVENUE ROADWAY RECONSTRUCTION

MAXWELL AVE. SHALL BE OPEN TO LOCAL TRAFFIC AT ALL TIMES. DURING EXCAVATION, THE CONTRACTOR SHALL MAINTAIN A CONTINUOUS PATH FOR LOCAL RESIDENTS' VEHICLES, EMERGENCY VEHICLES, SERVICE VEHICLES AND MAINTENANCE VEHICLES AT ALL TIMES.

- WHEN EQUIPMENT IS WORKING IN THE AREA, LOCAL TRAFFIC SHALL BE CONTROLLED IN ACCORDANCE WITH MT-97.10 (FLAGGING), MAINTAINING TWO WAY TRAFFIC ON ONE SIDE OF THE MEDIAN
- DURING NON WORKING HOURS, NORMAL TWO-WAY TRAFFIC SHALL BE MAINTAINED ON EACH SIDE OF THE MEDIAN. ALL TRENCHES WITHIN THE ROAD RIGHT-OF-WAY SHALL BE BACKFILLED OR SECURELY PLATED.
- WHEN EQUIPMENT IS NOT WORKING IN THE AREA, A TRAFFIC COMPACTED SURFACE, USING 304 MATERIAL WITH A MINIMUM WIDTH OF 13 FEET AND A MINIMUM THICKNESS OF 6 INCHES, SHALL BE PROVIDED. GRADING AND DRAINAGE SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACING THE 304 MATERIALS
- THE CONTRACTOR SHALL PROVIDE DUST CONTROL IN ACCORDANCE WITH ITEM 616. A QUANTITY OF WATER AND CALCIUM CHLORIDE HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.
- ALL 304 MATERIAL AND INSTALLATION PRIOR TO PLACEMENT OF THE 448 INTERMEDIATE COURSE SHALL CONFORM TO ITEM 304 AND PAID FOR UNDER THIS ITEM.
- THE 448 INTERMEDIATE COURSE SHALL BE PLACED WITHIN THE RESTRICTED PERIOD SHOWN ON SHEET 39
- ALL OTHER MAINTENANCE OF TRAFFIC ACTIVITIES SHALL BE INCLUDED IN THE LUMP SUM PAYMENT FOR ITEM 614, MAINTAINING TRAFFIC.



3.0" Radius, 1.0" Border, White on Orange;
"EXIT" E Mod;

SPECIAL SIGN DETAIL

MAINTAINING FIRE STATION ACCESS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR WORKING OUT THE DETAILS FOR THE RECONSTRUCTION OF THE FIRE STATION DRIVEWAYS BETWEEN STA. 102+50 AND STA. 105+00. THE CONTRACTOR SHALL CONTACT ORANGE TOWNSHIP FIRE STATION 362 AT 740-548-5135 TO WORK OUT A SEQUENCE OF OPERATIONS THAT IS ACCEPTABLE TO THE FIRE STATION PERSONNEL AND TO THE ENGINEER.

ACCESS FROM THE DRIVEWAY ACROSS THE PHASE 1A WORK AREA (SHEET 45) SHALL BE ON EXISTING, PROPOSED OR TEMPORARY PAVEMENT. A HARD SURFACE, UNOBSTRUCTED CONNECTION SHALL BE MAINTAINED TO TWO OF THE THREE DRIVEWAYS DURING WORKING HOURS. ACCESS TO THE MAIN BUILDING DRIVE SHALL BE MAINTAINED DURING ALL HOURS OF THE DAY.

CONCRETE FOR THE DRIVEAYS SHALL BE CLASS QC FS AND BE OPENED TO TRAFFIC IN 4 HOURS AFTER PLACEMENT, SUBJECT TO A SATISFACTORY BEAM BREAK.

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

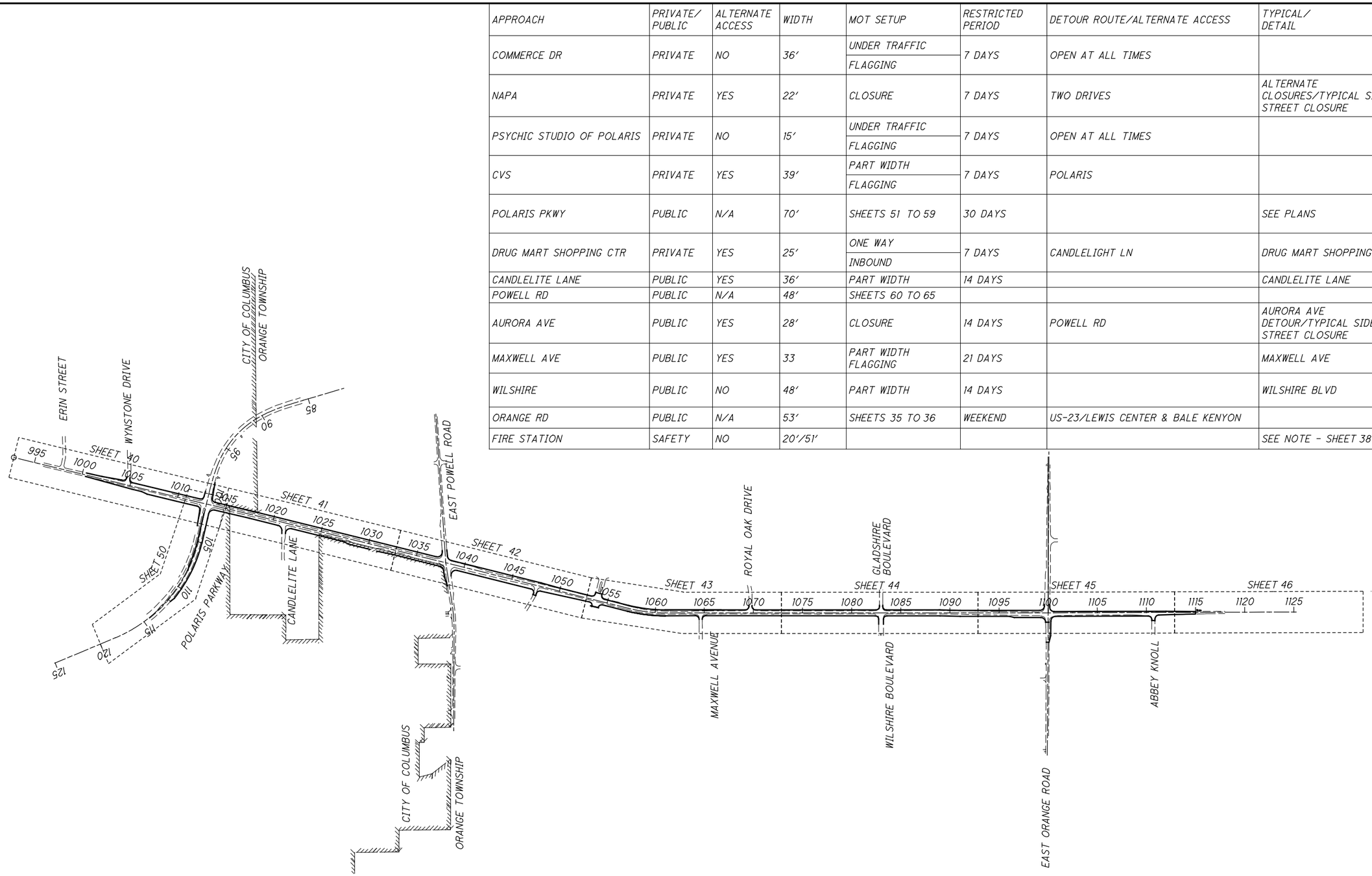
MAINTENANCE OF TRAFFIC - PHASE 1 SIDE STREET AND DRIVEWAY DETAILS

DEL-CR10-0.90

2952-DR.E

38
437

APPROACH	PRIVATE/ PUBLIC	ALTERNATE ACCESS	WIDTH	MOT SETUP	RESTRICTED PERIOD	DETOUR ROUTE/ALTERNATE ACCESS	TYPICAL/ DETAIL
COMMERCE DR	PRIVATE	NO	36'	UNDER TRAFFIC FLAGGING	7 DAYS	OPEN AT ALL TIMES	
NAPA	PRIVATE	YES	22'	CLOSURE	7 DAYS	TWO DRIVES	ALTERNATE CLOSURES/TYPICAL SIDE STREET CLOSURE
PSYCHIC STUDIO OF POLARIS	PRIVATE	NO	15'	UNDER TRAFFIC FLAGGING	7 DAYS	OPEN AT ALL TIMES	
CVS	PRIVATE	YES	39'	PART WIDTH FLAGGING	7 DAYS	POLARIS	
POLARIS PKWY	PUBLIC	N/A	70'	SHEETS 51 TO 59	30 DAYS		SEE PLANS
DRUG MART SHOPPING CTR	PRIVATE	YES	25'	ONE WAY INBOUND	7 DAYS	CANDLELIGHT LN	DRUG MART SHOPPING CTR
CANDLELITE LANE	PUBLIC	YES	36'	PART WIDTH	14 DAYS		CANDLELITE LANE
POWELL RD	PUBLIC	N/A	48'	SHEETS 60 TO 65			
AURORA AVE	PUBLIC	YES	28'	CLOSURE	14 DAYS	POWELL RD	AURORA AVE DETOUR/TYPICAL SIDE STREET CLOSURE
MAXWELL AVE	PUBLIC	YES	33	PART WIDTH FLAGGING	21 DAYS		MAXWELL AVE
WILSHIRE	PUBLIC	NO	48'	PART WIDTH	14 DAYS		WILSHIRE BLVD
ORANGE RD	PUBLIC	N/A	53'	SHEETS 35 TO 36	WEEKEND	US-23/LEWIS CENTER & BALE KENYON	
FIRE STATION	SAFETY	NO	20'/51'				SEE NOTE - SHEET 38



N

0 250 500 1000
HORIZONTAL SCALE IN FEET

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1 PLAN SHEET LAYOUT

DEL-CR10-0.90

2952-DR.E

39
437

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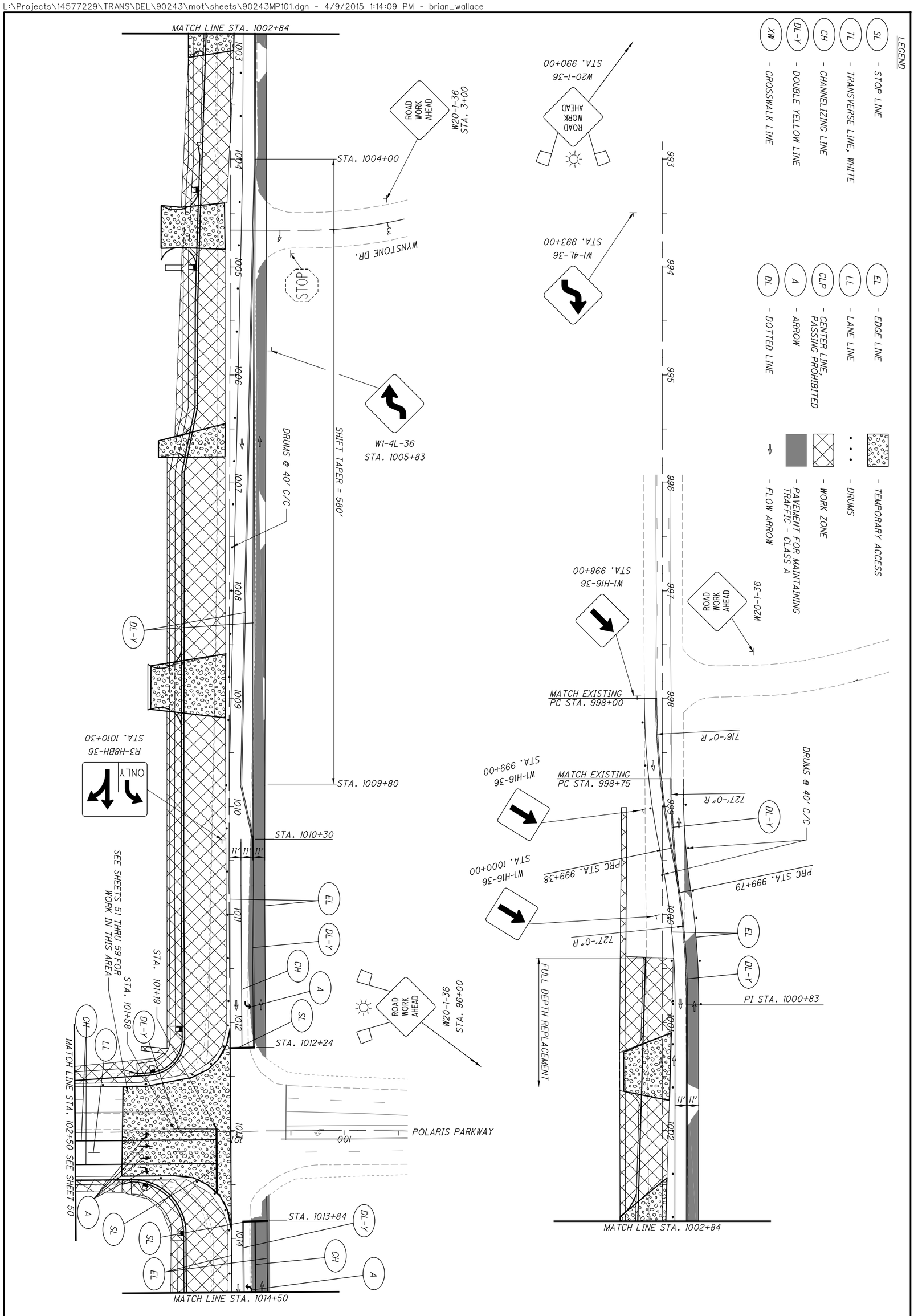
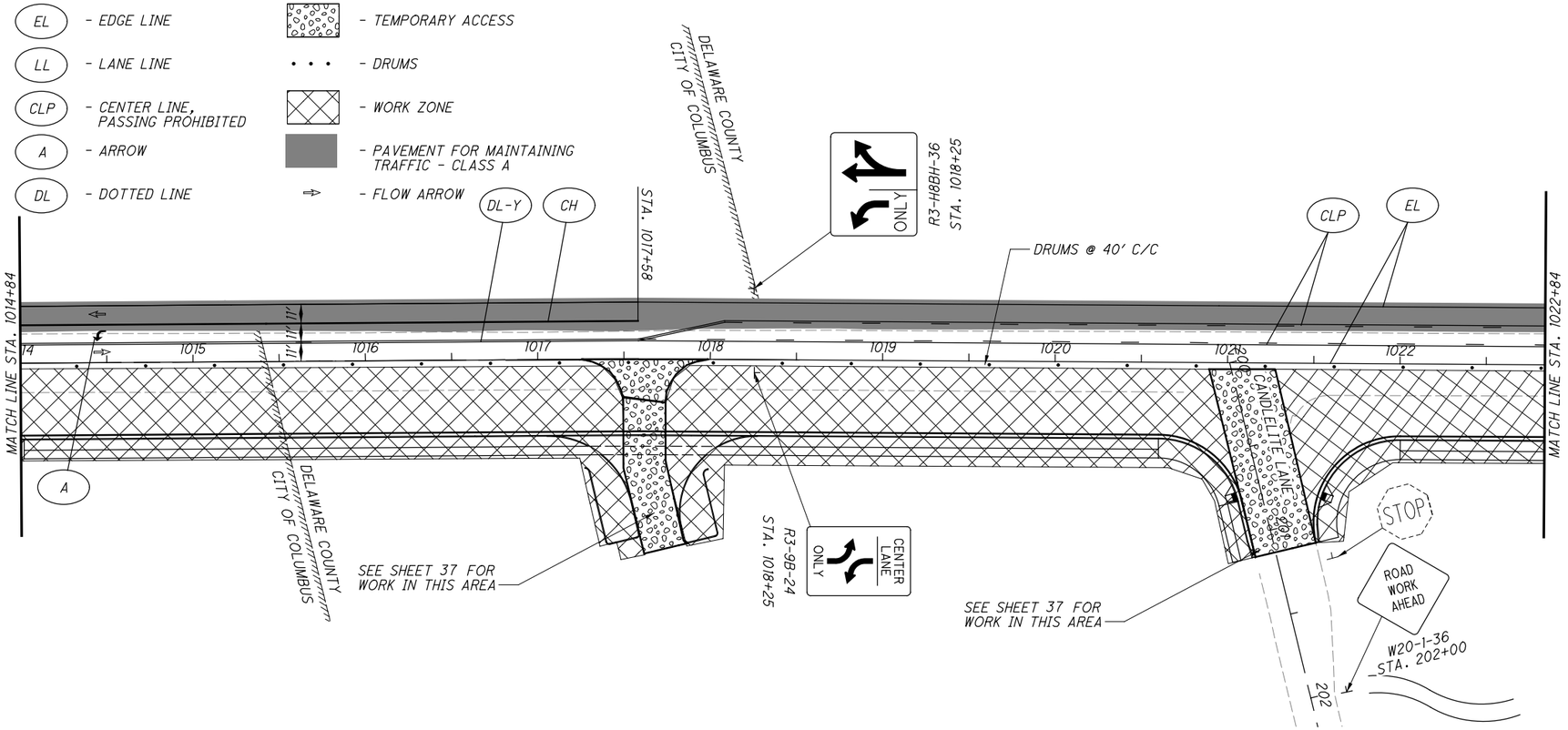


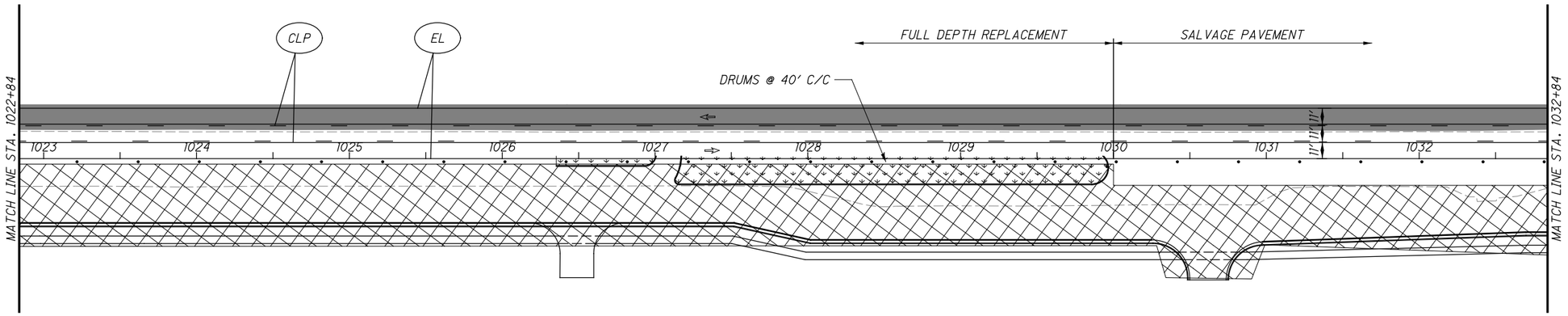
40 / 437	2952-DR-E	**DEL-CR10-0.90**	**MAINTENANCE OF TRAFFIC - PHASE 1** **S. OLD STATE RD. - STA. 993+00 TO STA. 1014+50**	CALCULATED EJT CHECKED RAM	0 40 20 80 HORIZONTAL SCALE IN FEET

LEGEND

SL	- STOP LINE	EL	- EDGE LINE
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW
XW	- CROSSWALK LINE	DL	- DOTTED LINE

- TEMPORARY ACCESS
- DRUMS
- WORK ZONE
- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
- FLOW ARROW





HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
S OLD STATE RD - STA. 1014+50 TO STA. 1032+84

DEL-CR10-0.90

2952-DR.E

41
437

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LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
S OLD STATE RD - STA. 1032+84 TO STA. 1052+84

DEL-CR10-0.90

2952-DR.E

42
437

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW

W20-1-36
STA. 501+00
ROAD WORK AHEAD

STOP

LITTLE BEAR

501

502

503

504

MATCH LINE STA. 1052+84

1053 1054 1055 1056 1057 1058 1059 1060 1061 1062

DL-Y EL

11'

MATCH LINE STA. 1062+86

W20-1-36
STA. 702+50
ROAD WORK AHEAD

ROYAL OAK DRIVE

702

703

STA. 1064+36

STA. 1064+85

MATCH LINE STA. 1062+86

1063 1064 1065 1066 1067 1068 1069 1070 1071 1072

DL-Y EL

11'

MATCH LINE STA. 1072+86

STOP

MAINTAIN ON TEMPORARY SUPPORT

SEE SHEET 38 FOR WORK IN THIS AREA

MAXWELL AVENUE

601

602

ROAD WORK AHEAD

W20-1-36
STA. 601+50

N

0 20 40 80
HORIZONTAL SCALE IN FEET

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
S OLD STATE RD - STA. 1052+84 TO STA. 1072+86

DEL-CR10-0.90

2952-DR.E

43
437

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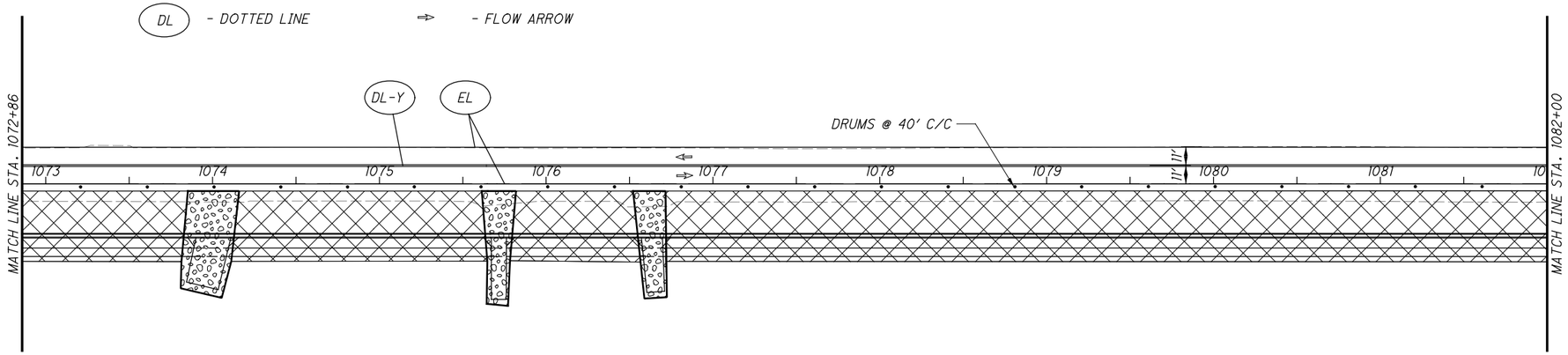
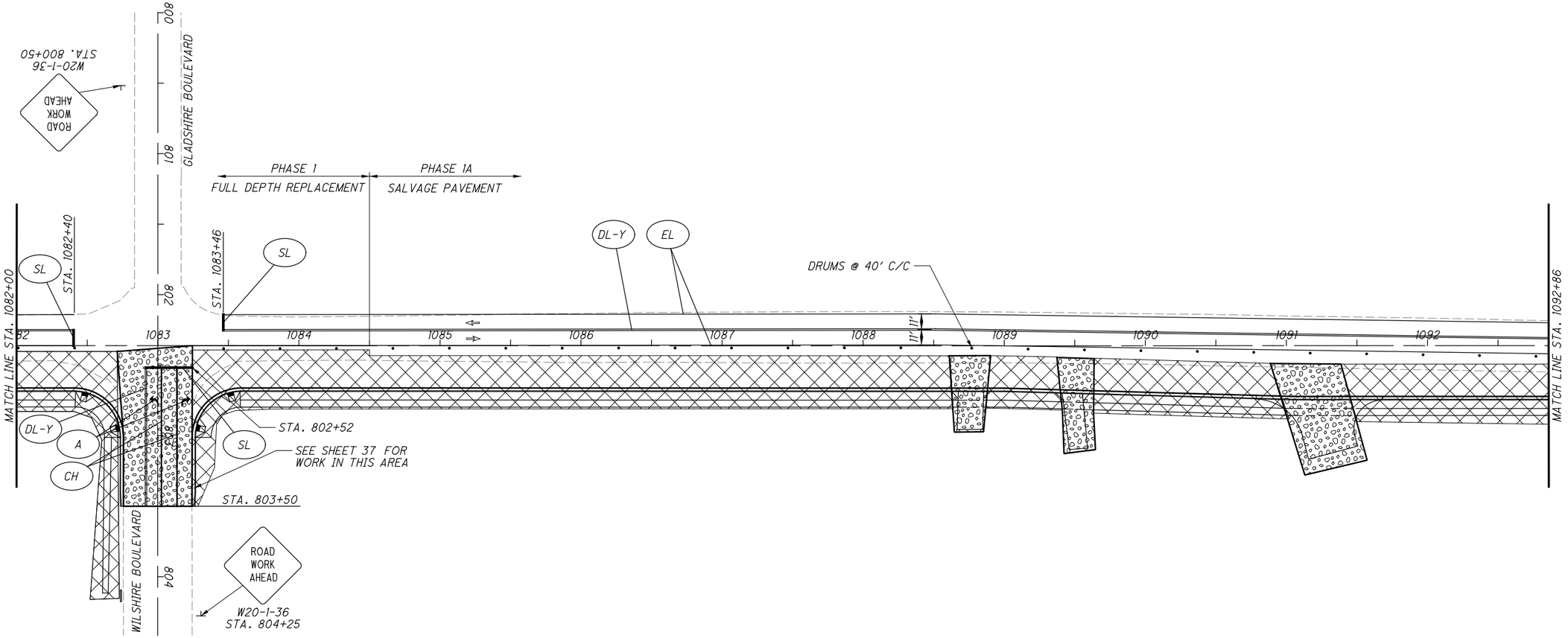
LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇒	- FLOW ARROW





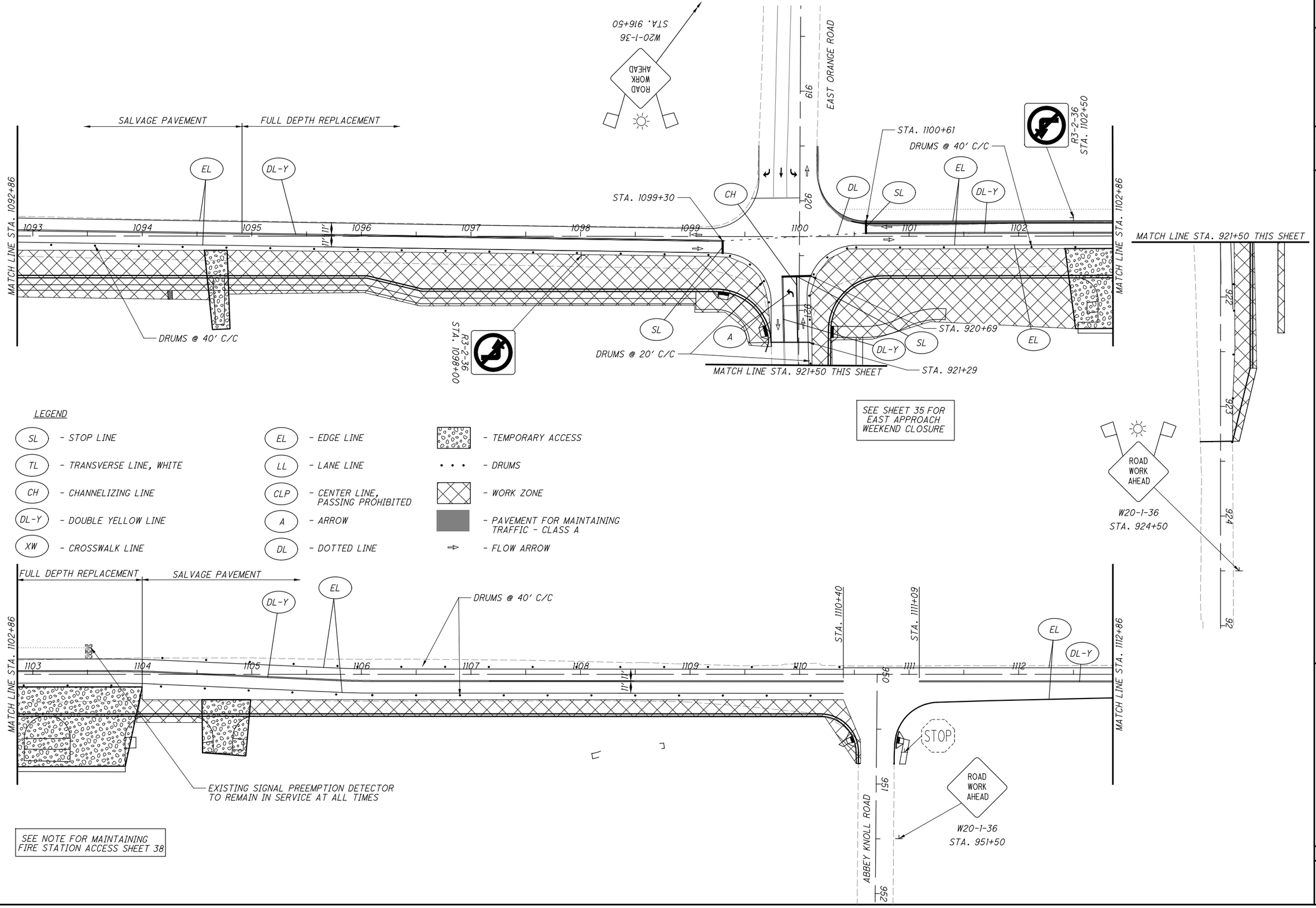
HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1/1A
S OLD STATE RD - STA. 1072+86 TO STA. 1092+86

DEL-CR10-0.90

2952-DR.E


SALVAGE PAVEMENT
FULL DEPTH REPLACEMENT
EL
DL-Y
MATCH LINE STA. 1092+86
1093
1094
1095
1096
1097
1098
1099
1100
1101
1102
11'
DRUMS @ 40' C/C
R3-2-36
STA. 1098+00
W20-1-36
STA. 916+50
ROAD WORK AHEAD
EAST ORANGE ROAD
STA. 1099+30
CH
SL
A
DRUMS @ 20' C/C
MATCH LINE STA. 921+50 THIS SHEET
STA. 921+29
STA. 1100+61
DRUMS @ 40' C/C
DL
R3-2-36
STA. 1102+50
STA. 920+69
MATCH LINE STA. 1102+86
MATCH LINE STA. 921+50 THIS SHEET
916
920
924
926
928
LEGEND
SL - STOP LINE
TL - TRANSVERSE LINE, WHITE
CH - CHANNELIZING LINE
DL-Y - DOUBLE YELLOW LINE
XW - CROSSWALK LINE
EL - EDGE LINE
LL - LANE LINE
CLP - CENTER LINE, PASSING PROHIBITED
A - ARROW
DL - DOTTED LINE
- TEMPORARY ACCESS
- DRUMS
- WORK ZONE
- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
- FLOW ARROW
SEE SHEET 35 FOR EAST APPROACH WEEKEND CLOSURE
ROAD WORK AHEAD
W20-1-36
STA. 924+50
FULL DEPTH REPLACEMENT
SALVAGE PAVEMENT
DL-Y
EL
DRUMS @ 40' C/C
MATCH LINE STA. 1102+86
1103
1104
1105
1106
1107
1108
1109
1110
1111
1112
STA. 1110+40
STA. 1111+09
MATCH LINE STA. 1112+86
EXISTING SIGNAL PREEMPTION DETECTOR TO REMAIN IN SERVICE AT ALL TIMES
STOP
ROAD WORK AHEAD
W20-1-36
STA. 951+50
ABBEY KNOLL ROAD
936
951
952
SEE NOTE FOR MAINTAINING FIRE STATION ACCESS SHEET 38
N
0
20
40
80
HORIZONTAL SCALE IN FEET
CALCULATED EJT
CHECKED RAM
MAINTENANCE OF TRAFFIC - PHASE 1A
S OLD STATE RD - STA. 1092+86 TO STA. 1112+86
DEL-CR10-0.90
2952-DR.E
45
437
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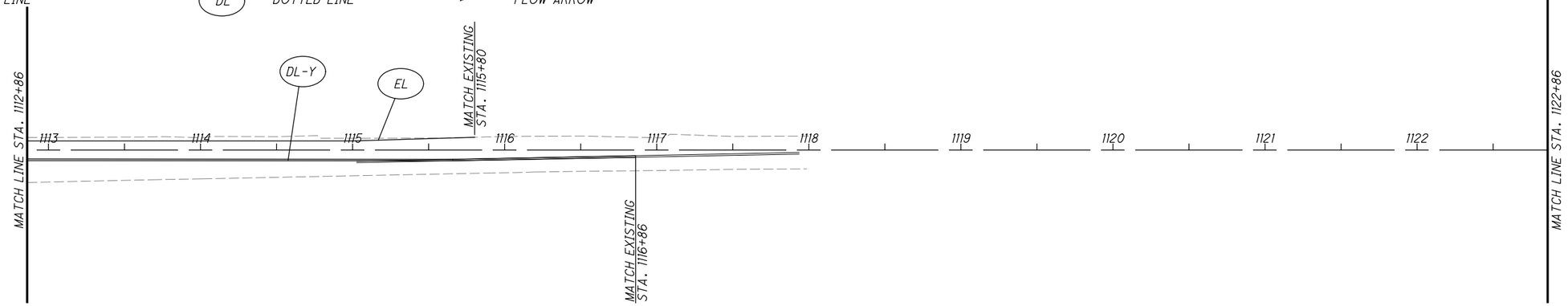
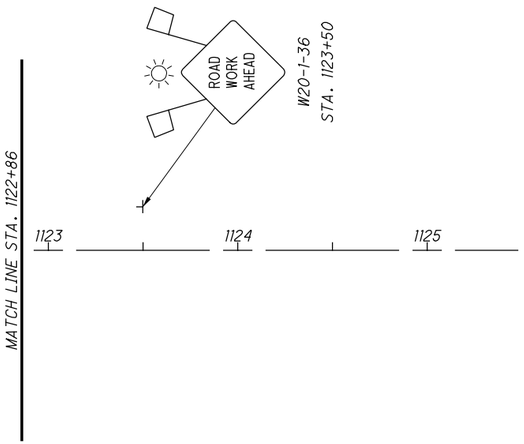
LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW





N

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1A

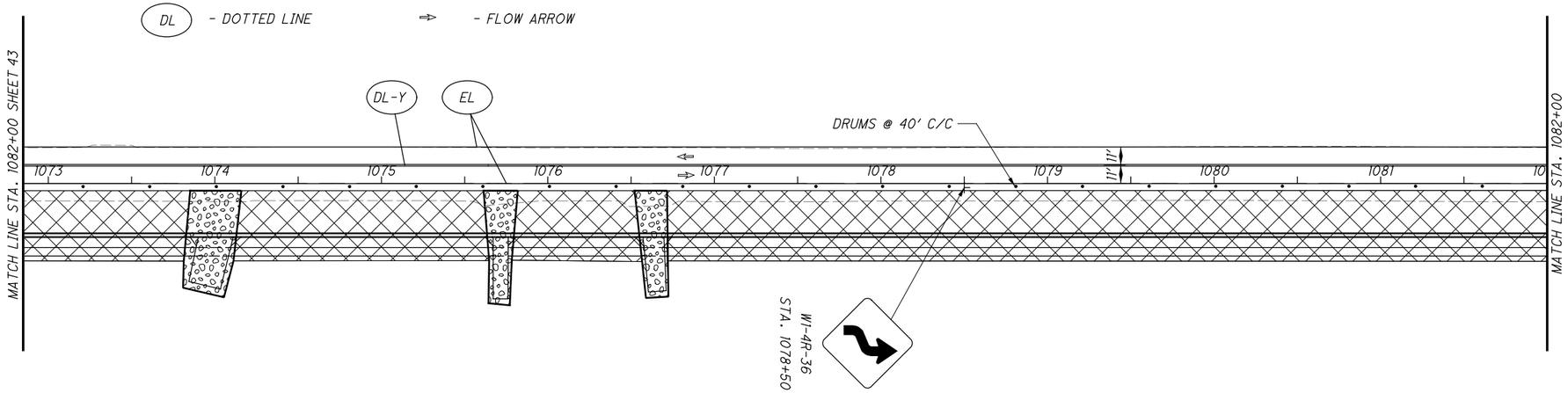
S OLD STATE RD - STA. 1112+86 TO STA. 1125+47

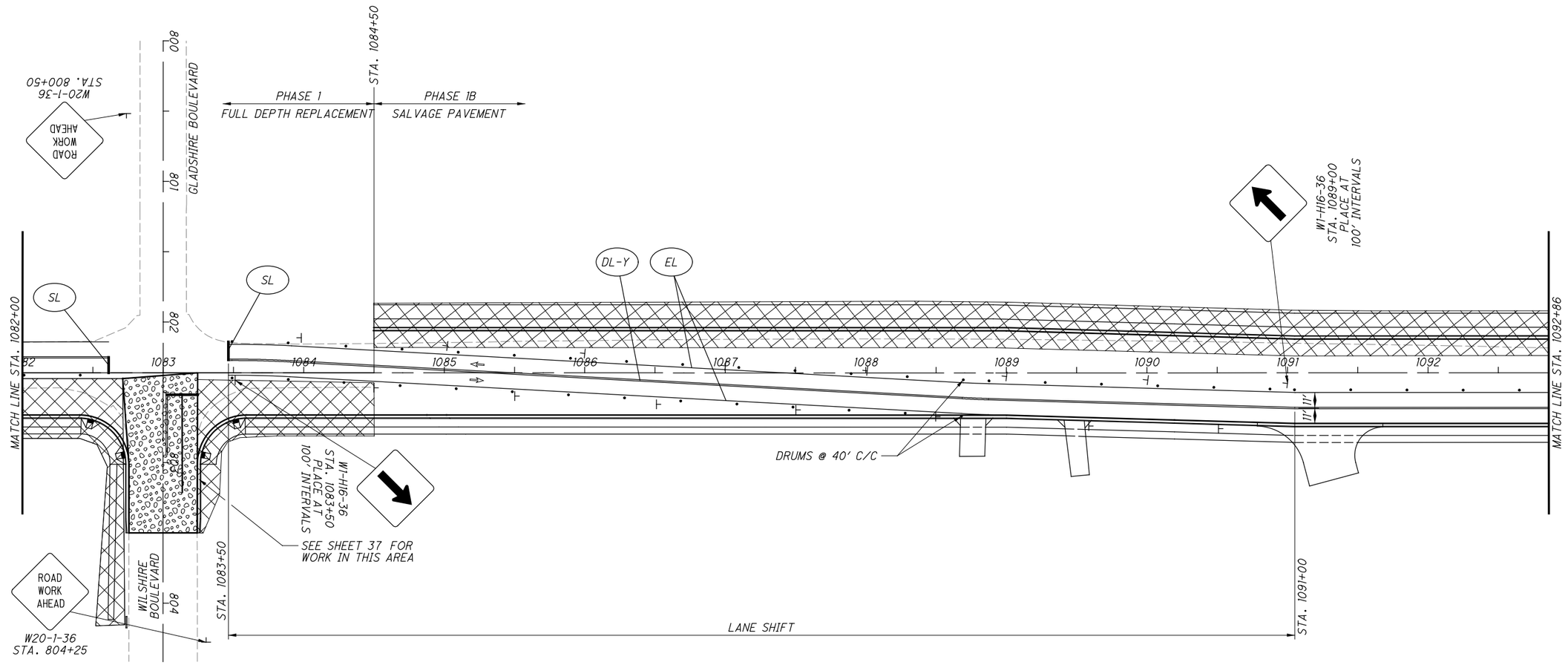
DEL-CR10-0.90

2952-DR.E

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇒	- FLOW ARROW





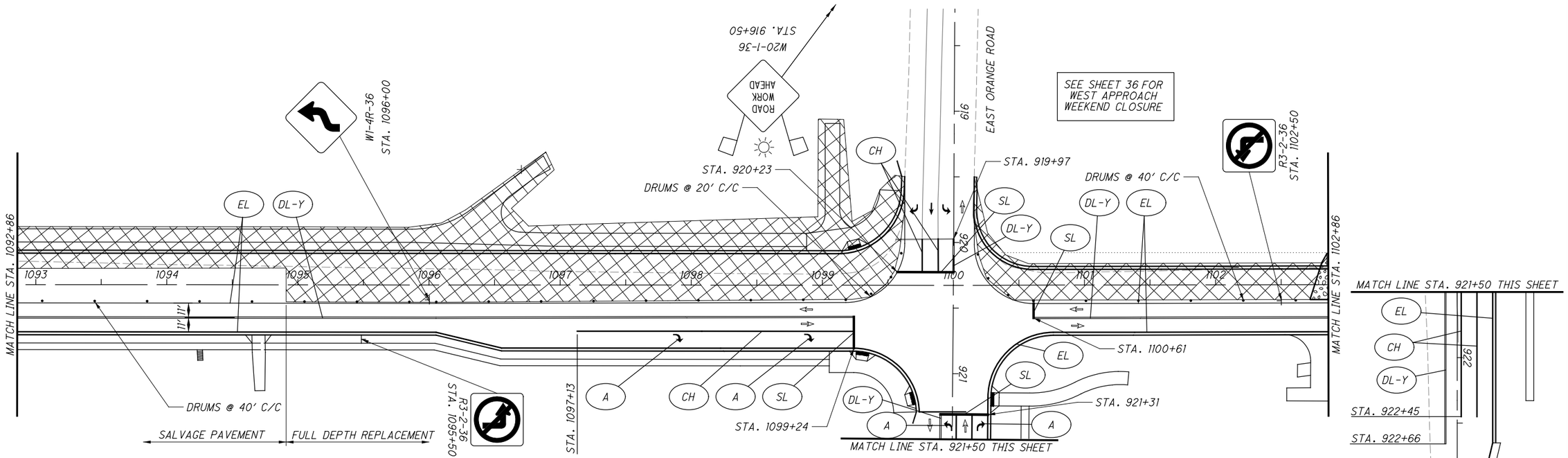
HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1/1B
S OLD STATE RD - STA. 1072+86 TO STA. 1092+86
DEL-CR10-0.90

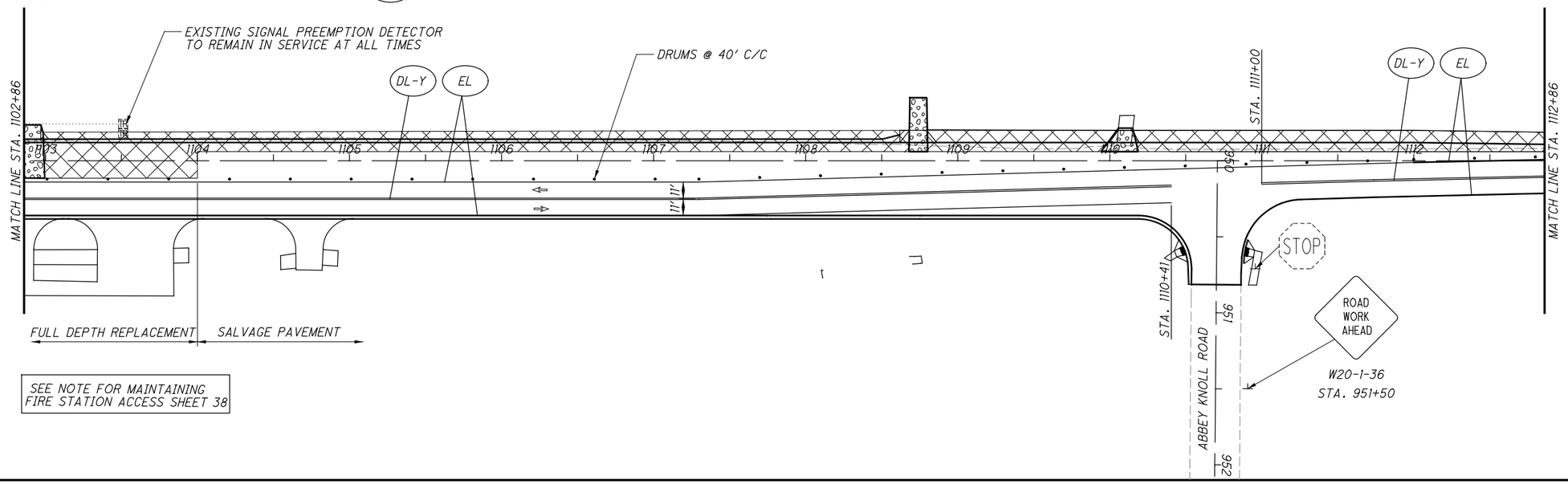
2952-DR.E

47
437



LEGEND

SL - STOP LINE	EL - EDGE LINE		- TEMPORARY ACCESS
TL - TRANSVERSE LINE, WHITE	LL - LANE LINE	• • •	- DRUMS
CH - CHANNELIZING LINE	CLP - CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y - DOUBLE YELLOW LINE	A - ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW - CROSSWALK LINE	DL - DOTTED LINE	⇨	- FLOW ARROW



SEE NOTE FOR MAINTAINING FIRE STATION ACCESS SHEET 38

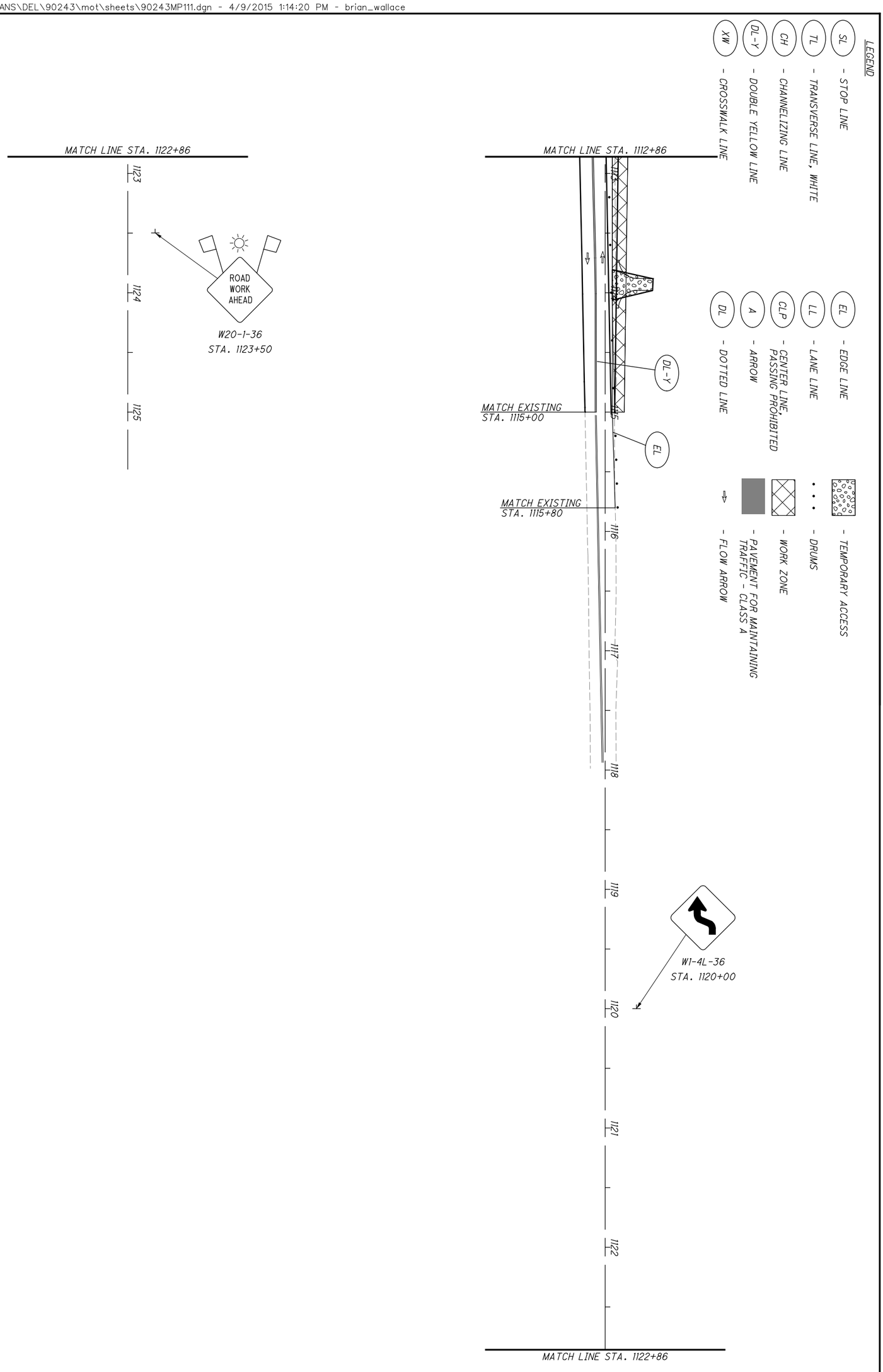
HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1B
S OLD STATE RD - STA. 1092+86 TO STA. 1112+86

DEL-CR10-0.90

2952-DR.E



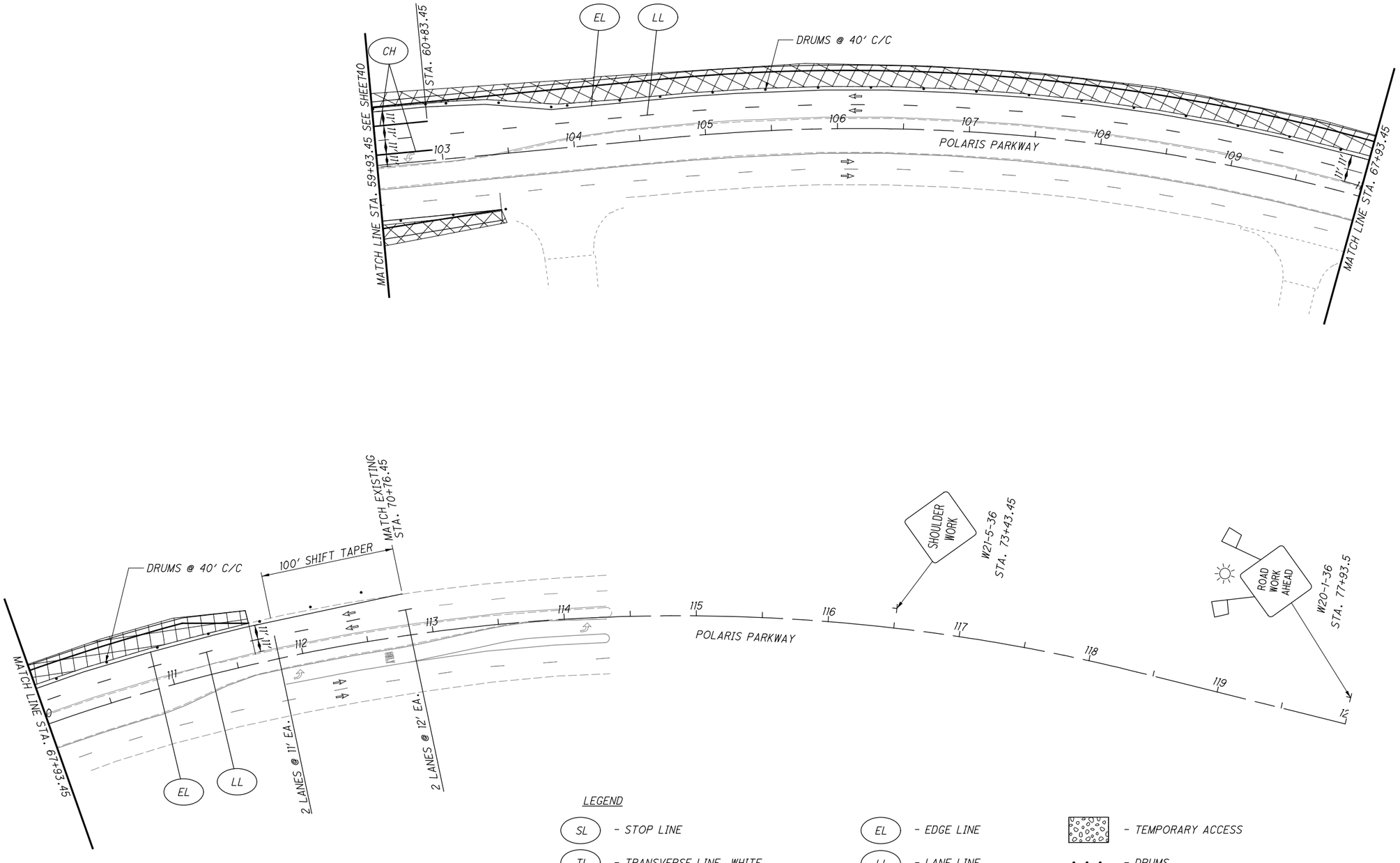
DEL-CR10-0.90

MAINTENANCE OF TRAFFIC - PHASE 1B
S OLD STATE RD - STA. 1112+86 TO STA. 1125+47

CALCULATED EJT
CHECKED RAM

0 20 40 80
HORIZONTAL SCALE IN FEET

N



HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POLARIS PKWY - STA. 57+93.45 TO STA. 77+93.45

DEL-CR10-0.90

2952-DR.E

50
437

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW

K = 261.84'
ΔC = 28° 54' 35" (LT)
Lc = 481.83'
Ts = 824.71'
E = 163.89'
C = 476.73'
C.B.1 = S 18° 33' 48" E
C.B. = S 43° 31' 17" E
C.B.2 = N 68° 28' 47" W

JIFFY LUBE PARKING LOT

POLARIS PARKWAY

90 91 92 93

MATCHLINE - STA. 94+00

PARKHURST DRIVE

STA. 92+00 W20-1-36 ROAD WORK AHEAD

STA. 97+00 G20-2-36 END ROAD WORK

MATCH EXISTING STA. 96+85

MATCH EXISTING STA. 97+69

SPEEDWAY GAS STATION

MATCH EXISTING STA. 98+40

DL-Y LL

MATCHLINE - STA. 94+00

95 96 97 98

MATCHLINE - STA. 99+00

11'

REMOVE CONFLICTING CHEVRONS AND CHANNELIZING LINE

CHARLES PENZONE GRAND SALON

CH A

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED EJT CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POLARIS PKWY DETAIL - STAGE A

DEL-CR10-0.90

2952-DR.E

51
437

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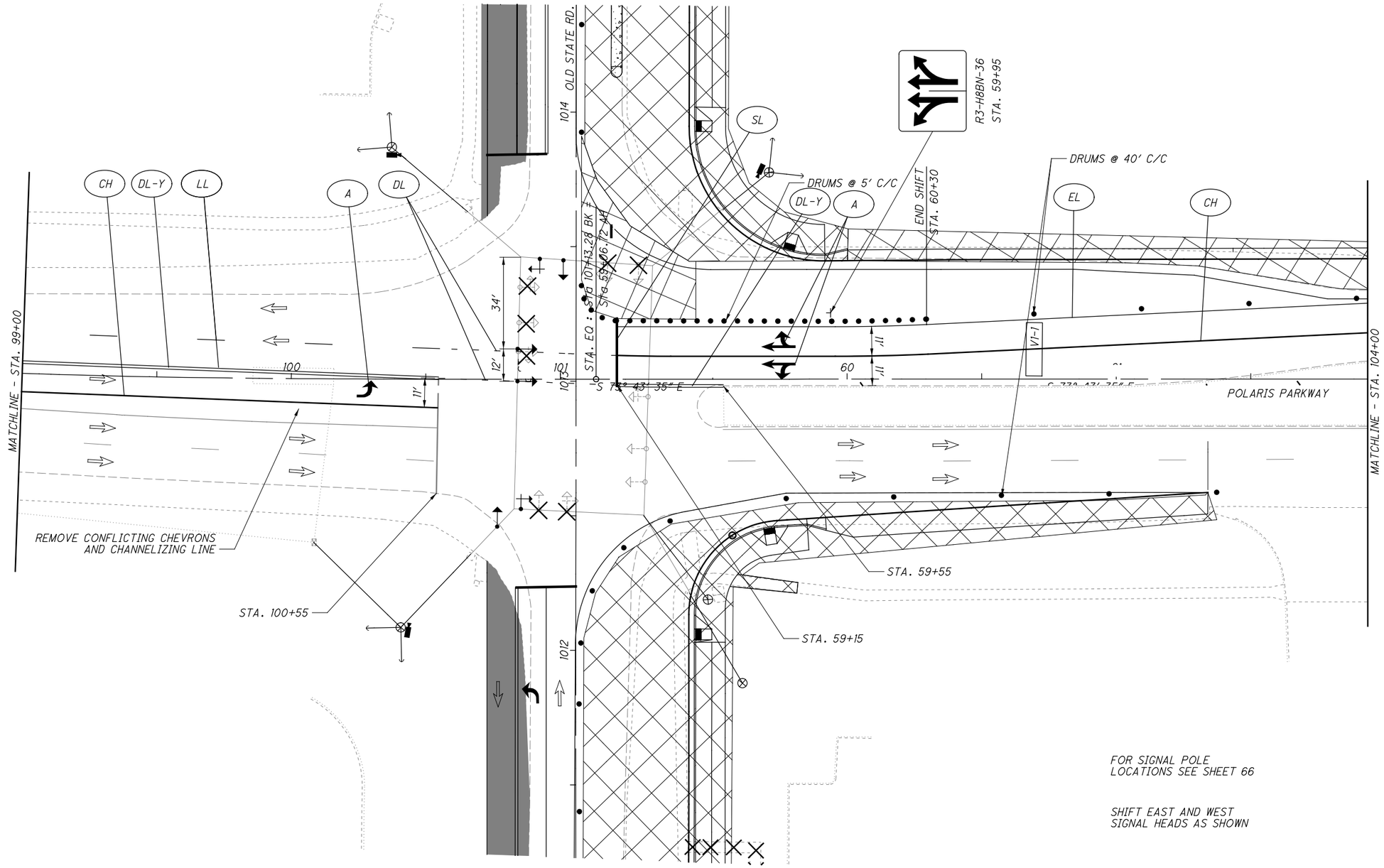
LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇒	- FLOW ARROW



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POLARIS PKWY DETAIL - STAGE A

DEL-CR10-0.90

2952-DR.E

52
437

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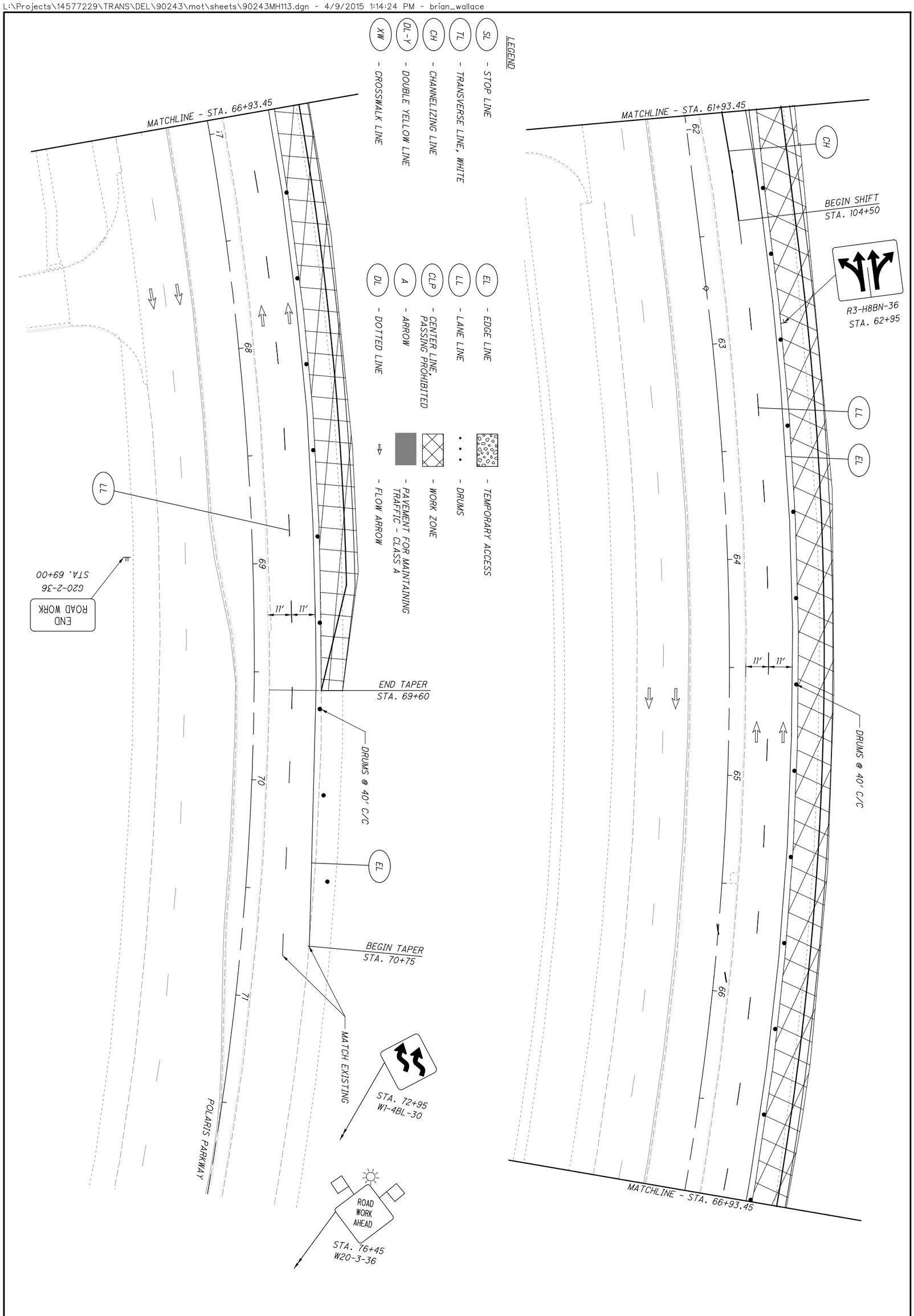

53 / 437	2952-DR.E	DEL-CR10-0.90	MAINTENANCE OF TRAFFIC - PHASE 1 POLARIS PKWY DETAIL - STAGE A	CALCULATED EJT CHECKED RAM	0 10 20 40 HORIZONTAL SCALE IN FEET

LEGEND

SL	- STOP LINE	EL	- EDGE LINE
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW
XW	- CROSSWALK LINE	DL	- DOTTED LINE

- TEMPORARY ACCESS
- DRUMS
- WORK ZONE
- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
- FLOW ARROW

k = 261.84'
Δ = 28° 54' 35" (LT)
Lc = 481.83'
Ts = 824.71'
E = 163.89'
C = 476.73'
C.B.1 = S 18° 33' 48" E
C.B. = S 43° 31' 17" E
C.B.2 = N 68° 28' 47" W

POLARIS PARKWAY

JIFFY LUBE PARKING LOT

PARKHURST DRIVE

MATCHLINE - STA. 94+00

MATCHLINE - STA. 99+00

ROAD WORK AHEAD
W20-1-36
STA. 92+00

END ROAD WORK
G20-2-36
STA. 97+00
FROM PREVIOUS STAGE

MATCH EXISTING
STA. 97+15

SPEEDWAY GAS STATION

STA. 98+15 PC

721' R

EL

CH

DL-Y

11'

11'

12'

CHARLES PENZONE GRAND SALON

90 91 92 93 95 96 97 98

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POLARIS PKWY DETAIL - STAGE B

DEL-CR10-0.90

2952-DR.E

54
437

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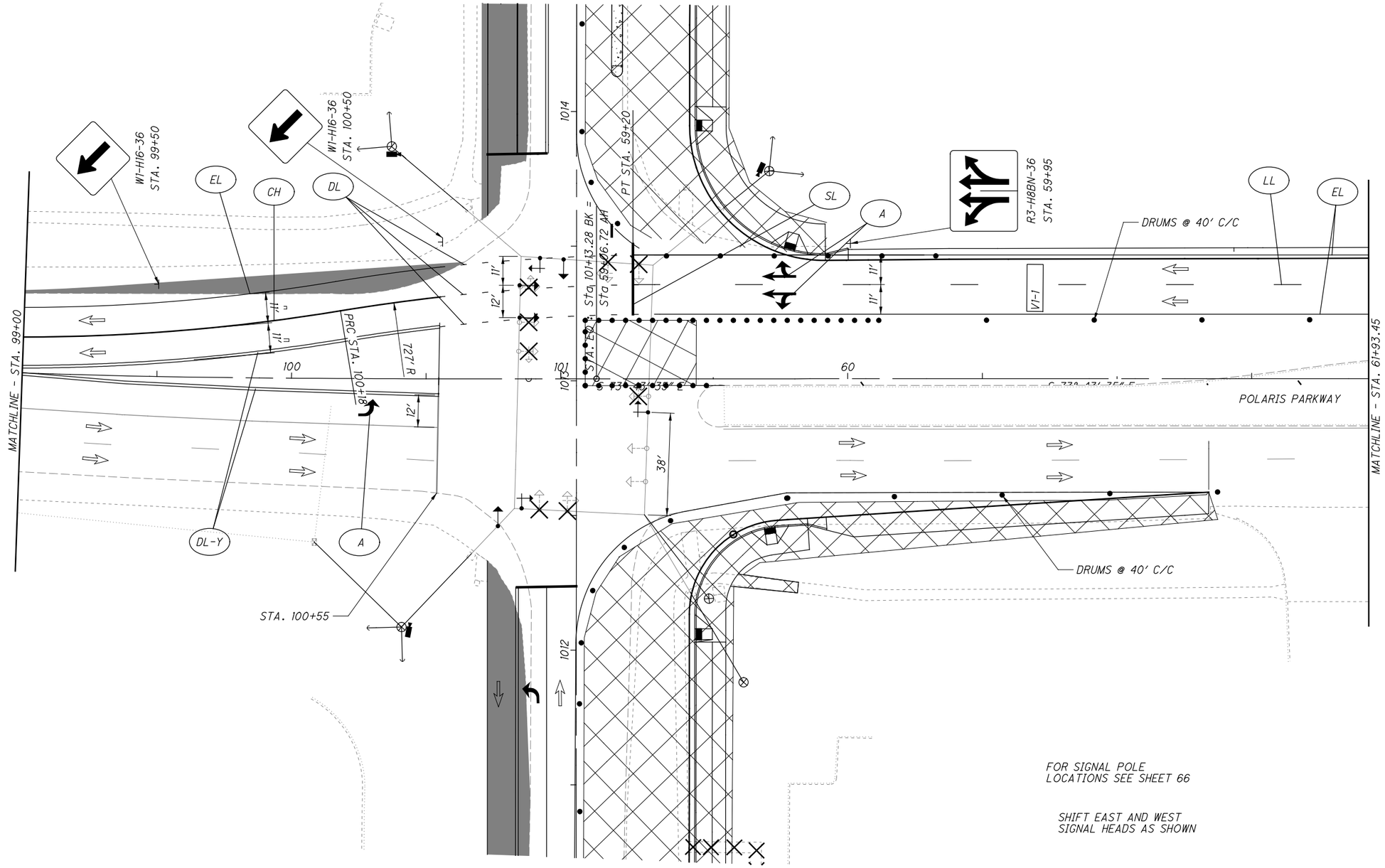
LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POLARIS PKWY DETAIL - STAGE B

DEL-CR10-0.90

2952-DR.E

55
437

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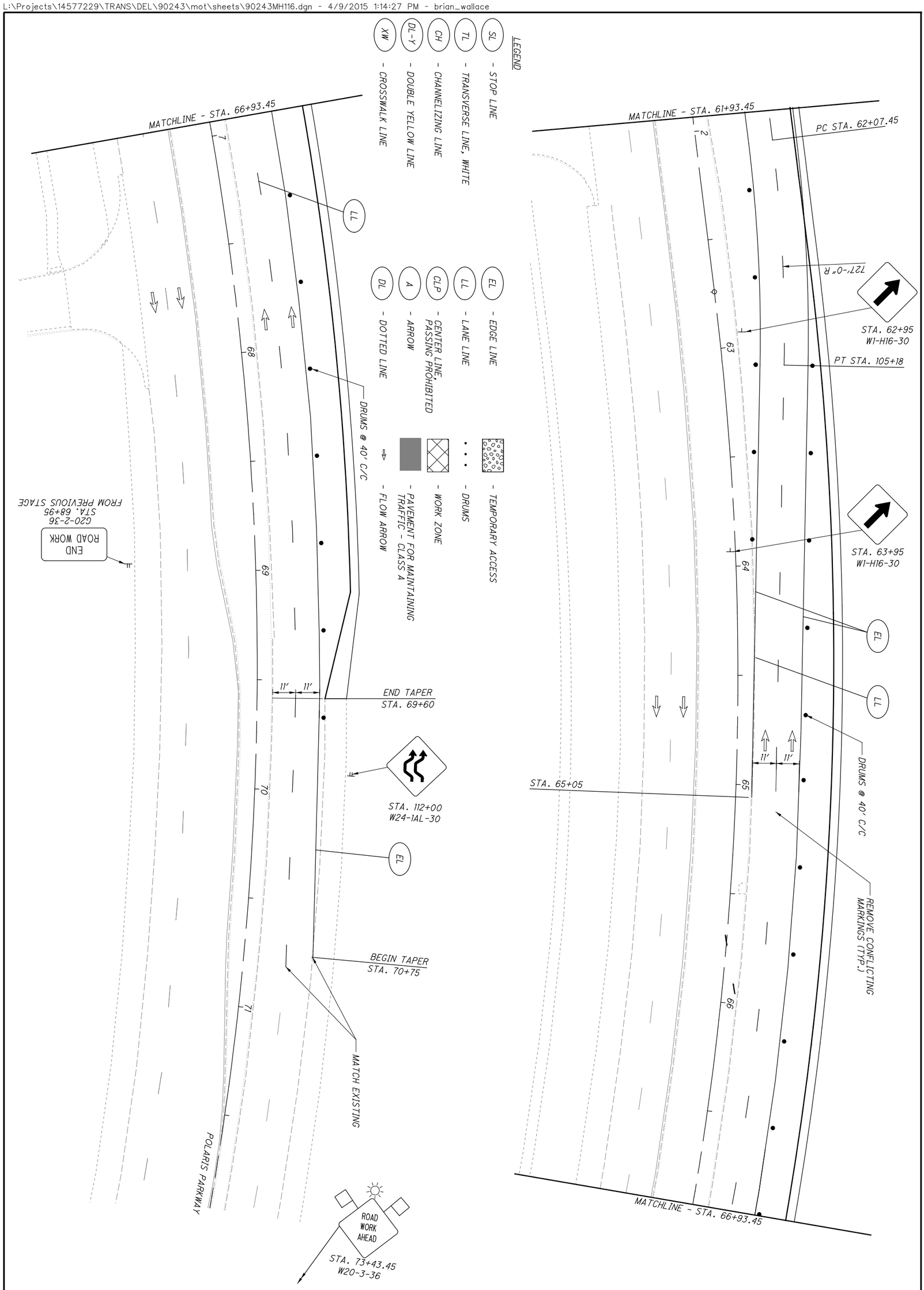
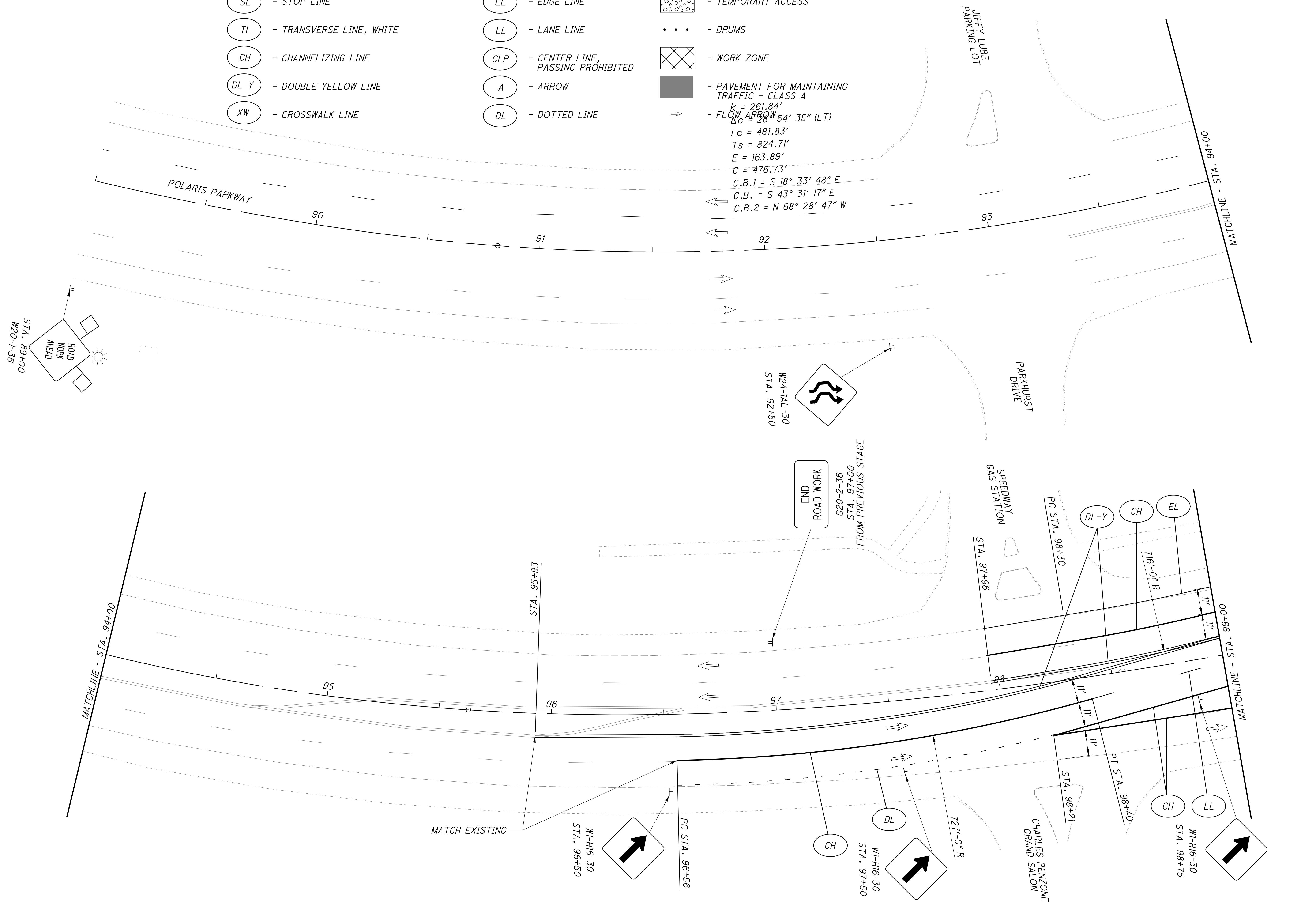


56 / 437	2952-DR-E	**DEL-CR10-0.90**	**MAINTENANCE OF TRAFFIC - PHASE 1** **POLARIS PKWY DETAIL - STAGE B**	CALCULATED EJT CHECKED RAM	0 20 10 40 HORIZONTAL SCALE IN FEET

LEGEND

SL	STOP LINE
TL	TRANSVERSE LINE, WHITE
CH	CHANNELIZING LINE
DL-Y	DOUBLE YELLOW LINE
XW	CROSSWALK LINE
EL	EDGE LINE
LL	LANE LINE
CLP	CENTER LINE, PASSING PROHIBITED
A	ARROW
DL	DOTTED LINE
(pattern)	TEMPORARY ACCESS
• • •	DRUMS
(hatch)	WORK ZONE
(shaded)	PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
(arrow)	FLOW ARROW

k = 261.84'
Δc = 28° 54' 35" (LT)
Lc = 481.83'
Ts = 824.71'
E = 163.89'
C = 476.73'
C.B.1 = S 18° 33' 48" E
C.B. = S 43° 31' 17" E
C.B.2 = N 68° 28' 47" W



0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POLARIS PKWY DETAIL - STAGE C

DEL-CR10-0.90

2952-DR.E

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇒	- FLOW ARROW

FOR SIGNAL POLE LOCATIONS SEE SHEET 66

SHIFT EAST AND WEST SIGNAL HEADS AS SHOWN

HORIZONTAL SCALE IN FEET
0 10 20 40

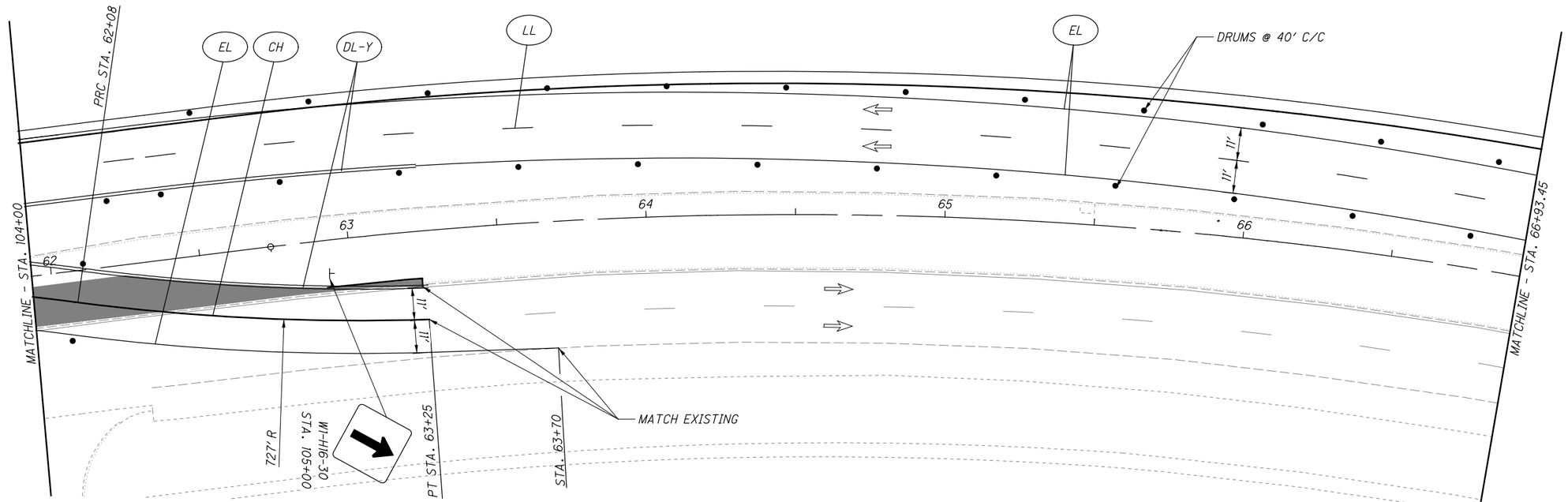
CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POLARIS PKWY DETAIL - STAGE C

DEL-CR10-0.90

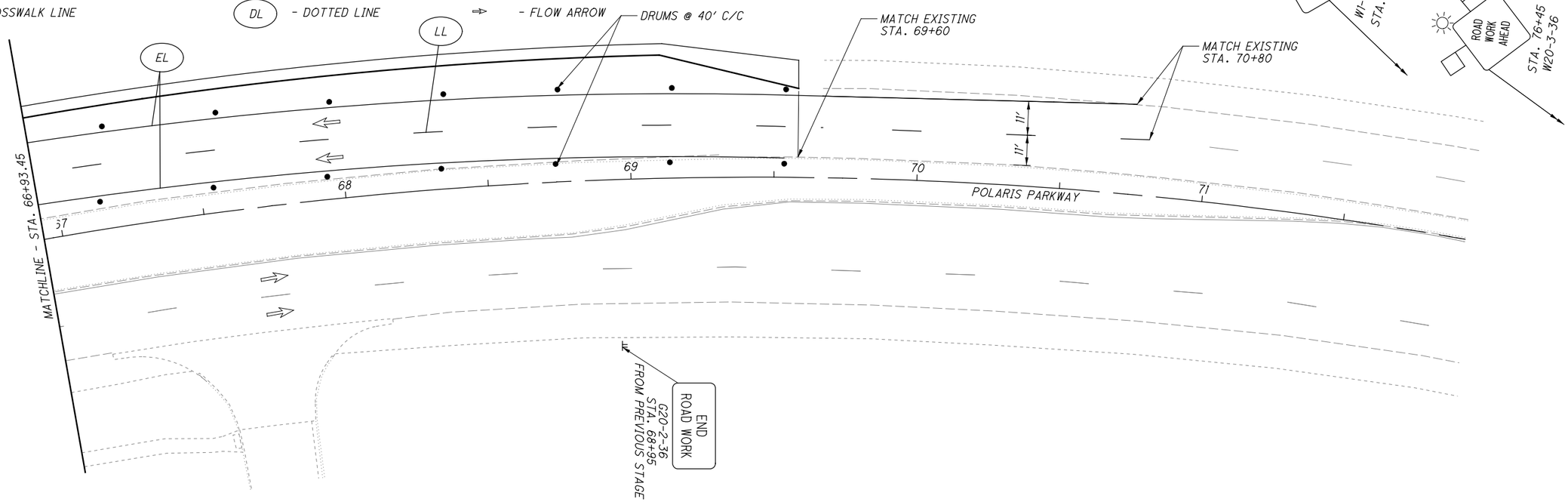
2952-DR.E

58
437



LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇒	- FLOW ARROW



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POLARIS PKWY DETAIL - STAGE C

DEL-CR10-0.90

2952-DR.E

59
437

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LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇒	- FLOW ARROW

N

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED	CHECKED
EJT	RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POWELL ROAD DETAIL - STAGE A

DEL-CR10-0.90

2952-DR.E

60
437

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW

FOR SIGNAL POLE LOCATIONS SEE SHEET 67

SHIFT EAST AND WEST SIGNAL HEADS AS SHOWN

HORIZONTAL SCALE IN FEET
0 10 20 40

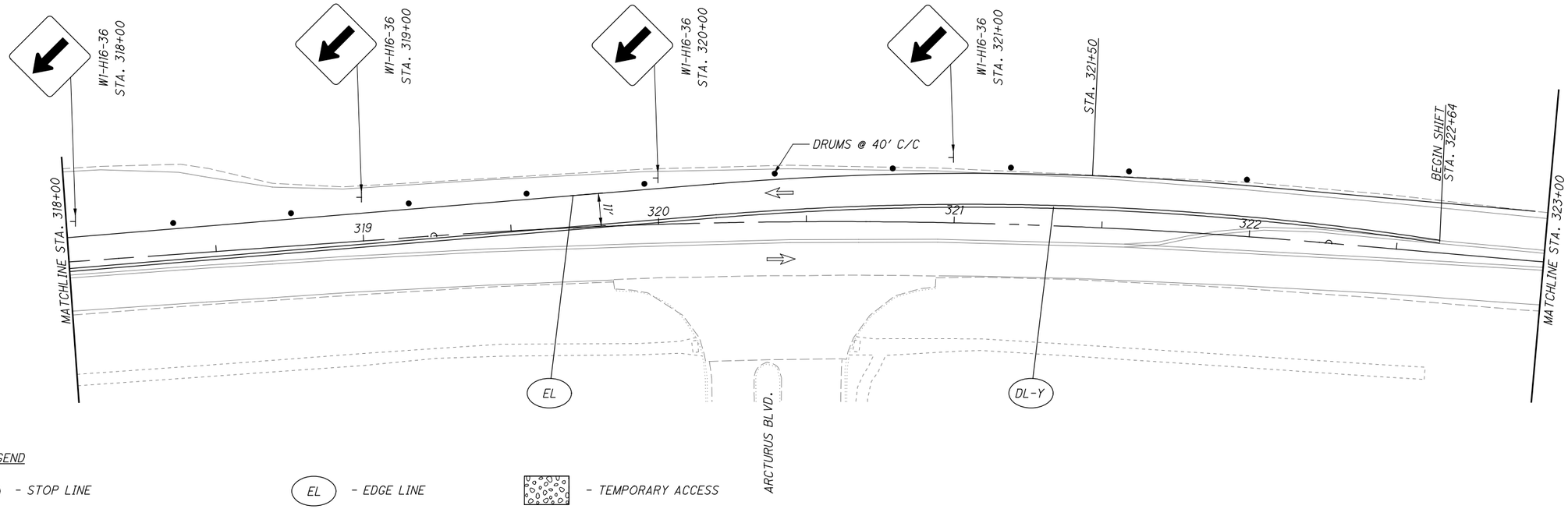
CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POWELL ROAD DETAIL - STAGE A

DEL-CR10-0.90

2952-DR.E

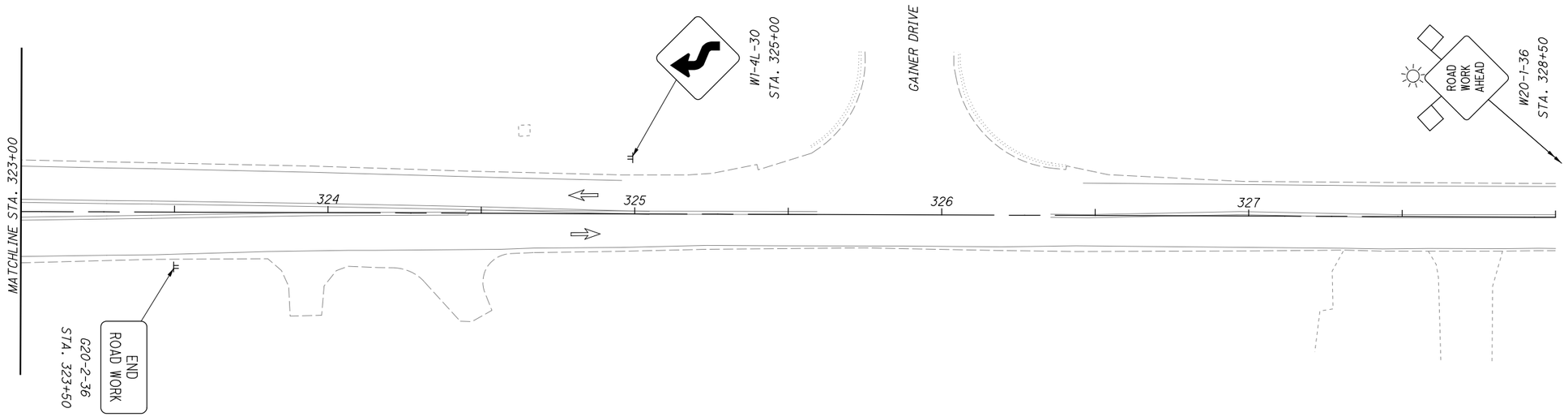
61
437



LEGEND

SL	- STOP LINE	EL	- EDGE LINE
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW
XW	- CROSSWALK LINE	DL	- DOTTED LINE

	- TEMPORARY ACCESS
• • •	- DRUMS
	- WORK ZONE
	- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
⇒	- FLOW ARROW



MAINTENANCE OF TRAFFIC - PHASE 1
POWELL ROAD DETAIL - STAGE A

DEL-CR10-0.90

2952-DR.E

62
437

CALCULATED EJT
CHECKED RAM

HORIZONTAL SCALE IN FEET
0 10 20 40

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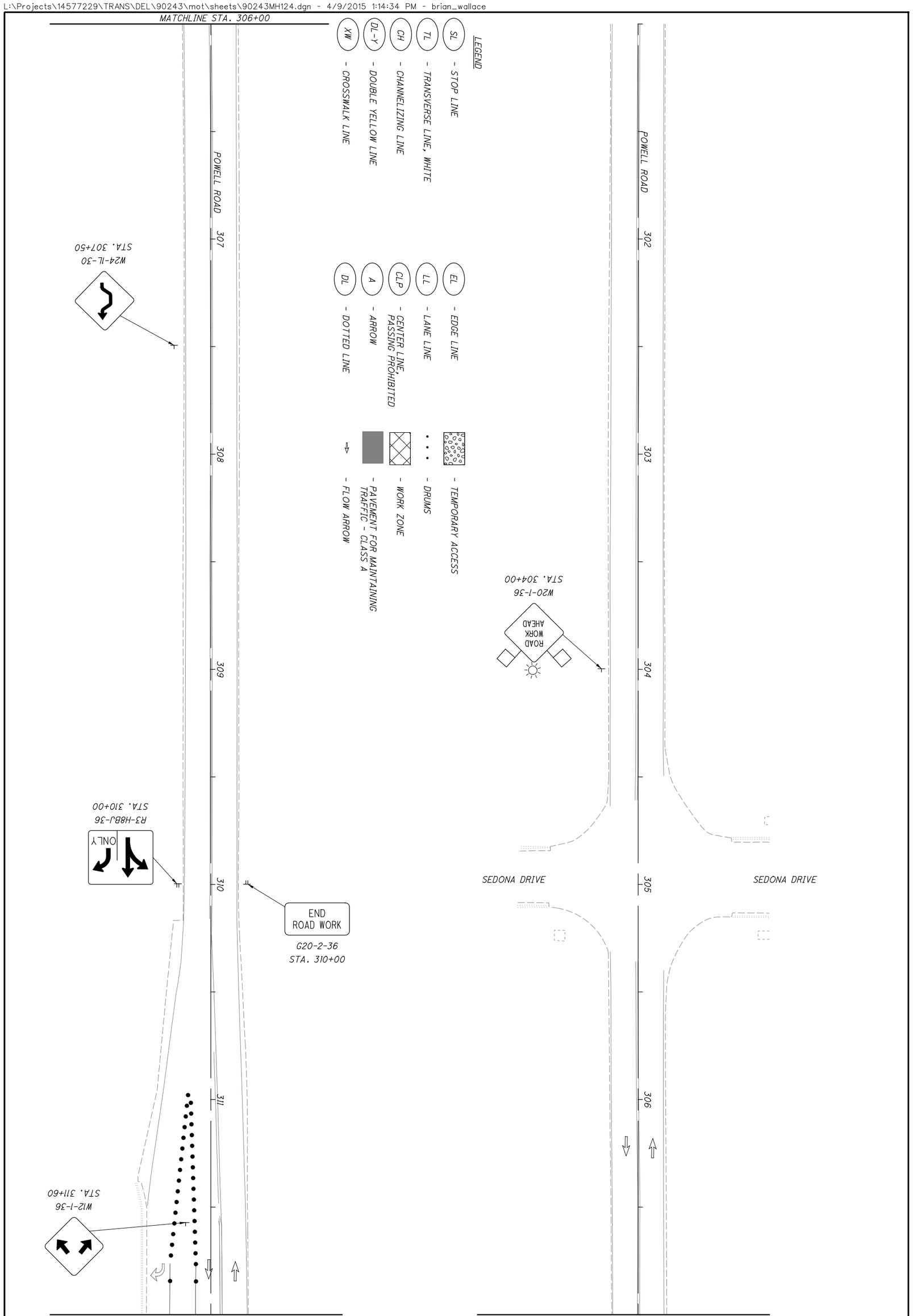

63 437	2952-DR-E	**DEL-CR10-0.90**	**MAINTENANCE OF TRAFFIC - PHASE 1** **POWELL ROAD DETAIL - STAGE B**	CALCULATED EJT CHECKED RAM	0 10 20 40 HORIZONTAL SCALE IN FEET

LEGEND

- SL - STOP LINE
- TL - TRANSVERSE LINE, WHITE
- CH - CHANNELIZING LINE
- DL-Y - DOUBLE YELLOW LINE
- XW - CROSSWALK LINE
- EL - EDGE LINE
- LL - LANE LINE
- CLP - CENTER LINE, PASSING PROHIBITED
- A - ARROW
- DL - DOTTED LINE
- TEMPORARY ACCESS
- DRUMS
- WORK ZONE
- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
- FLOW ARROW

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POWELL ROAD DETAIL - STAGE B

DEL-CR10-0.90

2952-DR.E

64
437

LEGEND

SL - STOP LINE	EL - EDGE LINE		- TEMPORARY ACCESS
TL - TRANSVERSE LINE, WHITE	LL - LANE LINE	• • •	- DRUMS
CH - CHANNELIZING LINE	CLP - CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y - DOUBLE YELLOW LINE	A - ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW - CROSSWALK LINE	DL - DOTTED LINE	⇨	- FLOW ARROW

MATCHLINE STA. 318+00

319

320

321

322

STA. 320+97

12'

11'

DRUMS @ 40' C/C

DL-Y FROM PREVIOUS SUBPHASE STAGE A

ONLY ONLY

R3-H8BA-30
STA. 321+50

W1-4R-36
STA. 323+00

MATCHLINE STA. 323+00

719'-0" R

EL

W1-4L-36
STA. 316+60

PT STA. 319+17

MATCH EXISTING
STA. 318+95

MATCH EXISTING

MATCH EXISTING
STA. 318+65

ARCTURUS BLVD.

END
ROAD WORK

G20-2-36
STA. 321+50

MATCHLINE STA. 323+00

324

325

326

327

GAINER DRIVE

ROAD
WORK
AHEAD

W20-1-36
STA. 326+50

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
POWELL ROAD DETAIL - STAGE B

DEL-CR10-0.90

2952-DR.E

65
437

LEGEND

V#-# VIDEO DETECTION AREA

VIDEO CAMERA

HEADS REPOSITIONED OR TEMPORARY

EXISTING HEADS TO BE REMOVED

NOTES:

1) MAINTAIN EXISTING SIGNAL PHASING

2) TIMING TO BE PROVIDED BY CITY OF COLUMBUS

3) EXISTING COORDINATION ALONG POLARIS PARKWAY TO BE MAINTAINED

4) FOR TEMPORARY TRAFFIC SIGNALS DETAILS, SEE SHEET 99

5) PEDISTRIAN CROSSING PROHIBITED ON ALL APPROACHES. OVER OR REMOVE EXISTING PEDESTRIAN SIGNALS AND PUSH BUTTONS

6) PEDESTRIAN CROSSING WILL BE RESTORED TO THE EAST APPROACH DURING PHASE 2 CONSTRUCTION

EXISTING LOOPS TO REMAIN IN SERVICE

POLARIS PARKWAY

EXISTING POWER SOURCE

STA. 1012+09, 65' LT.
WOOD POLE
W/(1)-GROUND ROD
W/(2)-DOWN GUY

STA. 1013+87, 69' LT.
WOOD POLE
W/(1)-GROUND ROD
W/(2)-DOWN GUY

STA. 1011+88, 62' RT.
WOOD POLE
W/(1)-GROUND ROD
W/(2)-HEAD GUY

STA. 1013+78, 72' RT.
WOOD POLE
W/(1)-GROUND ROD
W/(2)-DOWN GUY

RELOCATE EXISTING CABINET
STA. 1012+29, 81' RT.

STA. EQ : Sta 101+13.28 BK =
Sta 59+06.72 AH

S. OLD STATE RD.

SET A TEMPORARY WOOD POLE ADJACENT TO THE EXISTING CONTROLLER

1) TRANSFER THE EXISTING POWER SERVICE, AS PER COLUMBUS STANDARD DRAWING (SCD) 4051

2) INSTALL A MESSENGER WIRE BETWEEN THE BULL RING AND THE TEMPORARY WOOD POLE. TRANSFER THE SIGNAL CABLES TO THE WOOD POLE AS PER COLUMBUS SCD 4050

3) DO NOT SPLICE EXISTING SIGNAL CABLES

SET A TEMPORARY WOOD POLE AT STA. 1101+88, AS SHOWN

1) ADD AN EXTENSION TO THE TAIL OF THE EXISTING SPAN AND ATTACH TO THE TEMPORARY POLE AS PER COLUMBUS SCD 4330

2) REMOVE THE EXISTING STRAIN POLE AND FOUNDATION

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED EJT CHECKED RAM

TRAFFIC - PHASE 1
MAINTENANCE OF TRAFFIC
SIGNAL MODIFICATIONS-POLARIS PKWY

DEL-CR10-0.90

2952-DR.E

66
437

LEGEND

V#-# VIDEO DETECTION AREA

VIDEO CAMERA

HEADS REPOSITIONED OR TEMPORARY

EXISTING HEADS TO BE REMOVED

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED EJT CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
SIGNAL MODIFICATION - POWELL RD

DEL-CR10-0.90

2952-DR.E

67 / 437

MAINTAIN EXISTING LOOPS

SPLICE EXISTING LOOP LEAD-INS RUN UNDERGROUND TO TEMPORARY POLE, OVERHEAD TO RELOCATED CONTROLLER

STA. 1037+17, 79' LT.
WOOD POLE
W/(1)-GROUND ROD
W/(2)-DOWN GUY

STA. 1038+72, 62' LT.
WOOD POLE
W/(1)-GROUND ROD
W/(2)-DOWN GUY

STA. 1041+56
V1-3

V1-2
STA. 1040+30

S. OLD STATE RD.

V2-1

V1-1

STA. 1034+57
V2-3

V2-2
STA. 1035+84

STA. 1037+63, 75' RT.
WOOD POLE
W/(1)-GROUND ROD
W/(2)-DOWN GUY

TEMPORARY RELOCATION OF EXISTING CONTROLLER

PI STA. 1038+67.38

STA. 1039+20, 80' RT.
WOOD POLE
W/(1)-GROUND ROD
W/(2)-DOWN GUY

EAST POWELL ROAD

MAINTAIN EXISTING SIGNAL PHASING

MAINTAIN EXISTING SIGNAL TIMING PLAN.

CONTECT THE DELAWARE COUNTY ENGINEER'S OFFICE, NATE MEYER, 740-212-2801

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LEGEND

V#-# VIDEO DETECTION AREA

VIDEO CAMERA

HEADS REPOSITIONED OR TEMPORARY

EXISTING HEADS TO BE REMOVED

GLADSHIRE BOULEVARD

WILSHIRE BOULEVARD

SOUTH OLD STATE ROAD

TEMPORARY SPAN BETWEEN EXISTING MAST ARM SUPPORTS. REMOVE OR COVER ALL EXISTING NORTH-SOUTH SIGNAL HEADS.

REPROGRAM EXISTING STOP BAR DETECTOR RADAR TO COVER AREA SHOWN

REPROGRAM EXISTING DILEMMA ZONE DETECTION AREA TO COVER SHIFTED TRAVEL LANES.

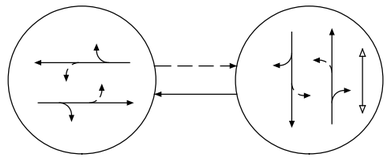
TEMPORARY TIMING CHART		
PHASE	2&6	4&8
MOVEMENT	NB/SB	EB/WB
MIN. GREEN	30	10
PASS/EXT.	2.5	3.7
MAX. GREEN 1 *	40	20
MAX. GREEN 2 *	45	24
YELLOW	3.5	3.5
RED CLEAR	1	1
WALK	0	7
PED CLR	0	13
PED RECALL	OFF	OFF
VEH RECALL	ON	OFF
MEMORY	ON	OFF

ALL OTHER TIME SETTINGS ARE SET TO "OFF" OR "ZERO"

* MAX. GREEN 2 FOR PHASES 2 & 6 WILL BE FROM 3 TO 6 PM ON WEEKDAYS. ALL OTHER TIMES WILL HAVE MAX. GREEN 1 IN EFFECT.

TEMPORARY PHASING

ϕ 2 + ϕ 6 ϕ 4 + ϕ 8



N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1
SIGNAL MODIFICATION-WILSHIRE/GLADSHIRE

DEL-CR10-0.90

2952-DR.E

68
437

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LEGEND

V#-# VIDEO DETECTION AREA

VIDEO CAMERA

HEADS REPOSITIONED OR TEMPORARY

EXISTING HEADS TO BE REMOVED

EXISTING LOOPS TO REMAIN IN SERVICE

STA. 919+15, 39' RT.
INSTALL TEMPORARY PULLBOX
SPLICE INTO EXISTING LEAD-IN
CABLE AT PULLBOX AND NEAR
TOP OF TEMPORARY POLE

STA. 1099+24, 47' LT.
WOOD POLE
W/(1)-GROUND ROD
W/(1)-DOWN GUY
MAINTAIN EXISTING
PEDESTRIAN PB
AND PED HEADS

V2

R3-2-36
SPAN MOUNTED

ORANGE ROAD

FO

58'

V4-1 V4-2 V4-3

919

026

14'

12'

1098 1099 1100 1101 1102 110

S. OLD STATE ROAD

V3-1

V3-3
STA. 1096+59

V3-2
STA. 1097+86

STA. 1099+45, 69' RT.
WOOD POLE
W/(1)-GROUND ROD
W/(1)-DOWN GUY

V4

V1

EXISTING POLE

V3

V2-1

V2-2
STA. 1102+15

V2-2
STA. 1103+41

11'

61'

V1-1 V1-2

921

EXISTING POLE

R3-2-36
SPAN MOUNTED

MATCHLINE STA. 121+50 THIS SHEET

TEMPORARY PHASING

ϕ 4 + ϕ 7

ϕ 2 + ϕ 6 ϕ 3 + ϕ 7 ϕ 4 + ϕ 8

ϕ 3 + ϕ 8

TEMPORARY TIMING								
PHASE	1	2	3	4	5	6	7	8
MOVEMENT	NBLT	SB	EBLT	WB	SBLT	NB	WBLT	EB
MIN GREEN		23	10	10		23	10	10
PASS/EXT		3	3	3		3	3	3
MAX GRN 1		25	20	30		7.5	20	30
MAX GRN 2								
YELLOW		3.6	3.0	3.0		3.6	3.0	3.0
RED CLR		1.8		1.2		1.8		1.2
WALK				7				7
PED CLR				17				17
PED RECALL		ON	OFF	OFF		ON	OFF	OFF
VEH RECALL		OFF	OFF	OFF		OFF	OFF	OFF
MEMORY		ON	OFF	OFF		ON	OFF	OFF

MAINTAIN EXISTING PEDESTRIAN PB
AND PED HEADS MAINTAIN ACCESSIBLE
PEDESTRIAN WALKWAY THRU THE WORK
AREA ACROSS THE SOUTH APPROACH

MATCHLINE STA. 121+50 THIS SHEET

V1-3
STA. 922+65

V1-4
STA. 923+80

922 923

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1A
SIGNAL MODIFICATION - ORANGE RD

DEL-CR10-0.90

2952-DR.E

69
437

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LEGEND

V#-# VIDEO DETECTION AREA

VIDEO CAMERA

HEADS REPOSITIONED OR TEMPORARY

EXISTING HEADS TO BE REMOVED

EXISTING LOOPS TO REMAIN IN SERVICE

PHASES AND TIMING SAME AS PHASE 1A

ORANGE ROAD

FROM PHASE 1A

V2

V1

EXISTING POLE

V3

V2-2
STA. 1102+15

V2-3
STA. 1103+41

V4-1

V4-2

V4-3

1098

1099

1100

1101

1102

34'

12'

11'

33'

V2-1

V3-1

V3-2

S. OLD STATE ROAD

V3-4
STA. 1096+59

V3-3
STA. 1097+86

R3-2-36
SPAN MOUNTED

V4

V1-1

V1-2

V1-3

FROM PHASE 1A

EXISTING POLE

R3-2-36
SPAN MOUNTED

MATCHLINE STA. 121+50 THIS SHEET

MATCHLINE STA. 121+50 THIS SHEET

V1-3

V1-2

V1-1

V1-4
STA. 922+65

V1-5
STA. 923+80

922

923

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 1B
SIGNAL MODIFICATION - ORANGE RD

DEL-CR10-0.90

2952-DR.E

70
437

SEVEN (7) DAYS PRIOR TO CLOSURE OF AURORA AVE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING ENTITIES, PROVIDEING THE DATE OF CLOSURE, DATE OF ANTICIPATED OPENING AND THE POSTED DETOUR ROUTE:

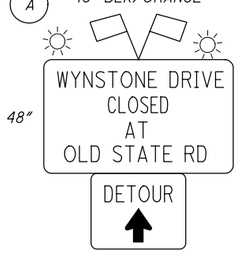
ORANGE TWP FIRE STATION 362
740-548-5315

OLENTANGY LOCAL SCHOOL DISTRICT SCHOOL BUS SUPERVISOR
740-657-4080

THE CONTRACTOR SHALL ALSO NOTIFY THE ABOVE ENTITIES OF ANY CHANGES IN THE REOPENING DATE (EARLY OR LATE) AS NEEDED.

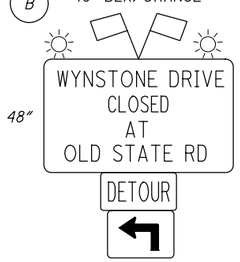
PHASE 2 CLOSURE
WYNSTONE DRIVE

A — 48" BLK/ORANGE



M4-9

B — 48" BLK/ORANGE



M4-8-24
M5-1-30

C — BLACK/ORANGE

M4-9R

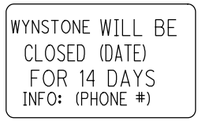
D

R11-3-66
ON TYPE III BARRICADE W/ TYPE "B" FLASHING WARNING LIGHT

E — BLACK/ORANGE

M4-9L

F



W20-H13-60
SIGN SHALL ERECTED 7 DAYS BEFORE THE CLOSURE

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
DETOUR DETAILS - WYNSTONE DR

DEL-CR10-0.90

2952-DR.E

71
437

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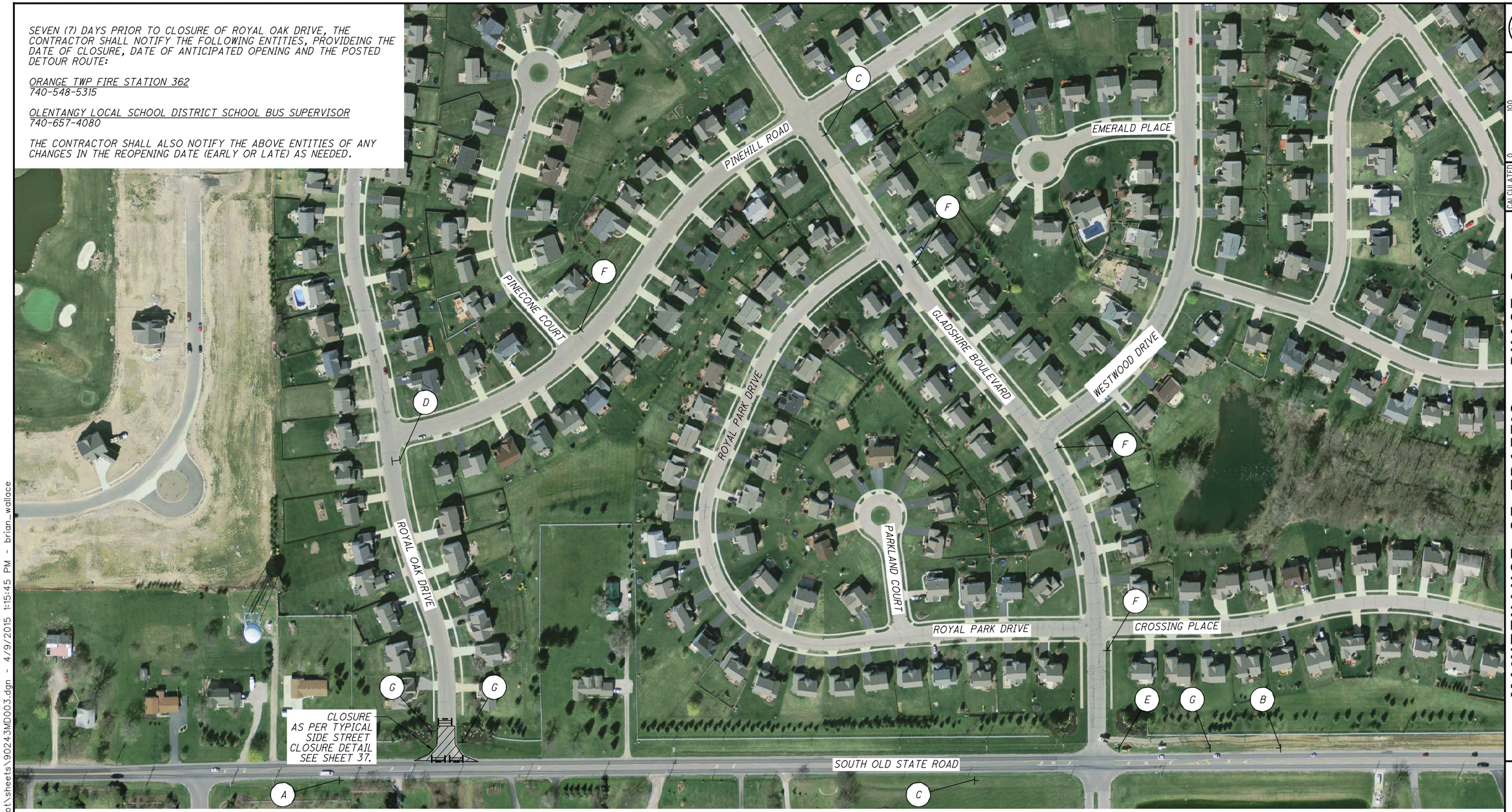
SEVEN (7) DAYS PRIOR TO CLOSURE OF ROYAL OAK DRIVE, THE CONTRACTOR SHALL NOTIFY THE FOLLOWING ENTITIES, PROVIDEING THE DATE OF CLOSURE, DATE OF ANTICIPATED OPENING AND THE POSTED DETOUR ROUTE:

ORANGE TWP FIRE STATION 362
740-548-5315

OLENTANGY LOCAL SCHOOL DISTRICT SCHOOL BUS SUPERVISOR
740-657-4080

THE CONTRACTOR SHALL ALSO NOTIFY THE ABOVE ENTITIES OF ANY CHANGES IN THE REOPENING DATE (EARLY OR LATE) AS NEEDED.



A — 48" BLK/ORANGE

48"
ROYAL OAK DR
CLOSED
AT
OLD STATE RD
DETOUR

M4-9

B — 48" BLK/ORANGE

48"
ROYAL OAK DR
CLOSED
AT
OLD STATE RD
DETOUR

M4-9R

C — BLACK/ORANGE

Royal Oak Dr
DETOUR

M4-9L

D

ROAD CLOSED
LOCAL TRAFFIC ONLY

R11-3-66
ON TYPE III BARRICADE
W/ TYPE "B" FLASHING
WARNING LIGHT

E — BLACK/ORANGE

Royal Oak Dr
DETOUR

M4-9R

F — BLACK/ORANGE

Royal Oak Dr
DETOUR

M4-9

G

ROYAL OAK WILL BE
CLOSED (DATE)
FOR 7 DAYS
INFO: (PHONE #)

W20-H13-60
SIGN SHALL ERECTED 7
DAYS BEFORE THE CLOSURE

N

0 50 100 200 HORIZONTAL SCALE IN FEET

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
DETOUR DETAIL - ROYAL OAK DRIVE

DEL-CR10-0.90

2952-DR.E

72
437

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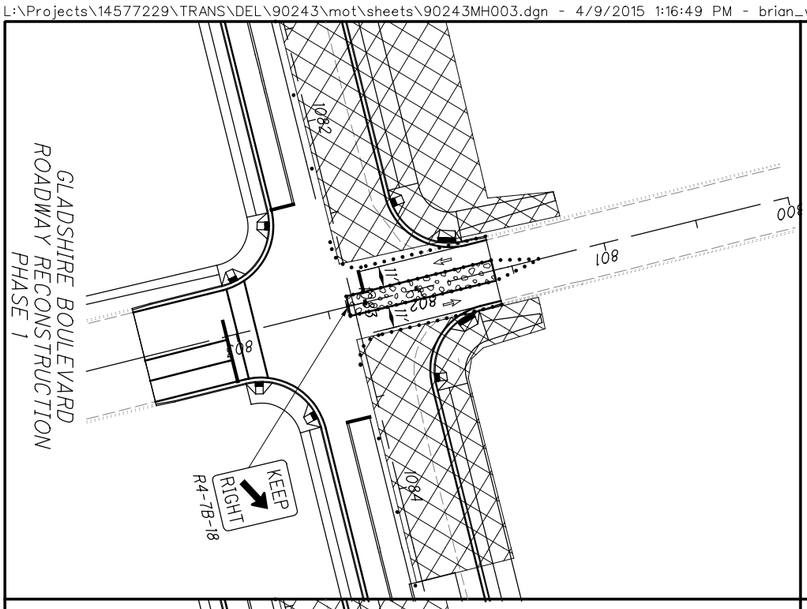
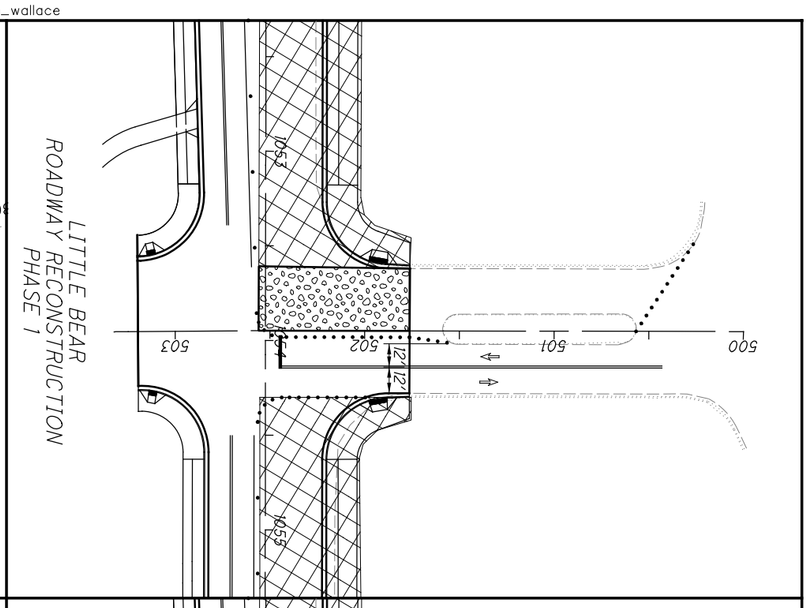
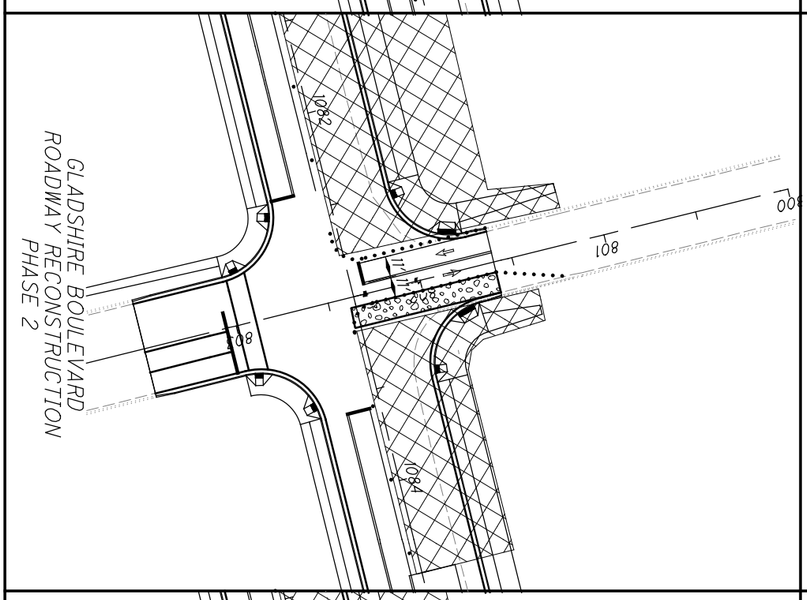
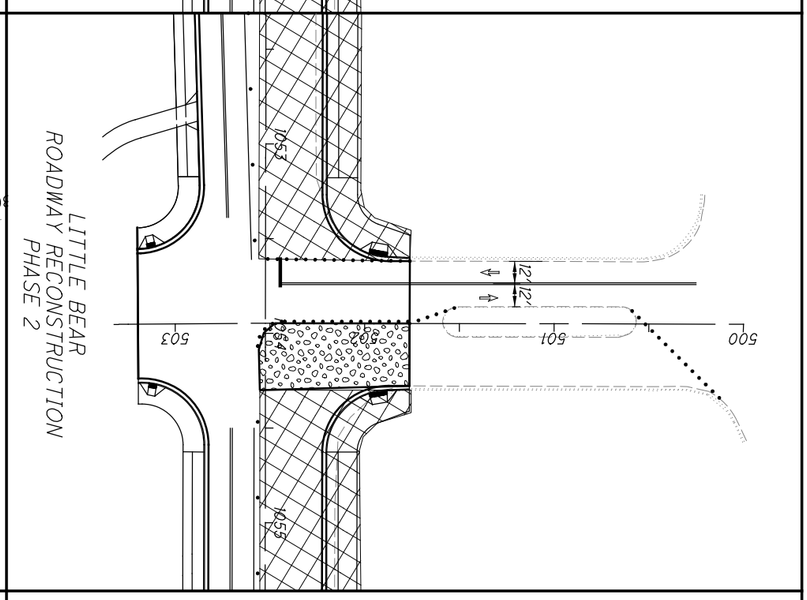
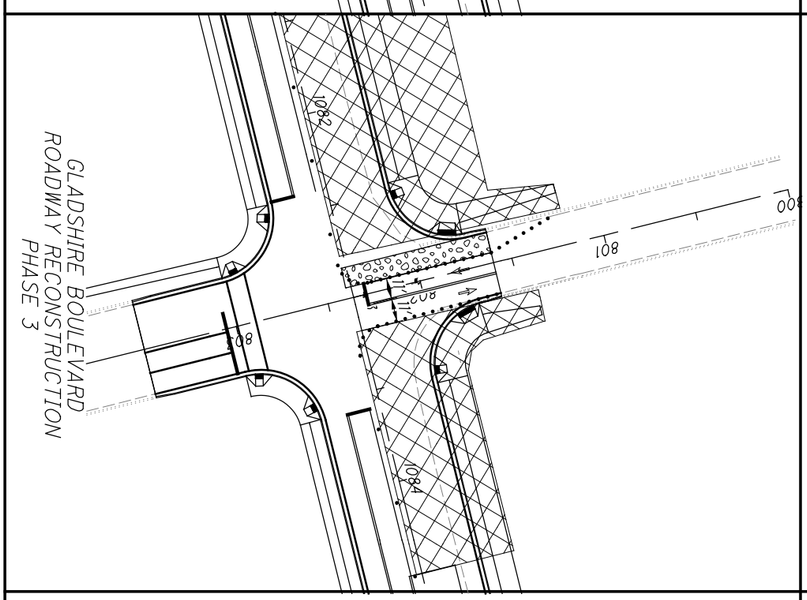




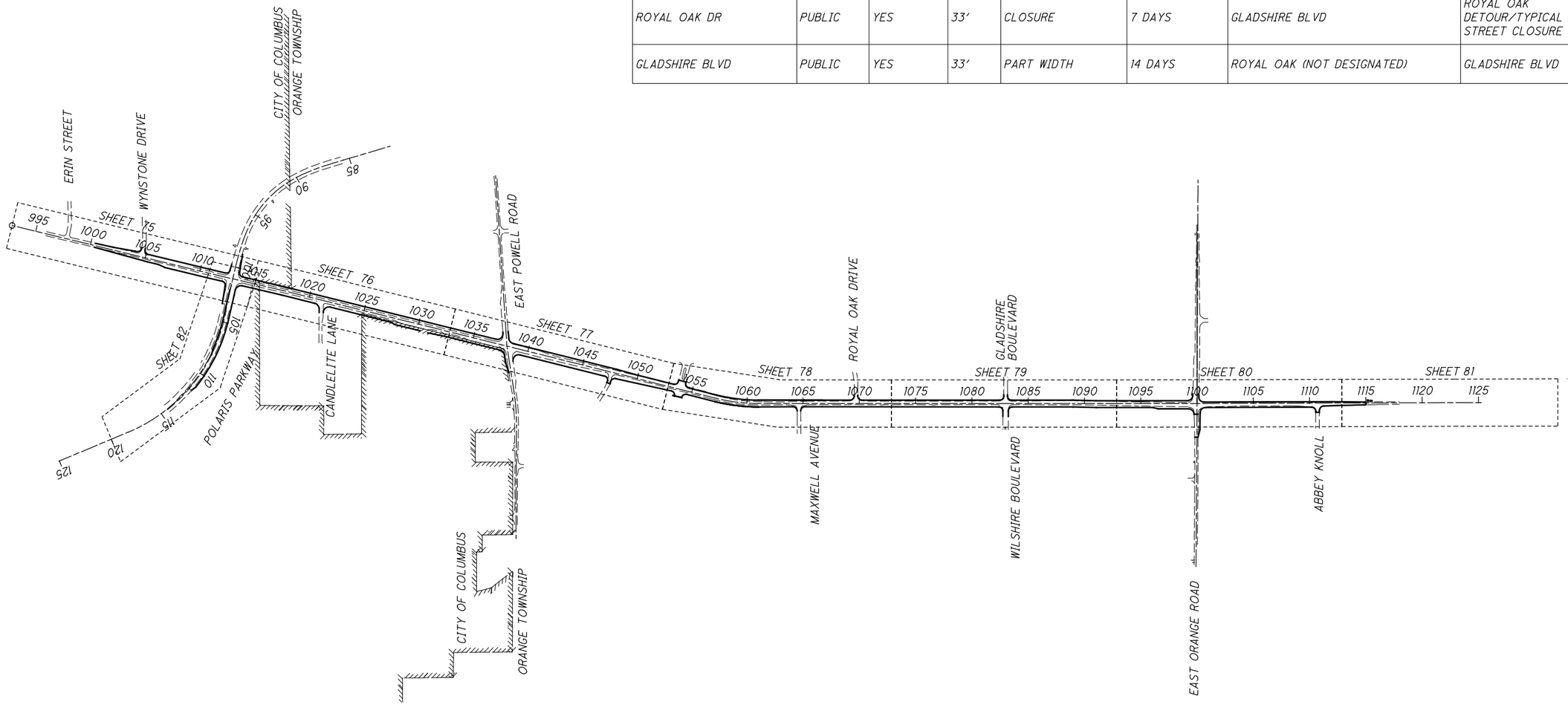






73 / 437	2952-DR-E	DEL-CR10-0.90	MAINTENANCE OF TRAFFIC - PHASE 2 SIDE STREET DETAILS	CALCULATED EJT CHECKED RAM	0 40 20 80 HORIZONTAL SCALE IN FEET

APPROACH	PRIVATE/ PUBLIC	ALTERNATE ACCESS	WIDTH	MOT SETUP	RESTRICTED PERIOD	DETOUR ROUTE/ ALTERNATE ACCESS	TYPICAL/ DETAIL
WYNSTONE DR	PUBLIC	YES	33'	CLOSURE	14 DAYS	ERIN ST	WYNSTONE DR DETOUR/TYPICAL SIGH STREET CLOSURE
CHARLES PENZONE	PRIVATE	YES	29'	CLOSURE	5:00AM SAT - 9:00AM MON	POLARIS PKWY	
POLARIS PKWY	PUBLIC	N/A	70'	SHEETS 83 TO 91			
SPEEDWAY	PRIVATE	YES	36'	PART WIDTH ONE WAY INBOUND	7 DAYS	POLARIS PKWY	TYPICAL COMMERCIAL DRIVE - ONE WAY
CAR WASH	PRIVATE	YES	25'	PART WIDTH ONE WAY INBOUND	7 DAYS	POLARIS PKWY	TYPICAL COMMERCIAL DRIVE - ONE WAY
ANIMAL HOSPITAL	PRIVATE	YES	24'	PART WIDTH ONE WAY INBOUND	7 DAYS	POLARIS PKWY	TYPICAL COMMERCIAL DRIVE - ONE WAY
POWELL RD	PUBLIC	N/A	48'	SHEETS 92 TO 97			
LITTLE BEAR	PUBLIC	NO	69'	PART WIDTH	14 DAYS		LITTLE BEAR
ROYAL OAK DR	PUBLIC	YES	33'	CLOSURE	7 DAYS	GLADSHIRE BLVD	ROYAL OAK DETOUR/TYPICAL SIDE STREET CLOSURE
GLADSHIRE BLVD	PUBLIC	YES	33'	PART WIDTH	14 DAYS	ROYAL OAK (NOT DESIGNATED)	GLADSHIRE BLVD



HORIZONTAL SCALE IN FEET
0 250 500 1000

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
PLAN SHEET LAYOUT

DEL-CR10-0.90

2952-DR.E

74
437

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LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW

W20-1-36 FROM PHASE 1
ROAD WORK AHEAD

993 994 995 996 997 998 999 1000 1001 1002

STA. 999+94

MATCH EXISTING STA. 996+47

MATCH EXISTING STA. 997+40

DL-Y

DRUMS @ 40' C/C

MATCH EXISTING STA. 1000+40

DL-Y EL

12' 12'

MATCH LINE STA. 1002+84

FULL DEPTH REPLACEMENT

W20-1-36 FROM PHASE 1 STA. 3+00
ROAD WORK AHEAD

W20-1-36 FROM PHASE 1 STA. 96+00
ROAD WORK AHEAD

POLARIS PARKWAY

WYNSTONE DR.

SEE SHEET 71 FOR WORK IN THIS AREA

STOP

MATCH LINE STA. 1002+84

1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014

716'-0" R

PT STA. 1007+96

DRUMS @ 40' C/C

STA. 1010+30

SEE SHEETS 83 THRU 91 FOR WORK IN THIS AREA

DRUMS @ 20' C/C

STA. 1013+95

CH A DL-Y

12' 12' 12'

PC STA. 1006+19

727'-0" R

PRC STA. 1007+08

DL-Y

CH DL-Y EL A SL

STA. 1012+24

STA. 102+00

SL SL CH EL LL

ONLY

R3-H8BH-36 STA. 1010+30

MATCH LINE STA. 102+50 SEE SHEET 82

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
S OLD STATE RD - STA. 993+00 TO STA. 1014+50

DEL-CR10-0.90

2952-DR.E

75
437

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LEGEND

SL - STOP LINE	EL - EDGE LINE		- TEMPORARY ACCESS
TL - TRANSVERSE LINE, WHITE	LL - LANE LINE	• • •	- DRUMS
CH - CHANNELIZING LINE	CLP - CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y - DOUBLE YELLOW LINE	A - ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW - CROSSWALK LINE	DL - DOTTED LINE	⇨	- FLOW ARROW

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
S OLD STATE RD - STA. 1012+84 TO STA. 1032+84

DEL-CR10-0.90

2952-DR.E

76
437

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW

MATCH LINE STA. 1032+84

DRUMS @ 40' C/C

EL CLP DL-Y CH SL

1033 1034 1035 1036 1037 1038

STA. 314+65

STA. 315+00

SEE SHEETS 92 THRU 97 FOR WORK IN THIS AREA

ROAD WORK AHEAD

W20-1-36
STA. 310+00
FROM PHASE 1

R3-H8BH-36
STA. 1034+25

ONLY

DRUMS @ 40' C/C

SL EL CH DL-Y

STA. 1041+70

495' SHIFT TAPER

1039 1040 1041 1042

MATCH LINE STA. 1042+84

12' 12' 12'

A

316

STA. 1039+07

XW SL CH DL-Y

STA. 1035+26

STA. 1035+76

STA. 1037+76

STA. 316+31

STA. 316+57

317

EAST POWELL ROAD

STA. 1041+09

STA. 1041+67

R3-H8BH-36
STA. 1034+25

ONLY

CENTER LANE ONLY

R3-9B-24
STA. 1034+25

ROAD WORK AHEAD

W20-1-36
STA. 320+00
FROM PHASE 1

SALVAGE PAVEMENT FULL DEPTH REPLACEMENT

STA. 1046+65

495' SHIFT TAPER

DRUMS @ 40' C/C

DRUMS @ 40' C/C

EL DL-Y

MATCH LINE STA. 1042+84

1043 1044 1045 1046 1047 400 1048 1049 1050 1051 1052

MATCH LINE STA. 1052+84

12' 12'

DL-Y

STA. 1047+14

401

STA. 1048+12

STOP

ROAD WORK AHEAD

W20-1-36
STA. 402+00
FROM PHASE 1

AURORA AVENUE

402

N

0 20 40 80
HORIZONTAL SCALE IN FEET

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
S OLD STATE RD - STA. 1032+84 TO STA. 1052+84

DEL-CR10-0.90

2952-DR.E

77
437

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LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW

W20-1-36
STA. 501+00
FROM PHASE 1
ROAD WORK AHEAD

SEE SHEET 73 FOR WORK IN THIS AREA

STOP

501

LITTLE BEAR

DL-Y EL DL-Y EL

MATCH LINE STA. 1052+84

1053 1054 1055 1056 1057 1058 1059 1060 1061 1062

12' 12'

MATCH LINE STA. 1062+86

503

STA. 1053+39

STA. 1054+50

DRUMS @ 40' C/C

504

W20-1-36
STA. 702+50
FROM PHASE 1
ROAD WORK AHEAD

ROYAL OAK DRIVE

702

703

SEE SHEET 72 FOR CLOSURE IN THIS AREA

STOP

STA. 1064+34

STA. 1064+92

DL-Y EL DL-Y EL

MATCH LINE STA. 1062+86

1063 1064 1065 1066 1067 1068 1069 1070 1071 1072

12' 12'

MATCH LINE STA. 1072+86

609

DRUMS @ 40' C/C

STOP
R1-1-36

109

MAXWELL AVENUE

602

ROAD WORK AHEAD
W20-1-36
STA. 601+50
FROM PHASE 1

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
S OLD STATE RD - STA. 1052+84 TO STA. 1072+86

DEL-CR10-0.90

2952-DR.E

78
437

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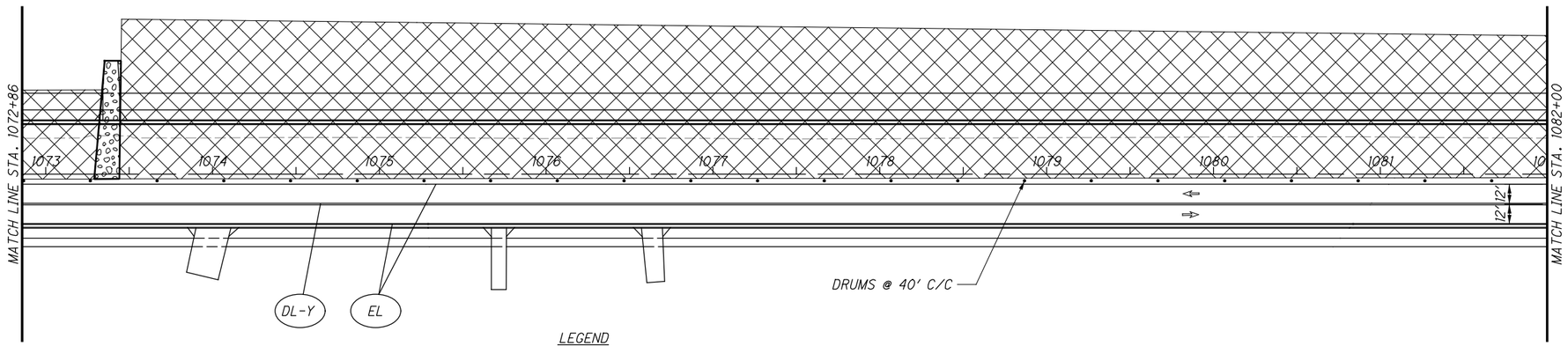
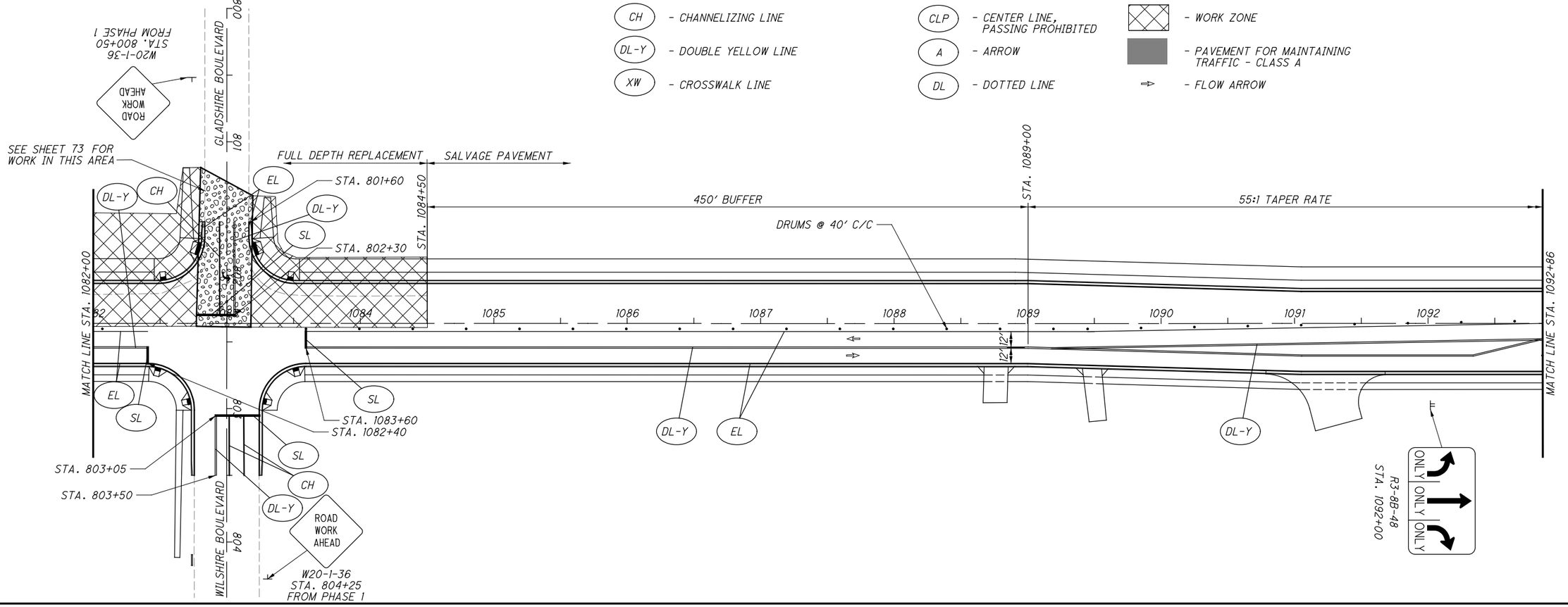


LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW



HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
S OLD STATE RD - STA. 1072+86 TO STA. 1092+86

DEL-CR10-0.90

2952-DR.E

79
437

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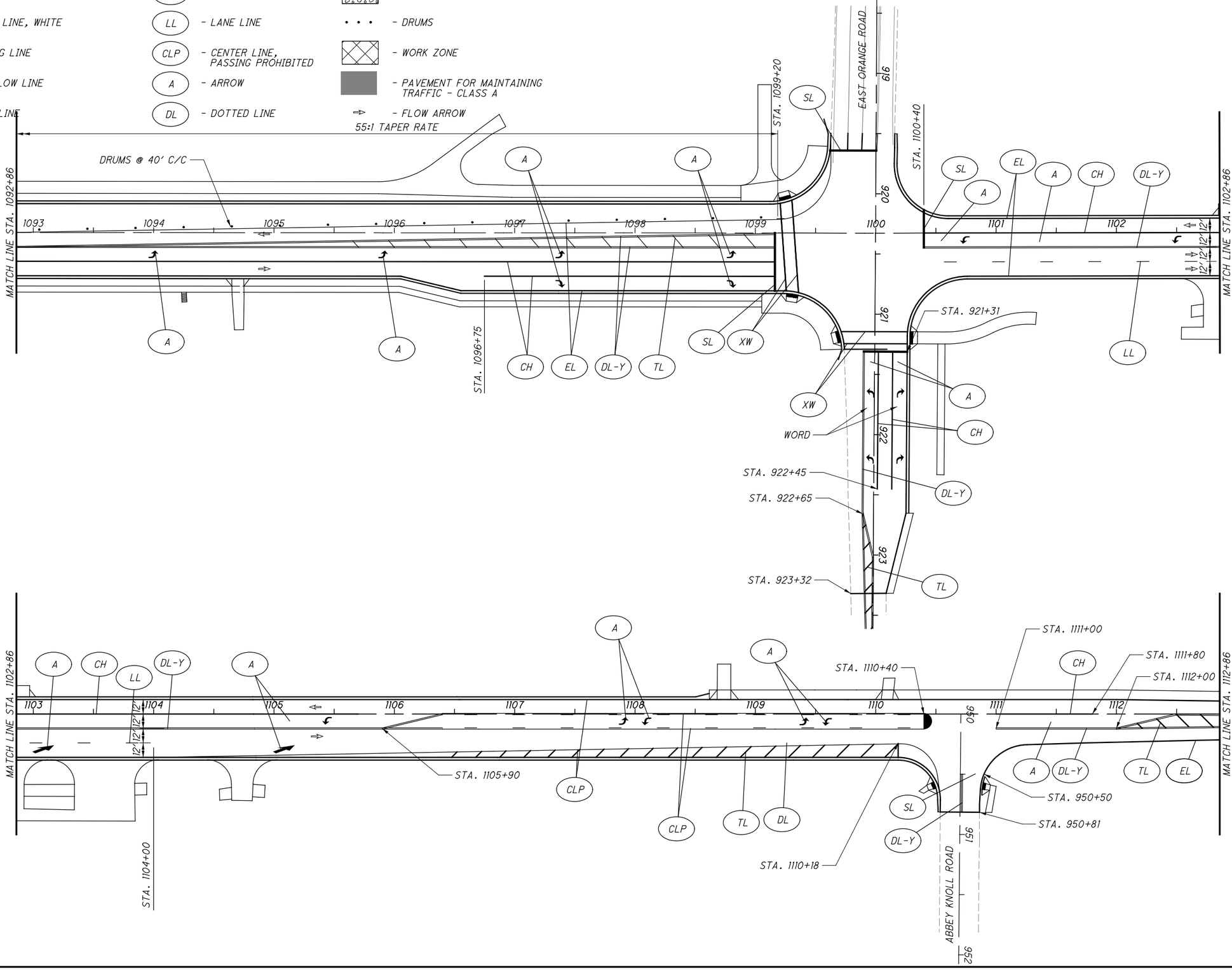
LEGEND

- SL - STOP LINE
- TL - TRANSVERSE LINE, WHITE
- CH - CHANNELIZING LINE
- DL-Y - DOUBLE YELLOW LINE
- XW - CROSSWALK LINE
- EL - EDGE LINE
- LL - LANE LINE
- CLP - CENTER LINE, PASSING PROHIBITED
- A - ARROW
- DL - DOTTED LINE
- TEMPORARY ACCESS
- DRUMS
- WORK ZONE
- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
- FLOW ARROW



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HORIZONTAL SCALE IN FEET: 0, 20, 40, 80

CALCULATED EJT | CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2

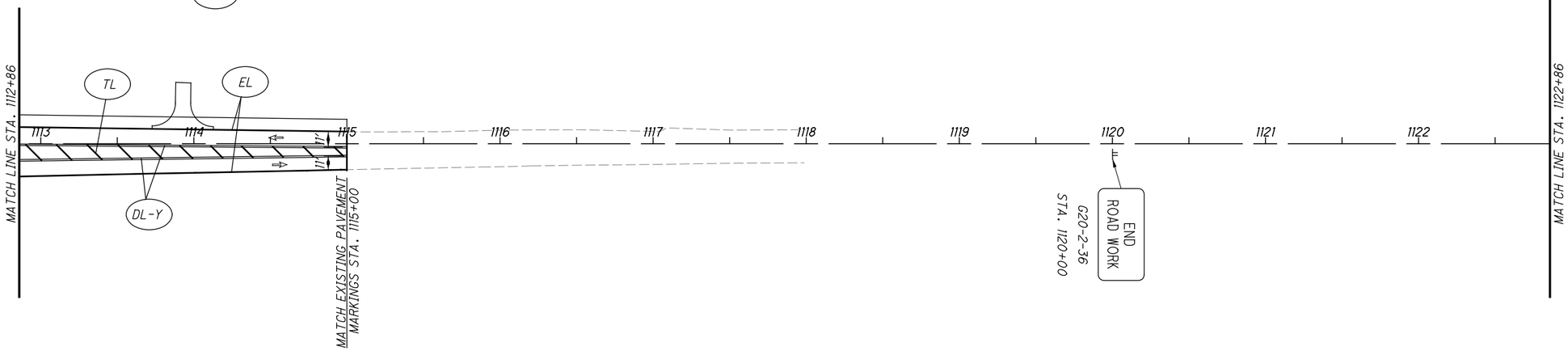
S OLD STATE RD - STA. 1092+86 TO STA. 1112+86

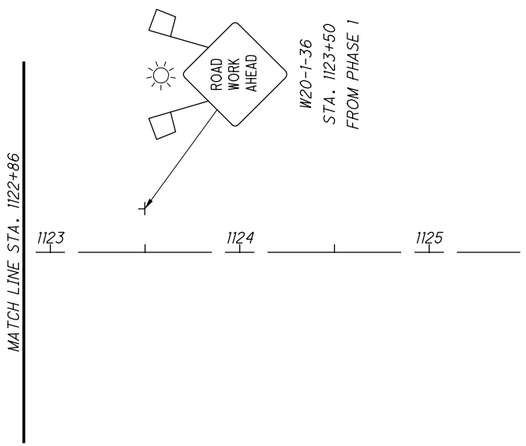
DEL-CR10-0.90

2952-DR.E

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW





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HORIZONTAL SCALE IN FEET
0 20 40 80

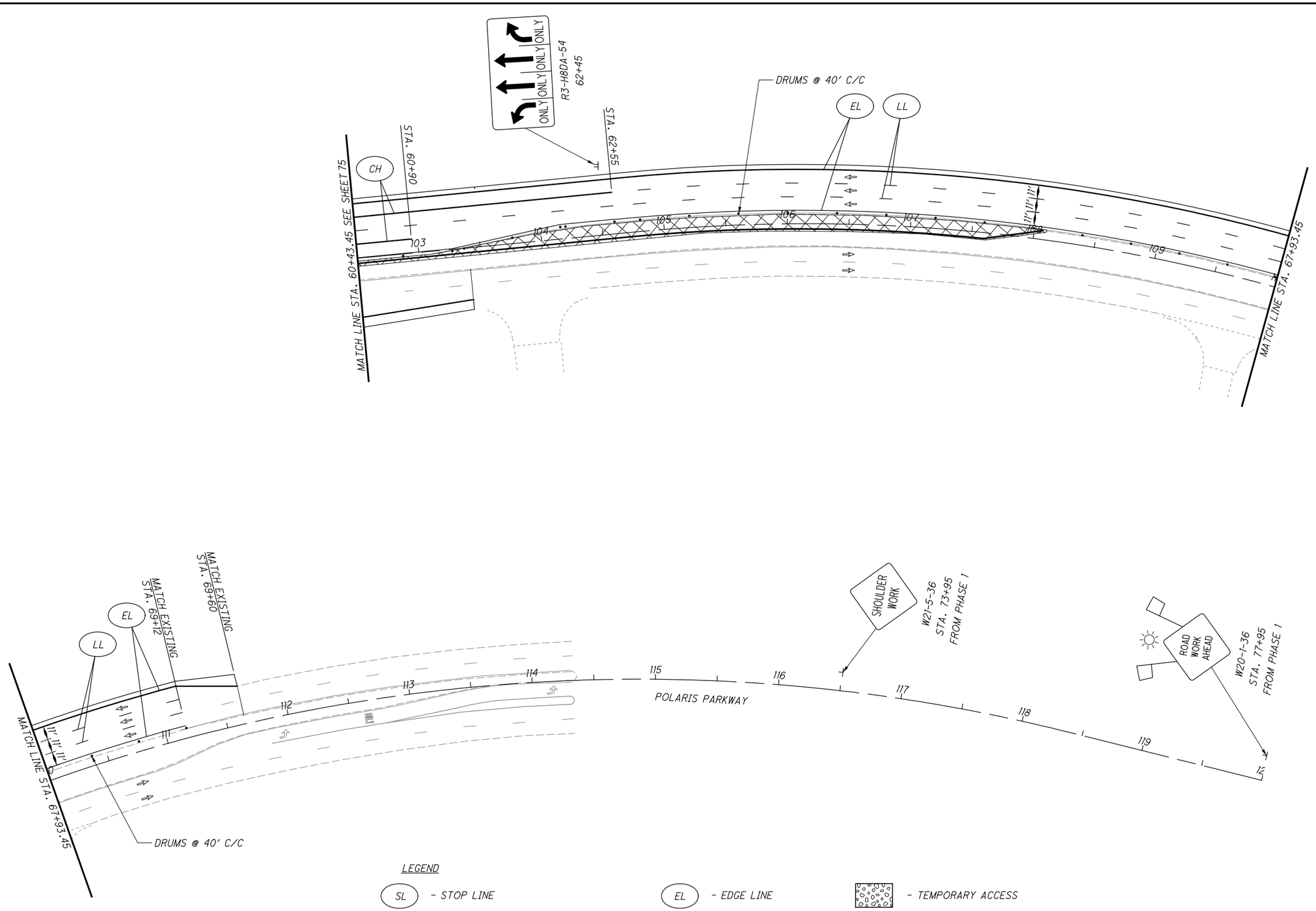
CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
S OLD STATE RD - STA. 1112+86 TO STA. 1125+47

DEL-CR10-0.90

2952-DR.E

81
437



LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW

N

0 20 40 80
HORIZONTAL SCALE IN FEET

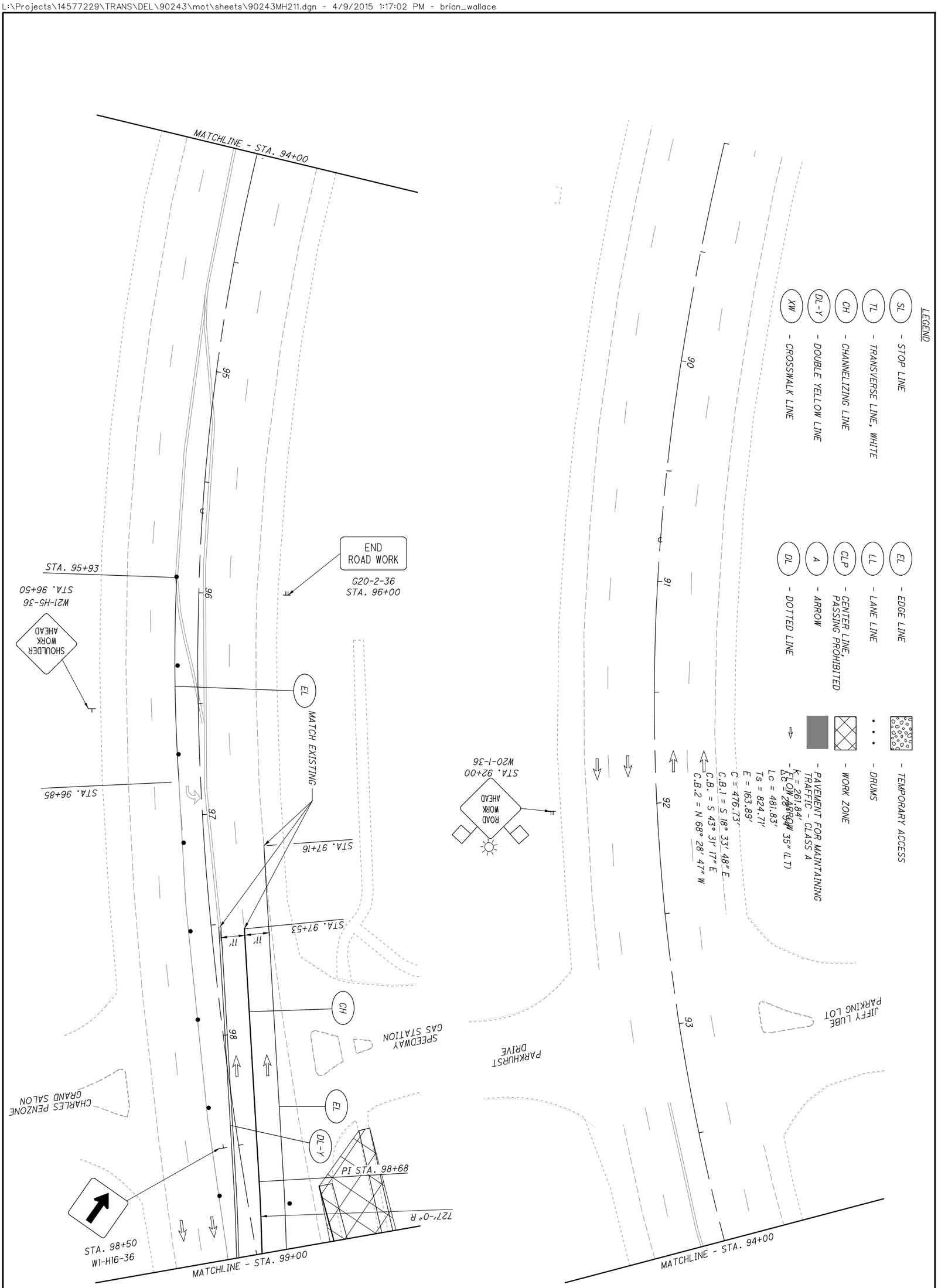
CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
POLARIS PKWY - STA. 57+93.45 TO STA. 78+00

DEL-CR10-0.90

2952-DR.E

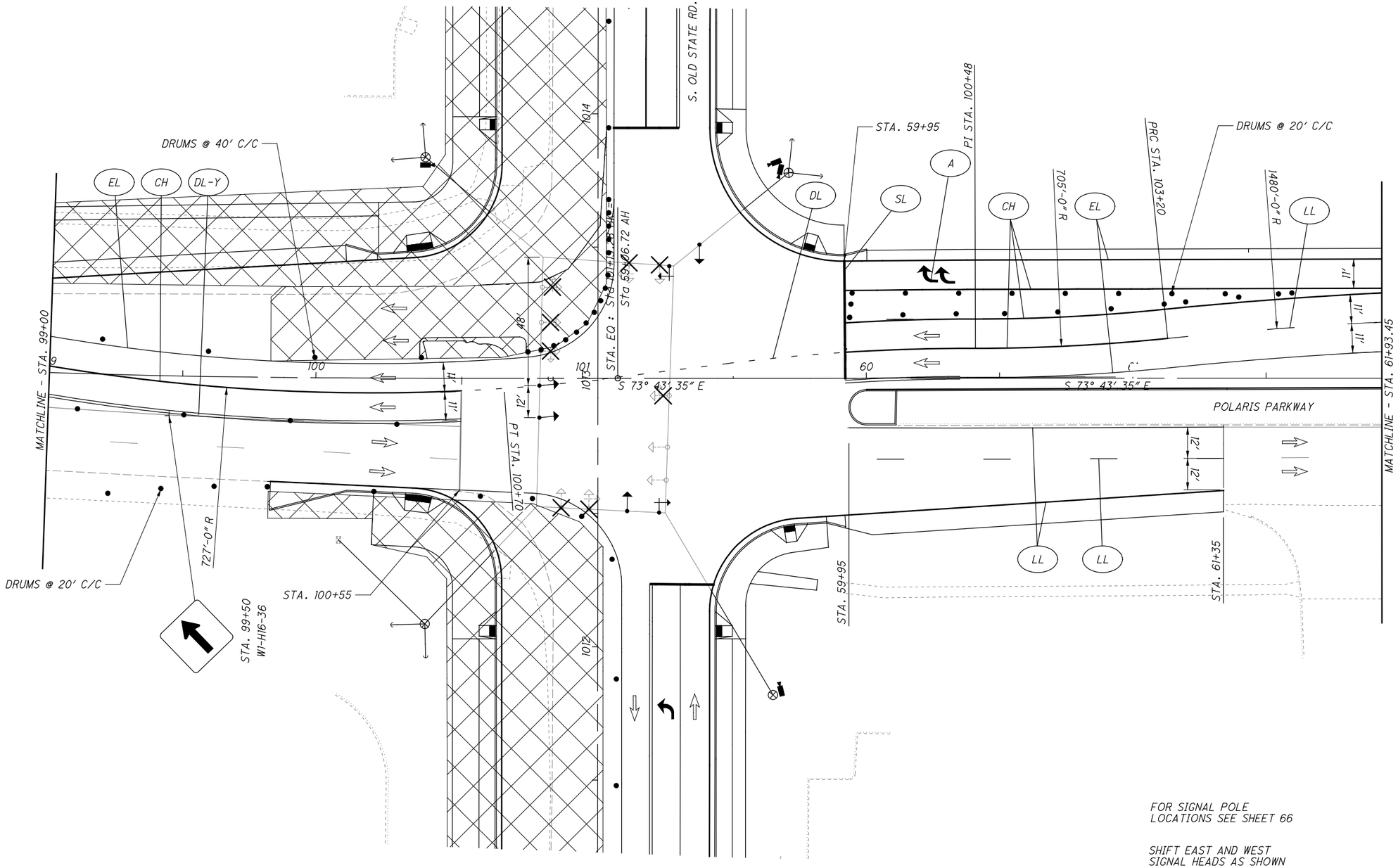
82
437



83 437	2952-DR-E	**DEL-CR10-0.90**	**MAINTENANCE OF TRAFFIC - PHASE 2** **POLARIS PKWY DETAIL - STAGE A**	CALCULATED EJT CHECKED RAM	0 20 10 40 HORIZONTAL SCALE IN FEET

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇒	- FLOW ARROW



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
POLARIS PKWY DETAIL - STAGE A

DEL-CR10-0.90

2952-DR.E

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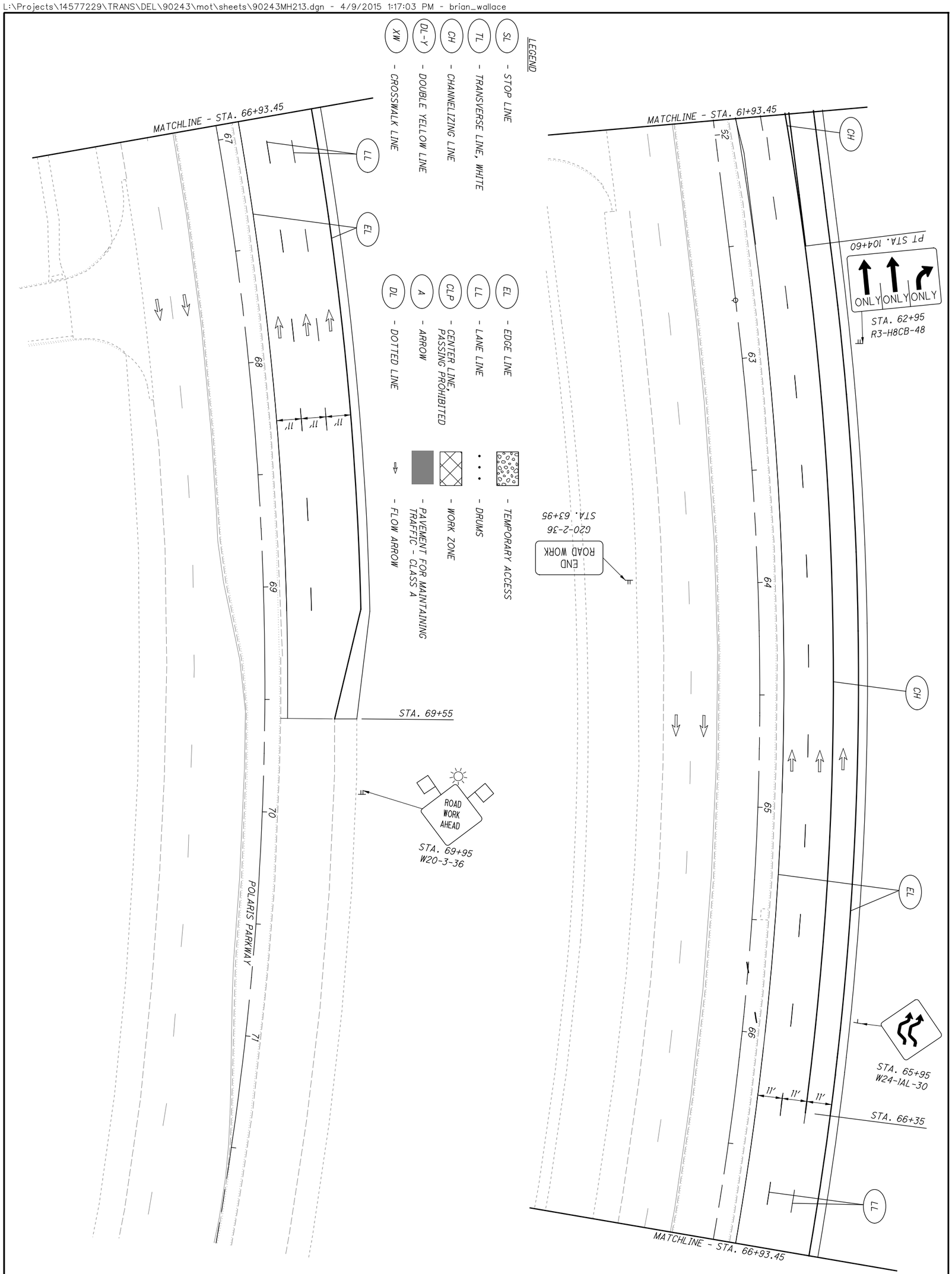

85 / 437	2952-DR.E	DEL-CR10-0.90	MAINTENANCE OF TRAFFIC - PHASE 2 POLARIS PKWY DETAIL - STAGE A	CALCULATED EJT CHECKED RAM	0 20 10 40 HORIZONTAL SCALE IN FEET

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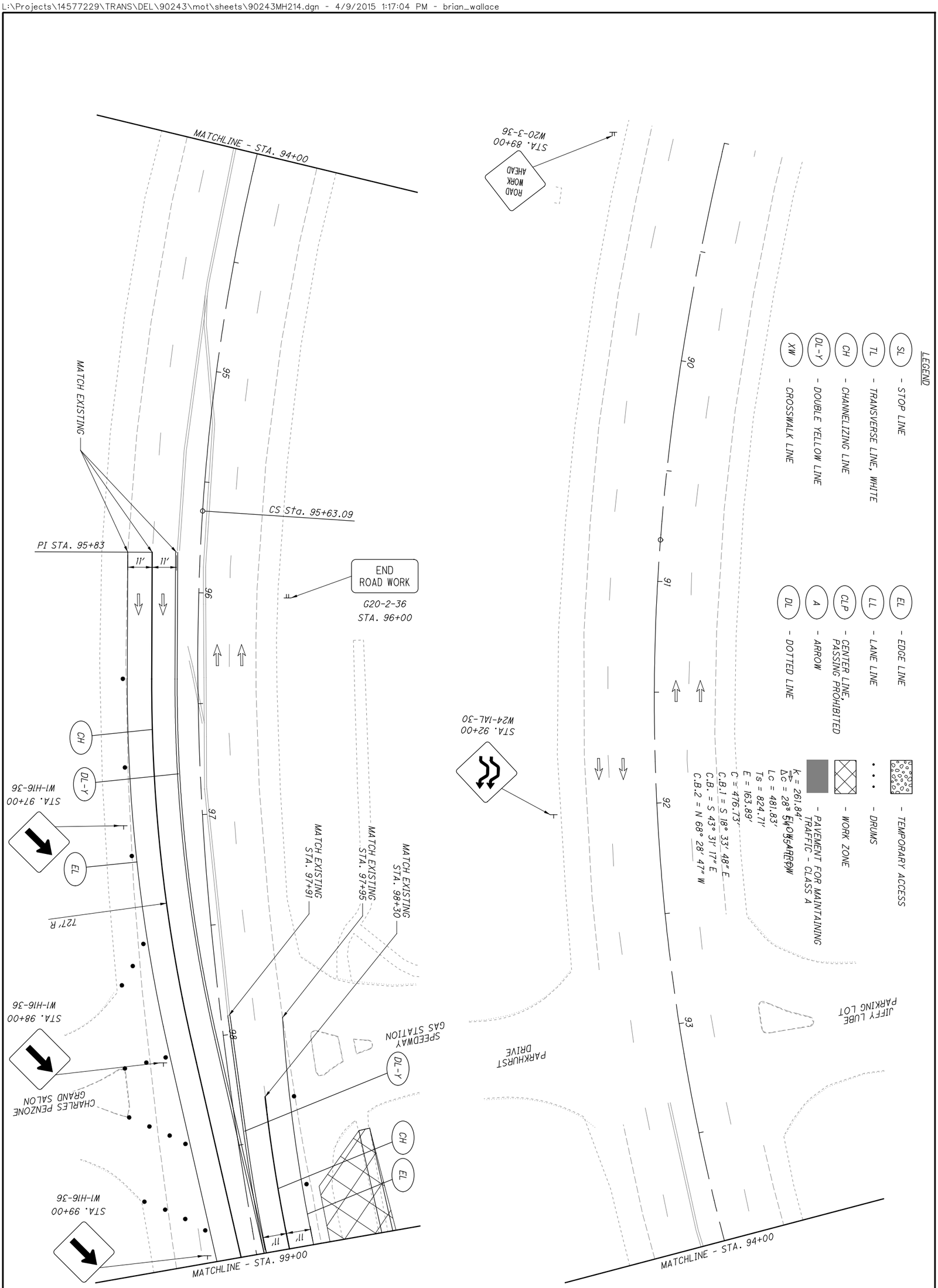


86 / 437	2952-DR-E	**DEL-CR10-0.90**	**MAINTENANCE OF TRAFFIC - PHASE 2** **POLARIS PKWY DETAIL - STAGE B**	CALCULATED EJT CHECKED RAM	0 20 10 40 HORIZONTAL SCALE IN FEET

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇒	- FLOW ARROW

FOR SIGNAL POLE LOCATIONS SEE SHEET 66

SHIFT EAST AND WEST SIGNAL HEADS AS SHOWN

HORIZONTAL SCALE IN FEET
0 10 20 40

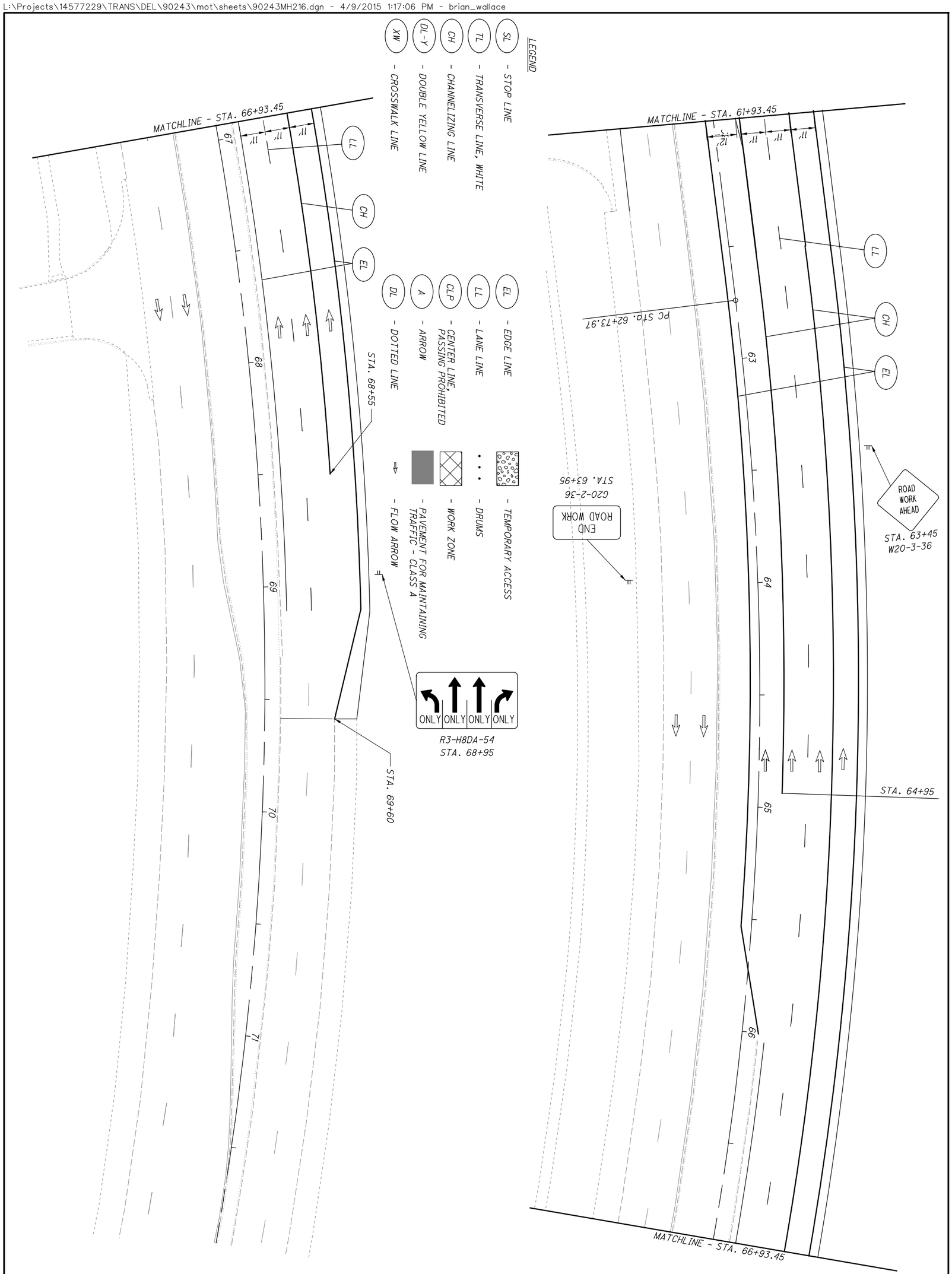
CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
POLARIS PKWY DETAIL - STAGE B

DEL-CR10-0.90

2952-DR.E

87
437



88 / 437	2952-DR.E	DEL-CR10-0.90	MAINTENANCE OF TRAFFIC - PHASE 2 POLARIS PKWY DETAIL - STAGE B	CALCULATED EJT CHECKED RAM	0 20 10 40 HORIZONTAL SCALE IN FEET

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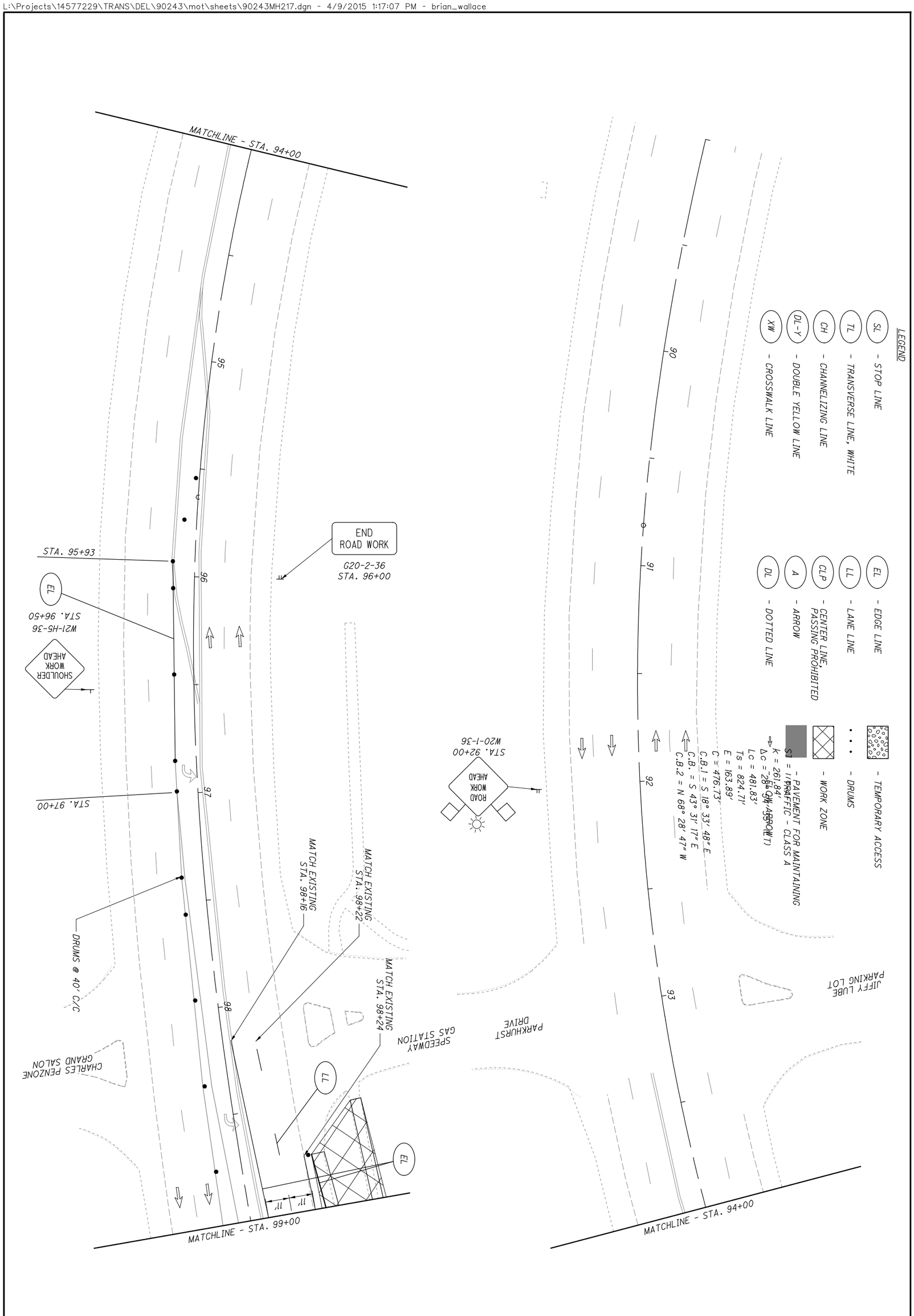
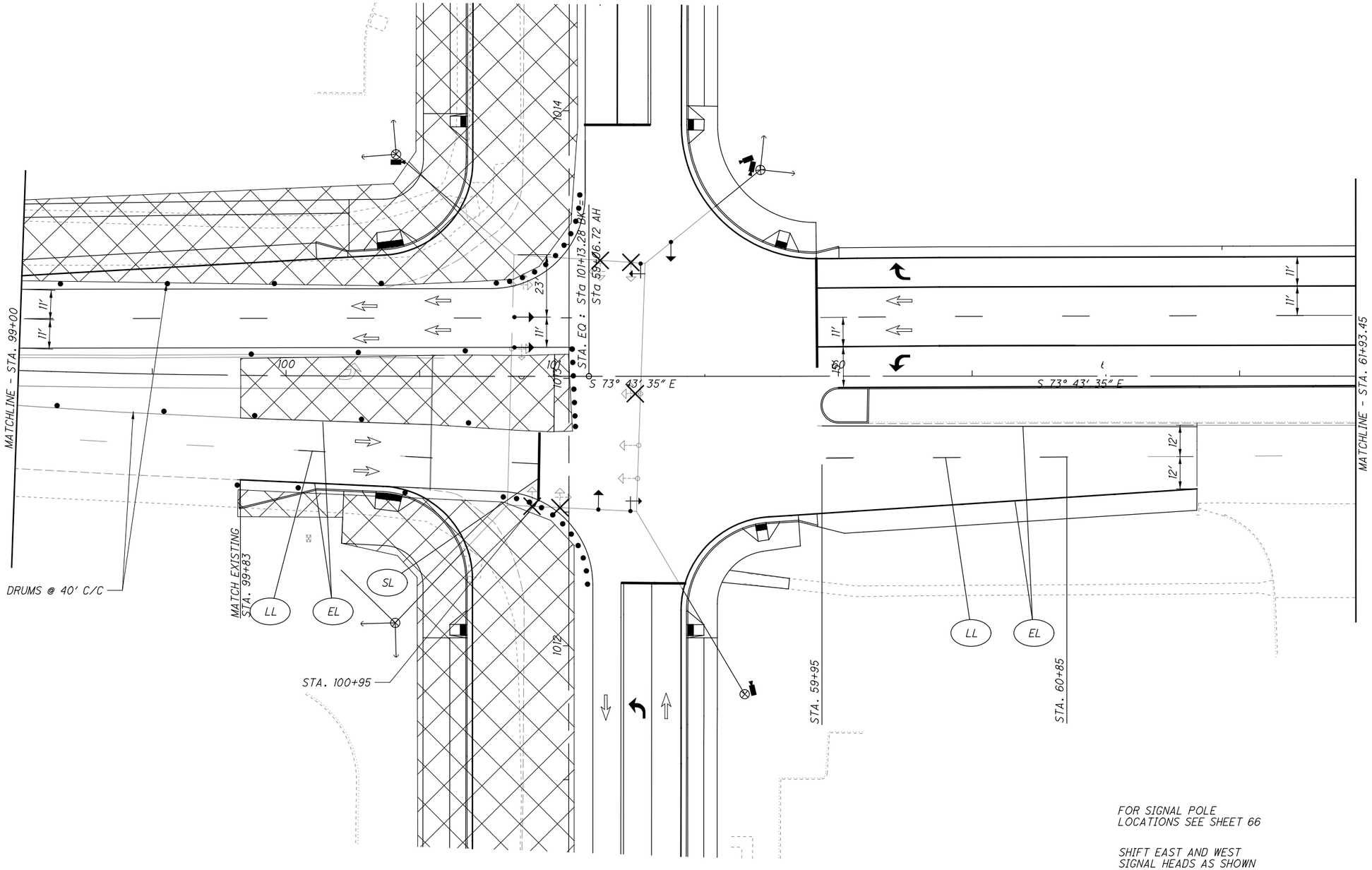


89 / 437	2952-DR-E	DEL-CR10-0.90	MAINTENANCE OF TRAFFIC - PHASE 2 POLARIS PKWY DETAIL - STAGE C	CALCULATED EJT CHECKED RAM	0 20 10 40 HORIZONTAL SCALE IN FEET

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW



FOR SIGNAL POLE LOCATIONS SEE SHEET 66

SHIFT EAST AND WEST SIGNAL HEADS AS SHOWN

HORIZONTAL SCALE IN FEET
0 10 20 40

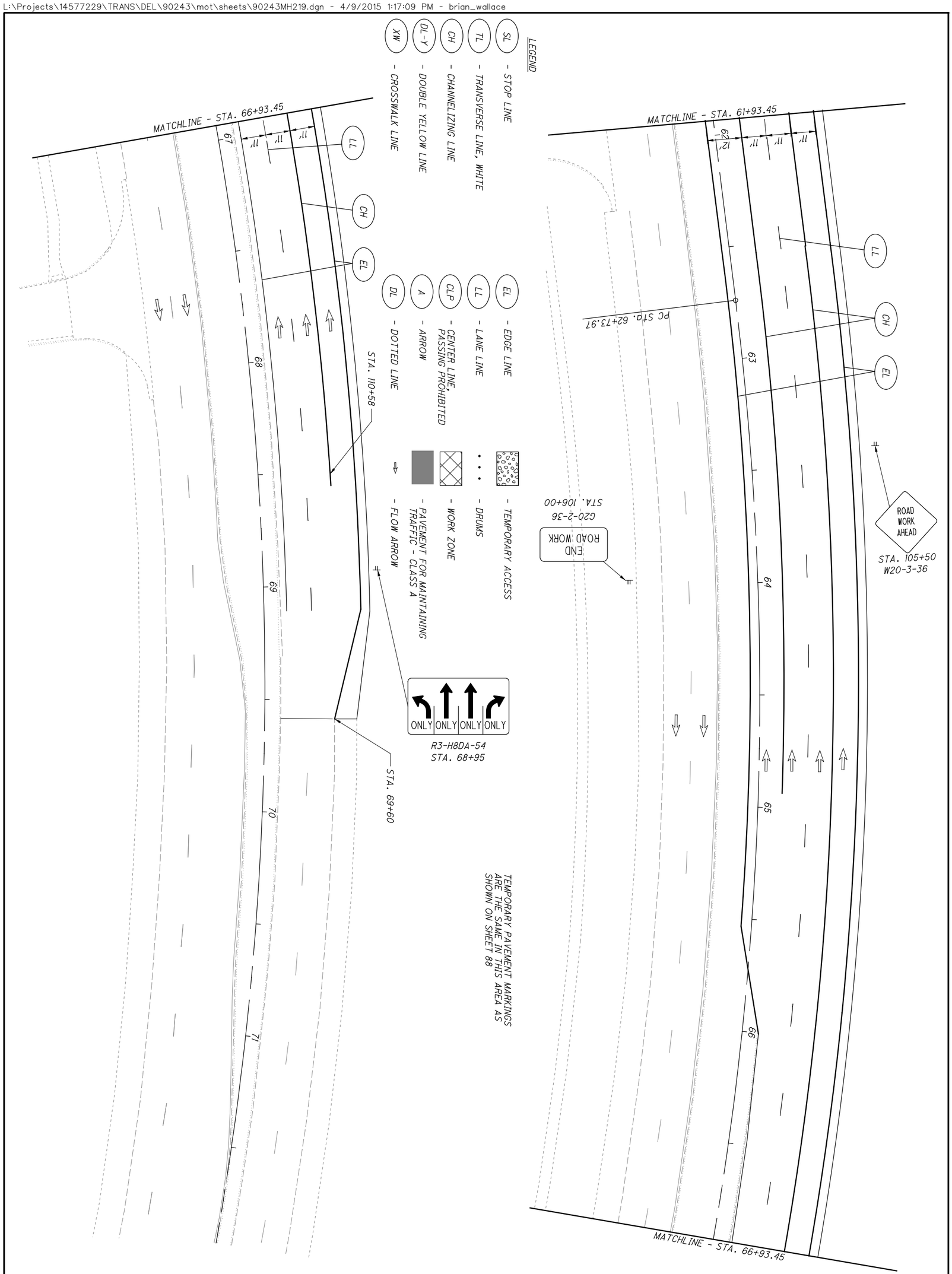
CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
POLARIS PKWY DETAIL - STAGE C

DEL-CR10-0.90

2952-DR.E

90
437



91 / 437	2952-DR.E	DEL-CR10-0.90	MAINTENANCE OF TRAFFIC - PHASE 2 POLARIS PKWY DETAIL - STAGE C	CALCULATED EJT CHECKED RAM	0 20 10 40 HORIZONTAL SCALE IN FEET

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇒	- FLOW ARROW

REMOVE ALL CONFLICTING PAVEMENT MARKINGS

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
POWELL ROAD DETAIL - STAGE A

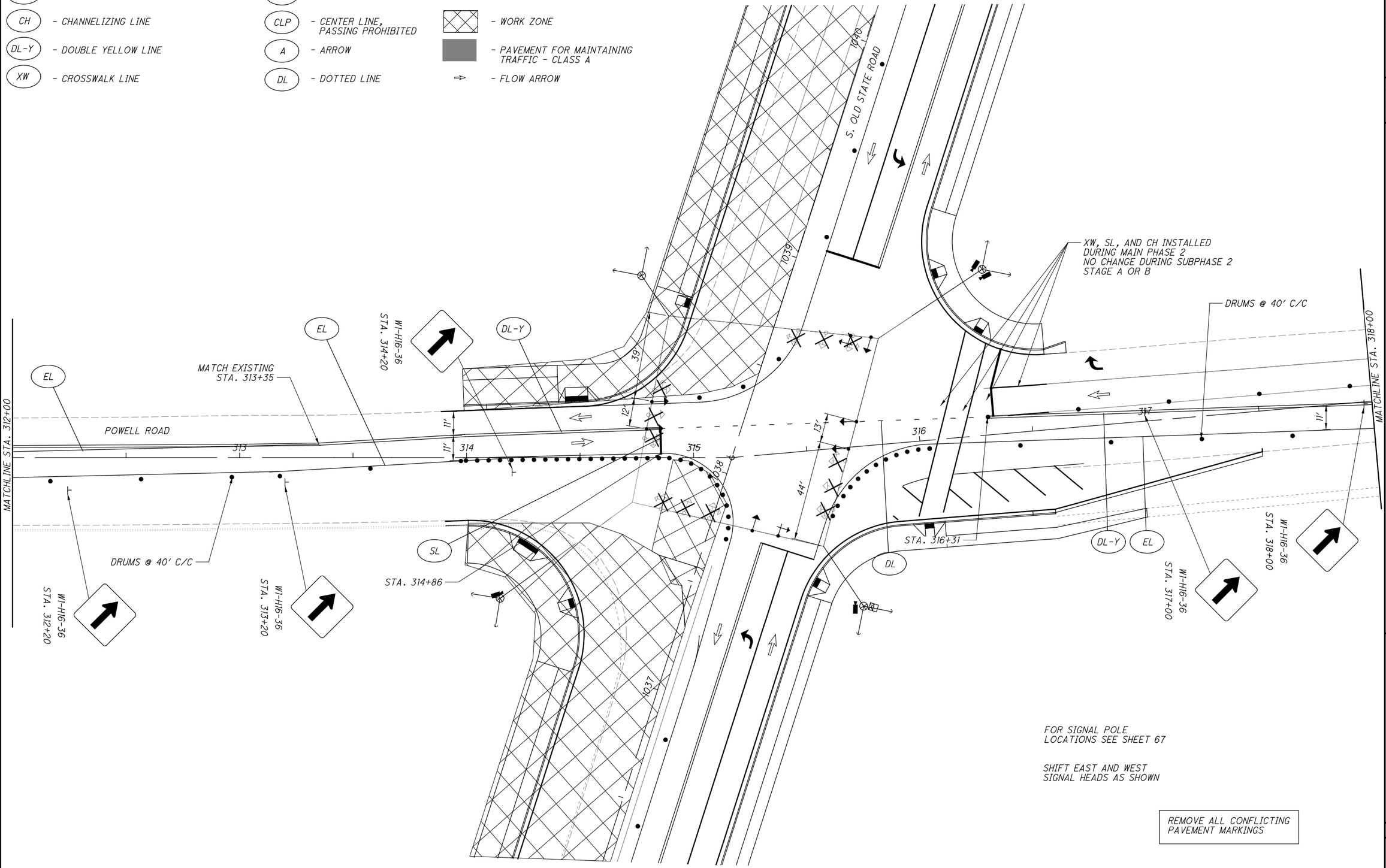
DEL-CR10-0.90

2952-DR.E

92
437

LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇨	- FLOW ARROW



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
POWELL ROAD DETAIL - STAGE A

DEL-CR10-0.90

2952-DR.E

93
437

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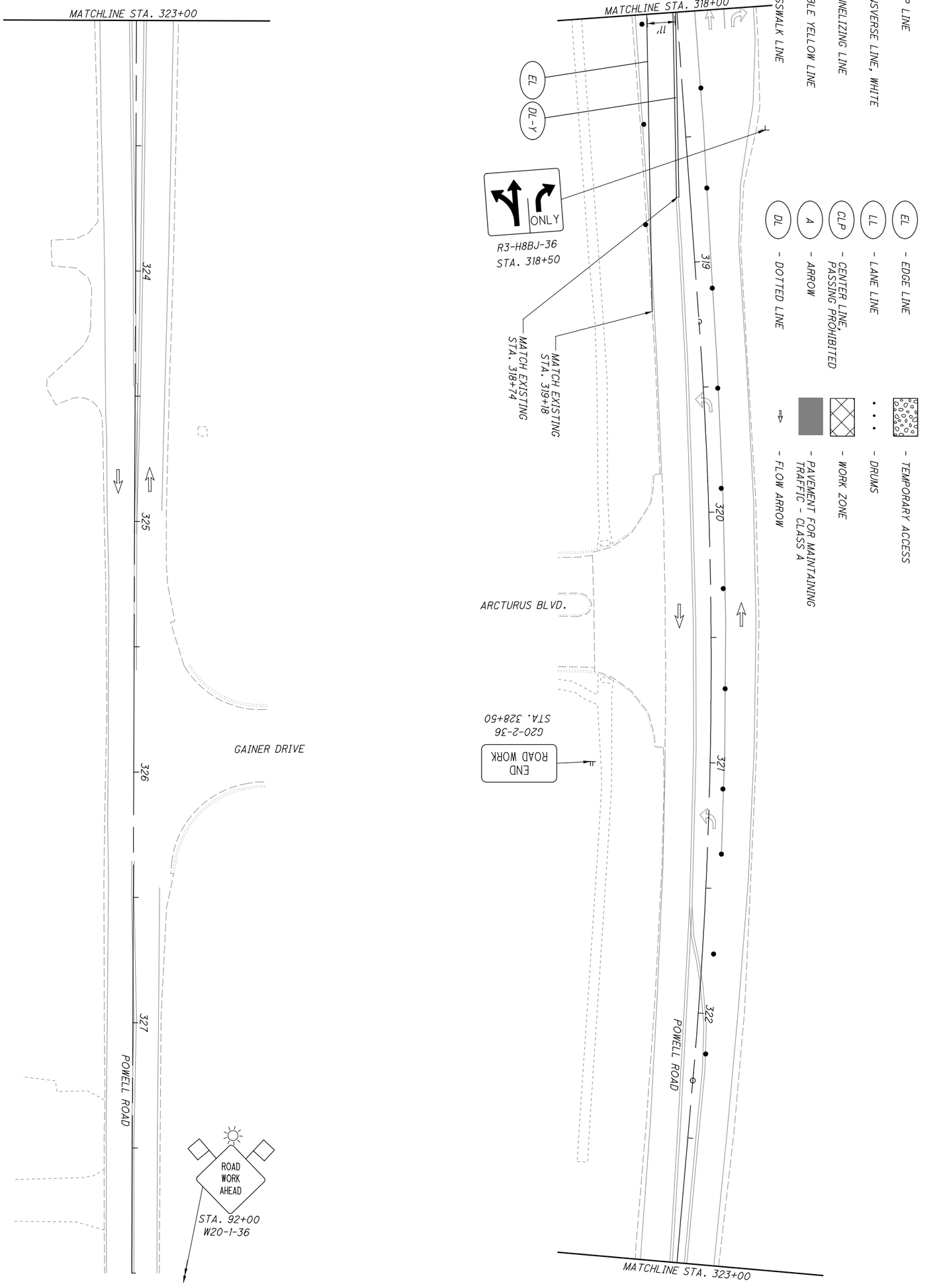
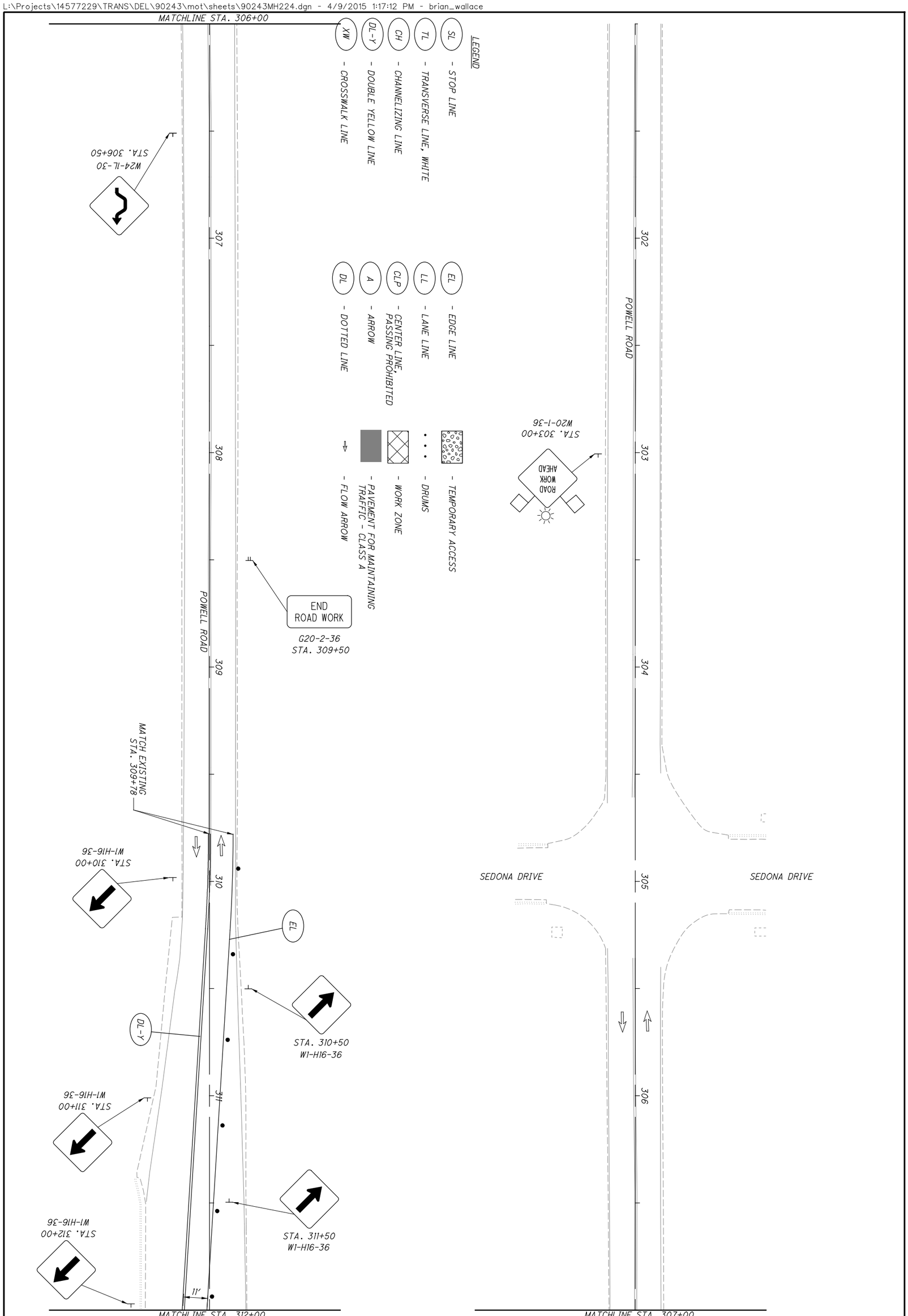


94 / 437	2952-DR-E	DEL-CR10-0.90	MAINTENANCE OF TRAFFIC - PHASE 2 POWELL ROAD DETAIL - STAGE A	CALCULATED EJT CHECKED RAM 0 10 20 40 HORIZONTAL SCALE IN FEET



95
437

2952-DR-E

DEL-CR10-0.90

MAINTENANCE OF TRAFFIC - PHASE 2
POWELL ROAD DETAIL - STAGE B

CALCULATED EJT
CHECKED RAM

0 10 20 40
HORIZONTAL SCALE IN FEET

N

LEGEND

SL - STOP LINE	EL - EDGE LINE		- TEMPORARY ACCESS
TL - TRANSVERSE LINE, WHITE	LL - LANE LINE	• • •	- DRUMS
CH - CHANNELIZING LINE	CLP - CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y - DOUBLE YELLOW LINE	A - ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW - CROSSWALK LINE	DL - DOTTED LINE	⇒	- FLOW ARROW

N

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
POWELL ROAD DETAIL - STAGE B

DEL-CR10-0.90

2952-DR.E

96
437

S. OLD STATE ROAD

1040

1039

1038

1037

STA. 315+12

DRUMS @ 40' C/C

DRUMS @ 20' C/C

STA. 312+50
W1-H16-36

EL

DL-Y

SL

DL-Y

313

314

315

316

317

12'

11'

11'

26'

12'

MATCHLINE STA. 312+00

MATCHLINE STA. 318+00

EAST POWELL ROAD

STA. 314+45

SL

DL

STA. 316+31

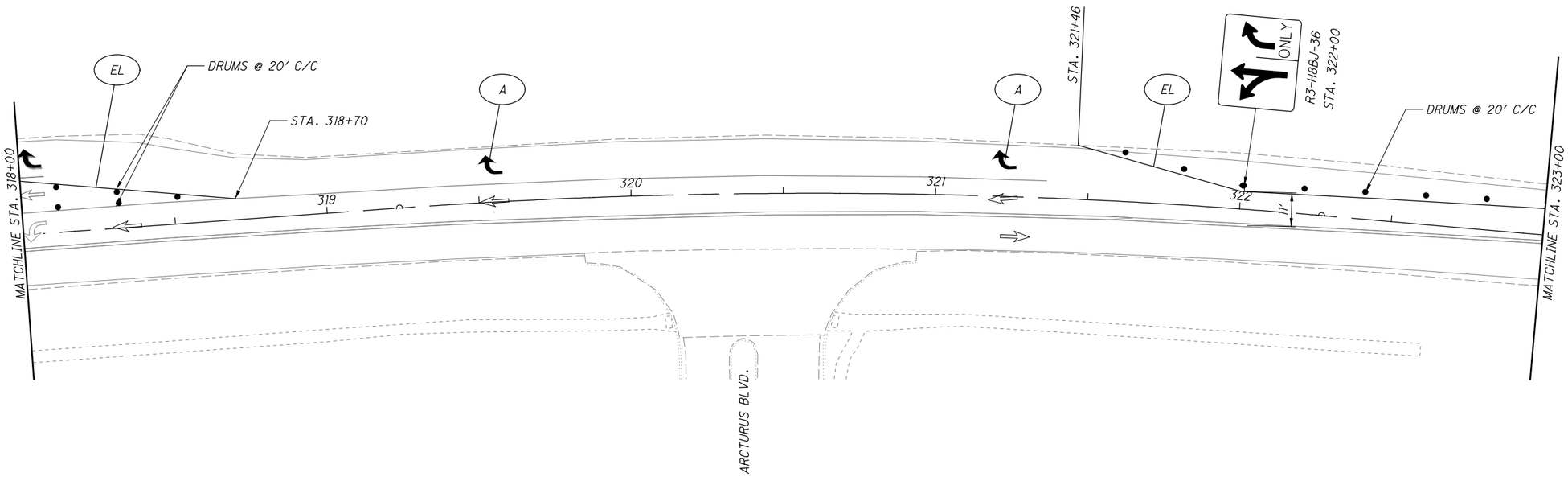
MATCH EXISTING
STA. 316+57

STA. 313+00
W1-H16-36

REMOVE ALL CONFLICTING PAVEMENT MARKINGS

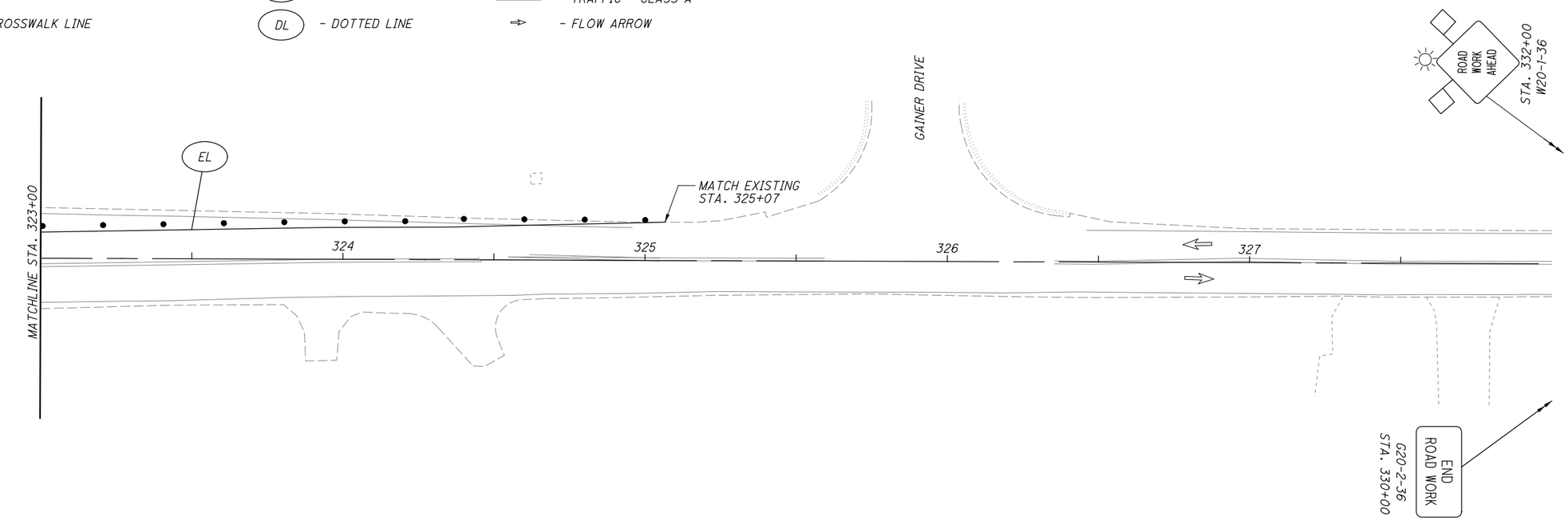
FOR SIGNAL POLE LOCATIONS SEE SHEET 67

SHIFT EAST AND WEST SIGNAL HEADS AS SHOWN



LEGEND

SL	- STOP LINE	EL	- EDGE LINE		- TEMPORARY ACCESS
TL	- TRANSVERSE LINE, WHITE	LL	- LANE LINE	• • •	- DRUMS
CH	- CHANNELIZING LINE	CLP	- CENTER LINE, PASSING PROHIBITED		- WORK ZONE
DL-Y	- DOUBLE YELLOW LINE	A	- ARROW		- PAVEMENT FOR MAINTAINING TRAFFIC - CLASS A
XW	- CROSSWALK LINE	DL	- DOTTED LINE	⇒	- FLOW ARROW



MAINTENANCE OF TRAFFIC - PHASE 2
POWELL ROAD DETAIL - STAGE B

CALCULATED EJT
CHECKED RAM

HORIZONTAL SCALE IN FEET
0 10 20 40

DEL-CR10-0.90

2952-DR.E

97
437

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LEGEND

V#-# VIDEO DETECTION AREA

VIDEO CAMERA

HEADS REPOSITIONED OR TEMPORARY

EXISTING HEADS TO BE REMOVED

NOTES:

1) MAINTAIN EXISTING SIGNAL PHASING

2) TIMING TO BE PROVIDED BY CITY OF COLUMBUS

3) EXISTING COORDINATION ALONG POLARIS PARKWAY TO BE MAINTAINED

4) FOR TEMPORARY TRAFFIC SIGNALS DETAILS, SEE SHEET 99

5) MAINTAIN PEDESTRIAN SIGNALS AND TEMPORARY OR PERMANENT PUSH BUTTONS ACROSS THE EAST APPROACH

6) PEDESTRIAN CROSSING PROHIBITED ON SOUTH APPROACH - PEDESTRIAN HEADS REMOVED OR COVERED IN PHASE 1 CONSTRUCTION

POLARIS PARKWAY

S. OLD STATE ROAD

ORANGE TOWNSHIP
CITY OF COLUMBUS

V1 V1-1 V1-2 V2 V2-1 V2-2 V3 V3-1 V3-2 V4 V4-1 V4-2

FROM PHASE 1

TMP

Ex R/W

R/W

Ex SW

Ex U

SL

1011 1012 1013 1014 1015

S 73° 43' 35" E

2' 12'

60 66 100 101

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
SIGNAL MODIFICATIONS-POLARIS PKWY

DEL-CR10-0.90

2952-DR.E

98
437

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TIMING CHART - POLARIS PARKWAY - PHASE 1								
PHASE	1	2	3	4	5	6	7	8
MOVEMENT	NBLT	SB	EBLT	WB	SBLT	NB	WBLT	EB
MIN GREEN								
PASS/EXT								
MAX GRN 1								
MAX GRN 2								
YELLOW								
RED CLR								
WALK								
PED CLR								
PED RECALL								
VEH RECALL								
MEMORY								

TIMING CHART - POLARIS PARKWAY - PHASE 2								
PHASE	1	2	3	4	5	6	7	8
MOVEMENT	NBLT	SB	EBLT	WB	SBLT	NB	WBLT	EB
MIN GREEN								
PASS/EXT								
MAX GRN 1								
MAX GRN 2								
YELLOW								
RED CLR								
WALK								
PED CLR								
PED RECALL								
VEH RECALL								
MEMORY								

DETECTOR ASSIGNMENTS - PHASE 1							
DET. #	CAMERA #	PHASE	DETECTION ZONE SIZE (W'XL')	PRESENCE	LOOP DELAY DATA		DETECTION AREA LABEL
					DELAY (SEC)	INHIBIT DELAY DURING GREEN	
V1-1	V-1	ϕ2	30'x6'		0		WB
V1-2	V-2	ϕ5	5'x80'	X	3	ϕ5	WB LT
V2-1	V-2	ϕ4	5'x80'	X	8	ϕ4	SB TH/RT
V2-2	V-2	ϕ7	5'x80'	X	3	ϕ7	SB LT
V3-1	V-3	ϕ3	5'x80'	X	3	ϕ3	NB LT
V3-2	V-3	ϕ8	5'x80'	X	8	8	NB

DETECTOR ASSIGNMENTS - PHASE 2							
DET. #	CAMERA #	PHASE (SEE NOTE 1)	DETECTION ZONE SIZE (W'XL')	PRESENCE	LOOP DELAY DATA		DETECTION AREA LABEL
					DELAY (SEC)	INHIBIT DELAY DURING GREEN	
V1-1	V-1	ϕ2	5'x40'		0		WB
V1-2	V-2	ϕ5	20'x6'	X	3		WB LT
V2-1	V-2	ϕ4	6'x40'	X	8	ϕ4	SB TH/RT
V2-2	V-2	ϕ7	6'x40'	X	3	ϕ7	SB LT
V3-1	V-3	ϕ3	6'x40'	X	3	ϕ3	NB LT
V3-2	V-4	ϕ8	6'x40'	X	8	ϕ8	NB TH/RT
V4-1	V-4	ϕ1	6'x40'	X	3	ϕ1	EB LT
V4-2	V-4	ϕ6	20'x6'		0		EB TH/RT

SHEET NO.	632 MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER, WITH ACCESSORIES	632 SIGNAL CABLE, 2-CONDUCTOR, NO. 14 AWG	632 SIGNAL CABLE, 5-CONDUCTOR, NO. 14 AWG	632 SIGNAL CABLE, 7-CONDUCTOR, NO. 14 AWG	632 WOOD POLE	632 DOWN GUY	632 GROUND ROD	632 COVERING OF VEHICULAR SIGNAL HEAD
	FT	FT	FT	FT	EACH	EACH	EACH	EACH
66	225				5	7	5	
98								
TOTALS CARRIED TO GENERAL SUMMARY	225				5	7	5	

NOTES:

1. PHASE NUMBERS CORRESPOND TO THE PHASES SHOWN ON THE EXISTING TIMING SHEET. EXISTING CONTROLLER, ECONOLITE ASC/2, SHALL BE USED DURING CONSTRUCTION UNTIL REPLACED BY THE PROPOSED CONTROLLER

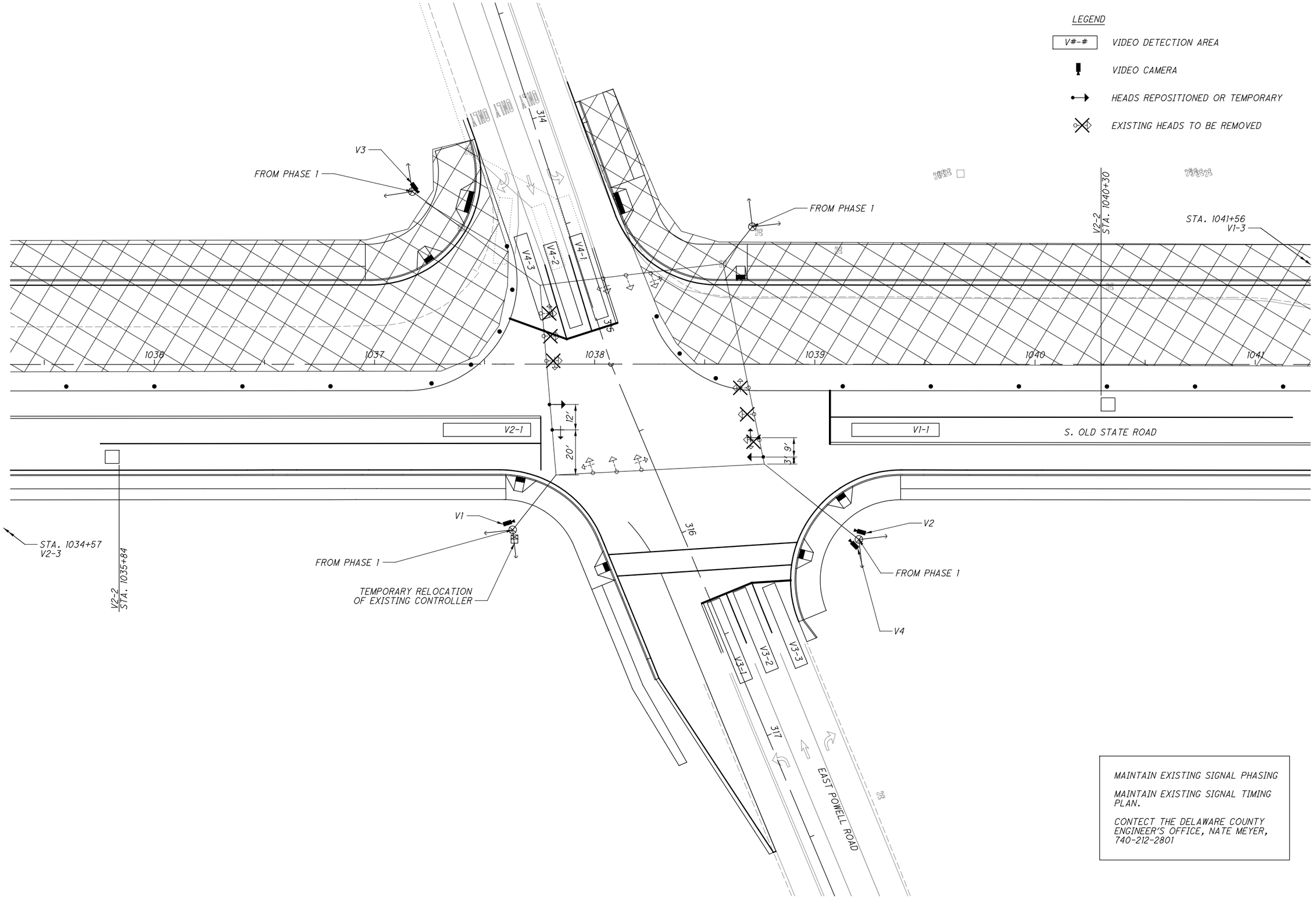
CALCULATED AWF
CHECKED RAM

MAINTENANCE OF TRAFFIC SIGNAL MODIFICATION DETAILS

DEL-CR10-0.90

2952-DR.E

99
437



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED EJT
CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
SIGNAL MODIFICATION - POWELL RD

DEL-CR10-0.90

2952-DR.E

100
437

LEGEND

V#-# VIDEO DETECTION AREA

VIDEO CAMERA

HEADS REPOSITIONED OR TEMPORARY

EXISTING HEADS TO BE REMOVED

REPROGRAM EXISTING STOP BAR DETECTOR RADAR TO COVER AREA SHOWN

TEMPORARY PHASING FROM CONSTRUCTION PHASE 1
TEMPORARY TIMING FROM CONSTRUCTION PHASE 1 (SHEET 68)

GLADSHIRE BOULEVARD

108

208

1080 1081 1082 1083 1084 1085

SOUTH OLD STATE ROAD

12'

12'

16'

48'

803

TEMPORARY SPAN BETWEEN EXISTING MASTARM SUPPORTS REMOVE OR COVER EXISTING NORTH-SOUTH SIGNAL HEADS

WILSHIRE BOULEVARD

804

N

0 10 20 40 HORIZONTAL SCALE IN FEET

CALCULATED EJT CHECKED RAM

MAINTENANCE OF TRAFFIC - PHASE 2
SIGNAL MODIFICATION-WILSHIRE/ GLADSHIRE

DEL-CR10-2.37

2952-DR.E

101 / 437

SHEET NUMBER																						PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT
4	5	6	114	115	116	117	118	119	120	121	124	263	259	281	282	156	231	245	277	278	369	COLUMBUS	DELAWARE						
																												ROADWAY	
LUMP																								201	11000	LUMP		CLEARING AND GRUBBING	
						1			4	2												0	7	202	20010	7	EACH	HEADWALL REMOVED	
							5,999		4,779		42,912	1,040		580	206							6,580	48,936	202	23010	55,516	SQ YD	PAVEMENT REMOVED, ASPHALT	
				6,609	3,439	2,371			770	546				360								10,048	4,047	202	30000	14,095	SQ FT	WALK REMOVED	
						47				15												0	62	202	30800	62	SQ YD	TRAFFIC ISLAND REMOVED	
				266		274	331					425										266	1,030	202	32000	1,296	FOOT	CURB REMOVED	
								159	938	36				26								0	1,159	202	32500	1,159	FOOT	CURB AND GUTTER REMOVED	
				1,230	711	783	557	1,219	499	554												1,940	3,612	202	35100	5,552	FOOT	PIPE REMOVED, 24" AND UNDER	
									47	108												0	155	202	36520	155	FOOT	PIPE REMOVED, OVER 24"	
									825	50												0	875	202	38000	875	FOOT	GUARDRAIL REMOVED	
									2													0	2	202	42010	2	EACH	ANCHOR ASSEMBLY REMOVED, TYPE E	
				4	1	1		1														5	2	202	58000	7	EACH	MANHOLE REMOVED	
				9	5	7	6	7	6	3												14	29	202	58100	43	EACH	CATCH BASIN REMOVED	
														2	1							0	3	202	62700	3	EACH	SEPTIC TANK REMOVED	
													787			42,413	2,903	885	8,825	10,415		17,092	49,136	203	10000	66,228	CU YD	EXCAVATION	
																28,036	1,094	1,042		78		4,164	26,086	203	20000	30,250	CU YD	EMBANKMENT	
			1,774																				1,774	203	80100	1,774	CU YD	SPECIAL, INFILTRATION TRENCH	
		6,187									79,782		3,542									12,562	76,949	204	10000	89,511	SQ YD	SUBGRADE COMPACTION	
		3,574																				0	3,574	204	13000	3,574	CU YD	EXCAVATION OF SUBGRADE	
		1,996																				0	1,996	204	20000	1,996	CU YD	EMBANKMENT	
		2,104																				0	2,104	204	30010	2,104	CU YD	GRANULAR MATERIAL, TYPE B	
		32																				4	28	204	45000	32	HOURS	PROOF ROLLING	
		6,579																				0	6,579	204	50000	6,579	SQ YD	GEOTEXTILE FABRIC, TYPE D	
										1												0	1	606	26100	1	EACH	ANCHOR ASSEMBLY, TYPE E	
						515			240													0	755	607	98000	755	FOOT	FENCE, MISC., WOOD FENCE	
						9,098	4,975	12,885	8,856	429												0	36,243	608	10000	36,243	SQ FT	4" CONCRETE WALK	
				5,727	1,258																	6,985	0	608	10001	6,985	SQ FT	4" CONCRETE WALK, AS PER PLAN	7
						1,361	5,728	2,570	4,859													0	14,518	608	15000	14,518	SQ FT	8" CONCRETE WALK	
				1,095	3,956																	5,051	0	608	15001	5,051	SQ FT	8" CONCRETE WALK, AS PER PLAN	7
										652												0	652	608	30000	652	SQ FT	AGGREGATE WALK	
									10														10	608	40000	10	FT	CONCRETE STEPS, TYPA A	
						2	14	8		2												0	26	608	49001	26	EACH	CURB RAMP	
				588	585				11													1,173	11	608	52001	1,184	SQ FT	CURB RAMP, AS PER PLAN	7
																					15	4	11	623	38500	15	EACH	MONUMENT ASSEMBLY	
		6,187																				0	6,187	SPECIAL	69012020	6,187	SQ YD	SPECIAL - GEOGRID	
	30																					5	25	SPECIAL	69050100	30	EACH	SPECIAL - MAILBOX SUPPORT SYSTEM, SINGLE	6
	2																					1	1	SPECIAL	69050200	2	EACH	SPECIAL - MAILBOX SUPPORT SYSTEM, DOUBLE	6
																												EROSION CONTROL	
	2,302											135										336	2,101	653	10000	2,437	CU YD	TOPSOIL FURNISHED AND PLACED	
	209,250											150										28,897	180,503	659	10000	209,400	SQ YD	SEEDING AND MULCHING, CLASS 1	
	10,463																					1,444	9,019	659	14000	10,463	SQ YD	REPAIR SEEDING AND MULCHING	
	10,463																					1,444	9,019	659	15000	10,463	SQ YD	INTER-SEEDING	
	29.19																					4.03	25.16	659	20000	29.19	TON	COMMERCIAL FERTILIZER	
	43.23																					5.97	37.26	659	31000	43.23	ACRE	LIME	
	1,158																					160	998	659	35000	1,158	MGAL	WATER	
	471																					65	406	659	40000	471	M SQ FT	MOWING	
												660										91	569	660	30000	660	SQ YD	SODDING UNSTAKED	
																								832	15000	LUMP		STORM WATER POLLUTION PREVENTION PLAN	
																						41,500	258,500	832	30000	300,000	EACH	EROSION CONTROL	

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SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT
7	8	108	109	110	111	112	113	114	115	277	278	COLUMBUS	DELAWARE						
																		DRAINAGE	
		3										3	0	601	11000	3	SQ YD	RIPRAP USING 6" REINFORCED CONCRETE SLAB	
						133						0	133	601	32100	133	CU YD	ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	
		19		23	1	20						19	44	601	32204	63	CU YD	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
										128	208	0	336	601	38100	336	FOOT	PAVED GUTTER, TYPE 1-6	
								326				0	326	601	45000	326	CU YD	INFILTATION BASIN AGGREGATE	
		2.88	0.71	3.70	0.83	11.07						3	16	602	20000	19.19	CU YD	CONCRETE MASONRY	
							854					0	854	605	13300	854	FOOT	6" UNCLASSIFIED PIPE UNDERDRAINS	
	100											0	100	605	13402	100	FOOT	6" UNCLASSIFIED PIPE UNDERDRAINS FOR SPRINGS	
							21,573					0	21,573	605	14000	21,573	FOOT	6" BASE PIPE UNDERDRAINS, 707.31	
	100											0	100	605	32200	100	FOOT	AGGREGATE DRAINS FOR SPRINGS	
						10						0	10	811	00400	10	FOOT	4" CONDUIT, TYPE E	
	315											0	315	811	00406	315	FOOT	4" CONDUIT, TYPE F	
300												0	300	811	00900	300	FOOT	6" CONDUIT, TYPE B	
	100											0	100	811	00900	100	FOOT	6" CONDUIT, TYPE B, FOR SANITARY	
	100											0	100	811	01100	100	FOOT	6" CONDUIT, TYPE C	
	100											0	100	811	01100	100	FOOT	6" CONDUIT, TYPE C, FOR SANITARY	
300						5						0	305	811	01400	305	FOOT	6" CONDUIT, TYPE E	
300	315						1,508					0	2,123	811	01500	2,123	FOOT	6" CONDUIT, TYPE F	
									38			0	38	811	01800	38	FOOT	8" CONDUIT, TYPE B, FOR SANITARY	
		10				10						10	10	811	02000	20	FOOT	8" CONDUIT, TYPE C	
	315											0	315	811	02000	315	FOOT	8" CONDUIT, TYPE F	
									55			0	55	811	03300	55	FOOT	10" CONDUIT, TYPE B, FOR SANITARY	
		10										10	0	811	03300	10	FOOT	10" CONDUIT, TYPE C	
			822	489	1,051	324						0	2,686	811	04400	2,686	FOOT	12" CONDUIT, TYPE B	
		306										306	0	811	04401	306	FOOT	12" CONDUIT, TYPE B, AS PER PLAN	9
			403	753	1,403	1,131		22				0	3,712	811	04600	3,712	FOOT	12" CONDUIT, TYPE C	
		489										489	0	811	04601	489	FOOT	12" CONDUIT, TYPE C, AS PER PLAN	9
								71				0	71	811	04600	71	FOOT	12" CONDUIT, TYPE C, 707.42	
			128			221						0	349	811	05900	349	FOOT	15" CONDUIT, TYPE B	
		507										507	0	811	05901	507	FOOT	15" CONDUIT, TYPE B, AS PER PLAN	9
			470	499	232	288		37				0	1,526	811	06100	1,526	FOOT	15" CONDUIT, TYPE C	
		318										318	0	811	06101	318	FOOT	15" CONDUIT, TYPE C, AS PER PLAN	9
								335				0	335	811	06100	335	FOOT	15" CONDUIT, TYPE C, 707.42	
			753	924								0	1,677	811	07400	1,677	FOOT	18" CONDUIT, TYPE B	
		734										734	0	811	07401	734	FOOT	18" CONDUIT, TYPE B, AS PER PLAN	9
			294	148	60	319						0	821	811	07600	821	FOOT	18" CONDUIT, TYPE C	
		56										56	0	811	08901	56	FOOT	21" CONDUIT, TYPE B, AS PER PLAN	9
				91	870							0	961	811	09100	961	FOOT	21" CONDUIT, TYPE C	
			625		43	136						0	804	811	10400	804	FOOT	24" CONDUIT, TYPE B	
		152	149									152	149	811	10401	301	FOOT	24" CONDUIT, TYPE B, AS PER PLAN	9
					66							0	66	811	10401	66	FOOT	24" CONDUIT, TYPE B, CONCRETE ENCASED	9
			160		20	16						0	196	811	10600	196	FOOT	24" CONDUIT, TYPE C	
		35										35	0	811	10601	35	FOOT	24" CONDUIT, TYPE C, AS PER PLAN	9
			595		12	40						0	647	811	12100	647	FOOT	27" CONDUIT, TYPE C	
		158										158	0	811	12101	158	FOOT	27" CONDUIT, TYPE C, AS PER PLAN	
		285										285	0	811	13400	285	FOOT	30" CONDUIT, TYPE B, AS PER PLAN	
			316									0	316	811		316	FOOT	30" CONDUIT, TYPE C	
					237	72						0	309	811	16400	309	FOOT	36" CONDUIT, TYPE B	
						75						0	75	811	16400	75	FOOT	36" CONDUIT, TYPE B, CONCRETE ENCASED	
					128	1,195		14				0	1,337	811	16600	1,337	FOOT	36" CONDUIT, TYPE C	
		107										107	0	811	19401	107	FOOT	42" CONDUIT, TYPE B, AS PER PLAN	
				559								0	559	811	19600	559	FOOT	42" CONDUIT, TYPE C	
		121										121	0	811	19601	121	FOOT	42" CONDUIT, TYPE C, AS PER PLAN	
						20						0	20	811	20700	20	FOOT	48" CONDUIT, TYPE A	
						26						0	26	811	28000	26	FOOT	84" CONDUIT, TYPE A	
						82						0	82	811	29000	82	FOOT	90" CONDUIT, TYPE A	
				129								0	129	811	52902	129	FOOT	34"x53" CONDUIT, TYPE B, 706.04	
				119								0	119	811	53002	119	FOOT	38"x60" CONDUIT, TYPE B, 706.04	9
				27								0	27	811	53004	27	FOOT	38"x60" CONDUIT, TYPE C, 706.04	

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SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT
8	108	109	110	111	112	113	114	115	116	120	121	COLUMBUS	DELAWARE						
																		DRAINAGE - CON'T	
		14	15	16	11							0	56	811	98150	56	EACH	CATCH BASIN, NO. 3	
	11											11		811	98151	11	EACH	CATCH BASIN, NO. 3, AS PER PLAN	9
		8	8	14	11							0	41	811	98180	41	EACH	CATCH BASIN, NO. 3A	
	6											6	0	811	98181	6	EACH	CATCH BASIN, NO. 3A, AS PER PLAN	9
		1	3		4							0	8	811	98230	8	EACH	CATCH BASIN, NO. 4	
			2				1					0	3	811	98270	3	EACH	CATCH BASIN, NO. 4A	
	1											1	0	811	98340	1	EACH	CATCH BASIN, NO. 5	
							1					0	1	811	98450	1	EACH	CATCH BASIN, NO. 2-2A	
		6	4	9	11		1					0	31	811	98470	31	EACH	CATCH BASIN, NO. 2-2B	
	11											11	0	811	98471	11	EACH	CATCH BASIN, NO. 2-2B, AS PER PLAN	9
				1	3							0	4	811	98510	4	EACH	CATCH BASIN, NO. 2-3	
	1											1	0	811	98541	1	EACH	CATCH BASIN, NO. 2-4, AS PER PLAN	9
			2									0	2	811	98570	2	EACH	CATCH BASIN, NO. 2-5	
		22	16	15	11							0	64	811	99590	64	EACH	MANHOLE NO. 3	
	26							2				26	2	811	99591	28	EACH	MANHOLE NO. 3, AS PER PLAN	9
				1								0	1	811	99570	1	EACH	MANHOLE, NO. 3 WITH 84" BASE I.D. AND 6" WEIR	
	1											1	0	811	99574	1	EACH	MANHOLE, NO. 3 WITH 90" BASE I.D. AND 8" WEIR	
	1											1	0	811	99621	1	EACH	MANHOLE NO. 3 WITH 108" BASE I.D. AND 44-3/4" WEIR	
			1		1							0	2	811	99621	2	EACH	MANHOLE NO. 5, AS PER PLAN	
									4	1	2	0	7	811	99655	7	EACH	MANHOLE, ADJUSTED TO GRADE (SANITARY)	
1						4						0	5	811	99710	5	EACH	PRECAST REINFORCED CONCRETE OUTLET	
1												0	1	811	99720	1	EACH	INSPECTION WELL	
							5					0	5	811	99850	5	EACH	WATER QUALITY BASIN, DETENTION, AS PER PLAN	271

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PARTICIPATION																		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT
8	15	115	116	117	118	119	120	121	122	124	263	277	259	307	278	COLUMBUS	DELAWARE						
																						PAVEMENT	
		69	339	1,352	1,170	585	1,675	2,687			429					69	8,237	252	01500	8,306	FOOT	FULL DEPTH PAVEMENT SAWING	
3,890																0	3,890	253	90100	3,890	SQ YD	PAVEMENT REPAIR, MISC.: PAVEMENT REINFORCING	8
										6,425						0	6,425	254	01000	6,425	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE	
										19,946						2,925	17,021	301	46000	19,946	CU YD	ASPHALT CONCRETE BASE, PG64-22	
										14,371		21	198			1,989	12,601	304	20000	14,590	CU YD	AGGREGATE BASE	
										6,111						877	5,234	407	10000	6,111	GAL	TACK COAT	
										3,259						468	2,791	407	14000	3,259	GAL	TACK COAT FOR INTERMEDIATE COURSE	
										31,914						4,678	27,236	408	10000	31,914	GAL	PRIME COAT	
													46			7	39	442	20001	46	CU YD	ASPHALT CONCRETE, SURFACE COURSE, 12.5MM, TYPE A (448), AS PER PLAN	5
													24			6	18	442	20214	24	CU YD	ASPHALT CONCRETE, INTERMEDIATE COURSE, 19MM, TYPE A (448) (DRIVEWAYS)	
										3,856						488	3,368	441	10100	3,856	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG70-22M	
										4,498						570	3,928	441	10200	4,498	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446)	
										335						0	335	441	50000	335	CU YD	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
										470						0	470	441	50300	470	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)	
										922						0	922	441	90000	922	CU YD	ASPHALT CONCRETE, MISC.: ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, LEVELING COURSE	
															409	409		451	10010	409	SQ YD	6" REINFORCED CONCRETE PAVEMENT, CLASS QC1	
													786			132	654	452	10010	786	SQ YD	6" NON- REINFORCED CONCRETE PAVEMENT, CLASS QC1	
													1,687			515	1,172	452	12010	1,687	SQ YD	8" NON- REINFORCED CONCRETE PAVEMENT, CLASS QC1	
		1,534	996	4,321	4,131	5,968	3,049	2,647								2,482	20,164	609	12000	22,646	FOOT	COMBINATION CURB AND GUTTER, TYPE 2	
				746	471			590			750					0	2,557	609	26000	2,557	FOOT	CURB, TYPE 6	
				7,188	2,354											0	9,542	609	71000	9,542	SQ FT	CONCRETE MEDIAN	
		2,652	948					198								3,600	198	609	71001	3,798	SQ FT	CONCRETE MEDIAN, AS PER PLAN	5
																						WATERWORKS (PER CITY OF COLUMBUS STANDARDS AND SPECS)	
									77							77	0	801		77	FOOT	6 INCH WATER PIPE AND FITTINGS	13
									26							26	0	801		26	FOOT	8 INCH WATER PIPE AND FITTINGS	13
	100								916							1,016	0	801		1,016	FOOT	12 INCH WATER PIPE AND FITTINGS	13
	460															460	0	801		460	POUND	DUCTILE IRON FITTINGS, INCREASE OR DECREASE	15
	7															7	0	801		7	CU YD	CONCRETE BLOCKING CLASS C, INCREASE OR DECREASE	15
									6							6	0	802		6	EACH	6 INCH VALVE AND APPURTENANCES	13
									1							1	0	802		1	EACH	8 INCH VALVE AND APPURTENANCES	13
			1						1							2	0	802		2	EACH	12 INCH VALVE AND APPURTENANCES	13
	1								2							3	0	805		3	EACH	3/4 INCH WATER SERVICE TAP, TRANSFERRED	13
									1							1	0	805		1	EACH	1 INCH WATER SERVICE TAP, TRANSFERRED	13
									1							1	0	805		1	EACH	1 1/2 INCH WATER SERVICE TAP, TRANSFERRED	13
									1							1	0	805		1	EACH	4 INCH WATER SERVICE TAP, TRANSFERRED	13
	10	2	1	6	1			3	2							25	0	807		25	EACH	VALVE BOXES ADJUSTED TO GRADE	13
	1							1								2	0	807		2	EACH	SERVICE BOXES ADJUSTED TO GRADE	13
	5		1		1				7							14	0	807		14	EACH	COLUMBUS STANDARD HEAVY DUTY VALVE BOX	13
	5			2												7	0	807		7	EACH	C.I. FERRULE VALVE BOX AND COVER	13
		1														1	0	808		1	EACH	RELOCATE 6 INCH WATER SERVICE TAP	13
			2	3												5	0	808		5	EACH	RELOCATE 12 INCH WATER LINE	13
			1						3							4	0	809		4	EACH	FIRE HYDRANT, TYPE A MODIFIED	13
			1	4				1								6	0	809		6	EACH	FIRE HYDRANT, RELOCATED	13
								1								1	0	810		1	EACH	6 INCH HYDRANT EXTENSIONS	
	18															18	0	811		18	CU YD	INCREASE OR DECREASE IN EXCAVATION AND BACKFILL	15
		2														2	0	816		2	EACH	3/4 INCH WATER SERVICE TAP RELOCATED	13
	1															1	0	SPECIAL		1	LUMP	SPECIAL - SURVEY COORDINATES	15

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SHEET NUMBER													PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT
283	284	285	286	287	288	289	290	291	307				COLUMBUS	DELAWARE						
																			LIGHTING (PER CITY OF COLUMBUS STANDARDS AND SPECS)	
																				306
									8				8	0	MIS- 4		8	EACH	MEDIUM DUTY PULL BOX, 13"x 24"	306
									2,929				2,929	0	MIS- 15		2,929	FT	2" CONDUIT IN OPEN AREAS, CONCRETE ENCASED	306
									4				4	0	MIS- 23		4	EACH	FOUNDATION REMOVAL	306
									4				4	0	MIS- 41		4	EACH	POLE TO BE WIRED, TRANSFORMER AND ANCHOR BASE	306
									376				376	0	MIS- 63		376	FT	CONDUIT, 3" RIGID STEEL, JACKED OR PUSHED UNDER PAVEMENT	306
									4				4	0	MIS- 68		4	EACH	CLEAN AND RELAMP HPS LUMINAIRE	306
									20				20	0	MIS- 81		20	EACH	FOUNDATION, REINFORCED 8' (FOR 40' MH POLES)	306
									4				4	0	MIS- 107		4	EACH	480 VOLT STREET LIGHT STANDARD RELOCATION	306
									11				11	0	MIS- 151		11	EACH	LUMINAIRE, 400W HPS, 480 VOLT CUT OFF STYLE (POLARIS PARKWAY)	306
									5				5	0	MIS- 163		5	EACH	LUMINAIRE, 250W HPS, 480 VOLT CUT OFF STYLE (OLD STATE ROAD)	306
									16				16	0	MIS- 152		16	EACH	POLE, ALUMINUM LIGHT POLE ASSEMBLY W/4' DAVIT BKT, TRANSFORMER BASE 40' MH	306
									3,565				3,565	0	MIS- 190		3,565	FT	STREET LIGHTING CIRCUIT, 3 WIRE (2-#4/5KV CABLES & 1 #8/600v EQUIPMENT GROUND)	306
									16				16	0	MIS- 191		16	EACH	POLE TO BE WIRED (3 WIRE SYSTEM)	306
									1				1	0	MIS- 193		1	EACH	480V PAD MOUNT CONTROL SITE-COMPLETE WITH EQUIPMENT GROUNDING CONDUCTOR	306
									1				1	0	LUMP		1	LUMP	RELOCATE EXISTING SPLICE BOX AND DIRECT BURY LIGHT POLE	306
									1				1	0	LUMP		1	LUMP	REMOVE EXISTING SPLICE BOX AND DIRECT BURIED LIGHT POLE	306
																			TRAFFIC CONTROL	
							30	30						30	630	04100	30	FOOT	GROUND MOUNTED SUPPORT, NO. 4 POST, TYPE 5	
					443	140	154	56					306	487	630	03100	793	FOOT	GROUND MOUNTED SUPPORT, NO. 3 POST	
					29	29							29	29	630	06400	58	FOOT	GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4x7.7	
					38	81	81	33					18	215	630	08530	233	FOOT	STREET NAME SIGN SUPPORT, NO. 4 POST	
					2	2							2	2	630	09000	4	EACH	BREAKAWAY BEAM STRUCTURAL CONNECTION	
					2								1	1	630	75400	2	EACH	SPAN WIRE SIGN SUPPORT, TYPE TC-17.10, DESIGN 4	
					1									1	630	75600	1	EACH	SPAN WIRE SIGN SUPPORT, TYPE TC-17.10, DESIGN 6	
					315.00	199.29	172.68	106.17					168.75	624.39	630	80100	793.14	SQ FT	SIGN FLAT SHEET	
					27.00	21.00							27.00	21.00	630	80200	48.00	SQ FT	SIGN GROUNDMOUNTED EXTRUSHEET	
					6								2	4	630	84520	6	EACH	SPAN WIRE SUPPORT FOUNDATION	
					14	22	21	15					14	58	630	84900	72	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
					2	2							2	2	630	84500	4	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
					18.00								18		630	SS-1100	18.00	SQ FT	STREET NAME SIGN (COLUMBUS SS-1100)	
					13	23	21	15					15	57	630	86002	72	EACH	REMOVAL OF GROUND MOUNTED POST AND DISPOSAL	
						4	4	4						12	630	97700	12	EACH	SIGNING, MISC.: POLE MOUNTED STREEN NAME SIGN (DELAWARE CO)	305
0.44	0.96			0.36									0.48	1.28	644	00100	1.76	MILE	EDGE LINE, 4"	
0.46	1.12	1.22	0.66	0.18									0.36	3.28	644	00200	3.64	MILE	LANE LINE, 4"	
0.21	0.31	1.08	0.66										0.20	2.06	644	00300	2.26	MILE	CENTERLINE	
4330	2607	698	2295	1445									3,565	7,810	644	00400	11375	FOOT	CHANNELIZING LINE, 8"	
	371		292										98	565	644	00500	663	FOOT	STOP LINE	
702	663		830										0	2,195	644	00600	2195	FOOT	CROSSWALK LINE	
388	1172	489	212	338									306	2,293	644	00700	2599	FOOT	TRANSVERSE/DIAGONAL LINE	
15	15	231		67									0	328	644	00900	328	SQ FT	ISLAND MARKING	
27	8	28	18	10									34	57	644	01300	91	EACH	LANE ARROW	
5	3												5	3	644	01410	8	EACH	WORD ON PAVEMENT, 96"	
	170														644	01500	170	FOOT	DOTTED LINE, 4"	
																			TRAFFIC SIGNALS	
																			FOR TRAFFIC SIGNAL QUANTITIES, SEE SHEETS 332 TO 333	

CALCULATED AWF
CHECKED PHF

GENERAL SUMMARY

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SHEET NUMBER											PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT
28	29	319	348	354	281	282					COLUMBUS	DELAWARE						
																	LANDSCAPING	
		23									23	0	661	40080	23	EACH	DECIDUOUSE TREE, 2" CALIPER, TILITA CORDATA (LITTLE LEAF LINDEN)	
		10									10	0	661	40100	10	EACH	DECIDUOUSE TREE, 2 1/2" CALIPER, QUERCUS RUBIA (RED OAK)	
																	RETAINING WALL	
			534								0	534	610	50010	534	SQ FT	RETAINING WALL, MISC., MODULAR BLOCK	
																	BUILDING DEMOLITION	
					1						0	1	202	56100	1	EACH	BUILDINGS DEMOLISHED, PARCEL # 31834101003000, BULIDING A	
					1						0	1	202	56100	1	EACH	BUILDINGS DEMOLISHED, PARCEL # 31834101003000, BULIDING B	
					1						0	1	202	56100	1	EACH	BUILDINGS DEMOLISHED, PARCEL # 31834101003000, BULIDING C	
					1						0	1	202	56100	1	EACH	BUILDINGS DEMOLISHED, PARCEL # 31834101003000, BULIDING D	
					1						0	1	202	56100	1	EACH	BUILDINGS DEMOLISHED, PARCEL # 31834101002000, BULIDING A	
					1						0	1	202	56100	1	EACH	BUILDINGS DEMOLISHED, PARCEL # 31834101002000, BULIDING B	
						1					0	1	202	56100	1	EACH	BUILDINGS DEMOLISHED, PARCEL # 31834106005000, BULIDING A	
						1					0	1	202	56100	1	EACH	BUILDINGS DEMOLISHED, PARCEL # 31834106005000, BULIDING B	
																	NOISE BARRIER	
				3,720							0	3,720	SPECIAL	60610300	3720	SQ FT	SPECIAL - NOISE BARRIER (ABSORPTIVE) 10' HEIGHT AND UNDER	
				6,240							0	6,240	SPECIAL	60610310	6240	SQ FT	SPECIAL - NOISE BARRIER (ABSORPTIVE) 10' TO 14' HEIGHT	
																	MAINTENANCE OF TRAFFIC	
483	1082										483	1,082	410	10000	1565	CU YD	TRAFFIC COMPACTED SURFACE, TYPE A	
48	120										48	120	614	11110	168	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
1	2										1	2	SPECIAL	61411300	3	EACH	SPECIAL - WORK ZONE TRAFFIC SIGNAL	
	63										0	63	614	18400	63	DAY	PORTABLE CHANGEABLE MESSAGE SIGN	
63											63	0	614	18401	63	DAY	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	26
1.33	0.07										1.33	0.07	614	20000	1.40	MILE	WORK ZONE LANE LINE, CLASS I	
1.66	5.77										1.66	5.77	614	21000	7.43	MILE	WORK ZONE CENTER LINE, CLASS I	
3.91	9.52										3.91	9.52	614	22000	13.43	MILE	WORK ZONE EDGE LINE, CLASS I	
6229	4062										6,229	4,062	614	23000	10291	FOOT	WORK ZONE CHANNELIZING LINE, CLASS I	
1110	1263										1,110	1,263	614	24000	2373	FOOT	WORK ZONE DOTTED LINE, CLASS I	
	510										0	510	614	25000	510	FOOT	WORK ZONE TRANSVERSE/DIAGONAL LINE, CLASS I	
416	664										416	664	614	26000	1080	FOOT	WORK ZONE STOP LINE, CLASS I	
	391										0	391	614	27000	391	FOOT	WORK ZONE CROSSWALK LINE, CLASS I	
26	33										26	33	614	30000	59	EACH	WORK ZONE ARROW, CLASS I	
	2										0	2	614	31000	2	EACH	WORK ZONE WORD ON PAVEMENT, 72", CLASS I	
1748	5672										1,748	5,672	615	20000	7420	SQ YD	PAVEMENT FOR MAINTAINING TRAFFIC, CLASS B	
4	6										4	6	625	32000	10	EACH	GROUND ROD	
20.00	302.00										20.00	302.00	630	80100	322.00	SQ FT	SIGN, FLAT SHEET	
	4										0	4	632	25000	4	EACH	COVERING OF VEHICULAR SIGNAL HEAD	
137	406										137	406	632	30200	543	FOOT	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES	
600	100										600	100	632	40700	700	FOOT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
520	400										520	400	632	40900	920	FOOT	SIGNAL CABLE, 9 CONDUCTOR, NO. 14 AWG	
4	6										4	6	632	89300	10	EACH	WOOD POLE	
8	10										8	10	632	89400	18	EACH	DOWN GUY	
													614	11000	LUMP		MAINTAINING TRAFFIC	
											4	20	619	16020	24	MONTH	FIELD OFFICE, TYPE C	
													623	10000	LUMP		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													624	10000	LUMP		MOBILIZATION	

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GENERAL SUMMARY

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REF. NO.	SHEET NO.	STATION TO STATION		601 RIPRAP USING 6" REINF. CONCRETE	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	602 CONCRETE MASONRY	811 8" CONDUIT, TYPE C	811 10" CONDUIT, TYPE C	811 12" CONDUIT, TYPE B, AS PER PLAN	811 12" CONDUIT, TYPE C, AS PER PLAN	811 15" CONDUIT, TYPE B, AS PER PLAN	811 15" CONDUIT, TYPE C, AS PER PLAN	811 18" CONDUIT, TYPE B, AS PER PLAN	811 21" CONDUIT, TYPE B, AS PER PLAN	811 24" CONDUIT, TYPE B, AS PER PLAN	811 24" CONDUIT, TYPE C, AS PER PLAN	811 27" CONDUIT, TYPE C, AS PER PLAN	811 30" CONDUIT, TYPE B, AS PER PLAN	811 42" CONDUIT, TYPE B, AS PER PLAN	811 42" CONDUIT, TYPE C, AS PER PLAN	811 CATCH BASIN, NO. 2-2B, AS PER PLAN	811 CATCH BASIN, NO. 2-4, AS PER PLAN	811 CATCH BASIN, NO. 3, AS PER PLAN	811 CATCH BASIN, NO. 3A, AS PER PLAN	811 CATCH BASIN, NO. 5, AS PER PLAN	811 MANHOLE, NO. 3, AS PER PLAN	811 MANHOLE, NO. 3 WITH 90° BASE I.D. AND 8" WEIR	811 MANHOLE, NO. 3 WITH 108" BASE I.D. AND 44-3/4" WEIR
		FROM	TO	SQ YD	CU YD	CU YD	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
A3	128	998+48.91	996+81.48										167								1							
A4	128	1000+56.27	1000+61.00								10										1							
A6	129	1002+12.42	1002+12.42						7												1							
A7	128	1000+50.00	998+48.91										202														1	
A8	129	1003+32.78	1003+32.78								9									10		1						
A9	129	1002+03.00	1000+50.00										153								1							
A10	129	1004+00.00	1004+00.00						8														1					
A11	129	1004+00.00	1003+05.76									94														1		
A12	129	1004+47.02	1004+00.00						55														1					
A13	129	1004+00.00	1004+00.00							8													1					
A14	129	1004+84.76	1004+47.02						38														1					
A15	129	1005+35.43	1004+00.00								136															1		
A16	129	1004+84.13	1004+84.76						7														1					
A17	129	1005+35.43	1005+35.43						70														1					
A18	129	1005+35.43	1005+35.43									9											1					
A19	129	1005+37.24	1005+35.43				10			21											1							
A20	130	1007+00.00	1005+35.43							165																1		
A21	130	1007+00.00	1007+00.00							9															1			
A22	129	1003+05.76	1002+03.00					10					102								1							
A23	128	1000+56.27	1000+56.27						15												1							
A24	128	1000+61.00	1000+56.27								6															1		
A25	129	1002+12.42	1000+61.00								151															1		
A26	129	1003+32.78	1002+12.42								120															1		
A27	129	1004+00.00	1003+32.78								67															1		
B99	130	1009+75.00	1009+75.00						8															1				
B0	130	1009+75.00	1010+46.50						72																	1		
B1	130	1010+46.50	1010+46.50							10	8													1				
B2	130	1010+46.50	1010+75.00										28													1		
B3	130	1010+75.00	1010+75.00						8														1					
B4	130	1010+75.00	1011+39.00										64													1		
B5	130	1011+39.00	1011+39.00						8															1				
B6	130	1011+39.00	1011+39.00											56												1		
B7	130	1011+39.00	1012+29.40																91							1		
B8	130	1009+75.00	1009+75.00							9														1				
B9	130	1009+75.00	1010+75.00							100																1		
B10	130	1010+75.00	1010+75.00							9													1					
B11	130	1010+75.00	1011+39.00									64														1		
B12	130	1011+39.00	1011+39.00									9														1		
B13	130	1011+39.00	1011+39.00										18													1		
B14	131	1012+29.40	1013+90.24																10							1		
B15	131	1012+33.54	1012+42.18	3		0.64										35												
B16	131	1012+42.18	1013+62.08												10											1		
B17	131	1013+62.08	1013+90.24												10				44							1		
B18	131	1013+90.24	1013+90.24																	64						1		
B20	131	1013+90.24	1013+90.62																33	33						1		
B21	131	1014+10.00	1013+90.62							25													1					
B22	131	1013+90.62	1013+90.62																		101					1		
B23	131	1013+91.45			19	0.92															20							1
B24	131	1014+92.00				0.92																						
B25	131	1014+92.00	1014+92.00																							1		
B28	133	1016+50.00	1014+92.00														158									1		
B41	131	1014+10.00	1013+90.24																19							1		
B42	131	1014+43.01	1014+10.00																33							1		
B43	131	1015+75.00	1014+43.01												132											1		
B52	131	100+00.00	1013+62.08																55					1				
B90	229	65+47.63							10														1					
C26	137	1034+70.78				0.20																						
C27	137	1034+84.01	1034+70.78							17												1						
C28	137	1036+00.00	1034+84.01							116												1						
L1	228	62+98.66	63+18.62									142										2						
L2	228	63+18.62				0.20																						
TOTALS CARRIED TO GEN. SUM.				3	19	2.88	10	10	306	489	507	318	734	56	152	35	158	285	107	121	11	1	11	6	1	26	1	1

CALCULATED FGW
CHECKED GEE

SUB-SUMMARY - DRAINAGE

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REF. NO.	SHEET NO.	STATION TO STATION		602 CONCRETE MASONRY	811 12" CONDUIT, TYPE B	811 12" CONDUIT, TYPE C	811 15" CONDUIT, TYPE B	811 15" CONDUIT, TYPE C	811 18" CONDUIT, TYPE B	811 18" CONDUIT, TYPE C	811 24" CONDUIT, TYPE B	811 24" CONDUIT, TYPE B, AS PER PLAN	811 24" CONDUIT, TYPE C	811 27" CONDUIT, TYPE C	812 30" CONDUIT, TYPE C	811 CATCH BASIN, NO. 2-2B	811 CATCH BASIN, NO. 3	811 CATCH BASIN, NO. 3A	811 CATCH BASIN, NO. 4	811 MANHOLE, NO. 3
		FROM	TO	CU YD	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH
B26	133	1016+50.00	1016+50.00		82												1			
B27	133	1016+50.00	1016+50.00			9											1			
B29	133	1018+40.00	1018+40.00		82												1			
B30	133	1018+40.00	1018+40.00			9											1			
B31	133	1018+40.00	1016+50.00											190						1
B32	133	1019+90.00	1019+90.00		82												1			
B33	133	1019+90.00	1022+20.42			9											1			
B34	133	1019+90.00	1022+00.00										150							1
B35	135	1022+20.42	1022+20.42		82												1			
B36	135	1022+20.42	1023+50.00			130											1			
B37	135	1022+00.00	1019+90.00											210						1
B38	135	1022+35.10	1022+00.00											63		2				
B39	135	1023+50.00	1023+50.00	0.20	90															1
B40	135	1023+50.00		0.20																
B44	133	1017+58.34	1015+75.00								184									1
B45	133	1017+75.48	1017+58.34		31													1		
B46	133	1018+73.91	1017+58.34		10						116									1
B47	133	1020+00.00	1020+00.00			44										1				
B48	133	1020+00.00	1018+73.91								126									1
B49	135	1021+98.58	1020+00.00		10						199									1
B50	135	1024+00.00	1021+98.58						201											1
B51	135	1025+61.67	1024+00.00		10				62											1
B53	135	1023+50.00	1023+50.00			37														1
B54	135	1025+00.00	1025+00.00		31											1				
B55	135	1025+00.00	1024+00.00						100											1
B98	227	98+48.89	100+00.00									149								
C0	135	1026+39.29	1026+89.29						50								1			
C1	136	1026+89.29	1026+89.29						82								1			
C2	136	1027+39.28	1026+89.29						50								1			
C3	135	1026+39.29	1026+89.29						50								1			
C4	136	1026+89.29	1026+89.29							9							1			
C5	136	1027+39.29	1026+89.29						50								1			
C6	136	1026+89.29	1024+50.00												204					1
C7	136	1028+55.12		0.31																
C9	136	1028+61.94	1028+55.12						108	10										1
C10	136	1029+32.00	1029+32.00		82													1		
C11	136	1029+32.00	1029+32.00					9										1		
C12	136	1029+32.00	1028+00.00											132						1
C13	136	1028+00.00	1026+89.29												112					1
C14	137	1032+07.00	1032+07.00		86													1		
C15	137	1032+07.00	1032+06.74					9										1		
C16	137	1032+06.74	1029+32.00							275										1
C17	137	1035+07.00	1035+07.00		88													1		
C18	137	1035+07.00	1035+07.00					9										1		
C19	137	1035+07.00	1032+06.74					300												1
C20	138	1038+05.84	1037+95.59			16										1				
C21	138	1037+95.59	1037+43.18		56															1
C22	138	1037+43.18	1037+02.56			49												1		
C23	138	1037+02.56	1036+50.00			53														1
C24	137	1036+50.00	1036+50.00				128									1				
C25	137	1036+50.00	1035+07.00					143												1
C29	135	1025+90.00																	1	
C30	135	1025+90.00											10							1
C40	135	1025+00.00	1025+91.00			47										1				
TOTALS CARRIED TO GEN. SUM.				0.71	822	403	128	470	753	294	625	149	160	595	316	7	14	8	1	22

CALCULATED FGW
CHECKED GEE

SUB-SUMMARY - DRAINAGE

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REF. NO.	SHEET NO.	STATION TO STATION		601	602	811	811	811	811	811	811	811	811	811	811	811	811	811	811	811	811		
				ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	CONCRETE MASONRY	12" CONDUIT, TYPE B	12" CONDUIT, TYPE C	15" CONDUIT, TYPE C	18" CONDUIT, TYPE B	18" CONDUIT, TYPE C	21" CONDUIT, TYPE C	42" CONDUIT, TYPE C	34"X53" CONDUIT, TYPE B, 706.04	38"X60" CONDUIT, TYPE B, 706.04	38"X60" CONDUIT, TYPE C, 706.04	CATCH BASIN, NO. 2-2B	CATCH BASIN, NO. 2-5	CATCH BASIN, NO. 3	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 4	CATCH BASIN, NO. 4A	MANHOLE, NO. 3	MANHOLE, NO. 5, AS PER PLAN		
		FROM	TO	CU YD	CU YD	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH		
C31	135	1026+00.00	1026+00.00										20							1					
C32	135	1026+00.00										220										1			
C33	136	1028+20.00										20								1					
C34	136	1028+20.00										10										1			
C35	136	1028+30.00	1028+30.00									20								1					
C36	136	1028+30.00	1028+49.32											119								1			
C37	136	1028+49.32		15	0.82																				
C38	133	1030+01.00			0.31																				
D1	138	1039+07.00	1039+39.00			102														1					
D2	138	1039+39.00	1041+25.00				186															1			
D3	138	1041+25.00	1041+25.00			88														1					
D4	138	1041+25.00	1041+25.00					9												1					
D5	138	1041+25.00	1042+50.00					125														1			
D6	140	1042+75.00	1042+75.00						88									1							
D7	140	1043+39.00	1042+75.00						64									1							
D8	140	1042+75.00	1042+75.00							33								1							
D9	140	1043+39.00	1042+75.00						64									1							
D10	140	1042+50.00	1042+50.00					20														1			
D11	140	1042+50.00			0.31																				
D12	140	1043+48.26	1043+54.61						126	10						1									
D13	140	1043+54.61	1043+49.00							28												1			
D14	140	1043+49.00		8	0.31																				
D15	140	1043+75.00	1044+00.00						91									1							
D16	140	1044+00.00	1044+00.00							26								1							
D17	140	1044+00.00	1044+00.00		0.20																				
D18	140	1044+75.00	1044+75.00								16											1			
D19	140	1044+75.00			0.37																				
D20	140	1045+50.00	1045+50.00						88									1							
D21	140	1045+50.00	1045+50.00							9										1					
D22	140	1045+50.00	1044+75.00								75											1			
D23	141	1047+75.00	1048+25.30			111												1							
D24	141	1048+25.30	1048+25.30				9											1							
D25	141	1048+25.30	1047+75.00						275													1			
D26	141	1049+75.00	1049+75.00			78														1					
D27	141	1049+75.00	1049+75.00				9													1					
D28	141	1049+75.00	1048+25.30					150														1			
D29	142	1051+75.00	1051+75.00			77														1					
D30	142	1051+75.00	1051+75.00				9													1					
D31	142	1051+75.00	1049+75.00				200															1			
D32	140	1045+64.50						10								1									
D33	141	1047+25.00	1045+64.50					161														1			
D34	141	1047+47.02	1047+25.00					24										1							
D35	141	1047+79.85	1047+47.02			33												1							
D36	141	1048+25.00	1047+79.85				46									1									
D37	141	1050+00.00	1048+25.00				175									1									
D39	140	1043+65.00	1043+56.54												27							1			
D40	140	1043+56.54			0.82																				
D41	140	1043+60.00	1043+65.00									24									1				
D42	140	1043+70.00	1043+65.00									24									1				
D43	140	1043+65.00	1043+65.00										109										1		
D44	141	1047+26.00										10					1								
D45	141	1049+83.00	1049+56.64				107										1								
D45A	141	1049+56.64	1042+00.00									231													
D46	141	1042+00.00			0.25																				
E0	143	1056+50.00	1056+50.00				12															1			
E1	142	1056+50.00	1056+50.00						64									1							
E2	142	1056+50.00	1056+50.00							9								1							
E3	142	1056+50.00	1056+50.00							24												1			
E4	143	1056+50.00			0.31																				
E5	143	1057+10.00	1057+10.00						64									1							
E6	143	1057+10.00	1057+10.00							9								1							
TOTALS CARRIED TO GEN. SUM.				23	3.70	489	753	499	924	148	91	559	129	119	27	4	2	15	8	3	2	16	1		

CALCULATED FGW
CHECKED GEE

SUB-SUMMARY - DRAINAGE

DEL-CR10-0.90

2952-DR.E

110
437

REF. NO.	SHEET NO.	STATION TO STATION		601	602	811		811	811	811	811	811	811	811	811	811	811	811	811	811	811	811		
				ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	CONCRETE MASONRY	12" CONDUIT, TYPE B		12" CONDUIT, TYPE C	15" CONDUIT, TYPE C	18" CONDUIT, TYPE C	21" CONDUIT, TYPE C	24" CONDUIT, TYPE B	24" CONDUIT, TYPE B, CONCRETE ENCASED	24" CONDUIT, TYPE C	27" CONDUIT, TYPE C	36" CONDUIT, TYPE B	36" CONDUIT, TYPE C	CATCH BASIN, NO. 2-2B	CATCH BASIN, NO. 2-3	CATCH BASIN, NO. 3	CATCH BASIN, NO. 3A	MANHOLE, NO. 3	MANHOLE, NO. 3 WITH 84" BASE I.D. AND 6" WEIR		
		FROM	TO	CU YD	CU YD	FT		FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH		
E7	143	1057+10.00	1056+50.00							60												1			
E8	143	1057+00.00	1057+50.00						52									1							
E9	143	1057+50.00	1057+50.00									43	66									1			
E10	143	1059+00.00	1057+50.00					146										1							
E11	143	1057+50.00		1	0.43																				
E13	143	1058+75.00	1058+50.00			69														1					
E14	143	1058+50.00	1058+50.00					25												1					
E15	143	1058+50.00			0.20																				
E16	142	1053+60.34	1054+29.34			69															1				
E17	142	1054+29.34	1054+70.00					51													1				
E18	142	1054+70.00	1042+00.00					180														1			
F1	144	1063+77.76	1063+77.76			64															1				
F2	144	1063+77.76	1063+77.76					20													1				
F3	144	1063+77.76	1066+00.00			222																1			
F4	144	1065+81.82	1066+00.00			67															1				
F5	144	1066+00.00	1066+00.00					20													1				
F6	144	1066+00.00	1069+00.00						101													1			
F7	145	1069+00.00	1069+00.00			64														1					
F8	145	1069+00.00	1069+00.00						9											1					
F9	145	1069+00.00	1069+00.00						16													1			
F10	145	1068+52.77	1068+90.87					38										1							
F11	145	1068+90.87			0.20																				
F12	145	1070+75.00	1072+20.00								145											1			
F13	146	1071+75.00	1071+75.00			64															1				
F14	146	1071+75.00						9													1				
F15	146	1071+75.00	1072+31.80								57											1			
F16	146	1072+31.80	1072+31.80					16										1							
F17	146	1072+31.80	1074+50.00								218											1			
F18	146	1074+50.00	1074+50.00			64															1				
F19	146	1074+50.00	1074+50.00						9												1				
F20	146	1074+50.00	1077+50.00								300											1			
F21	147	1077+50.00	1077+50.00			64															1				
F22	147	1077+50.00	1077+50.00						9												1				
F23	147	1077+50.00	1079+00.00								150											1			
F24	147	1079+00.00	1079+00.00											20								1			
F25	147	1080+50.00	1080+50.00			64															1				
F26	147	1080+50.00	0+00.00						36												1				
F28	148	1082+25.00	1082+25.00			64														1					
F29	148	1082+25.00	1082+25.00					36												1					
F30	148	1082+35.00	1084+72.00													237						1			
F31	148	1082+81.48	1083+18.54			37														1					
F32	148	1083+18.54	1084+00.00					89												1					
F33	148	1084+00.00	1084+51.00			51														1					
F34	148	1084+00.00	1084+51.00			51														1					
F35	148	1084+51.00	1084+72.00					23												1					
F36	148	1084+51.00	1084+50.00					30												1					
F37	148	1084+50.00	1085+20.00					71															1		
F38	148	1084+72.00	1082+35.00														128					1			
F43	148	1086+00.00	1086+00.00					9												1					
F44	148	1086+00.00	1086+00.00					32												1					
F45	148	1085+50.00	1085+50.00												12				1						
F46	144	1063+87.76	1065+90.00					202										1							
F47	144	1065+90.00	1066+40.12					50										1							
F48	144	1066+40.12	1068+75.00					235										1							
F49	145	1068+75.00	1069+16.64					42										1							
F50	145	1069+16.64						10														1			
F52	145	1069+52.39	1069+16.64					37												1					
F53	145	1069+89.21	1069+52.39			37														1					
F54	146	1073+23.00	1073+55.00					32										1							
TOTALS CARRIED TO GEN. SUM.				1	0.83	1051		1403	232	60	870	43	66	20	12	237	128	9	1	16	14	15	1		

CALCULATED FGW
CHECKED GEE

SUB-SUMMARY - DRAINAGE

DEL-CR10-0.90

2952-DR.E

111
437

REF. NO.	SHEET NO.	STATION TO STATION		601 ROCK CHANNEL PROTECTION, TYPE B WITH FABRIC FILTER	601 ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	602 CONCRETE MASONRY	811 4" CONDUIT, TYPE E	811 6" CONDUIT, TYPE E	811 8" CONDUIT, TYPE C	811 12" CONDUIT, TYPE B		811 12" CONDUIT, TYPE C	811 15" CONDUIT, TYPE B		811 15" CONDUIT, TYPE C	811 18" CONDUIT, TYPE C	811 24" CONDUIT, TYPE B	811 24" CONDUIT, TYPE C	811 27" CONDUIT, TYPE C	811 36" CONDUIT, TYPE B	811 36" CONDUIT, TYPE B, CONCRETE ENCASED	811 36" CONDUIT, TYPE C	811 48" CONDUIT, TYPE A	811 84" CONDUIT, TYPE A	811 90" CONDUIT, TYPE A	811 CATCH BASIN, NO. 2-2B	811 CATCH BASIN, NO. 2-3	811 CATCH BASIN, NO. 3	811 CATCH BASIN, NO. 3A	811 CATCH BASIN, NO. 4	811 MANHOLE, NO. 3	811 MANHOLE NO. 5, AS PER PLAN
		FROM	TO	CU YD	CU YD	CU YD	FT	FT	FT	FT		FT	FT		FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH
F55	146	1073+55.00				0.20																											
F56	148	1084+72.00	1085+50.00															16													1		
F57	148	1086+00.00	1089+10.00																			310									1		
F58	148	1084+82.00	1085+20.00												8	136														1		
F59	148	1085+20.00	1085+50.00																30									1					
F60	145	1067+00.00	1068+90.87											200																	1		
F61	148	1085+50.00																	10									1					
F62	147	1079+00.00				0.43																											
F67	148	1082+35.00	1084+00.00																			14									1		
F71	148	1085+50.00	1086+00.00									51															1						
F72	145	1069+00.00				0.25																											
F73	146	1075+50.00	1076+50.00									100															1						
F74	146	1076+50.00	1077+50.00									100															1						
F75	147	1077+50.00	1077+50.00									12															1						
G1	150	1089+10.00	1089+10.00									9																		1			
G2	150	1089+10.00	1089+10.00							64																				1			
G3	150	1089+10.00	1090+65.00																			155									1		
G4	150	1090+65.00	1090+65.00									9																	1				
G5	150	1090+65.00	1090+65.00							64																			1				
G6	150	1090+65.00	1092+49.00																			184									1		
G9	151	1092+48.94	1092+49.00									9																		1			
G10	151	1092+53.43	1092+58.10									38																		1			
G11	151	1092+58.10										10															1						
G13	151	1092+49.00	1095+00.00						10													251									1		
G14	151	1095+00.00	1097+00.00																			200									1		
G15	151	1097+00.00	1097+00.00																			9									1		
H1	152	1097+00.00	1097+00.00																		75									1			
H2	152	1097+00.00	1097+00.00																			41								1			
H3	152	1097+00.00			7	0.69																											
H5	152	1098+41.00	1098+91.00							50																				1			
H6	152	1098+91.00	1098+91.00							76																				1			
H7	152	1099+72.00	1098+91.00									93																			1		
H8	152	1098+41.00	1098+91.00							50																				1			
H9	152	1098+91.00	1098+91.00											36																1			
H10	152	1098+91.00			13	0.25																											
I2	152	1100+81.46	1100+28.33							10																							
I3	152	1100+32.17	922+61.00							10					181															1		
I4	239	922+61.00	922+61.00									6																		1			
I5	239	922+61.00	923+68.08												107															1		
I8	152	1101+00.00	1100+32.17										69																		1		
I9	153	1102+00.00	1101+00.00										100																		1		
I10	153	1102+00.00	1102+00.00										52																		1		
J0	154	1108+92.00	1108+92.00				10	5				26																	1				
J1	154	1108+43.00	1108+46.26																	72										1			
J2	154	1108+42.34	1108+43.00																			12									1		
J3	154	1108+92.00	1108+42.34											52																	1		
J4	154	1108+14.00	1108+30.13									26																		1			
J5	154	1108+30.13	1108+46.26									16															1						
J6	154	1108+46.26	1108+47.13																			19									1		
J7	154	1108+66.00	1108+66.00									18																		1			
J8	154	1108+66.00	1108+47.13									20															1						
J9	154	1108+47.13		3		0.69																											
J10	154	1109+18.00	1108+66.00									55																		1			
J11	154	1110+50.00	1108+92.00									158															1						
J12	155	1112+50.00	1110+50.00									200															1						
J13	155	1114+25.00	1112+50.00									175															1						
K1	152	1097+50.00													23												1						
K2	152	1097+75.32																						20		42							1
K3	152	1098+00.00		80		4.05																			26								
K5	152	1097+79.86		50		4.51																				40							
TOTALS CARRIED TO GEN. SUM.				133	20	11.07	10	5	10	324		1131	221		288	319	136	16	40	72	75	1195	20	26	82	11	3	11	11	4	11	1

CALCULATED FGW
CHECKED GEE

SUB-SUMMARY - DRAINAGE

DEL-CR10-0.90

2952-DR.E

112
437

REF. NO.	SHEET NO.	STATION TO STATION		SIDE	605 6" UNCLASSIFIED PIPE UNDERDRAINS	605 6" BASE PIPE UNDERDRAINS	611 PRECAST REINFORCED CONCRETE OUTLET	811 6" CONDUIT, TYPE F	FOR INFORMATION ONLY 6" X 45° BEND	FOR INFORMATION ONLY PLUG
					FT	FT	EACH	FT	EACH	EACH
U1	128	1000+61	1001+50	LT		83		10	1	
U2	128	1000+50	1001+50	RT		83		22	1	
U1	129	1001+50	1004+45	LT		44		30	3	4
U2	129	1001+50	1006+50	RT		481		20	2	2
U3	129	1004+87	1006+50	LT		158		20	2	1
U1	130	1006+50	1011+50	LT		460		40	8	4
U2	130	1006+50	1011+50	RT		461		40	8	4
U1	131	1011+50	1012+58	LT		178				1
U2	131	1011+50	1012+46	RT		129				1
U3	131	1013+52	1016+50	LT		324		20	2	1
U4	131	1013+48	1016+50	RT		317		20	2	2
U1	133	1016+50	1021+50	LT		480		20	6	1
U2	133	1016+50	1021+14	RT		476		30	3	3
U1	135	1021+50	1026+50	LT		470		50	5	7
U2	135	1021+55	1026+50	RT	95	410		30	3	4
U1	136	1026+50	1031+50	LT		460		50	5	3
U2	136	1026+50	1031+50	RT		460		40	4	2
U1	137	1031+50	1036+50	LT		480		20	2	2
U2	137	1031+50	1036+50	RT		480		20	2	3
U1	138	1036+50	1037+44	LT		134				1
U2	138	1037+94	1041+50	LT		380		30	3	4
U3	138	1036+50	1038+43	RT	235			11	1	1
U4	138	1038+95	1041+50	RT	85	201		20	2	3
U1	140	1041+50	1046+50	LT		450		50	5	3
U2	140	1041+50	1046+50	RT		450		50	5	3
U1	141	1046+50	1051+50	LT		480		20	2	2
U2	141	1046+50	1047+47	RT		110		20	2	2
U3	141	1047+79	1051+50	RT		368		40	4	2
U1	142	1051+50	1053+59	LT		217		10	1	2
U2	142	1054+30	1056+50	LT		231		10	1	1
U3	142	1051+50	1053+72	RT		230		10	1	1
U4	142	1054+18	1056+50	RT		241		10	1	1
U1	143	1056+50	1061+50	LT		470		40	4	3
U2	143	1056+50	1061+50	RT		470	1	62	4	3
U1	144	1061+50	1066+50	LT		480		20	2	3
U2	144	1061+50	1064+44	RT		302		10	1	2
U3	144	1064+83	1066+50	RT		175		10	1	2
SUBTOTALS					415	11823	1	905		

REF. NO.	SHEET NO.	STATION TO STATION		SIDE	605 6" UNCLASSIFIED PIPE UNDERDRAINS	605 6" BASE PIPE UNDERDRAINS	611 PRECAST REINFORCED CONCRETE OUTLET	811 6" CONDUIT, TYPE F	FOR INFORMATION ONLY 6" X 45° BEND	FOR INFORMATION ONLY PLUG
					FT	FT	EACH	FT	EACH	EACH
U1	145	1066+50	1069+53	LT	23	276		20	2	1
U2	145	1069+89	1071+50	LT		168		10	1	2
U3	145	1066+50	1071+50	RT	23	467		10	1	1
U1	146	1071+50	1076+50	LT		480		20	2	2
U2	146	1071+50	1076+50	RT		480		20	2	2
U1	147	1076+50	1081+50	LT	50	430		20	2	2
U2	147	1076+50	1081+50	RT	50	430		20	2	2
U1	148	1081+50	1082+82	LT		129		20	1	2
U2	148	1083+20	1086+50	LT		305		40	4	3
U3	148	1081+50	1082+73	RT		161		30	3	2
U4	148	1083+27	1086+50	RT		331		60	6	2
U1	150	1086+50	1091+50	LT		480		20	2	4
U2	150	1086+50	1091+50	RT		480		20	2	4
U1	151	1091+50	1096+50	LT		490		10	1	1
U2	151	1091+50	1096+50	RT		491		10	1	1
U1	152	1096+50	1099+60	LT		306		40	4	3
U2	152	1100+19	1101+50	LT		153		30	3	2
U3	152	1096+50	1099+71	RT		301		40	4	3
U4	152	1100+29	1101+50	RT		137		10	1	1
U1	153	1101+50	1106+50	LT		490		10	1	3
U2	153	1101+50	1106+50	RT	25	465		10	1	3
U1	154	1106+50	1108+43	LT		183		10	1	
U2	154	1108+43	1111+50	LT		288		17	1	
U3	154	1106+50	1110+51	RT		390		40	4	3
U1	155	1111+50	1115+00	LT		350				1
U1	227	98+74	58+05	LT	136					1
U2	227	60+00	60+43	LT	43					1
U3	227	144+16	60+43	RT		41				1
U1	228	60+43	64+93	LT		450	1	21		
U2	228	60+43	61+33	RT	89		1	12		
U1	229	64+93	69+43	LT		450				1
U1	230	69+43	69+58	LT		15	1	23		
U1	238	921+18	922+50	LT		132				
U1	239	922+50	922+61	LT		1		10	1	
SUBTOTALS					439	9750	3	603		
TOTALS CARRIED TO GENERAL SUMMARY					854	21573	4	1508		

CALCULATED FGW CHECKED GEE

SUB-SUMMARY - UNDERDRAINS

DEL-CR10-0.90

2952-DR.E

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437

REF. NO.	SHEET NO.	STATION TO STATION		203 SPECIAL, INFILTRATION TRENCH	601 INFILTRATION BASIN AGGREGATE	811 WATER QUALITY BASIN, DETENTION, AS PER PLAN	811 CATCH BASIN, NO. 2-2A	811 CATCH BASIN, NO. 2-2B	811 CATCH BASIN, NO. 4A	811 12" CONDUIT, TYPE C	811 15" CONDUIT, TYPE C	811 36" CONDUIT, TYPE C	811 12" CONDUIT, TYPE C, 707.42	811 15" CONDUIT, TYPE C, 707.42		
		FROM	TO	CU YD	CU YD	EA	EA	EA	EA	FT	FT	FT	FT	FT		
WQ6	140	1041+87.80	1043+50.00	281	56											
WQ7	140	1043+50.00	1044+87.20	240	45											
WQ8	143	1056+38.00	1057+49.40	130	19											
WQ9	143	1057+83.60	1058+61.60	142	26											
WQ10	145	1068+90.90	1070+41.90	265	49											
F68	145	1070+30.00	1070+30.00			1					24					
F63	147	1079+00.00	1080+50.00					1						150		
WQ11	147	1079+00.00	1081+50.00	440	79											
F64	147	1080+50.00	1082+25.00			1								175		
WQ11	148	1081+50.00	1082+35.00	149	28											
F65	148	1082+25.00	1082+35.00			1								10		
F66	148	1082+35.00	1082+35.00			1					13					
F67	148	1082+35.00	1082+35.00						1			14				
F37	148	1084+50.00	1084+50.00							16						
F69	148	1084+50.00	1085+21.00				1						71			
WQ12	148	1084+50.00	1085+22.70	127	24											
F70	148	1085+21.00	1085+20.00			1				6						
TOTALS CARRIED TO GEN. SUM.				1774	326	5	1	1	1	22	37	14	71	335		

CALCULATED FGW
CHECKED GEE

SUB-SUMMARY - BMP

DEL-CR10-0.90

2952-DR.E

REF. NO.	SHEET NO.	STATION TO STATION		202 PIPE REMOVED 24" AND UNDER	202 WALK REMOVED	202 CURB REMOVED	202 CATCH BASIN REMOVED	202 MANHOLE REMOVED	252 FULL DEPTH PAVEMENT SAWING	608 CONCRETE WALK, 4", AS PER PLAN	608 CONCRETE WALK, 8", AS PER PLAN	608 CURB RAMP, AS PER PLAN	608 COBMINATION CURB & GUTTER, TYPE 2	609 CONCRETE MEDIAN, AS PER PLAN		811 8" CONDUIT TYPE B FOR SANITARY	811 MANHOLE NO. 3, AS PER PLAN	811 10" CONDUIT TYPE B FOR SANITARY	807 VALVE BOXES ADJUSTED TO GRADE	808 RELOCATE 6 INCH WATER SERVICE TAP			816 3/4 INCH WATER SERVICE TAP RELOCATED		
		FROM	TO	FT	SQ FT	FT	EACH	EACH	FT	SQ FT	SQ FT	SQ FT	FT	SQ FT		FT	EACH	FT	EACH	EACH			EACH		
P1	128	1000+40.00							36																
R1	128	998+50.00	1002+21.00	371			1	1																	
R2	128	1000+40.00	1001+62.17		611																				
R3	128	999+00.93	1001+26.92		1130																				
SW1	128	999+00.00	1001+50.00							1247															
SW2	128	1000+40.00	1001+50.00							621															
WW1	128	997+90.74																					1		
WW2	128	999+71.65																					1		
WW3	128	100+36.26																		2	1				
CG1	129	1003+85.00	1004+48.00										81												
CG2	129	1003+85.00	1006+50.00										265												
CG3	129	1004+84.00	1006+50.00										188												
P1	129	1004+49.00	1004+82.00						33																
R1	129	1003+72.00																							
R2	129	1003+33.00	1005+18.00	130			4																		
R3	129	1002+21.00	1005+32.00	311			2	1																	
R4	129	1004+42.00		38				1								38									
R5	129	1001+63.72	1004+46.08		1129																				
R6	129	1001+75.41	1004+41.02		1328																				
R7	129	1002+75.00	1003+06.00			14																			
R8	129	1004+46.00	1004+83.00			49																			
R9	129	1004+80.00	1005+46.00		363																				
SA1	129	1004+32.83	1004+74.45														2	55							
SW1	129	1001+50.00	1004+13.00							1315															
SW2	129	1001+50.00	1006+50.00							2481															
SW3	129	1004+13.00	1004+46.00								500	294													
SW4	129	1004+37.00								36															
SW5	129	1004+90.00								27															
SW6	129	1004+84.00	1005+18.00								595	294													
CG1	130	1006+50.00	1011+50.00										500												
CG2	130	1006+50.00	1011+50.00										500												
CG3	130	1006+50.00	1011+50.00											2652											
R1	130	1007+07.00																							
R2	130	1007+08.00	1007+65.00	57																					
R3	130	1007+68.00	1008+69.00		409																				
R4	130	1007+00.00	1007+23.00			22																			
R5	130	1007+50.00	1007+70.00			24																			
R6	130	1009+12.00	1011+50.00		915																				
R7	130	1010+34.00		73			2	1																	
R8	130	1010+34.00	1012+28.00	194																					
R9	130	1010+32.00																							
R10	130	1008+65.00	1008+86.00		37																				
R11	130	1009+15.00	1009+38.00		39																				
R12	130	1008+66.00	1009+22.00	56																					
R13	130	1006+43.00	1007+24.00		648																				
R14	130	1007+04.00	1007+68.00			63																			
R15	130	1008+47.00	1009+33.00			94																			
TOTALS CARRIED TO GENERAL SUMMARY				1230	6609	266	9	4	69	5727	1095	588	1534	2652		38	2	55	2	1			2		

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SUBSUMMARY

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REF. NO.	SHEET NO.	STATION TO STATION		202 PIPE REMOVED 24" AND UNDER	202 WALK REMOVED	202 CATCH BASIN REMOVED	202 MANHOLE REMOVED	252 FULL DEPTH PAVEMENT SAWING	608 CONCRETE WALK, 4" AS PER PLAN	608 CONCRETE WALK, 8" AS PER PLAN	608 CURB RAMP, AS PER PLAN	608 COBMINATION CURB & GUTTER, TYPE 2	609 CONCRETE MEDIAN, AS PER PLAN	807 VALVE BOXES ADJUSTED TO GRADE	807 COLUMBUS STANDARD HEAVY DUTY VALVE BOX	808 RELOCATE 12 INCH WATER LINE	809 FIRE HYDRANT, TYPE A MODIFIED	809 FIRE HYDRANT, RELOCATED	811 MANHOLE ADJUSTED TO GRADE (SANITARY)						
		FROM	TO	FT	SQ FT	EACH	EACH	FT	SQ FT	SQ FT	SQ FT	FT	SQ FT	EACH	EACH	EACH	EACH	EACH	EACH						
CG1	131	1011+50.00	1012+58.00									180													
CG2	131	1011+50.00	1012+58.00									131													
CG3	131	1013+47.00	1016+50.00									345													
CG4	131	1013+47.00	1016+50.00									340													
CG5	131	1014+13.00	1016+50.00										948												
P1	131	1012+24.00	1013+81.00					157																	
P2	131	1012+24.00	1013+81.00					182																	
R1	131	1011+50.00	1012+44.00		806																				
R3	131	1013+90.00	1016+69.50	280		2	1																		
R4	131	1013+54.00	1017+85.00	431		3																			
R5	131	98+52 (POLARIS)	1017+02.00		2633																				
SA1	131	1012+07.40																		1					
SA2	131	1013+94.70																		1					
SA3	131	1014+02.00																		1					
SA4	131	1016+43.10																		1					
SW1	131	1011+50.00	1012+03.00						265																
SW2	131	1014+01.39	1016+50.00						993	250															
SW3	131	1012+03.00	1012+46.00							603	94														
SW4	131	1012+02.94	1012+56.00							1235	187														
SW5	131	1013+48.00	1013+98.93							1106	187														
SW6	131	1013+48.00	1014+01.39							762	117														
WW1	131	60+10.00															1	1							
WW2	131	1014+33.24												1											
WW3	131	1013+74.83														1									
WW4	131	1013+90.41													1	1									
TOTALS CARRIED TO GENERAL SUMMARY				711	3439	5	1	339	1258	3956	585	996	948	1	1	2	1	1	4						

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REF. NO.	SHEET NO.	STATION TO STATION		202	202	202	202	202	202	202	252	607	608	608	608	608	608	609		807	807		808	809		
				PIPE REMOVED 24" AND UNDER	TRAFFIC ISLAND REMOVED	CATCH BASIN REMOVED	MANHOLE REMOVED	HEADWALL REMOVED	WALK REMOVED	CURB REMOVED	FULL DEPTH PAVEMENT SAWING	FENCE, MISC: WOOD FENCE	CONCRETE WALK, 4"	CONCRETE WALK, 8"	COBMINATION CURB & GUTTER, TYPE 2	CURB, TYPE 6	CURB RAMP	CONCRETE MEDIAN		VALVE BOXES ADJUSTED TO GRADE	C.I. FERRULE VALVE BOX AND COVER		RELOCATE 12 INCH WATER LINE	FIRE HYDRANT, RELOCATED		
		FROM	TO	FT	SQ YD	EACH	EACH	EACH	SQ FT	FT	FT	FT	SQ FT	SQ FT	FT	FT	EACH	SQ FT		EACH	EACH		EACH	EACH		
CG1	133	1016+50.00	1021+50.00												500											
CG2	133	1016+50.00	1021+15.00												508											
CG3	133	1016+50.00	1021+50.00															2004								
F1	133	10+18.40	1020+43.70									195														
R1	133	1016+59.57	1020+35.00	140		2																				
R2	133	1017+42.00	1017+72.00		47																					
R3	133	1017+74.00	1017+84.00	29			1																			
R4	133	1017+85.00	1018+73.00	88																						
R6	133	1017+23.00								50																
R7	133	1017+95.00								65																
R8	133	1020+92.00								85																
R9	133	1021+38.00								74																
SW1	133	1016+50.00	1020+60.26										2060													
SW2	133	1020+60.26	1021+06.00											581			1									
SW3	133	1020+97.00	1020+08.00										168													
CG1	135	1021+53.10	1026+50.00												497											
CG2	135	1021+50.00	1026+50.00												500											
CG3	135	1021+50.00	1022+42.50												351											
CG4	135	1022+57.00	1026+36.00															1587								
R1	135	1021+98.25	1023+23.92	126		1																				
R2	135	1021+98.25		75		1																				
R3	135	1021+85.00		65																						
SW1	135	1021+54.00	1022+00.00											780			1									
SW2	135	1022+00.00	1026+50.00										2250													
WW1	135	1025+03.52																		1	1			1		
WW2	135	1025+43.91																		1						
CG1	136	1026+36.00	1027+01.00													141										
CG2	136	1027+17.00	1029+97.00													605										
CG3	136	1026+50.00	1030+37.00												387											
CG4	136	1026+50.00	1031+50.00												500											
CG5	136	1030+89.00	1031+50.00												78											
F1	136	1028+65.00	1031+85.00									320														
P1	136	1029+97.00	1031+50.00								340															
R1	136	1030+20.00	1031+13.00	94		1																				
R2	136	1028+60.00						1																		
SW1	136	1026+50.00	1030+29.00										1882													
SW2	136	1031+00.00	1031+50.00										238													
WW1	136	1025+94.93																		2				1		
WW2	136	1031+29.02																		2				1		
CG1	137	1031+50.00	1036+50.00												500											
CG2	137	1031+50.00	1036+50.00												500											
CG3	137	1031+21.82	1037+12.98															3597								
P1	137	1031+50.00	1036+50.00								500															
P2	137	1031+50.00	1036+50.00								512															
R1	137	1034+90.00	1036+48.00	158		1																				
R2	137	1034+84.00	1034+90.00	8		1																				
R3	137	1033+09.00	316+97 (POWELL)						2371																	
SW1	137	1031+50.00	1036+50.00										2500													
WW1	137	1035+29.02																			1			1		
WW2	137	1035+07.00																					1			
WW3	137	1036+50.00																					1			
WW4	137	1032+77.09																					1			
TOTALS CARRIED TO GENERAL SUMMARY				783	47	7	1	1	2371	274	1352	515	9098	1361	4321	746	2	7188		6	2		3	4		

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REF. NO.	SHEET NO.	STATION TO STATION		202 PIPE REMOVED 24" AND UNDER	202 PAVEMENT REMOVED, ASPHALT	202 CURB REMOVED	202 CATCH BASIN REMOVED	252 FULL DEPTH PAVEMENT SAWING	608 CONCRETE WALK, 4"	608 CONCRETE WALK, 8"	608 CURB RAMP	608 COBMINATION CURB & GUTTER, TYPE 2	608 CURB, TYPE 6	609 CONCRETE MEDIAN	807 COLUMBUS STANDARD HEAVY DUTY VALVE BOX	807 VALVE BOXES ADJUSTED TO GRADE
		FROM	TO	FT	SQ FT	FT	EACH	FT	SQ FT	SQ FT	EACH	FT	FT	SQ FT	EACH	EACH
CG1	138	1036+50.00	1037+46.00									140				
CG2	138	1036+50.00	1038+44.00									250				
CG3	138	1037+93.00	1041+50.00									390				
CG4	138	1038+91.00	1041+50.00									310				
CG5	138	1039+08.00	1044+60.00											2354		
P1	138	1036+50.00	1041+50.00					48								
P2	138	1036+50.00	1041+50.00					512								
P3	138	1036+50.00	1038+48.00					116								
P4	138	1038+43.00	1038+95.00					55								
P5	138	1038+43.00	1041+50.00					410								
R1	138	1034+53.00														
R2	138	1037+44.00	1037+52.00			97										
SW1	138	1036+50.00	1037+60.00						547							
SW2	138	1036+95.00	1037+43.00							1288	2					
SW3	138	1037+99.00	1038+08.00						205							
SW4	138	1038+08.00	1038+69.30							1150	2					
SW5	138	1037+60.00	1038+25.00							858	2					
SW6	138	1038+12.00	1038+17.00						206							
SW7	138	1038+94.00	1039+39.00							905	2					
SW8	138	1039+39.00	1041+50.00						1056							
WW1	138	1038+10.16													1	1
CG1	140	1041+50.00	1046+50.00									500				
CG2	140	1041+50.00	1046+50.00									500				
CG3	140	1044+60.00	1046+85.00										241			
CG4	140	1044+60.00	1046+90.00										230			
R1	140	1041+54.00	1043+00.00	146			1									
R2	140	1043+00.00	1043+47.50	52			1									
R3	140	1045+56.00	1045+80.00	29			1									
CG1	141	1046+50.00	1051+50.00									500				
CG2	141	1046+50.00	1047+46.00									132				
CG3	141	1047+78.40	1051+50.00									408				
CG4	141	1046+90.00										54				
P1	141	1047+47.00	1047+77.00					29								
R1	141	1047+13.00	1047+47.00			95										
R2	141	1047+80.00	1048+14.00			95										
R3	141	1047+50.00	1048+30.00	80			2									
R4	141	1045+80.00	1047+50.00	170			1									
R5	141	1049+18.00	1049+48.00	32												
R6	141	1051+27.00	1051+47.00	21												
R7	141	1049+73.00	1053+60.00		3317											
SW1	141	1046+50.00	1047+09.00						297							
SW2	141	1047+09.00	1047+47.00							541	2					
SW3	141	1047+80.00	1048+18.00							503	2					
SW4	141	1048+18.00	1051+50.00						1667							
CG1	142	1051+50.00	1053+60.00									215				
CG2	142	1051+50.00	1053+73.00									242				
CG3	142	1054+30.00	1056+50.00									240				
CG4	142	1054+17.00	1056+50.00									250				
R1	142	1053+00.00	1053+27.00	27												
R2	142	1054+40.00	1057+60.30		2682											
R3	142	1053+59.00				22										
R4	142	1054+30.00				22										
SW3	142	1054+18.00	1054+50.00							483	2					
SW4	142	1054+50.00	1056+50.00						997							
TOTALS CARRIED TO GENERAL SUMMARY				557	5999	331	6	1170	4975	5728	14	4131	471	2354	1	1

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REF. NO.	SHEET NO.	STATION TO STATION		202	202	202	202	252	608	608	608	608
				PIPE REMOVED 24" AND UNDER	CATCH BASIN REMOVED	MANHOLE REMOVED	CURB AND GUTTER REMOVED	FULL DEPTH PAVEMENT SAWING	CONCRETE WALK, 4"	CONCRETE WALK, 8"	CURB RAMP	COBMINATION CURB & GUTTER, TYPE 2
		FROM	TO	FT	EACH	EACH	FT	FT	SQ FT	SQ FT	EACH	FT
SW5	142	1053+17.00	1053+60.00							902	2	
SW6	142	1054+29.00	1054+62.00							757	2	
CG1	143	1056+50.00	1061+50.00									500
CG2	143	1056+50.00	1061+50.00									500
R1	143	1057+33.00	1057+37.00	67								
SW1	143	1056+50.00	1061+50.00						2517			
CG1	144	1061+50.00	1066+50.00									500
CG2	144	1061+50.00	1064+47.00									324
CG3	144	1064+80.00	1066+50.00									197
P1	144	1064+47.00	1064+80.00					33				
R1	144	1063+47.00	1063+90.00	43								
R2	144	1063+90.00	1065+34.00	144	1							
R3	144	1065+34.00	1066+44.00	42	2							
R4	144	1066+43.00	1067+81.00	138	1							
R5	144	1064+28.00	1064+46.00				60					
R6	144	1064+80.00	1064+99.00				65					
SW1	144	1061+50.00	1064+12.00						1327			
SW2	144	1064+12.00	1064+45.00							471	2	
SW3	144	1064+30.00	1064+38.00						160			
SW4	144	1064+89.00	1064+98.00						160			
SW5	144	1064+83.00	1065+26.87							598	2	
SW6	144	1065+26.87	1066+50.00						617			
CG1	145	1066+50.00	1071+50.00									500
CG2	145	1066+50.00	1068+53.00									331
CG3	145	1069+90.00	1071+50.00									190
P1	145	1069+54.00	1069+88.00					37				
R1	145	1066+44.30	1067+81.00	137		1						
R2	145	1067+81.00	1069+16.40	146	1							
R3	145	1070+87.00	1071+08.00	24								
R4	145	1068+44.10	1069+25.10	81								
R5	145	1069+53.00					17					
R6	145	1069+89.00					17					
SW1	145	1066+50.00	1071+50.00						2516			
SW2	145	1069+10.00	1069+52.00							760	2	
SW3	145	1069+36.00	1069+46.00						240			
SW4	145	1069+96.00	1070+06.00						338			
SW5	145	1069+89.00	1070+31.00							741	2	
CG1	146	1071+50.00	1076+50.00									500
CG2	146	1071+50.00	1076+50.00									500
R1	146	1071+80.00	1072+05.00	25								
R2	146	1073+79.00	1074+20.00	41								
R3	146	1075+60.00	1075+85.00	25								
R4	146	1071+61.00	1073+55.00	194	1							
R5	146	1073+55.00	1074+36.00	81	1							
SW1	146	1071+50.00	1076+50.00						2505			
CG1	147	1076+50.00	1081+50.00									500
CG2	147	1076+50.00	1081+50.00									500
R1	147	1076+44.30	1076+75.00	31								
SW1	147	1076+50.00	1081+50.00						2505			
CG1	148	1081+50.00	1082+74.00									2
CG2	148	1081+50.00	1081+82.00									161
CG3	148	1083+27.00	1086+50.00									392
CG4	148	1083+20.00	1086+50.00									363
CG5	148	1082+70.39										8
P1	148	1082+73.00	1083+26.00					53				
P2	148	1082+81.00	1083+18.00					37				
P3	148	1084+50.00	1086+50.00					200				
P4	148	1084+50.00	1086+50.00					225				
TOTALS CARRIED TO GENERAL SUMMARY				1219	7	1	159	585	12885	2570	8	5968

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REF. NO.	SHEET NO.	STATION TO STATION		202 PIPE REMOVED 24" AND UNDER	202 PIPE REMOVED OVER 24"	202 HEADWALL REMOVED	202 PAVEMENT REMOVED, ASPHALT	202 CATCH BASIN REMOVED	202 ANCHOR ASSEMBLY REMOVED, TYPE E	202 GUARDRAIL REMOVED	202 CURB AND GUTTER REMOVED	202 WALK REMOVED	252 FULL DEPTH PAVEMENT SAWING	608 CONCRETE WALK, 4"	608 CONCRETE WALK, 8"	608 CURB RAMP	608 COBMINATION CURB & GUTTER, TYPE 2	608 CONCRETE STEPS, TYPE A	607 FENCE MISC.: WOOD FENCE	811 MANHOLE, ADJUSTED TO GRADE (SAN)						
		FROM	TO	FT	FT	EACH	SQ YD	EACH	EACH	FT	FT	SQ FT	FT	SQ FT	SQ FT	EACH	FT	FT	FT	EACH						
R1	148	1082+37.00	1082+74.00	45				1																		
R2	148	1082+18.00		28				1																		
R3	148	1083+18.00	1086+50.00				302																			
R4	148	1082+70.39									8	60					8									
R5	148	1082+82.00									35															
R6	148	1083+18.00									35															
R7	148	1082+63.00	1082+74.00								95															
R8	148	1083+26.00	1083+36.00								92															
R9	148	1083+33.00	1083+54.00									288														
R10	148	1083+28.00	1083+33.00									188														
R11	148	1083+41.00	1083+47.00									121														
SW2	148	1082+41.55	1082+73.00												450	2										
SW3	148	1082+46.00	1082+80.00												673	2										
SW4	148	1082+59.00	1082+67.00											498												
SW5	148	1083+27.00	1083+59.00												458	2										
SW6	148	1083+19.00	1083+55.00												649	2										
SW7	148	1082+65.00	1082+75.00											383												
SW8	148	1083+25.00	1083+35.00											225												
SW9	148	1083+59.00	1086+50.00											1455												
CG1	150	1086+50.00	1091+50.00														500									
CG2	150	1086+50.00	1091+50.00														500									
P1	150	1086+50.00	1091+50.00										500													
P2	150	1086+50.00	1091+50.00										500													
R1	150	1086+50.00	1091+50.00				468																			
R2	150	1089+25.00	1090+75.00	150				1																		
R3	150	1090+75.00	1092+48.00	174				1																		
SW1	150	1086+50.00	1091+50.00											2509												
CG1	151	1091+50.00	1095+50.00														500									
CG2	151	1091+50.00	1095+50.00														500									
P1	151	1091+50.00	1094+75.00										325													
P2	151	1091+50.00	1094+75.00										350													
R1	151	1091+50.00	1095+50.00				471																			
R2	151	1094+22.00	1094+26.00									113														
R3	151	1094+56.00	1094+85.00	30																						
SW1	151	1091+50.00	1094+75.00											2509												
SW2	151	1094+24.00	1094+28.00															10								
F1	152	1096+58.50	1098+98.50																240							
CG1	152	1096+50.00	1099+72.00														358									
CG2	152	1096+50.00	1099+61.00														360									
CG3	152	1100+30.00	1101+50.00														148									
CG4	152	1100+19.00	1101+50.00														183									
R1	152	1096+06.30	1099+10.00						1	312.5																
R2	152	1096+50.00	1098+60.00				190																			
R3	152	1100+45.00	1101+34.00				1416																			
R4	152	1100+33.00	1100+78.00	46		1		1																		
R5	152	1100+71.00	1100+97.80	26				1																		
R6	152	1094+81.80	1099+68.00						1	512.5																
R7	152	1097+72.00	1097+78.00		47	3																				
R8	152	1099+02.00	1099+54.00				1322																			
R9	152	1099+52.00	1099+70.00				610																			
R10	152	1099+15.00	1099+62.00								73															
R11	152	1100+13.00	1100+59.00								73															
R12	152	1100+18.00	1105+00.00								527															
SA1	152	1099+37.88																			1					
SW1	152	1096+50.00	1099+05.36											1277												
SW2	152	1098+88.00	1099+60.00												1332	1										
SW3	152	1099+05.36	1099+72.00												1297	2										
TOTALS CARRIED TO GENERAL SUMMARY				499	47	4	4779	6	2	825	938	770	1675	8856	4859	11	3049	10	240	1						

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REF. NO.	SHEET NO.	STATION TO STATION		202	202	202	202	202	202	202	202	252	606	608	608	608	608	609	609	807	809	809	810	811		
				PIPE REMOVED 24" AND UNDER	PIPE REMOVED, OVER 24"	WALK REMOVED	CURB AND GUTTER REMOVED	TRAFFIC ISLAND REMOVED	CATCH BASIN REMOVED	GUARDRAIL REMOVED	HEADWALL REMOVED	FULL DEPTH PAVEMENT SAWING	ANCHOR ASSEMBLY, TYPE E	CONCRETE WALK, 4"	COMBINATION CURB & GUTTER, TYPE 2	CURB, TYPE 6	AGGREGATE WALK	CURB RAMP	CONCRETE MEDIAN, AS PER PLAN	VALVE BOXES ADJUSTED TO GRADE	SERVICE BOXES ADJUSTED TO GRADE	FIRE HYDRANT, RELOCATED	6 INCH HYDRANT EXTENSIONS	MANHOLE ADJUSTED TO GRADE (SANITARY)		
		FROM	TO	FT	FT	SQ FT	FT	SQ YD	EACH	FT	EACK	FT	EACH	SQ FT	FT	FT	SQ FT	EACH	SQ FT	EACH	EACH	EACH	EACH	EACH		
CG1	153	1101+50.00	1106+50.00												500											
CG2	153	1101+50.00	1106+50.00												500											
P1	153	1104+00.00	1106+50.00									250														
P2	153	1104+00.00	1106+50.00									290														
R1	153	1103+15.00	1104+48.00	133					1																	
R2	153	1104+48.00	1108+37.00	389					1		1															
CG1	154	1106+50.00	1110+52.00												430			1								
CG2	154	1106+50.00	1108+62.00												212											
CG3	154	1110+88.00	1110+91.00												15			1								
P1	154	1106+50.00	1110+40.00									419														
P2	154	1106+50.00	1110+40.00									419														
R1	154	1006+50.00	1110+36.00			316																				
R2	154	1108+55.00	1108+90.00		35																					
R3	154	1110+02.00	1110+19.00	17																						
R4	154	1110+90.00	1111+00.00			125																				
R5	154	1108+42.30			73						1															
R6	154	1100+40.00	1110+52.00				36																			
SW1	154	1108+10.00	1108+76.00											324												
CG1	227	59+93.45	60+43.45													32			198							
P1	227	98+73.00	58+60.45									195														
P2	227	59+43.45	60+43.45									100														
P3	227	59+43.45	60+43.45									100														
P4	227	59+43.45	60+43.45									101														
R1	227	59+33.45	60+43.45			105																				
SW1	227	59+56.45	59+81.45											105												
SA1	227	60+12.82																						1		
CG1	228	60+43.45	64+93.45													450										
P1	228	60+43.45	64+93.45												450											
P2	228	60+43.45	64+93.45												450											
P3	228	60+43.45	61+33.45												90											
WW1	228	63+73.45																		1			1			
WW2	228	61+75.81																			1					
SA1	228	61+93.17																						1		
CG1	229	64+93.45	65+83.45													108										
P1	229	64+93.45	69+43.45									465														
P2	229	64+93.45	65+83.45									90														
R1	229	65+47.45		15					1																	
WW1	229	65+71.45																		1						
WW2	229	67+74.45																		1		1				
CG1	238	921+17.89	922+50.00					15																		
GR1	238	921+37.00	921+87.00							50			1													
P1	238	919+50.00										56														
P2	238	921+29.00	922+50.00									120														
SW1	238	921+25.00	922+33.00														652									
P1	239	922+50.00	923+32.00									82														
TOTALS CARRIED TO GENERAL SUMMARY				554	108	546	36	15	3	50	2	2687	1	429	2647	590	652	2	198	3	1	1	1	2		

CALCULATED AWF
CHECKED PHF

SUBSUMMARY

DEL-CR10-0.90

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L:\Projects\14577229\TRANS\DEL\90243\roadway\sheets\90243GSS006.dgn - 4/9/2015 1:17:36 PM - brian_wallace

REF. NO.	SHEET NO.	STATION TO STATION			801 6 INCH WATER PIPE AND FITTINGS	801 8 INCH WATER PIPE AND FITTINGS	801 12 INCH WATER PIPE AND FITTINGS		802 6 INCH VALVE AND APPURTENANCES	802 8 INCH VALVE AND APPURTENANCES	802 12 INCH VALVE AND APPURTENANCES		805 3/4 INCH WATER SERVICE TAP, TRANSFERRED	805 1 INCH WATER SERVICE TAP, TRANSFERRED	805 1 1/2 INCH WATER SERVICE TAP, TRANSFERRED	805 4 INCH WATER SERVICE TAP, TRANSFERRED		807 VALVE BOXES ADJUSTED TO GRADE	807 COLUMBUS STANDARD HEAVY DUTY VALVE BOX		809 FIRE HYDRANT, TYPE A MODIFIED					
		FROM	TO		FOOT	FOOT	FOOT		EACH	EACH	EACH		EACH	EACH	EACH	EACH		EACH	EACH		EACH					
		OLD STATE ROAD																								
R1	279	1003+20.00	1008+00.00																							
WW1	279	1003+20.00	1008+00.00				504.5																			
WW2	279	1004+35.61									1															
WW3	279	1003+81.06			31				2										2		1					
WW4	279	1004+91.38				26				1									1							
WW5	279	1006+51.01											1													
WW6	279	1006+93.00			23				2										2		1					
WW7	279	1006+53.01	1006+56.01											1		1			1							
WW8	279	1004+89.86																1								
WW1	280	1008+00.00	1012+01.10				411.39																			
WW2	280	1008+48.04											1													
WW3	280	1010+17.99			23				2										1		1					
WW4	280	1009+69.62													1											
WW5	280	1012+16.13																1								
TOTALS CARRIED TO GENERAL SUMMARY					77	26	916		6	1	1		2	1	1	1		2	7		3					

CALCULATED BLW
CHECKED PHF

SUBSUMMARY - WATERLINE

DEL-CR10-0.90

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STATION TO STATION		SIDE	LENGTH (L)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=LxW	PLANIMETERED AREAS	PAVEMENT SALVAGE AREAS	TOTAL FULL DEPTH PAVEMENT AREA	202	204	254	304	304	301	407	407	407	441	441	441	441	441
									PAVEMENT REMOVED, ASPHALT	SUBGRADE COMPACTION	PAVEMENT PLANING, ASPHALT CONCRETE (3")	4" AGGREGATE BASE	6" AGGREGATE BASE	ASPHALT CONCRETE BASE, PG64-22	TACK COAT	TACK COAT FOR INTERMEDIATE COURSE	PRIME COAT	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG70-22M	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446)	ASPHALT CONCRETE, MISC.: ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, LEVELING COURSE	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	2"ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
FROM	TO								SQ YD	SQ YD	SQ YD	CU YD	CU YD	CU YD	GALLON	GALLON	GALLON	CU YD	CU YD	CU YD	CU YD	CU YD
SOUTH OLD STATE ROAD (CR 10)																						
1000+40.00	1002+00.00	RT&LT	160.00	40.12	6,419.20			6,419	608	713			119	178	53	29	285	30	35			
1002+00.00	1004+00.00	RT&LT	200.00	53.09	10,618.00			10,618	845	1,180			197	295	88	47	472	49	57			
ADD FOR WYNSTONE INTERSECTION		LT				2,009		2,009	264	223			37	56	17	9	89	9	11			
1004+00.00	1005+30.00	RT&LT	130.00	63.99	8,318.27			8,318	512	924			154	231	69	37	370	39	45			
1005+30.00	1006+30.00	RT&LT	100.00	66.00	6,600.00			6,600	388	733			122	183	55	29	293	31	36			
1006+30.00	1006+90.00	RT&LT	60.00	72.00	4,320.00			4,320	231	480			80	120	36	19	192	20	23			
1006+90.00	1027+50.00	RT&LT	2,060.00	78.00	160,680.00			160,680	10,371	17,853			2,976	4,463	1,339	714	7,141	744	868			
1027+50.00	1028+00.00	RT&LT	50.00	83.50	4,175.00			4,175		464			77	116	35	19	186	19	23			
1028+00.00	1030+97.92	RT&LT	297.92	89.00	26,514.88			26,515		2,946			491	737	221	118	1,178	123	143			
1030+97.92	1032+69.88	RT&LT	171.96	87.00	14,960.52			14,961		1,662			277	416	125	66	665	69	81			
ADD FOR CANDLELITE INTERSECTION		RT&LT				3,690		3,690	305	410			68	103	31	16	164	17	20			
ADD FOR FUTURE INTERSECTION		RT				2,255		2,255		251			42	63	19	10	100	10	12			
1032+69.88	1048+00.00	RT&LT	1,530.12	84.00	128,530.08		(52,750)	75,780	1,838	8,420			1,403	2,105	632	337	3,368	595	694	488		
ADD FOR POWELL ROAD INTERSECTION		RT&LT				14,208	(3,120)	11,088		1,232			205	308	92	49	493	66	77	29		
ADD FOR AURORA AVENUE INTERSECTION		RT				2,040		2,040		227			38	57	17	9	91	9	11			
1048+00.00	1054+10.00	RT&LT	610.00	72.00	43,920.00			43,920	2,612	4,880			813	1,220	366	195	1,952	203	237			
ADD FOR BEAR TRAIL INTERSECTION		RT&LT				5,512		5,512	396	612			102	153	46	24	245	26	30			
1054+10.00	1096+05.00	RT&LT	4,195.00	60.00	251,700.00		(25,740)	225,960	18,608	25,107			4,184	6,277	1,883	1,004	10,044	1,165	1,359	238		
ADD FOR MAXWELL AVENUE INTERSECTION		RT				1,680		1,680		187			31	47	14	7	75	8	9			
ADD FOR ROYAL OAK INTERSECTION		RT				1,990		1,990		221			37	55	17	9	88	9	11			
ADD FOR WILSHIRE/GLADSHIRE INTERSECTION		RT				6,654		6,654		739			123	185	55	30	296	31	36			
1096+05.00	1096+55.00	RT&LT	50.00	66.00	3,300.00			3,300	203	367			61	92	28	15	147	15	18			
1096+55.00	1099+12.38	RT&LT	257.38	72.00	18,531.36			18,531	1,050	2,059			343	515	154	82	824	86	100			
ADD FOR ORANGE ROAD INTERSECTION		RT				11,083		11,083	1,718	1,231			205	308	92	49	493	51	60			
1100+76.16	1110+40.00	RT&LT	963.84	48.00	46,264.32	50	(17,950)	28,364	1,951	3,152			525	788	236	126	1,261	214	250	166		
1110+40.00	1115+00.00	RT&LT	460.00			15,223		15,223			1,691				127	68		70	82			
TOTALS CARRIED TO THE NEXT PAGE									41,900	76,274	1,691	0	12,712	19,068	5,847	3,119	30,510	3,709	4,328	922	0	0

CALCULATED AWF
CHECKED PHF

PAVEMENT CALCULATIONS

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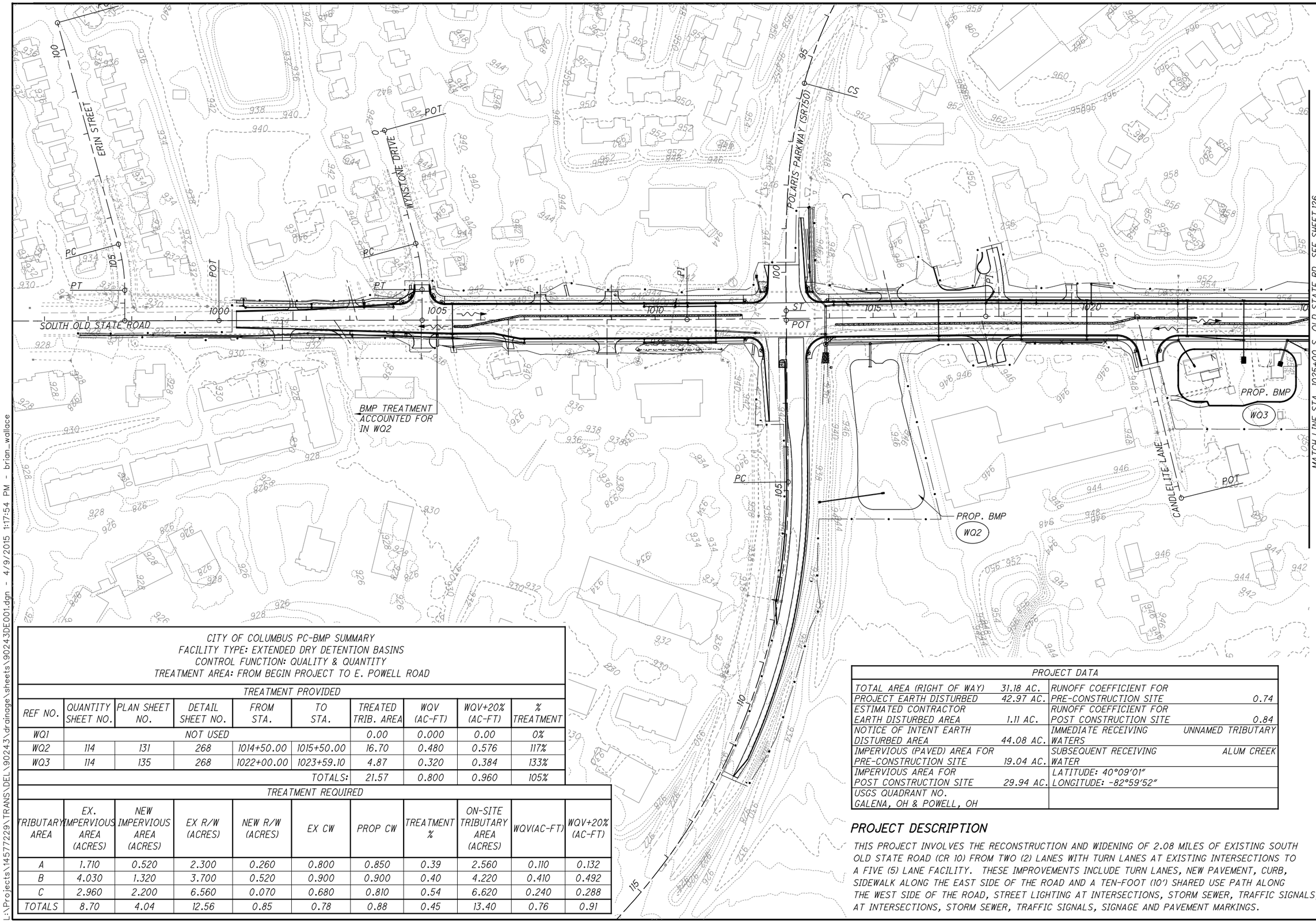
STATION TO STATION		SIDE	LENGTH (L)	AVERAGE WIDTH (W)	SURFACE AREA (A) A=LxW	PLANIMETERED AREAS	PAVEMENT SALVAGE AREAS	TOTAL FULL DEPTH PAVEMENT AREA	202	204	254	304	304	301	407	407	407	441	441	441	441	441
FROM	TO								PAVEMENT REMOVED, ASPHALT	SUBGRADE COMPACTION	PAVEMENT PLANING, ASPHALT CONCRETE (3")	4" AGGREGATE BASE	6" AGGREGATE BASE	ASPHALT CONCRETE BASE, PG64-22	TACK COAT	TACK COAT FOR INTERMEDIATE COURSE	PRIME COAT	1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), PG70-22M	1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (446)	ASPHALT CONCRETE, MISC.: ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, LEVELING COURSE	1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	2"ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448)
									SQ YD	SQ YD	SQ YD	CU YD	CU YD	CU YD	GALLON	GALLON	GALLON	CU YD	CU YD	CU YD	CU YD	CU YD
POLARIS PARKWAY																						
98+74.33	58+63.35	LT	-4,010.98			2,120		2,120		236			39	59	18	9	94	10	11			
57+76.87	58+62.35	RT				460		460		51	505		9	13	4	2	20	2	2			
59+41.20	61+34.01	RT				447		447	910	50	528		8	12	4	2	20	2	2			
59+41.20	69+58.33	LT				18,562		18,562	102	2,062	2,986		344	516	155	82	825	86	100			
EAST ORANGE ROAD																						
919+50.00	920+08.15	LT	58.15			3,783		3,783		420			70	105	32	17	168	18	20			
920+80.00	923+32.00	RT	252.00			6,206		6,206		690	715		115	172	52	28	276	29	34			
SHARED USE PATH																						
1005+17.46	1012+02.94	LT	6,854.80																			
DEDUCT FOR DRIVES			603.00																			
TOTAL AREA			6,251.80									77									24	34
1013+98.93	1036+95.89	LT	22,969.60																			
DEDUCT FOR DRIVES			1,011.50																			
TOTAL AREA			21,958.10									271									85	119
1038+55.94	1053+17.78	LT	14,618.40																			
DEDUCT FOR DRIVES			0.00																			
TOTAL AREA			14,618.40									180									56	79
1054+62.71	1069+10.39	LT	14,476.80																			
DEDUCT FOR DRIVES			728.10																			
TOTAL AREA			13,748.70									170									53	74
1070+30.89	1082+45.55	LT	12,146.60																			
DEDUCT FOR DRIVES			100.00																			
TOTAL AREA			12,046.60									149									46	65
1083+54.45	1098+87.97	LT	15,621.20																			
DEDUCT FOR DRIVES			0.00																			
TOTAL AREA			15,621.20									193									60	84
1098+87.08	1099+22.48	LT	975.00									12									4	5
1100+34.86	1101+33.66	RT	988.00									12									4	5
1102+62.26	1104+92.13	LT	748.00									9									3	4
SUBTOTALS FROM THIS PAGE									1,012	3,509	4,733	1,074	585	877	263	140	1,403	146	171	0	335	470
SUBTOTALS FROM PREVOUS PAGE									41,900	76,274	1,691	0	12,712	19,068	5,847	3,119	30,510	3,709	4,328	922	0	0
TOTALS CARRIED TO THE GENERAL SUMMARY									42,912	79,782	6,425	14,371		19,946	6,111	3,259	31,914	3,856	4,498	922	335	470

CALCULATED AWF
CHECKED PHF

PAVEMENT CALCULATIONS

DEL-CR10-0.90

2952-DR.E



CITY OF COLUMBUS PC-BMP SUMMARY
FACILITY TYPE: EXTENDED DRY DETENTION BASINS
CONTROL FUNCTION: QUALITY & QUANTITY
TREATMENT AREA: FROM BEGIN PROJECT TO E. POWELL ROAD

TREATMENT PROVIDED

REF NO.	QUANTITY SHEET NO.	PLAN SHEET NO.	DETAIL SHEET NO.	FROM STA.	TO STA.	TREATED TRIB. AREA	WQV (AC-FT)	WQV+20% (AC-FT)	% TREATMENT
WQ1	NOT USED					0.00	0.000	0.00	0%
WQ2	114	131	268	1014+50.00	1015+50.00	16.70	0.480	0.576	117%
WQ3	114	135	268	1022+00.00	1023+59.10	4.87	0.320	0.384	133%
					TOTALS:	21.57	0.800	0.960	105%

TREATMENT REQUIRED

TRIBUTARY AREA	EX. IMPERVIOUS AREA (ACRES)	NEW IMPERVIOUS AREA (ACRES)	EX R/W (ACRES)	NEW R/W (ACRES)	EX CW	PROP CW	TREATMENT %	ON-SITE TRIBUTARY AREA (ACRES)	WQV(AC-FT)	WQV+20% (AC-FT)
A	1.710	0.520	2.300	0.260	0.800	0.850	0.39	2.560	0.110	0.132
B	4.030	1.320	3.700	0.520	0.900	0.900	0.40	4.220	0.410	0.492
C	2.960	2.200	6.560	0.070	0.680	0.810	0.54	6.620	0.240	0.288
TOTALS	8.70	4.04	12.56	0.85	0.78	0.88	0.45	13.40	0.76	0.91

PROJECT DATA

TOTAL AREA (RIGHT OF WAY)	31.18 AC.	RUNOFF COEFFICIENT FOR PRE-CONSTRUCTION SITE	0.74
PROJECT EARTH DISTURBED	42.97 AC.		
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	1.11 AC.	RUNOFF COEFFICIENT FOR POST CONSTRUCTION SITE	0.84
NOTICE OF INTENT EARTH DISTURBED AREA	44.08 AC.	IMMEDIATE RECEIVING WATERS	UNNAMED TRIBUTARY
IMPERVIOUS (PAVED) AREA FOR PRE-CONSTRUCTION SITE	19.04 AC.	SUBSEQUENT RECEIVING WATER	ALUM CREEK
IMPERVIOUS AREA FOR POST CONSTRUCTION SITE	29.94 AC.	LATITUDE: 40°09'01" LONGITUDE: -82°59'52"	
USGS QUADRANT NO. GALENA, OH & POWELL, OH			

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION AND WIDENING OF 2.08 MILES OF EXISTING SOUTH OLD STATE ROAD (CR 10) FROM TWO (2) LANES WITH TURN LANES AT EXISTING INTERSECTIONS TO A FIVE (5) LANE FACILITY. THESE IMPROVEMENTS INCLUDE TURN LANES, NEW PAVEMENT, CURB, SIDEWALK ALONG THE EAST SIDE OF THE ROAD AND A TEN-FOOT (10') SHARED USE PATH ALONG THE WEST SIDE OF THE ROAD, STREET LIGHTING AT INTERSECTIONS, STORM SEWER, TRAFFIC SIGNALS, AT INTERSECTIONS, STORM SEWER, TRAFFIC SIGNALS, SIGNAGE AND PAVEMENT MARKINGS.

HORIZONTAL SCALE IN FEET
0 50 100 200

CALCULATED AWF/FGW
CHECKED PHF

PROJECT SITE PLAN
STA. 996+00 TO STA. 1025+00

DEL-CR10-0.90

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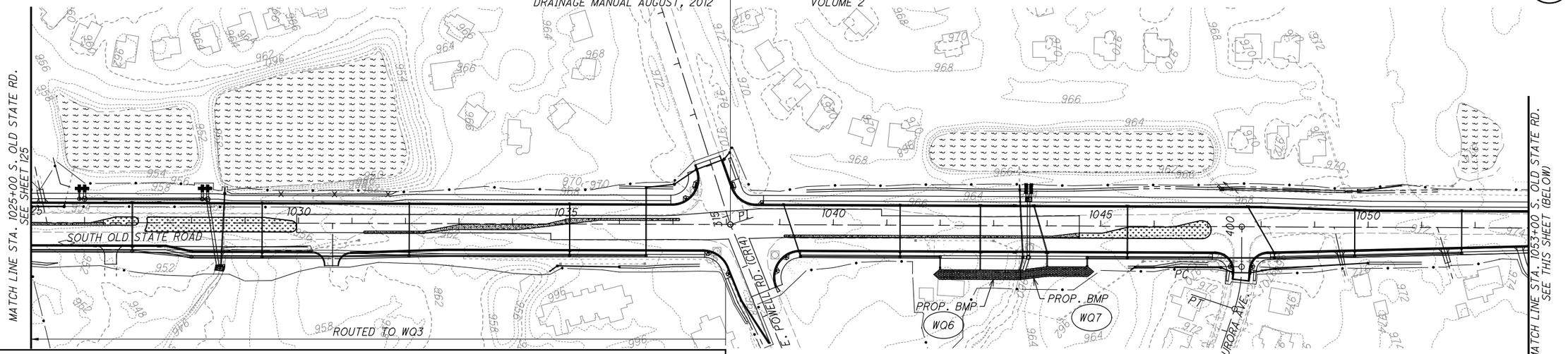
PC-BMP DESIGN REQUIREMENTS

CITY OF COLUMBUS STORMWATER DRAINAGE MANUAL AUGUST, 2012

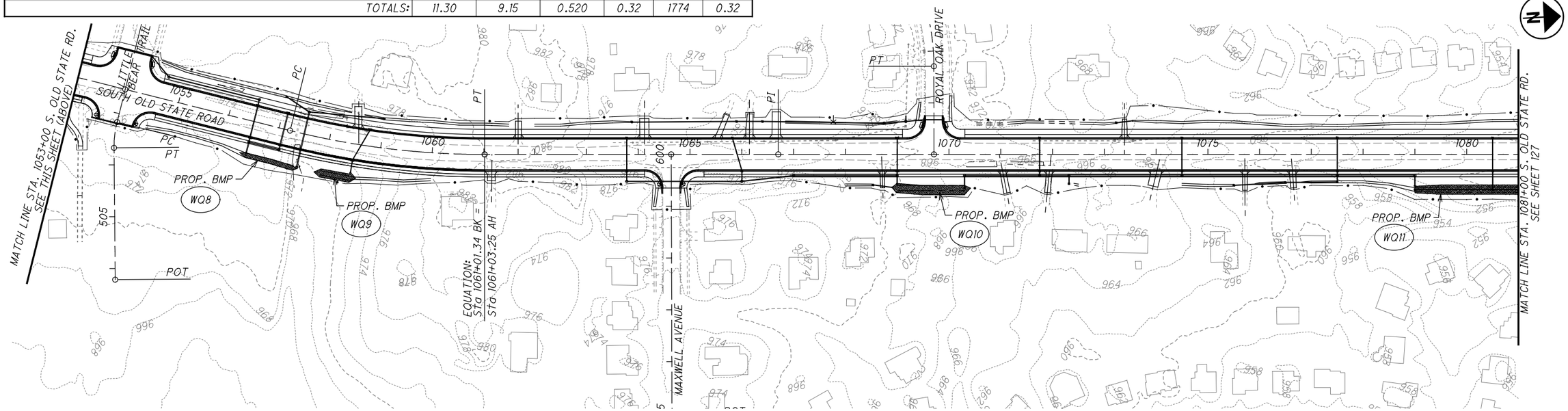
ODOT LOCATION & DESIGN MANUAL VOLUME 2



DELAWARE COUNTY PC-BMP SUMMARY
INFILTRATION TRENCHES QUANTITY & QUALITY TREATMENT
(FROM E. POWELL ROAD TO END PROJECT)

TREATMENT PROVIDED											
REF NO.	QUANTITY SHEET NO.	PLAN SHEET NO.	DETAIL SHEET NO.	FROM STA.	TO STA.	TRIB. AREA (ACRES)	TREATED TRIB. AREA (ACRES)	WQv (AC-FT)	% WQV TREATMENT PROVIDED	PROVIDED TRENCH LENGTH (LF)	% TRENCH LENGTH PROVIDED
WQ4	NOT USED										
WQ5	NOT USED										
WQ6	114	140	269	1041+87.80	1043+50.00	1.47					
WQ7	114	140	269	1043+50.00	1044+87.20	2.53					
WQ8	114	143	269	1056+38.00	1057+49.40	1.21					
WQ9	114	143	269	1057+83.60	1058+61.60	0.75					
WQ10	114	145	270	1068+90.90	1070+41.90	1.90					
WQ11	114	147	270	1079+00.00	1082+35.00	2.78					
WQ12	114	148	270	1084+50.00	1085+22.70	0.66					
					TOTALS:	11.30	9.15	0.520	0.32	1774	0.32

TREATMENT REQUIRED												
TRIBUTARY AREA	EX. IMPERVIOUS AREA (ACRES)	NEW IMPERVIOUS AREA (ACRES)	EX R/W (ACRES)	NEW R/W (ACRES)	EX CW	PROP CW	TREATMENT %	ON-SITE TRIBUTARY AREA (ACRES)	i	Cq	WQv	REQUIRED TRENCH LENGTH (LF) FOR WQV
D	3.350	0.490	3.250	0.510	0.900	0.900	0.30	3.760	1.000	0.912	0.214	
E	2.250	1.070	1.960	1.220	0.900	0.900	0.46	3.180	1.000	0.912	0.181	
F	11.780	2.200	11.930	2.010	0.900	0.900	0.33	13.940	1.000	0.912	0.795	
G	1.690	0.040	1.690	0.040	0.900	0.900	0.22	1.730	1.000	0.912	0.099	
H	2.710	0.230	2.710	0.230	0.900	0.900	0.26	2.940	1.000	0.912	0.168	
I	1.640	0.030	1.540	0.030	0.900	0.900	0.21	1.570	1.000	0.912	0.089	
J	0.100	0.000	0.100	0.000	0.900	0.900	0.20	0.100	1.000	0.912	0.006	
K	1.650	0.000	1.650	0.000	0.900	0.900	0.20	1.650	1.000	0.912	0.094	
TOTALS	25.170	4.060	24.830	4.040	0.900	0.900	0.31	28.870	1.000	0.912	1.646	5599



HORIZONTAL SCALE IN FEET: 0, 50, 100, 200

CALCULATED AWF/FGW

CHECKED PHF

PROJECT SITE PLAN
STA. 1025+00 TO STA. 1081+00
DEL-CR10-0.90

2952-DR.E

126 / 437

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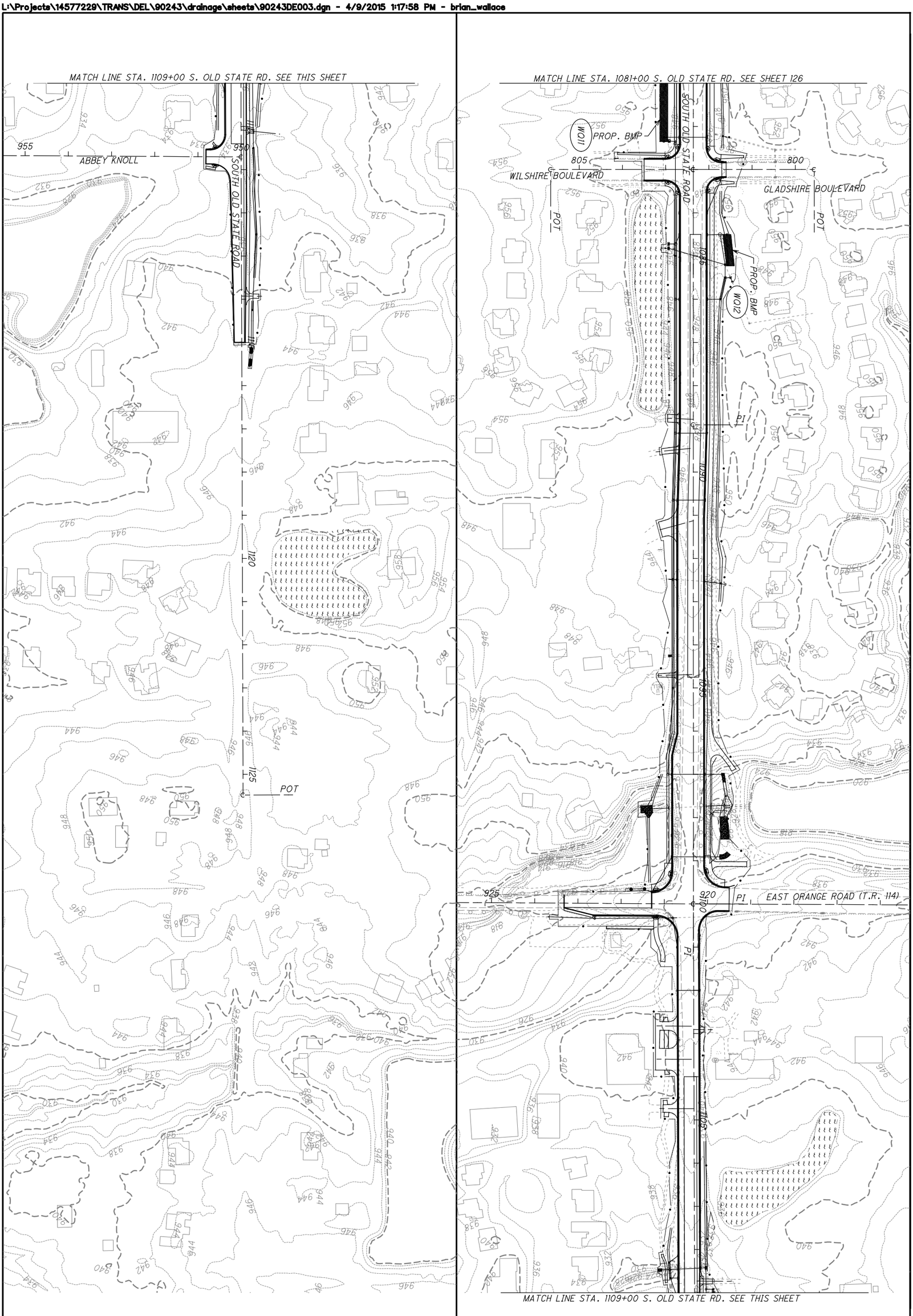

127 / 437	2952-DR-E	DEL-CR10-0.90	PROJECT SITE PLAN STA. 1081+00 TO STA. 1125+00	CALCULATED AWF/FGW CHECKED PHF 0 100 50 200 HORIZONTAL SCALE IN FEET N

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292TO 302
FOR LIGHTING PLANS, SEE SHEETS 306TO 316
FOR SIGNAL PLANS, SEE SHEETS 322TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267

785 ERIN STREET
LEWIS CENTER, OH 43035

794 ERIN STREET
LEWIS CENTER, OH 43035

9280 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

WYNSTONE PARK

9270 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

BEGIN WORK
STA. 996+75.00

BEGIN PROJECT
STA. 1000+40.00

ERIN ST.

CONCRETE WALK

ASPHALT PATH

ASPHALT PARKING LOT

ASPHALT WALK

30" RCP STM
24" RCP STM
18" RCP STM
12" RCP STM
15" RCP STM
42" RCP STM
4" PVC
8" SAN
3/4" W.S.
12"-2003-25 (COC)
8"-1997-29 (COC)
Ex R/W
B-01
997
998
999
1000
1001
N 16° 48' 46" E
℄ CONSTRUCTION S. OLD STATE RD. (CR 10)
CONSTRUCTION LIMIT
EX. SIGN
DND
TMP
EX. 5' WALK
+40, MATCH
EX. WALK
5' CONCRETE WALK
15" CPP STM
46.4:1
33.75:1
90°0'0"
2'
20.55'
15.46'
+00.0, 32.6' RT
BEGIN WALK
201
+40, BEGIN PAV'T
TAPER 15.5' RT.
& 20.6' LT
2" (DOM)
6" (FIRE)
+45.19
ASPH. COM. DRIVE
MATCH LINE STA. 1001+50 S. OLD STATE RD. SEE SHEET 129
A0
A3
A4
A7
A23
A24
P1
R1
R2
R3
U1
U2
SW1
SW2
WW1
WW2
WW3
DR-1

OFFICE CONDOMINIUMS
AT POLARIS
COLUMBUS OH 43240

9331 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

8820 COMMERCE LOOP DRIVE
COLUMBUS, OH 43240

STA 996+55.76, 58.64' LT
EX. MH, GRATE ELEV 929.14
EX. 30" RCP N 921.62
EX. 24" RCP W 922.28
EX. 12" CPP S 923.72
EX. 42" RCP E 921.34

STA 996+81.48, 33.08' RT
EX. CB, GRATE ELEV 926.80
EX. 42" RCP SW 920.96
EX. 42" RCP W 920.96
EX. 10" PVC E 923.08
EX. 12" RCP N 922.80 - REMOVE
18" (N) 922.80

STA 997+40.99, 61.53' LT
EX. MH, GRATE ELEV 930.86
EX. 30" RCP N 922.86
EX. 30" RCP S 922.76
EX. 15" RCP NE 922.86

STA 997+51.04, 34.14' RT
EX. CB, GRATE ELEV 927.93
EX. 12" RCP S 924.15
EX. 12" RCP N 924.03

STA 997+62.72, 30.38' LT
EX. CB, GRATE ELEV 929.63
EX. 15" RCP N 924.26
EX. 15" RCP S 924.26

STA 998+05.01, 30.89' LT
EX. CB, GRATE ELEV 929.61
EX. 15" RCP N 924.61
EX. 15" RCP S 924.61

STA 998+19.92, 55.74' RT
EX. SAN MH, GRATE ELEV 929.34
EX. 8" PVC N 915.18
EX. 8" PVC S 915.14
EX. 8" PVC W 915.48

STA 998+33.22, 31.73' LT
EX. CB, GRATE ELEV 929.39
EX. 15" RCP N 924.99
EX. 15" RCP S 924.99

STA 998+48.91, 33.11' RT
EX. CB, GRATE ELEV 929.21
EX. 12" RCP S 924.66
EX. 12" RCP N 924.61

STA 998+48.91, 33.11' RT
CB-2-2B, A.P.P.
GRATE EL. 929.21
18" (S) 924.66
18" (N) 925.82

STA 999+12.67, 54.93' RT
EX. SAN MH, GRATE ELEV 930.42
EX. 8" PVC S 915.67
EX. 8" PVC E 916.49

STA 999+73.13, 32.58' LT
EX. MH, GRATE ELEV 932.76
EX. 15" RCP N 929.52
EX. 15" RCP S 929.52

STA 1000+50.00, 34.50' RT
MH-3, A.P.P.
RIM ELEV 933.61
18" (S) 926.61
18" (N) 926.61
P.V.I. STA 1001+00.00 ELEV = 934.58'
150.00' VC K = 200

STA 1000+56.27, 33.49' LT
EX. CB, GRATE ELEV 932.88
EX. 15" CPP S 930.24
EX. 12" CPP N 930.24

STA 1000+56.60, 37.49' LT
EX. 6" CPP W 933.27

933.33
933.65
933.94
934.21
934.44
934.65
934.82
930.35
930.62
931.05
931.64
932.29
932.69
933.33
933.84
934.41
934.72
950
945
940
935
930
925
920
915
997+00
998+00
999+00
1000+00
1001+00
+1.25 %
+0.50 %
EX. +1.28 %
EX. 12" WATER, LT
EX. 4" WATER, RT
EX. 3/4" WS
EX. 2" & 6" WS
EX. 42" RCP
EX. 30" RCP
EX. 15" RCP
EX. 12" RCP
EX. 8" PVC
EX. 6" CPP
EX. 12" CPP
6" UD LT
6" UD RT
6" WS TAP LOWERED
18" MIN.
167'-18" CONDUIT, TYPE B, AS PER PLAN @ 2.01%
202'-18" CONDUIT, TYPE B, AS PER PLAN @ 0.99%
153'-18" CONDUIT, TYPE B, AS PER PLAN @ 0.38%

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED AWF/FGW
CHECKED PHF

PLAN AND PROFILE
DEL-CR10-0.90
S. OLD STATE RD.
STA. 996+50 TO STA. 1001+50

2952-DR.E

128
437

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FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS OR PROFILE SHEETS, SEE SHEETS 264 TO 267
FOR PROP. 12" WATER LINE SEE SHEETS 279 TO 280
FOR FIRE HYDRANT RELOCATED PROFILE SEE SHEET 160
MATCH LINE STA. 1001+50 S. OLD STATE RD. SEE SHEET 128

NOTE:
FOR MULTI-USE PATH PAVEMENT CALCULATIONS, ON ALL P&P SHEETS, SEE SHEET 123

CURVE DATA
P.I. Sta. 3+22.81
Δ = 15° 17' 21" (RT)
Dc = 14° 19' 26"
R = 400.00'
T = 53.69'
L = 106.74'
E = 3.59'
C = 106.42'

9250 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

TRONG
795 WYNSTONE DRIVE
LEWIS CENTER, OH 43035

800 WYNSTONE DR
LEWIS CENTER, OH 43035

9235 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

8820 COMMERCE LOOP DRIVE
COLUMBUS, OH 43240

ANTARES AVE
COLUMBUS OH 43240

9181 S OLD STATE RD
LEWIS CENTER, OH 43035

ASPHALT COMMERCIAL DRIVE
ASPHALT PARKING LOT
8" CONCRETE WALK
5' CONCRETE WALK
10' MULTI-USE PATH
CONSTRUCTION LIMIT
EX. 12" WATER TO BE ABANDONED
℄ CONSTRUCTION S. OLD STATE RD. (CR 10)
STA. 1004+65.76 S. OLD STATE RD. (CR 10) = STA. 4+46.11 WYNSTONE DR.
MATCH LINE STA. 1006+50 S. OLD STATE RD. SEE SHEET 130

STA 1001+82.12, 55.08' LT
EX. SAN MH, GRATE ELEV 935.32
EX. 8" PVC N 927.16

STA 1001+84.08, 30.25' RT
EX. CB, GRATE ELEV 933.10
EX. 12" RCP S 926.13
EX. 12" CCP N 926.13

STA 1002+12.42, 36.96' LT
EX. CB, GRATE ELEV 933.65
EX. 12" CPP S 931.15
EX. 12" CPP N 931.17

STA 1002+03, 29.45' RT
CB-2-2B, A.P.P.,
GRATE EL. 933.10
18" (S) 927.20
18" (N) 927.20

STA 1002+21.18, 24.21' RT
EX. CB, GRATE ELEV 933.26
EX. 12" CPP S 927.50
EX. 12" CPP N 927.51

STA 1003+32.78, 38.51' LT
EX. CB, GRATE ELEV 935.24
EX. 36" RCP W 931.38
EX. 18" RCP S 931.26
EX. 15" RCP N 931.39

STA 1003+04.50, 24.18' RT
EX. CB, GRATE ELEV 934.34
EX. 12" PVC N 928.00
EX. 12" PVC S 928.00
EX. 10" CPP E 928.41

STA 1003+05.76, 33.07' RT
CB-2-2B, A.P.P.
GRATE EL. 935.24
18" (S) 927.60
15" (N) 927.85
8" (E) 928.8

STA 1003+89.67, 33.45' LT
EX. CB, GR. ELEV 934.34
EX. 15" RCP S 932.26
EX. 15" RCP N 932.29

P.V.I. STA 1004+00.00
ELEV = 936.08'
150.00' VC
K = 80

STA 1004+43.20, 41.16' LT
EX. CB, GRATE ELEV 936.07
EX. 15" RCP S 932.67
EX. 12" RCP N 932.67

STA 1004+42.34, 53.72' LT
EX. SAN MH, GRATE ELEV 937.32
EX. 12" PVC N 925.65
EX. 8" PVC S 926.07
EX. 10" PVC W 925.83

STA 1004+88.22, 41.91' LT
EX. CB, GRATE ELEV 936.59
EX. 12" RCP S 932.94
EX. 12" RCP N 932.94

STA 1004+00.00, 36.40' RT
MH-3, A.P.P. RIM ELEV 936.55
15" (S) 928.23
12" (W) 932.11
15" (N) 928.23

STA 1005+03.69, 21.36' RT
EX. CB, GRATE ELEV 937.17
EX. 12" CPP S 929.10
EX. 12" CPP N 929.07

P.V.I. STA 1007+00.00
ELEV = 943.22'
400.00' VC
K = 144

STA 1005+18.84, 37.23' LT
EX. CB, GRATE ELEV 935.93
EX. 12" RCP S 932.25

STA 1005+31.50, 20.03' RT
EX. CB, GRATE ELEV 937.58
EX. 12" CPP S 929.24
EX. 8" PP E 929.48

STA 1005+35.43, 41.00' RT
MH-3, A.P.P. RIM ELEV 939.83
15" (S) 928.77
15" (W) 934.67
12" (N) 936.21
12" (E) 929.02

STA 1006+24.43, 56.15' LT
EX. SAN MH, GRATE ELEV 939.72
EX. 12" PVC N 925.37
EX. 12" PVC S 925.37
EX. 8" PVC W 925.52

153'-18" CONDUIT, TYPE B, AS PER PLAN @ 0.38%
102'-18" CONDUIT, TYPE B, AS PER PLAN @ 0.40%
94'-15" CONDUIT, TYPE C, AS PER PLAN @ 0.40%
136'-15" CONDUIT, TYPE B, AS PER PLAN @ 0.40%
165'-12" CONDUIT, TYPE C, AS PER PLAN @ 0.60%

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF/FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1001+50 TO STA. 1006+50

DEL-CR10-0.90

2952-DR.E

129
437

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FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292TO 302
FOR LIGHTING PLANS, SEE SHEETS 306TO 316
FOR SIGNAL PLANS, SEE SHEETS 322TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267
FOR PROP. 12" WATER LINE SEE SHEETS 279 TO 280
FOR FIRE HYDRANT RELOCATED PROFILE SEE SHEET 164

9158 S OLD STATE RD
LEWIS CENTER, OH 43035

ASPHALT PARKING LOT

EX. 12" WATER
TO BE ABANDONED

ASPHALT PARKING LOT

771 POLARIS PKWY
LEWIS CENTER, OH 43035

CONSTRUCTION LIMIT

MATCH LINE STA. 1006+50 S. OLD STATE RD. SEE SHEET 129

MATCH LINE STA. 1011+50 S. OLD STATE RD. SEE SHEET 131

10' MULTI-USE PATH

CONCRETE MEDIAN

CONCRETE WALK

5' CONCRETE WALK

℄ CONSTRUCTION S. OLD STATE RD. (CR 10)

N 16° 48' 46" E

+90, 11' LT

+90, 7' LT

+90, END 60' DROP TAPER, 42' RT.

BY OTHERS

EX. WALL
DND

CONCEPTUAL UNDERGROUND
SITE DETENTION, BY OTHERS

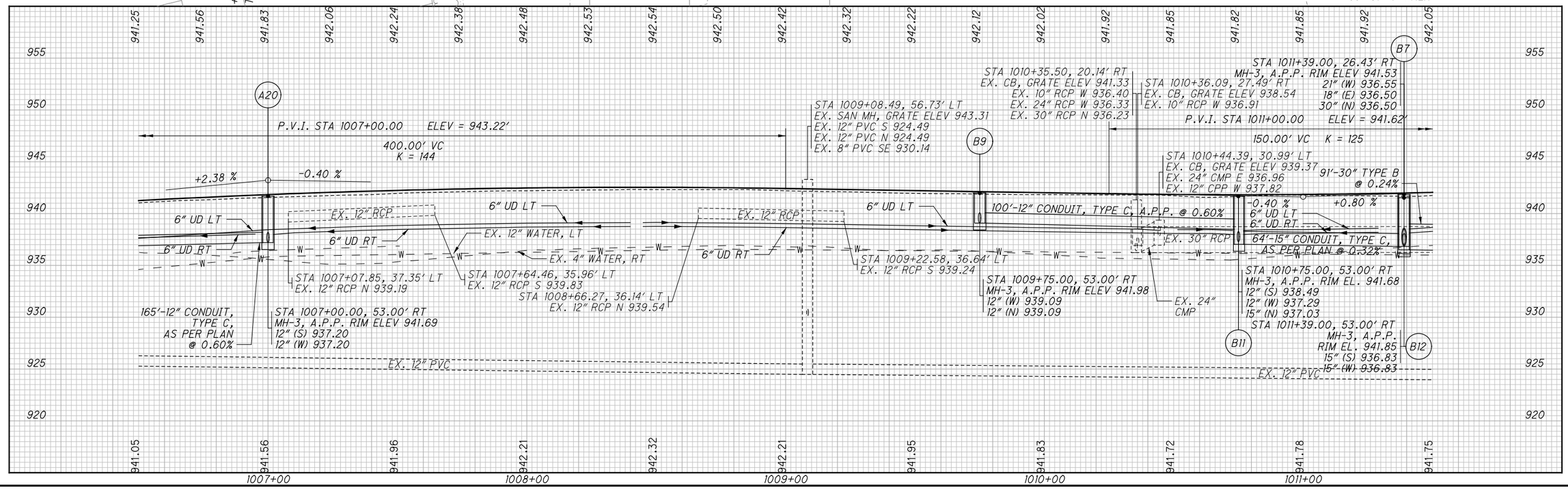
CONSTRUCTION LIMIT
TAKE 138 FT HAND RAIL AND
69' OF 4' WALK

9181 S OLD STATE RD
LEWIS CENTER, OH 43035

9175 S OLD STATE RD
LEWIS CENTER, OH 43035

9151 S OLD STATE RD
LEWIS CENTER, OH 43035

ASPHALT PARKING LOT



CALCULATED AWF/FGW
CHECKED PHF

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE S. OLD STATE RD.
STA. 1006+50 TO STA. 1011+50

DEL-CR10-0.90

2952-DR.E

130
437

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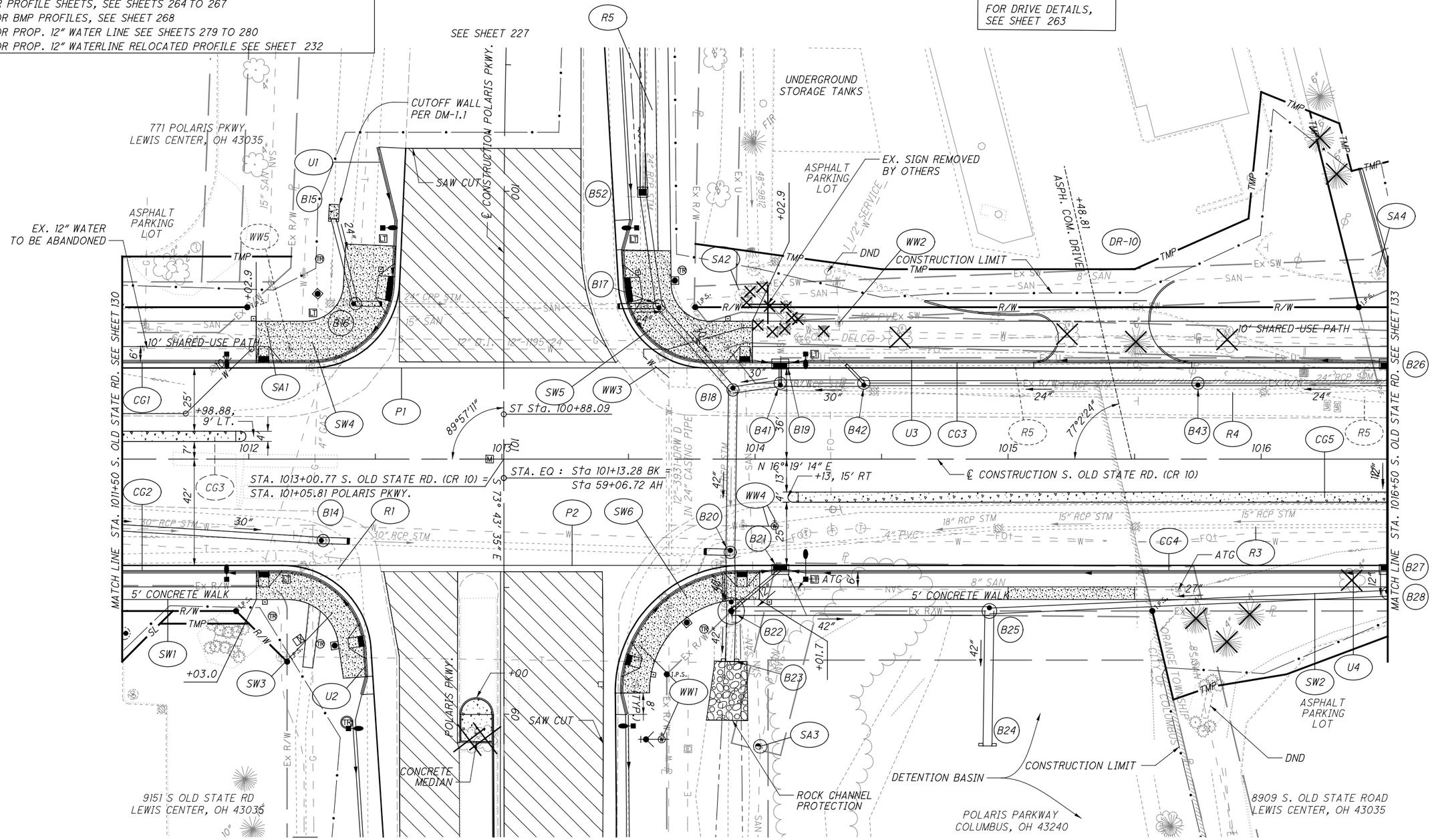
FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267
FOR BMP PROFILES, SEE SHEET 268
FOR PROP. 12" WATER LINE SEE SHEETS 279 TO 280
FOR PROP. 12" WATERLINE RELOCATED PROFILE SEE SHEET 232

WW3 FOR 12" WATER LOWERING PROFILE SEE SHEET 232.

8" CONCRETE WALK

NOTE:
FOR DRIVE DETAILS, SEE SHEET 263



FOR PROFILE SEE SHEET 132

NOTE:
FOR DETENTION BASIN DETAILS, SEE SHEET 278

- PAVEMENT OVERLAY

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF/FGW
CHECKED PHF

PLAN S. OLD STATE RD.
STA. 1011+50 TO STA. 1016+50

DEL-CR10-0.90

2952-DR.E

131
437

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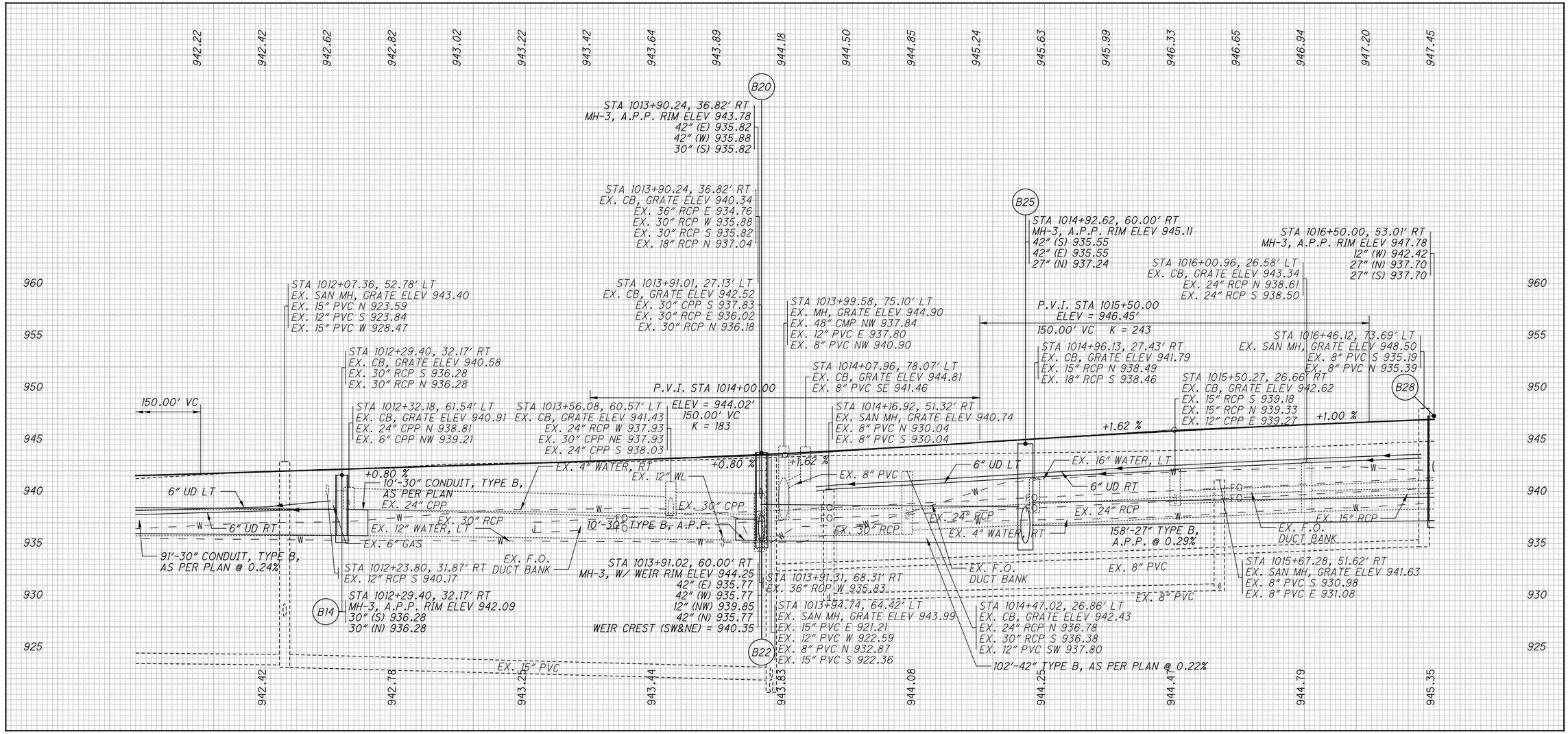
FOR PLAN SEE SHEET 131



CALCULATED AWF
CHECKED PHF

PROFILE S. OLD STATE RD.
STA. 1011+50 TO STA. 1016+50

DEL-CR10-0.90

2952-DR.E

132
437

8" CONCRETE WALK

8990 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

8928 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

8911 SEDONA COURT
LEWIS CENTER, OH 43035

8914 SEDONA COURT
LEWIS CENTER, OH 43035

ASPHALT LOT

DETENTION BASIN

DETENTION BASIN

DR-12

DR-13

CONSTRUCTION LIMIT

DND

10' SHARED-USE PATH

CITY OF COLUMBUS
ORANGE TOWNSHIP

℄ CONSTRUCTION S. OLD STATE RD. (CR 10)
N 16° 19' 14" E

℄ CONSTRUCTION S. OLD STATE RD. (CR 10)
N 17° 06' 30" E

CONCRETE MEDIAN

STA. 1021+05.43 S. OLD STATE RD. (CR 10) =
STA. 200+01.00 CANDLELITE LN.

MATCH LINE STA. 1016+50 S. OLD STATE RD. SEE SHEET 131

MATCH LINE STA. 1021+50 S. OLD STATE RD. SEE SHEET 135

5' CONCRETE WALK

MATCH EXISTING

BY OTHERS
MIN. 2.0' R TYP.

STA. 1017+05.11, 94.00' RT.
L = 60.05'
Δ = 68° 48' 26"

STA. 1017+05.11, 94.00' RT.
L = 74.87'
Δ = 95° 19' 19"

+50, 59.5' RT
BEGIN WALL

+25, 59.5' RT
END WALL

ASPHALT PARKING LOT

8909 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267

FOR PROFILE SEE SHEET 134

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF/FGW
CHECKED PHF

PLAN S. OLD STATE RD.
STA. 1016+50 TO STA. 1021+50

DEL-CR10-0.90

2952-DR.E

133
437

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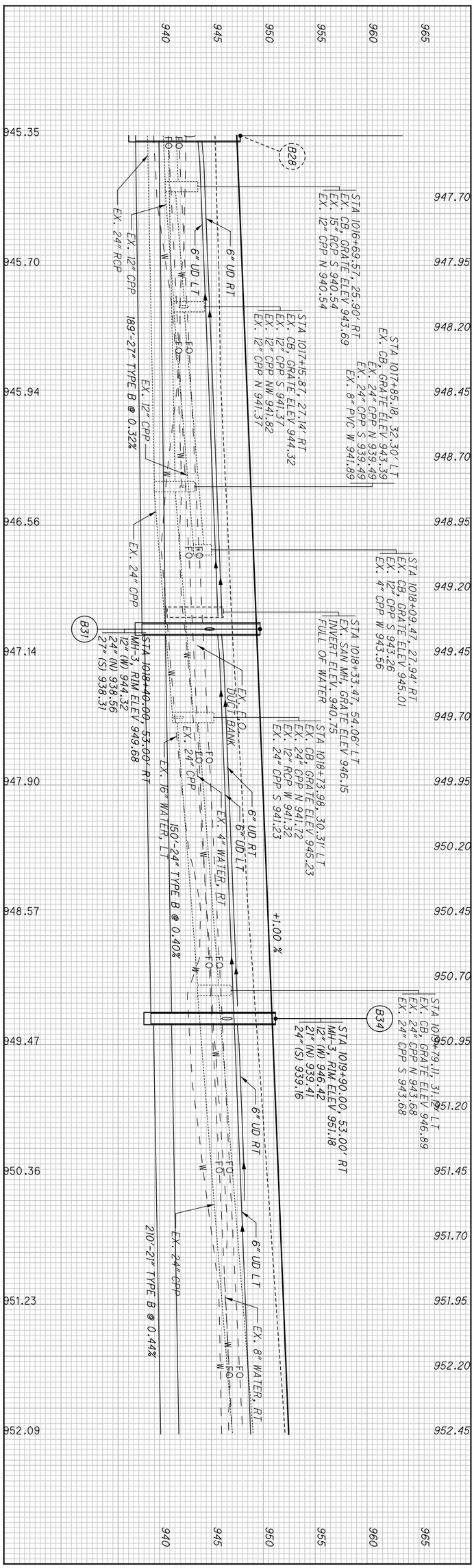
FOR PLAN SEE SHEET 133



134 / 437	2952-DR-E	DEL-CR10-0.90	PLAN AND PROFILE S. OLD STATE RD. STA. 1016+50 TO STA. 1021+50	CALCULATED FGW CHECKED PHF	0 20 10 40 HORIZONTAL SCALE IN FEET	N

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292TO 302
FOR LIGHTING PLANS, SEE SHEETS306TO 316
FOR SIGNAL PLANS, SEE SHEETS322TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR BUILDING DEMO. DETAILS, SEE SHEET 281
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267
FOR BMP DETAILS, SEE SHEET 268

8" CONCRETE WALK
DETENTION BASIN
RETENTION BASIN
8910 SEDONA COURT
LEWIS CENTER, OH 43035
8814 S. OLD STATE ROAD
LEWIS CENTER, OH 43035
8672 S. OLD STATE ROAD
LEWIS CENTER, OH 43035
8813 S. OLD STATE ROAD
LEWIS CENTER, OH 43035
8859 S. OLD STATE ROAD
LEWIS CENTER, OH 43035
CONSTRUCTION LIMIT
DND
10' SHARED-USE PATH
℄ CONSTRUCTION S. OLD STATE RD. (CR 10)
N 17° 06' 30" E
77°45'11"
CONCRETE MEDIAN
VEGETATED MEDIAN
ORANGE TOWNSHIP
CITY OF COLUMBUS
5' CONCRETE WALK
AGGR. DRIVE TO BE RMVD
AGGR. RES. DRIVE TO BE REMOVED
AGGR. RES. DRIVE
EX. 12" W (DOW 13-162)
EXIST. 12" WATER SHOWN PER CITY OF COLUMBUS AS BUILT PLAN (DOW 13-162)
BUILDING TO BE REMOVED
S. OLD STATE ROAD
LEWIS CENTER, OH 43035
MATCH LINE STA. 1021+50 S. OLD STATE ROAD SEE SHEET 133
MATCH LINE STA. 1026+50 S. OLD STATE ROAD SEE SHEET 136
NOTE:
FOR RETENTION BASIN DETAILS, SEE SHEET 277

STA 1022+00.00, 53.00' RT
MH-3, RIM ELEV 952.93
21" (E) 940.83
21" (S) 940.33

STA 1021+98.25, 34.70' RT
EX. CB, GRATE ELEV 949.95
EX. 12" CPP N 948.35
EX. 12" RCP W 948.25
EX. 4" CPP NW 948.55

STA 1021+98.57, 33.41' LT
EX. CB, GRATE ELEV 951.02
EX. 24" CPP S 947.94
EX. 12" RCP W 947.97
EX. 15" CPP N 947.95
EX. 12" RCP E 948.08

STA 1023+23.92, 32.18' RT
EX. CB, GRATE ELEV 951.32
EX. 12" CPP S 949.15
EX. 4" PVC E 949.72

STA 1023+50.00, 53.00' RT
MH-3, RIM ELEV 954.72
12" (S) 946.63
12" (E) 946.63
12" (W) 949.46

P.V.I. STA 1024+50.00 ELEV = 955.45'
300.00' VC
K = 215
450.00' VC

STA 1024+50.00, 53.00' RT
MH-3, RIM ELEV 955.25
12" (NE) 948.07
30" (N) 942.72
30" (SE) 942.72

STA 1025+61.48, 29.24' LT
EX. CB, GRATE ELEV 952.93
EX. 15" CPP S 949.95
EX. 12" RCP NW 950.80

STA 1024+91.53, 74.26' RT
CB-2-2B, GRATE ELEV 951.40
12" (SW) 948.40

STA 1022+20.42, 44.00' RT
CB-3, GRATE ELEV 952.27
12" (N) 947.93
12" (W) 947.93

STA 1022+35.10, 109.24' RT
CB-2-4, GRATE ELEV 944.50
21" (W) 941.22

+1.00 %
-0.40 %
130'-12" TYPE B @ 1.00%
47'-12" TYPE C @ 0.71%
239'-30" TYPE C @ 0.31%
66'-21" TYPE C @ 0.59%

EX. 6" GAS
EX. 6" WL
EX. 24" CPP
EX. 15" CPP
EX. 12" CPP
EX. F.O. DUCT BANK
EX. 16" WATER, LT
EX. 8" WATER, RT
UNCLASSIFIED 6" UD
6" UD RT
6" UD LT

952.45 952.70 952.95 953.20 953.45 953.70 953.95 954.19 954.39 954.57 954.72 954.84 954.93 954.99 955.02 955.02 954.99 954.94 954.85 954.75 954.67
952.09 952.79 953.31 953.79 954.21 954.51 954.70 954.76 954.69 954.61 954.59
970 965 960 955 950 945 940 935
1022+00 1023+00 1024+00 1025+00 1026+00

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED AWF/FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1021+50 TO STA. 1026+50

DEL-CR10-0.90

2952-DR.E

135
437

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RETENTION BASIN

8672 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

CONSTRUCTION LIMIT

RETENTION BASIN

10' SHARED-USE PATH

+50, 44.5' LT.
BEGIN SUP TAPER

+75, 41.5' LT.
END SUP TAPER

+36.5, 11' LT

B-08
+87.2, 4.9' LT

℄ CONSTRUCTION S. OLD STATE RD. (CR 10)

VEGETATED
MEDIAN

+85.9
R=11'

+97

N 17° 06' 30" E

88°32'14"

+21.82

ORANGE TOWNSHIP
CITY OF COLUMBUS

5' CONCRETE
WALK

MATCH LINE STA. 1026+50 S. OLD STATE RD. SEE SHEET 135

MATCH LINE STA. 1031+50 S. OLD STATE RD. SEE SHEET 137

EXIST. 12" WATER SHOWN
PER CITY OF COLUMBUS
AS BUILT PLAN (DOW 13-162)

EX. 12" W (DOW 13-162)

S. OLD STATE ROAD
LEWIS CENTER, OH 43035

ROCK CHANNEL
PROTECTION

CONSTRUCTION LIMIT

- PAVEMENT SALVAGE
LEVELING COURSE
& OVERLAY

FOR BMP DETAILS, SEE SHEET 268

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267

C6
STA 1026+89.29, 53.00' RT
MH-3, RIM ELEV 954.51
18" (W) 949.00
30" (N) 943.45
30" (S) 943.45

C13
STA 1028+00.00, 63.50' RT
MH-3, RIM ELEV 955.66
30" (S) 943.67
27" (N) 943.68

P.V.I. STA 1028+50.00 ELEV = 953.85'

450.00' VC
K = 160

C12
STA 1029+32.00, 63.44' RT
MH-3, RIM ELEV 956.34
18" (N) 951.52
27" (S) 943.94
15" (W) 951.13

STA 1028+61.21, 28.62' LT
EX. CB, GRATE ELEV 953.27
EX. 18" RCP E 949.81
EX. 18" RCP W 950.12

STA 1031+13.11, 31.58' RT
EX. CB, GRATE ELEV 958.14
EX. 12" RCP S 954.51

STA 1030+20.28, 49.80' RT
EX. 12" RCP N 953.57

6" UD RT
6" UD LT
EX. 16" WATER, LT
EX. 8" WATER, RT
EX. F.O.
DUCT BANK

-0.40 %
+2.40 %
6" UD RT
+2.40 %

111'-30" TYPE C @ 0.20%
132'-27" TYPE C @ 0.20%
275'-18" TYPE C @ 1.80%

1.5' MIN.

954.67 954.63 954.63 954.66 954.74 954.85 955.00 955.19 955.43 955.69 956.00 956.35 956.74 957.16 957.63 958.13 958.67 959.25 959.85 960.45 961.05
954.59 954.53 954.55 954.77 955.18 955.74 956.51 957.49 958.63 959.78 960.85
975 970 965 960 955 950 945 940
1027+00 1028+00 1029+00 1030+00 1031+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF/FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1026+50 TO STA. 1031+50

DEL-CR10-0.90

2952-DR.E

136
437

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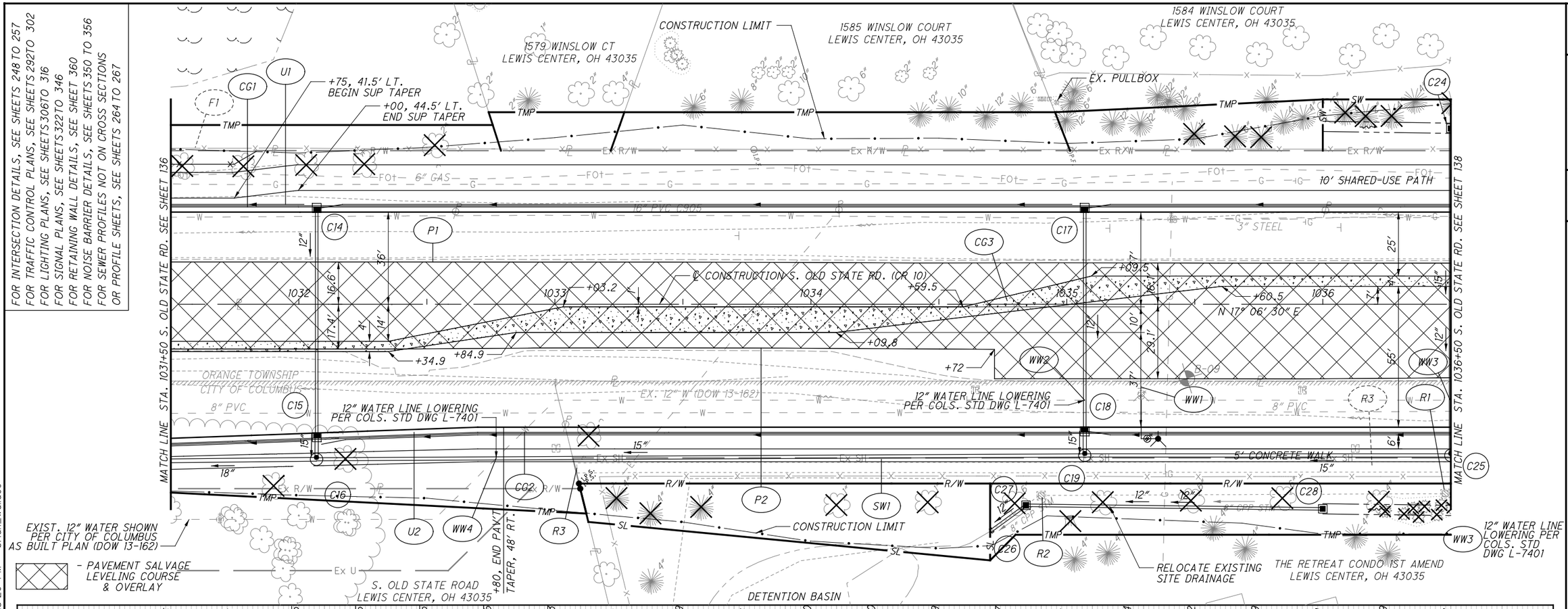
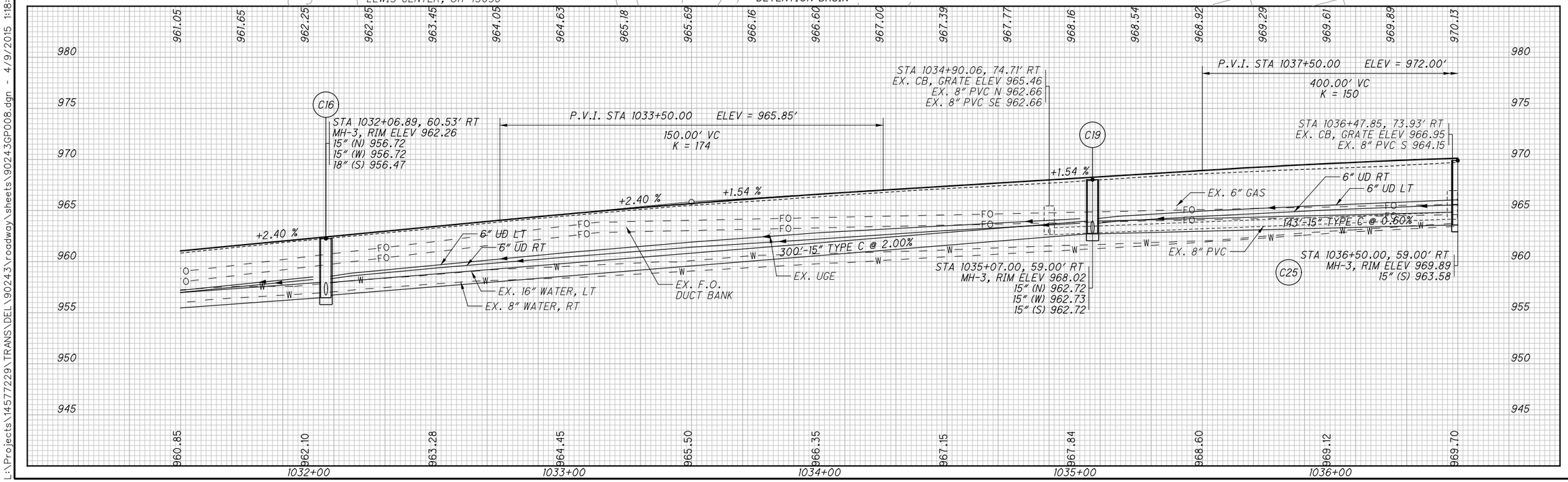
FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267





HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1031+50 TO STA. 1036+50

DEL-CR10-0.90

2952-DR.E

137
437

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FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292TO 302
FOR LIGHTING PLANS, SEE SHEETS 306TO 316
FOR SIGNAL PLANS, SEE SHEETS 322TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267

NOTE:
EXISTING 14" AND 20" FORCE MAIN SANITARY LINES APPROXIMATELY LOCATED FROM EXISTING DELAWARE COUNTY SANITARY ENGINEER PLANS:
ALUM CREEK INTERCEPTOR SANITARY SEWER, POWELL ROAD FORCE MAIN - NOVEMBER, 1974 (14")
ALUM CREEK PUMP STATION, FORCE MAIN - JULY 8, 1997 (20")

1584 WINSLOW COURT
LEWIS CENTER, OH 43035

1654 COTTONWOOD DRIVE
LEWIS CENTER, OH 43035

1662 COTTONWOOD DRIVE
LEWIS CENTER, OH 43035

1670 COTTONWOOD DRIVE
LEWIS CENTER, OH 43035

CONSTRUCTION LIMIT

EX. 35' DRAINAGE/ UTILITY EASEMENT

10' SHARED-USE PATH

℄ CONSTRUCTION S. OLD STATE RD. (CR 10)

P1 STA. 315+16.93

STA. 1038+07.38 S. OLD STATE RD. (CR 10) =
STA. 315+16.93 E. POWELL RD.

N 17° 06' 30" E

N 17° 11' 19" E

N 89° 22' 22" E

N 84° 20' 07" E

E. POWELL ROAD

S. OLD STATE ROAD
LEWIS CENTER, OH 43035

THE RETREAT CONDO 1ST AMEND
LEWIS CENTER, OH 43035

CONSTRUCTION LIMIT

TAPER CURB, 6"-0" IN 10'

MATCH LINE STA. 1036+50 S. OLD STATE RD. SEE SHEET 137

MATCH LINE STA. 1041+50 S. OLD STATE RD. SEE SHEET 140

8" CONCRETE WALK

- PAVEMENT SALVAGE LEVELING COURSE & OVERLAY

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1036+50 TO STA. 1041+50

DEL-CR10-0.90

2952-DR.E

138
437

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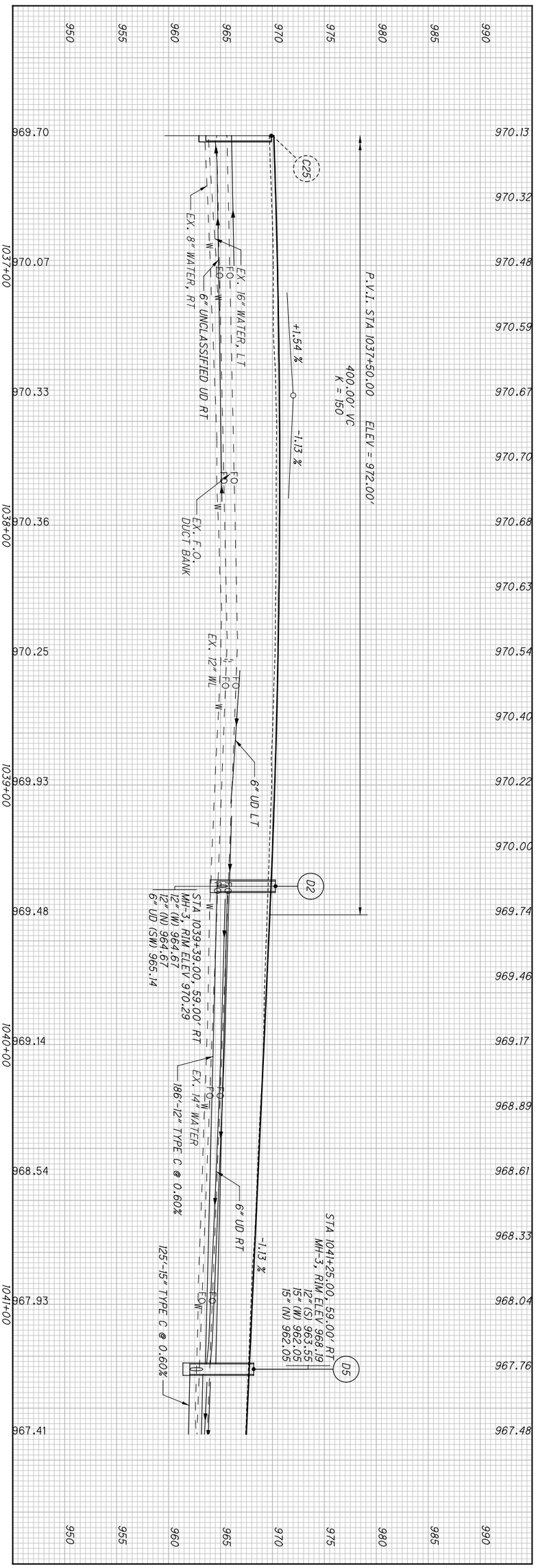
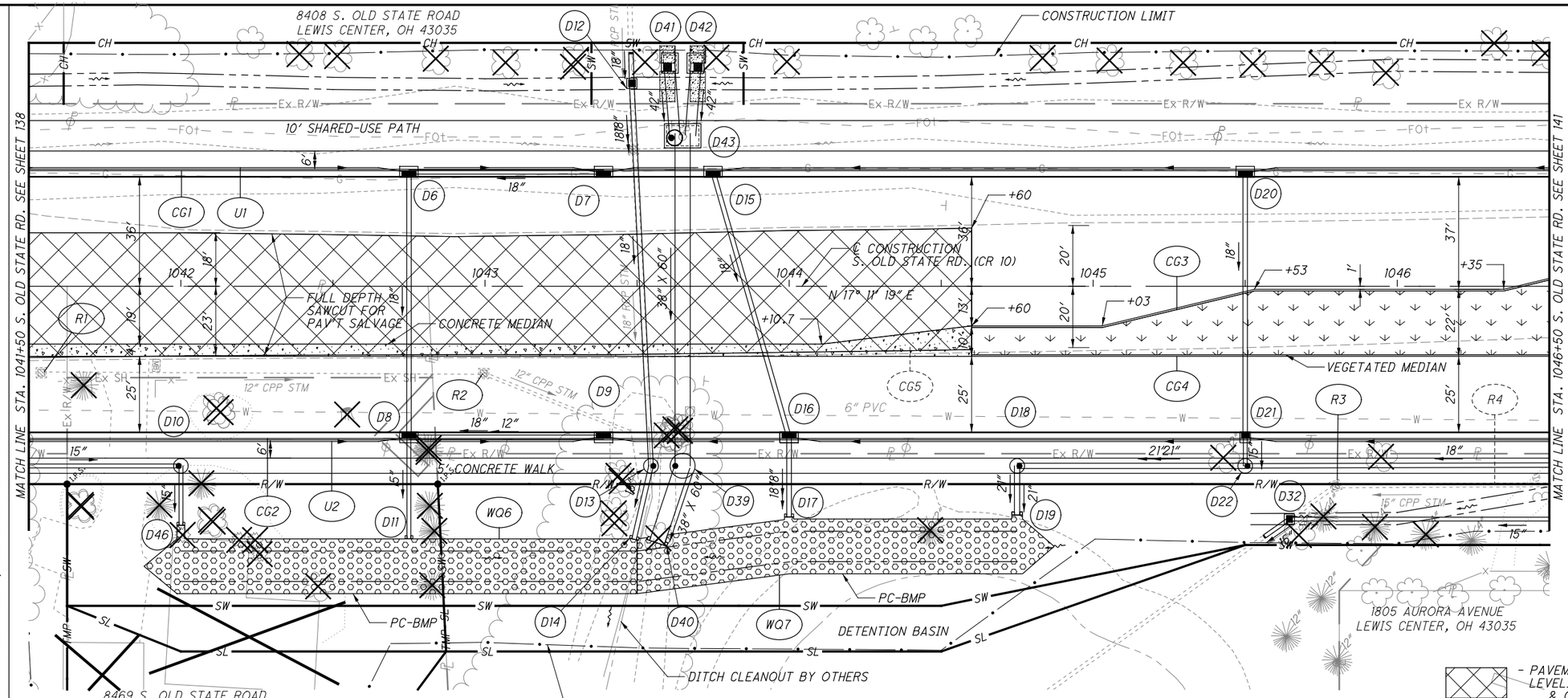
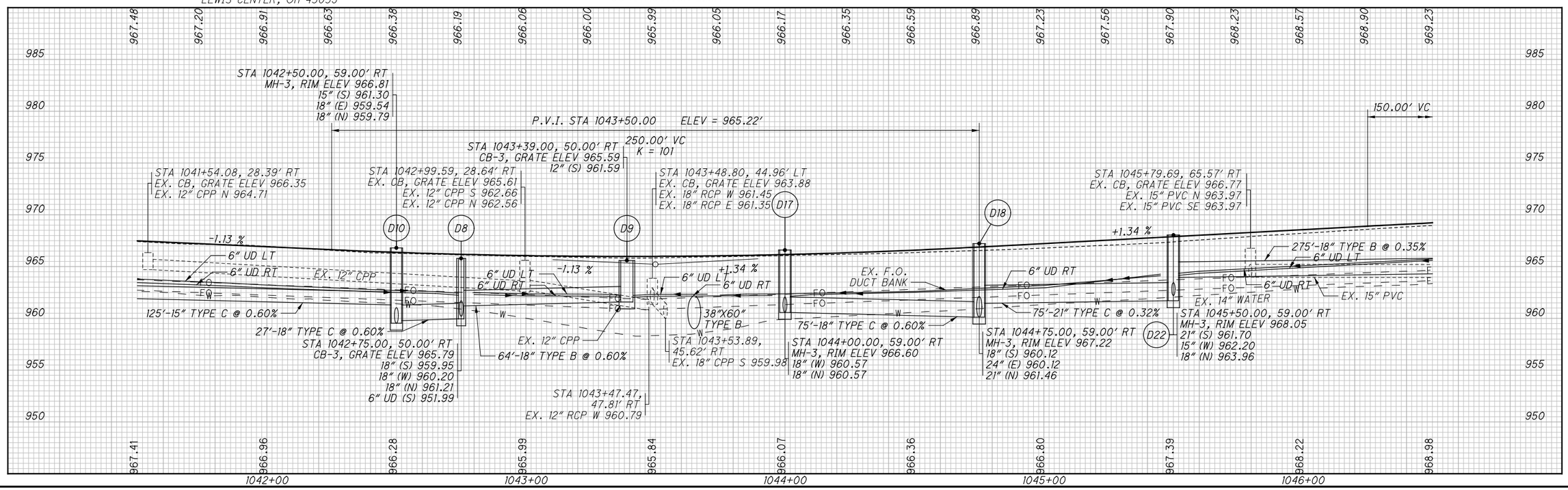


139 / 437	2952-DR.E	DEL-CR10-0.90	PROFILE S. OLD STATE RD. STA. 1036+50 TO STA. 1041+50	CALCULATED FGW CHECKED PHF	0 20 10 40 HORIZONTAL SCALE IN FEET

FOR BMP DETAILS, SEE SHEET 269

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1041+50 TO STA. 1046+50

DEL-CR10-0.90

2952-DR.E

140
437

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FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267

RETENTION BASIN

1720 COTTONWOOD DRIVE
LEWIS CENTER, OH 43035

1728 COTTONWOOD DR.
LEWIS CENTER,
OH 43035

1736 COTTONWOOD DRIVE
LEWIS CENTER, OH 43035

1752 COTTONWOOD DRIVE
LEWIS CENTER, OH 43035
CONSTRUCTION LIMIT

+90, BEGIN PAVEMENT TAPER, 36' LT.

+05, END PAVEMENT TAPER, 30' LT.

EX. 8' ASPHALT PATH (TBR)

10' SHARED-USE PATH

STA. 1047+63.80 S. OLD STATE RD. (CR 10) =
STA. 400+00.00 AURORA AVE.

MATCH LINE STA. 1046+50 S. OLD STATE RD. SEE SHEET 140

MATCH LINE STA. 1051+50 S. OLD STATE RD. SEE SHEET 142

℄ CONSTRUCTION S. OLD STATE RD. (CR 10)

EX. GAS VALVES
BY OTHERS

+85
+90, 11' LT
+90, 23' RT.
N 17° 11' 19" E
R=17'
90°00'00"
S 72° 48' 41" E
AURORA AVE.
77°25'4"
73°12'25"
34.2:1
33.8:1

CONCRETE WALK

8" CONCRETE WALK

CONSTRUCTION LIMIT
8321 OLD STATE ROAD
LEWIS CENTER, OH 43035

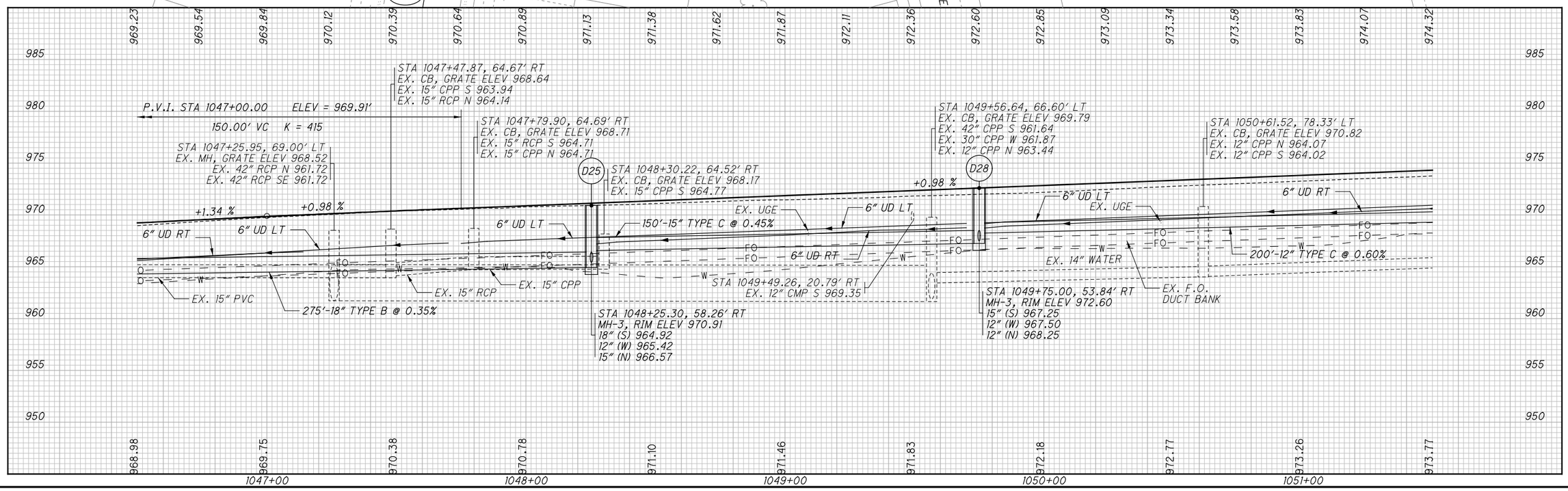
S. OLD STATE ROAD
LEWIS CENTER, OH 43035

+00, BEGIN PAV'T
TAPER, 48' RT.

36.51' ASPH. RES. DRIVE

ASPH. RES. DRIVE

CURVE DATA
P.I. Sta. 401+15.37
Δ = 18° 24' 16" (RT)
Dc = 19° 05' 55"
R = 300.00'
T = 48.60'
L = 96.37'
E = 3.91'
C = 95.95'
C.B. = S 63° 36' 33" E



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF/FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1046+50 TO STA. 1051+50

DEL-CR10-0.90

2952-DR.E

141
437

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FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267

RETENTION BASIN
LITTLE BEAR LOOP
LEWIS CENTER, OH 43035
SIGN DND
EX. 8' ASPHALT PATH (TBR)
BEAR TRAIL
S 29° 48' 41" E 502
STA. 1053+93.77 S. OLD STATE RD. (CR 10) =
STA. 502+51.86 BEAR TRAIL
℄ CONSTRUCTION S. OLD STATE RD. (CR 10)
PI Sta. 502+52.34
N 17° 11' 19" E
90°0'0"
64' CASING
12" RCP STM
14" CA
33.8:1
10' SHARED-USE PATH
5' CONCRETE WALK
CONSTRUCTION LIMIT
EX. DRIVE TO BE REMOVED
SECTION LINE
MATCH LINE STA. 1051+50 S. OLD STATE RD. SEE SHEET 141
MATCH LINE STA. 1056+50 S. OLD STATE RD. SEE SHEET 143
8283 S. OLD STATE ROAD
LEWIS CENTER, OH 43035
S. OLD STATE ROAD
LEWIS CENTER, OH 43035
8255 S. OLD STATE ROAD
LEWIS CENTER, OH 43035
AGR. RES. DRIVE
+10, END PAVT TAPER. 30' RT.
8" CONCRETE WALK

CURVE DATA
P.I. Sta. 503+49.19
Δ = 14° 02' 44" (LT)
Dc = 28° 56' 14"
R = 198.00'
T = 24.39'
L = 48.54'
E = 1.50'
C = 48.42'
C.B. = S 80° 17' 37" E

STA 1051+57.88, 78.14' LT
EX. CB, GRATE ELEV 969.75
EX. 12" CPP S 964.95
EX. 12" CPP NW 961.80
200'-12" TYPE C @ 0.60%
6" UD RT
6" UD LT
EX. 12" RCP
EX. 8" WL
EX. 14" WATER
EX. F.O. DUCT BANK
STA 1051+75.00, 47.94' RT
MH-3, RIM ELEV 974.56
12" (S) 969.45
12" (W) 969.45
STA 1053+00.24, 21.53' RT
EX. 12" RCP N 973.31
STA 1053+26.90, 21.36' RT
EX. 12" RCP S 973.42
P.V.I. STA 1054+00.00 ELEV = 976.77'
150.00' VC K = 98
+0.98 %
-0.55 %
STA 1056+50.01, 41.00' RT
MH-3, RIM ELEV 975.44
15" (W) 970.25
15" (E) 970.25
12" (N) 970.25

974.32 974.56 974.81 975.05 975.30 975.54 975.79 976.03 976.25 976.40 976.48 976.50 976.46 976.36 976.22 976.08 975.94 975.81 975.67 975.53 975.39
973.77 974.36 975.09 975.79 976.24 976.39 976.39 976.17 975.86 975.58 975.32
980 975 970 965
1052+00 1053+00 1054+00 1055+00 1056+00

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED AWF/FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1051+50 TO STA. 1056+50

DEL-CR10-0.90

2952-DR.E

142
437

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FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267

FOR BMP DETAILS, SEE SHEET 269

LITTLE BEAR LOOP
LEWIS CENTER, OH 43035

8144 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

8076 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

TMP DRIVE

CONSTRUCTION LIMIT

SEPTIC/LEACH BED
(APPROXIMATE)

EX. 8' ASPHALT PATH (TBR)

PC Sta 1057+21.79

PT Sta 1061+01.34

10' SHARED-USE PATH

MATCH LINE STA. 1056+50 S. OLD STATE RD. SEE SHEET 142

MATCH LINE STA. 1061+50 S. OLD STATE RD. SEE SHEET 144

℄ CONSTRUCTION & PROP. R/W
S. OLD STATE RD. (CR 10)

℄ EXIST. R/W S. OLD STATE RD. (CR 10)

N 17° 11' 19" E

N 3° 09' 31" E

98°58'15"

90°22'27"

5' CONCRETE WALK

PC-BMP

ROCK CHANNEL
PROTECTION

CONSTRUCTION LIMIT

DND

EQUATION:
Sta 1061+01.34 BK
Sta 1061+03.25 AH

+17.20
ASPH. RES. DRIVE

S. OLD STATE ROAD
LEWIS CENTER, OH 43035

8119 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

P.V.I. STA 1058+00.00 ELEV = 974.57'
300.00' VC
K = 110

P.V.I. STA 1061+50.00 ELEV = 982.23'
300.00' VC
K = 69

STA 1057+10.00, 41.00' RT
MH-3, RIM ELEV 975.28
18" (S) 970.61
18" (W) 970.61

STA 1058+25.32, 47.08' LT
EX. CB, GRATE ELEV 975.00
EX. 12" CPP E 972.05
EX. 12" RCP S 972.05

STA 1058+29.91, 29.72' LT
EX. CB, GRATE ELEV 975.13
EX. 12" CPP N 972.41
EX. 12" CPP W 972.41

STA 1058+68.73, 28.16' LT
EX. CB, GRATE ELEV 975.55
EX. 12" CPP S 972.63

STA 1058+09.49, 47.26' LT
EX. 12" RCP N 971.94

6" UD LT
6" UD RT
EX. 24" RCP
-0.55 %
+2.20 %
EX. 12" CPP
EX. 12" RCP
12" TYPE B
EX. 14" WATER
EX. F.O. DUCT BANK
60'-18" TYPE C @ 0.60%

975.39 975.28 975.23 975.24 975.30 975.42 975.60 975.83 976.13 976.48 976.88 977.35 977.87 978.42 978.97 979.47 979.87 980.19 980.42 980.55 980.60
975.32 975.18 975.23 975.47 975.87 976.56 977.38 978.29 979.54 980.70 981.13
995 990 985 980 975 970 965 960
1057+00 1058+00 1059+00 1060+00 1061+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF/FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1056+50 TO STA. 1061+50

DEL-CR10-0.90

2952-DR.E

143
437

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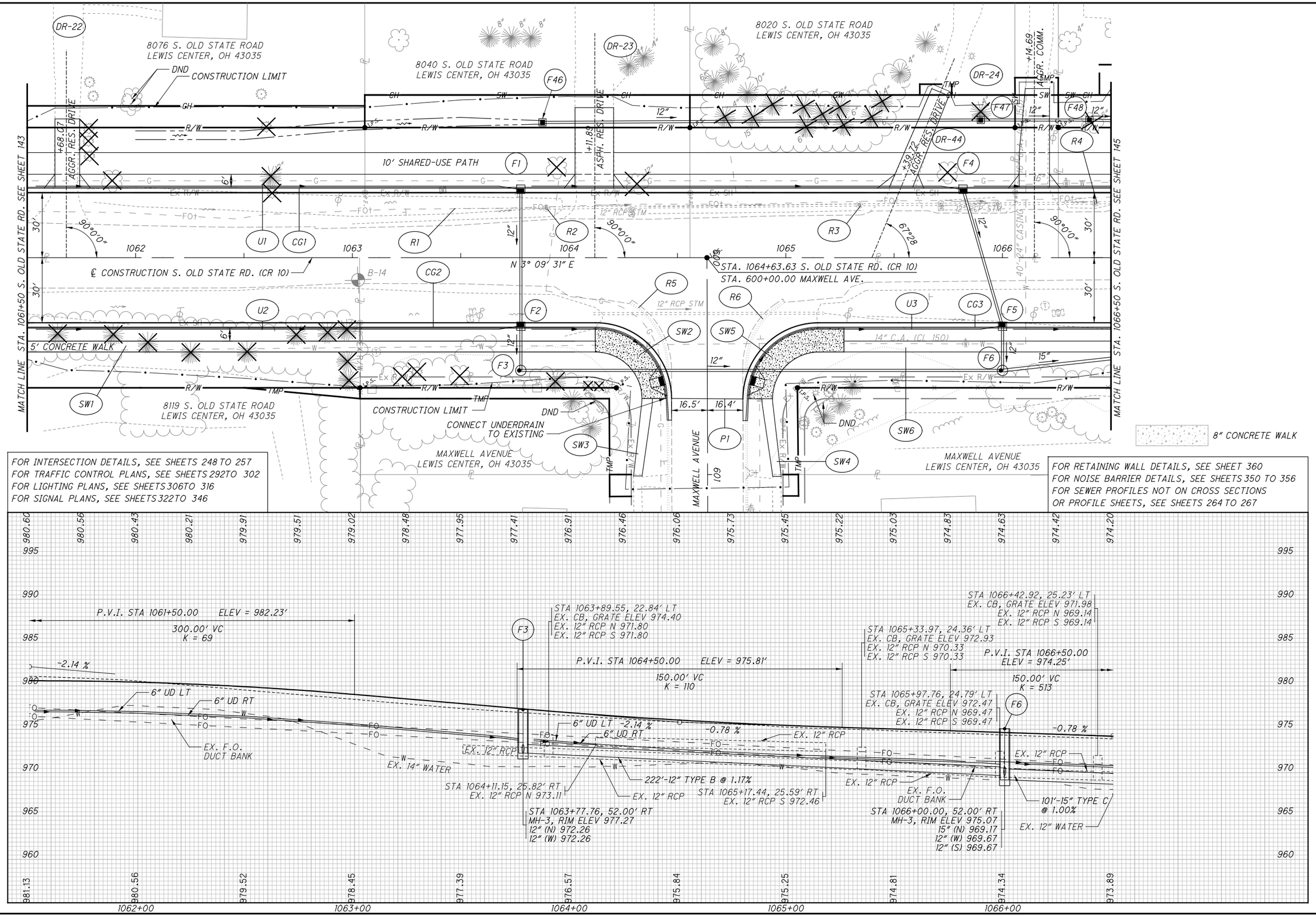
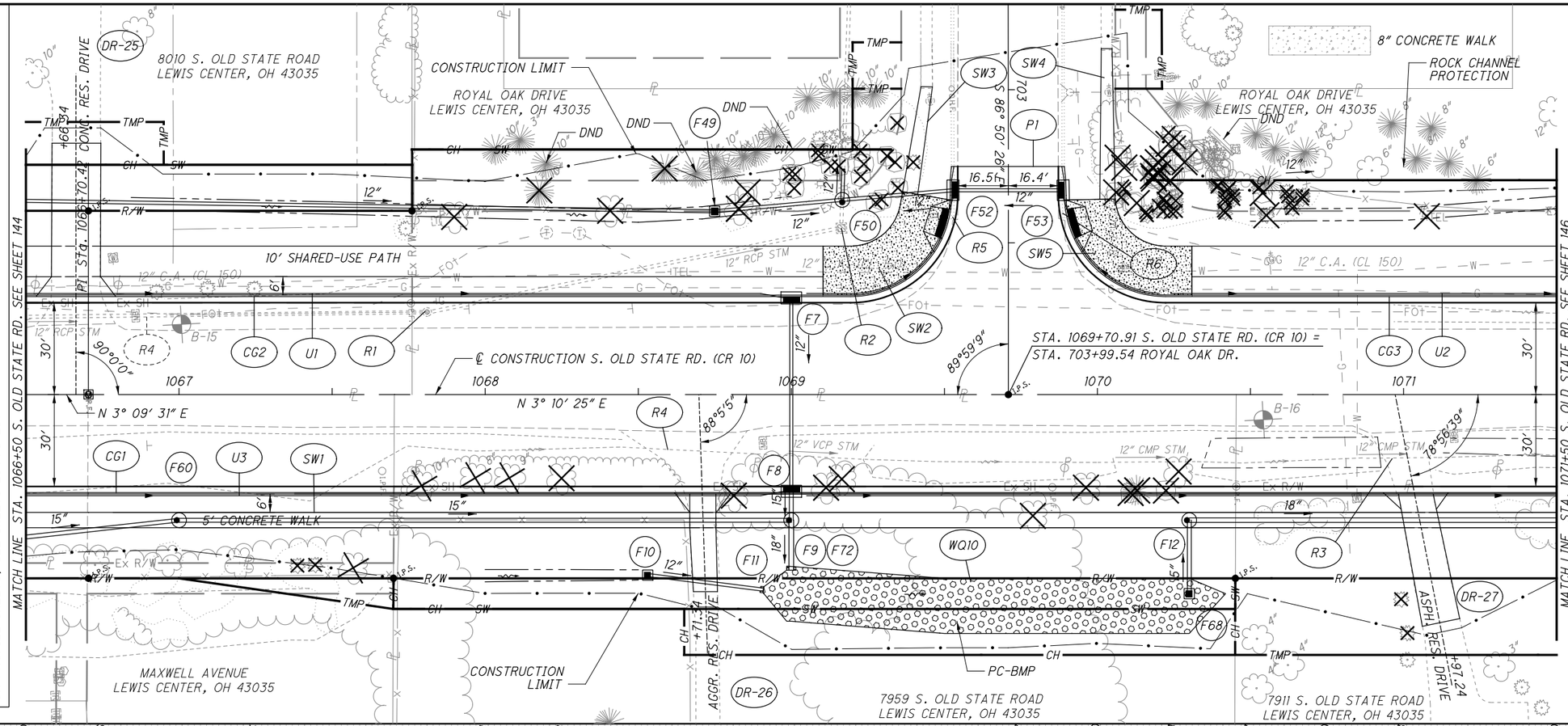
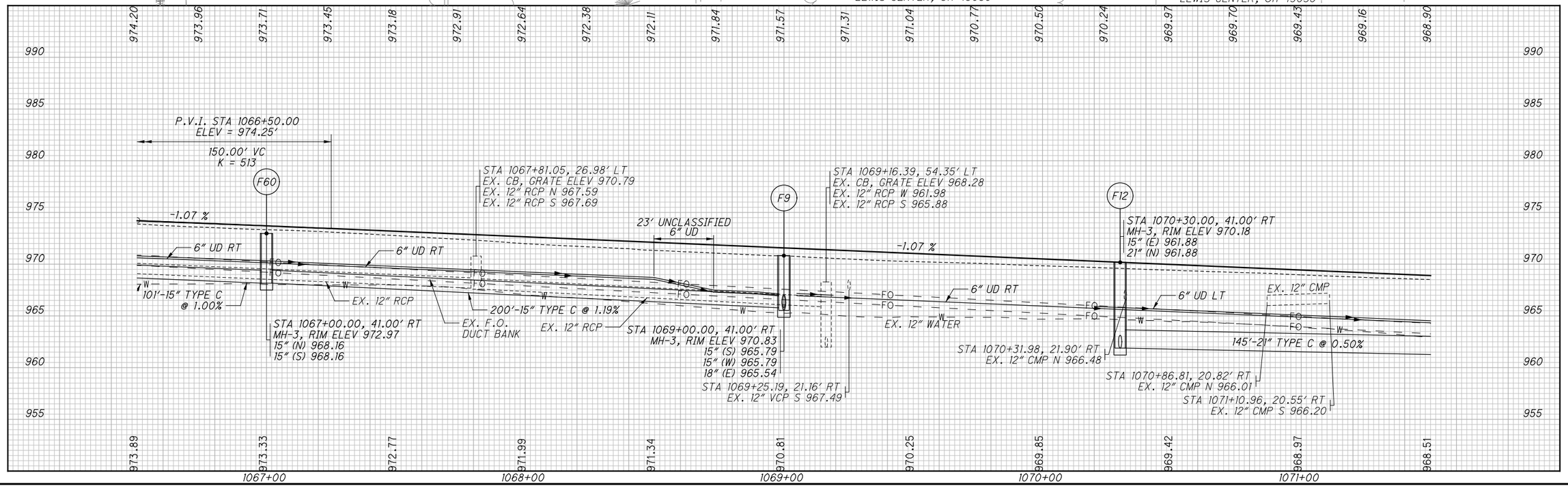


FOR BMP DETAILS, SEE SHEET 270
FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267





N

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED AWF/FGW
CHECKED PHF

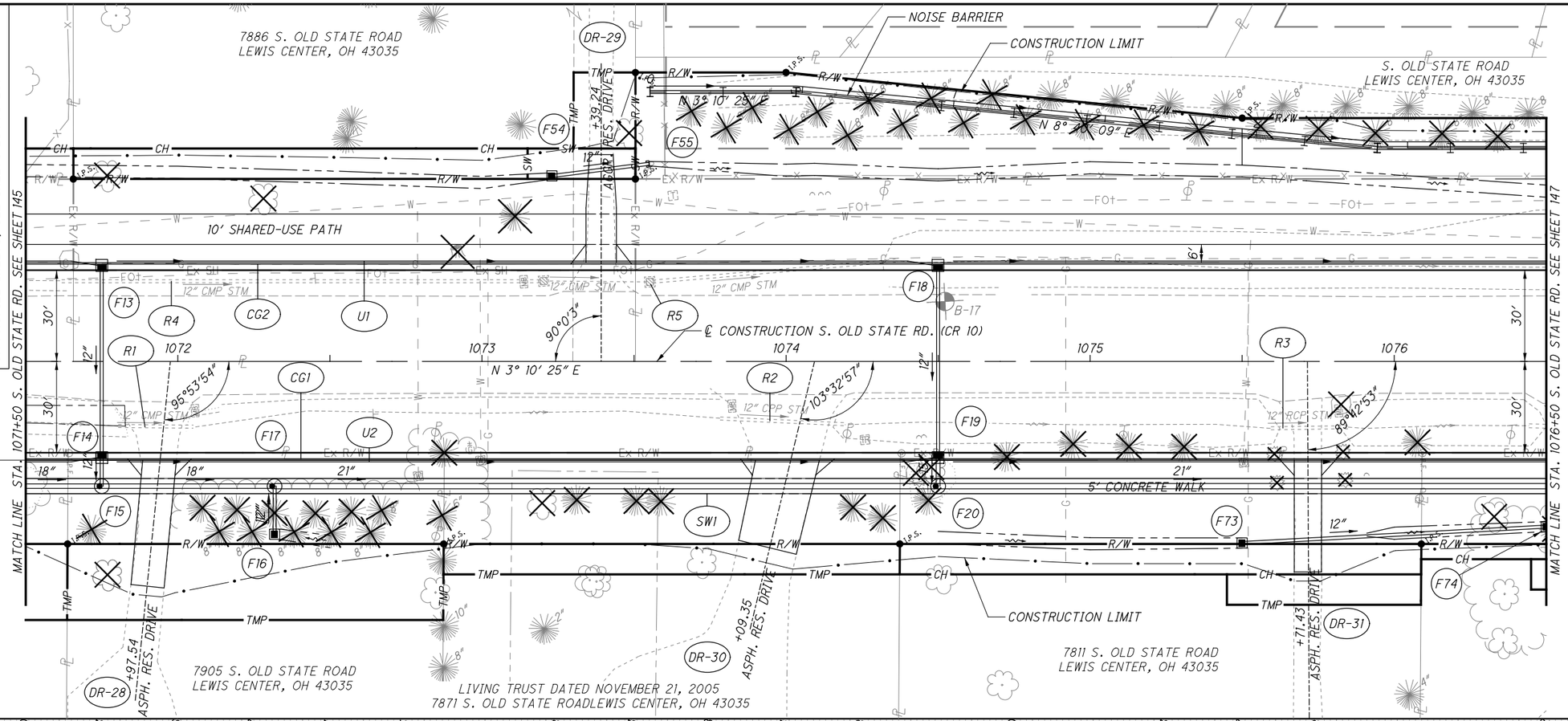
PLAN AND PROFILE S. OLD STATE RD. STA. 1066+50 TO STA. 1071+50

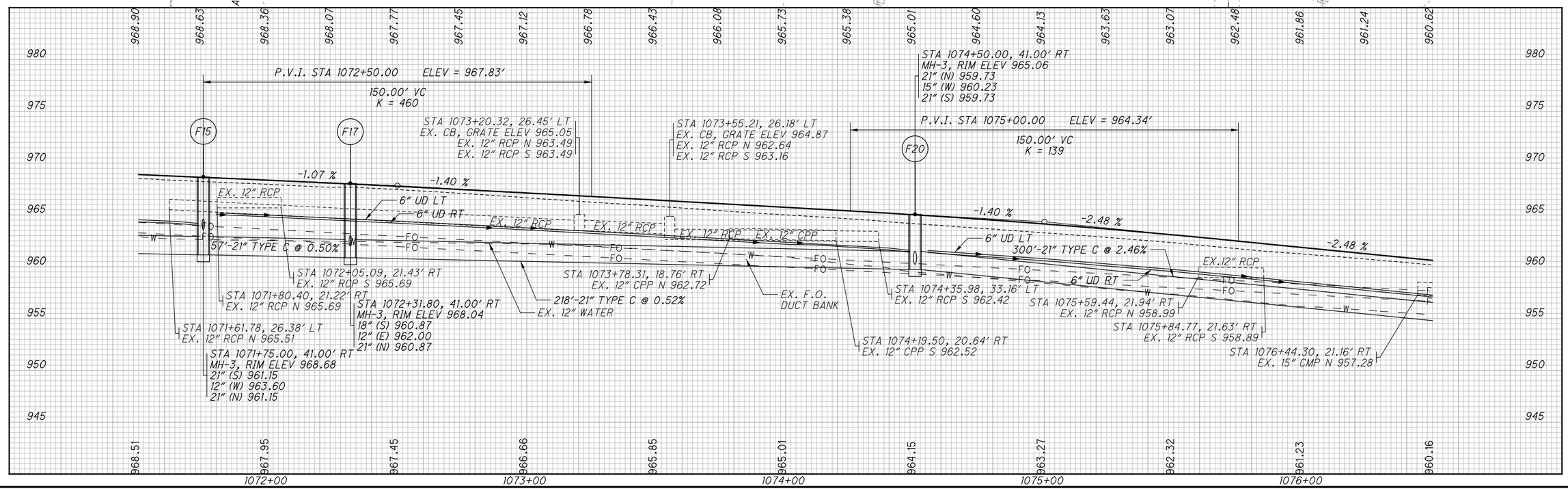
DEL-CR10-0.90

2952-DR.E

145
437

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS OR PROFILE SHEETS, SEE SHEETS 264 TO 267





PLAN AND PROFILE S. OLD STATE RD.
STA. 1071+50 TO STA. 1076+50

DEL-CR10-0.90

2952-DR.E

146
437

CALCULATED AWF/FGW
CHECKED PHF

HORIZONTAL SCALE IN FEET
0 10 20 40

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FOR BMP DETAILS, SEE SHEET 270

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
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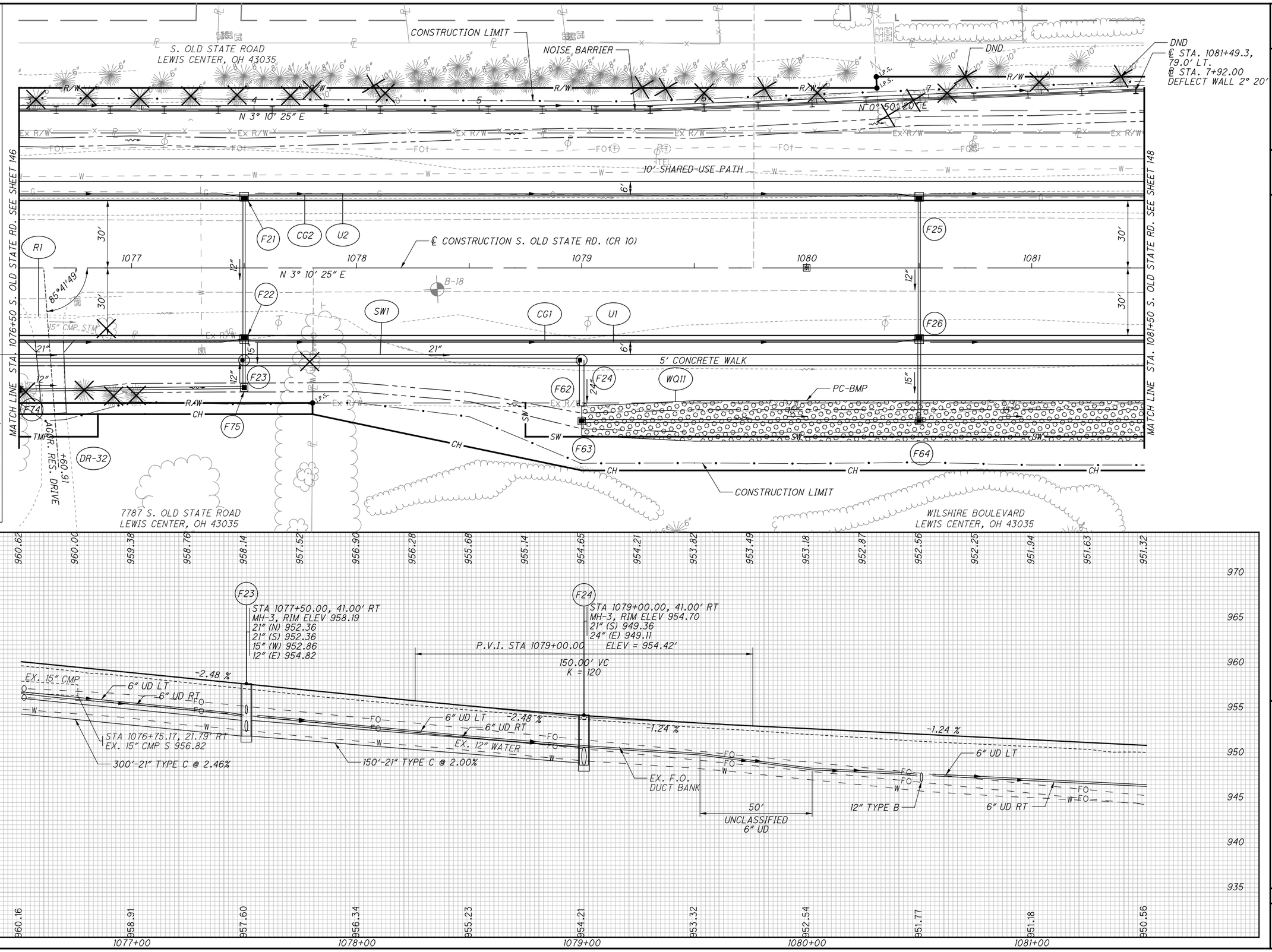
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267



CALCULATED AWF/FGW
CHECKED GEE

HORIZONTAL SCALE IN FEET
0 10 20 40

PLAN AND PROFILE S. OLD STATE RD. STA. 1076+50 TO STA. 1081+50

DEL-CR10-0.90

2952-DR.E

147
437

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FOR BMP DETAILS, SEE SHEET 270
FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292TO 302
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FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264TO 267

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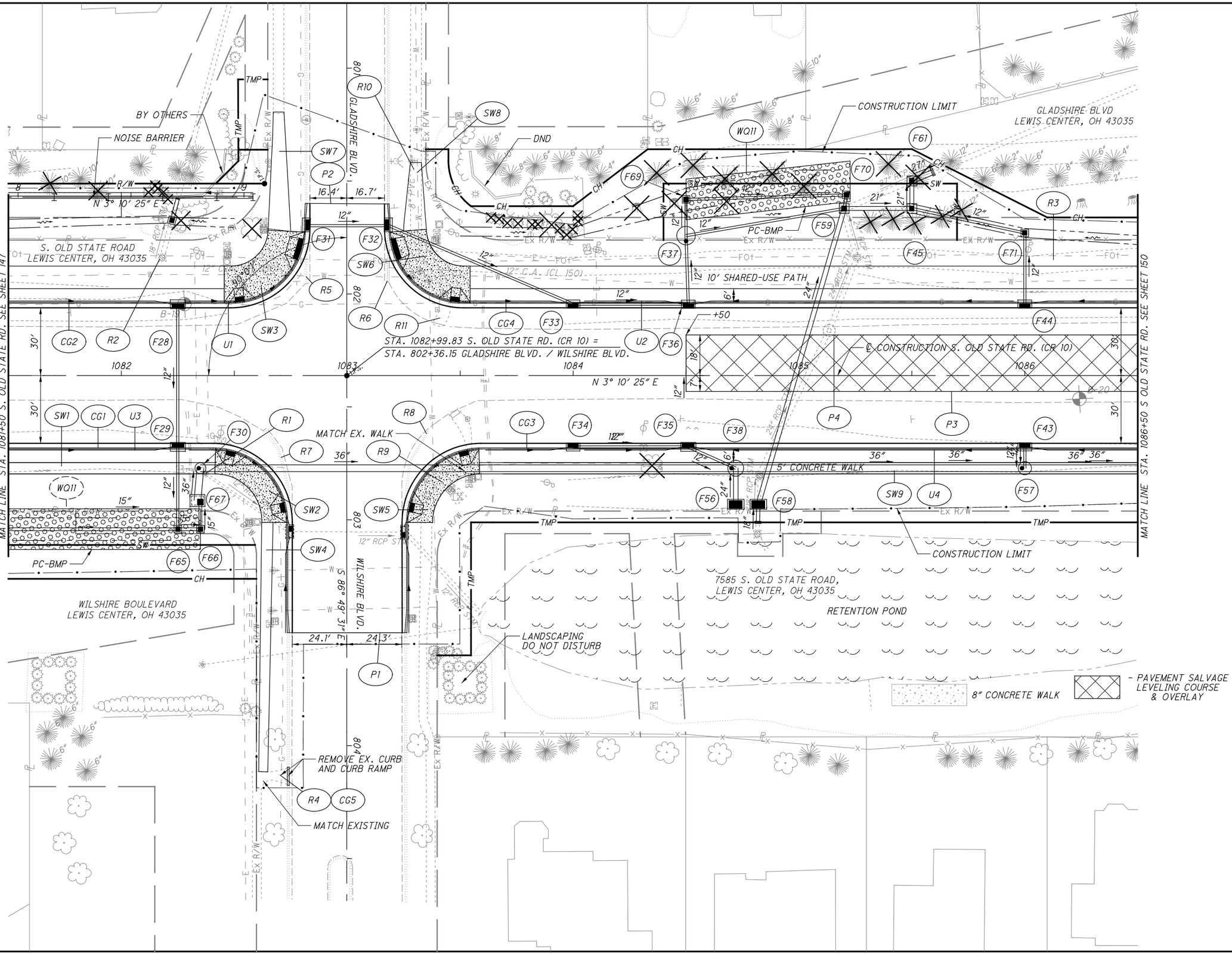


HORIZONTAL SCALE IN FEET
0 10 20 40

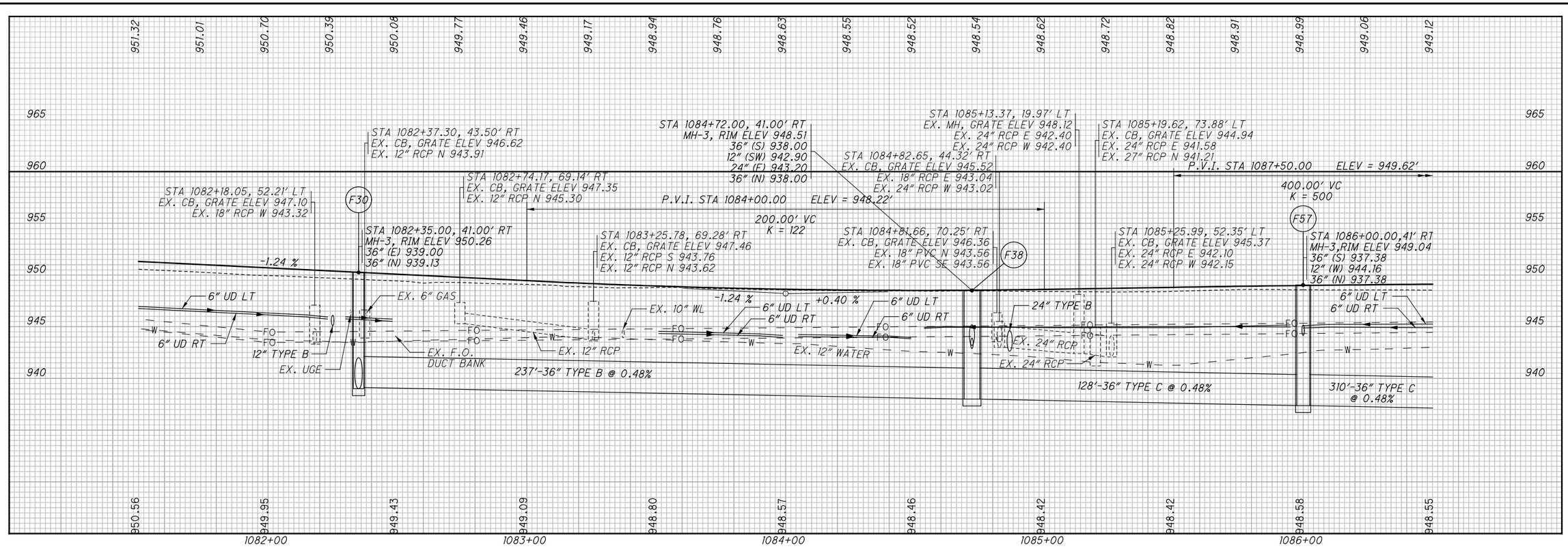
CALCULATED AWF/FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1081+50 TO STA. 1086+50

DEL-CR10-0.90

2952-DR.E

148
437



CALCULATED AWF
CHECKED PHF

PROFILE
STA. 1081+50 TO STA. 1086+50

DEL-CR10-0.90

2952-DR.E

149
437

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
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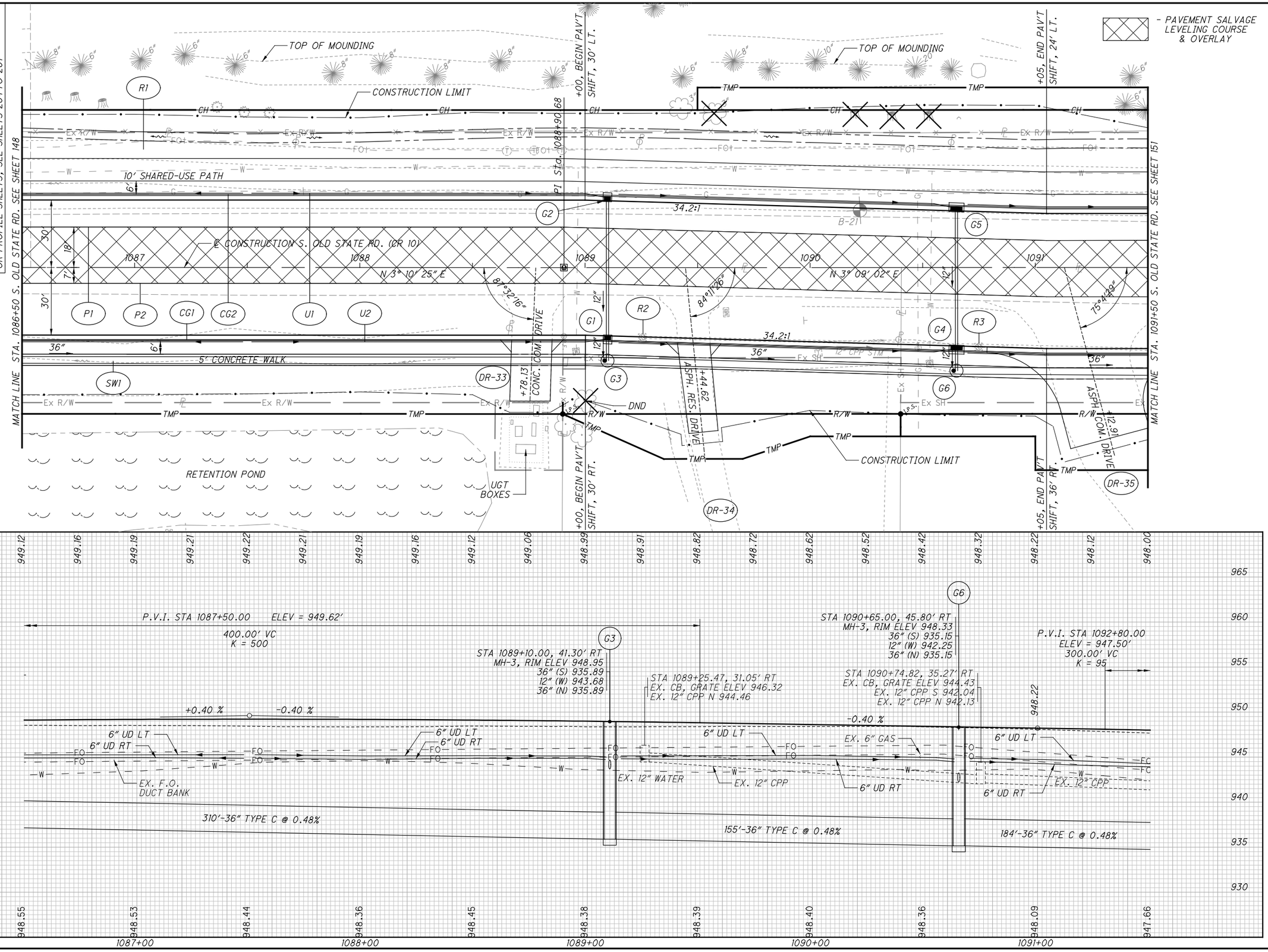
OR PROFILE SHEETS, SEE SHEETS 264 TO 267



PLAN AND PROFILE S. OLD STATE RD. STA. 1086+50 TO STA. 1091+50

DEL-CR10-0.90

2952-DR.E

150
437

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF/FGW
CHECKED PHF

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FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
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FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267

GLADSHIRE BLVD
LEWIS CENTER, OH 43035

EX. CLEAN OUT
TOP OF MOUNDING
CONSTRUCTION LIMIT
10' SHARED-USE PATH
ABANDON
MATCH LINE STA. 1091+50 S. OLD STATE RD. SEE SHEET 150
MATCH LINE STA. 1096+50 S. OLD STATE RD. SEE SHEET 152
℄ CONSTRUCTION S. OLD STATE RD. (CR 10)
N 3° 09' 02" E
88°34'35"
+75
+87, 32.5' LT, BEGIN SUP TAPER
AEP CENTRAL-EAST LIMA 345KV LINE
12" CPP STM
5' CONCRETE WALK
CONCRETE STEPS
+68.94 ASPH. RES. DRIVE
CONSTRUCTION LIMIT
+05.4, BEGIN 60' DROP TAPER, 36' RT.
POWER LINE TOWER DO NOT DISTURB
T-18
DETENTION BASIN
- PAVEMENT SALVAGE LEVELING COURSE & OVERLAY

P.V.I. STA 1092+80.00 ELEV = 947.50'
300.00' VC
K = 95
-0.40 %
-3.55 %
STA 1092+49.03, 38.54' RT
EX. CB, GRATE ELEV 942.25
EX. 12" CPP S 940.37
EX. 8" PVC E 940.60
EX. 12" RCP W 940.35
STA 1092+54.97, 49.74' LT
EX. CB, GRATE ELEV 941.11
EX. 12" RCP W 937.25
EX. 12" RCP E 938.37
6" UD RT
6" UD LT
EX. 12" CPP
EX. 12" RCP
EX. 12" WATER
EX. F.O. DUCT BANK
STA 1092+47.36, 75.31' RT
EX. 4" CPP E 941.46
184'-36" TYPE C @ 0.48%
STA 1092+47.30, 75.42' RT
EX. 8" PVC W 941.36
STA 1092+49.00, 47.00' RT
MH-3, RIM ELEV 946.76
36" (S) 934.27
12" (W) 940.04
36" (N) 934.27
8" (E) 940.78
STA 1094+19.92, 34.85' RT
EX. 12" CPP N 940.37
STA 1094+29.89, 35.11' RT
EX. 12" CPP S 940.09
251'-36" TYPE C @ 0.70%
STA 1094+55.66, 34.77' RT
EX. 12" CPP N 939.23
STA 1095+00.00, 47.00' RT
MH-3, RIM ELEV 939.60
36" (S) 932.51
36" (N) 932.51
STA 1094+85.16, 35.00' RT
EX. 12" CPP S 938.75
P.V.I. STA 1098+45.23
ELEV = 927.45'
470.00' VC
K = 80
200'-36" TYPE C @ 2.25%

PLAN AND PROFILE S. OLD STATE RD.
STA. 1091+50 TO STA. 1096+50

DEL-CR10-0.90

CALCULATED AWF/FGW
CHECKED PHF

HORIZONTAL SCALE IN FEET
0 10 20 40

2952-DR.E

151
437

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FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267

GLADSHIRE BOULEVARD,
LEWIS CENTER, OH 43035

FOR ORANGE ROAD PLAN AND
PROFILE, SEE SHEETS 238 AND 239

7338 S. OLD STATE ROAD,
LEWIS CENTER, OH 43035

8" CONCRETE WALK

+00, 29.5' LT.
END SUP TAPER

10' SHARED-USE PATH

FENCE PER RM 5.2

CONSTRUCTION LIMIT

℄ CONSTRUCTION S. OLD STATE RD. (CR 10)

P1 Sta. 1099+99.94
S 86° 34' 56" E
026' EAST ORANGE ROAD

PI Sta. 920+32.59
N 3° 00' 05" E

STA. 1099+99.94 S. OLD STATE RD. (CR 10) =
STA. 920+32.59 E. ORANGE RD.

B-23
N 3° 09' 02" E

5' CONCRETE WALK

CONSTRUCTION LIMIT

MATCH LINE STA. 1096+50 S. OLD STATE RD. SEE SHEET 151

MATCH LINE STA. 1101+50 S. OLD STATE RD. SEE SHEET 153

MATCH EXISTING
SHARED-USE PATH

54.4, END DROP
TAPER 48' RT

P.V.I. STA 1098+45.23 ELEV = 927.45'
470.00' VC
K = 80

STA 1096+64.44, 58.74' LT
EX. SAN MH, GRATE ELEV 936.49
EX. 10" PVC N 912.49
EX. 10" PVC S 912.49
EX. 10" PVC W 913.49
EX. 8" PVC W 916.64
EX. 8" PVC SW 921.24

STA 1097+00.00, 59.00' RT
MH-3, RIM ELEV 932.77
36" (S) 928.00
36" (W) 928.00

6" UD LT
6" UD RT

200'-36"
TYPE C
@ 2.25%

EX. F.O.
DUCT BANK

EX. 90" RCP

6" UD LT
6" UD RT

-3.55 %

STA 1098+41.00, 26.00' LT
CB-3, GRATE ELEV 930.28
12" (N) 926.28
6" UD (S) 927.19

50'-12" TYPE B
@ 0.60%

STA 1098+96.41, 42.27' RT
EX. 6.0" PVC W 927.15

+2.40 %

STA 1098+91.00, 26.00' LT
CB-3, GRATE ELEV 929.55
12" (S) 925.98
15" (W) 924.41
12" (E) 924.66
6" UD (N&S) 927.01

EX. 12" WL

STA 1099+37.88, 66.27' LT
EX. SAN MH, GRATE ELEV 929.96
EX. 18" PVC E 909.26
EX. 10" PVC W 910.33
EX. 10" PVC S 910.01

EX. 6" WL

STA 1100+32.43, 58.07' RT
EX. CB, GRATE ELEV 930.75
EX. 18" RCP E 925.90
EX. 12" RCP W 928.05
EX. 12" RCP N 926.38

STA 1100+28.33, 28.00' LT
EX. CB, GRATE ELEV 932.32
EX. 12" CPP NE 929.62
EX. 10" CPP W 929.66
EX. 12" RCP E 929.62

STA 1100+32.17, 48.19' RT
MH-3, RIM ELEV 930.92
18" (E) 926.83
15" (N) 927.08
12" (W) 928.20

STA 1100+97.76, 11.24' LT
EX. CB, GRATE ELEV 933.40
EX. 12" CPP S 929.80

STA 1101+00.00,
38.00' RT
CB-3A,
GRATE ELEV 933.07
15" (S) 927.42
15" (N) 927.42
6" UD (N) 929.90

6" UD LT
EX. 12" WATER
6" UD RT

69'-15" TYPE B @ 0.50%

100'-15" TYPE B
@ 2.40%

EX. 12" CPP

EX. 12" RCP

STA 1100+78.29, 52.81' RT
EX. 12" RCP S 929.14

EX. 10" PVC

934.48 933.75 933.11 932.55 932.06 931.66 931.33 931.09 930.92 930.83 930.82 930.89 931.04 931.27 931.57 931.96 932.42 932.97 933.57 934.17 934.77

934.45 932.95 931.75 930.94 930.49 930.57 931.15 931.59 932.61 933.63 934.93

950 945 940 935 930 925 920 915

1097+00 1098+00 1099+00 1100+00 1101+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF/FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1096+50 TO STA. 1101+50

DEL-CR10-0.90

2952-DR.E

152
437

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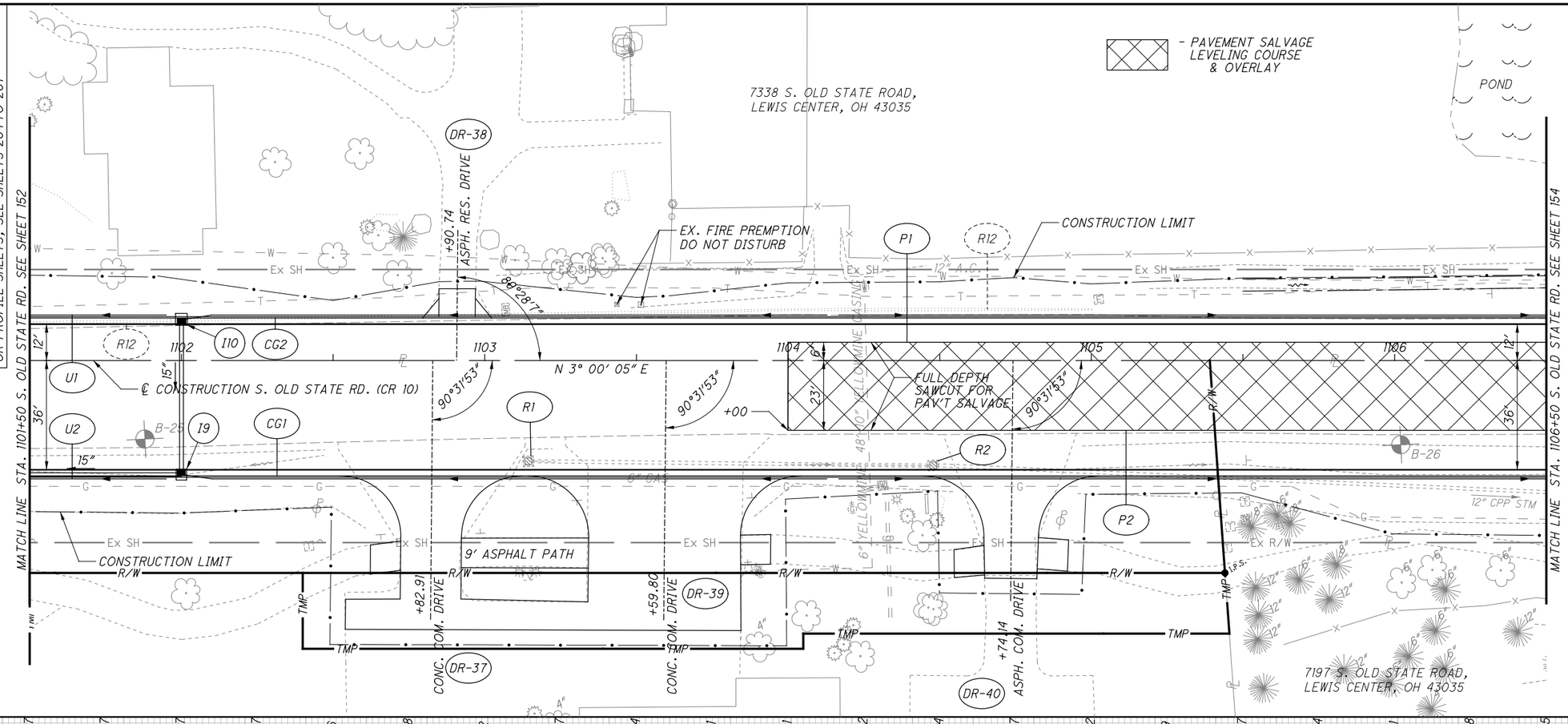
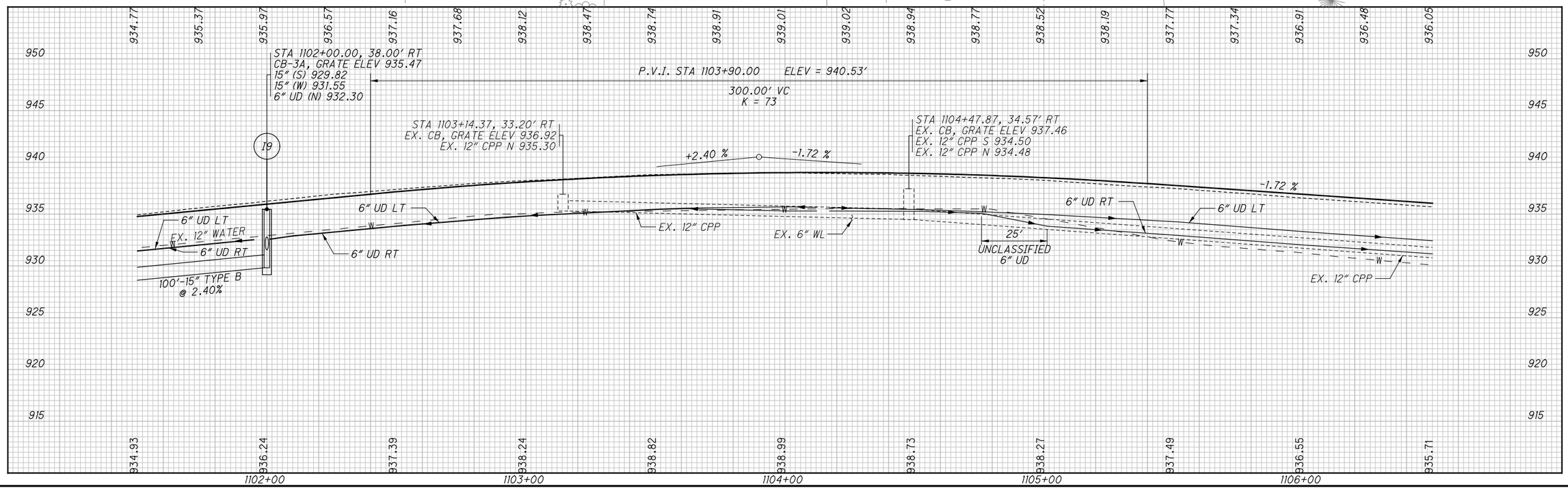
FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267





PLAN AND PROFILE S. OLD STATE RD.
STA. 1101+50 TO STA. 1106+50

DEL-CR10-0.90

2952-DR.E

153
437

CALCULATED AWF/FGW
CHECKED PHF

HORIZONTAL SCALE IN FEET
0 10 20 40

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FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
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FOR SEWER PROFILES NOT ON CROSS SECTIONS
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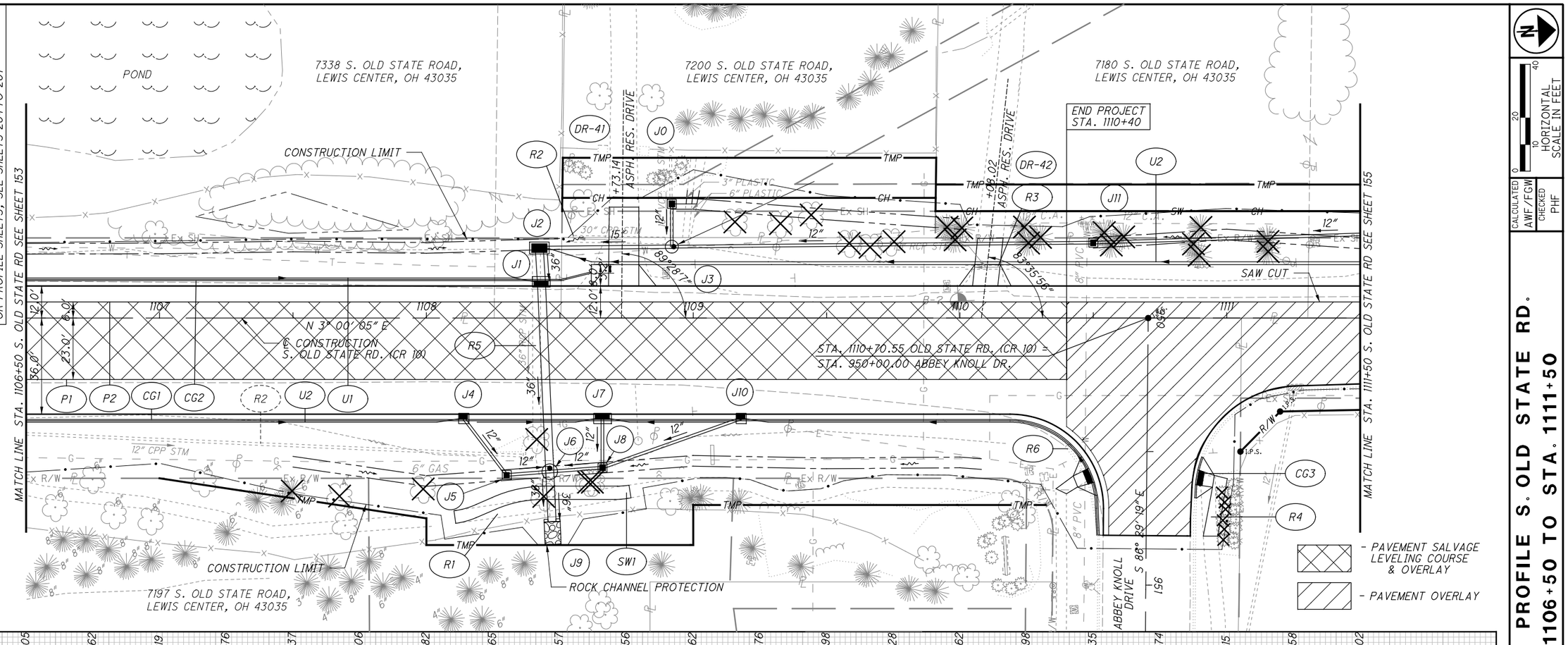

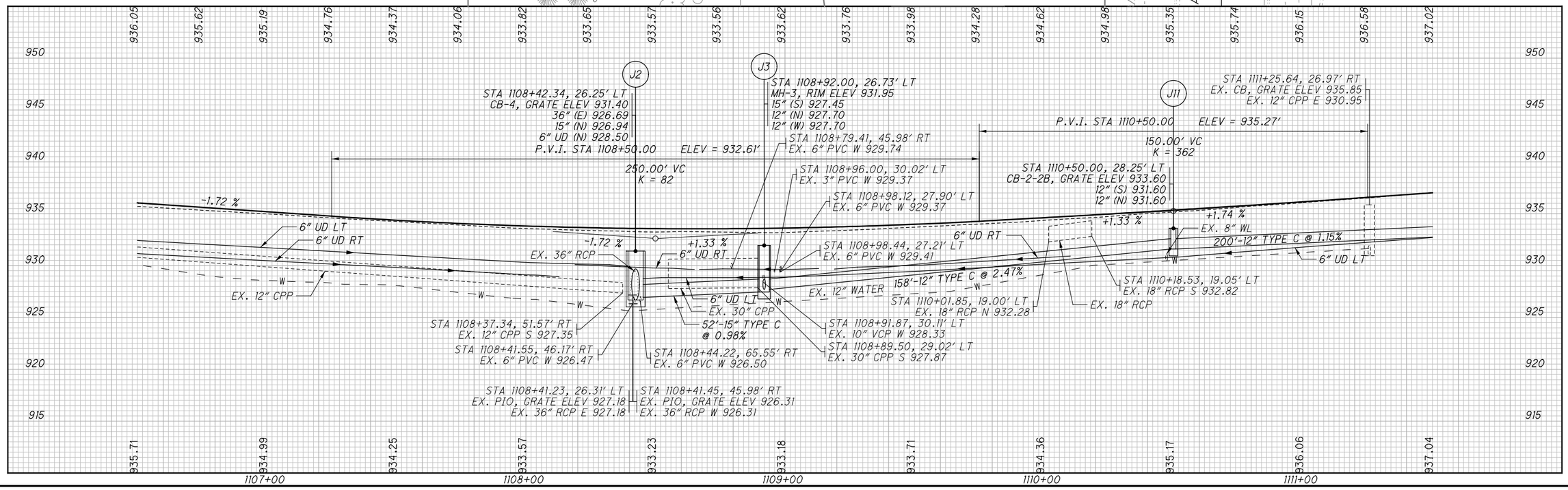

PLAN AND PROFILE S. OLD STATE RD.
STA. 1106+50 TO STA. 1111+50

DEL-CR10-0.90

2952-DR.E

154
437

CALCULATED AWF/FGW
CHECKED PHF

HORIZONTAL SCALE IN FEET
0 10 20 40

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FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 282 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
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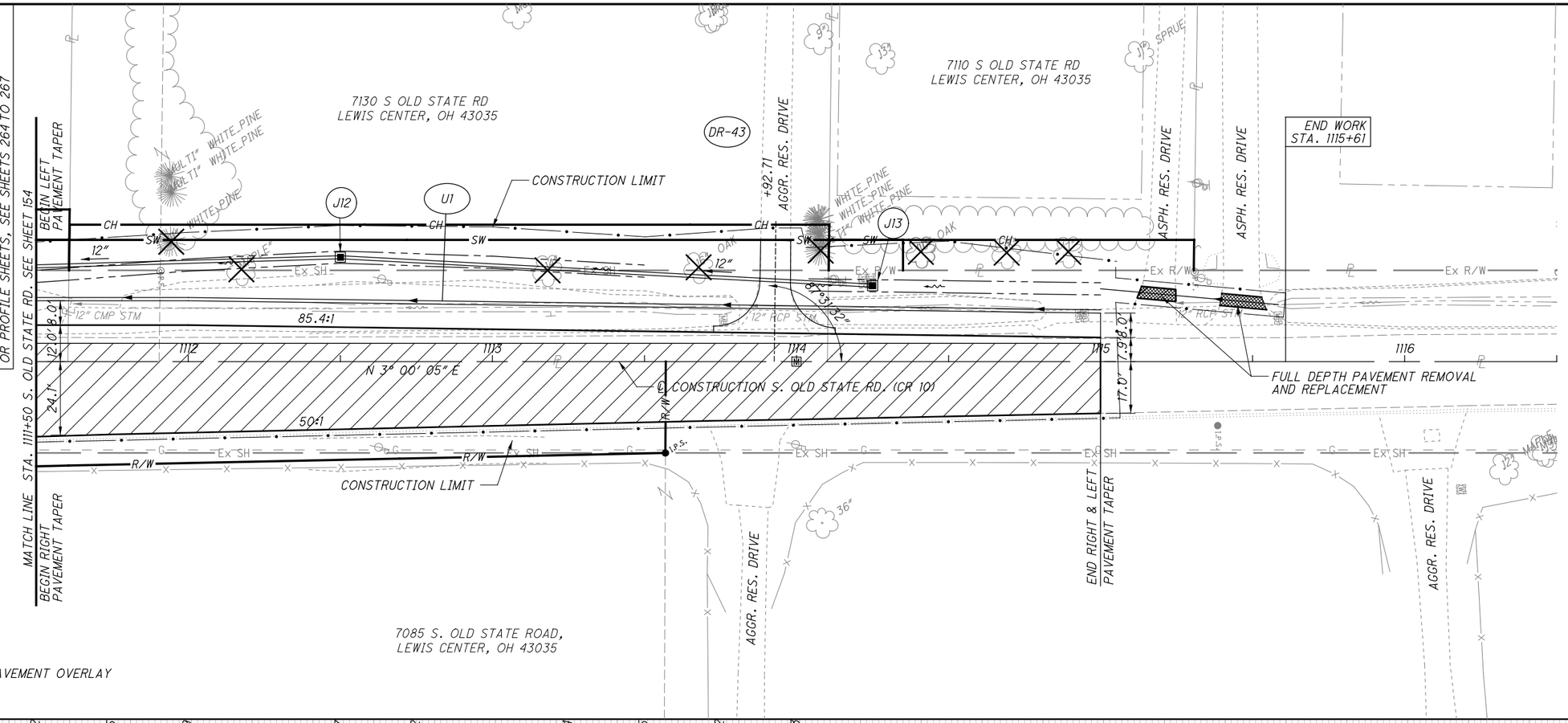

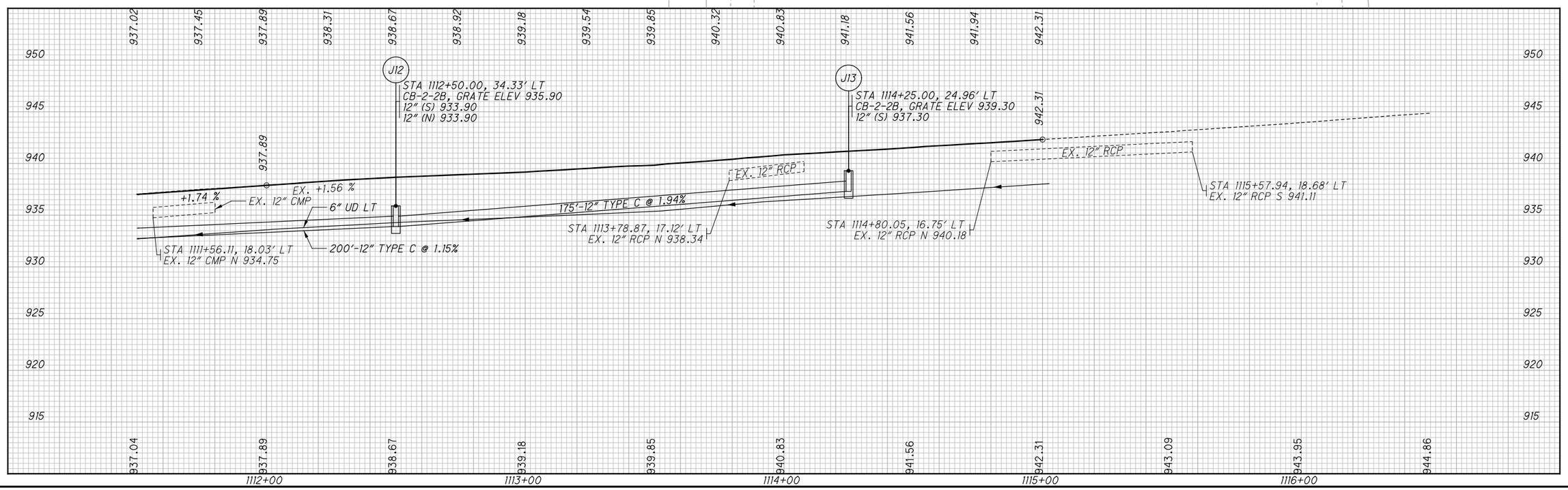

HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED FGW
CHECKED PHF

PLAN AND PROFILE S. OLD STATE RD.
STA. 1111+50 TO STA. 1116+50

DEL-CR10-0.90

2952-DR.E

155
437

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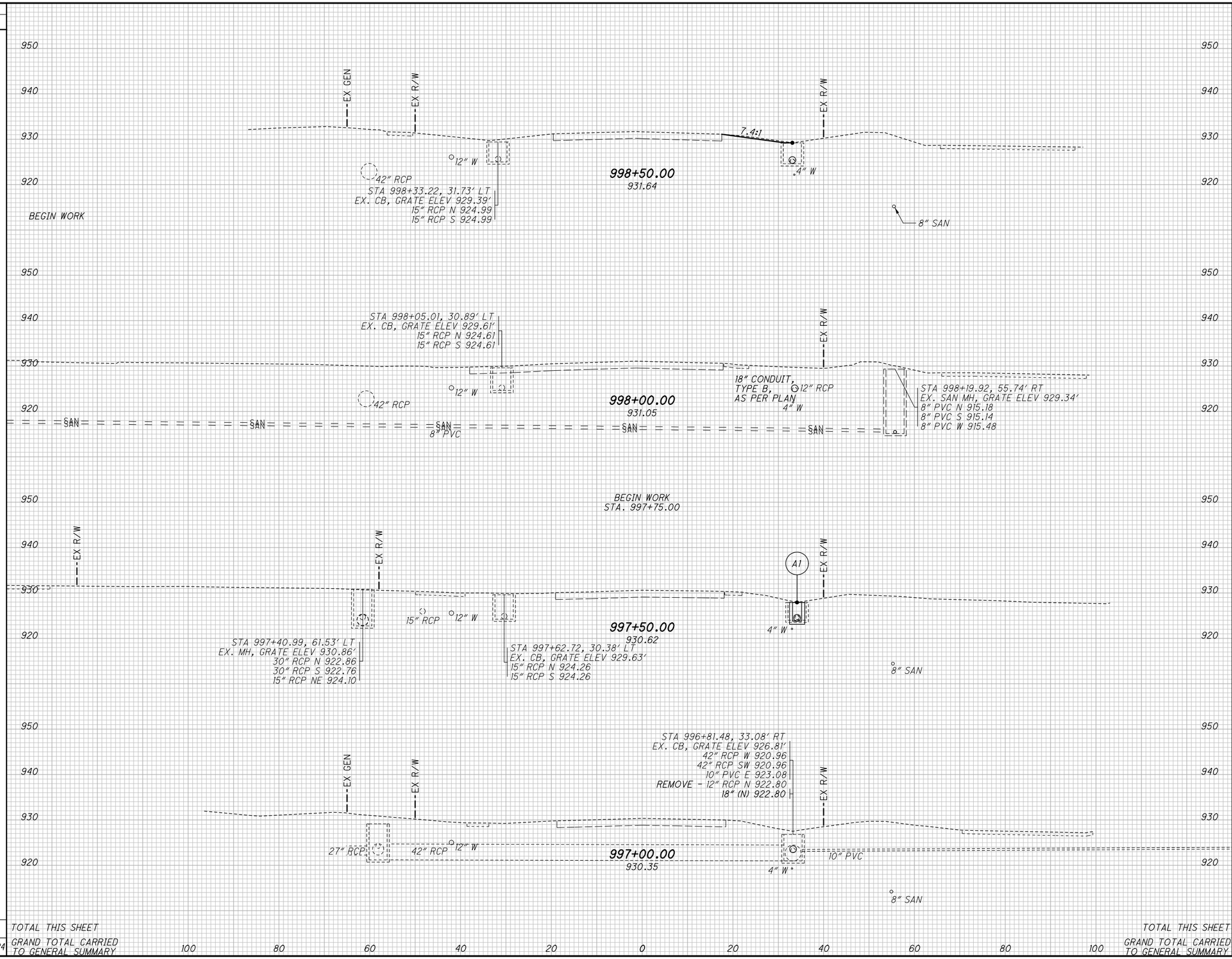
SEEDING	
END WIDTH	SQ. YDS.
22	
0	TOTAL THIS SHEET
69,124	GRAND TOTAL CARRIED TO GENERAL SUMMARY



END AREA		VOLUME	
CUT	FILL	CUT	FILL
13	0		
0	0		
42,413	28,036		

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 997+00.00 TO STA. 998+50.00

DEL-CR10-0.90

2952-DR.E

156
437

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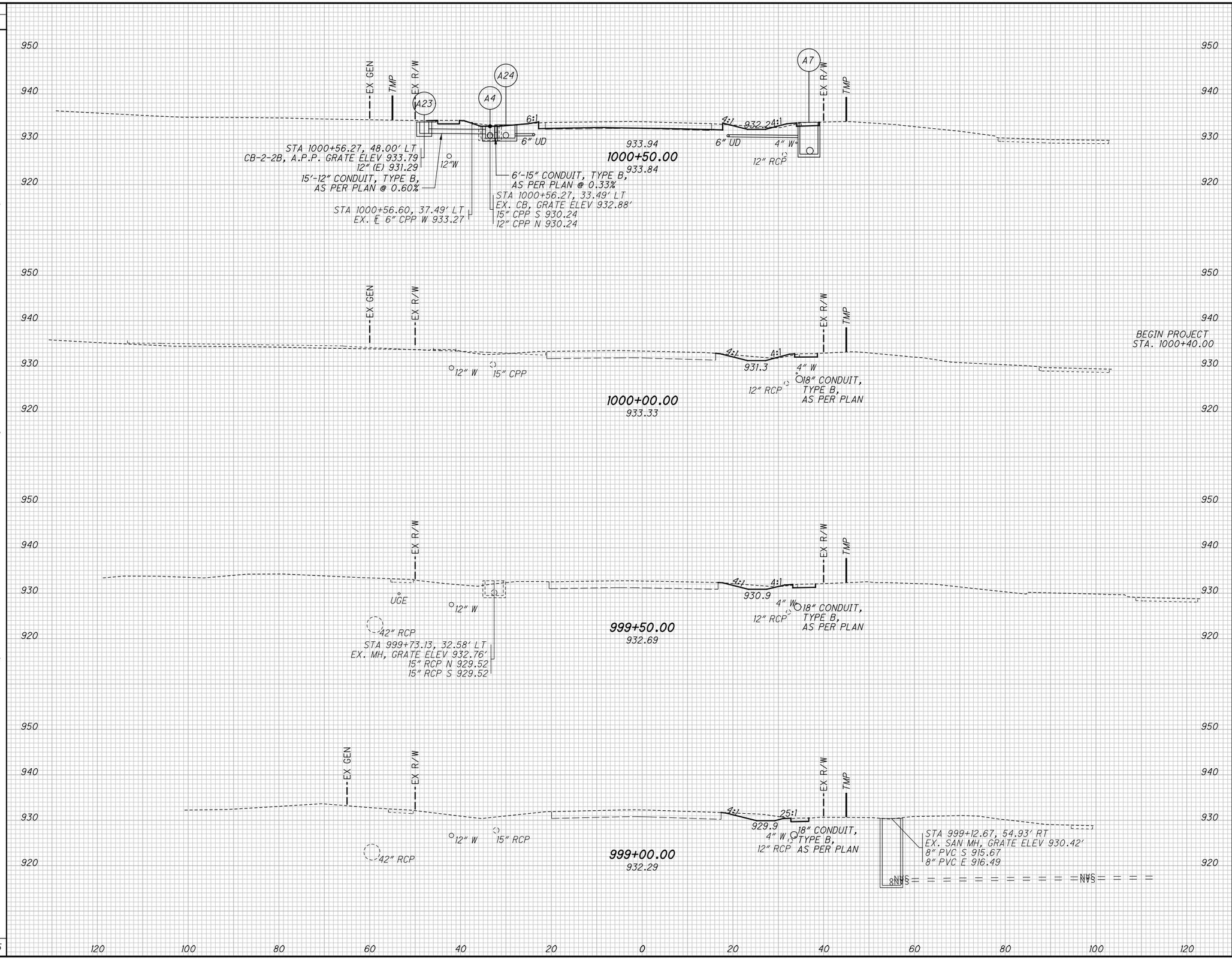
SEEDING END WIDTH	SEEDING SQ. YDS.
44	195
25	139
25	133
23	128
	595



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
65	2	81	2
23	0	40	0
20	0	31	0
14	0	25	0
		177	2

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 999+00.00 TO STA. 1000+50.00

DEL-CR10-0.90

2952-DR.E

157
437

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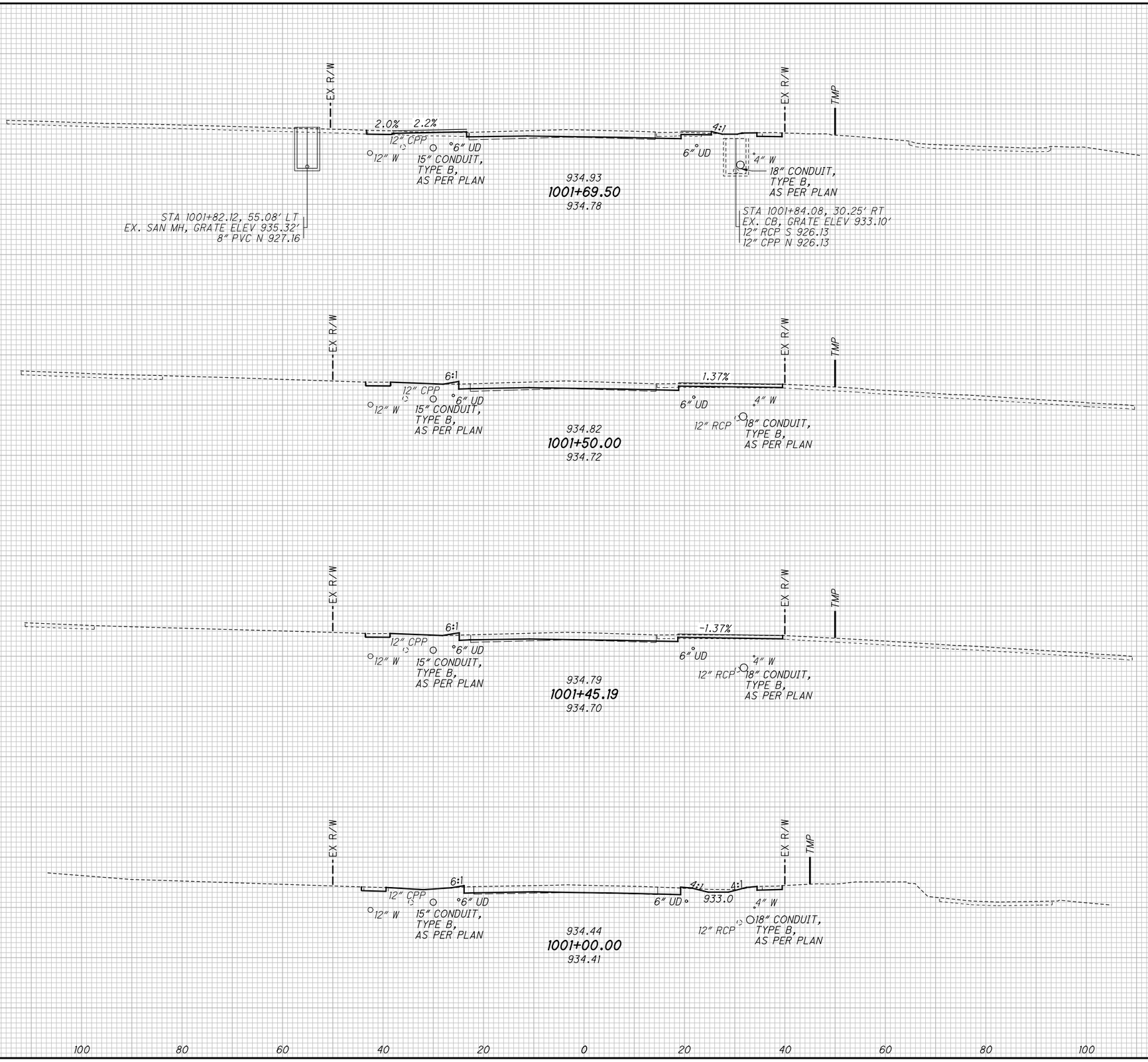
SEEDING END WIDTH	SEEDING SQ. YDS.
	17
	43
	22
	12
	22
	155
	39
	233
	443



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
62	1		
		47	1
69	1		
		12	0
70	1		
		114	2
66	1		
		121	3
		294	6

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1001+00.00 TO STA. 1001+69.50

DEL-CR10-0.90

2952-DR.E

158
437

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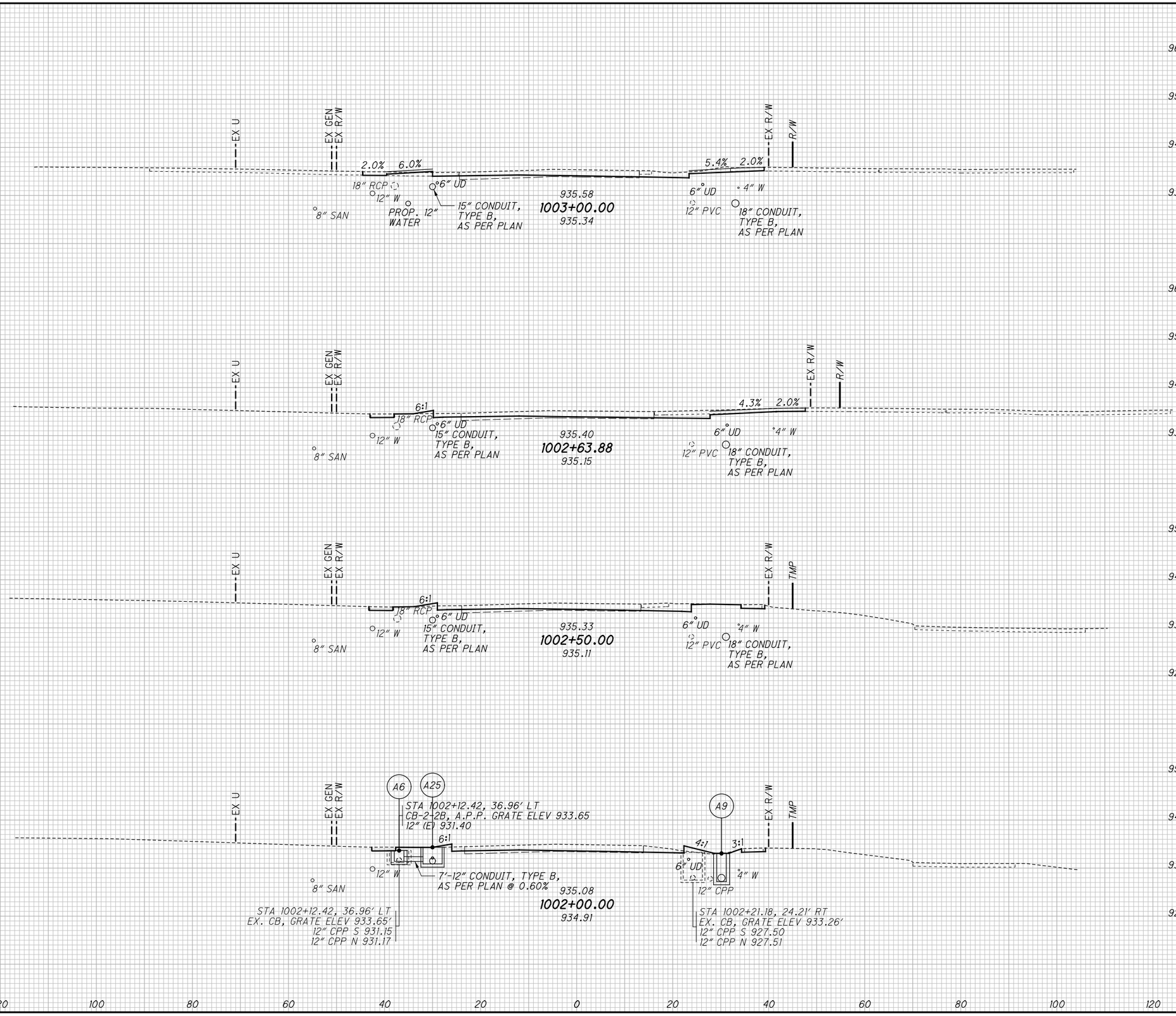
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	32	73	0	106	1
16	34	85	1	40	1
27	166	70	2	121	7
32	85	61	6	69	4
	317			336	13

CALCULATED AWF

CHECKED PHF



CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1002+00.00 TO STA. 1003+00.00

DEL-CR10-0.90

2952-DR.E

159
437

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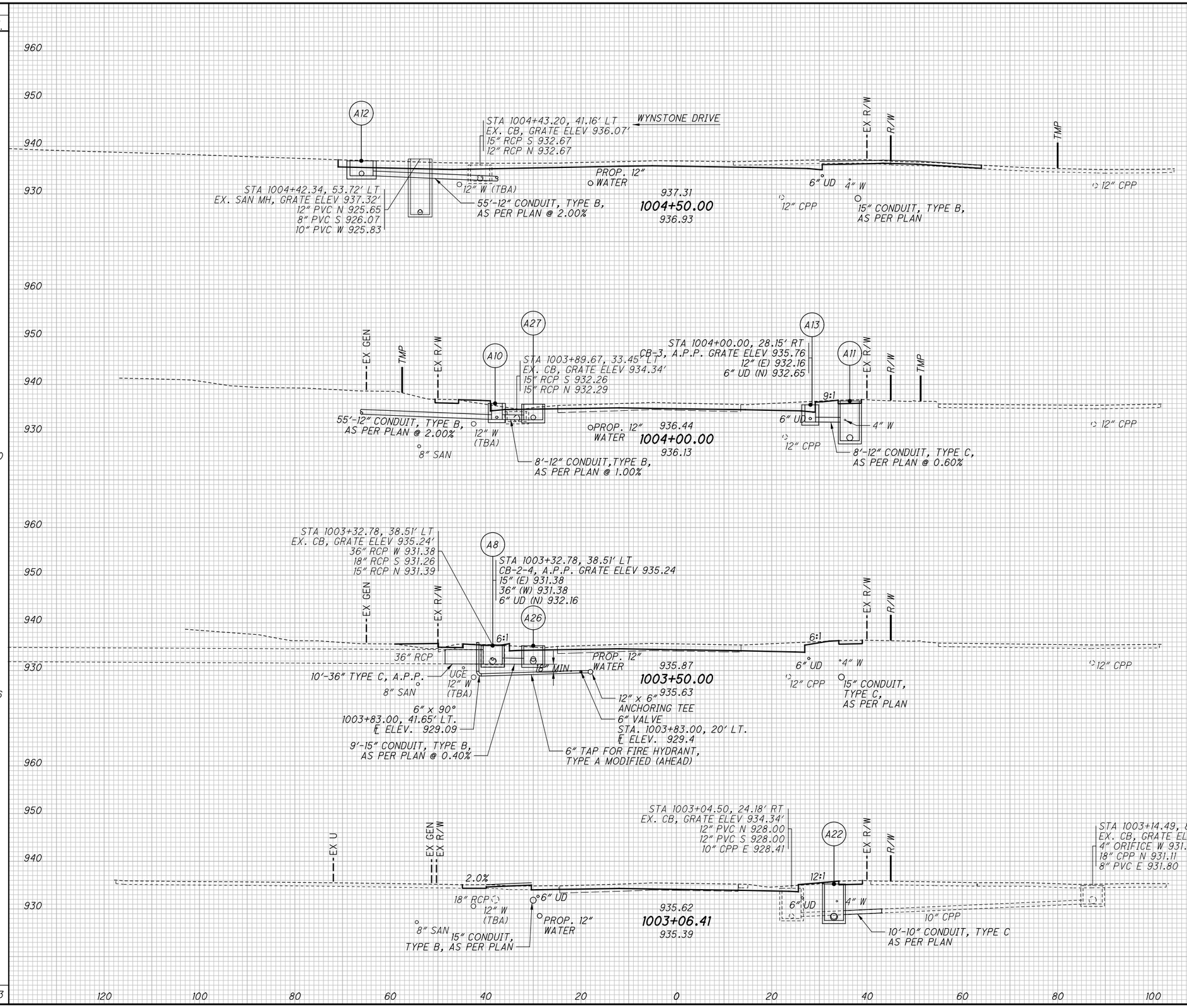
SEEDING END WIDTH	SEEDING SQ. YDS.
0	
	61
20	
	150
34	
	126
17	
6	
	343



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
148	0		
		209	3
78	3		
		144	9
78	7		
		118	7
68	2		
		17	0
		488	19

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1003+06.41 TO STA. 1004+50.00

DEL-CR10-0.90

2952-DR.E

160
437

SEEDING END WIDTH	SEEDING SQ. YDS.
54	300
54	250
35	69
0	0
	619

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
95	32	143	78
59	52	114	77
64	31	145	20
166	0	92	0
		494	175

CALCULATED AWF

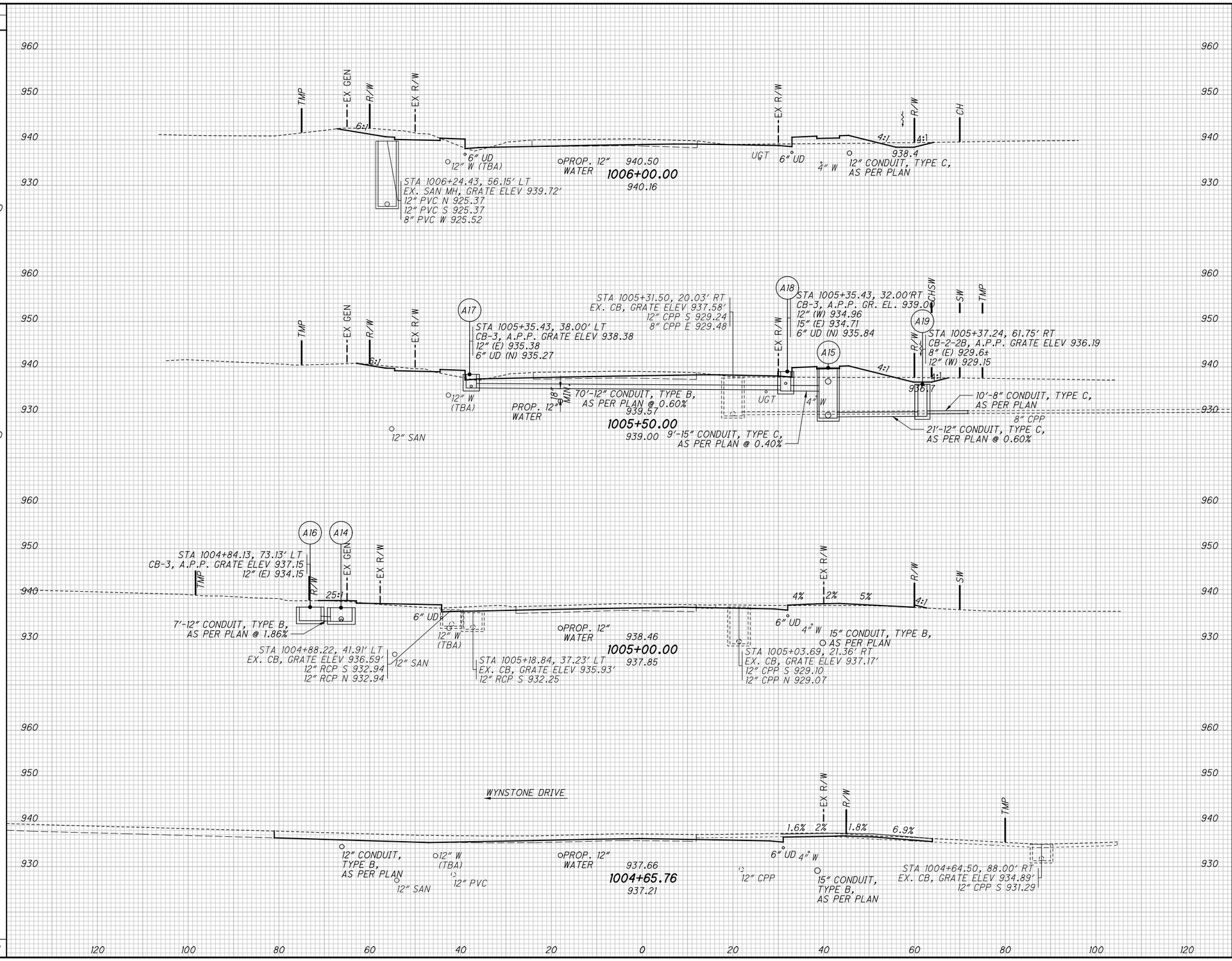
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1004+65.87 TO STA. 1006+00.00

DEL-CR10-0.90

2952-DR.E

161
437



CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1006+50.00 TO STA. 1007+37.00

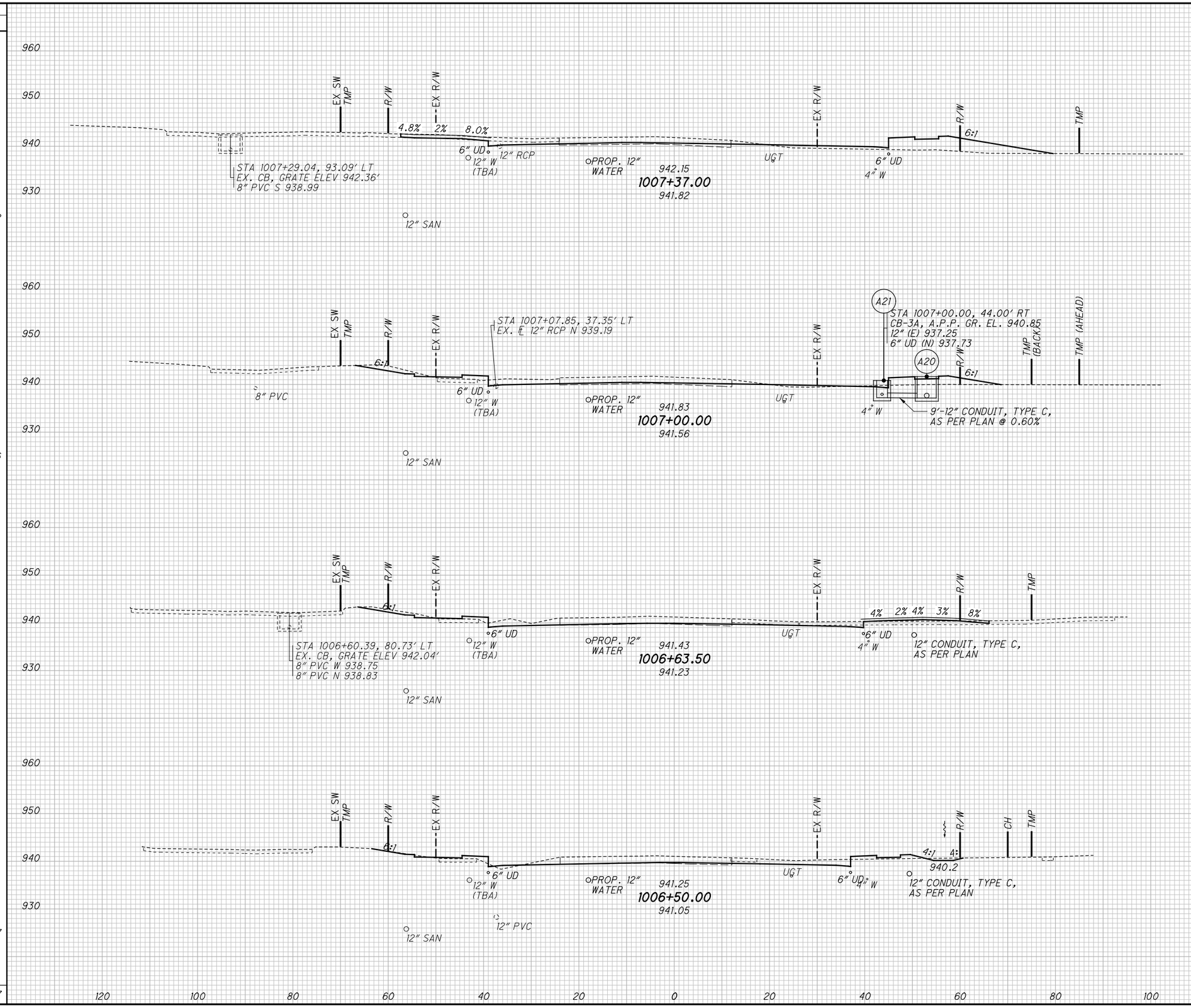
DEL-CR10-0.90

2952-DR.E

162
437

CALCULATED AWF

CHECKED PHF



SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
38	172	76	81	103	82
45	146	74	39	116	32
26	52	98	8	46	6
42	267	85	16	167	44
	637			432	164

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	119	119	2	160	30
53	311	98	39	156	105
59	311	71	74	128	139
52	66	67	76	34	38
	807			655	312

CALCULATED AWF

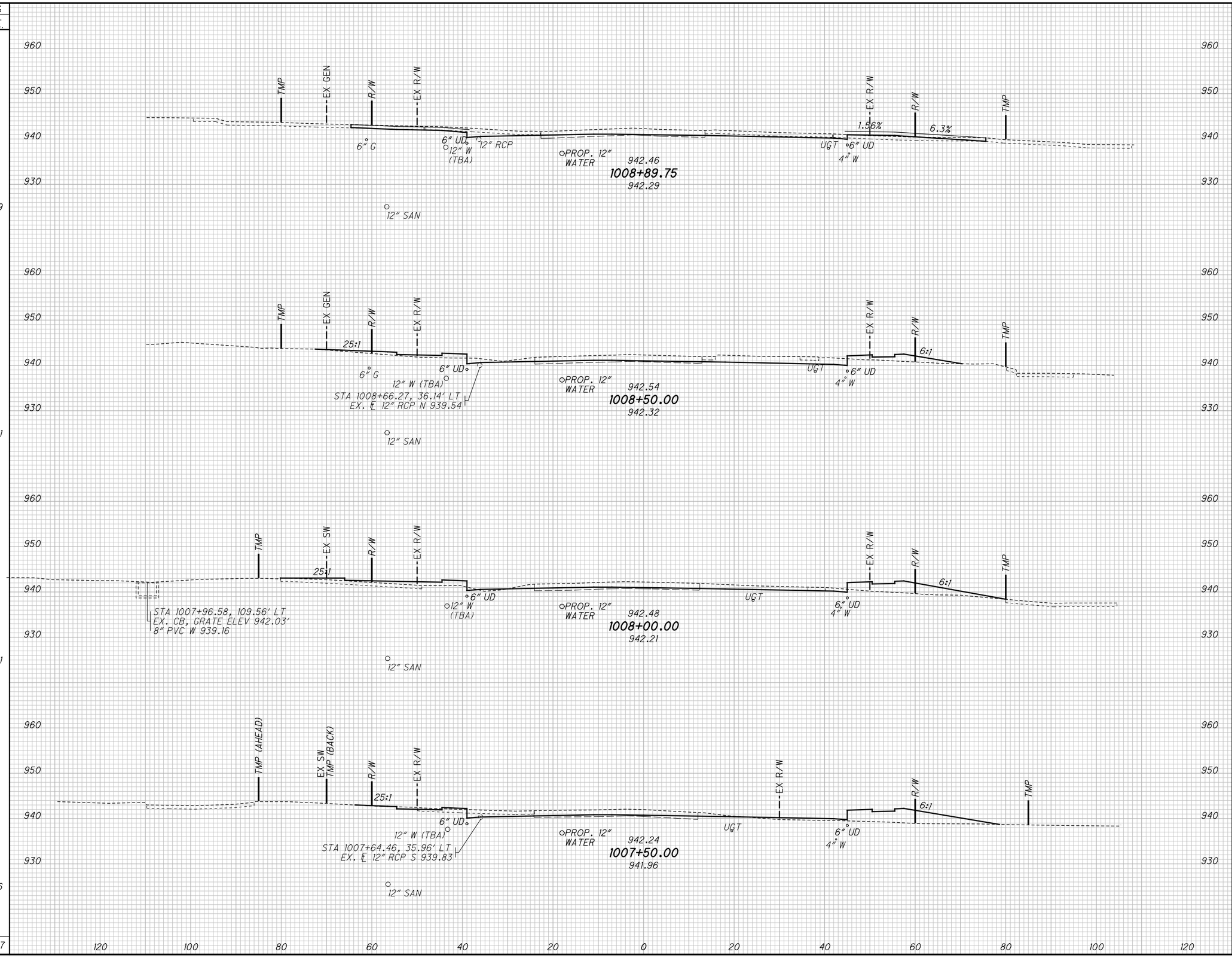
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1007+50.00 TO STA. 1008+89.75

DEL-CR10-0.90

2952-DR.E

163
437



SEEDING END WIDTH	SEEDING SQ. YDS.
49	300
58	322
58	161
0	0
	783

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
67	141	143	250
87	129	177	177
104	62	206	58
119	1	45	1
		571	486

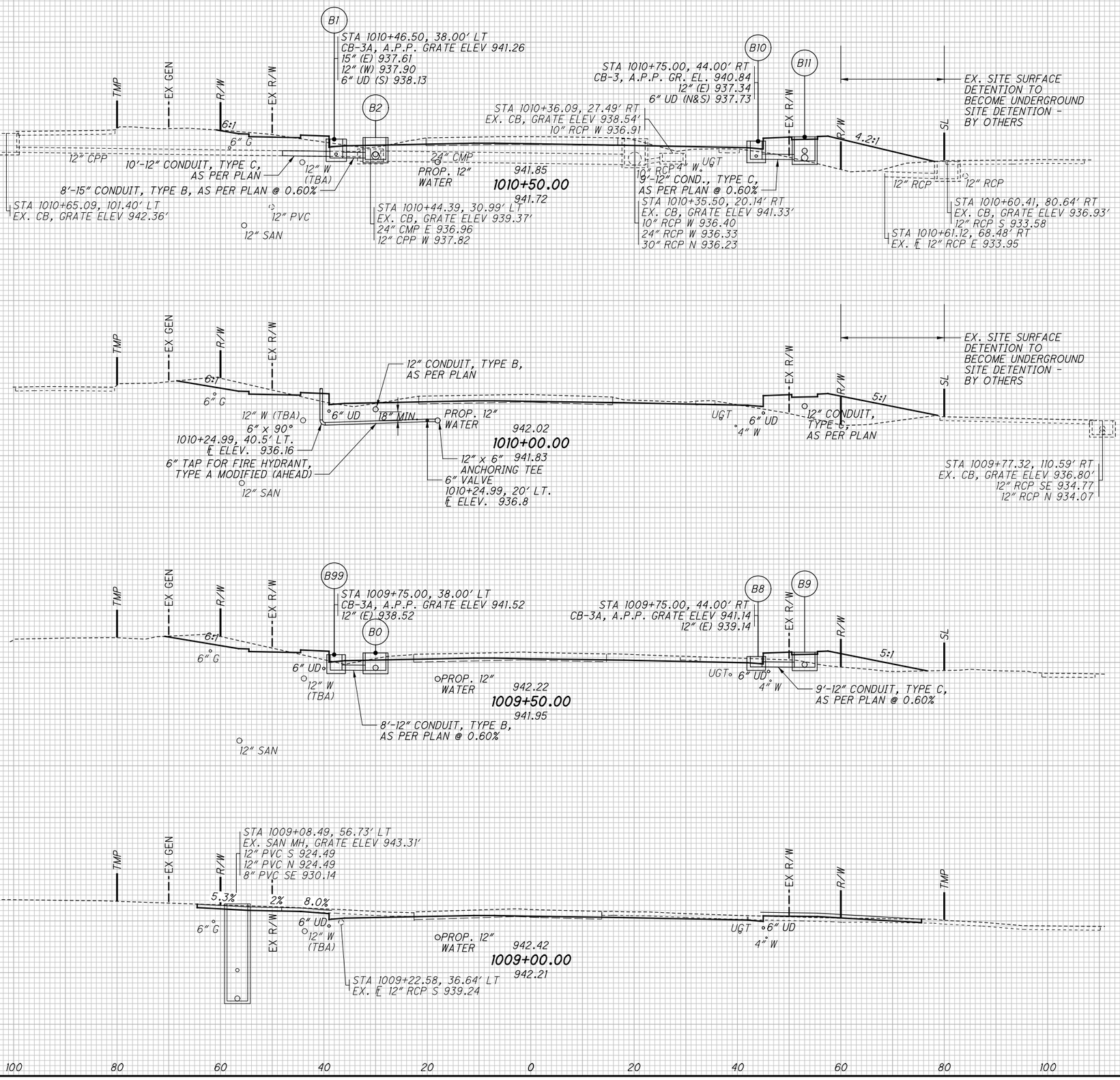
CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1009+00.00 TO STA. 1010+50.00

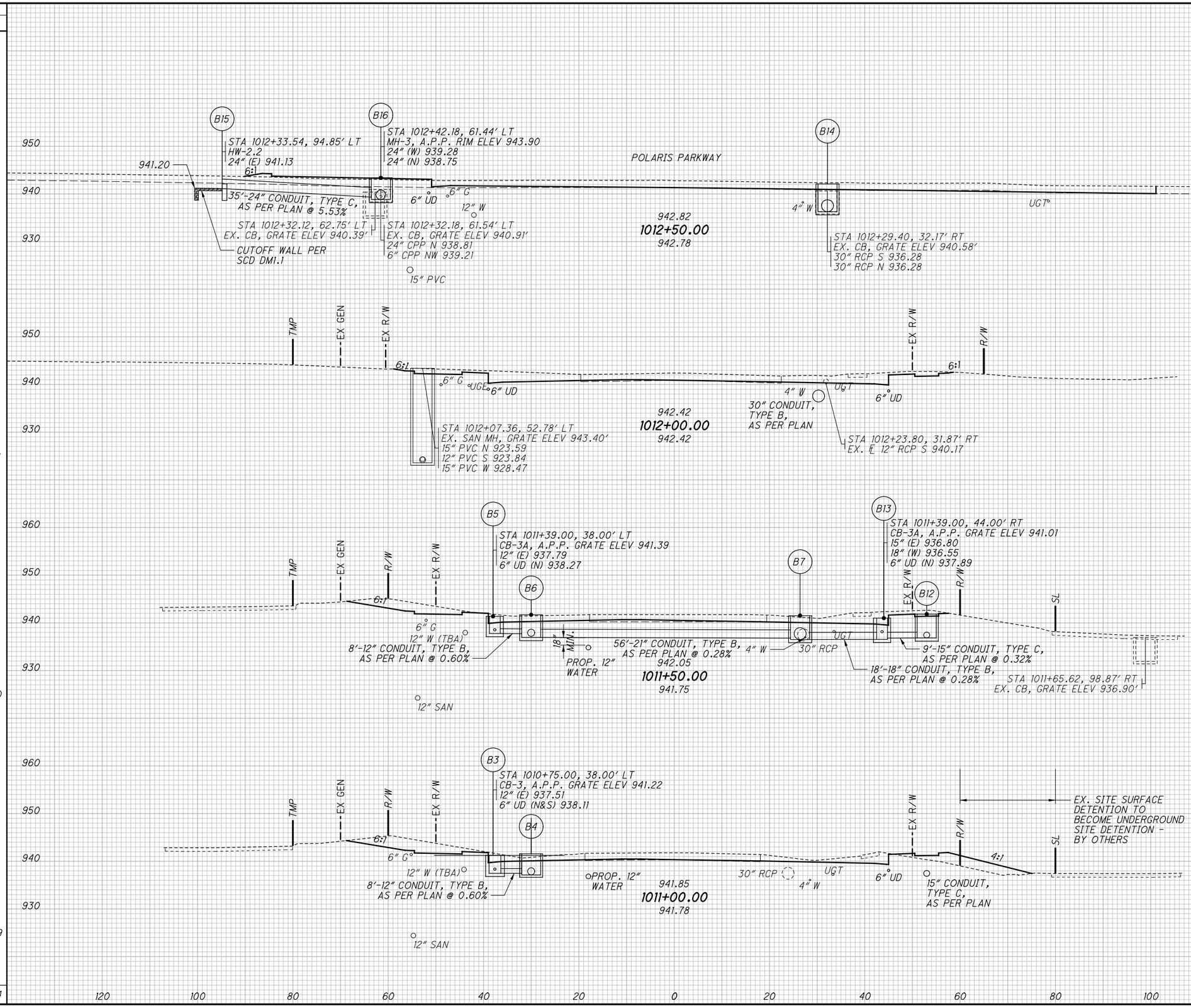
DEL-CR10-0.90

2952-DR.E

164
437



SEEDING END WIDTH	SEEDING SQ. YDS.
14	117
27	178
36	250
54	289
	834



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
216	11		
		344	10
155	0		
		295	0
164	0		
		293	37
152	40		
		203	168
		1,135	215

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1011+00.00 TO STA. 1012+50.00

DEL-CR10-0.90

2952-DR.E

165
437

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SEEDING	
END WIDTH	SQ. YDS.
85	389
54	
14	194
0	39
	661

END AREA	
CUT	FILL
57	270
50	140
211	139
178	10
489	9
350	0
524	10
1,323	538

VOLUME	
CUT	FILL
99	380

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1013+00.00 TO STA. 1014+50.00

DEL-CR10-0.90

2952-DR.E

166
437

960 950 940 930

TMP EX SW EX R/W EX SW EX W EX G EX R/W B42 2:1 16" W 6" G 6" UD 12" PVC 10'-12" CONDUIT, TYPE B, AS PER PLAN 8" SAN STA 1014+47.02, 26.86' LT EX. CB, GRATE ELEV 942.43' 24" RCP N 936.78 30" RCP S 936.38 12" PVC SW 937.80 944.85 1014+50.00 944.08 EX GEN 18" RCP 4" W EX. T.O. DUCT BANK 6" UD EX R/W EX GEN 12" SAN 15:1 4% EX GEN MATCHLINE SEE DETENTION BASIN GRADING PLAN, SHEET 278

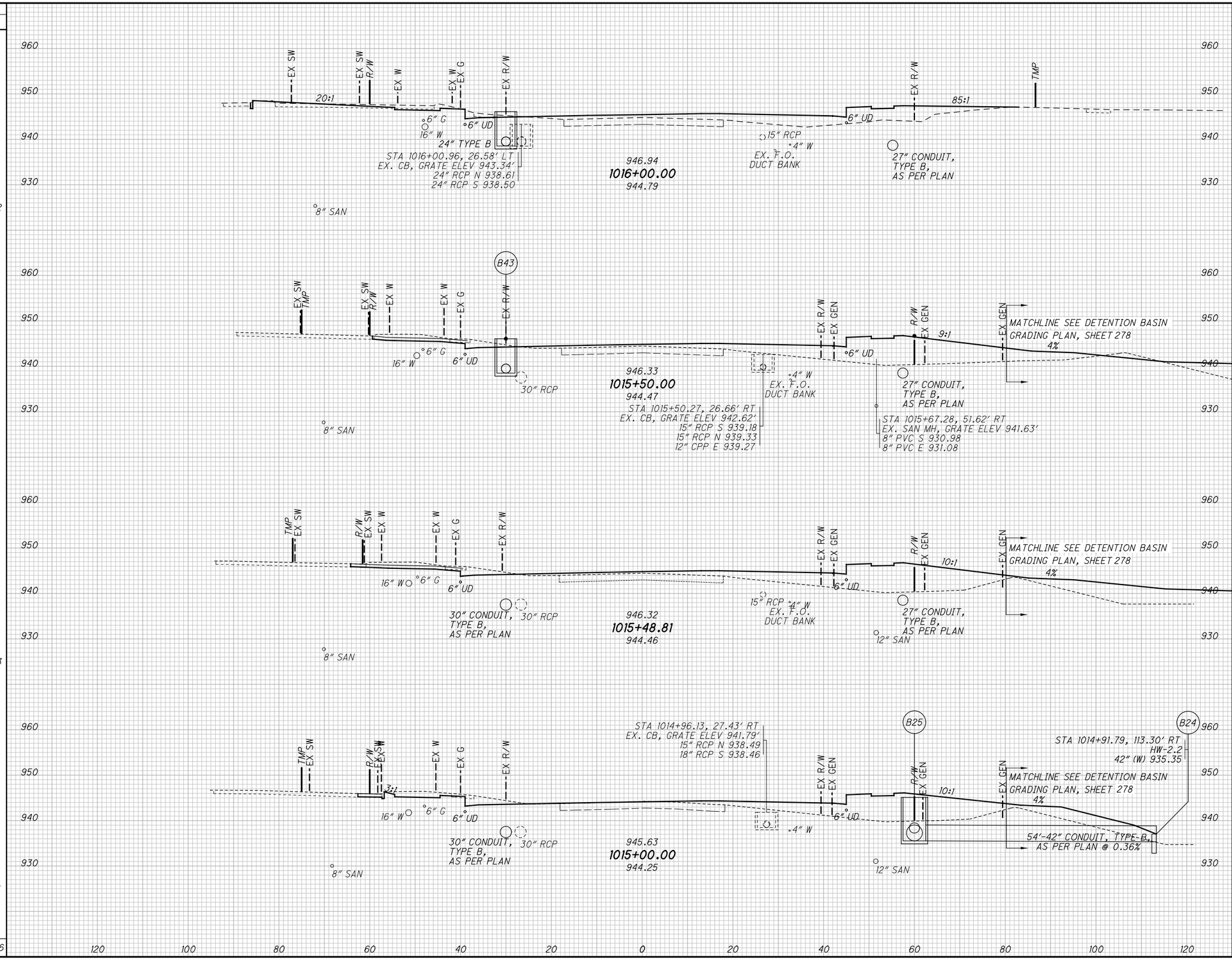
STA 1013+94.74, 64.42' LT EX. SAN MH, GRATE ELEV 943.99' 15" PVC E 921.21 12" PVC W 922.59 8" PVC N 932.87 15" PVC S 922.36 TMP EX SW R/W STA 1014+10.00, 38.00' LT CB-3, A.P.P. GRATE ELEV 943.20 15" (E) 939.35 6" UD (N&S) 940.31 B19 B41 B18 EX W EX W EX R/W 25:1 6" G STA 1013+91.01, 27.13' LT EX. CB, GRATE ELEV 942.52' 30" CPP S 937.83 30" RCP E 936.02 30" RCP N 936.18 B20 B21 STA 1013+90.24, 36.82' RT EX. CB, GRATE ELEV 940.34' 36" RCP E 934.76 30" RCP W 935.88 30" RCP S 935.82 18" RCP N 937.04 STA 1014+10.00, 44.00' RT CB-3, A.P.P. GRATE ELEV 943.80 12" (SE) 940.00 6" UD (N&S) 940.69 B22 EX R/W B23 STA 1013+90.15, 44.00' RT HW-2.2 42" (W) 935.73 STA 1014+02.07, 113.49' RT EX SAN MH, GRATE ELEV 940.97' 15" PVC W 921.27 15" PVC E 921.22 8" PVC W 929.39 EX GEN EX GEN 3:1 20'-42" CONDUIT, TYPE C, AS PER PLAN @ 0.20% 938.4 STA 1014+07.96, 78.07' LT EX. CB, GRATE ELEV 944.81' 8" PVC SE 941.46 STA 1013+99.58, 75.10' LT EX. MH, GRATE ELEV 944.90' 48" CMP NW 937.84 12" PVC E 937.80 8" PVC NW 940.90 8'-15" CONDUIT, TYPE B, AS PER PLAN @ 0.60% 19'-18" CONDUIT, TYPE B, AS PER PLAN @ 0.60% 64'-42" CONDUIT, TYPE B, AS PER PLAN @ 0.22% 12" W 944.18 1014+00.00 943.83 30" RCP 4" W 24" MIN. 12" W 25'-12" CONDUIT, TYPE C AS PER PLAN @ 0.60% 36" RCP 8" PVC SAN SAN STA 1013+91.31, 68.31' RT EX. E 36" RCP W 935.83 E EX DITCH 15" PVC SAN. EX. SAN MH, GRATE ELEV 940.74' 8" PVC N 930.04 8" PVC S 930.04 SAN SAN 23'-42" CONDUIT, TYPE B, AS PER PLAN @ 0.22%

B52 STA 100+00.00, 54.73' LT CB-5, A.P.P. GRATE ELEV 942.10 24" (W) 938.07 24" (E) 938.07 45'-24" CONDUIT, TYPE C, AS PER PLAN @ 0.76% 10'-24" CONDUIT, TYPE C, AS PER PLAN @ 0.30% B17 44'-30" CONDUIT, TYPE B, AS PER PLAN @ 0.60% POLARIS PARKWAY 6" G 18" MIN. 12" W 8" LOWERED 12" WATER STA 1013+56.08, 160.57' LT EX. CB, GRATE ELEV 941.43' 24" RCP W 937.93 30" CPP NE 937.93 24" CPP S 938.03 15" PVC 943.64 1013+50.00 943.44 4" W 30" RCP 6" UD UGT 6" UD 3:1 POLARIS PARKWAY UGT 24" CPP 12" W 943.22 1013+00.00 943.25 4" W 30" RCP 15" PVC

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

SEEDING END WIDTH	SEEDING SQ. YDS.
79	422
72	10
75	423
80	461
	1,316

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
27	165	66	477
44	350	2	16
49	362	83	637
43	343	93	568
		244	3,396



CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1015+00.00 TO STA. 1016+00.00

DEL-CR10-0.90

2952-DR.E

167
437

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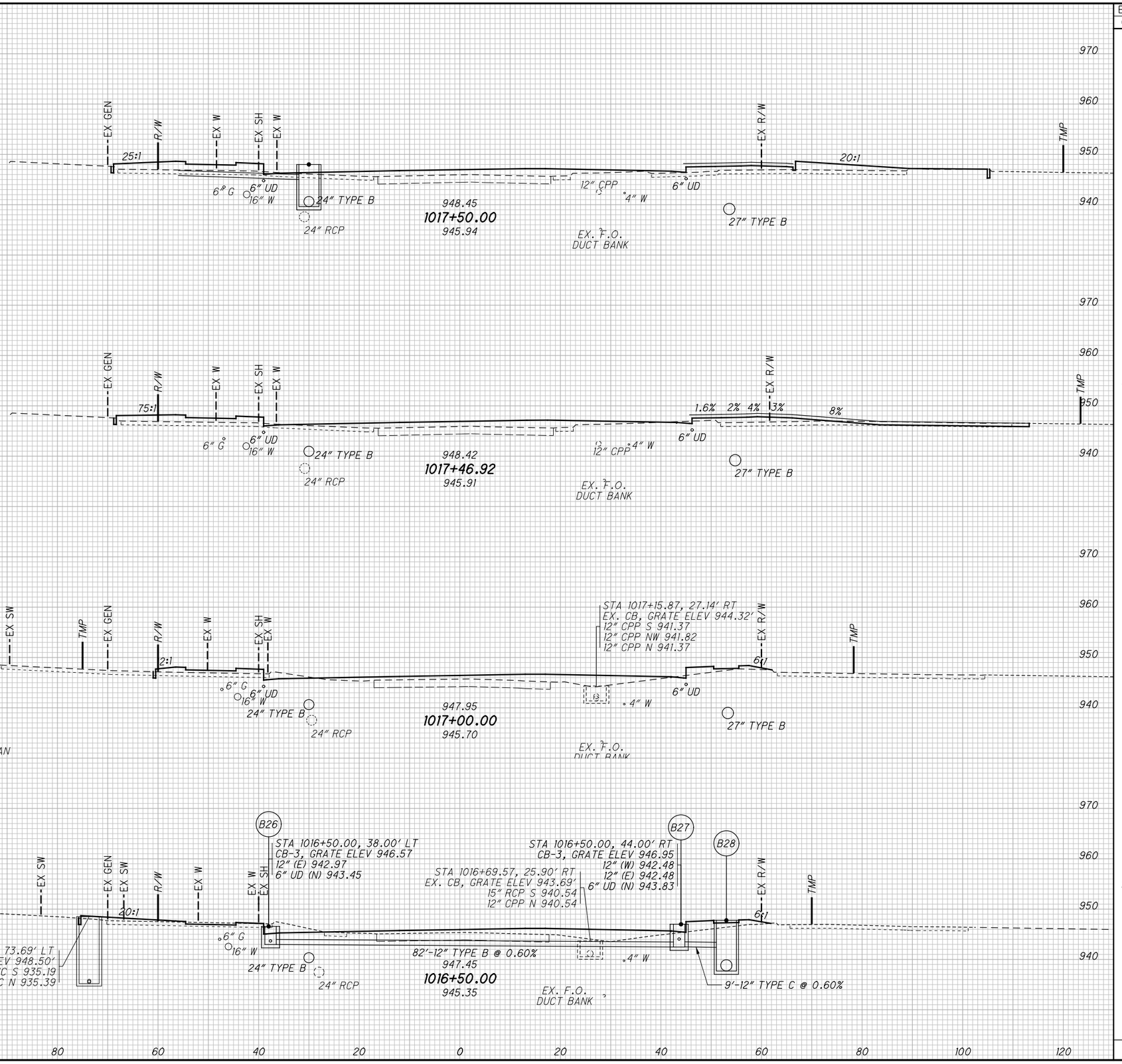
SEEDING	
END WIDTH	SQ. YDS.
66	16
28	161
33	227
47	350
	1,158



END AREA	
CUT	FILL
3	151
25	117
10	99
20	97
44	243
104	627

VOLUME	
CUT	FILL
2	15
30	188
28	181

CALCULATED AWF

CHECKED PHF

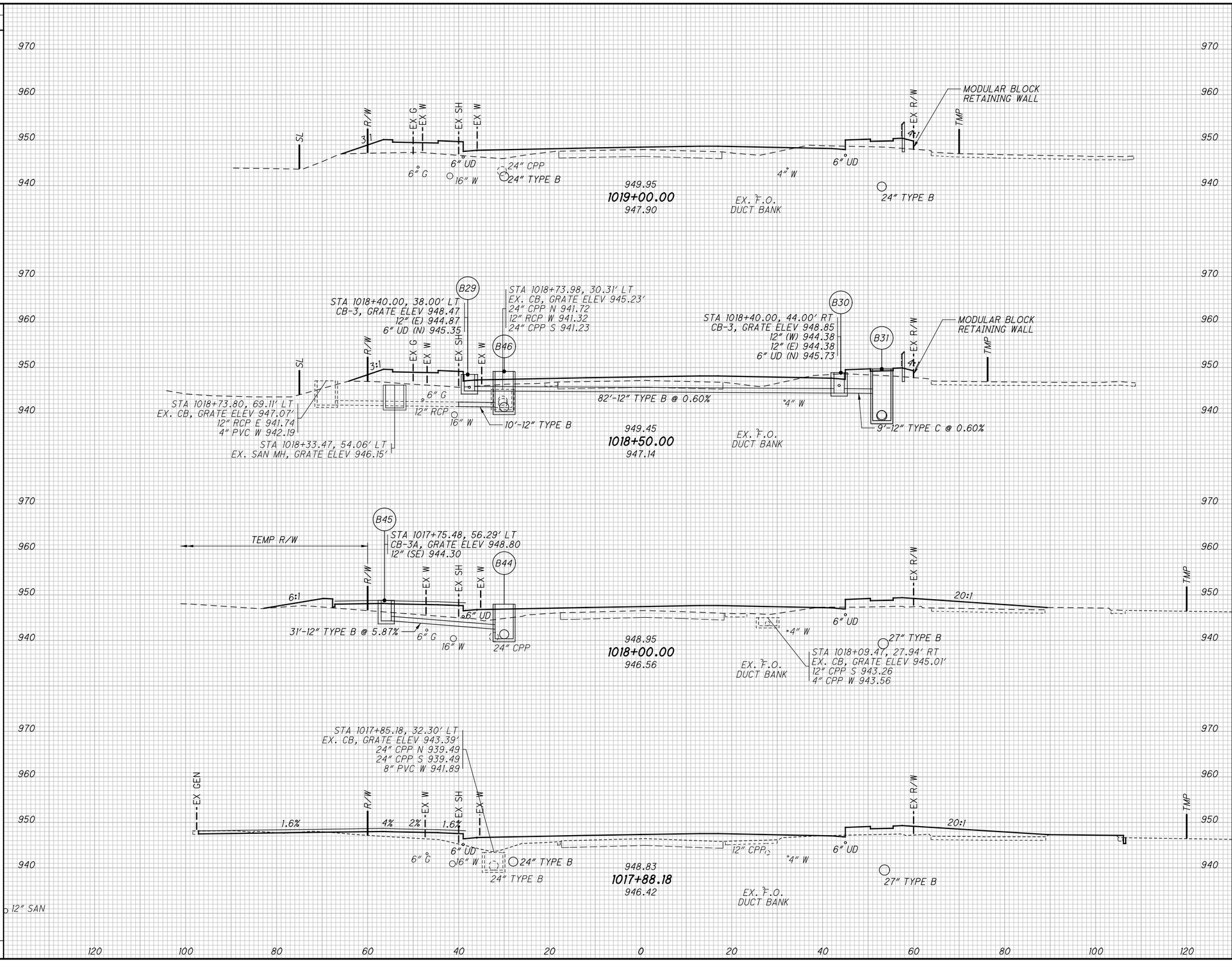
CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1016+50.00 TO STA. 1017+50.00

DEL-CR10-0.90

2952-DR.E

168
437

SEEDING END WIDTH	SEEDING SQ. YDS.
	38
	206
	35
	256
	55
	81
	65
	279
	822



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
6	156		
		11	297
6	165		
		6	365
1	229		
		2	95
10	202		
		9	249
		28	1,006

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1017+88.07 TO STA. 1019+00.00

DEL-CR10-0.90

2952-DR.E

169
437

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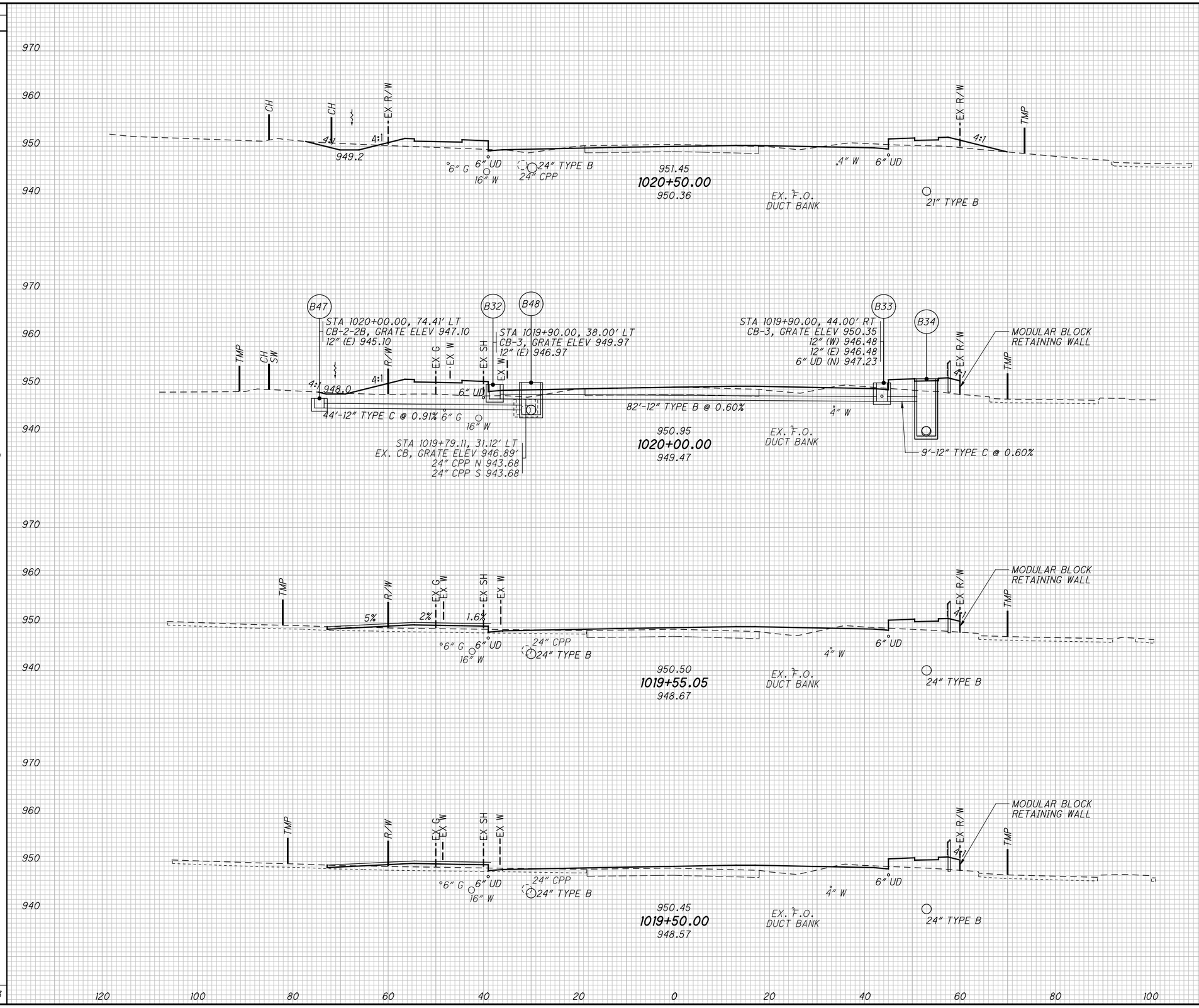
SEEDING END WIDTH	SEEDING SQ. YDS.
	58
	311
	52
	180
	20
	11
	20
	161
	663



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
35	70		
		39	194
7	140		
		13	186
9	83		
		2	16
9	84		
		14	222
		68	618

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1019+50.00 TO STA. 1020+50.00

DEL-CR10-0.90

2952-DR.E

170
437

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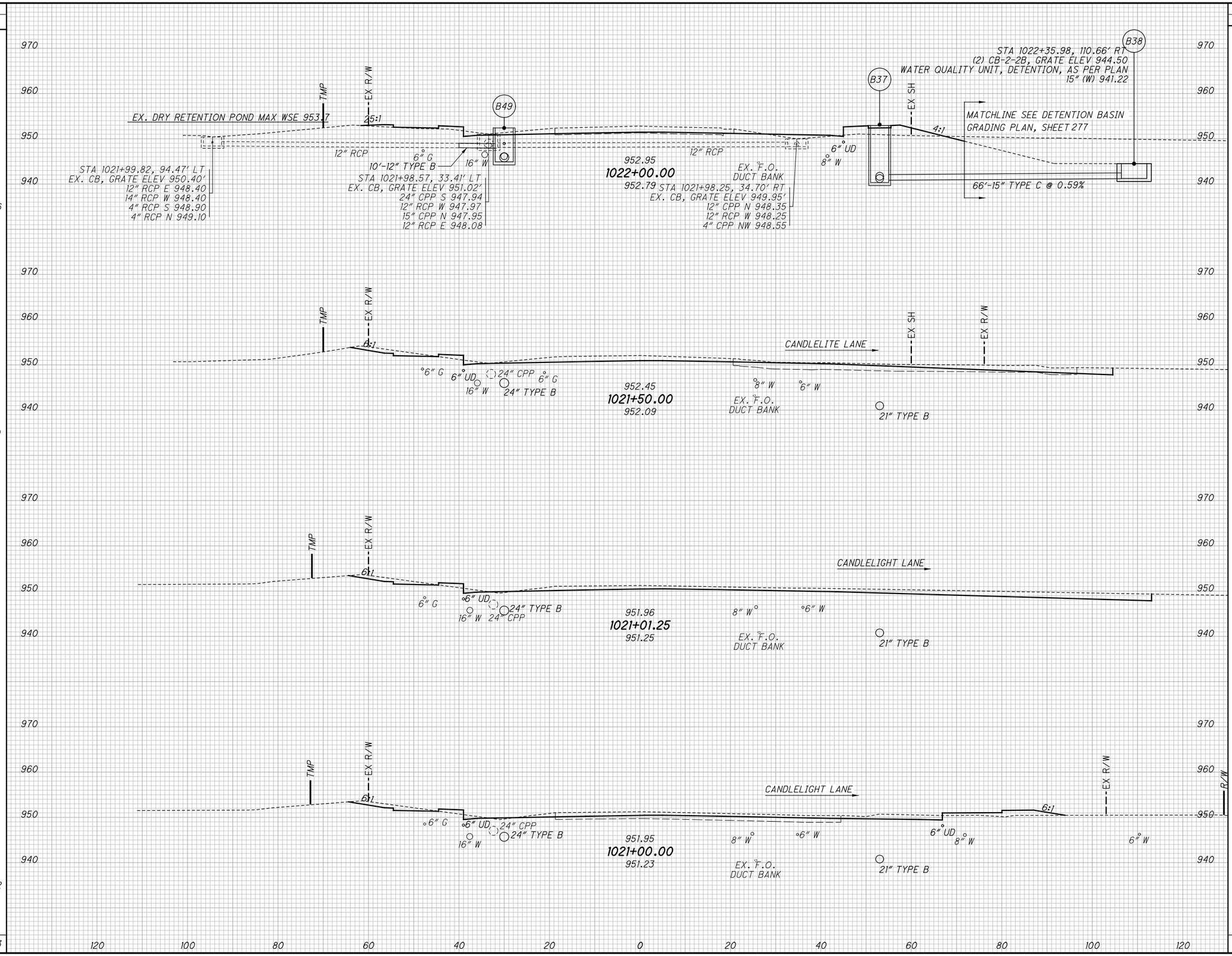
SEEDING END WIDTH	SEEDING SQ. YDS.
66	
	256
24	
	130
24	
	5
38	
	272
	663



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
127	45		
		231	45
123	4		
		238	8
141	5		
		5	1
82	26		
		108	89
		582	143

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1021+00.00 TO STA. 1022+00.00

DEL-CR10-0.90

2952-DR.E

171
437

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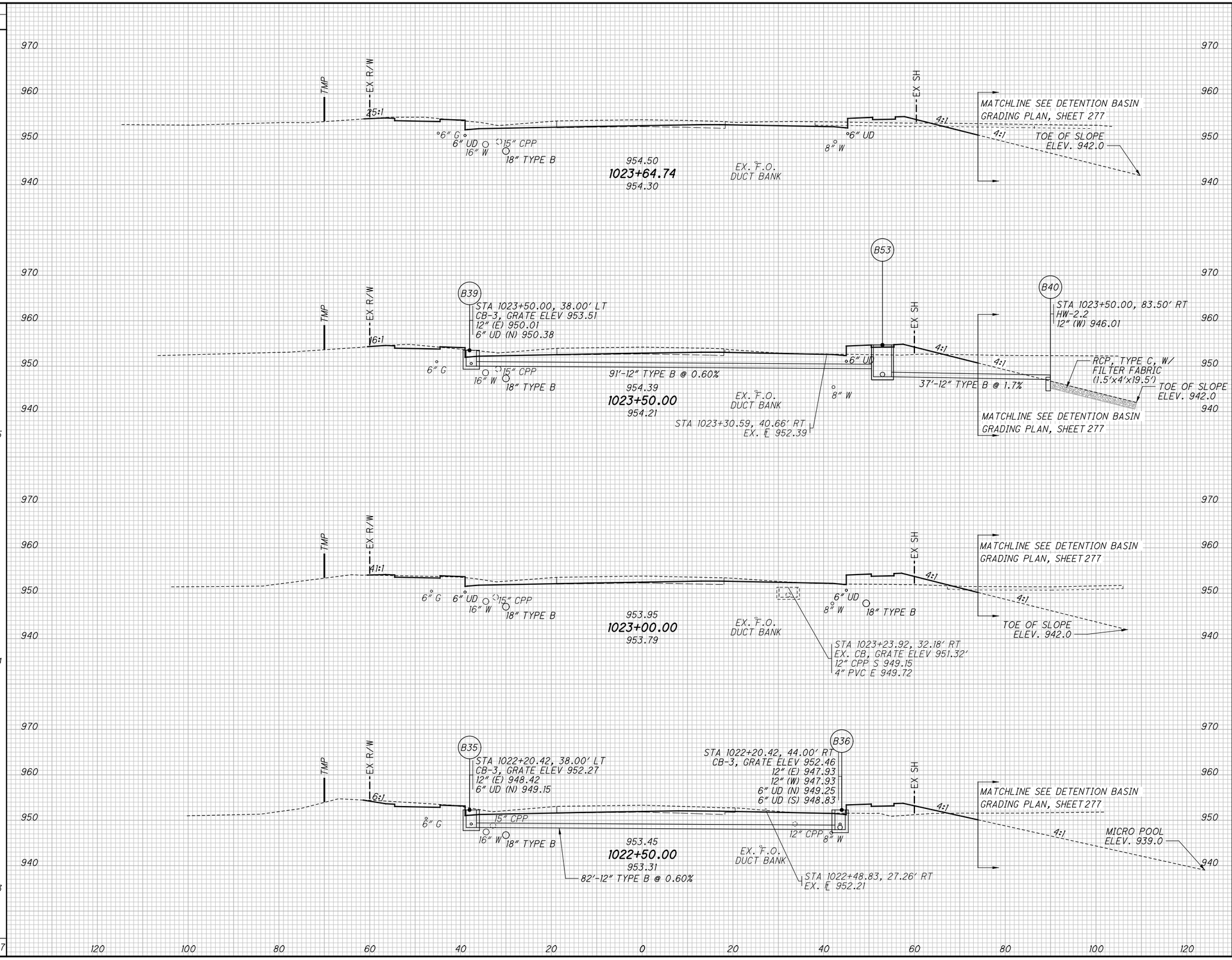
SEEDING END WIDTH	SEEDING SQ. YDS.
66	115
72	395
69	394
72	383
	1,287



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
209	15	107	13
183	33	314	65
156	37	312	67
181	35	285	74
		1,018	219

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1022+50.00 TO STA. 1023+64.74

DEL-CR10-0.90

2952-DR.E

172
437

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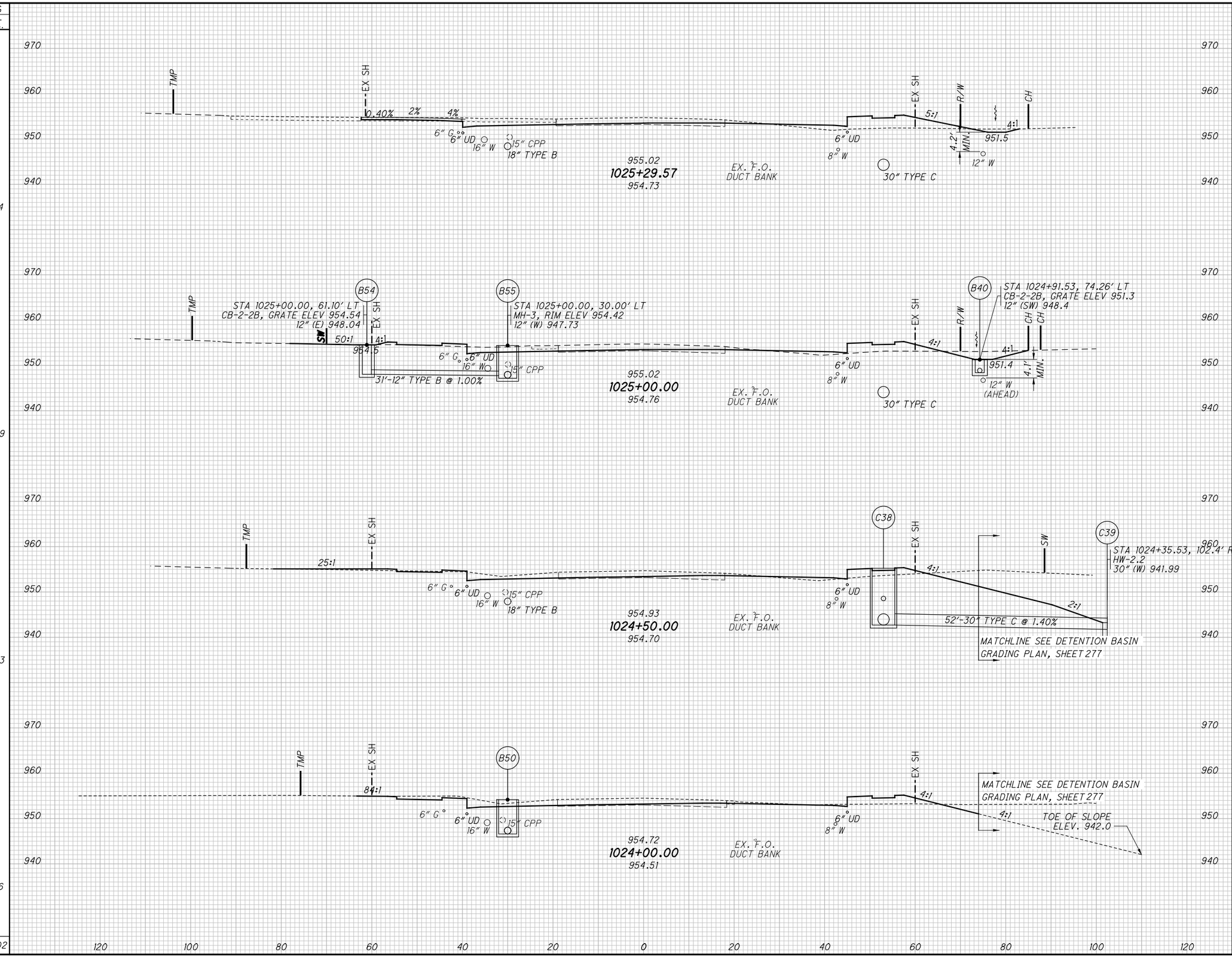
SEEDING END WIDTH	SEEDING SQ. YDS.
39	174
67	389
71	323
44	216
	1,102



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
95	60		
		94	58
77	46		
		147	75
82	35		
		149	62
79	32		
		188	31
		578	226

CALCULATED AWF
CHECKED PHF

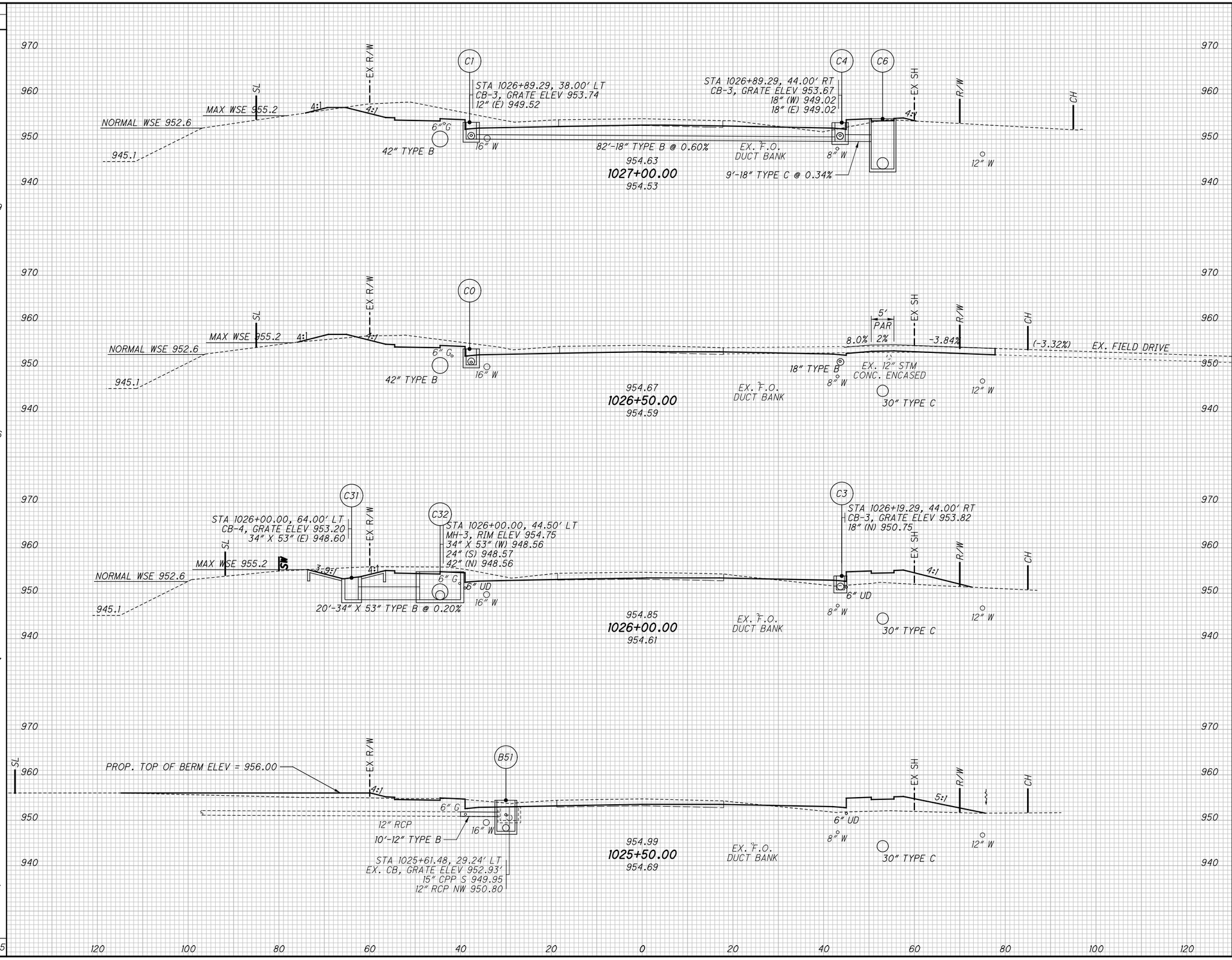
CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1024+00.00 TO STA. 1025+29.57

DEL-CR10-0.90

2952-DR.E

173
437

SEEDING	
END WIDTH	SQ. YDS.
	52
	339
	69
	366
	63
	467
	104
	163
	1,335



END AREA	
CUT	FILL
220	16
138	46
123	67
73	110
818	390

VOLUME	
CUT	FILL
331	57
242	105
181	164
64	64

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1025+50.00 TO STA. 1027+00.00

DEL-CR10-0.90

2952-DR.E

174
437

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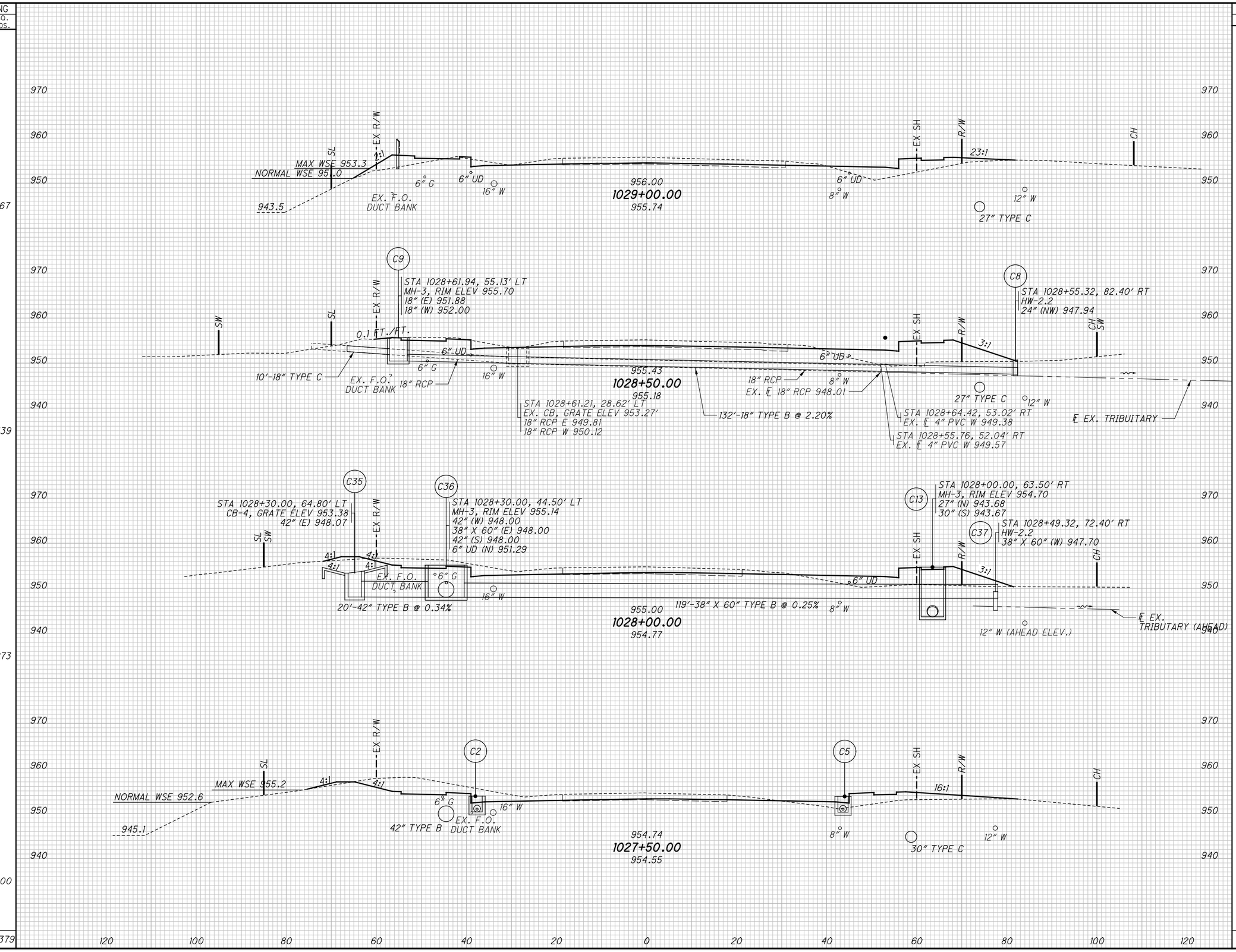
SEEDING END WIDTH	SEEDING SQ. YDS.
	89
	467
	79
	339
	43
	273
	54
	300
	1,379



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
297	101		
		439	209
177	125		
		272	194
117	85		
		297	122
204	47		
		393	58
		1,401	583

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1027+50.00 TO STA. 1029+00.00

DEL-CR10-0.90

2952-DR.E

175
437

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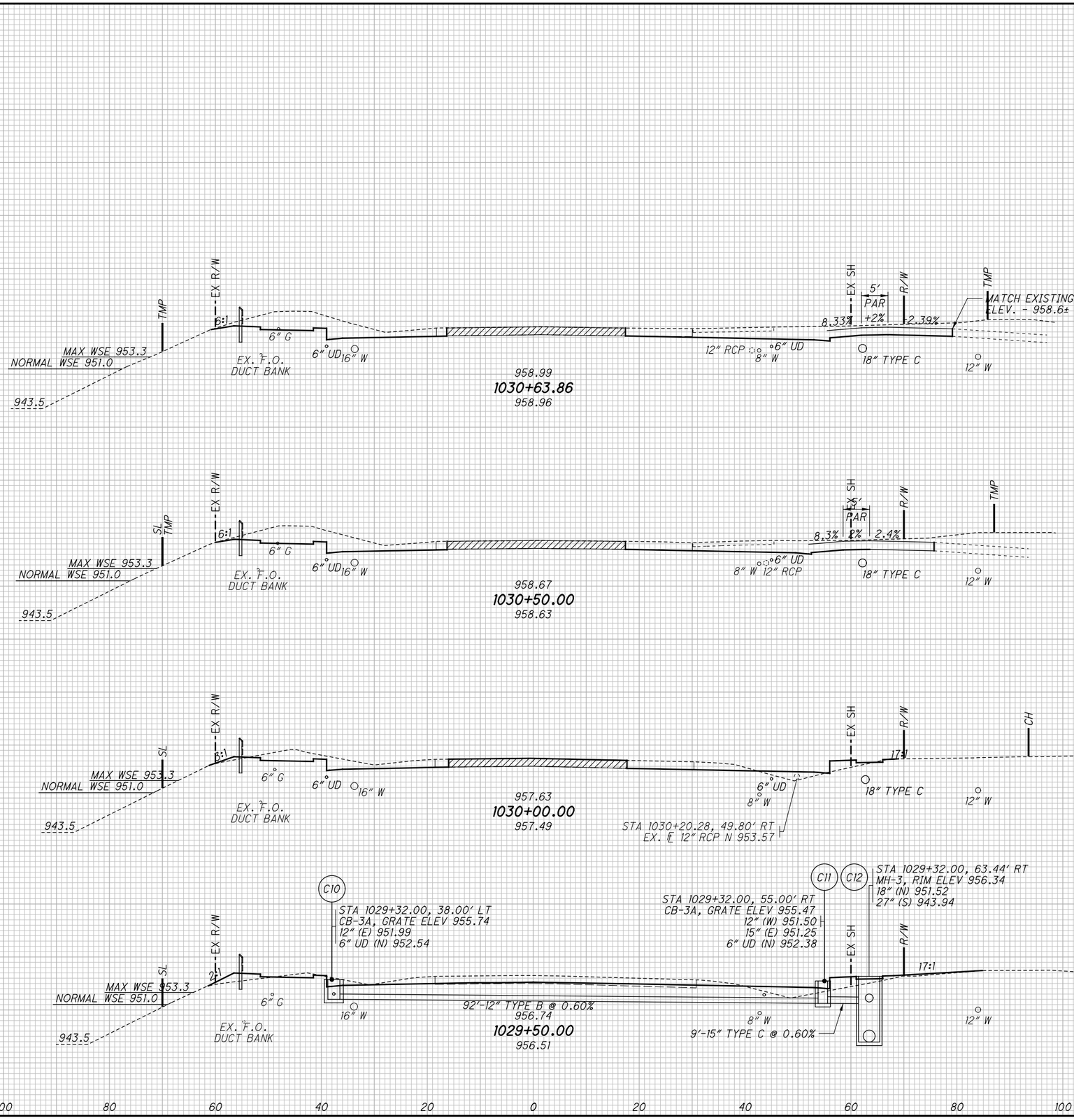
SEEDING	
END WIDTH	SQ. YDS.
20	31
19	306
91	505
91	505
	1,347



END AREA	
CUT	FILL
201	0
191	0
344	47
405	64
1,940	300

VOLUME	
CUT	FILL
101	0
495	44
694	103
650	153

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1029+50.00 TO STA. 1030+63.86

DEL-CR10-0.90

2952-DR.E

176
437

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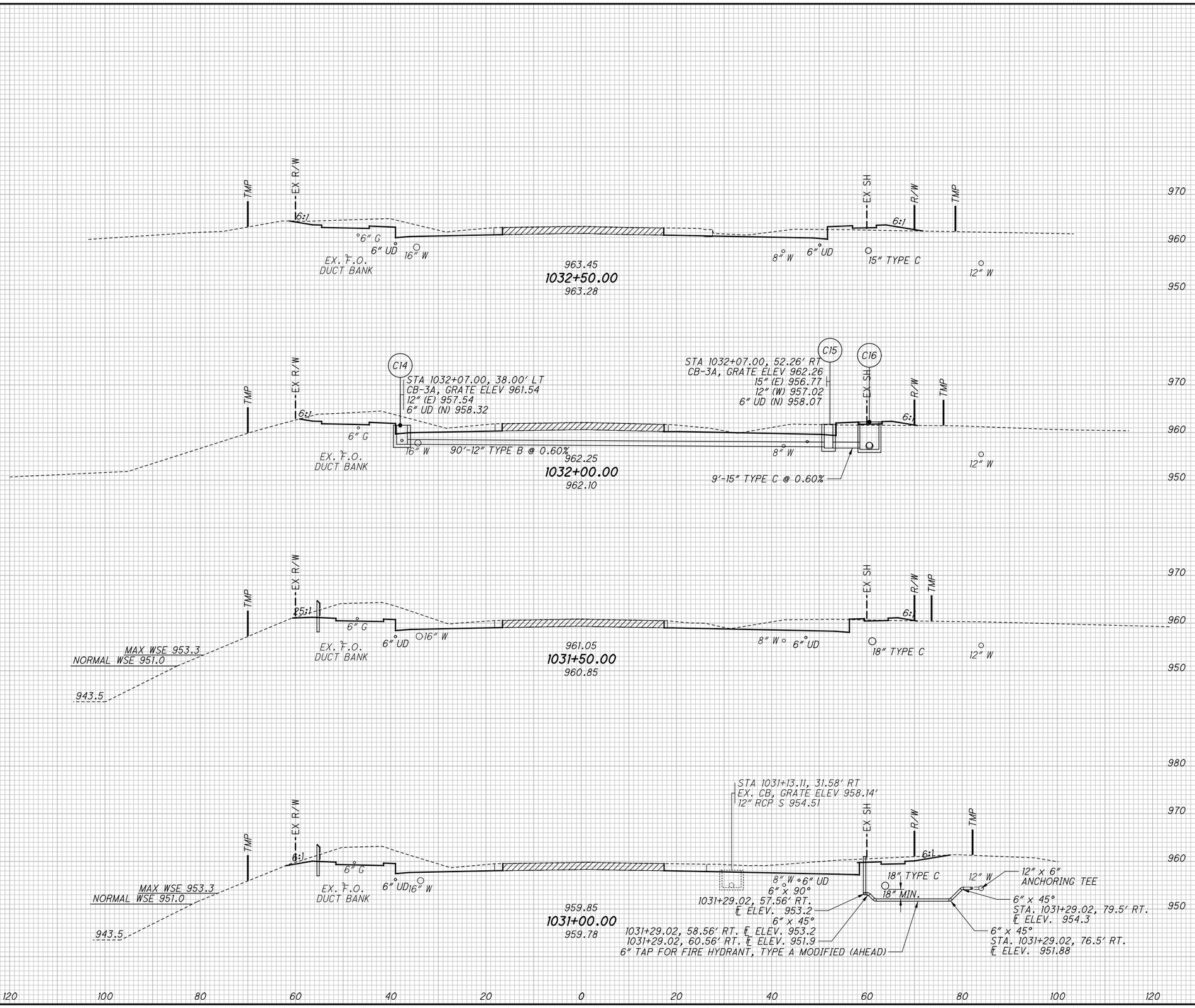
SEEDING	
END WIDTH	SQ. YDS.
37	195
33	189
33	166
27	96
	646



END AREA	
CUT	FILL
106	13
113	9
142	5
172	0

VOLUME	
CUT	FILL
203	20
236	13
291	5
250	0
980	38

CALCULATED	CHECKED
AWF	PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1031+00.00 TO STA. 1032+50.00

DEL-CR10-0.90

2952-DR.E

177
437

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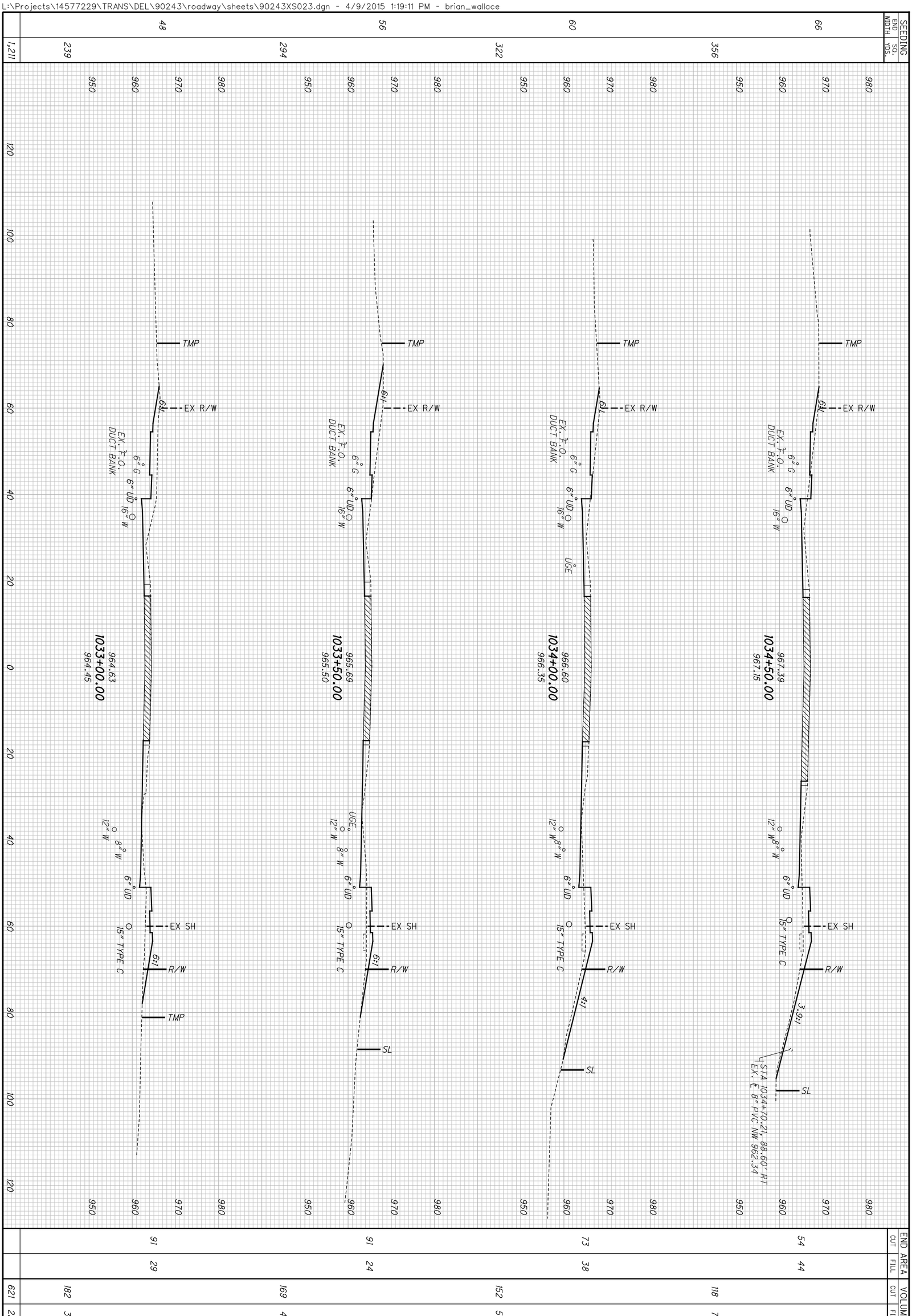


178
437

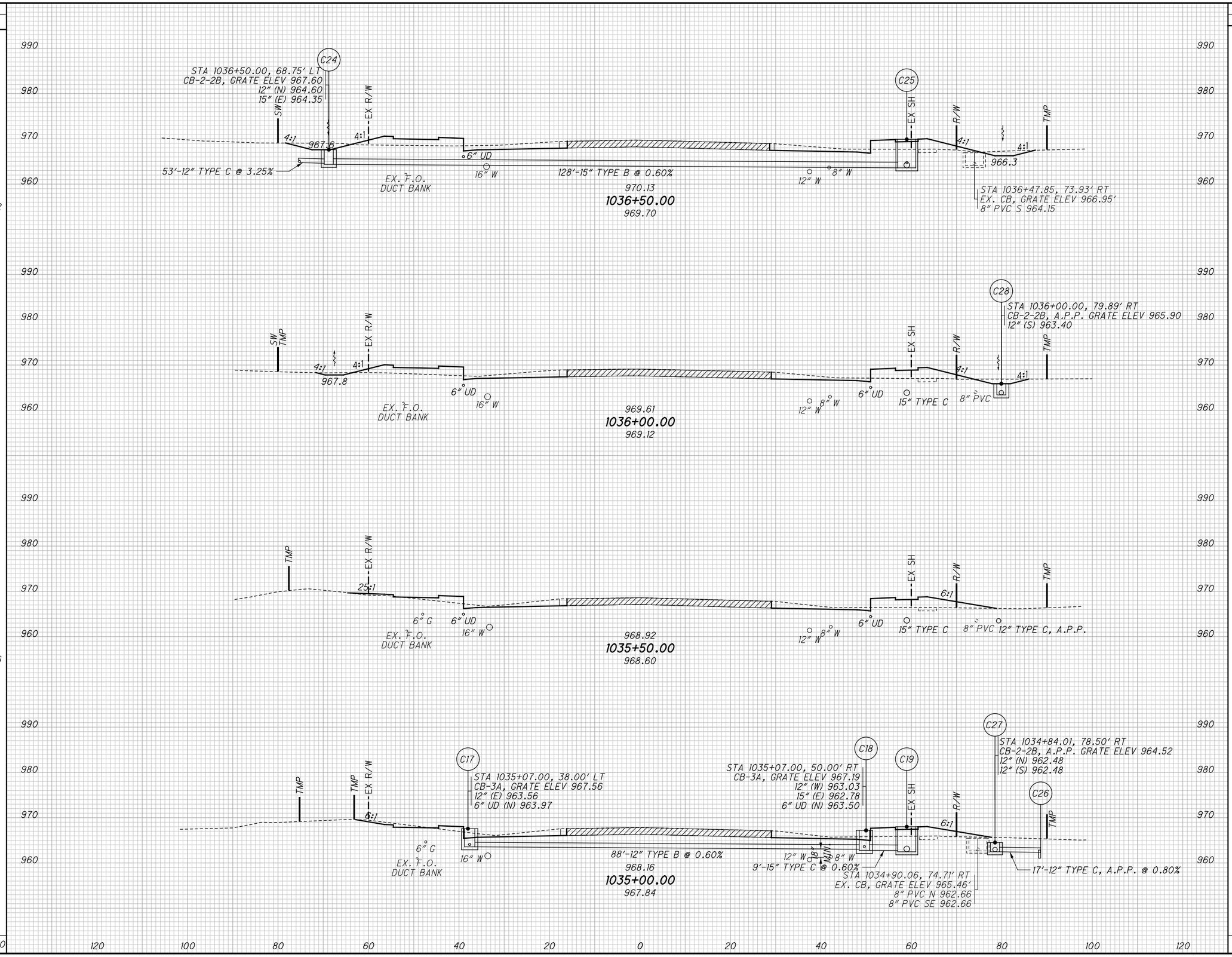
2952-DR-E

DEL-CR10-0.90

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1033+00.00 TO STA. 1034+50.00

CALCULATED AWF
CHECKED PHF

SEEDING	
END WIDTH	SQ. YDS.
71	372
62	311
48	256
44	311
	1,250



END AREA	
CUT	FILL
70	71
54	72
36	56
44	43
74	92
91	81

VOLUME	
CUT	FILL
115	132
83	119
363	424

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1035+00.00 TO STA. 1036+50.00

DEL-CR10-0.90

2952-DR.E

179
437

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
	21	207	17		
	223			426	58
	57	253	46		
	261			405	67
	36	184	26		
	283			239	78
	65	74	58		
	383			133	119
	1,150			1,203	322

CALCULATED AWF
CHECKED PHF

990
980
970
960

EAST POWELL ROAD

CH
EX R/W
25:1
6" UD
12" W
970.54
1038+50.00
970.25
14" W

C20
STA 1038+05.84, 134.57' LT
CB-2-2B, GRATE ELEV 970.05
12" (SE) 967.05

C21
STA 1037+95.59, 122.17' LT
MH-3, RIM ELEV 970.70
12" (NW) 966.95
12" (S) 966.95
6" UD (SE) 967.90
0.1 FT./FT.

56'-12" TYPE B @ 0.60%
16'-12" TYPE C @ 0.60%

EAST POWELL ROAD
EX SH
8:1
R/W
12" W
970.68
1038+00.00
970.36
14" W
10" W
12" W

EX. T.O.
DUCT BANK

C22
STA 1037+43.24, 103.08' LT
CB-3A, GRATE ELEV 970.94
12" (N) 966.62
12" (S) 966.62

56'-12" TYPE B @ 0.60%
49'-12" TYPE C @ 0.60%

EAST POWELL ROAD
12" W
970.67
1037+50.00
970.33
8" W
12" W
6" UD
EX SH
R/W
4:1
967.8
TMP

EX. T.O.
DUCT BANK

C23
STA 1037+02.56, 75.00' LT
MH-3, RIM ELEV 969.90
12" (S) 966.32
12" (N) 966.32
SW
R/W
EX R/W
4:1
968.6

49'-12" TYPE C @ 0.60%
53'-12" TYPE C @ 3.25%

6" UD
16" W
970.48
1037+00.00
970.07
12" W
8" W
6" UD
EX SH
R/W
4:1
967.4
TMP

EX. T.O.
DUCT BANK

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

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1037+00.00 TO STA. 1038+50.00

DEL-CR10-0.90

2952-DR.E

180
437

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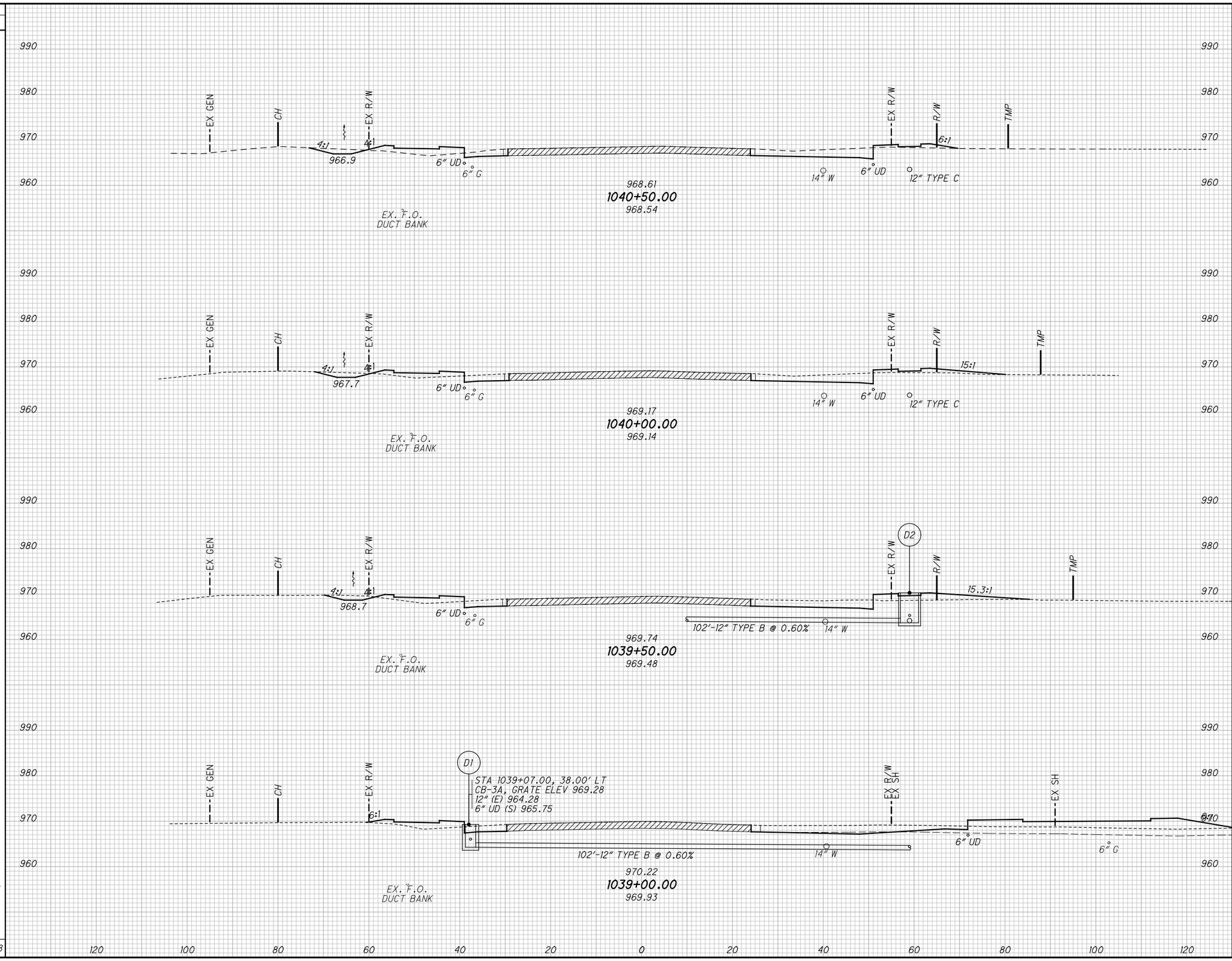
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
47	294	63	34	118	62
57	328	64	33	118	80
60	311	63	53	134	149
52	205	82	108	268	116
	1,138			638	407



CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1039+00.00 TO STA. 1040+50.00

DEL-CR10-0.90

2952-DR.E

181
437

SEEDING END WIDTH	SEEDING SQ. YDS.
99	105
35	164
47	255
43	250
	774

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
367	36	121	18
94	34	114	47
78	36	131	64
63	33	117	62
		483	191

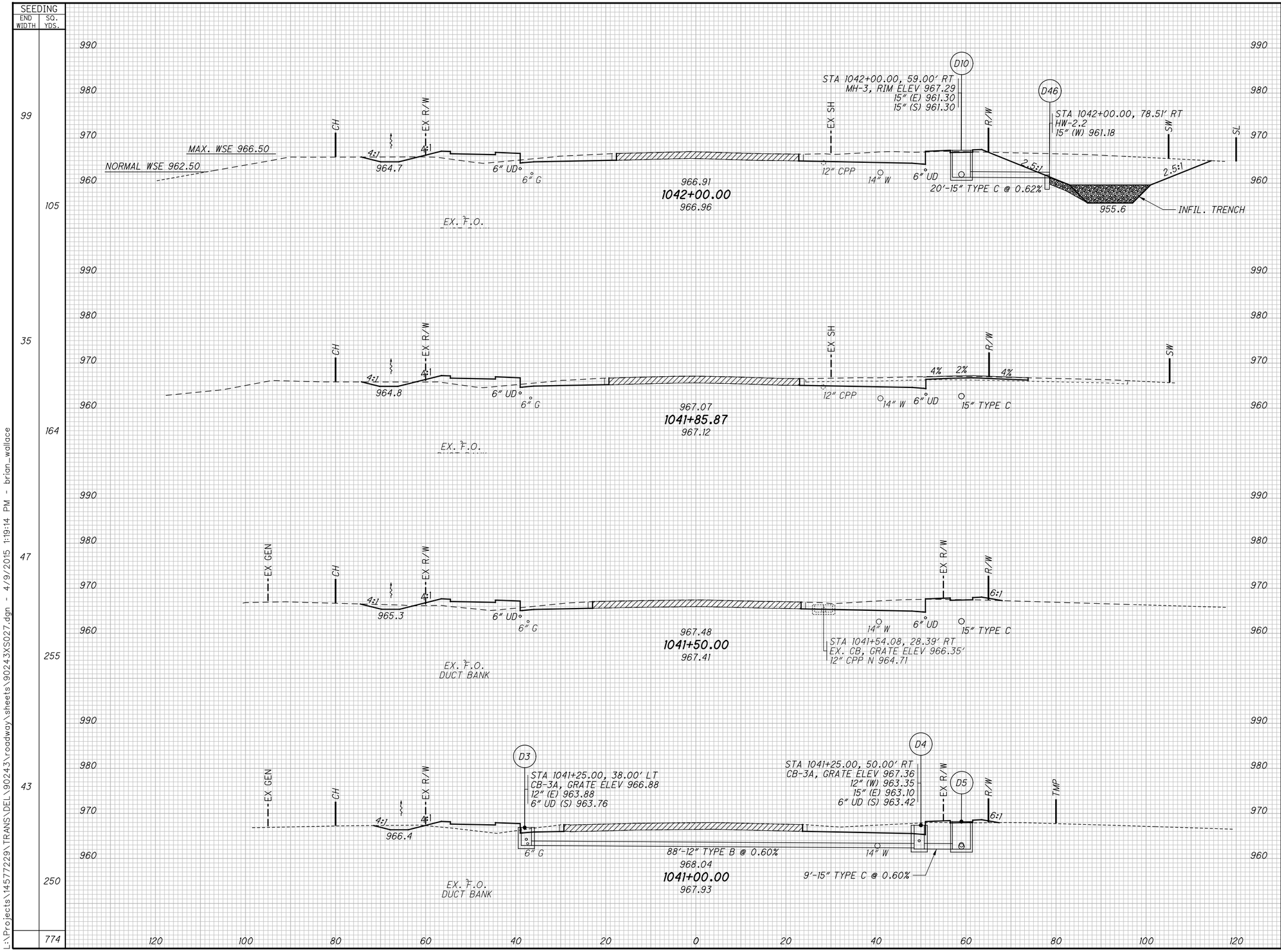
CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1041+00.00 TO STA. 1042+00.00

DEL-CR10-0.90

2952-DR.E

182
437



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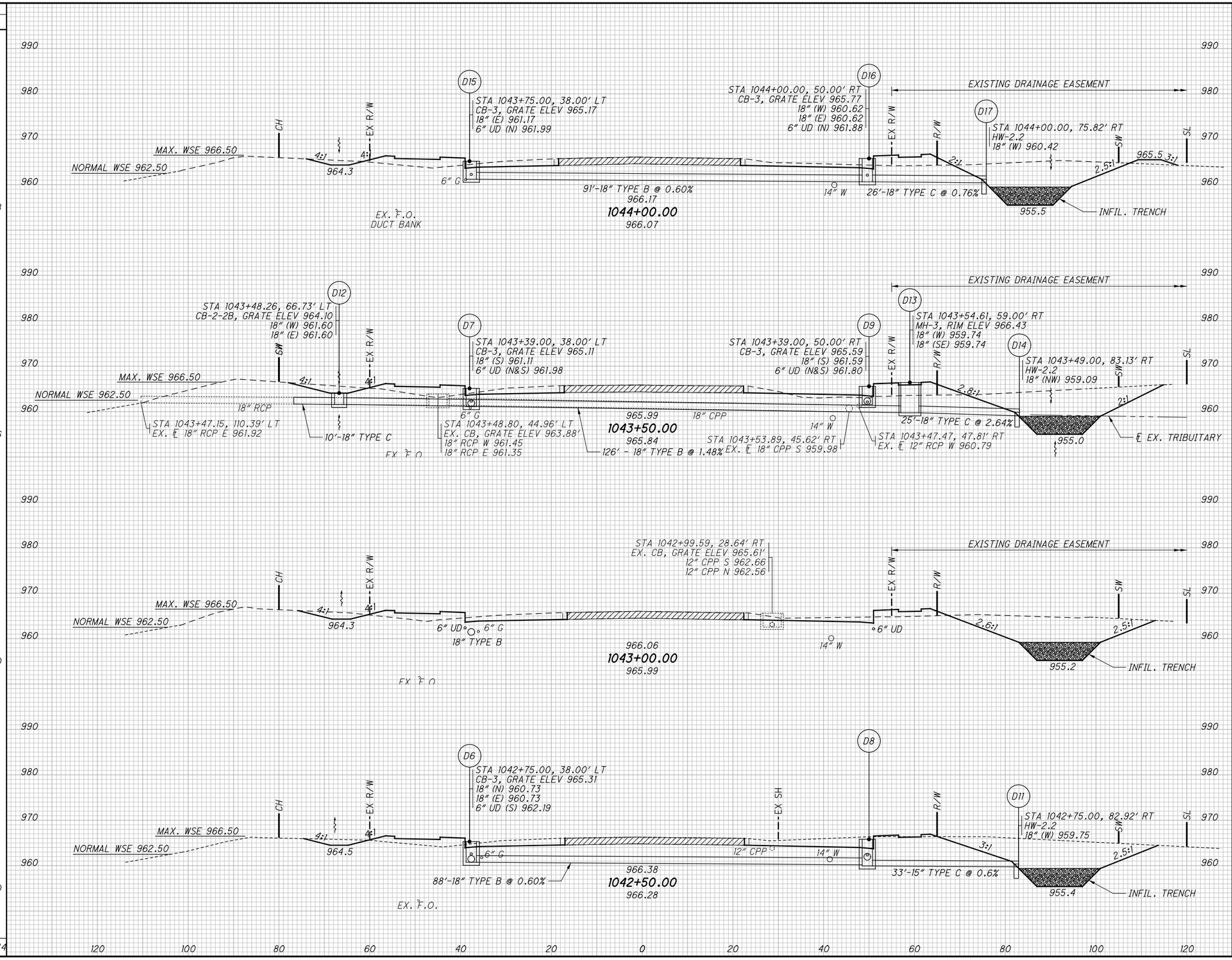
SEEDING	
END WIDTH	SQ. YDS.
103	578
104	566
99	550
98	550
	2,244



END AREA		VOLUME	
CUT	FILL	CUT	FILL
262	77		
		497	156
275	91		
		530	129
297	48		
		592	72
342	30		
		656	61
		2,275	418

CALCULATED AWF
CHECKED PHF

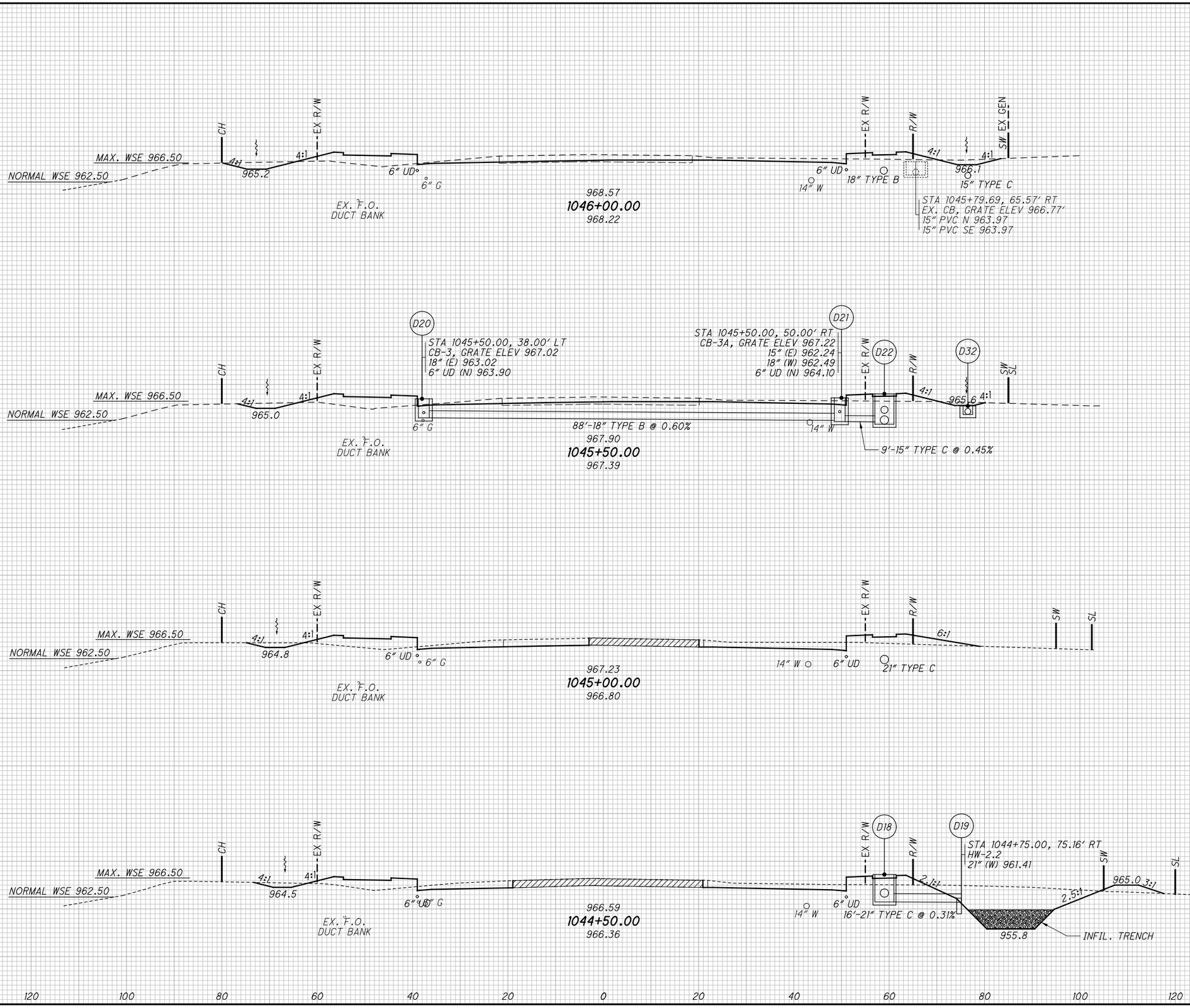
CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1042+50.00 TO STA. 1044+00.00

DEL-CR10-0.90

2952-DR.E

183
437

SEEDING END WIDTH	SEEDING SQ. YDS.
68	366
62	339
59	450
102	573
	1,728



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
102	64		
		169	122
80	68		
		160	135
93	78		
		313	143
245	76		
		469	142
		1,111	542

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1044+50.00 TO STA. 1046+00.00

DEL-CR10-0.90

2952-DR.E

184
437

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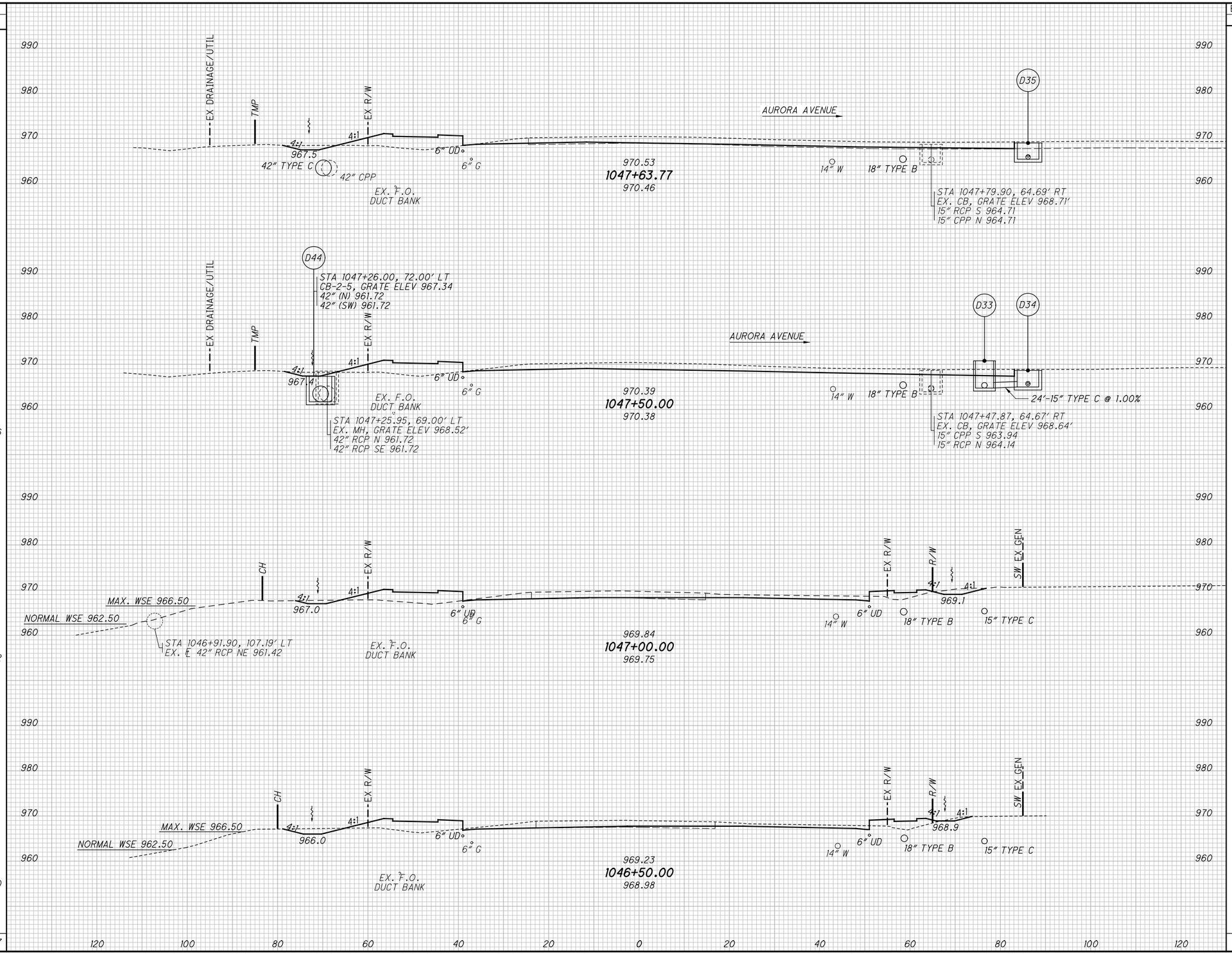
SEEDING END WIDTH	SEEDING SQ. YDS.
39	59
38	266
58	322
57	350
	997

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
153	60	235	119
150	60	235	119
104	69	187	129
98	70	185	124
		842	491

CALCULATED AWF

CHECKED PHF



CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1046+50.00 TO STA. 1047+63.57

DEL-CR10-0.90

2952-DR.E

185
437

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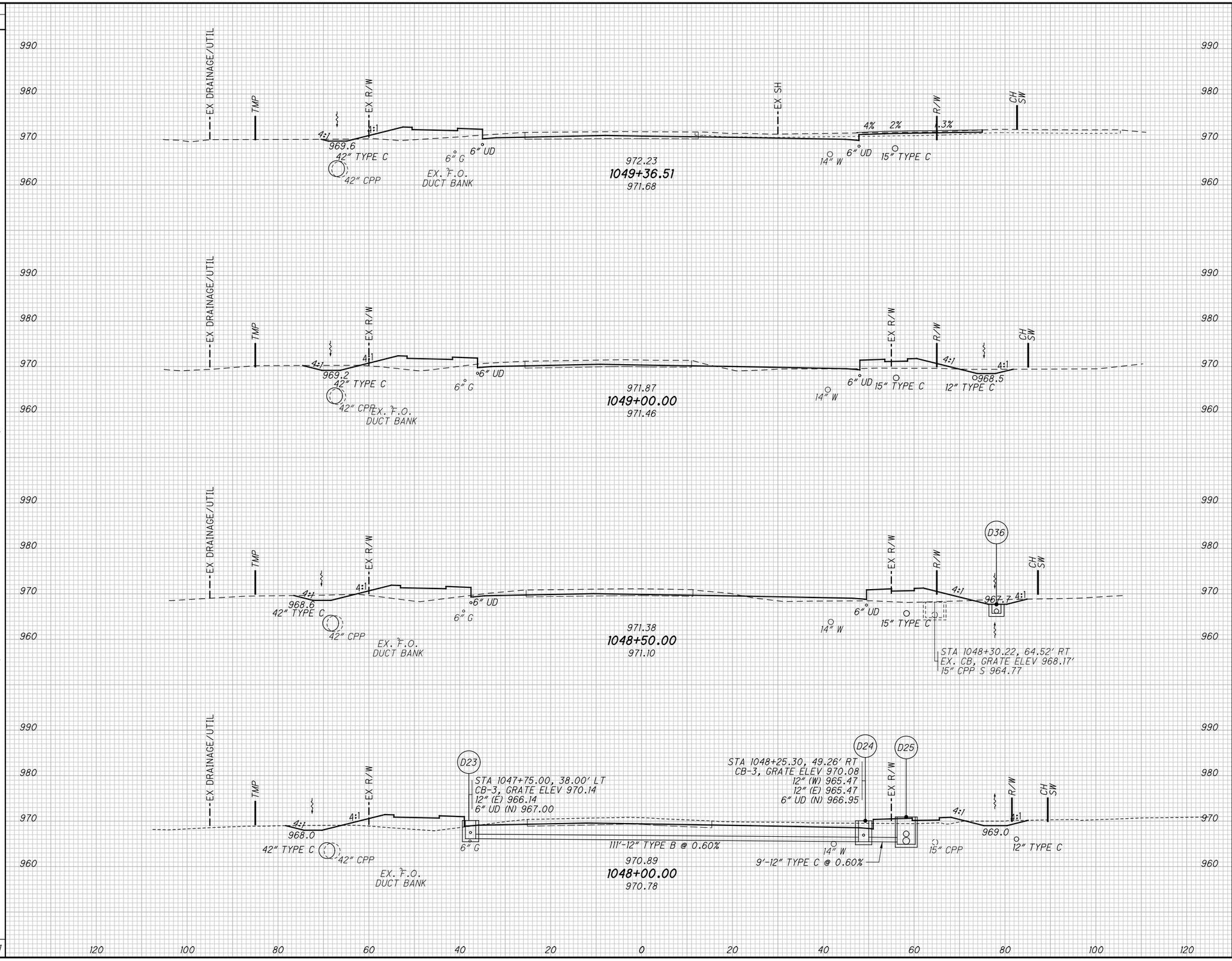
SEEDING END WIDTH	SEEDING SQ. YDS.
35	211
68	383
69	378
67	219
	1,191



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
92	47	108	95
67	94	132	202
76	124	166	187
103	78	173	93
		579	577

CALCULATED AWF
CHECKED PHF

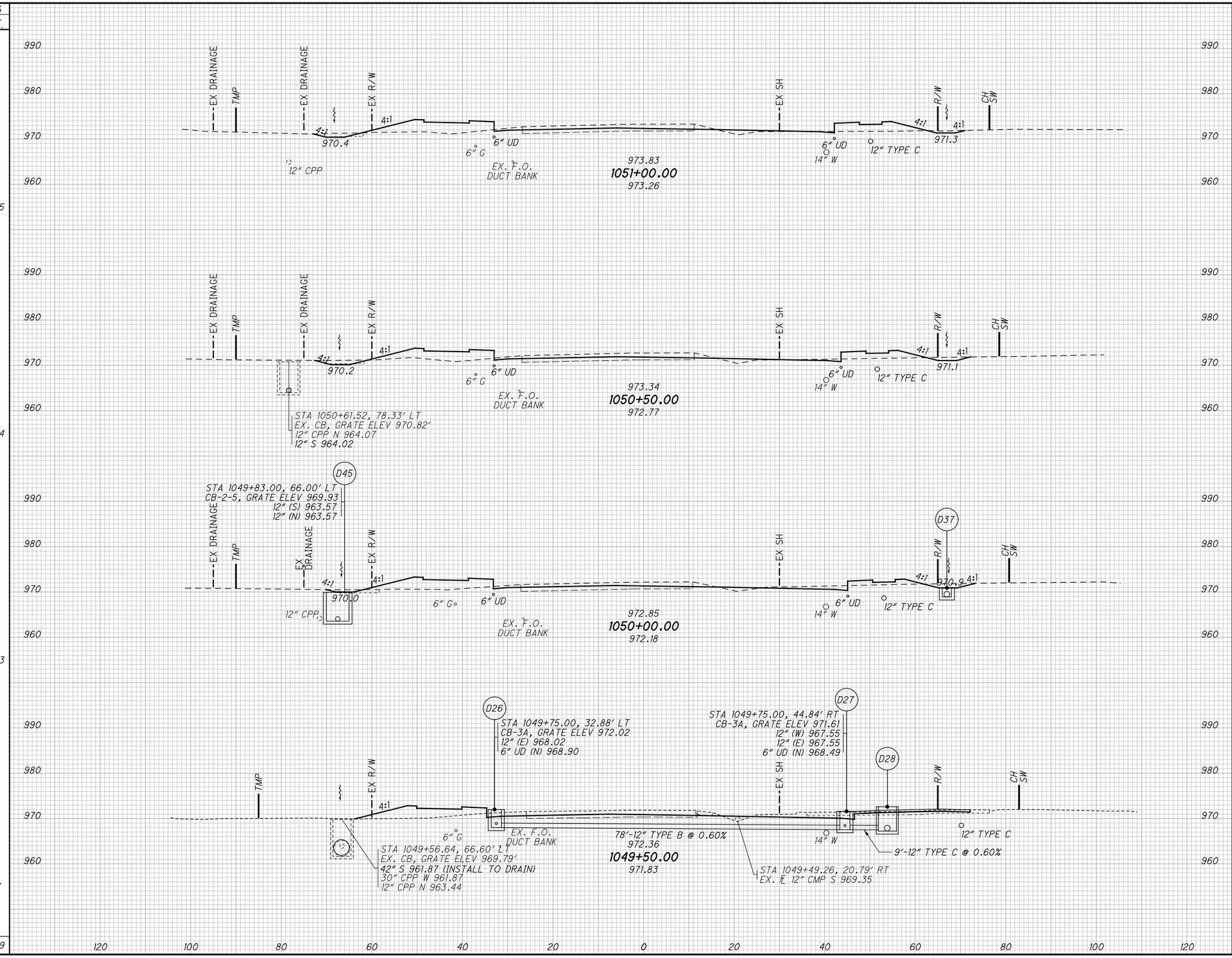
CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1048+00.00 TO STA. 1049+36.51

DEL-CR10-0.90

2952-DR.E

186
437

SEEDING END WIDTH	SEEDING SQ. YDS.
64	355
63	334
56	233
28	47
	969



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
47	93	92	156
52	76	99	133
55	68	119	112
74	53	41	25
		351	426

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1049+50.00 TO STA. 1051+00.00

DEL-CR10-0.90

2952-DR.E

187
437

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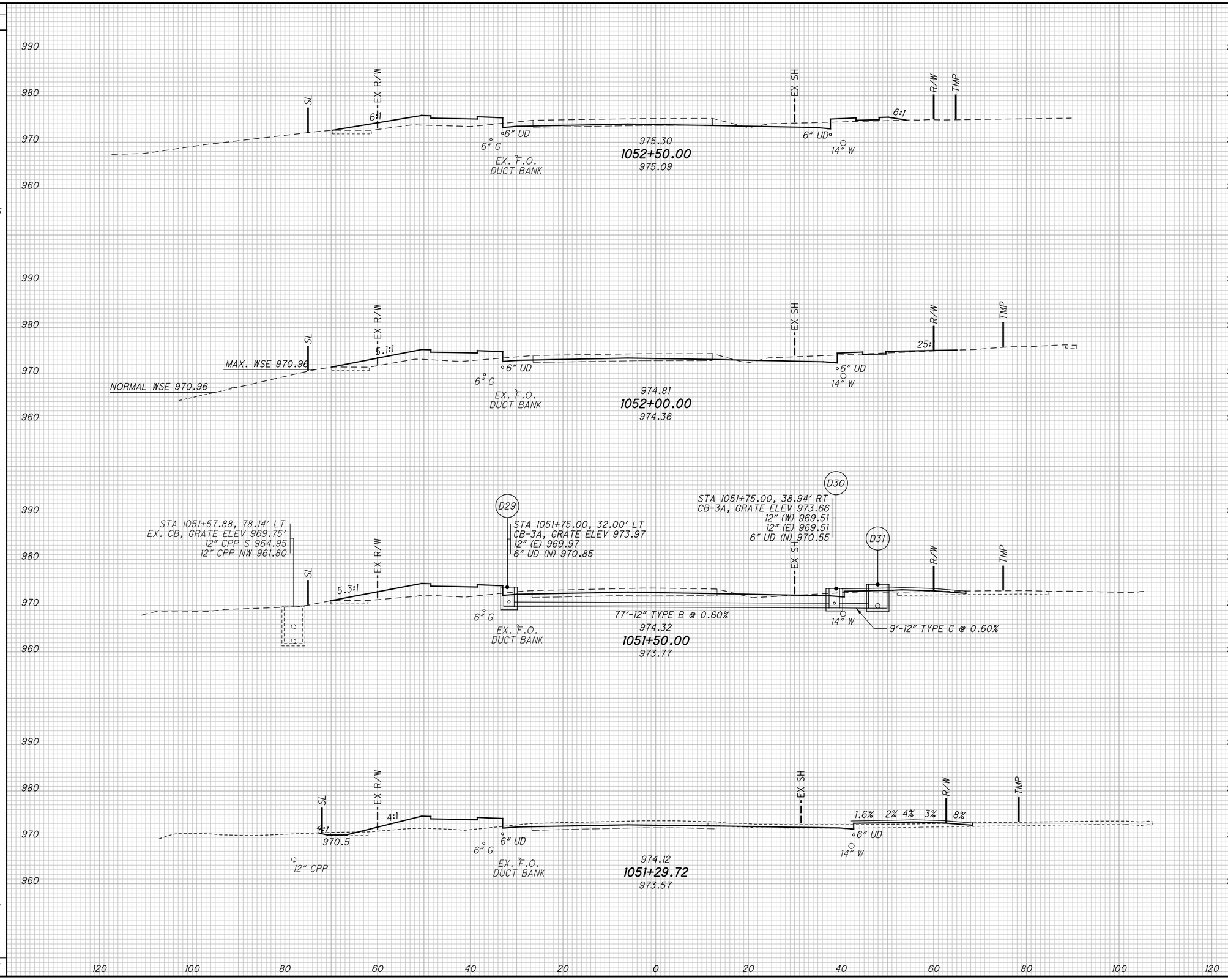
SEEDING END WIDTH	SEEDING SQ. YDS.
48	295
57	261
36	86
39	172
	814



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
74	60	129	114
65	63	102	131
45	78	39	53
60	63	59	86
		329	384

CALCULATED AWF
CHECKED PHF

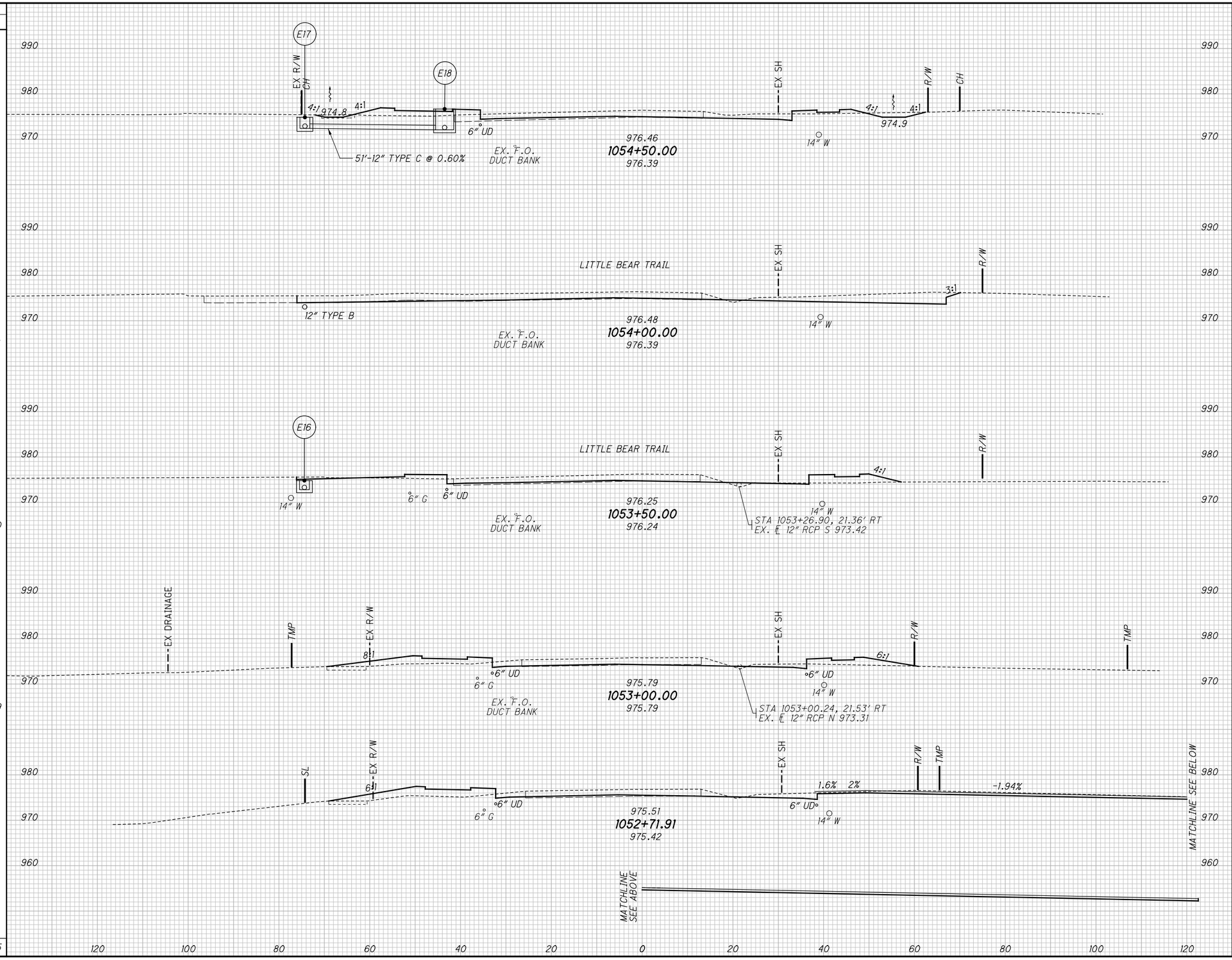
CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1051+29.72 TO STA. 1052+50.00

DEL-CR10-0.90

2952-DR.E

188
437

SEEDING END WIDTH	SEEDING SQ. YDS.
57	
	161
0	
	195
69	
	350
55	
	289
	995



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
93	40		
		283	38
213	1		
		283	40
93	42		
		160	100
80	66		
		143	117
		869	295

CALCULATED AWF

CHECKED PHF

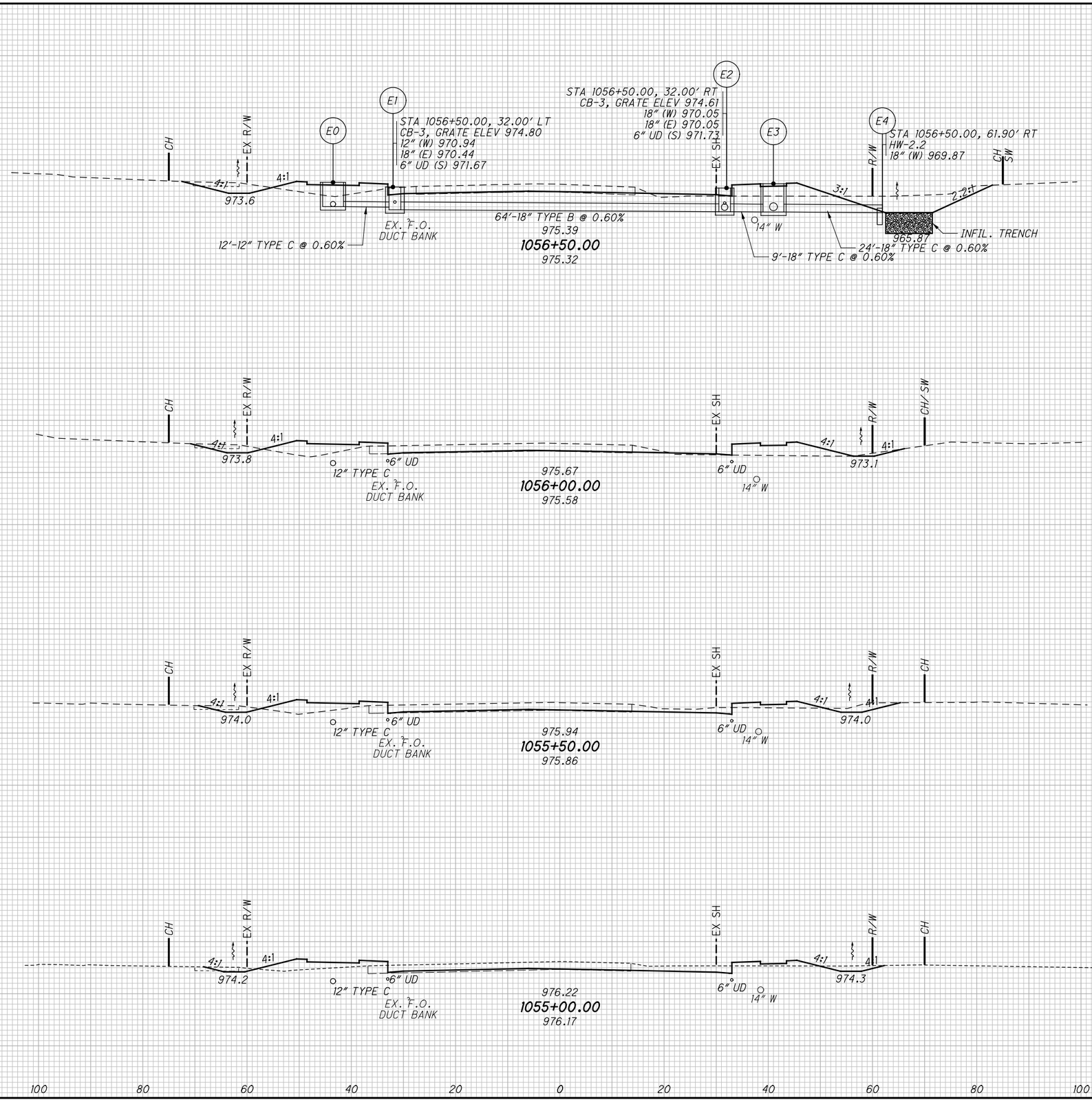
CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1053+00.00 TO STA. 1054+50.00

DEL-CR10-0.90

2952-DR.E

189
437

SEEDING	
END WIDTH	SQ. YDS.
87	428
66	361
63	344
59	322
	1,455



END AREA	
CUT	FILL
149	77
86	79
100	46
95	40

VOLUME	
CUT	FILL
218	144
172	116
181	80
174	74
745	414

CALCULATED AWF

CHECKED PHF

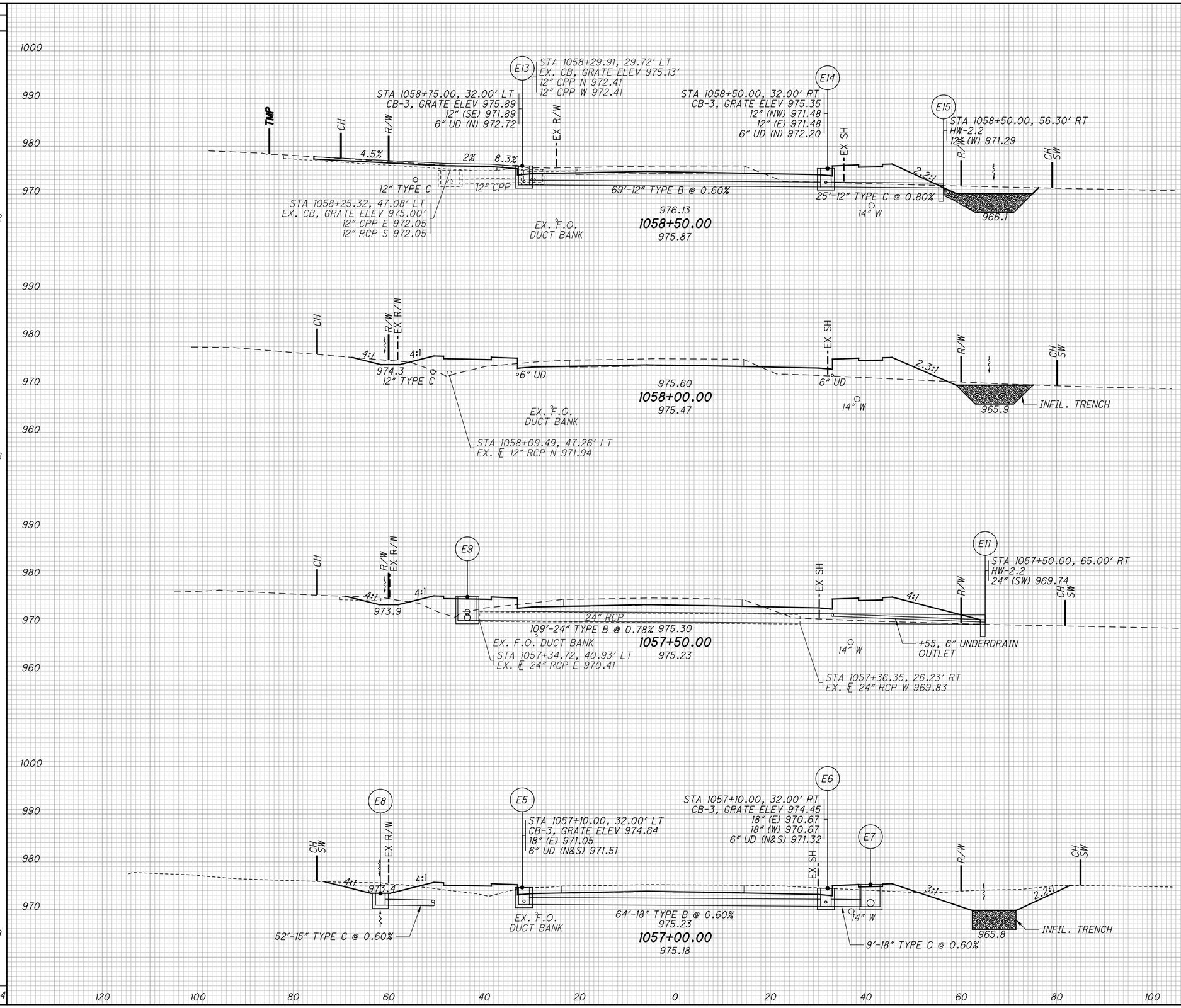
CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1055+00.00 TO STA. 1056+50.00

DEL-CR10-0.90

2952-DR.E

190
437

SEEDING	
END WIDTH	SQ. YDS.
64	372
69	366
62	417
87	489
	1,644



END AREA		VOLUME	
CUT	FILL	CUT	FILL
89	95		
		151	228
74	151		
		141	314
78	188		
		266	217
209	46		
		331	114
		889	873

CALCULATED AWF
CHECKED PHF

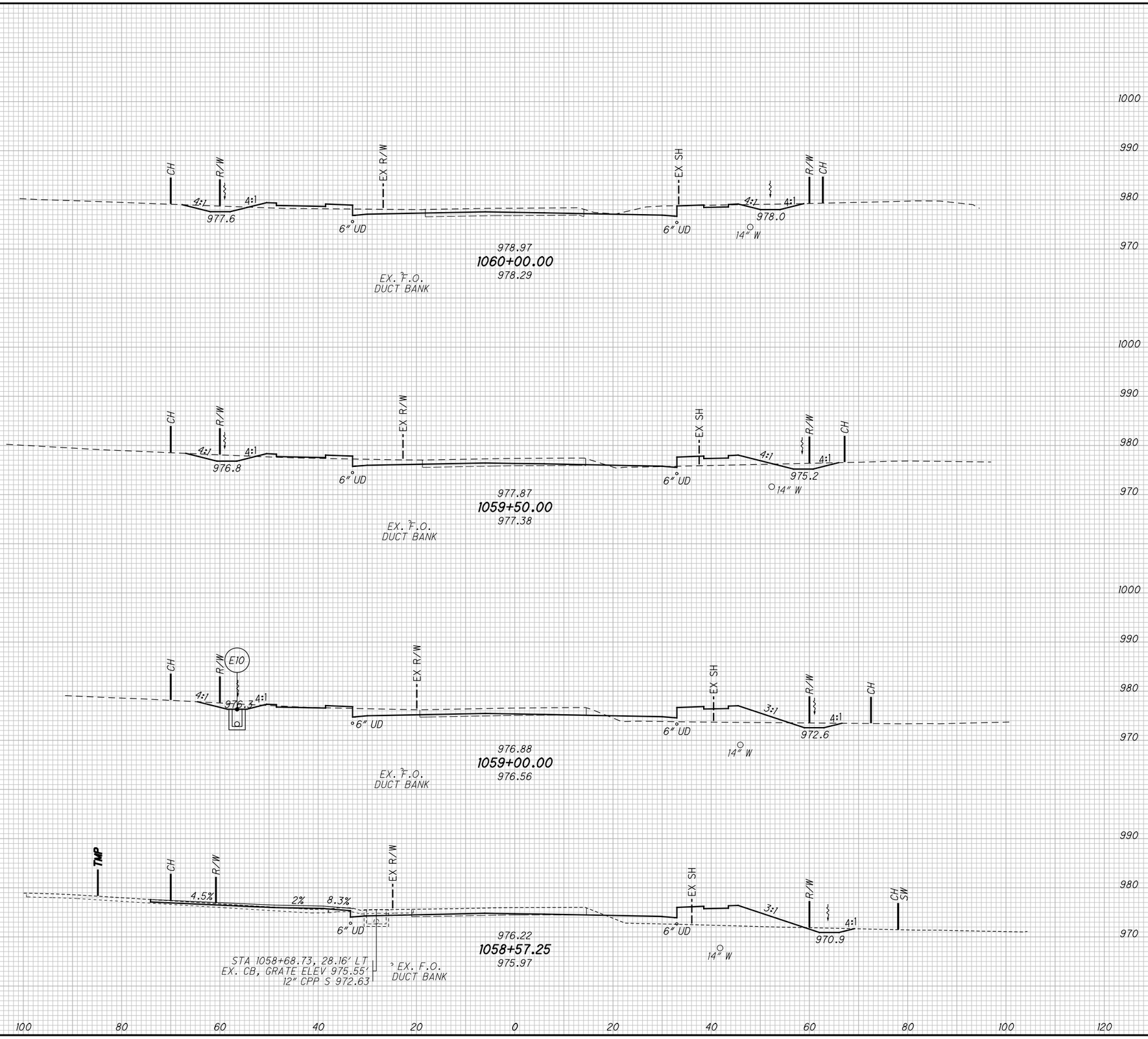
CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1057+00.00 TO STA. 1058+50.00

DEL-CR10-0.90

2952-DR.E

191
437

SEEDING	
END WIDTH	SQ. YDS.
56	334
62	345
60	242
41	42
	963



END AREA	
CUT	FILL
81	14
73	39
78	70
78	93

VOLUME	
CUT	FILL
143	49
140	101
124	129
22	25
429	304

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1058+57.25 TO STA. 1060+00.00

DEL-CR10-0.90

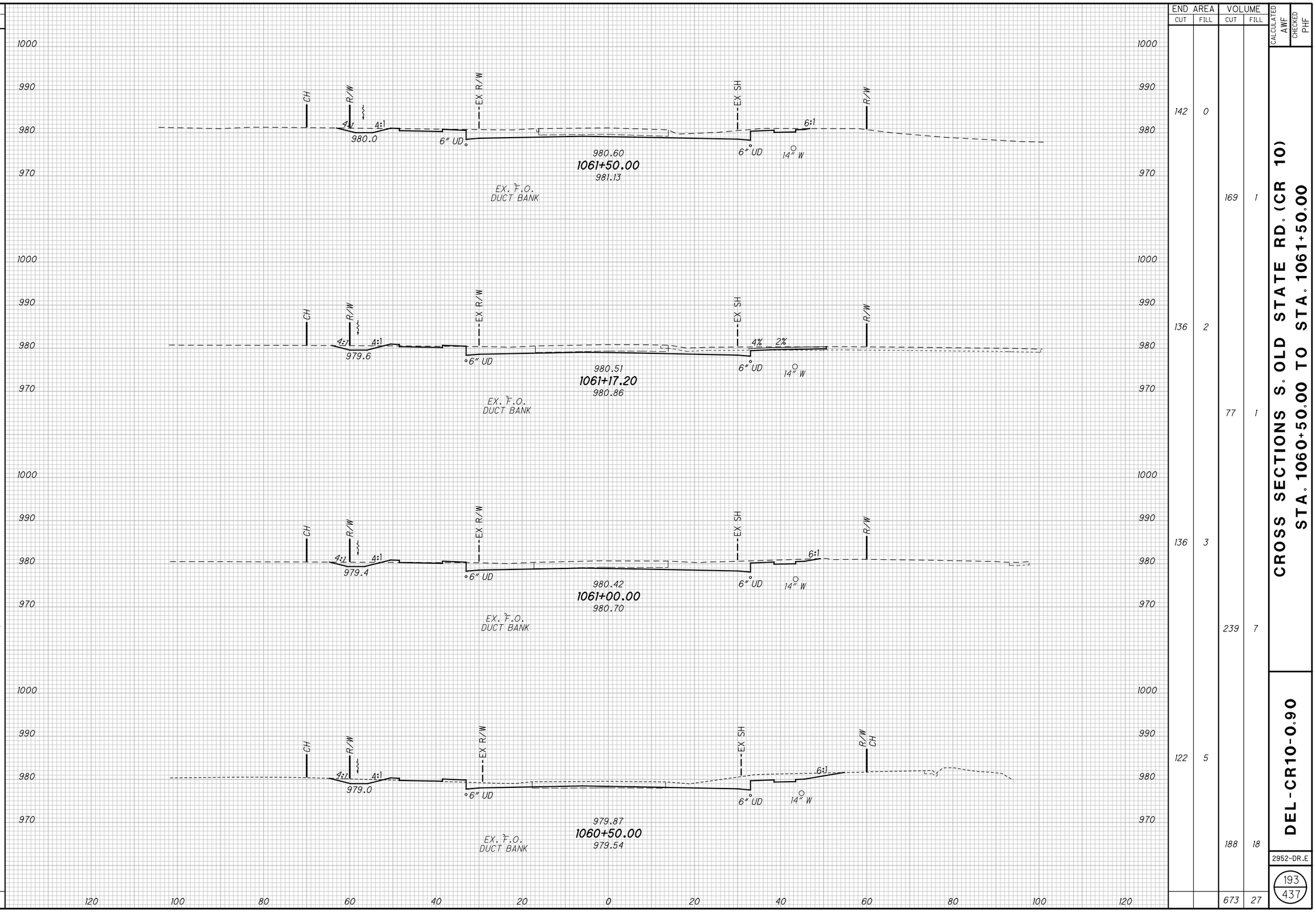
2952-DR.E

192
437

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL
38	128	142	0	169	1
30	63	136	2	77	1
43	256	136	3	239	7
48	294	122	5	188	18
	741			673	27

CALCULATED AWF

CHECKED PHF



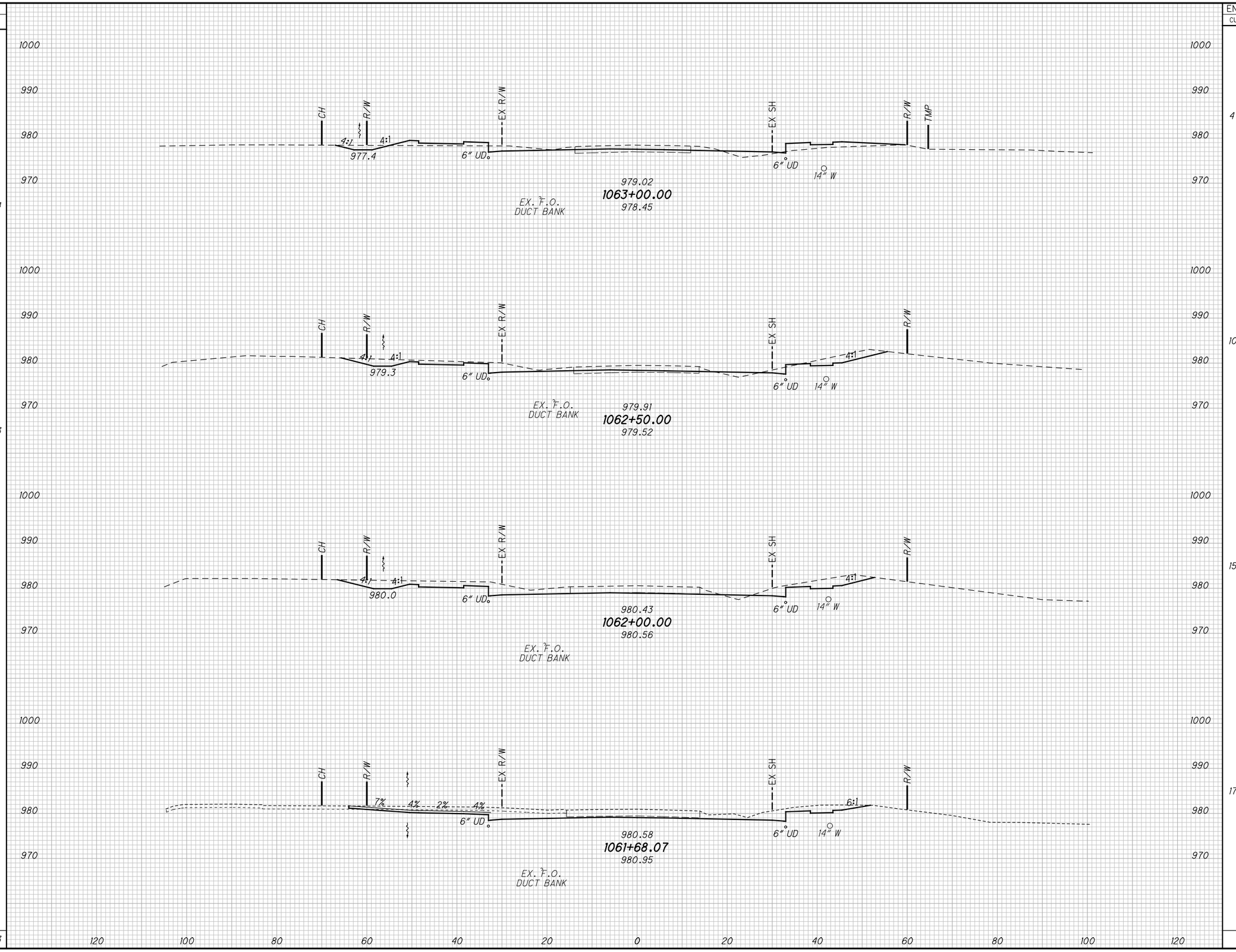
CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1060+50.00 TO STA. 1061+50.00

DEL-CR10-0.90

2952-DR.E

193
437

SEEDING	
END WIDTH	SQ. YDS.
55	294
50	273
47	124
22	62
	753



END AREA		VOLUME	
CUT	FILL	CUT	FILL
47	46		
		139	48
103	6		
		238	8
154	3		
		195	2
175	0		
		106	0
		678	58

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1061+68.07 TO STA. 1063+00.00

DEL-CR10-0.90

2952-DR.E

194
437

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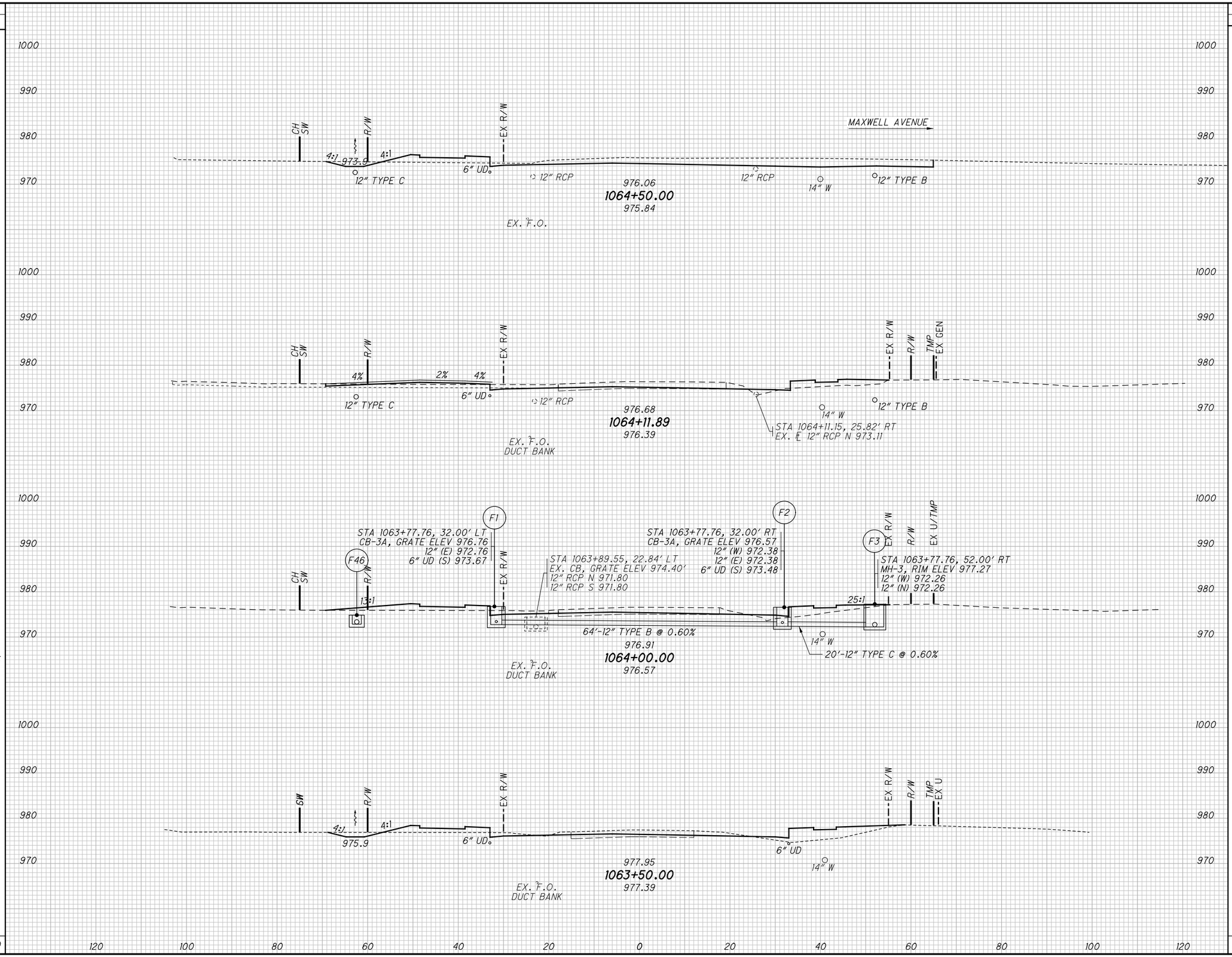
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
35		140	27		
	131			144	44
25		64	36		
	53			26	22
53		54	62		
	305			94	125
56		47	73		
	311			87	110
	800			351	301



CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1063+50.00 TO STA. 1064+50.00

DEL-CR10-0.90

2952-DR.E

195
437

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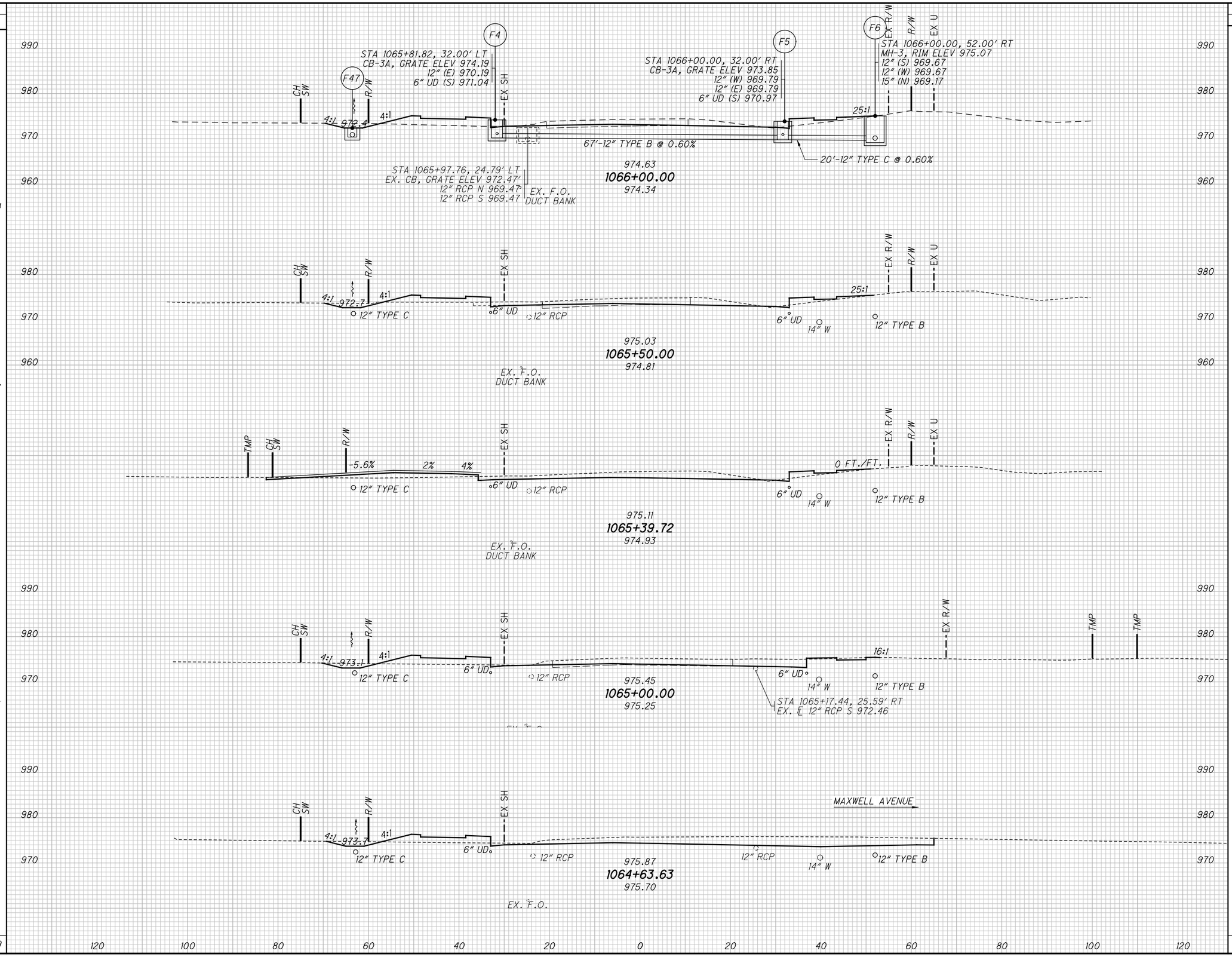
SEEDING END WIDTH	SEEDING SQ. YDS.
	51
	284
	50
	267
	46
	165
	35
	53
	769



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
61	50		
		121	80
70	36		
		149	66
91	35		
153	29		
		164	43
		75	14
		509	203

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1064+63.78 TO STA. 1066+00.00

DEL-CR10-0.90

2952-DR.E

196
437

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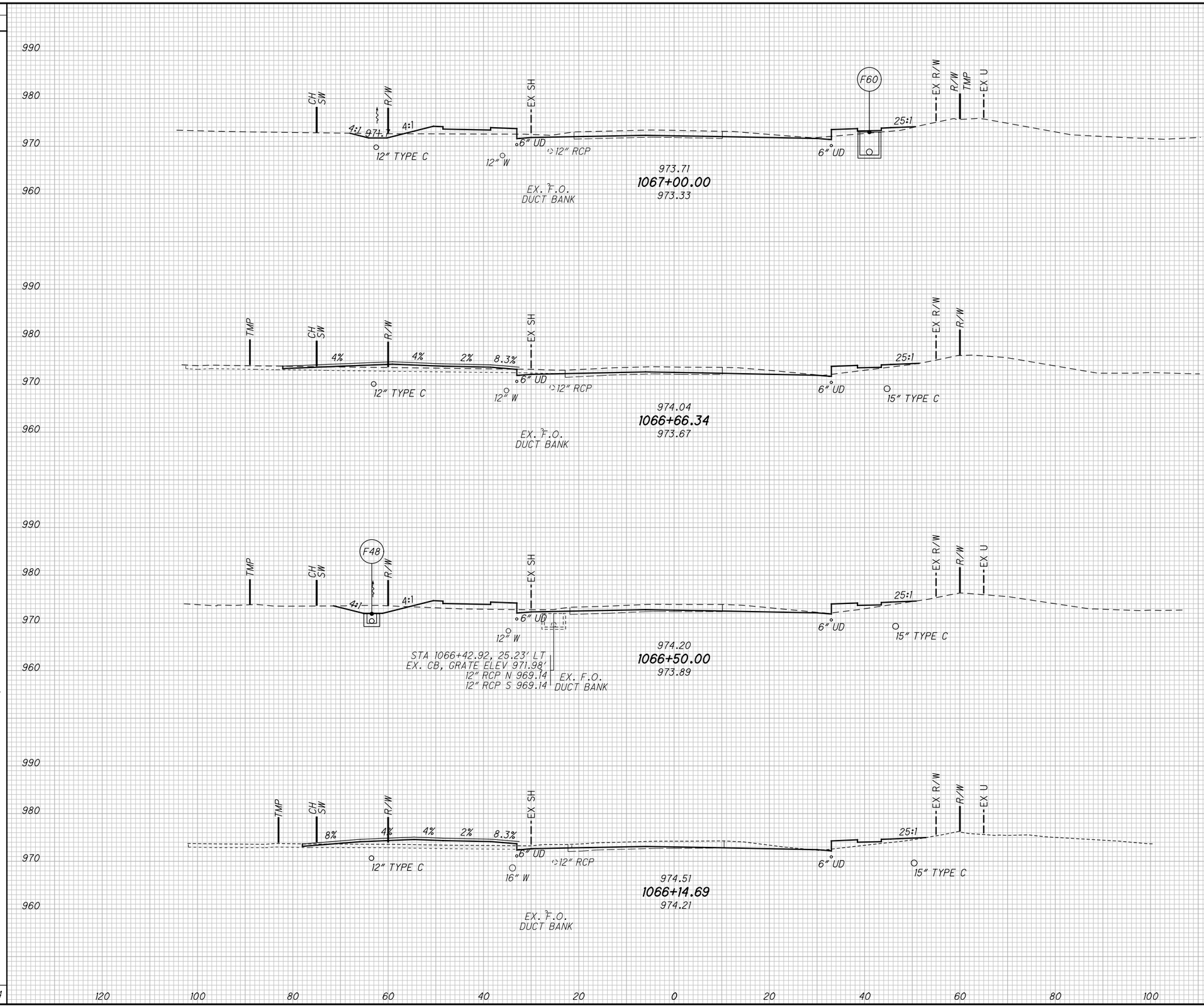
SEEDING	
END WIDTH	SQ. YDS.
47	131
22	67
50	146
23	60
	404



END AREA	
CUT	FILL
62	38
62	29
73	40
60	45

VOLUME	
CUT	FILL
77	42
41	21
87	56
33	26
238	145

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1066+14.69 TO STA. 1067+00.00

DEL-CR10-0.90

2952-DR.E

197
437

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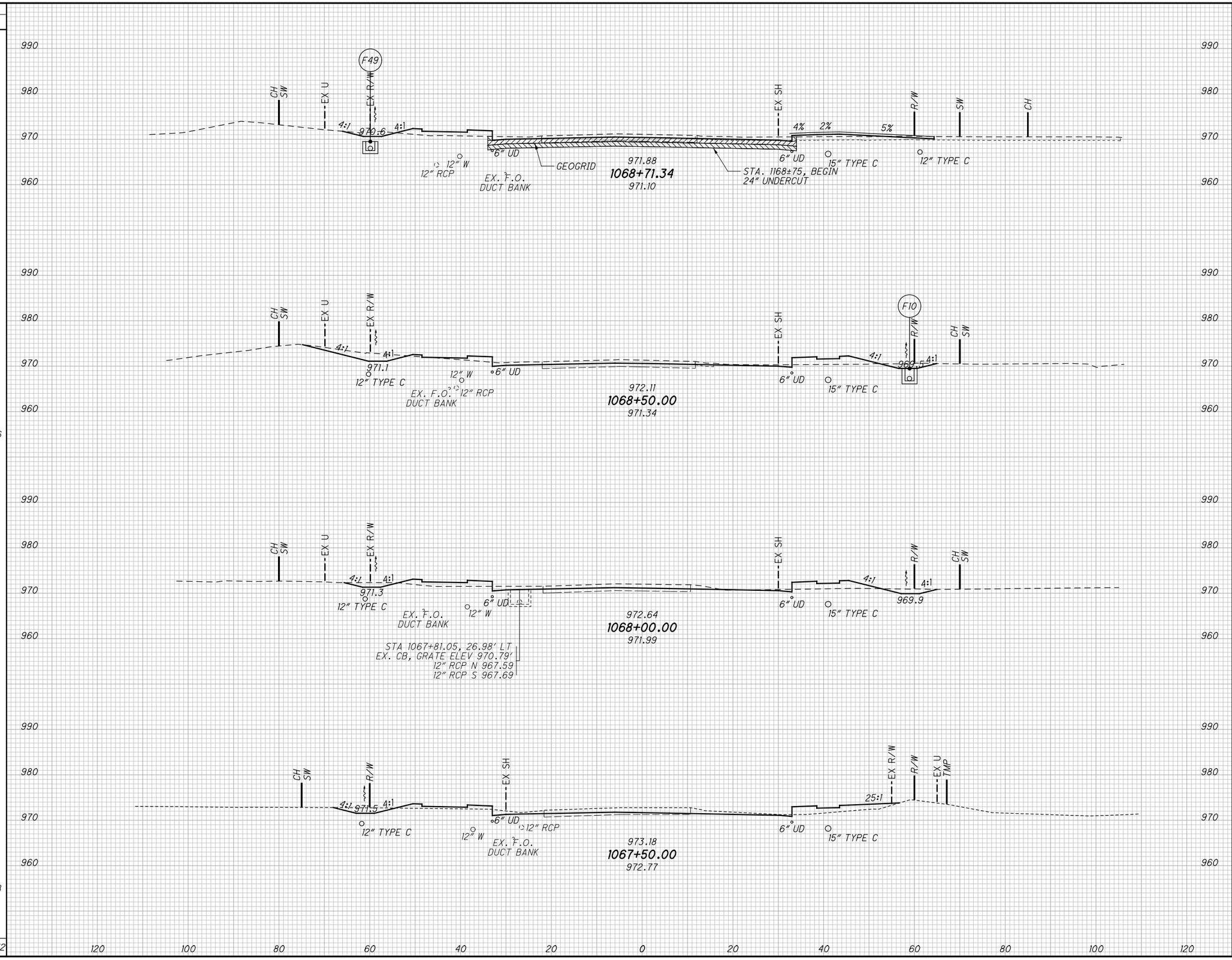
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
32	121	52	29	47	25
69	356	68	34	115	73
59	317	56	45	108	80
53	278	61	41	114	73
	1,072			384	251



CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1067+50.00 TO STA. 1068+71.34

DEL-CR10-0.90

2952-DR.E

198
437

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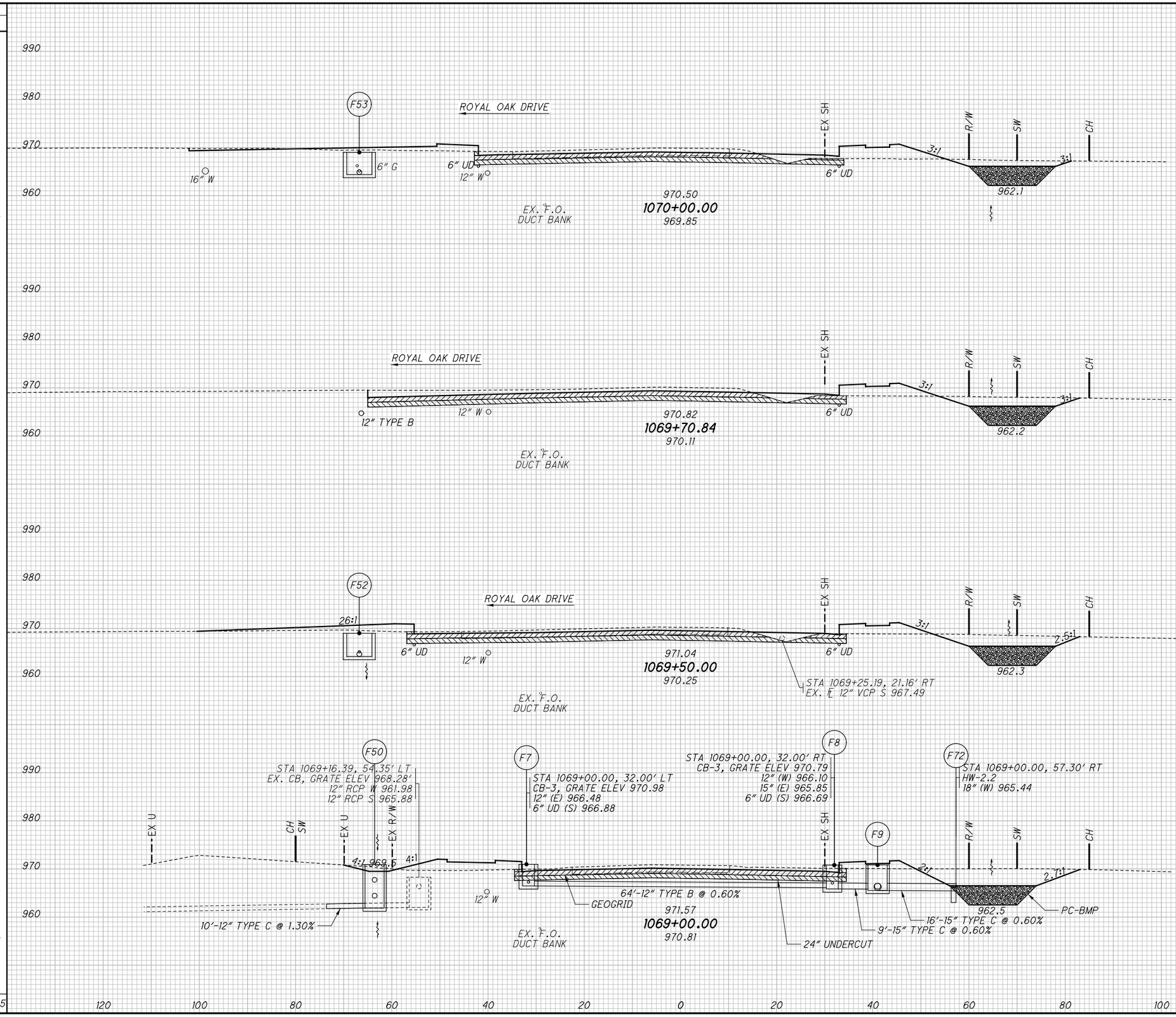
SEEDING	
END WIDTH	SQ. YDS.
57	175
50	174
98	511
84	185
	1,045



END AREA	
CUT	FILL
74	89
110	54
90	81
132	62
98	48
480	309

VOLUME	
CUT	FILL
99	77
77	52
206	132

CALCULATED AWF

CHECKED PHF

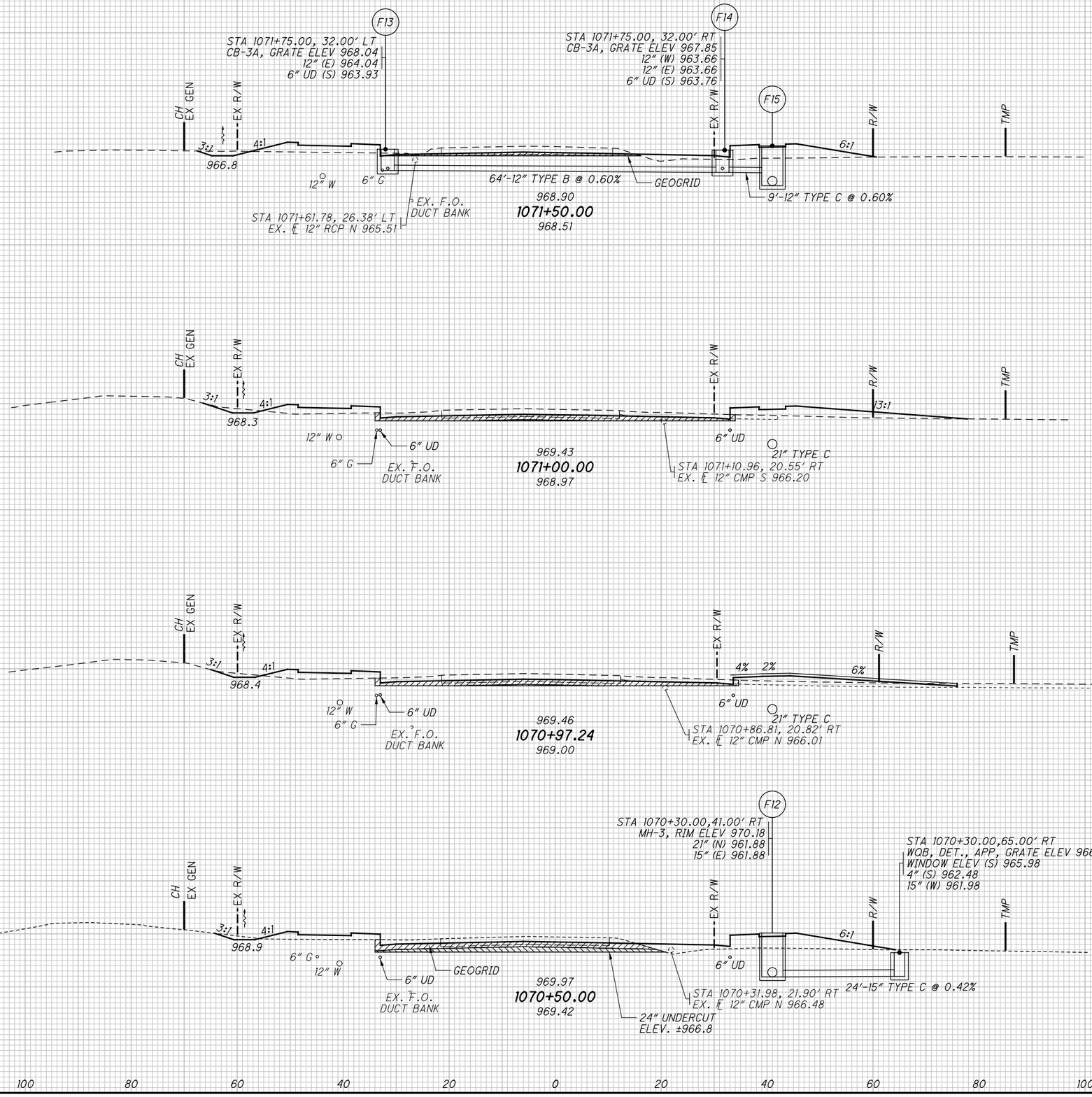
CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1069+00.00 TO STA. 1070+00.00

DEL-CR10-0.90

2952-DR.E

199
437

SEEDING END WIDTH	SEEDING SQ. YDS.
56	361
72	16
31	236
57	322
	935



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
49	95		
		106	157
66	75		
		7	6
67	47		
		98	126
45	97		
		110	172
		321	461

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1070+50.00 TO STA. 1071+50.00

DEL-CR10-0.90

2952-DR.E

200
437

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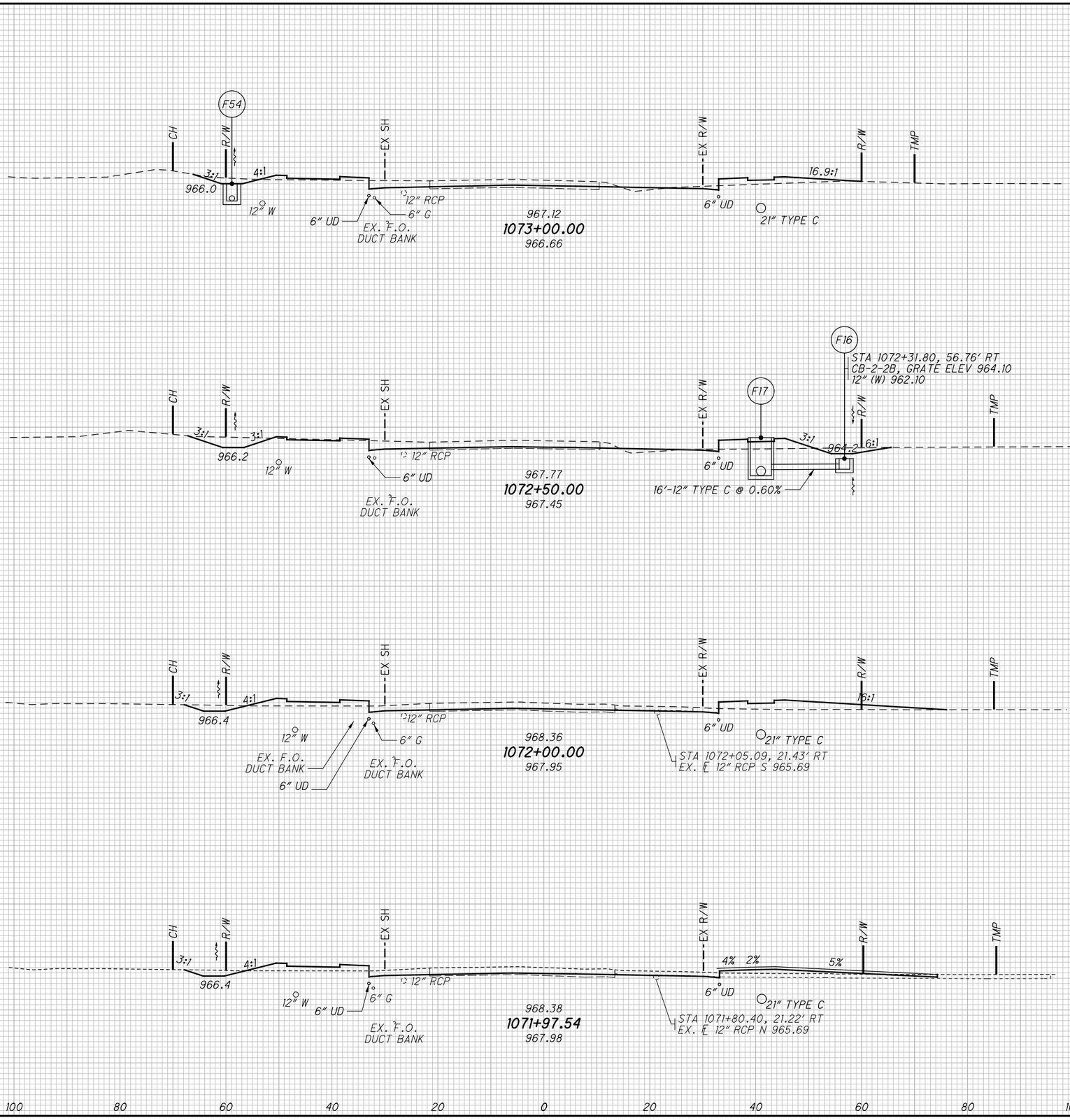
SEEDING	
END WIDTH	SQ. YDS.
55	328
62	378
73	15
34	243
	964



END AREA	
CUT	FILL
62	33
89	35
77	65
79	34

VOLUME	
CUT	FILL
140	63
154	93
7	5
113	114
414	275

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1071+97.54 TO STA. 1073+00.00

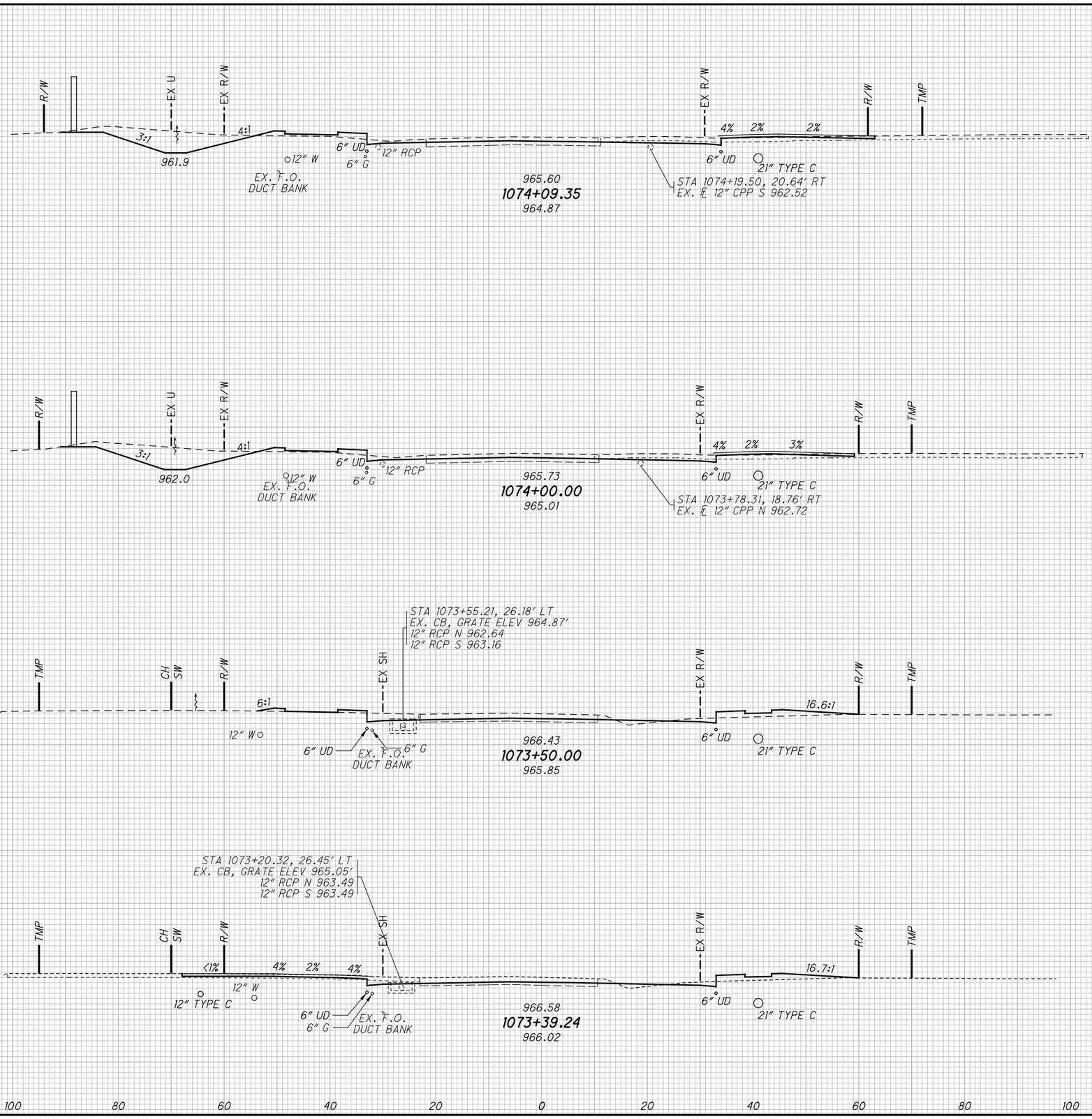
DEL-CR10-0.90

2952-DR.E

201
437

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
58	60	137	13	48	4
58	345	139	11	211	38
65	57	89	30	31	11
30	188	69	24	95	41
	650			385	94

CALCULATED AWF
CHECKED PHF



CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1073+39.24 TO STA. 1074+09.35

DEL-CR10-0.90

2952-DR.E

202
437

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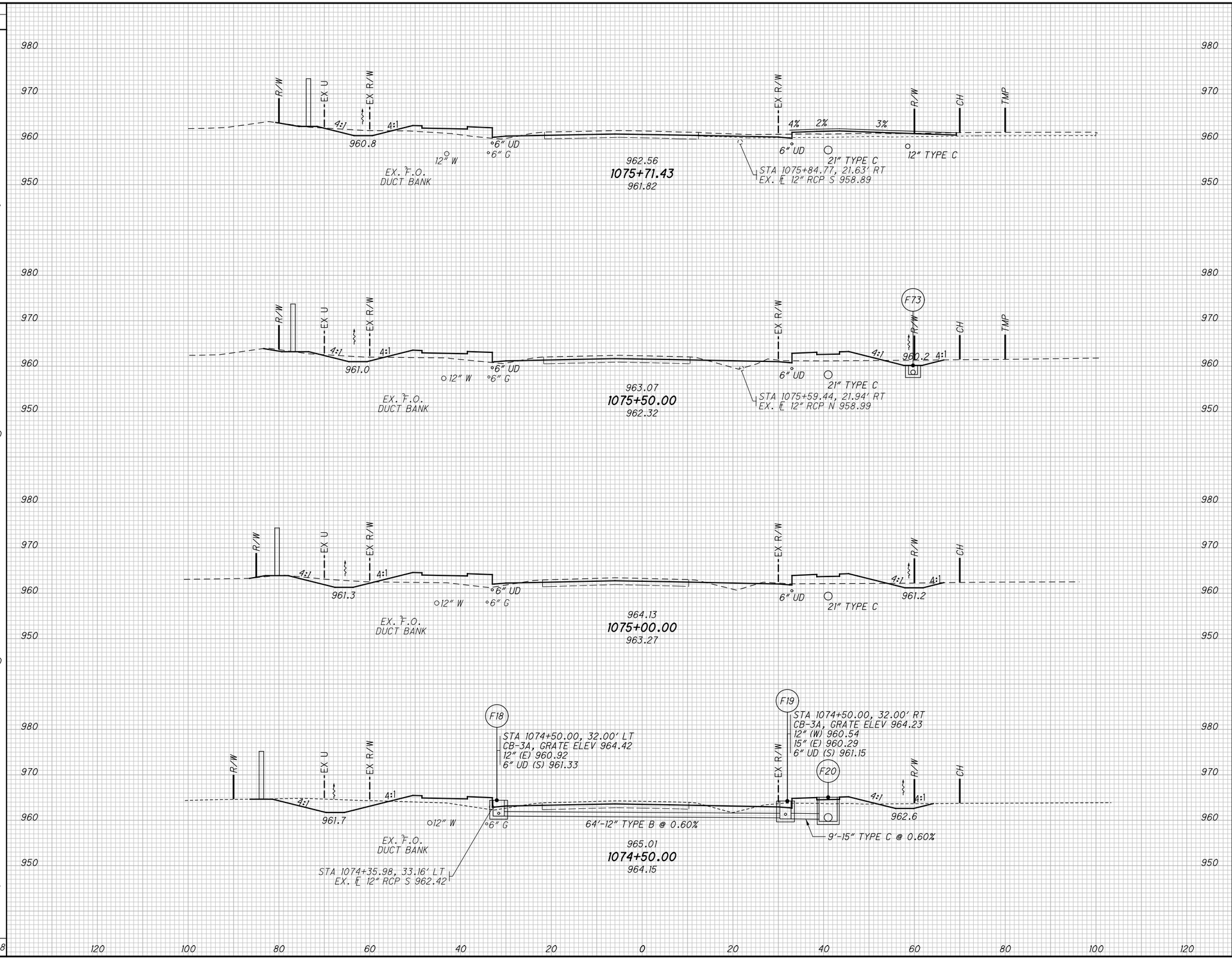
SEEDING END WIDTH	SEEDING SQ. YDS.
47	152
79	450
82	450
80	316
	1,368



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
53	40	41	45
51	74	94	151
51	89	121	138
80	60	163	55
		419	389

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1074+50.00 TO STA. 1075+71.43

DEL-CR10-0.90

2952-DR.E

203
437

SEEDING END WIDTH	SEEDING SQ. YDS.
58	204
35	57
58	328
60	171
	760

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
83	17	113	20
73	11	29	6
71	21	122	61
61	45	60	45
		324	132

CALCULATED AWF
CHECKED PHF

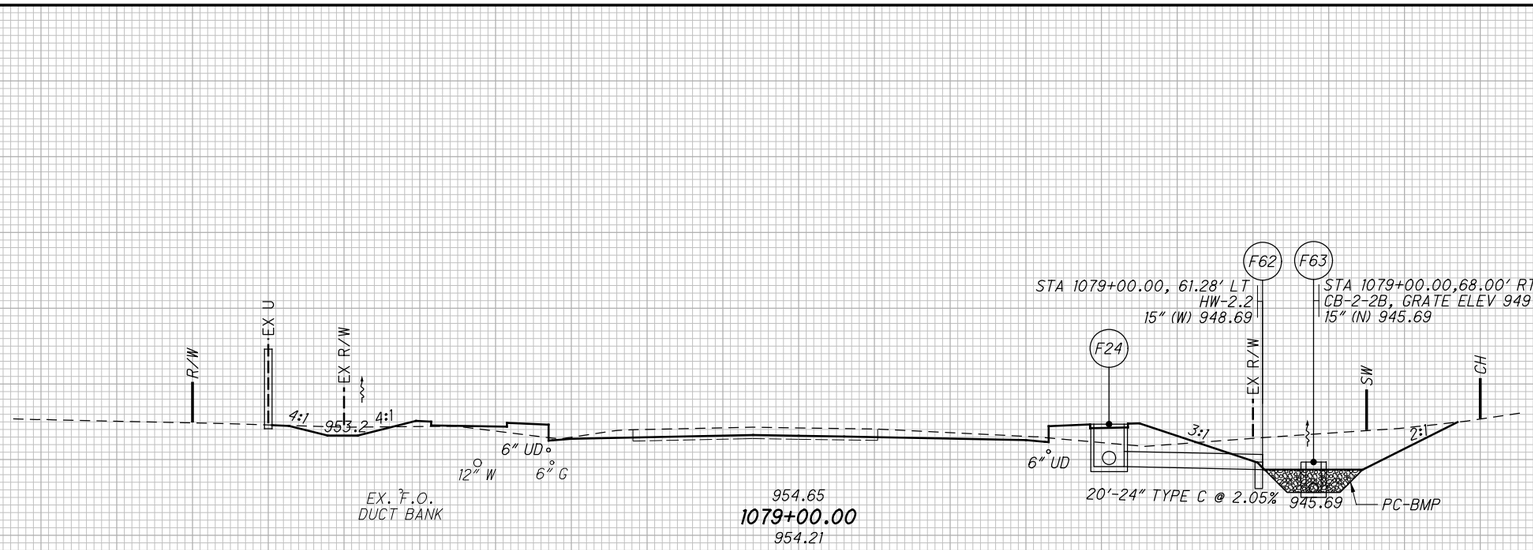
CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1076+00.00 TO STA. 1077+00.00

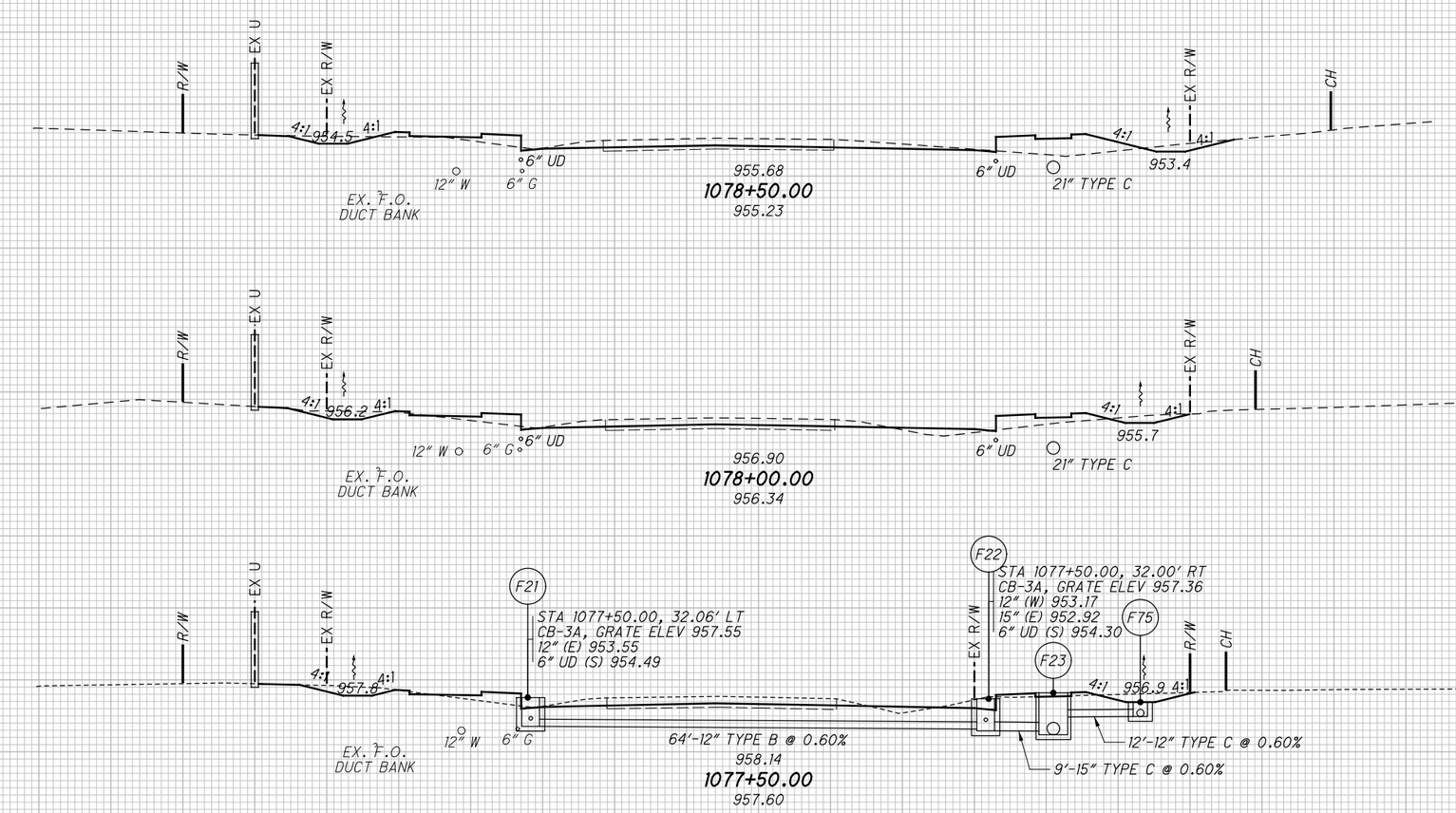
DEL-CR10-0.90

2952-DR.E

204
437

SEEDING END WIDTH	SEEDING SQ. YDS.
87	422
64	339
58	322
58	328
	1,411





END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
176	50		
		226	95
68	53		
		118	82
59	36		
		119	51
69	19		
		141	33
		604	261

CALCULATED AWF
CHECKED PHF

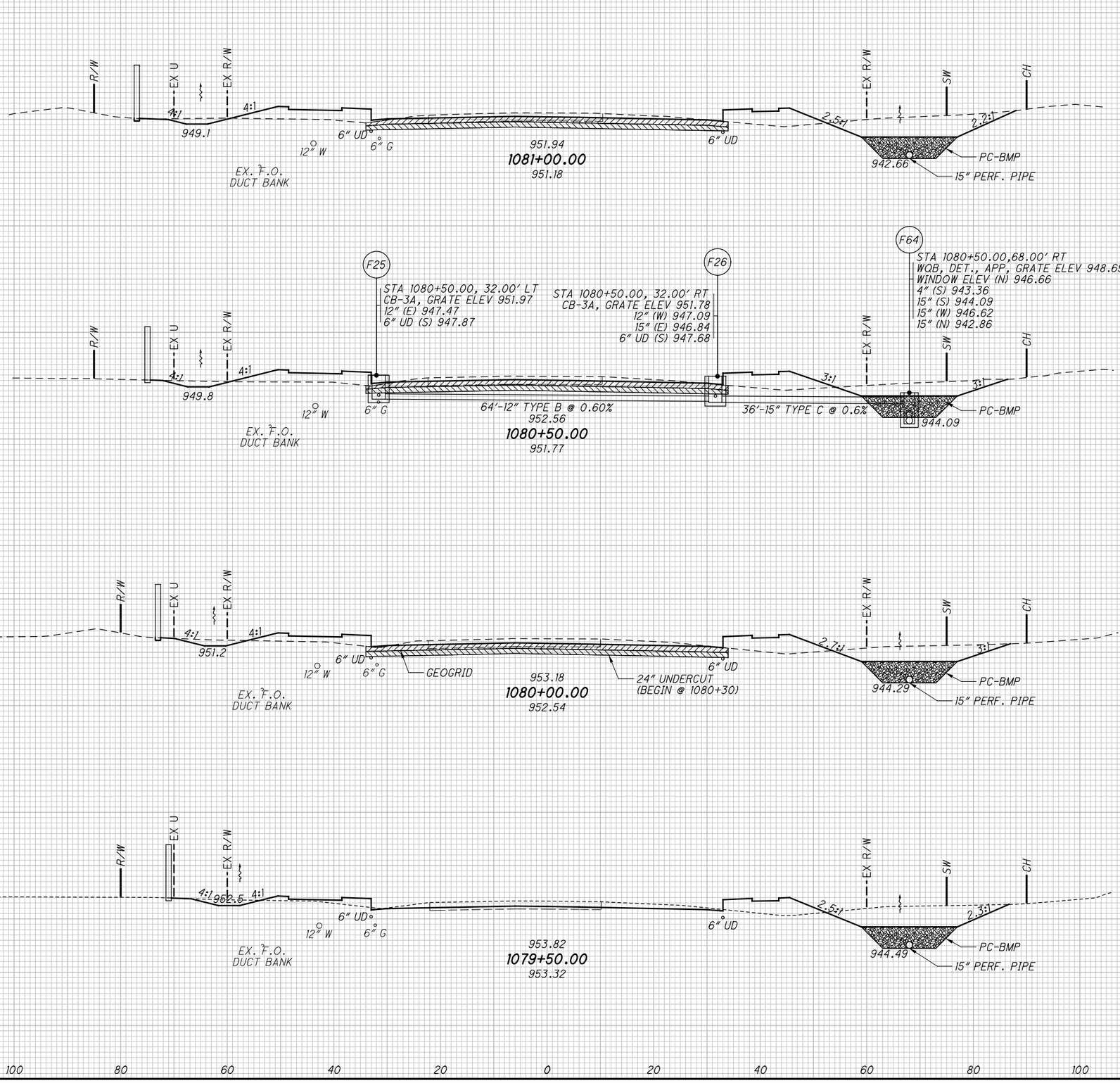
CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1077+50.00 TO STA. 1079+00.00

DEL-CR10-0.90

2952-DR.E

205
437

SEEDING END WIDTH	SEEDING SQ. YDS.
95	517
90	494
86	483
88	489
	1,983



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
131	99	209	184
95	100	195	169
116	83	248	135
152	63	304	105
		956	593

CALCULATED AWF

CHECKED PHF

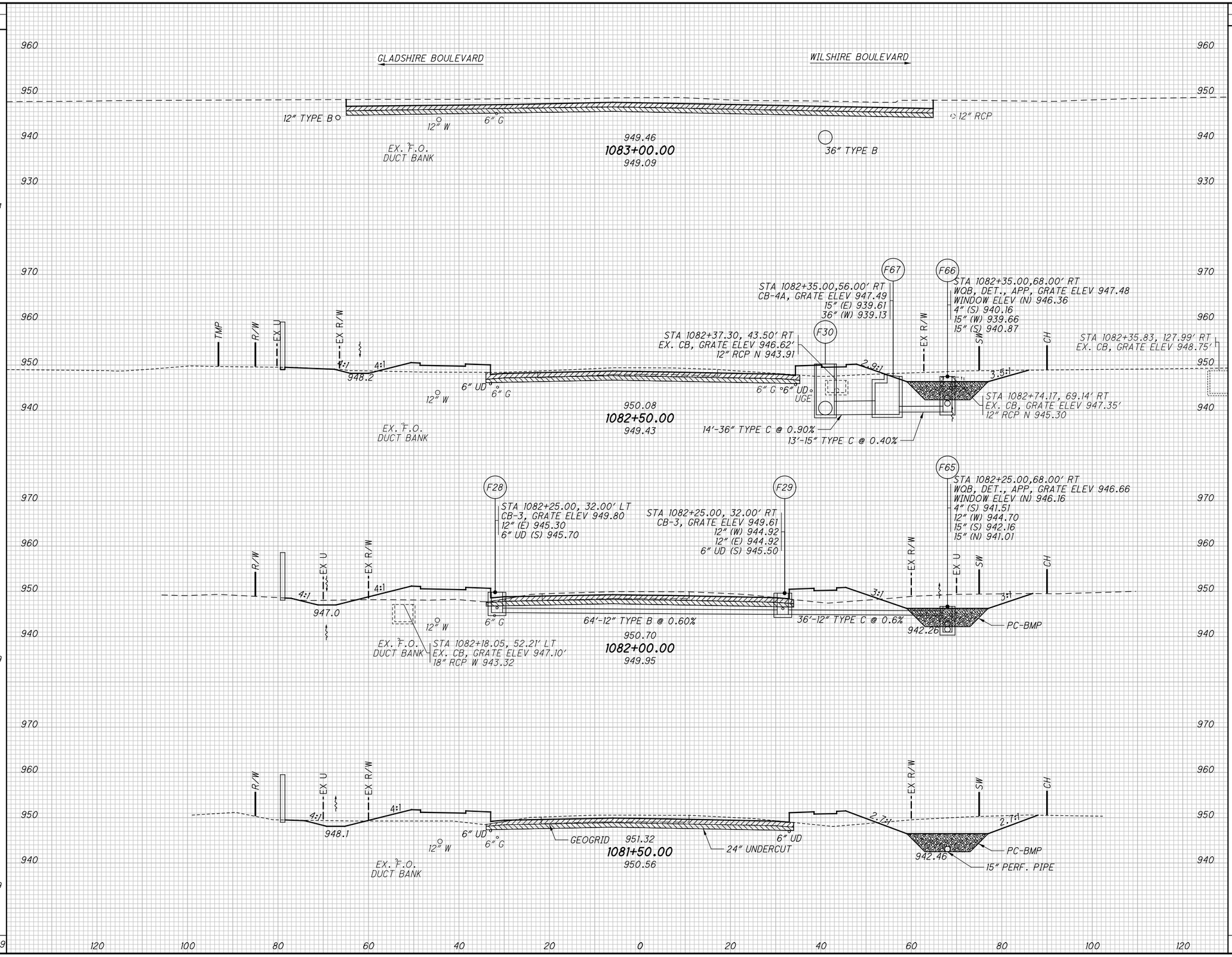
CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1079+50.00 TO STA. 1081+00.00

DEL-CR10-0.90

2952-DR.E

206
437

SEEDING END WIDTH	SEEDING SQ. YDS.
0	
	244
88	
	517
96	
	539
98	
	539
	1,839



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
159	0		
		235	67
95	72		
		196	174
117	116		
		233	201
135	101		
		246	185
		910	627

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1081+50.00 TO STA. 1083+00.00

DEL-CR10-0.90

2952-DR.E

207
437

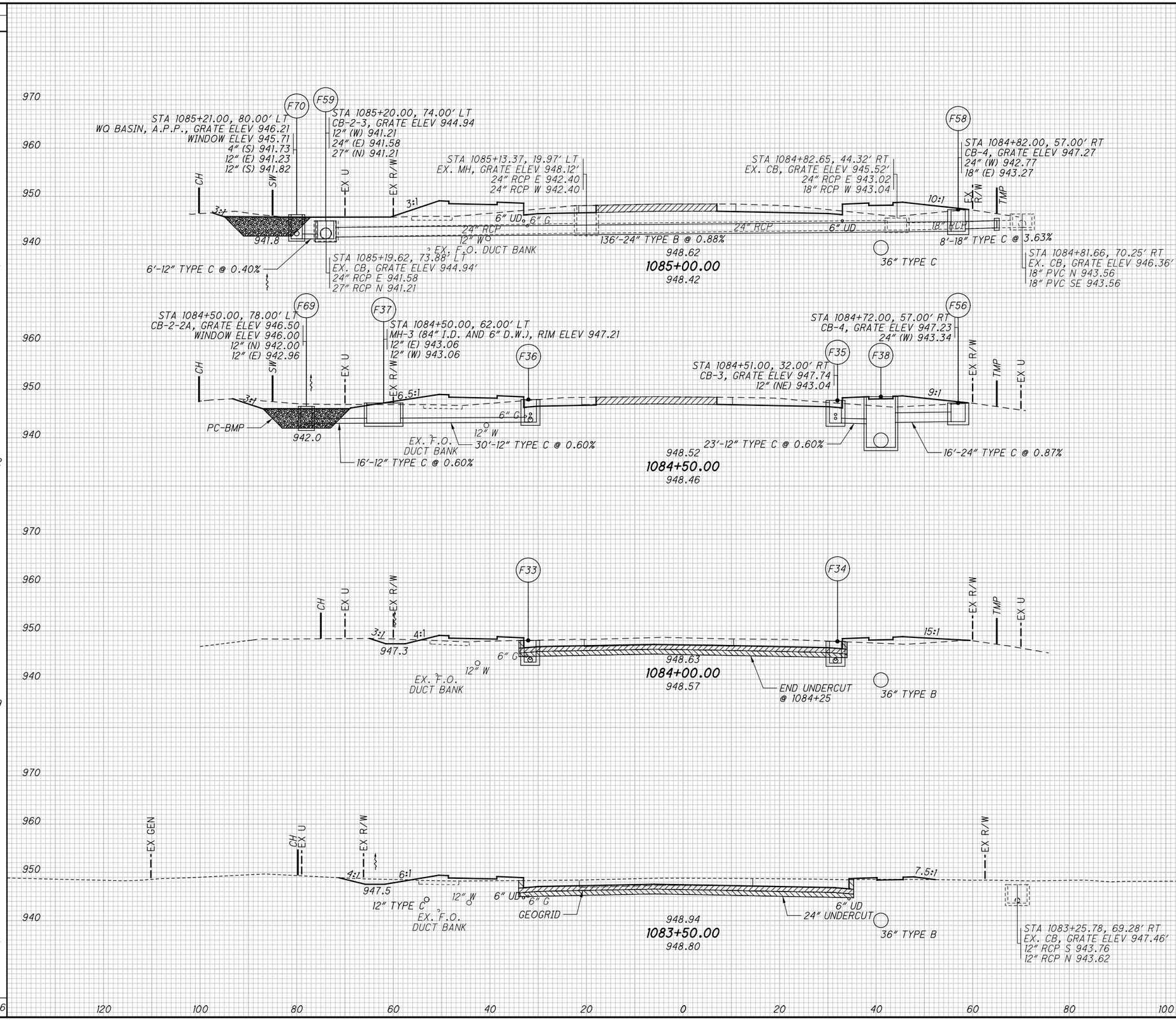
SEEDING	
END WIDTH	SQ. YDS.
85	461
81	372
53	289
50	144
	1,266

END AREA	
CUT	FILL
62	100
85	75
100	36
106	19

VOLUME	
CUT	FILL
136	162
171	103
191	51
245	18
743	334

CALCULATED AWF

CHECKED PHF



CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1083+50.00 TO STA. 1085+00.00

DEL-CR10-0.90

2952-DR.E

208
437

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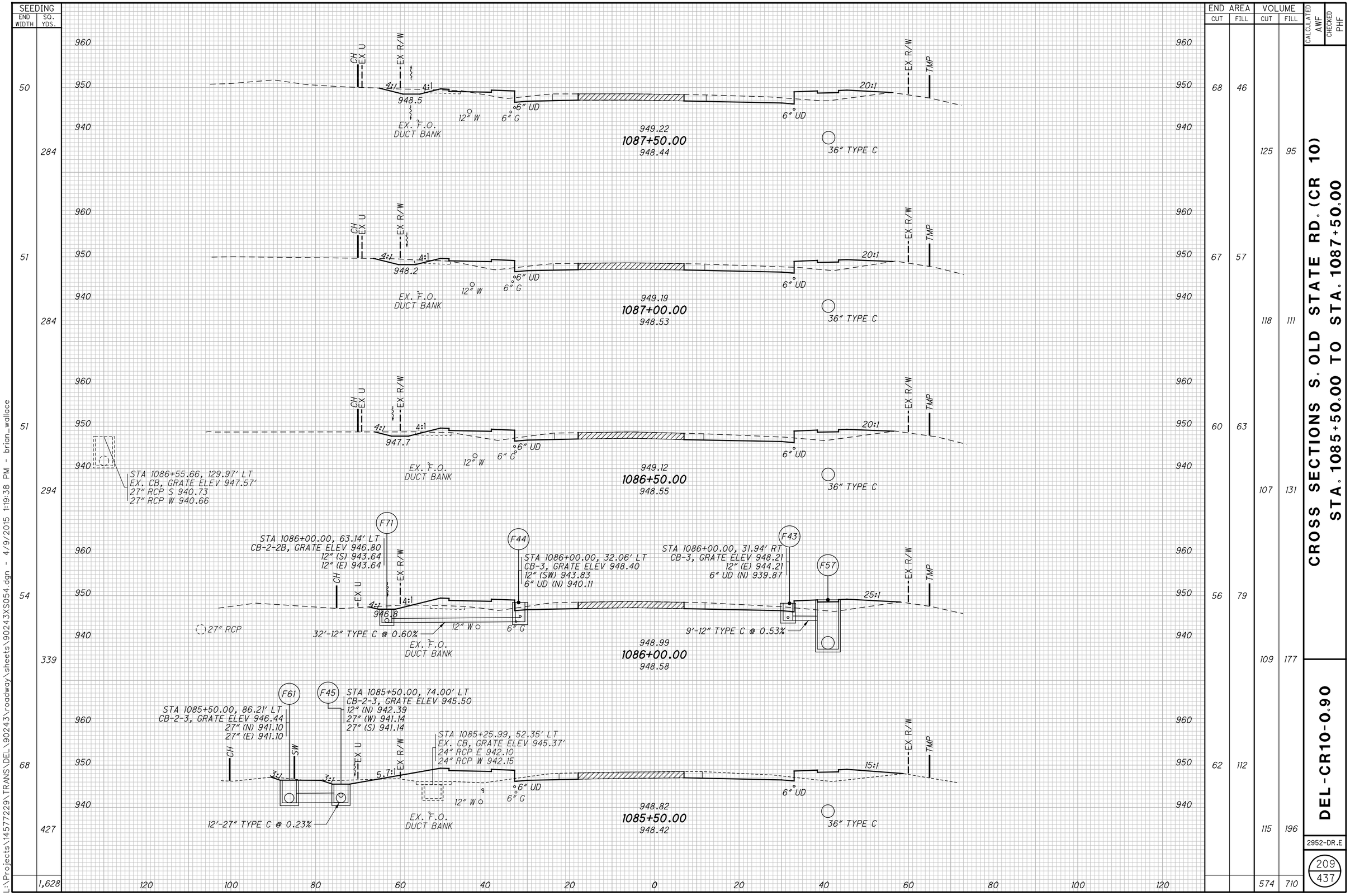
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
50	284	68	46	125	95
51	284	67	57	118	111
51	294	60	63	107	131
54	339	56	79	109	177
68	427	62	112	115	196
	1,628			574	710

CALCULATED AWF

CHECKED PHF



CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1085+50.00 TO STA. 1087+50.00

DEL-CR10-0.90

2952-DR.E

209
437

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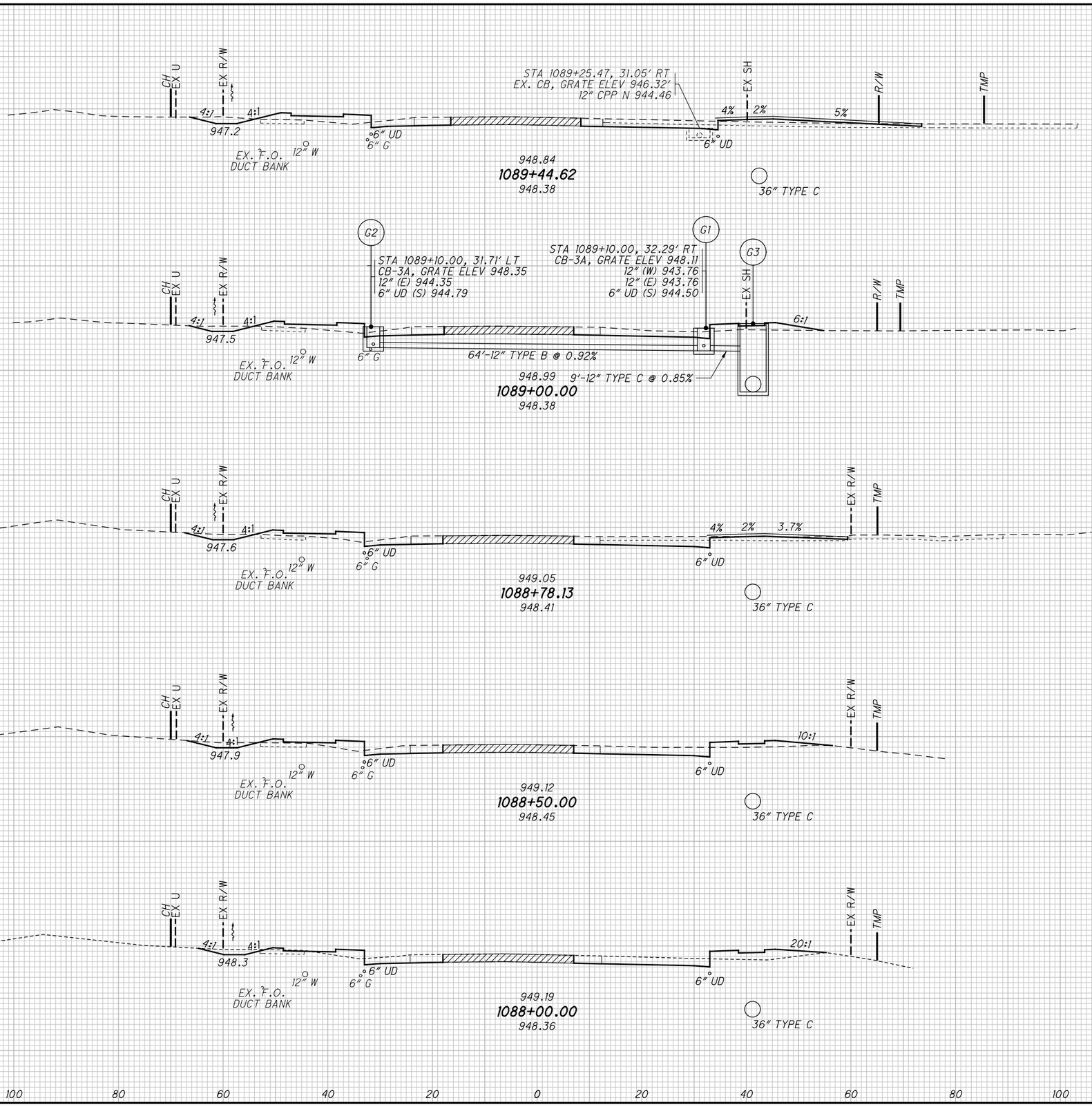
SEEDING END WIDTH	SEEDING SQ. YDS.
34	208
49	102
33	135
52	284
48	278
	1,007



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
73	35		
		110	64
60	42		
		56	25
78	19		
		76	27
68	33		
		125	67
67	39		
		125	79
		492	262

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1088+00.00 TO STA. 1089+44.62

DEL-CR10-0.90

2952-DR.E

210
437

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SEEDING END WIDTH	SEEDING SQ. YDS.
39	76
65	367
65	356
61	267
34	20
	1,086

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
90	31	43	20
88	51	146	111
70	69	121	121
61	62	124	89
73	34	15	7
		449	348

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1089+50.00 TO STA. 1091+12.94

DEL-CR10-0.90

2952-DR.E

211
437

SEEDING END WIDTH	SEEDING SQ. YDS.
65	350
61	367
70	289
32	148
	1,154

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
57	76		
39	161		
		89	219
		103	244
72	102		
		122	141
60	50		
		103	56
		417	660

CALCULATED AWF

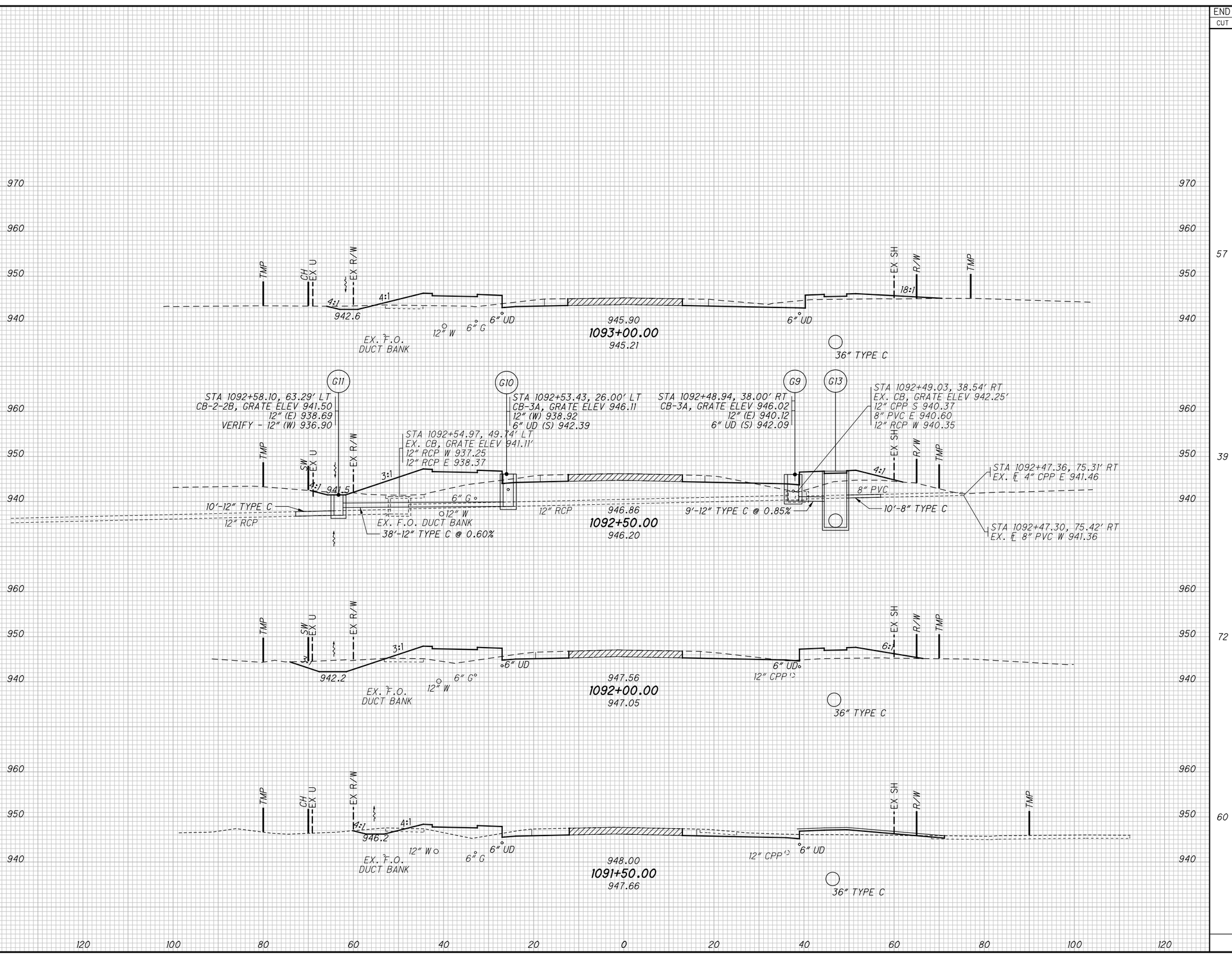
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1091+50.00 TO STA. 1093+00.00

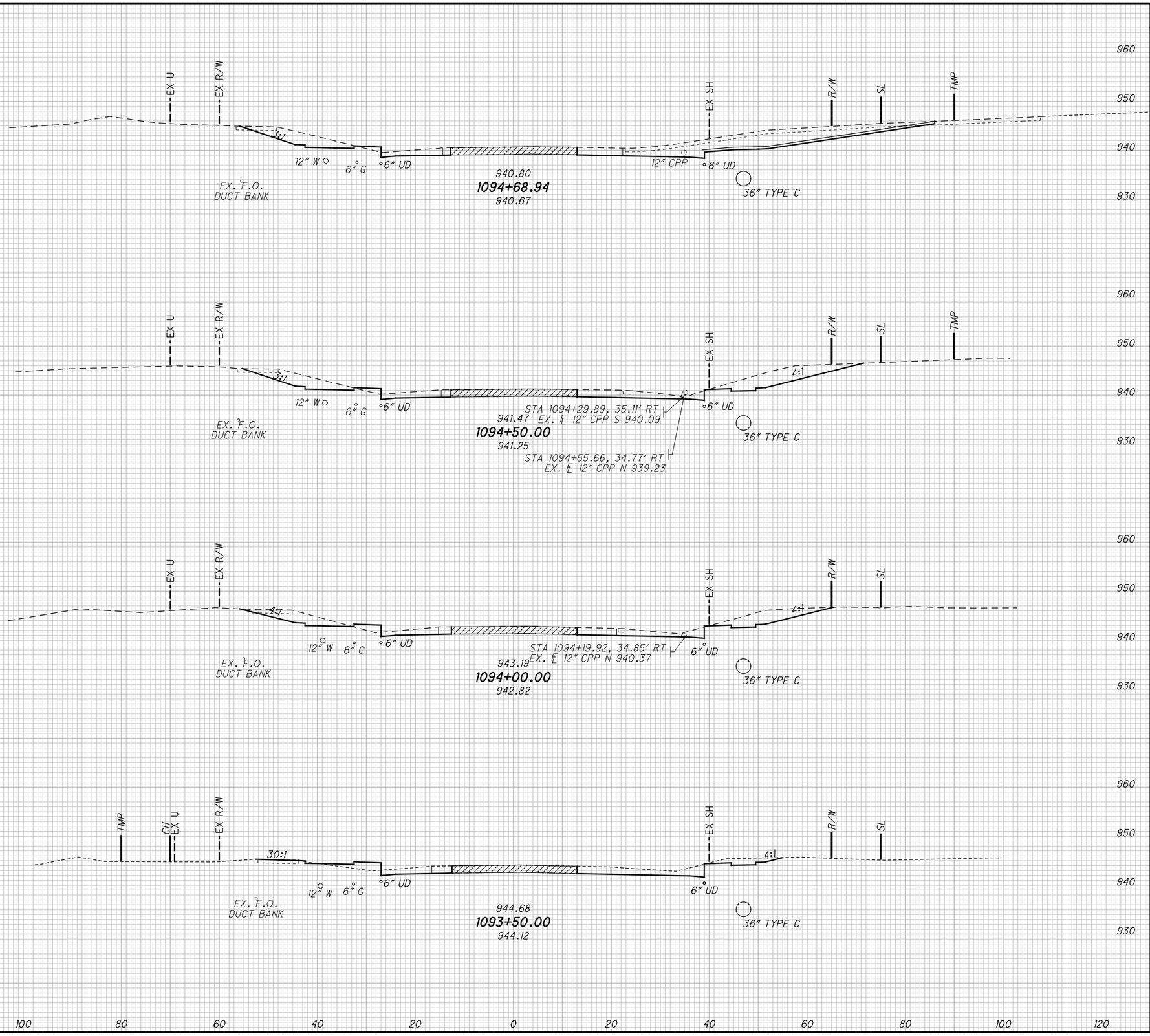
DEL-CR10-0.90

2952-DR.E

212
437



SEEDING	
END WIDTH	SQ. YDS.
28	91
56	300
50	239
36	283
	913



END AREA		VOLUME	
CUT	FILL	CUT	FILL
227	3	131	2
147	4	247	10
120	7	174	18
68	12	116	81
		668	111

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1093+50.00 TO STA. 1094+68.94

DEL-CR10-0.90

2952-DR.E

213
437

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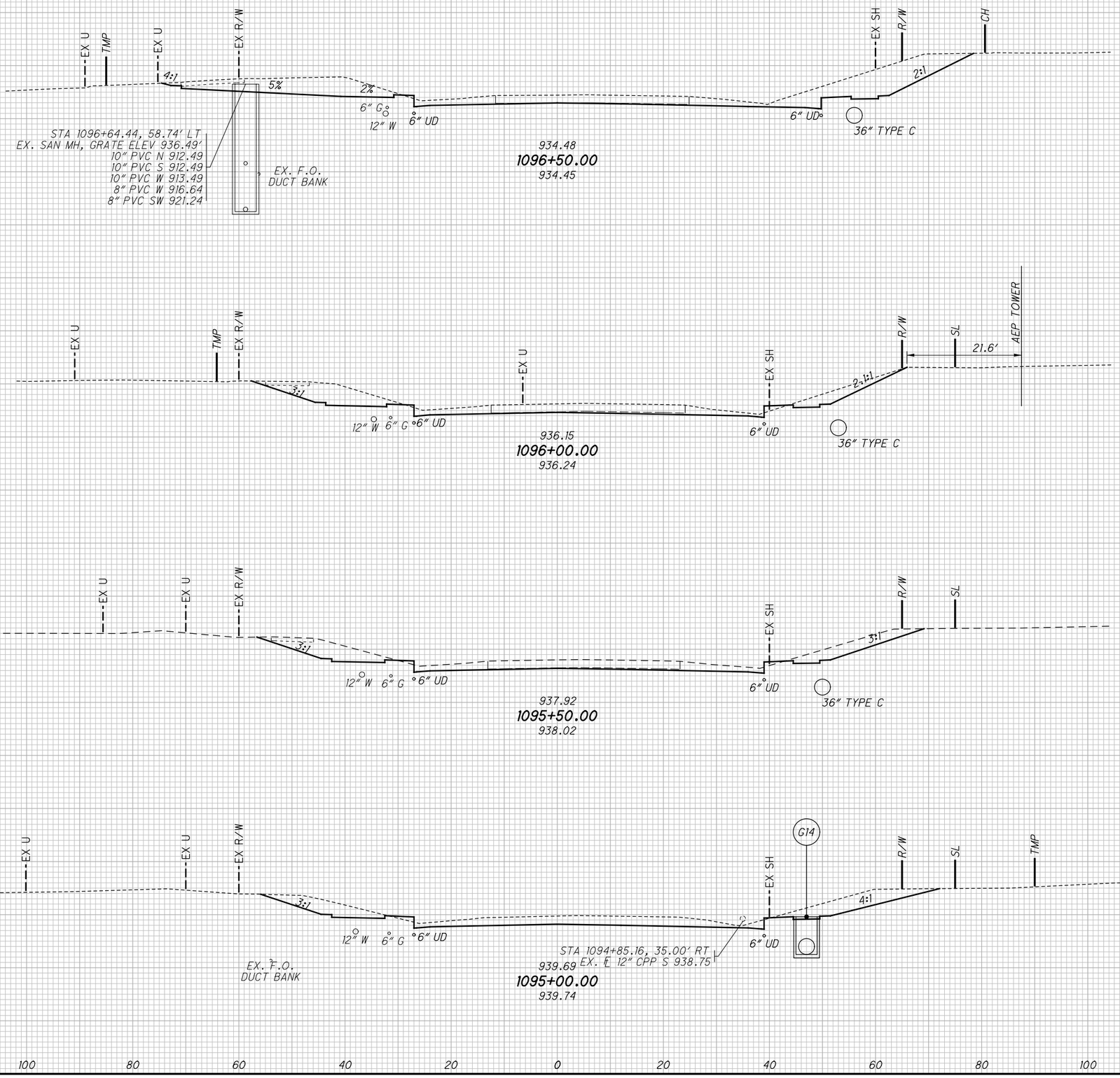
SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
42	261	327	1	479	4
52	306	190	3	356	6
56	317	194	3	358	5
57	149	193	2	242	3
	1,033			1,435	18



CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1095+00.00 TO STA. 1096+50.00

DEL-CR10-0.90

2952-DR.E

214
437

CALCULATED AWF

CHECKED PHF

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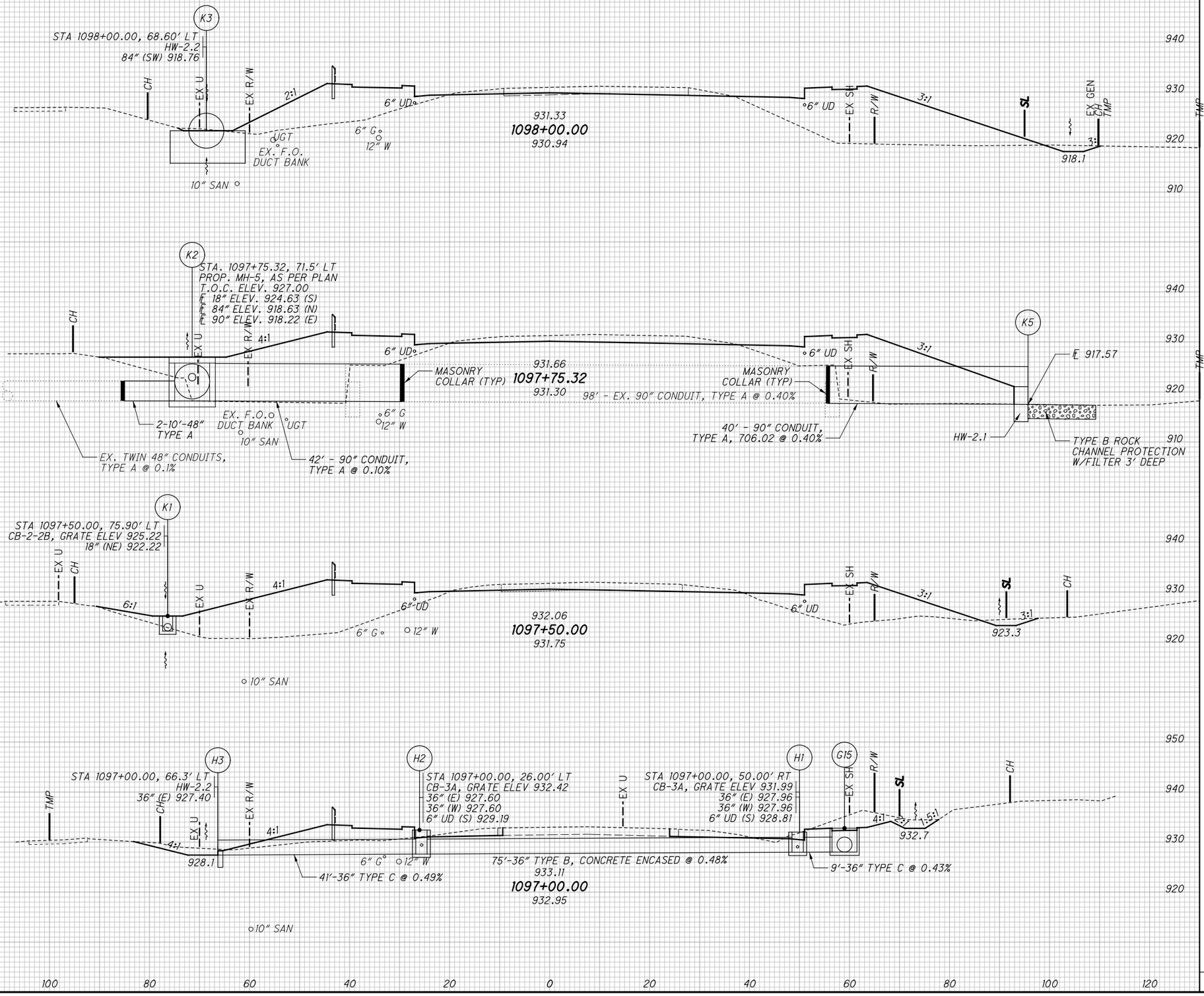
SEEDING	
END WIDTH	SQ. YDS.
	285
	298
	339
	1,444



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		76	577
		65	664
		66	876
		68	686
		78	586
		167	616
		102	79
		397	74
		697	2,040

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1097+00.00 TO STA. 1098+00.00

DEL-CR10-0.90

2952-DR.E

215
437

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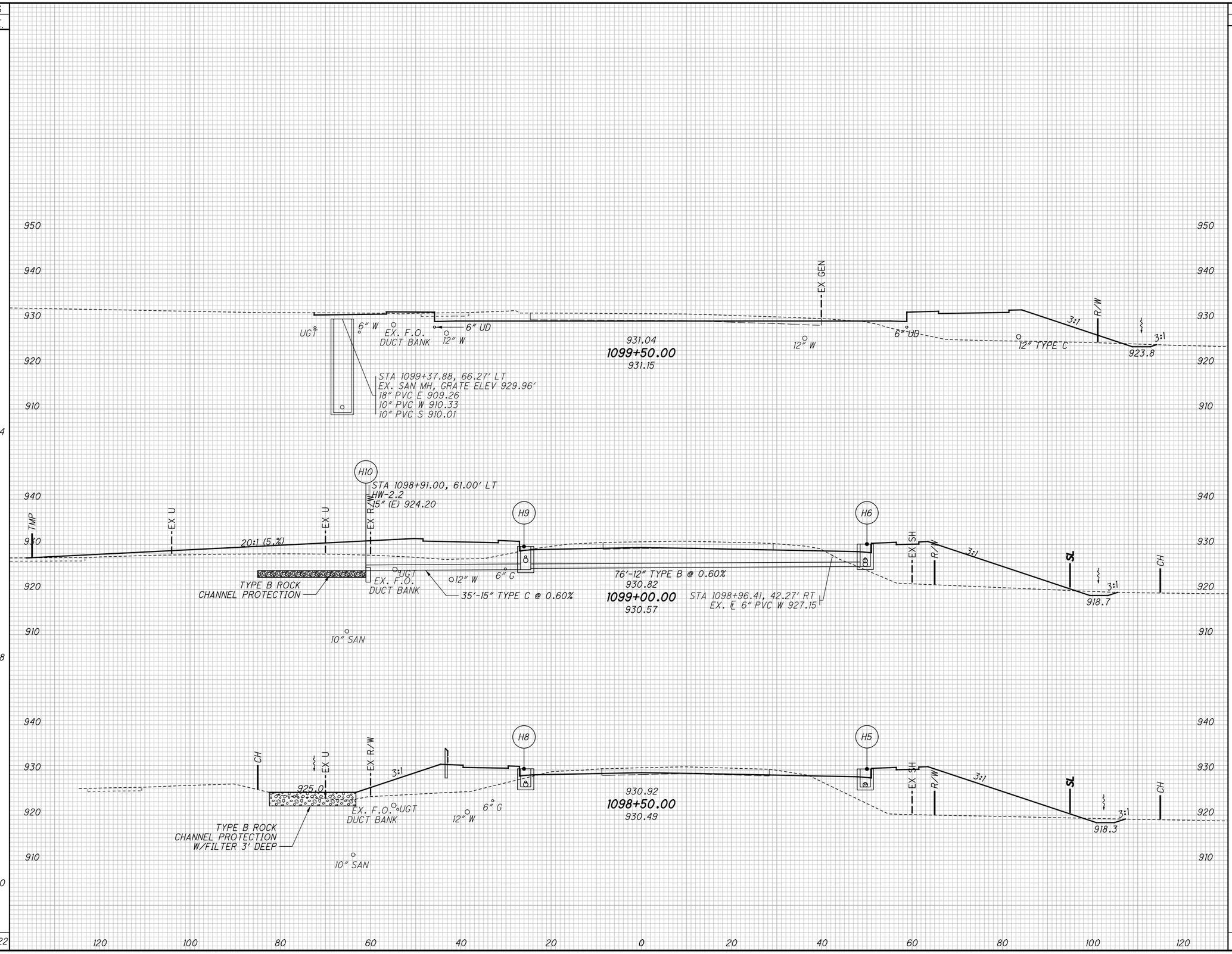
SEEDING	
END WIDTH	SQ. YDS.
61	594
153	728
109	600
1,922	

END AREA	
CUT	FILL
141	241
85	506
69	528

VOLUME	
CUT	FILL
209	692
143	957
134	1023
486	2,672

CALCULATED AWF

CHECKED PHF



CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1098+50.00 TO STA. 1099+50.00

DEL-CR10-0.90

2952-DR.E

216
437

SEEDING	
END WIDTH	SQ. YDS.
31	227
49	244
38	105
0	172
	748

END AREA		VOLUME	
CUT	FILL	CUT	FILL
94	4	176	8
96	5	179	53
97	52	306	48
234	0	347	223
		1,008	332

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1100+00.00 TO STA. 1101+50.00

DEL-CR10-0.90

2952-DR.E

217
437

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950 / 940 / 930 / 920

EX SH — 3:1 — 12" W — UGT — 6" UD — 10:1 — 6" UD — 15" TYPE B — EX SH — R/W — TMP

934.77
1101+50.00
934.93

I2 — STA 1100+81.46, 14.00' LT
CB-3A, GRATE ELEV 932.67
12" (SW) 929.76
6" UD (N) 929.54

EX SH — 4:1 — 12" W — UGT — I8 — 20:1 — EX SH — R/W — TMP

STA 1100+78.29, 52.81' RT
EX. ℄ 12" RCP S 929.14

933.57
1101+00.00
933.63

STA 1100+97.76, 11.24' LT
EX. CB, GRATE ELEV 933.40'
12" CPP S 929.80

I1 — EX SH — UGT — 12" W — 6:1 — 6" UD — I3 — 4:1 — 6" UD — EX SH — R/W

STA 1100+28.33, 28.00' LT
EX. CB, GRATE ELEV 932.32'
12" CPP NE 929.62
10" CPP W 929.66
12" RCP E 929.62
6" UD (E&W) 929.62

932.42
1100+50.00
932.61

12" RCP

181'-18" TYPE C @ 3.96%
STA 1100+32.43, 58.07' RT
EX. CB, GRATE ELEV 930.75'
18" RCP E 925.90
12" RCP W 928.05
12" RCP N 926.38

STA 1100+18.07, 101.30' LT
EX. CB, GRATE ELEV 932.92'
10" CPP W 929.74

STA 1100+18.02, 98.37' LT
EX. CB, GRATE ELEV 932.96'
10" CPP E 929.91

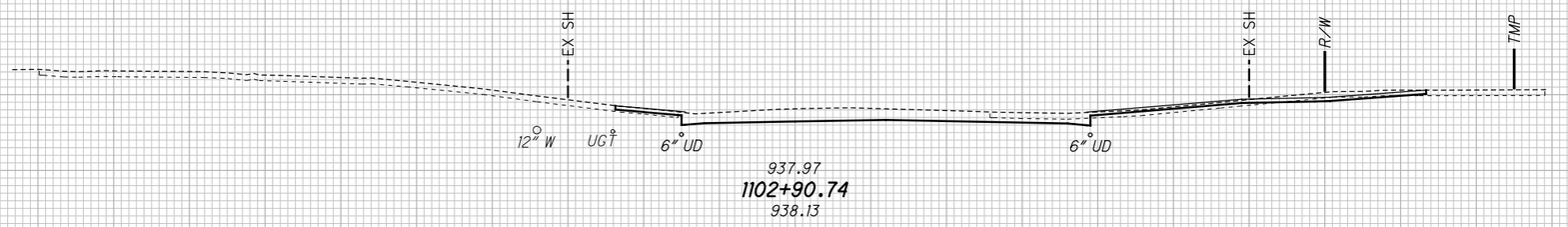
ORANGE ROAD — EX W — EX W — R/W

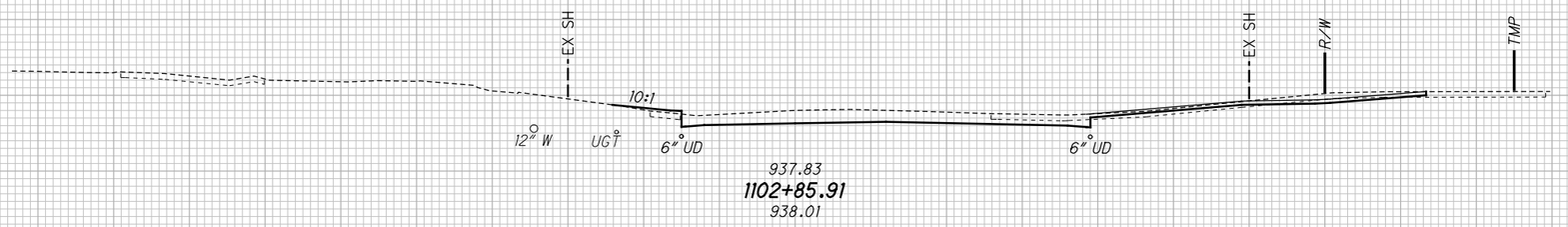
UGT — 12" W — 12" W

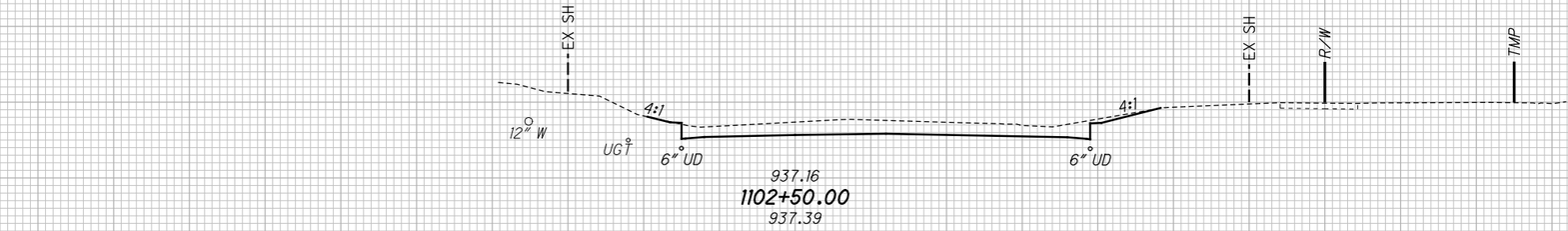
931.57
1100+00.00
931.59

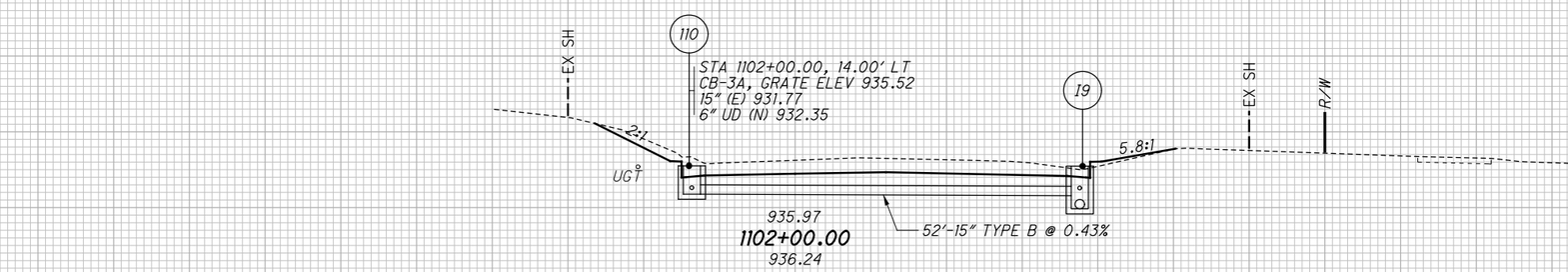
120 100 80 60 40 20 0 20 40 60 80 100 120

SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	8	110	0	32	0
18	77	110	2	124	1
23	155	93	0	183	4
33	183	105	4	184	7
	423			523	12









CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10) STA. 1102+00.00 TO STA. 1102+90.74

DEL-CR10-0.90

2952-DR.E

218
437

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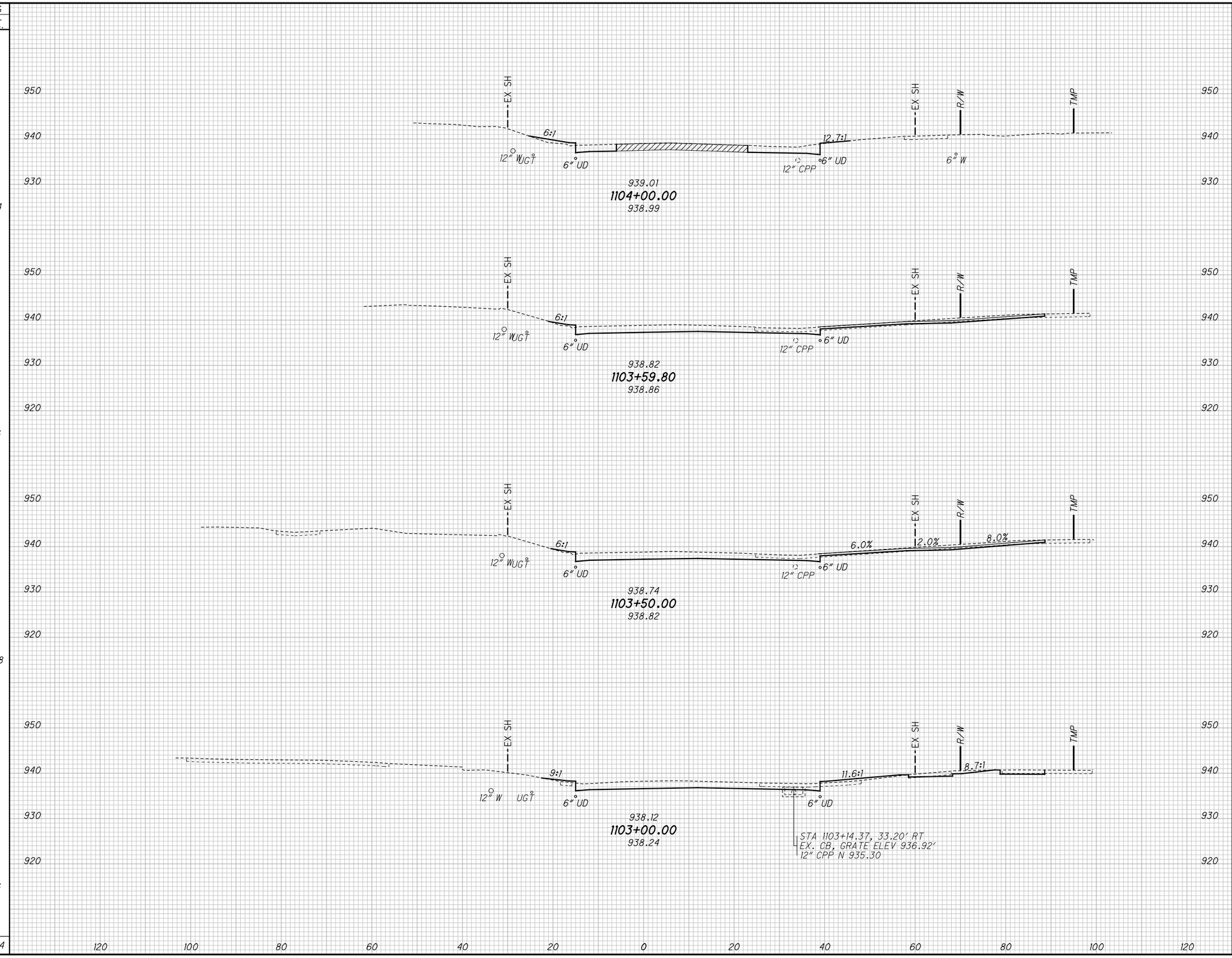
SEEDING	
END WIDTH	SQ. YDS.
26	94
15	16
14	128
31	16
	254



END AREA		VOLUME	
CUT	FILL	CUT	FILL
38	6	109	6
109	2	40	1
114	2	197	10
99	9	36	2
		382	19

CALCULATED AWF
CHECKED PHF

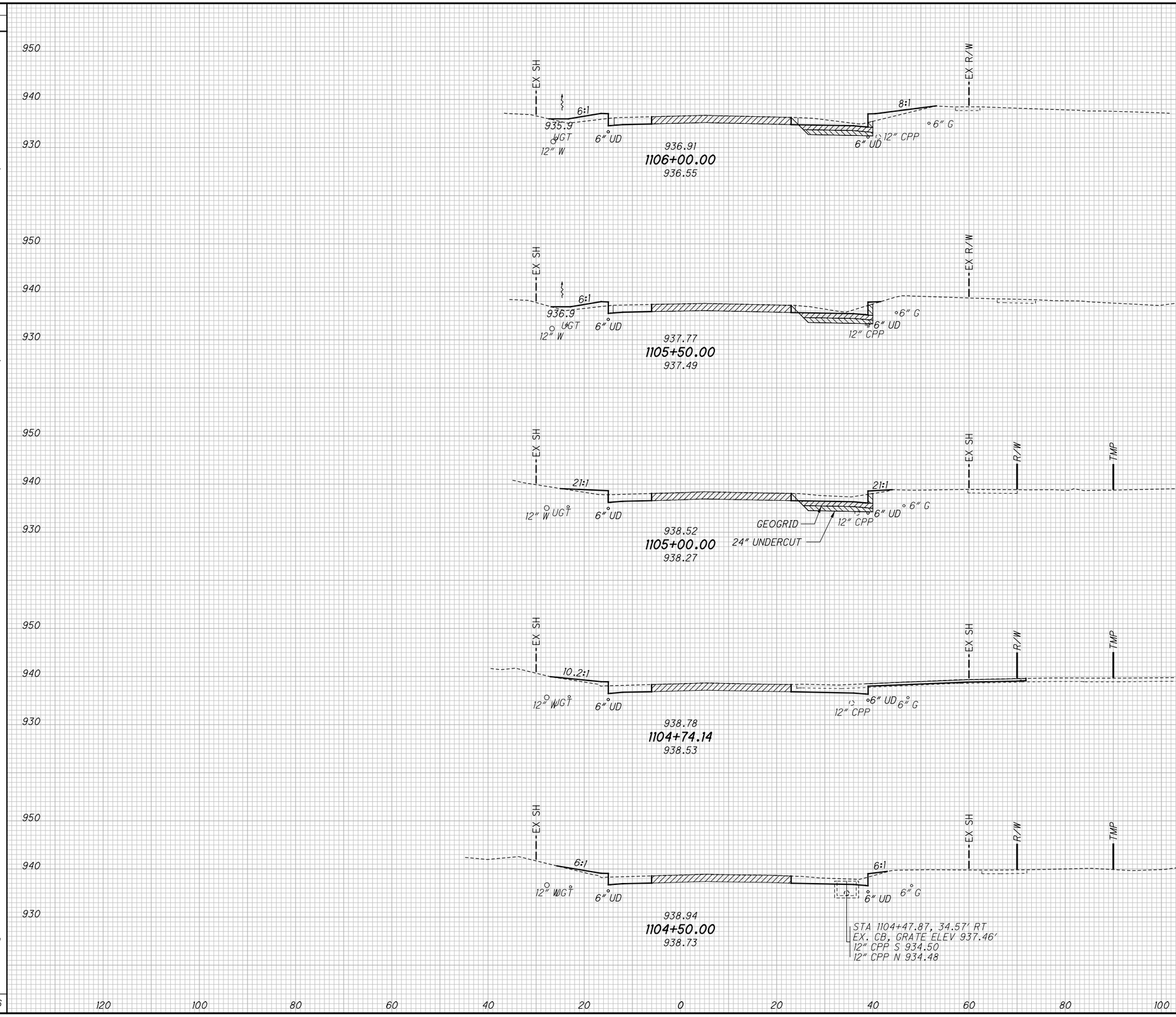
CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1103+00.00 TO STA. 1104+00.00

DEL-CR10-0.90

2952-DR.E

219
437

SEEDING END WIDTH	SEEDING SQ. YDS.
36	166
23	133
24	66
21	62
24	139
	566



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
30	22		
		56	30
30	10		
		59	16
34	7		
		44	6
58	5		
		41	5
34	6		
		67	11
		267	68

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1104+50.00 TO STA. 1106+00.00

DEL-CR10-0.90

2952-DR.E

220
437

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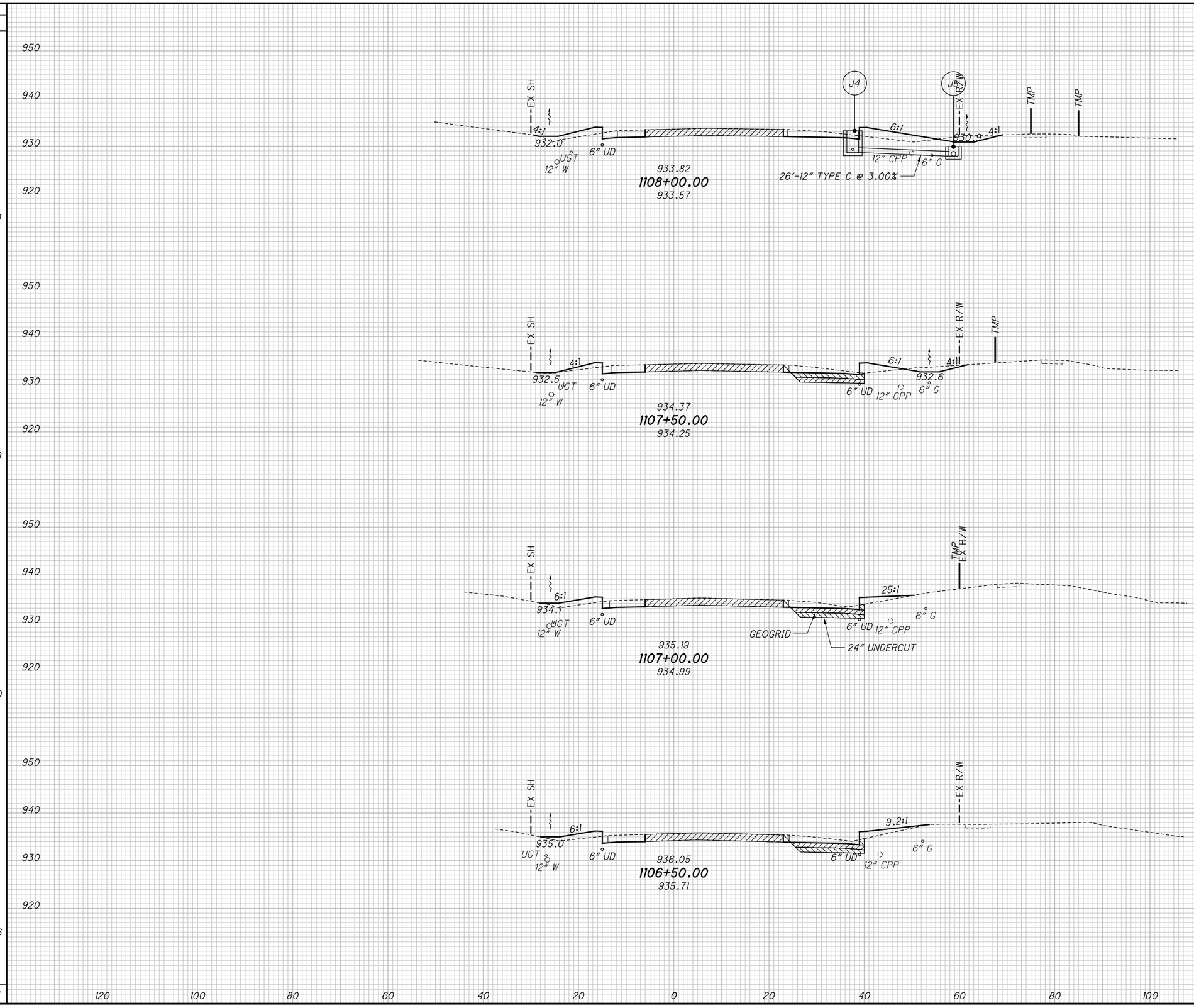
SEEDING	
END WIDTH	SQ. YDS.
54	284
47	228
34	200
37	206
	918



END AREA	
CUT	FILL
42	37
38	18
29	21
30	23
247	170

VOLUME	
CUT	FILL
74	51
62	36
55	41
56	42

CALCULATED AWF
CHECKED PHF

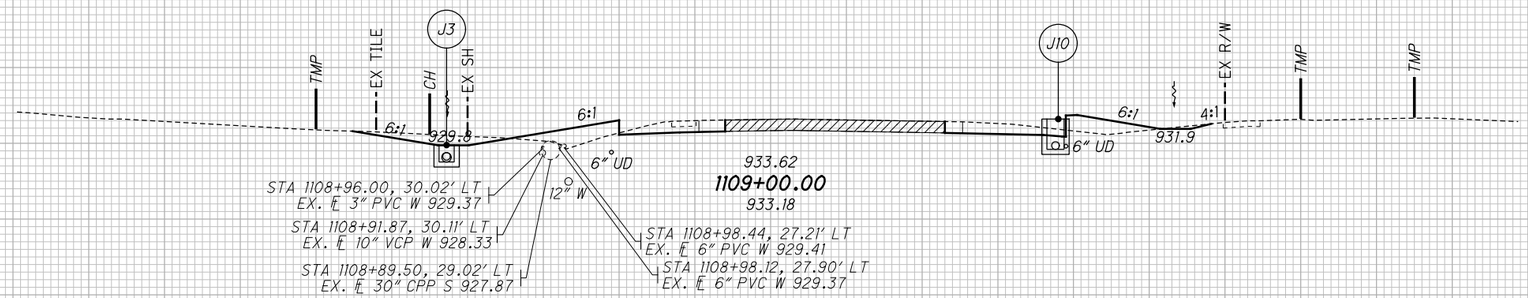
CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1106+50.00 TO STA. 1108+00.00

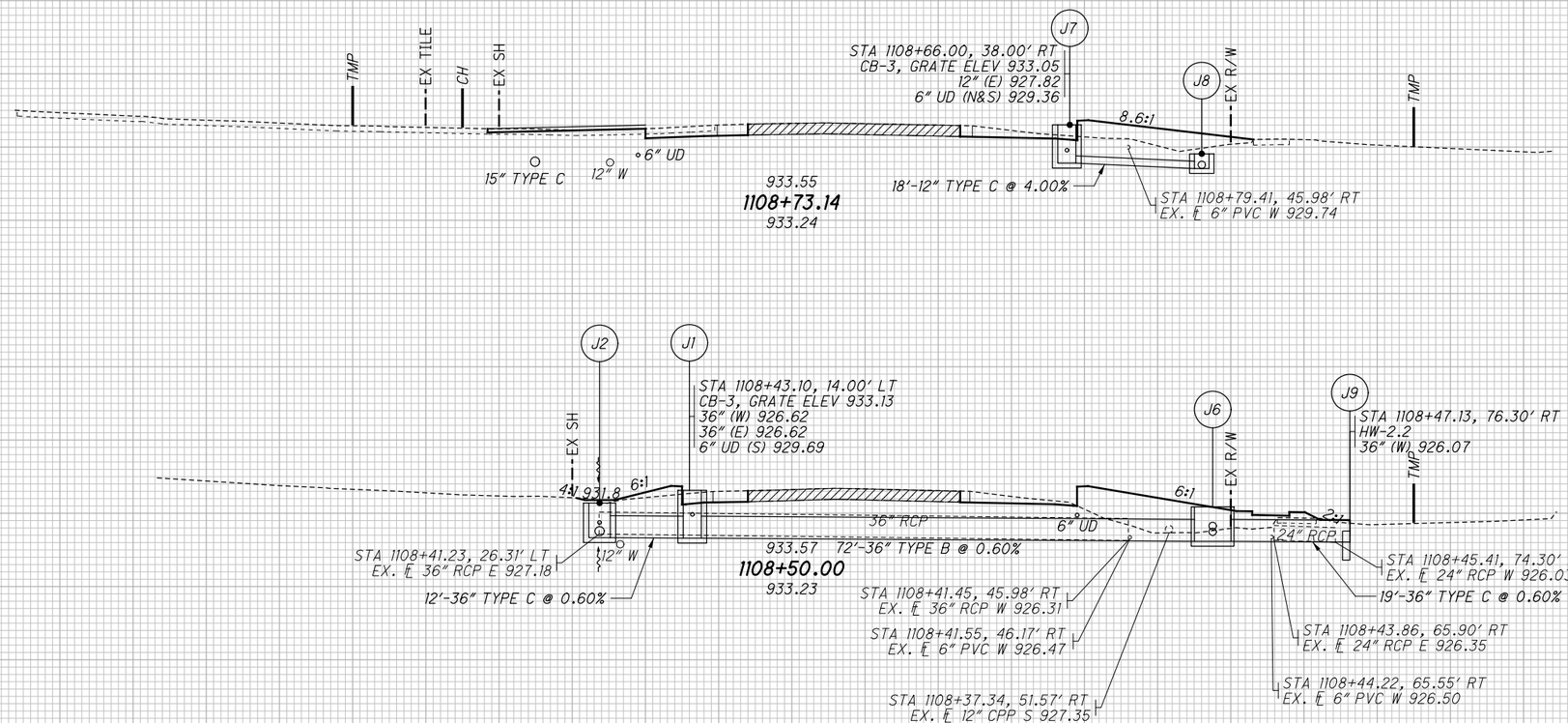
DEL-CR10-0.90

2952-DR.E

221
437

SEEDING	
END WIDTH	SQ. YDS.
64	147
33	116
56	306
	569





END AREA		VOLUME	
CUT	FILL	CUT	FILL
55	40		
		46	43
38	47		
		28	66
27	107		
		64	133
		138	242

CALCULATED AWF

CHECKED PHF

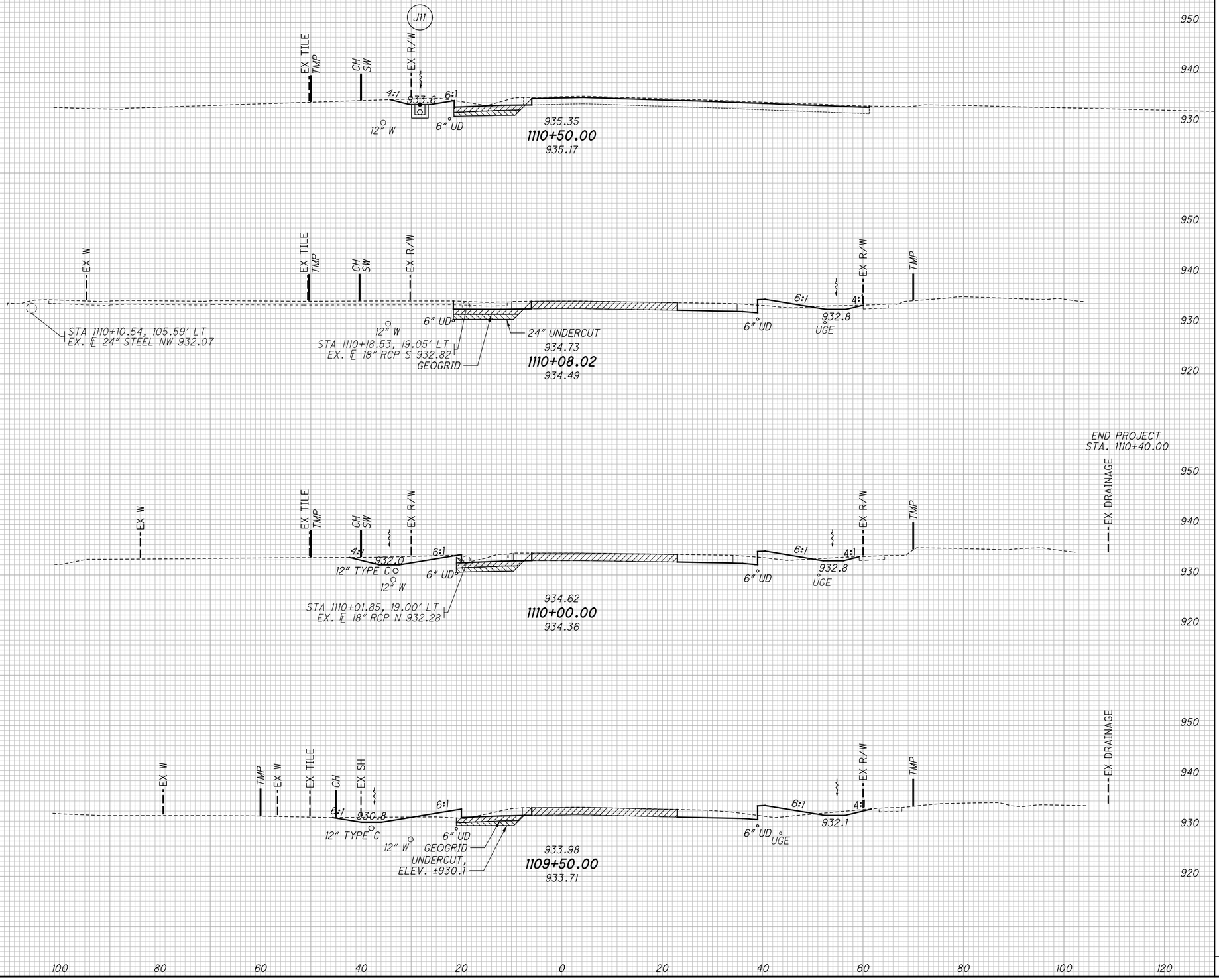
CROSS SECTIONS
STA. 1108+50.00 TO STA. 1109+00.00

DEL-CR10-0.90

2952-DR.E

222
437

SEEDING END WIDTH	SEEDING SQ. YDS.
22	121
30	37
52	305
57	338
	801



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
41	0		
		73	7
53	9		
		17	3
62	11		
		101	32
47	24		
		94	59
		285	101

CALCULATED AWF
CHECKED PHF

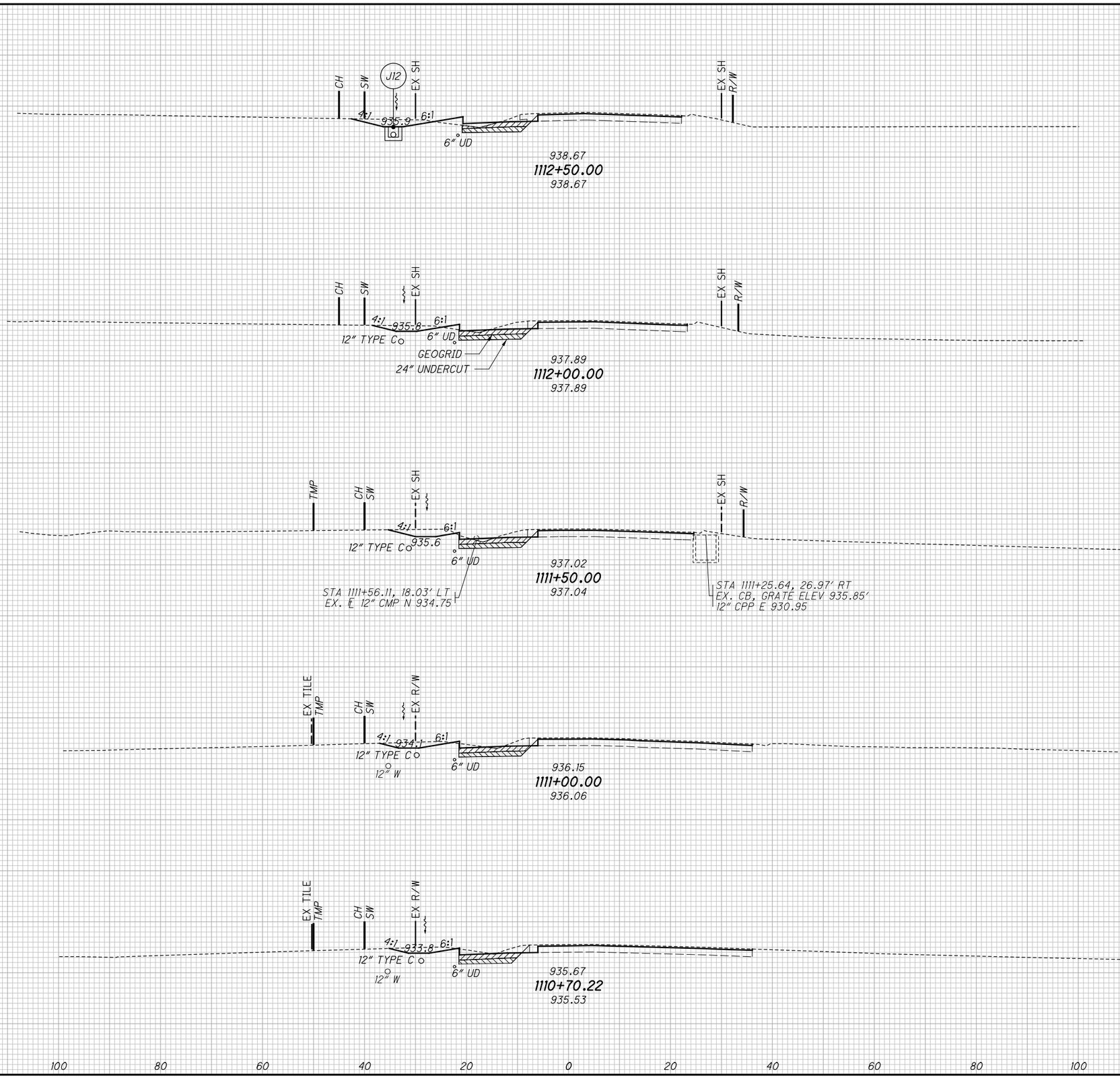
CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1109+50.00 TO STA. 1110+50.00

DEL-CR10-0.90

2952-DR.E

223
437

SEEDING END WIDTH	SEEDING SQ. YDS.
32	166
27	144
24	139
25	79
23	52
	580



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
29	9	52	11
27	3	53	5
30	2	56	3
30	1	35	1
33	0	28	0
		224	20

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1110+70.22 TO STA. 1112+50.00

DEL-CR10-0.90

2952-DR.E

224
437

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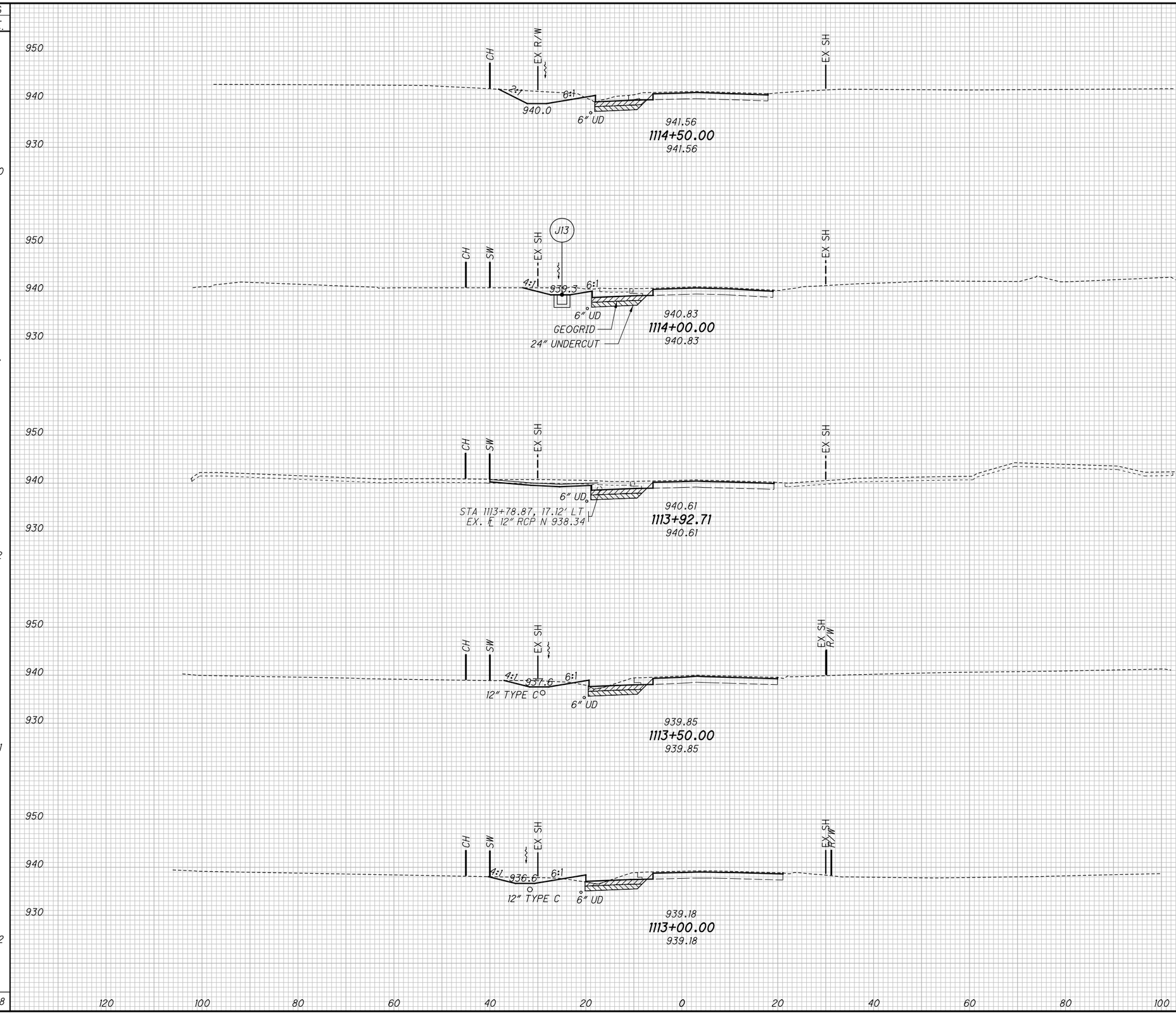
SEEDING END WIDTH	SEEDING SQ. YDS.
30	150
24	13
0	62
27	161
30	172
	558



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
48	2		
		82	2
41	0		
		17	0
50	0		
		58	2
28	3		
		53	7
29	5		
		54	13
		264	24

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1113+00.00 TO STA. 1114+50.00

DEL-CR10-0.90

2952-DR.E

225
437

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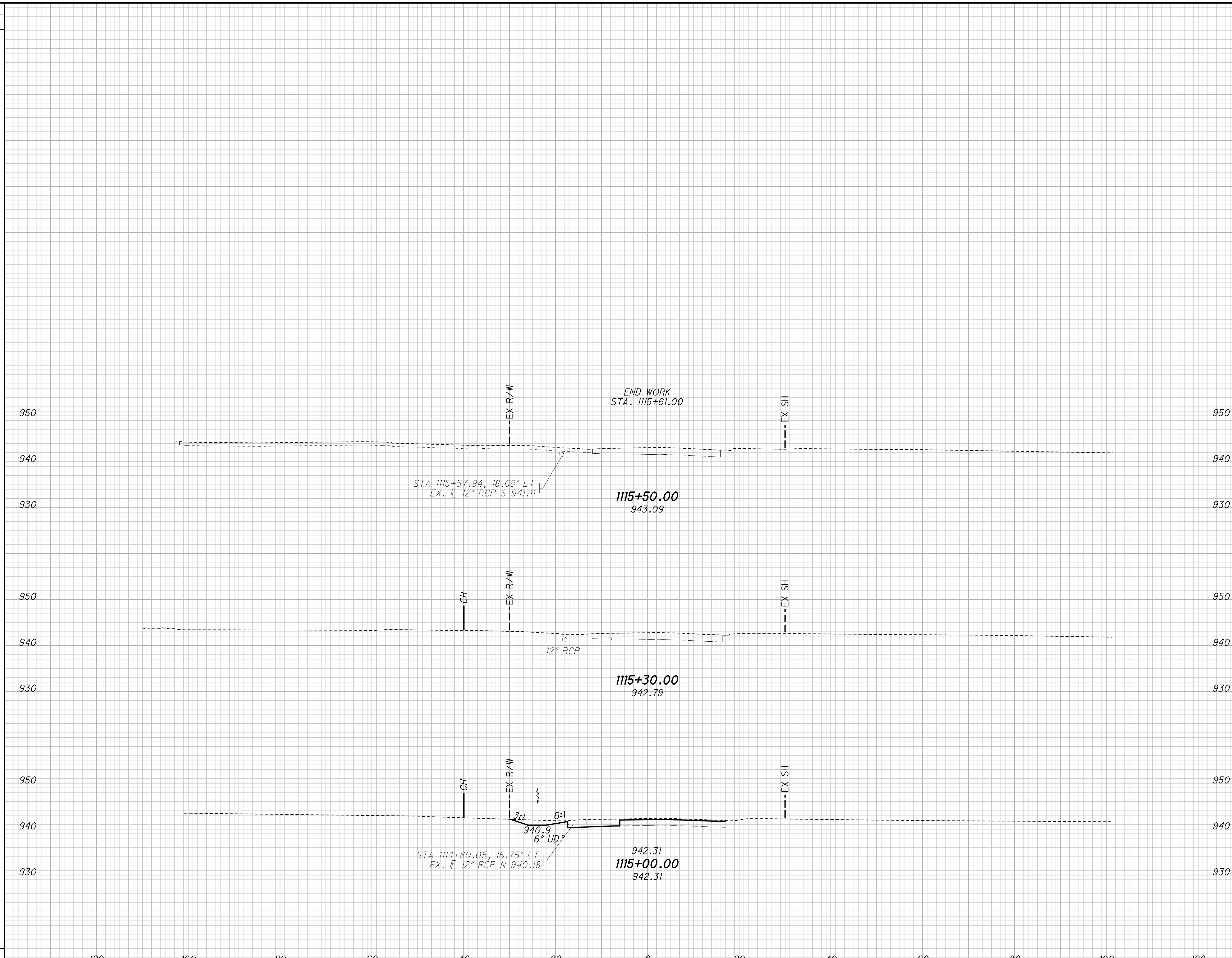


SEEDING END WIDTH	SEEDING SQ. YDS.	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
22		33	0		
	144			75	2
	144			75	2

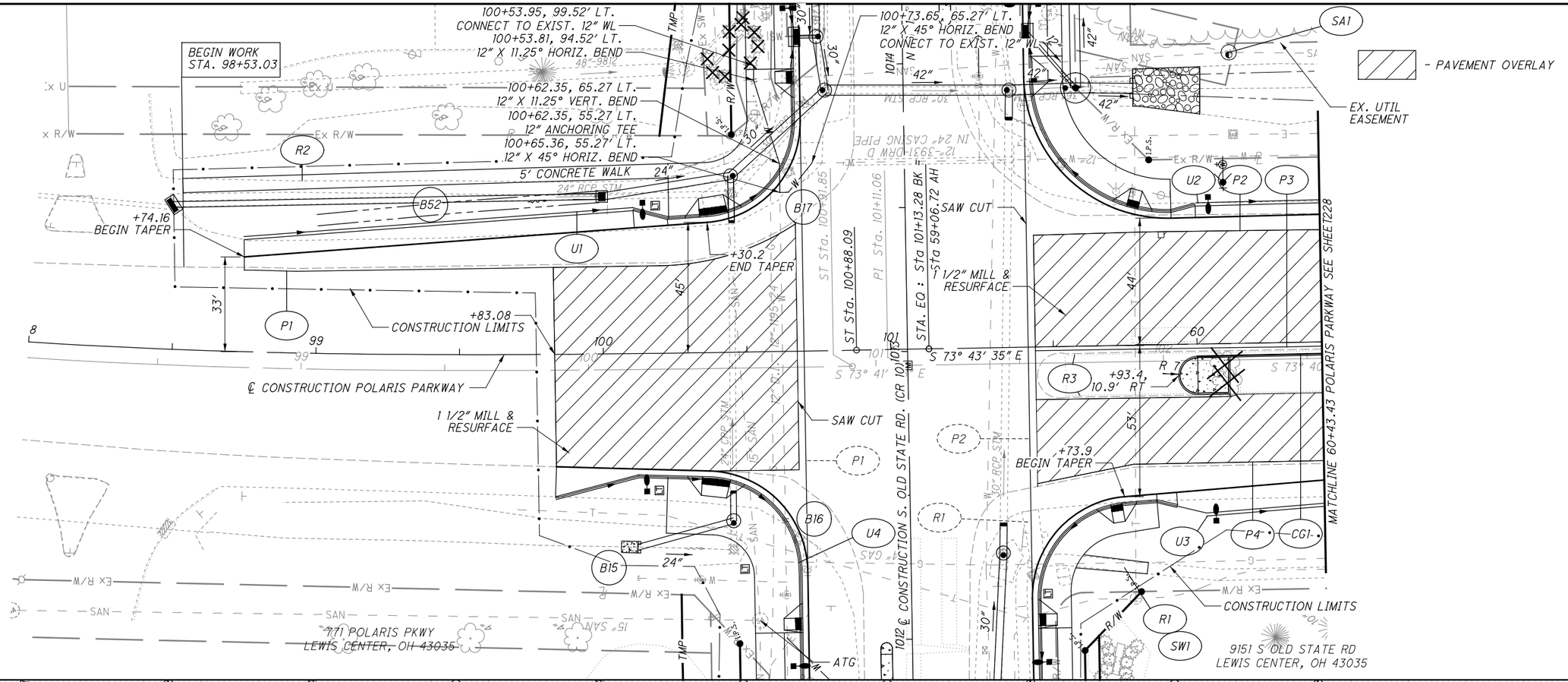
CALCULATED AWF
CHECKED PHF

CROSS SECTIONS S. OLD STATE RD. (CR 10)
STA. 1115+00.00 TO STA. 1115+50.00

DEL-CR10-0.90

2952-DR.E

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED PHF

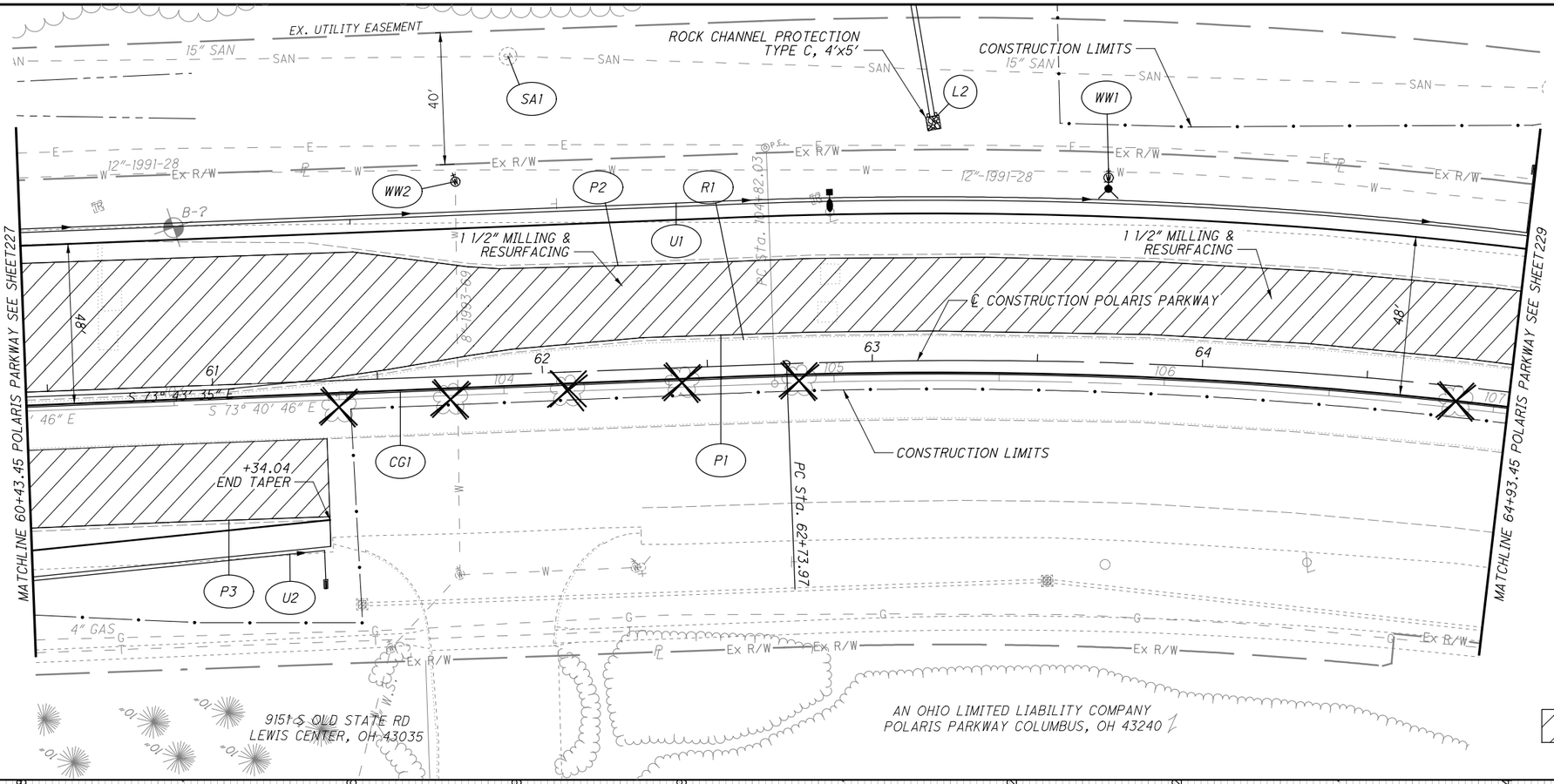
PLAN AND PROFILE
POLARIS PKWY STA. 98+00.00 TO STA. 60+43.45

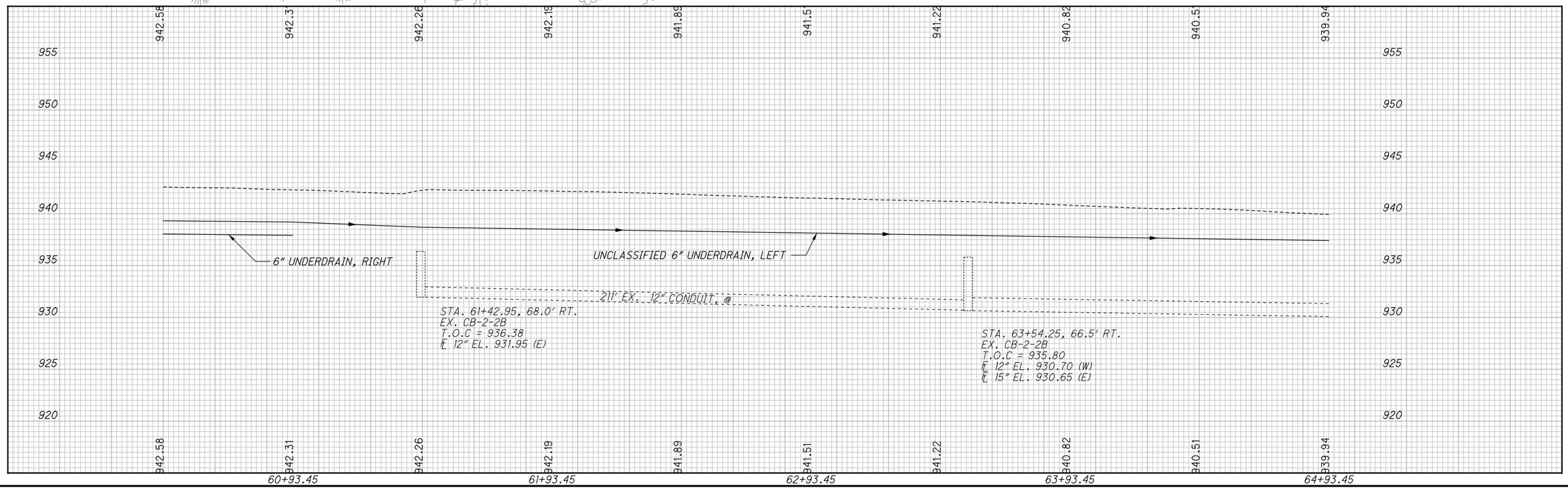
DEL-CR10-0.90

2952-DR.E

227
437

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267





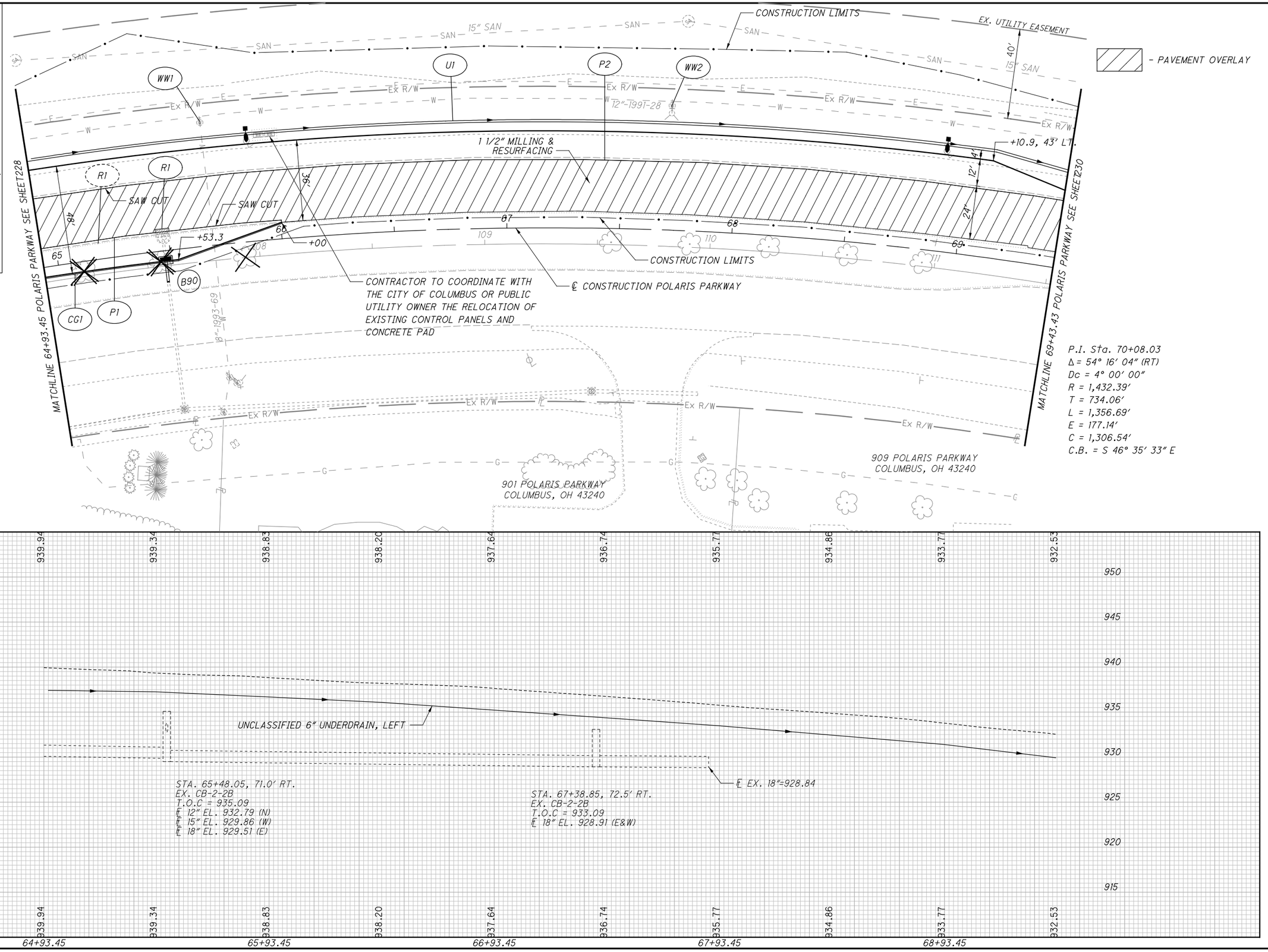
HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED AWF
CHECKED PHF

PLAN AND PROFILE
POLARIS PKWY STA. 60+43.45 TO STA. 64+93.45
DEL-CR10-0.90

2952-DR.E

228
437

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267



HORIZONTAL SCALE IN FEET
0 10 20 40
CALCULATED AWF
CHECKED PFH

PLAN AND PROFILE
POLARIS PKWY STA. 107+00 TO STA. 111+50

DEL-CR10-0.90

2952-DR.E

229
437

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END WORK
STA. 69+58.66

P2

MATCHLINE 69+43.43 POLARIS PARKWAY SEE SHEET29

CONSTRUCTION LIMITS

31.1' LT.
BEGIN TAPER

1 1/2" MILLING &
RESURFACING

- PAVEMENT OVERLAY

921 & 925 POLARIS PARKWAY
COLUMBUS, OH 43240

P.I. Sta. 112+16.10
54° 16' 06" (RT)

12" W 1991-28

8" 1993-69 W

15" SAN

SAN

E

W

Ex R/W

O.I.P.F.

70 71 72 73 74

112 113 114 115 116

932.53 931.26

945 940 935 930 925 920 915 910

69+93.45 70+93.45 71+93.45 72+93.45 73+93.45

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED PFH

PLAN AND PROFILE
POLARIS PKWY STA. 69+43.43 TO STA. 73+93.45

DEL-CR10-0.90

2952-DR.E

230
437

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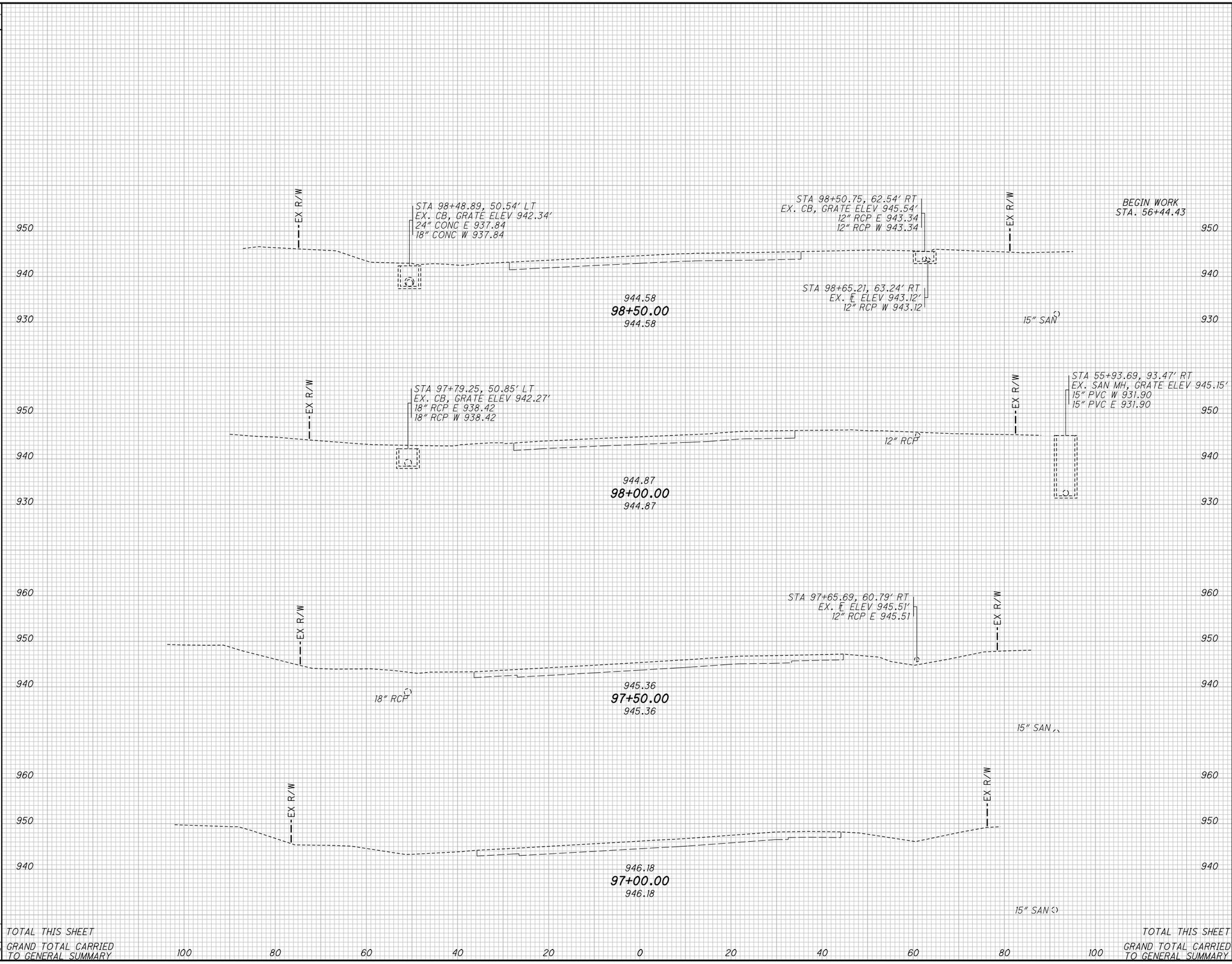
SEEDING	
END WIDTH	SQ. YDS.
0	TOTAL THIS SHEET
7,109	GRAND TOTAL CARRIED TO GENERAL SUMMARY



END AREA		VOLUME	
CUT	FILL	CUT	FILL
		0	0
		2,903	1,094

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS POLARIS PARKWAY STA. 54+93.45 TO STA. 56+43.45

DEL-CR10-0.90

2952-DR.E

231
437

SEEDING END WIDTH	SEEDING SQ. YDS.
	584

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
60	41	129	38
79	1	111	1
41		65	
30		305	39

CALCULATED AWF

CHECKED PHF

STA 100+30.46, 98.81' LT
EX. MH, GRATE ELEV 944.90'
48" CMP NW 937.84
12" PVC E 937.80
8" PVC NW 940.90

STA 100+27.43, 107.19' LT
EX. CB, GR. EL. 944.81'
8" PVC SE 941.46

EX. 12" WATER

100+53.95, 99.52' LT.
CONNECT TO EXIST. 12" MAIN

STA 100+41.26, 94.00' LT
EX. SAN MH, GRATE ELEV 943.99'
15" PVC E 921.21
12" PVC W 922.59
8" PVC N 932.87
15" PVC S 922.36

100+53.81, 94.52' LT.
12" X 11.25°
HORIZ. BEND

100+55.30, 89.43' LT.
12" X 45° VERT. BEND

100+56.90, 83.96' LT.
12" X 45° VERT. BEND
℄ EL. 933.50

44'-30" CONDUIT, TYPE B,
AS PER PLAN @ 0.52%

100+73.65, 65.27' LT.
12" X 45° HORIZ. BEND
CONNECT TO EX. 12" MAIN

B17

STA 100+45.18, 55.33' LT
EX. CB, GRATE ELEV 941.43'
24" CONC W 937.93
30" CPP NE 937.93
24" CPP S 938.03

16'-24" CONDUIT, TYPE B,
AS PER PLAN @ 0.62%

100+62.35, 55.27' LT.
12" ANCHORING TEE
CONNECT TO EXIST. 12" MAIN

100+62.35, 61.27' LT.
12" x 45° VERT. BEND

100+62.35, 65.2' LT.
12" X 45° VERT. BEND
℄ EL. 933.50

100+62.35, 66.2' LT.
12" X 11.25° HORIZ. BEND
℄ EL. 933.50

943.60
100+50.00
943.60

24" CPP

15" PVC

B16

STA 1012+32.18, 61.54' LT
MH-3, A.P.P. RIM ELEV 943.40
24" (W) 938.81
24" (N) 938.81
6" UD (NW) 939.27

STA 100+44.34, 68.56' RT
EX. CB, GRATE ELEV 940.91'
24" CPP N 938.81
6" CPP NW 939.21

10'-24" CONDUIT, TYPE B,
AS PER PLAN @ 0.62%

EX. TELE.

EX. 12" WATER

STA 100+53.07, 93.38' RT
EX. SAN MH, GRATE ELEV 943.40'
15" PVC N 923.59
12" PVC S 923.84
15" PVC W 928.47

EX. 12" WATER

B52

STA 100+00.00, 54.73' LT
CB-5A, A.P.P. GRATE B, GRATE ELEV 942.10
24" (W) 938.07
24" (E) 938.07

24" RCP

6" UD

6" UD EX. TELE.

943.94
100+00.00
943.94

15" SAN

EX. SAN

EX. G

944.20
99+50.00
944.20

944.44
99+00.00
944.44

EX R/W

EX SW

EX SAN

BACK

3:1

4:1

A:1

2.8'

2.41%

(2.41%)

4.0% 3.03%

(3.03%)

4.0% 3.98%

(3.98%)

942.3

942.5

942.1

CROSS SECTIONS POLARIS PARKWAY
STA. 56+93.45 TO STA. 58+43.45

DEL-CR10-0.90

2952-DR.E

232
437

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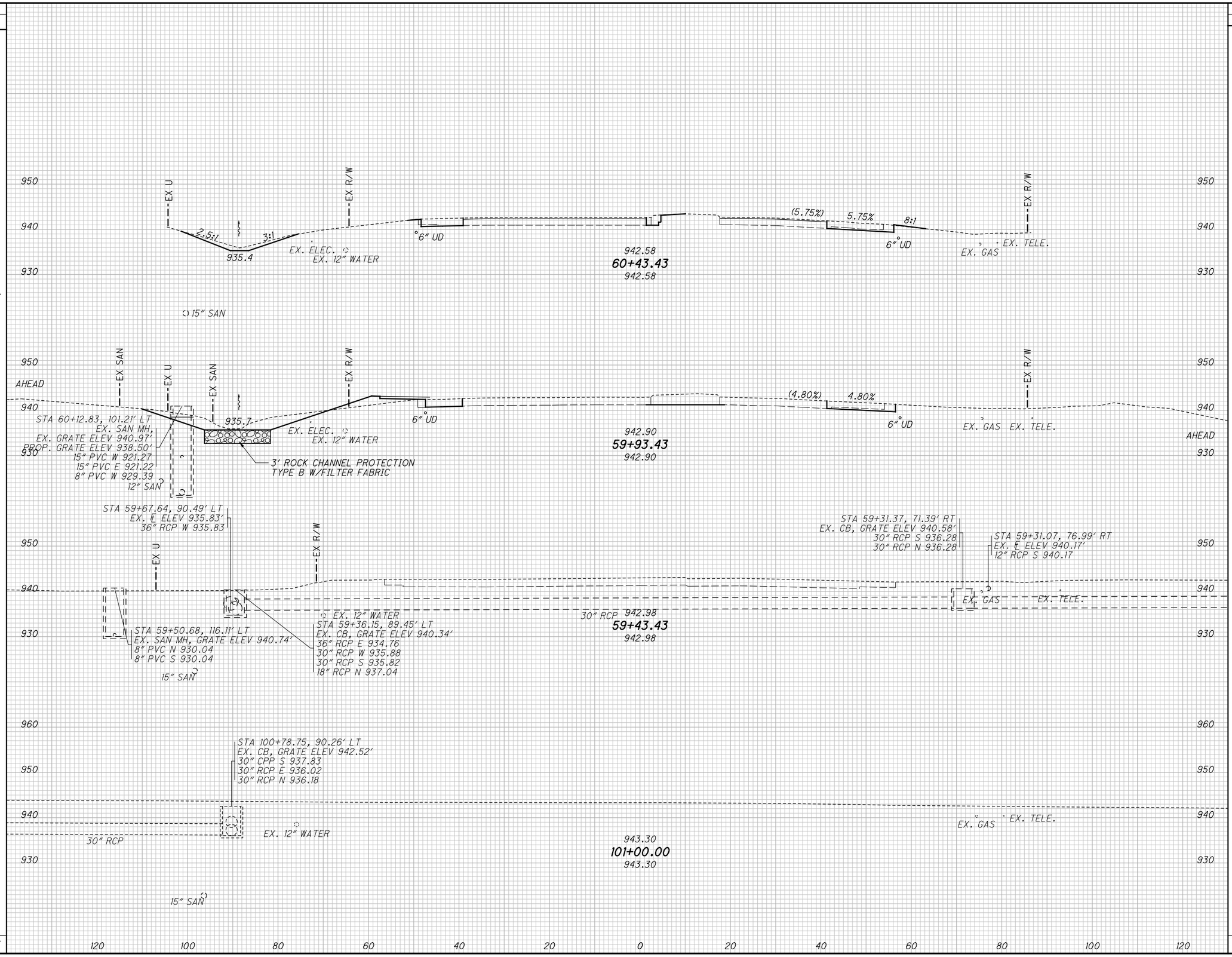
SEEDING	
END WIDTH	SQ. YDS.
63	
	317
23	
	317

END AREA	
CUT	FILL
62	1
95	18

VOLUME	
CUT	FILL
146	17

CALCULATED AWF
CHECKED PHF



CROSS SECTIONS POLARIS PARKWAY
STA. 58+93.45 TO STA. 60+43.45

DEL-CR10-0.90

2952-DR.E

233
437

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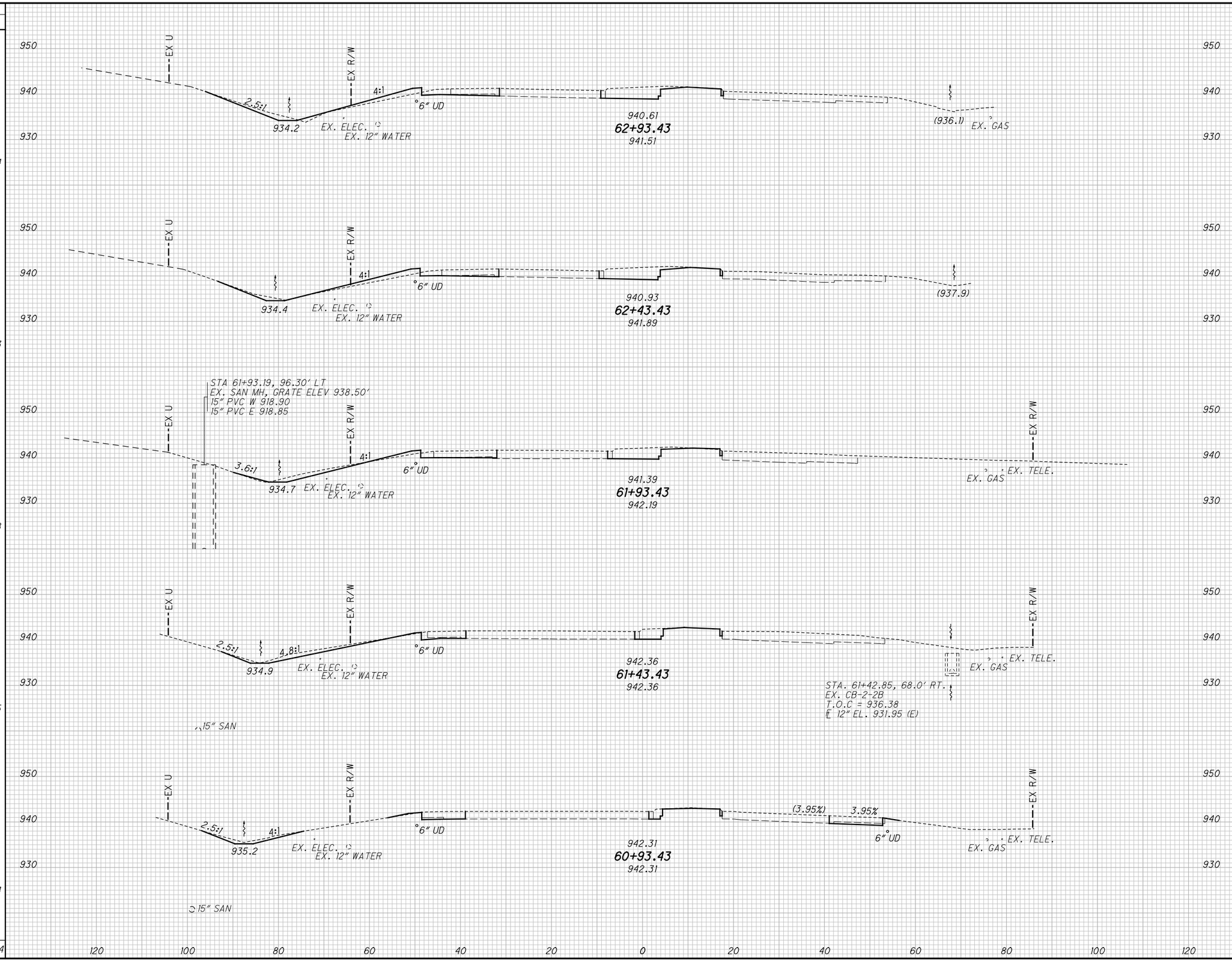
SEEDING END WIDTH	SEEDING SQ. YDS.
67	384
63	363
66	358
55	335
51	294
	1,734



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
68	17		
		122	31
64	17		
		120	22
66	7		
		105	7
47	1		
		92	1
52	1		
		106	1
		545	60

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS POLARIS PARKWAY STA. 60+93.45 TO STA. 62+93.45

DEL-CR10-0.90

2952-DR.E

234
437

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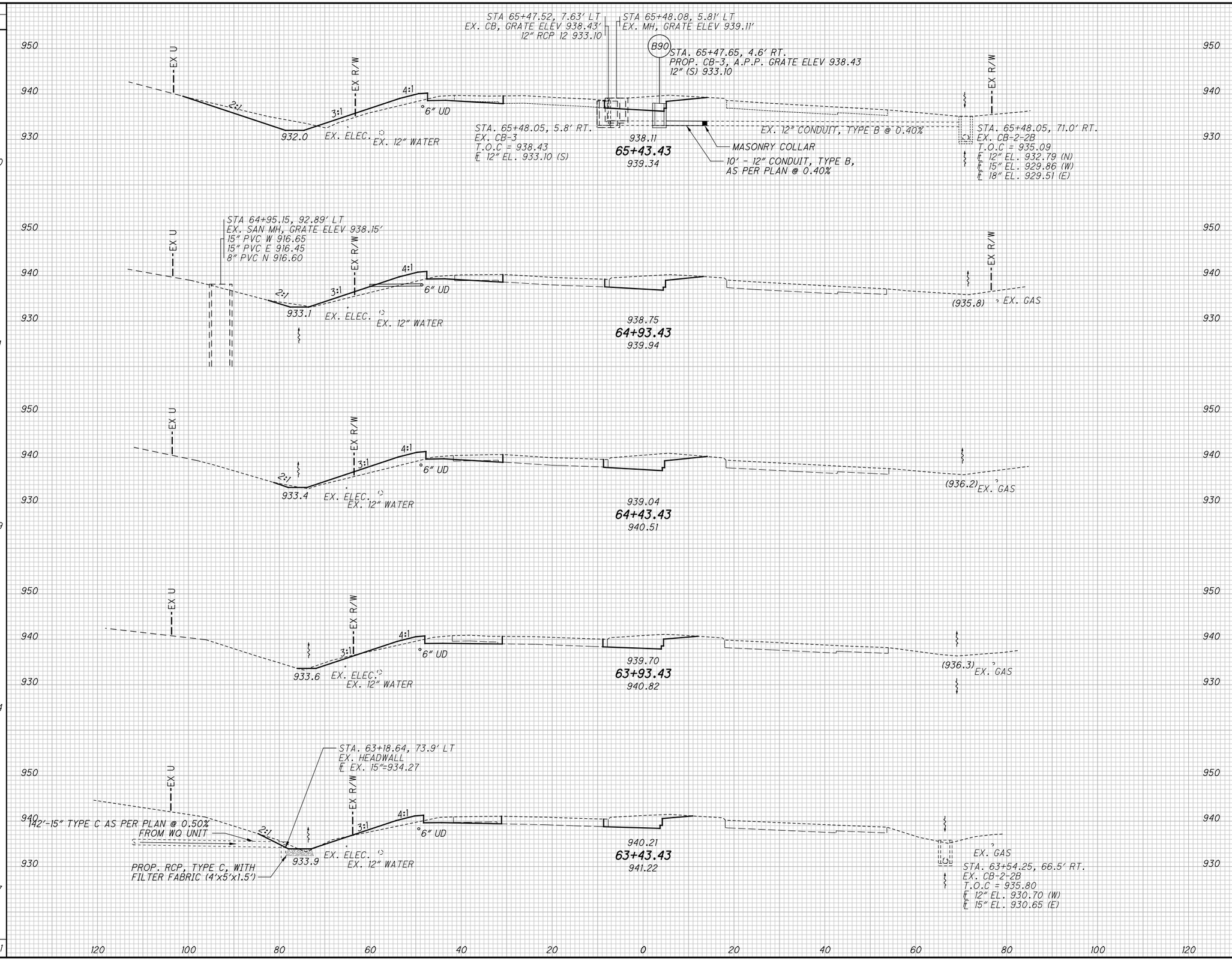
SEEDING END WIDTH	SEEDING SQ. YDS.
53	350
52	291
45	269
50	264
71	337
	1,511



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
98	28		
		148	55
62	32		
		117	59
65	33		
		125	39
70	9		
		121	23
61	16		
		119	31
		630	207

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS POLARIS PARKWAY
STA. 63+43.45 TO STA. 65+43.45

DEL-CR10-0.90

2952-DR.E

235
437

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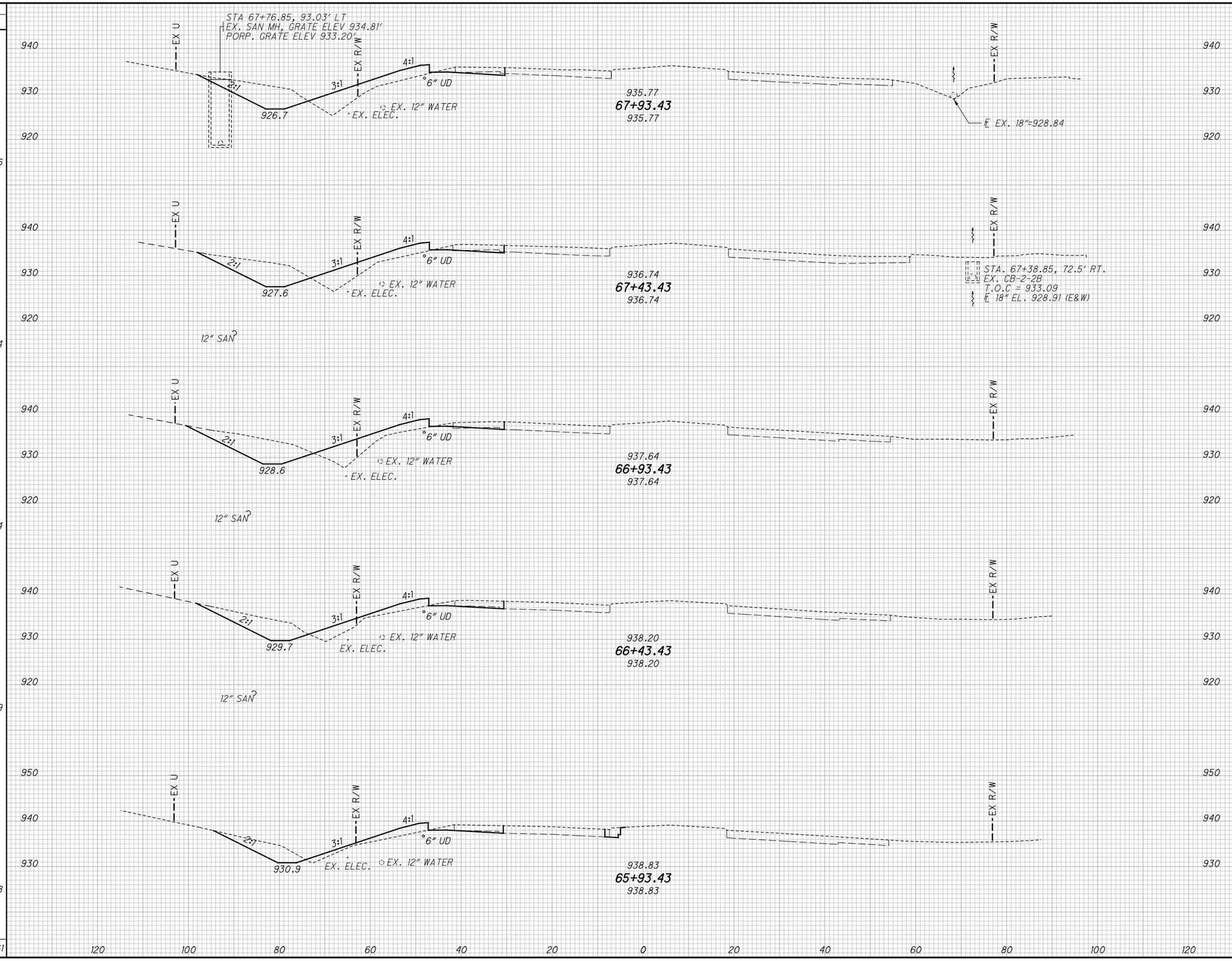
SEEDING END WIDTH	SEEDING SQ. YDS.
62	346
65	354
63	354
59	339
73	368
	1,761



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
91	69	172	123
95	63	183	117
103	64	173	97
84	42	139	67
67	30	152	54
		819	458

CALCULATED AWF
CHECKED PHF

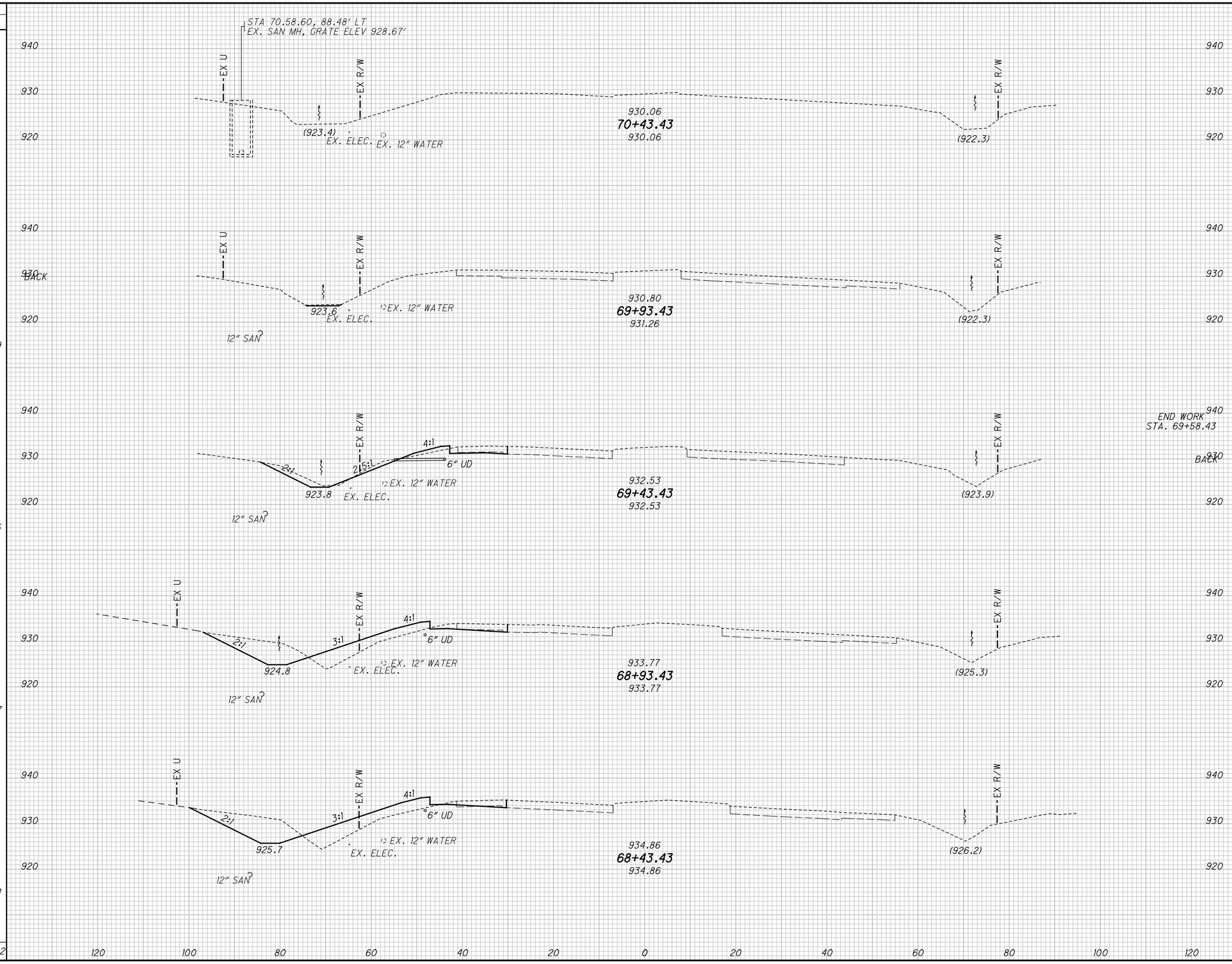
CROSS SECTIONS POLARIS PARKWAY
STA. 65+93.45 TO STA. 67+93.45

DEL-CR10-0.90

2952-DR.E

236
437

SEEDING END WIDTH	SEEDING SQ. YDS.
53	189
61	315
64	347
62	351
	1,202



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
39	8	117	63
87	61	169	127
96	76	172	123
		458	313

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS POLARIS PARKWAY
STA. 68+43.45 TO STA. 70+43.45

DEL-CR10-0.90

2952-DR.E

237
437

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267

7338 S. OLD STATE ROAD, LEWIS CENTER, OH 43035

7307 S. OLD STATE ROAD, LEWIS CENTER, OH 43035

BEGIN WORK STA. 919+50

℄ CONSTRUCTION S. OLD STATE RD

P1 STa. 820+32.59 N 3° 00' 05" E

℄ CONSTRUCTION EAST ORANGE ROAD

S 86° 34' 56" E

S 86° 28' 33" E

EX. WALL TO BE REMOVED

MATCH EXISTING

RESTORE GRAVEL PARKING AREA

CONSTRUCTION LIMITS

EX. GRAVEL PATH

SAW CUT

±87, MATCH EX. GUARD RAIL

EX. SHARED USE PATH

TYPE E-98 TERMINAL ASS'Y

MATCH EXISTING SHARED USE PATH

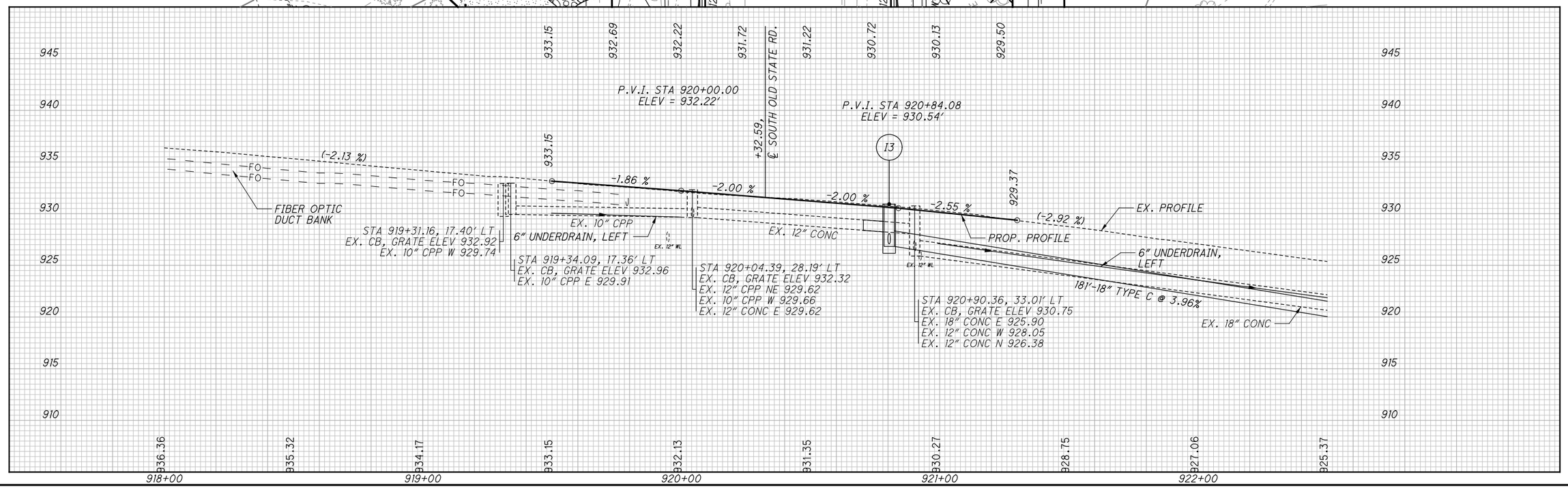
CONSTRUCTION LIMITS

3" MILLING & RESURFACING

MATCHLINE 922+50 ORANGE RD. SEE SHEET 239

EX. FIBER OPTIC DUCT BANK

EX. ASPH. PATH



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED PHF

PLAN AND PROFILE - ORANGE ROAD
STA. 918+00 TO STA. 922+00

DEL-CR10-0.90

2952-DR.E

238
437

FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
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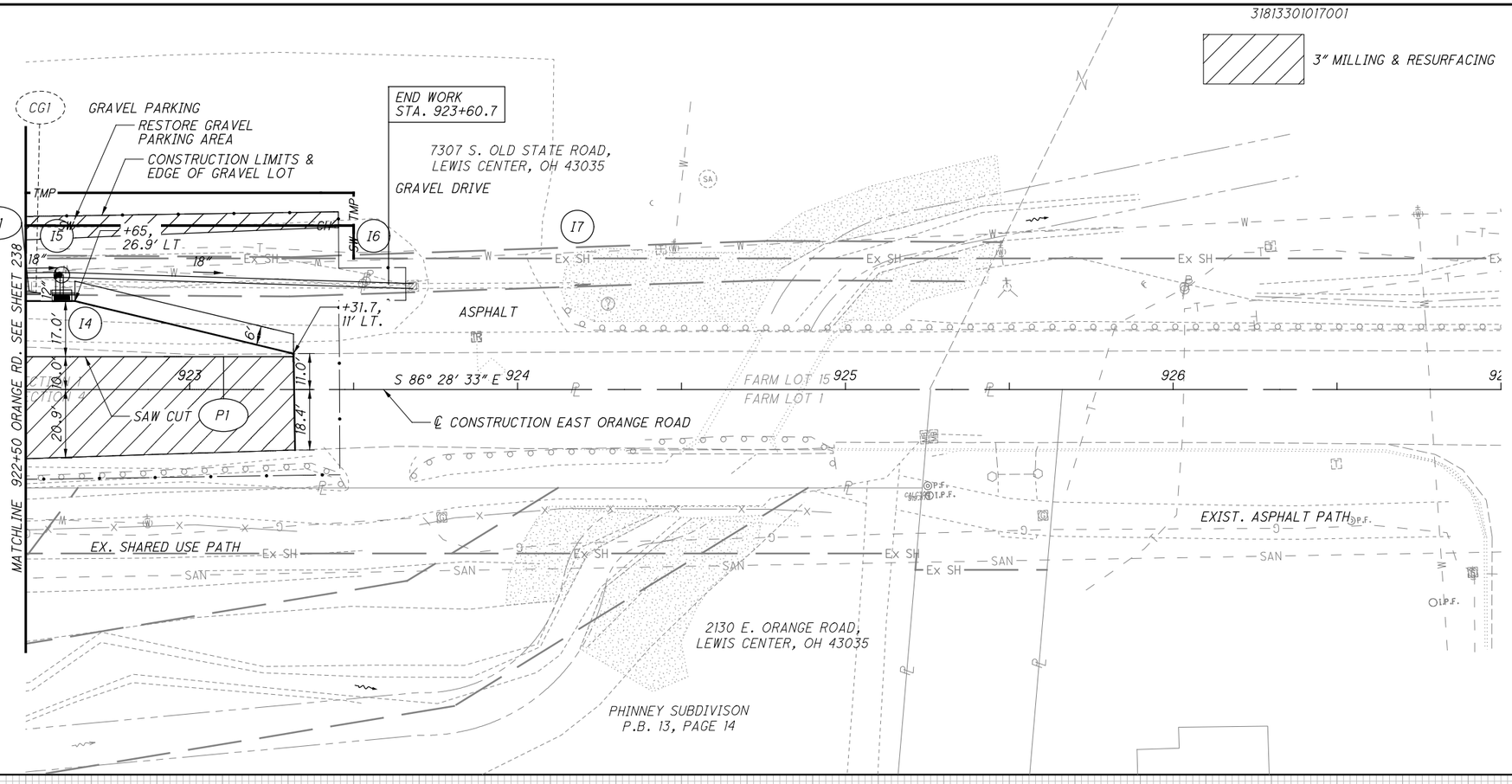
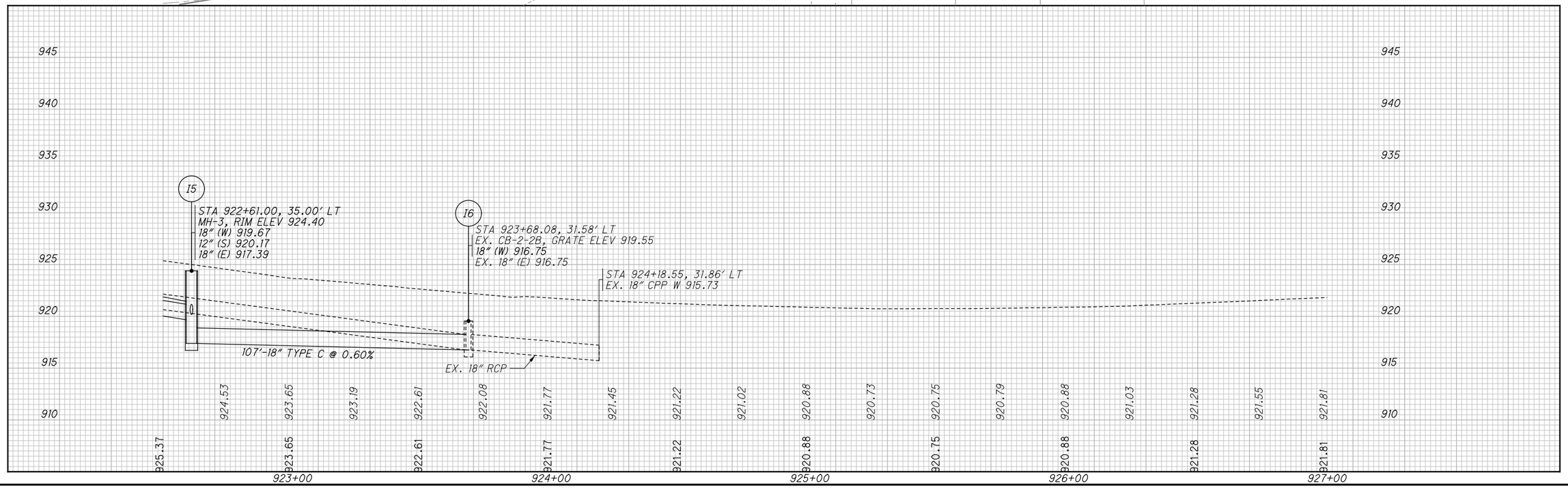
FOR SEWER PROFILES NOT ON CROSS SECTIONS
OR PROFILE SHEETS, SEE SHEETS 264 TO 267





PLAN AND PROFILE - ORANGE ROAD
STA. 955+50 TO STA. 927+00

CALCULATED AWF
CHECKED PHF

HORIZONTAL SCALE IN FEET
0 10 20 40

DEL-CR10-0.90

2952-DR.E

239
437

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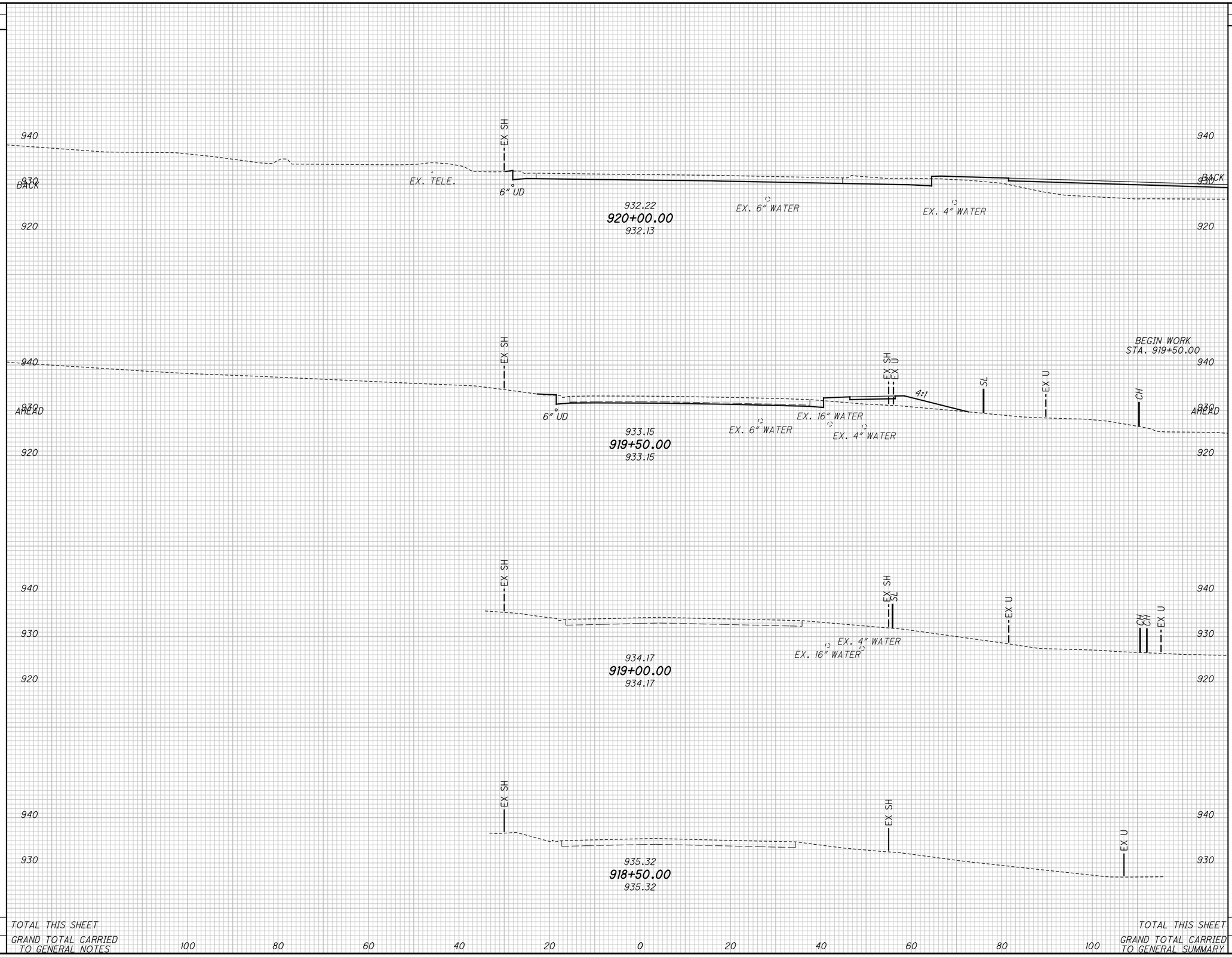
SEEDING		END AREA		VOLUME		
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL	
						CALCULATED AWF
						CHECKED PHF
24	161	120	143	194	169	
32		90	39			
	161	TOTAL THIS SHEET		194	169	
	817	GRAND TOTAL CARRIED TO GENERAL NOTES		885	1042	

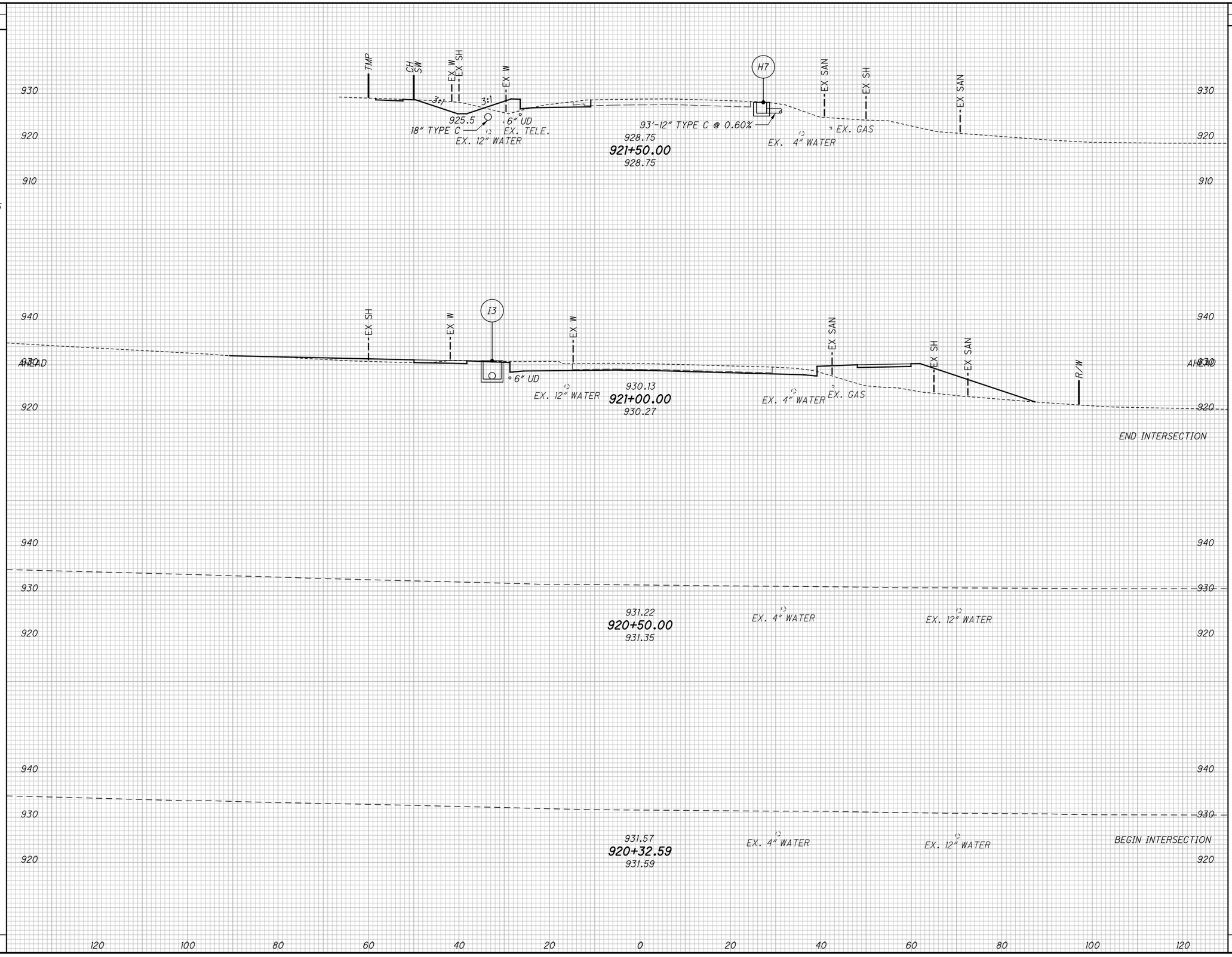


CROSS SECTIONS EAST ORANGE ROAD
STA. 918+50.00 TO STA. 920+00.00

DEL-CR10-0.90

2952-DR.E

SEEDING	
END WIDTH	SQ. YDS.
31	345
93	



END AREA	
CUT	FILL
35	16
112	183

VOLUME	
CUT	FILL
136	184

CALCULATED AWF
CHECKED PHF

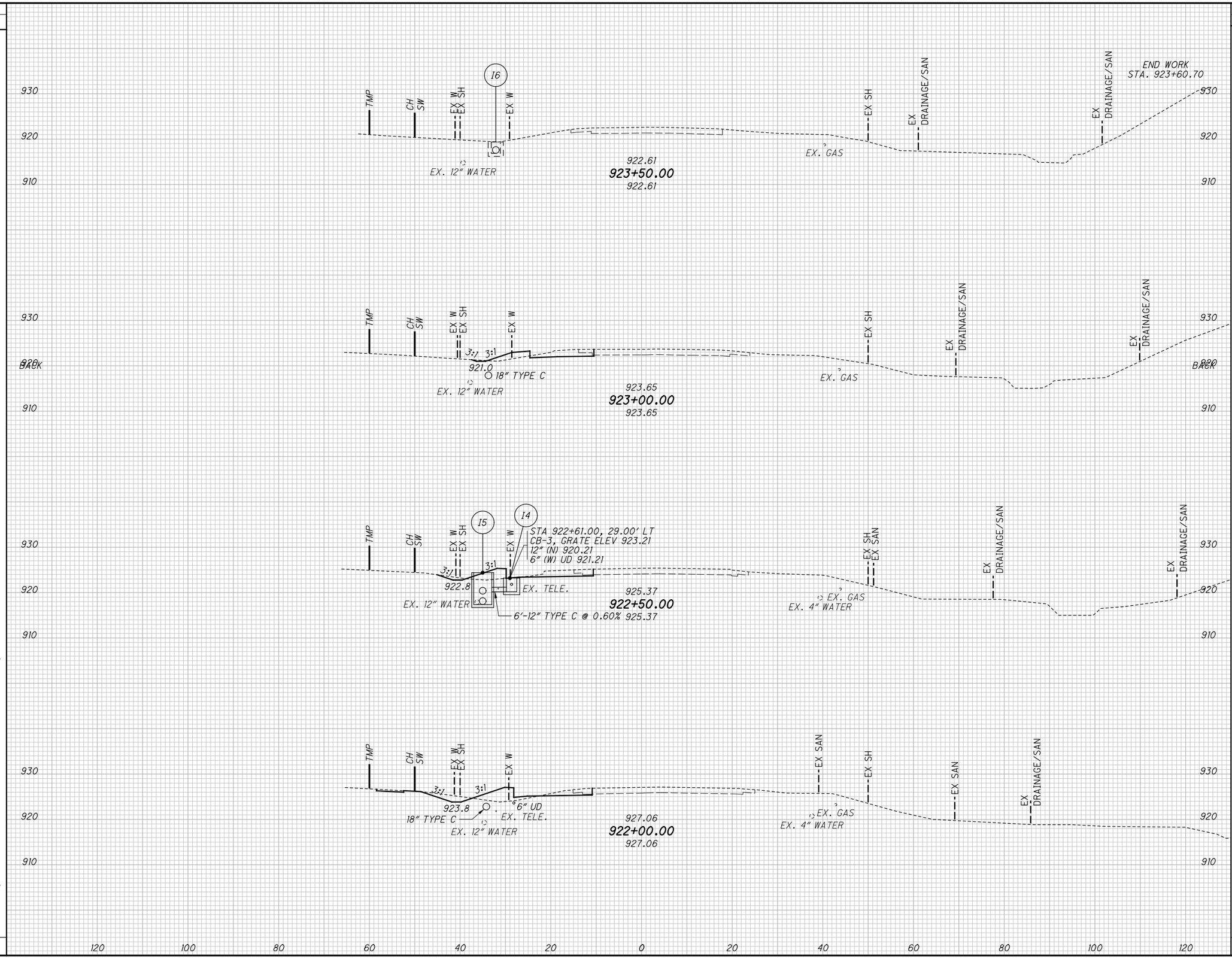
CROSS SECTIONS EAST ORANGE ROAD
STA. 920+32.59 TO STA. 921+50.00

DEL-CR10-0.90

2952-DR.E

241
437

SEEDING	
END WIDTH	SQ. YDS.
17	
20	139
30	172



END AREA	
CUT	FILL
18	10
19	13
22	20

VOLUME	
CUT	FILL
34	21
38	31
53	33

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS EAST ORANGE ROAD
STA. 922+00.00 TO STA. 923+50.00

DEL-CR10-0.90

2952-DR.E

242
437

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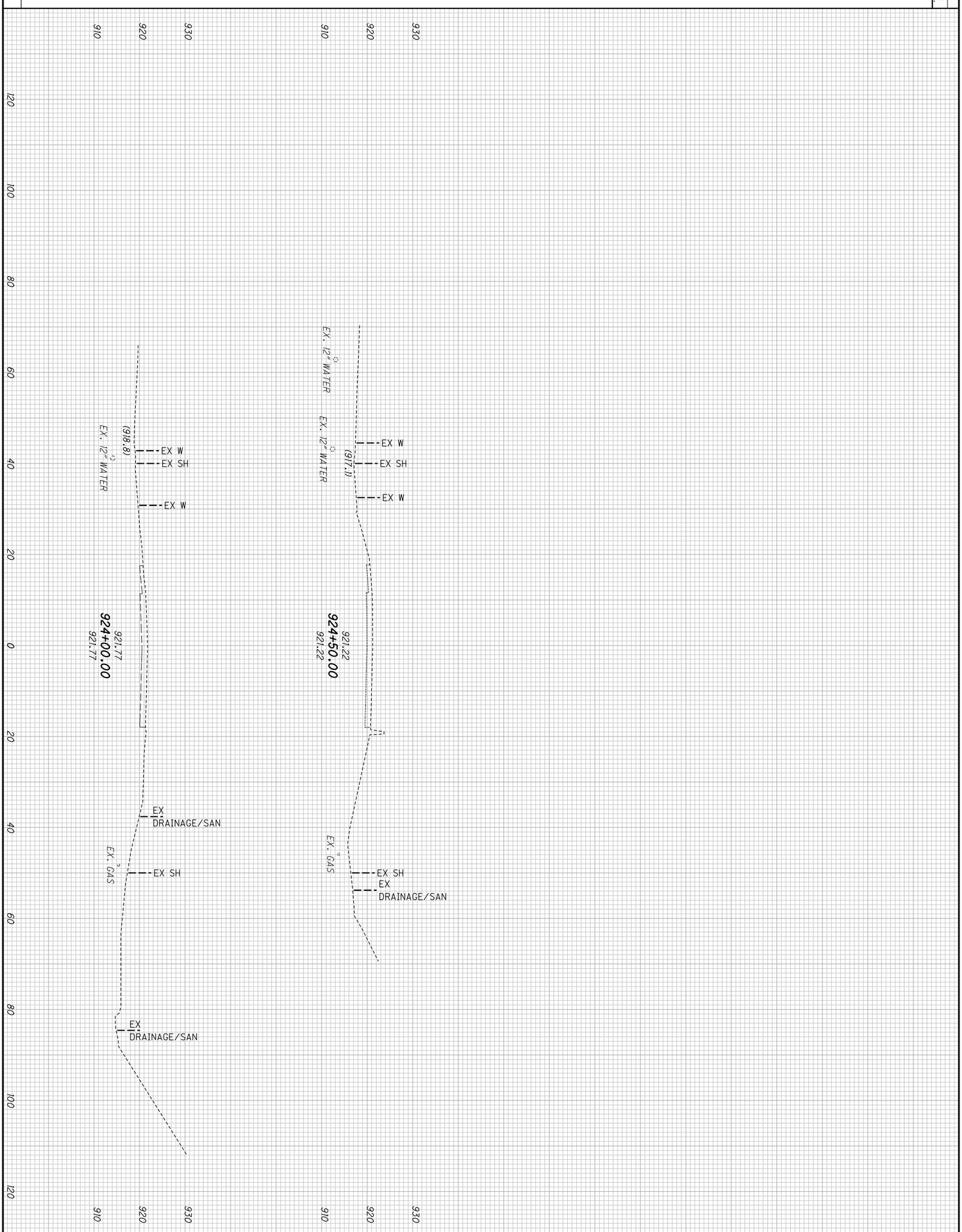
SEEDING
END WIDTH | SQ. YDS.



END AREA
CUT | FILL

VOLUME
CUT | FILL

243
437

2952-DR-E

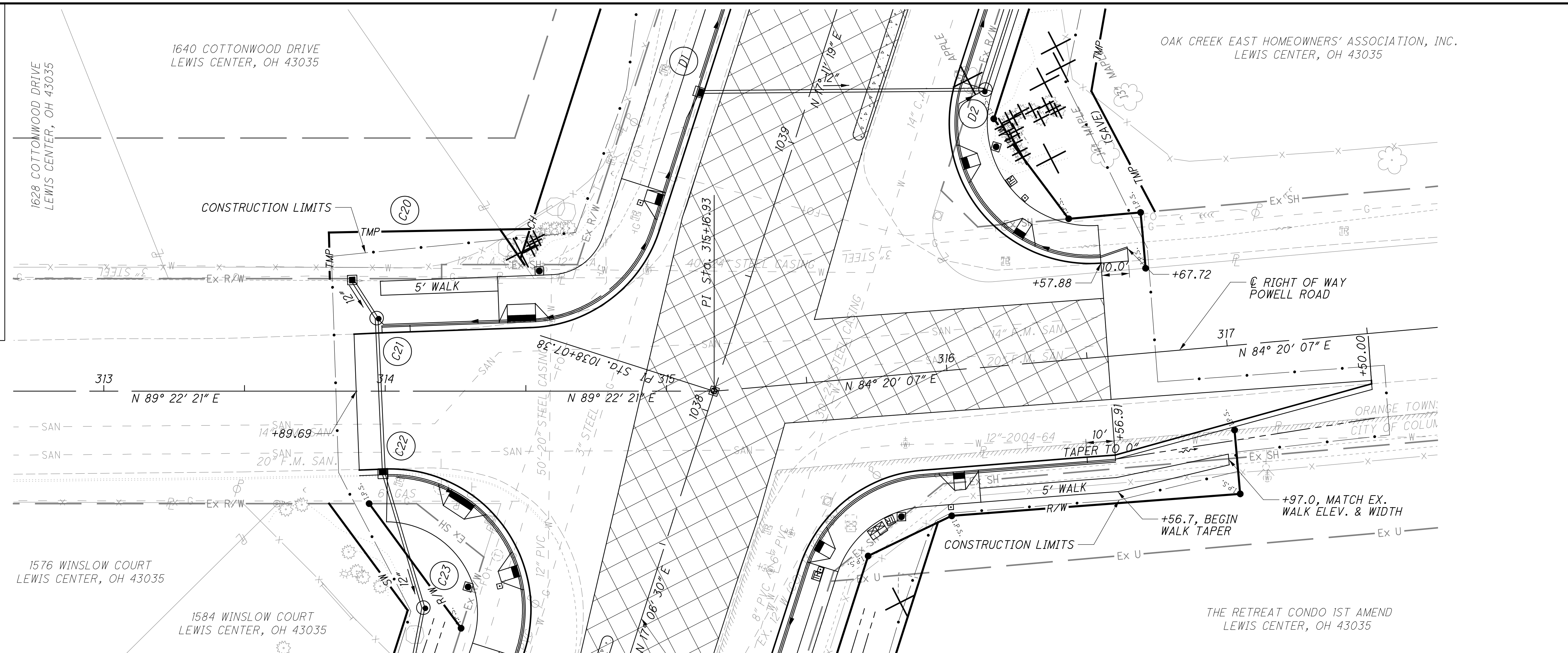
DEL-CR10-0.90

CROSS SECTIONS EAST ORANGE ROAD
STA. 924+00.00 TO STA. 924+50.00

CALCULATED
AWF

CHECKED
PHF

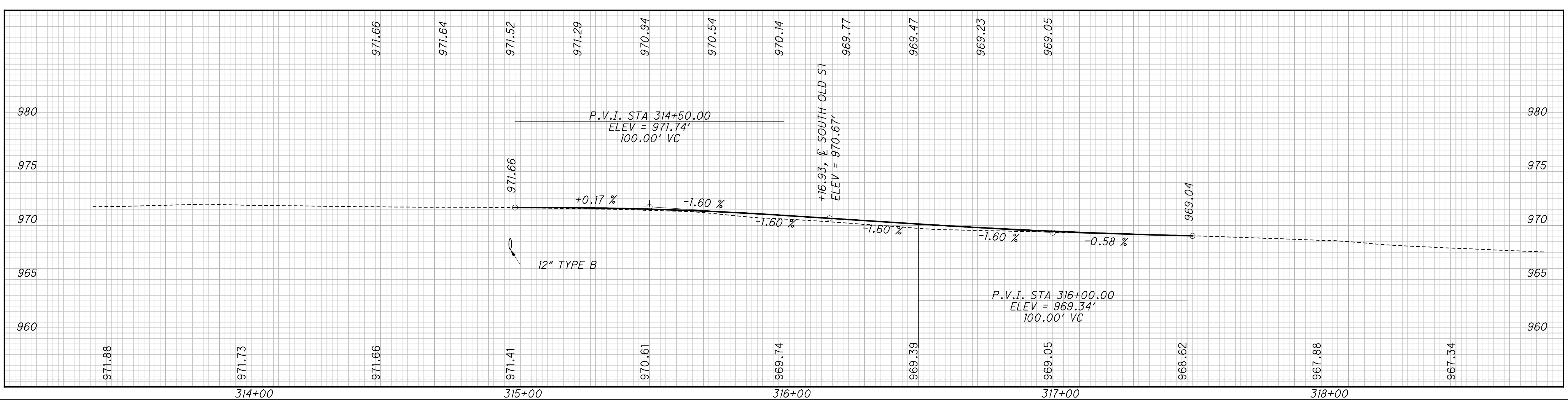
FOR INTERSECTION DETAILS, SEE SHEETS 248 TO 257
FOR TRAFFIC CONTROL PLANS, SEE SHEETS 292 TO 302
FOR LIGHTING PLANS, SEE SHEETS 306 TO 316
FOR SIGNAL PLANS, SEE SHEETS 322 TO 346
FOR RETAINING WALL DETAILS, SEE SHEET 360
FOR NOISE BARRIER DETAILS, SEE SHEETS 350 TO 356
FOR SEWER PROFILES NOT ON CROSS SECTIONS OR PROFILE SHEETS, SEE SHEETS 264 TO 267



1640 COTTONWOOD DRIVE
LEWIS CENTER, OH 43035
1628 COTTONWOOD DRIVE
LEWIS CENTER, OH 43035
OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC.
LEWIS CENTER, OH 43035
CONSTRUCTION LIMITS
5' WALK
+57.88
10.0'
+67.72
℄ RIGHT OF WAY
POWELL ROAD
313
N 89° 22' 21" E
314
PI Sta. 1038+07.38
315
PI Sta. 315+16.93
N 89° 22' 21" E
316
N 84° 20' 07" E
317
N 84° 20' 07" E
+50.00
+89.69
10'
+56.91
TAPER TO 0"
5' WALK
+97.0, MATCH EX.
WALK ELEV. & WIDTH
+56.7, BEGIN
WALK TAPER
CONSTRUCTION LIMITS
1576 WINSLOW COURT
LEWIS CENTER, OH 43035
1584 WINSLOW COURT
LEWIS CENTER, OH 43035
THE RETREAT CONDO 1ST AMEND
LEWIS CENTER, OH 43035
ORANGE TOWNS
CITY OF COLUM
1039
1038
1036
℄ CONSTRUCTION
SOUTH OLD STATE ROAD

- PAVEMENT SALVAGE LEVELING COURSE & OVERLAY

FOR SOUTH OLD STATE DETAILS, SEE SHEET 138



971.66
971.64
971.52
971.29
970.94
970.54
970.14
969.77
969.47
969.23
969.05
980
975
970
965
960
P.V.I. STA 314+50.00
ELEV = 971.74'
100.00' VC
+16.93, ℄ SOUTH OLD ST
ELEV = 970.67'
971.66
+0.17 %
-1.60 %
-1.60 %
-1.60 %
-1.60 %
-0.58 %
969.04
12" TYPE B
P.V.I. STA 316+00.00
ELEV = 969.34'
100.00' VC
971.88
971.73
971.66
971.41
970.61
969.74
969.39
969.05
968.62
967.88
967.34
314+00
315+00
316+00
317+00
318+00

HORIZONTAL SCALE IN FEET 0 10 20 40

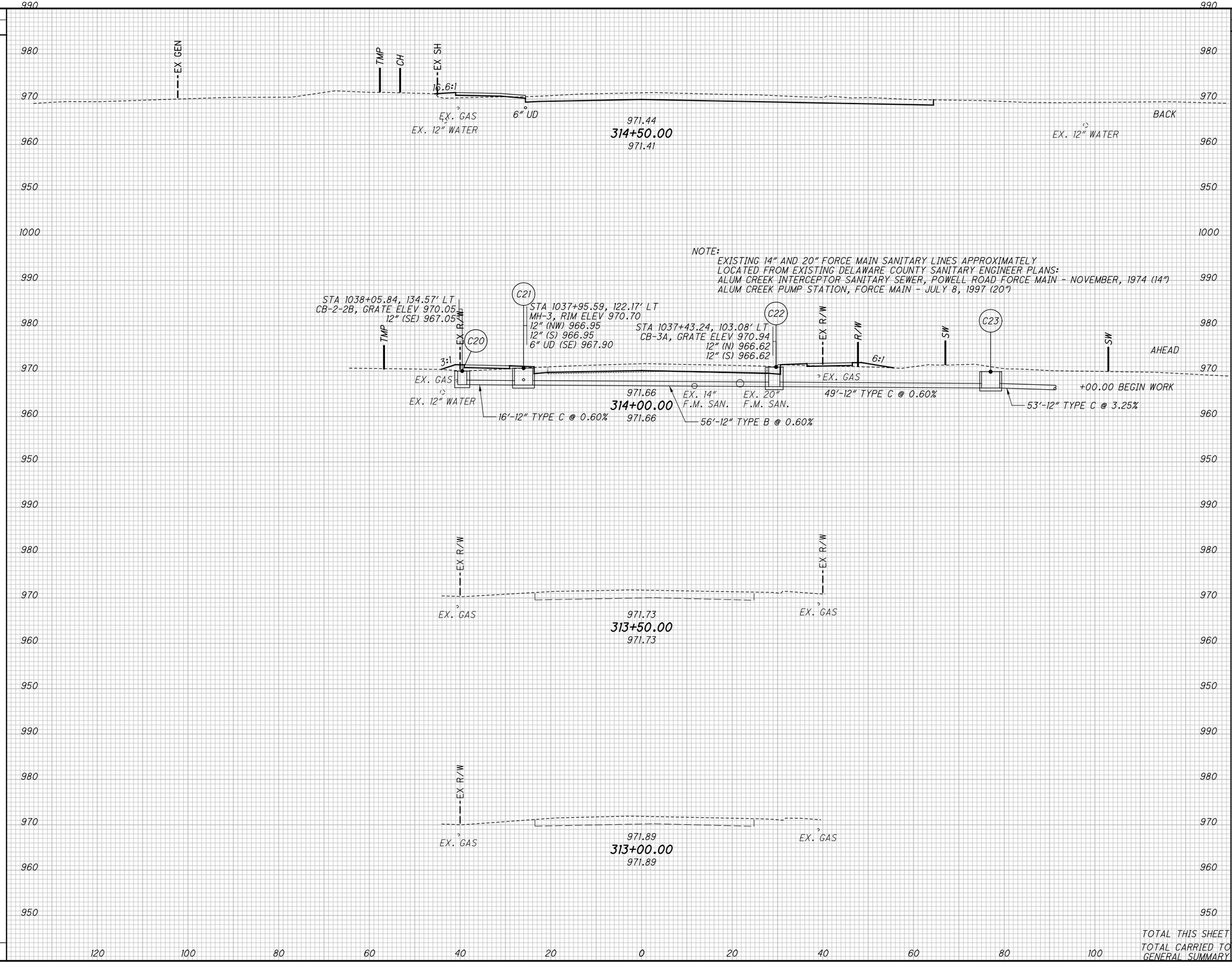
CALCULATED FGW
CHECKED PHF

PLAN AND PROFILE - POWELL ROAD
STA. 1036+50 TO STA. 1041+50

DEL-CR10-0.90

2952-DR.E

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
125	8		
		190	24
80	18		
TOTAL THIS SHEET		190	24
TOTAL CARRIED TO GENERAL SUMMARY		663	26

CALCULATED AWF
CHECKED PHF

CROSS SECTIONS POWELL ROAD
STA. 313+00.00 TO STA. 314+50.00

DEL-CR10-0.90

245
437

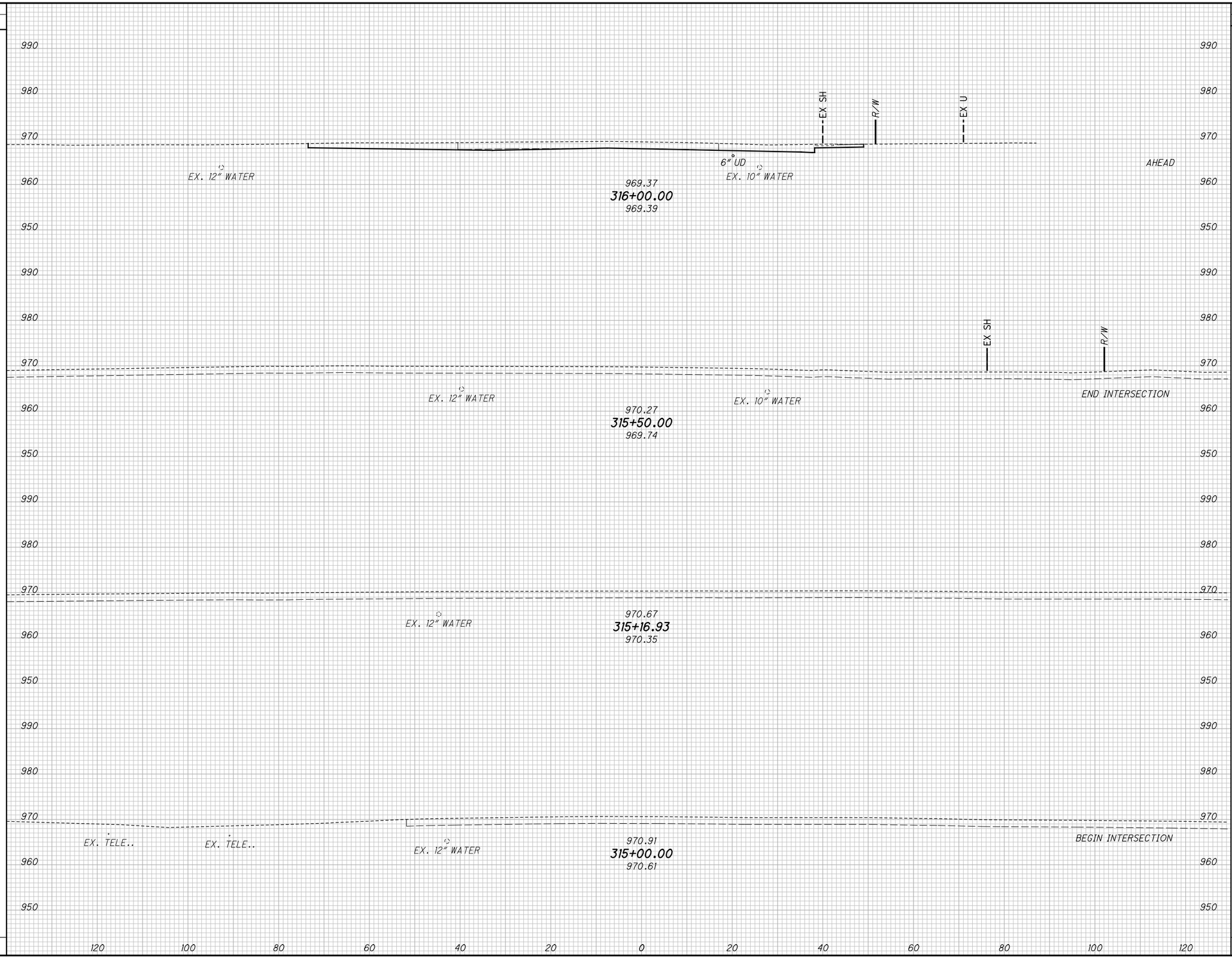
SEEDING	
END WIDTH	SQ. YDS.

END AREA	
CUT	FILL
173	0

VOLUME	
CUT	FILL
293	1
293	1

CALCULATED AWF

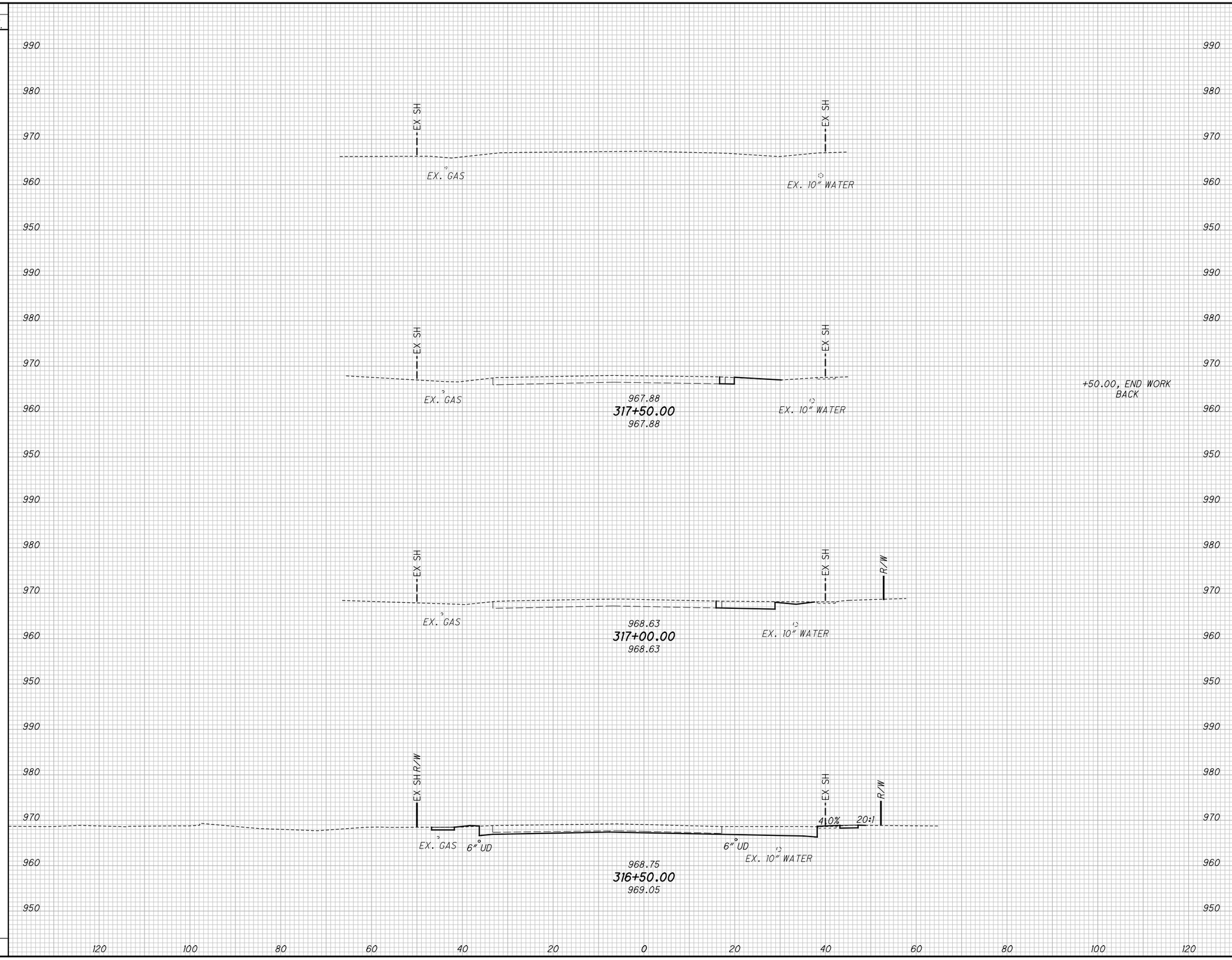
CHECKED PHF



CROSS SECTIONS POWELL ROAD
STA. 315+00.00 TO STA. 316+00.00

DEL-CR10-0.90

SEEDING	
END WIDTH	SQ. YDS.



END AREA		VOLUME	
CUT	FILL	CUT	FILL
5	0		
		26	0
23	0		
		154	1
143	1		
		180	1

CALCULATED AWF

CHECKED PHF

CROSS SECTIONS POWELL ROAD
STA. 316+50.00 TO STA. 318+00.00

DEL-CR10-0.90

NOTE:
ALL RAMP DETECTABLE WARNING SHALL COMPLY WITH CITY OF COLUMBUS SUPPLEMENTAL SPECFICATION 1551

8" CONCRETE WALK

DETECTABLE WARNING (TYP)

R2 - 936.78
STA. 1004+42.35, 53.46 LT

R1 - 936.49
STA. 1004+22.07, 38.91 LT

R3 - 937.24
STA. 1004+89.41, 53.57' LT

R4 - 937.74
STA. 1005+09.99, 38.85' LT

WYNSTONE DRIVE

+74.45, 54.2' LT.
PROP SAN. MH-3
TOC. EL. 937.33

+32.38, 89.3' LT.
PROP SAN. MH-3
TOC. EL. 938.72

+47.02, 66.1' LT.
PROP CB-3A
TOC. EL. 936.94

+84.13, 73.1' LT.
PROP CB-3
TOC. EL. 937.15

+84.76, 66.3' LT.
PROP CB-3
TOC. EL. 937.02

+00, 38' LT.
PROP CB-3A
TOC. EL. 936.04

+35.43, 38' LT.
PROP CB-3
TOC. EL. 938.38

STA. 1004+14.40, 71' LT. CR 10 =
STA. 3+73.31, 51.37' RT. WYNSTONE DR.

R = 35'
Δ = 89° 53' 06"
L = 54.91'

STA. 1005+17.43, 71' LT. CR 10 =
STA. 3+73.31, 51.37' LT. WYNSTONE DR.

R = 35'
Δ = 90° 17' 58"
L = 55.16'

ASPHALT SHARED USE PATH

CONCRETE WALK

GRADE BREAK

STA. 1004+65.76 CR 10 (SOUTH OLD STATE ROAD) =
STA. 4+46.11 WYNSTONE DRIVE

CR 10
N 16° 48' 46" E

S 73° 11' 14" E

90°0'0"

CONCRETE WALK

STA. 1004+27.15, 49.32' RT. CR 10

R = 20'
Δ = 89° 14' 15"
L = 31.15'

STA. 1005+00.27, 51.56' RT. CR 10

R = 20'
Δ = 103° 10' 02"
L = 36.01'

* ELEVATIONS ARE AT THE FACE OF CURB

R6 - 936.22
STA. 1004+28.78, 29.03' RT

R5 - 937.77
STA. 1005+00.30, 31.12' RT

39.19'

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BAD
CHECKED AWF

INTERSECTION DETAIL
S. OLD STATE RD. AND WYNSTONE DR.

DEL-CR10-0.90

2952-DR.E

248
437

8" CONCRETE WALK

NOTE:
ALL RAMP DETECTABLE WARNING SHALL COMPLY WITH CITY OF COLUMBUS SUPPLEMENTAL SPECFICATION 1551

R1 - 941.96
STA. 1012+05.94, 38.00' LT

R2 - 943.10
STA. 1012+57.41, 67.23' LT

R3 - 942.72
STA. 1013+48.25, 66.59' LT

R4 - 937.74
STA. 1013+96.00, 38.00' LT

R5 - 943.58
STA. 1013+94.79, 44.00' RT

R6 - 942.53
STA. 1013+48.60, 78.94' RT

R7 - 941.84
STA. 1012+45.91, 71.73' RT

R8 - 941.55
STA. 1012+05.94, 44.00' RT

100 POLARIS PARKWAY

5' CONCRETE WALK

ASPHALT SHARED USE PATH

SOUTH OLD STATE ROAD (CR10)

GRADE BREAK

CONCRETE WALK

ALL SHEETS TYP.

+32.2, 61.54' LT
PROP. MH-3
TOC. EL. 943.40

STA. 1012+24.63, 71.0' LT, CR 10 =
STA. 100+34.96, 76.13' RT POLARIS PARKWAY

R = 35'
Δ = 87° 40' 54"
L = 53.41'

+39, 38' LT
PROP. CB-3
TOC. EL.=941.43

+39, 49.50' LT
PROP. MH-3
TOC. EL. 942.28

+39, 36.4' RT
PROP. MH-3
TOC. EL. 941.53

+39, 53' RT
PROP. MH-3
TOC. EL.=941.01

+39, 53.00' RT
PROP. MH-3
TOC. EL. 941.85

+29.40, 32.17' RT
PROP. MH-3
TOC. EL. 942.09

+56.00, 60.57' LT
PROP. MH-3
TOC. EL. 943.43

STA. 1013+80.88, 71.0' LT, CR 10 =
STA. 100+34.65, 80.13' LT POLARIS PARKWAY

R = 35'
Δ = 86° 48' 21"
L = 52.96

+00, 38' LT
PROP. CB-3
TOC. EL.=943.20

+10.00, 30.00' LT
PROP. MH-3
TOC. EL. 943.53

+91.31, 27.3' LT
PROP. MH-3
TOC. EL. 943.56

+43.00, 30.00' LT
PROP. MH-3
TOC. EL. 943.94

ST Sta. 100+88.09

N 16° 19' 14" E

STA. 1013+00.77 SOUTH OLD STATE RD=
STA. 101+05.81 POLARIS PARKWAY (BACK)
STA. 58+99.26 POLARIS PARKWAY (AHEAD)

+90.24, 36.8' RT
PROP. MH-3
TOC. EL. 943.20

+10.00, 44' RT
PROP. CB-3
TOC. EL.=943.80

+91.02, 60.00' RT
PROP. MH-3
TOC. EL. 944.25

STA. 1013+94.79, 92.0' RT, CR 10 =
STA. 59+91.34, 93.95' LT. POLARIS PARKWAY

R = 50'
Δ = 90° 31' 16"
L = 78.99'

STA. 1012+13.333, 77.0' RT, CR 10 =
STA. 59+90.82, 97.55' RT POLARIS PARKWAY

R = 35'
Δ = 86° 13' 08"
L = 52.67'

MATCH EXISTING CONCRETE WALK WIDTH & ELEV.

CURB RAMP PAVEMENT ELEVATIONS ARE FACE OF CURB (TYP.)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BAD
CHECKED AWF

INTERSECTION DETAIL
S. OLD STATE RD. AND POLARIS PKWY.
DEL-CR10-0.90

2952-DR.E

249
437

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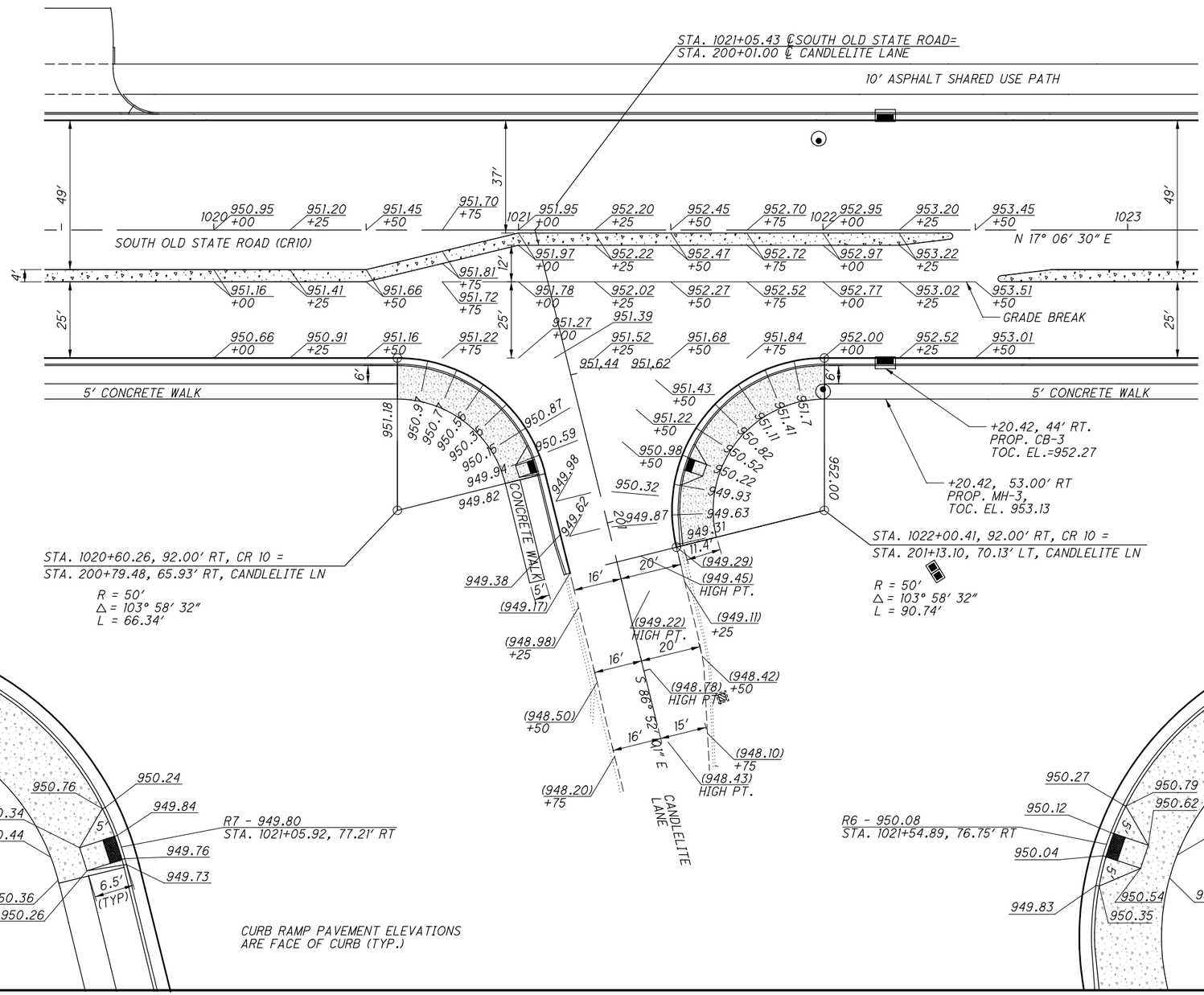
8" CONCRETE WALK

NOTE:
ALL RAMP DETECTABLE WARNING SHALL COMPLY WITH CITY OF COLUMBUS SUPPLEMENTAL SPECFICATION 1551



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BAD
CHECKED AWF

INTERSECTION DETAIL
S. OLD STATE RD. AND CANDLELITE LN.

DEL-CR10-0.90

2952-DR.E

250
437

INTERSECTION DETAIL
S. OLD STATE RD. AND EAST POWELL RD.

DEL-CR10-0.90

2952-DR.E

251
437

CALCULATED BAD
CHECKED AWF

HORIZONTAL SCALE IN FEET
0 10 20 40

8" CONCRETE WALK

EAST POWELL RD

SOUTH OLD STATE ROAD (CR10)

N 17° 11' 19" E

N 84° 20' 07" E

971.69 971.50 971.48 971.69 971.47 971.49 971.54 971.52 971.37 971.34 971.32 971.33 970.98 970.98 970.97 970.95 970.85 970.84 970.81 970.82

R2 - 970.98
STA. 1037+44.14, 73.39' LT

R1 - 970.83
STA. 1037+25.44, 46.38' LT

5' 5' 5' 5' 6.5' (TYP)

STA. 1036+98.34, 86' LT. CR 10 =
STA. 314+01.80, 77.66' RT. POWELL RD.
Δ = 108° 55' 55"
R = 50.00'
L = 95.06'

971.61 971.35 971.55 970.90 970.85 971.57 971.37 970.87 971.25 970.73 971.47 971.52 971.28 971.27 971.32 971.49 970.97 970.82 970.76 970.77

R3 - 970.86
STA. 1038+09.76, 72.57' LT

R4 - 970.80
STA. 1038+66.29, 38.00' LT

7.7% (TYP)

STA. 1038+55.94, 86' LT. CR 10 =
STA. 314+49.91, 72.54' LT. POWELL RD.
Δ = 70° 09' 01"
R = 50.00'
L = 61.22'

MATCH EXISTING CONCRETE WALK WIDTH & ELEV.

+07.00, 38 LT.
PROP. CB-3A
TOC. EL. 969.28

ASPHALT SHARED USE PATH

968.90 +75 | 969.32 +00 | 969.77 +25 | 970.14 +50 | 970.43 +75 | 970.70 +00 | 970.99 +25 | 971.25 +50 | 971.27 +75 | 971.26 +00 | 971.21 +25 | 970.94 +50 | 970.58 +75 | 970.22 +00 | 969.82 +25 | 969.34 +50 | 968.88 +75 | 968.50 +00

969.40 +75 | 969.72 +00 | 970.05 +25 | 970.26 +50 | 970.43 +75 | 970.57 +00 | 970.71 +25 | 970.85 +50 | 970.87 +75 | 970.86 +00 | 970.82 +25 | 970.67 +50 | 970.46 +75 | 970.22 +00 | 969.94 +25 | 969.61 +50 | 969.27 +75 | 968.98 +00

GRADE BREAK

1036 | 1037 | 1038 +00 | 1039 | 1040

969.61 +00 | 969.89 +25 | 970.13 +50 | 970.32 +75 | 970.48 +00 | 970.59 +25 | 970.67 +50 | 970.70 | 970.63 +25 | 970.54 +50 | 970.40 +75 | 970.22 +00 | 970.00 +25 | 969.74 +50 | 969.46 +75 | 969.17 +00

GRADE BREAK

969.23 +00 | 969.51 +25 | 969.74 +50 | 969.94 +75 | 970.10 +00 | 970.21 +25 | 970.10 +25 | 969.95 +50

970.29 +50 | 970.31 +75 | 970.30 +00 | 970.26 +25 | 970.28 +50 | 970.28 +75 | 970.22 +00 | 970.02 +25 | 969.87 +50 | 969.76 +75 | 969.47 +00

968.75 +00 | 969.03 +25 | 969.27 +50 | 969.46 +75 | 969.62 +00 | 969.73 +25 | 969.83 +50 | 969.92 +75 | 969.91 +00 | 969.86 +25 | 969.79 +50 | 969.79 +75 | 696.72 +00 | 969.52 +25 | 969.39 +50 | 969.26 +75 | 968.97 +00

5' CONCRETE WALK

+50.00, 59' RT.
PROP. MH-3
TOC. EL. 969.89

+00.00, 11' RT.
PROP. MH-3
TOC. EL. 970.29

STA. 315+16.93, EAST POWELL ROAD

STA. 1038+07.38, SOUTH OLD STATE ROAD=

R8 - 969.79
STA. 1037+66.43, 50.85' RT

969.80 969.86 969.78 969.51 970.03 970.38 969.28 969.30 969.38 969.40

Sta. 1037+56.88, 98' RT. CR 10 =
Sta. 315+87.74, 84.5' RT. POWELL RD.
Δ = 67° 44' 15"
R = 50.00'
L = 59.11'

Sta. 1039+39.04, 98' RT. CR 10 =
Sta. 316+58.37, 83.26' LT. POWELL RD.
Δ = 112° 17' 39"
R = 50.00'
L = 98.00'

969.85 969.84 969.62 969.39 969.10 968.91 968.74 968.61 968.37 968.27 968.24 968.17 967.56 967.72

969.44 969.45 969.42 969.40 969.37 969.32 969.25 969.16 969.13 +75 (968.74) (969.10) HIGH PT (968.54) (968.96) HIGH PT (968.22) (968.71) HIGH PT (967.86) (968.32) HIGH PT

969.35 969.87 969.34 969.33 969.32 969.84 969.84 969.83 969.94 969.93 969.80 969.28 969.25 969.23 969.72 969.20 969.75 969.85 969.83 969.73

R5 - 969.33
STA. 1039+11.05, 59.01' RT

R6 - 969.24
STA. 1038+92.61, 85.84' RT

969.07 968.57 968.56 969.06 969.16 968.14 968.04 968.54 968.86 968.36

R7 - 968.55
STA. 1038+06.63, 91.53' RT

NOTE:
ALL RAMP DETECTABLE WARNING SHALL COMPLY WITH CITY OF COLUMBUS SUPPLEMENTAL SPECFICATION 1551

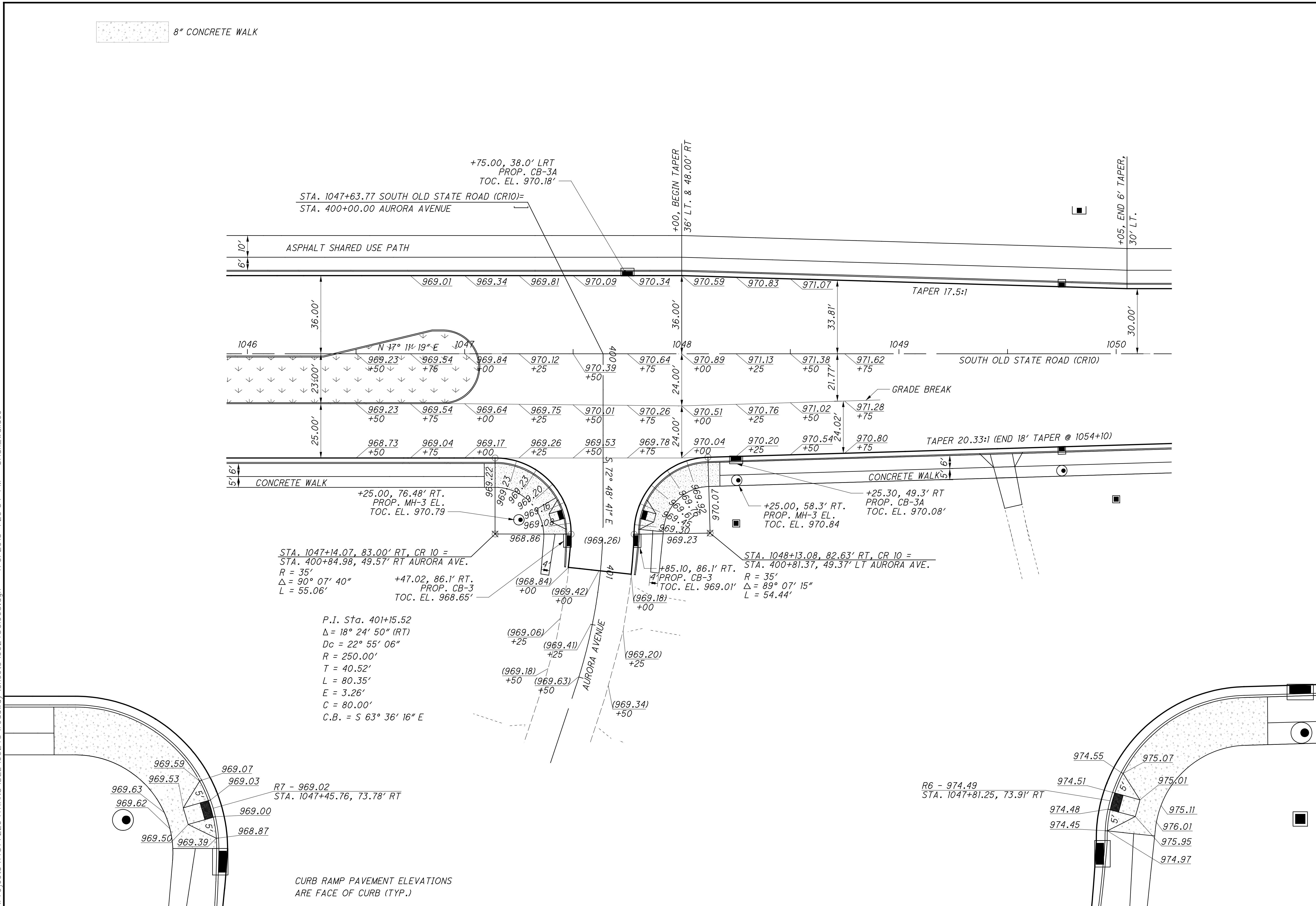
MATCH EXISTING CONCRETE WALK WIDTH & ELEV.

CURB RAMP PAVEMENT ELEVATIONS ARE FACE OF CURB (TYP.)

(971.53) (971.88) (971.22) (971.49) (971.73) (971.31) (971.19) (971.70) (971.19) (970.93) (971.66) (971.12) 971.11 971.09 971.08 971.07 971.05 971.00 970.93 970.86 970.77 970.68 971.64 +25 971.52 +50 970.92 970.97 970.99 971.00 971.00 970.98 970.94 970.85 971.28 971.30 971.21 970.68 970.60 970.70 969.87 969.79 969.47 +25 969.23 +50 969.13 +75

22' 21" E 314 315 316 317

L:\Projects\14577229\TRANS\DEL\90243\roadway\sheets\90243GI004.dgn - 4/9/2015 1:20:32 PM - brian_wallace


8" CONCRETE WALK
+75.00, 38.0' LRT
PROP. CB-3A
TOC. EL. 970.18'
STA. 1047+63.77 SOUTH OLD STATE ROAD (CR10)=
STA. 400+00.00 AURORA AVENUE
+00, BEGIN TAPER
36' LT. & 48.00' RT
+05, END 6' TAPER,
30' LT.
ASPHALT SHARED USE PATH
969.01
969.34
969.81
970.09
970.34
970.59
970.83
971.07
TAPER 17.5:1
36.00'
33.81'
30.00'
1046
N 17° 11' 19" E
1047
1048
1049
1050
SOUTH OLD STATE ROAD (CR10)
GRADE BREAK
TAPER 20.33:1 (END 18' TAPER @ 1054+10)
CONCRETE WALK
+25.00, 76.48' RT.
PROP. MH-3 EL.
TOC. EL. 970.79
+25.00, 58.3' RT.
PROP. MH-3 EL.
TOC. EL. 970.84
+25.30, 49.3' RT
PROP. CB-3A
TOC. EL. 970.08'
S 72° 48' 41" E
STA. 1047+14.07, 83.00' RT, CR 10 =
STA. 400+84.98, 49.57' RT AURORA AVE.
R = 35'
Δ = 90° 07' 40"
L = 55.06'
+47.02, 86.1' RT.
PROP. CB-3
TOC. EL. 968.65'
+85.10, 86.1' RT.
PROP. CB-3
TOC. EL. 969.01'
STA. 1048+13.08, 82.63' RT, CR 10 =
STA. 400+81.37, 49.37' LT AURORA AVE.
R = 35'
Δ = 89° 07' 15"
L = 54.44'
AURORA AVENUE
P.I. Sta. 401+15.52
Δ = 18° 24' 50" (RT)
Dc = 22° 55' 06"
R = 250.00'
T = 40.52'
L = 80.35'
E = 3.26'
C = 80.00'
C.B. = S 63° 36' 16" E
R7 - 969.02
STA. 1047+45.76, 73.78' RT
R6 - 974.49
STA. 1047+81.25, 73.91' RT
CURB RAMP PAVEMENT ELEVATIONS
ARE FACE OF CURB (TYP.)

HORIZONTAL SCALE IN FEET (0 10 20 40)

CALCULATED BAD

CHECKED AWF

INTERSECTION DETAIL
S. OLD STATE RD. AND AURORA AVE.

DEL-CR10-0.90

2952-DR.E

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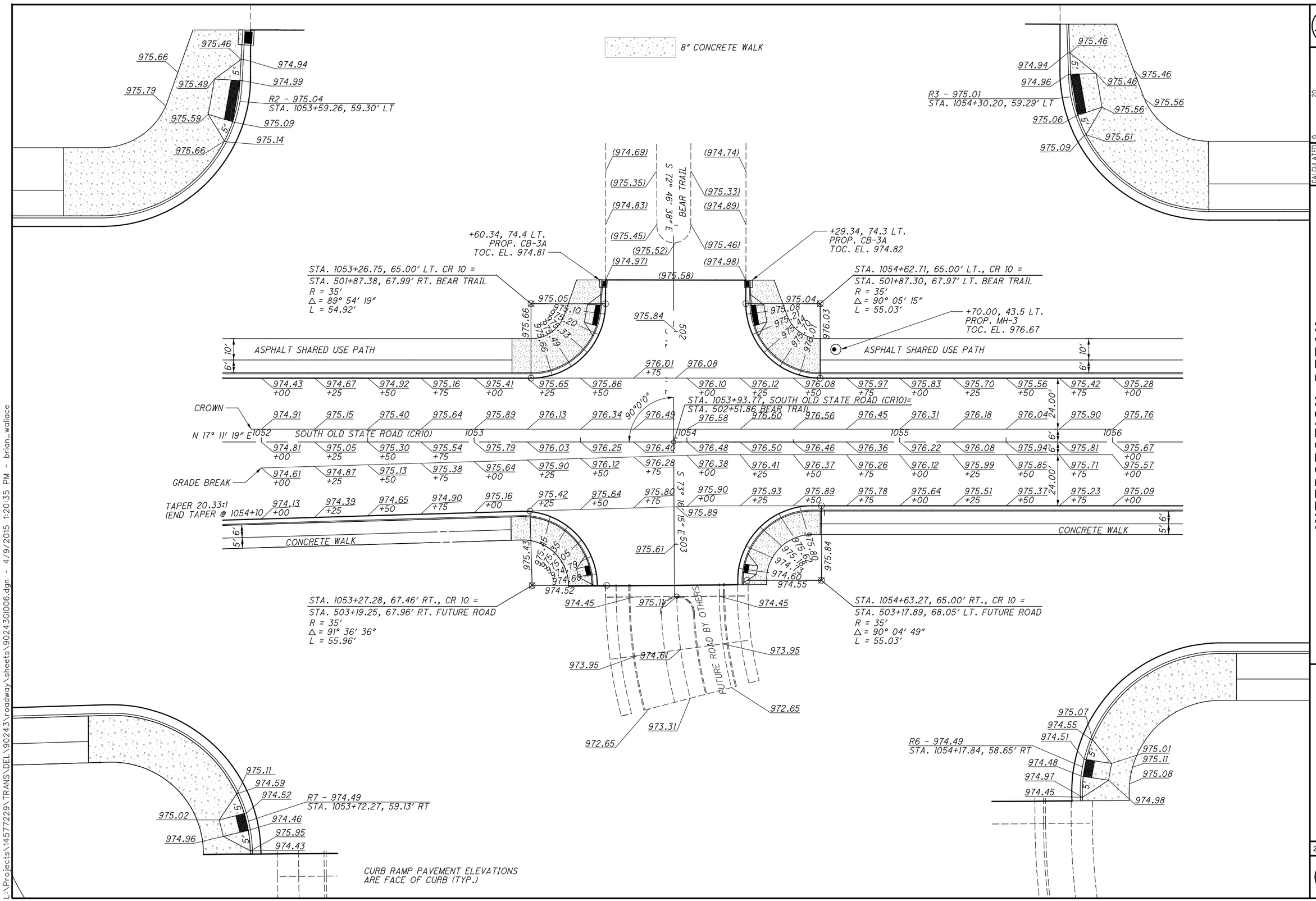

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BAD
CHECKED AWF

INTERSECTION DETAIL
SOUTH OLD STATE RD. AND BEAR TRAIL

DEL-CR10-0.90

2952-DR.E

253
437

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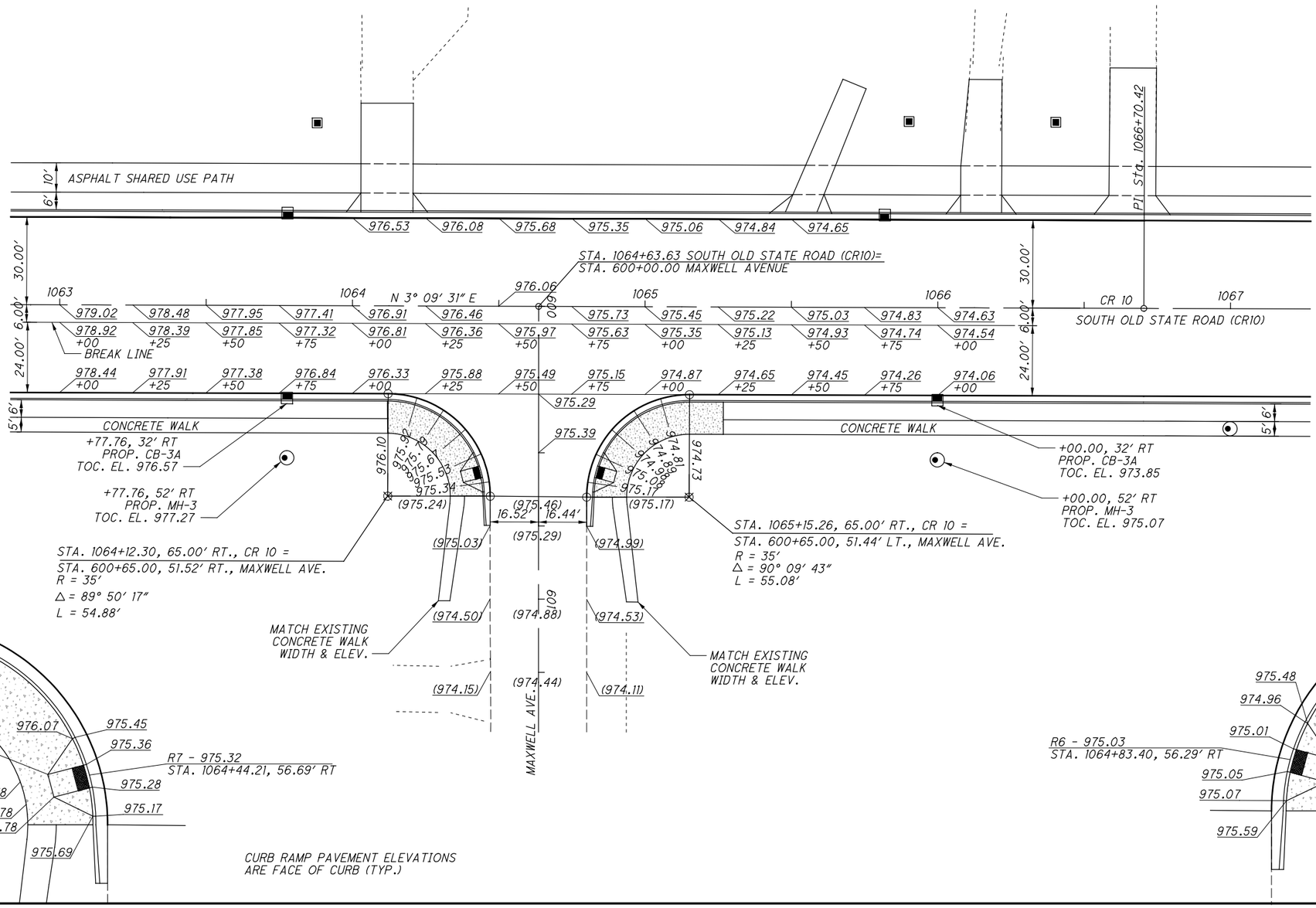

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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BAD
CHECKED AWF

INTERSECTION DETAIL
S. OLD STATE RD. AND MAXWELL AVENUE

DEL-CR10-0.90

2952-DR.E

8" CONCRETE WALK

969.90 969.68 969.16 969.20 971.08 969.70 971.59 971.67 969.88 970.11 969.38 969.59

R2 - 969.29
STA. 1069+51.00, 55.55' LT

969.62 969.62 969.82 969.10 969.12 969.90 969.70 969.20 969.76 969.24

R3 - 969.16
STA. 1069+90.63, 55.59' LT

S 86° 49' 50" E ROYAL OAK DRIVE

(968.78) +25 (969.19) (968.85) +25

MATCH EXISTING CONCRETE WALK WIDTH & ELEV.

(968.98) +00 (969.37) .03 (968.95) +00

MATCH EXISTING CONCRETE WALK WIDTH & ELEV.

+52.39, 66.8 LT.
PROP. CB-3
TOC. EL. 969.03

(969.19) +75

+89.26, 66.7 LT.
PROP. CB-3
TOC. EL. 968.98

(969.17) +75

STA. 1069+19.39 65.00' LT., CR 10 =
STA. 703+34.50, 51.45' LT., ROYAL OAK DR.
R = 35'
Δ = 90° 00' 15"
L = 54.98'

(969.49) 16.51' 16.37' (969.53)

STA. 1070+22.26 65.00' LT., CR 10 =
STA. 703+34.51, 51.43' LT., ROYAL OAK DR.
R = 35'
Δ = 89° 59' 45"
L = 54.98'

+75, 59.9' LT
PROP. CB-2-2B
TOC. EL. 970.98

+16.64, 53.6' LT
PROP. MH-3
TOC. EL. 970.98

(969.25) 969.30 969.48 969.90 970.36 970.76 970.99 (969.20) 969.22 969.55 969.55 969.88

ASPHALT SHARED USE PATH 6' 10'

ASPHALT SHARED USE PATH 6' 10'

970.39 +75

90°00'51"

972.25 +00	971.99 +25	971.73 +50	971.46 +75	971.19 +00	970.92 +25	970.65 +50		970.12 +00	969.85 +25	969.58 +50	969.32 +75	969.05 +00	
CROWN 972.74 +00	972.47 +25	972.20 +50	971.94 +75	971.67 +00	971.40 +25	971.13 +50	970.87 +75	970.60 +00	970.33 +25	970.06 +50	969.80 +75	969.53 +00	SOUTH OLD STATE ROAD (CR10)
1068			N 3° 10' 25" E	1069				1070			1071		
972.64 +00	972.38 +25	972.11 +50	971.84 +75	971.57 +00	971.31 +25	971.04 +50	970.77 +75	970.50 +00	970.24 +25	969.97 +50	969.70 +75	969.43 +00	

24.00' 6.00' 30.00' 24.00' 6.00' 30.00'

STA. 1069+70.91 SOUTH OLD STATE ROAD (CR10)=
STA. 703+99.54 ROYAL OAK DRIVE

971.26 970.99 970.73 970.46 969.92 969.66 969.39

5' 6'

CONCRETE WALK

+00.00,4 32' LT.
PROP. CB-3
TOC. EL. 970.79

+00.00,4 41' LT.
PROP. MH-3
TOC. EL. 970.83

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BAD CHECKED AWF

INTERSECTION DETAIL
S. OLD STATE RD. AND ROYAL OAK DRIVE

DEL-CR10-0.90

2952-DR.E

255
437

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8" CONCRETE WALK

GLADSHIRE BOULEVARD
S 86° 49' 38" E

WILSHIRE BOULEVARD
N 3° 10' 25" E

SOUTH OLD STATE ROAD (CR10)

ASPHALT SHARED USE PATH

CONCRETE WALK

CROWN

GRADE BREAK

MATCH EXISTING CONCRETE WALK WIDTH & ELEV.

MATCH EXISTING CONCRETE WALK WIDTH & ELEV.

+81.48, 66.8' LT
PROP. CB-3A
TOC. EL. 948.06

+18.54, 66.8' LT
PROP. CB-3A
TOC. EL. 948.21

+25, 32' LT
PROP. CB-3
TOC. EL. 949.80

+00, 32' LT
PROP. CB-3A
TOC. EL. 948.04

+51, 32' LT
PROP. CB-3
TOC. EL. 947.93

+25, 32' RT
PROP. CB-3
TOC. EL. 949.61

+00, 32' RT
PROP. CB-3A
TOC. EL. 947.85

+51, 32' RT
PROP. CB-3
TOC. EL. 947.74

+25, 41' RT
PROP. MH-3
TOC. EL. 950.44

STA. 1082+48.48 65.00' LT., CR 10 =
STA. 801+71.15, 51.48' RT., GLADSHIRE BLVD.
R = 35'
Δ = 90° 00' 00"
L = 54.98'

STA. 1083+51.54 65.00' LT., CR 10 =
STA. 801+71.15, 51.58' LT. WILSHIRE BLVD.

STA. 1083+51.54 65.00' LT., CR 10 =
STA. 801+71.15, 51.58' LT., GLADSHIRE BLVD.
R = 35'
Δ = 90° 00' 00"
L = 54.98'

STA. 1082+40.67 65.00' LT. CR 10 =
STA. 803+01.15, 59.29' RT. WILSHIRE BLVD.
R = 35'
Δ = 89° 59' 60"
L = 54.98'

STA. 1083+59.29 65.00' LT., CR 10 =
STA. 803+01.15, 59.33' LT., WILSHIRE BLVD.
R = 35'
Δ = 90° 00' 00"
L = 54.98'

STA. 1082+99.53 RT., CR 10 =
STA. 802+36.15 RT., GLADSHIRE/WILSHIRE BLVD.

R1 - 949.51
STA. 1082+52.54, 32.25' LT

R2 - 948.28
STA. 1082+80.12, 55.61' LT

R3 - 948.42
STA. 1083+19.90, 55.62' LT

R4 - 948.47
STA. 1088+47.46, 32.25' LT

R5 - 948.15
STA. 1083+51.35, 32.97' RT

R6 - 947.59
STA. 1083+27.01, 58.12' RT

R7 - 947.55
STA. 1082+72.94, 58.11' RT

R8 - 949.27
STA. 1082+48.67, 32.99 RT

CURB RAMP PAVEMENT ELEVATIONS
ARE FACE TO CURB (TYP.)

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BAD
CHECKED AWF

INTERSECTION DETAIL
GLADSHIRE BLVD AND WILSHIRE BLVD

DEL-CR10-0.90

2952-DR.E

256
437

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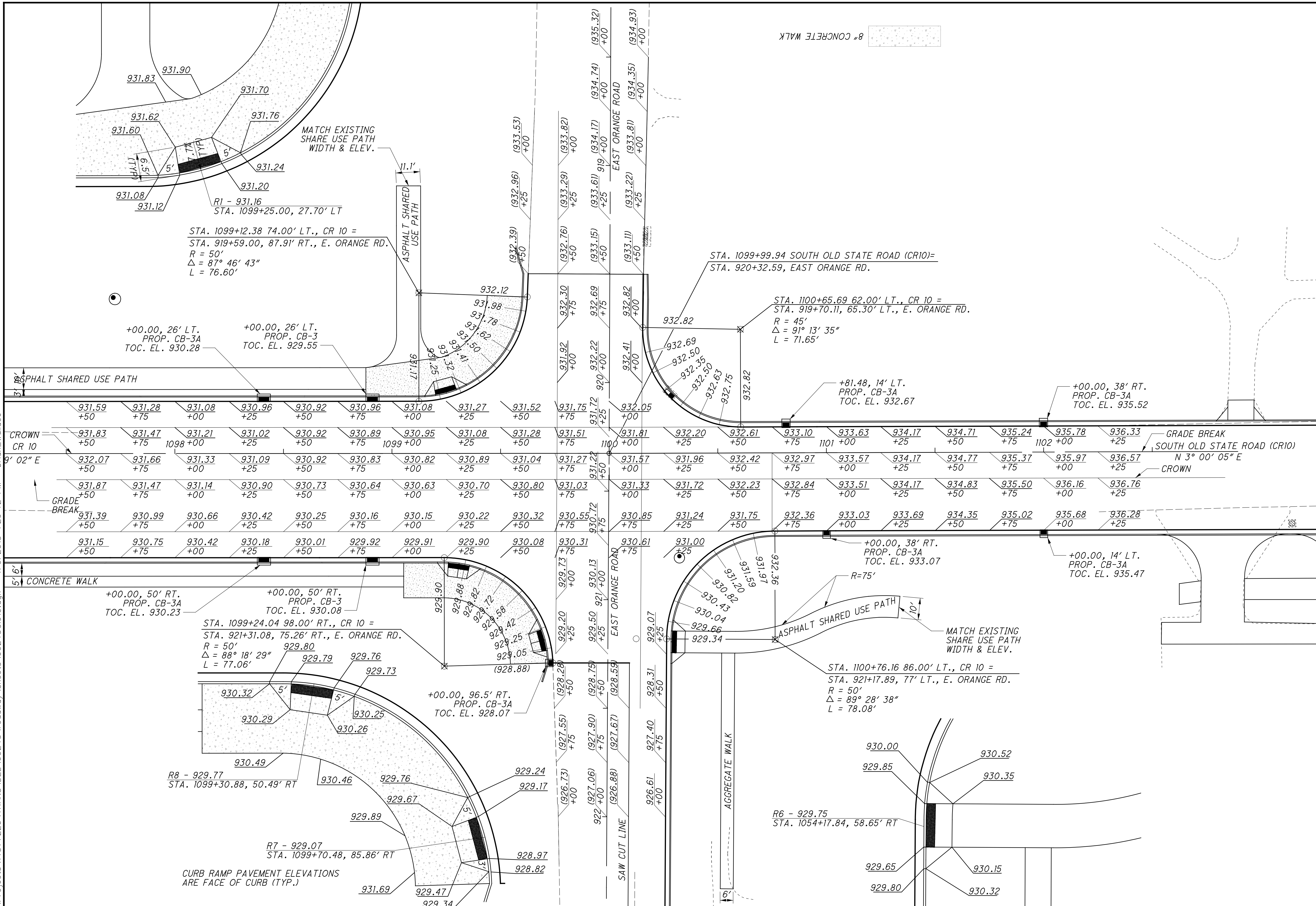


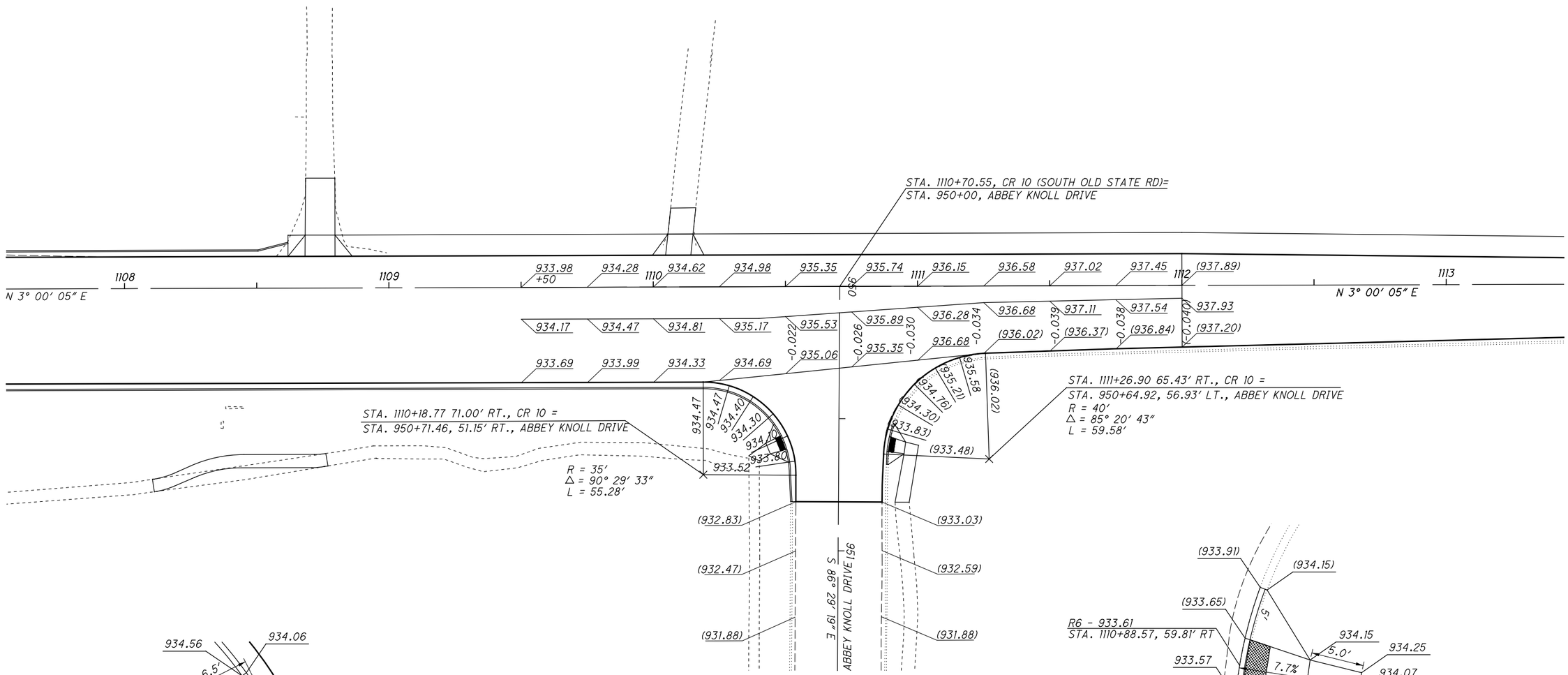
HORIZONTAL SCALE IN FEET (0, 10, 20, 40)

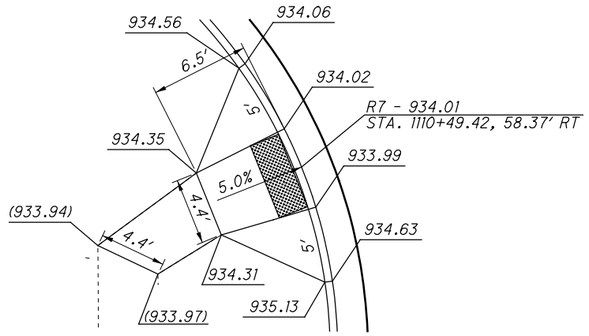
CALCULATED BAD | CHECKED AWF

INTERSECTION DETAIL
SOUTH OLD STATE RD & EAST ORANGE RD.

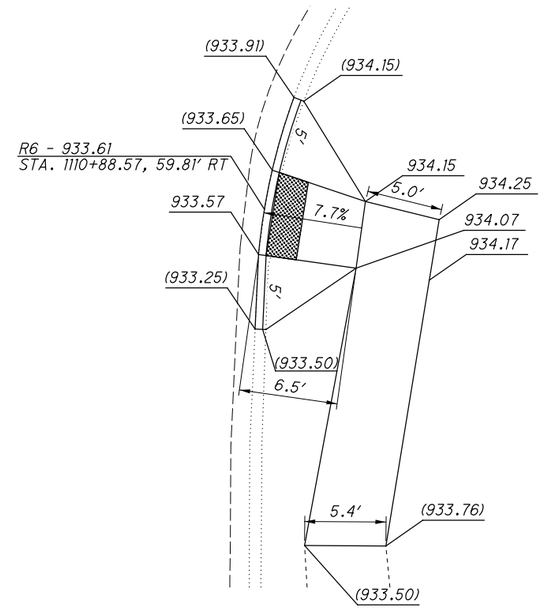
DEL-CR10-0.90

2952-DR.E





CURB RAMP PAVEMENT ELEVATIONS
ARE FACE OF CURB (TYP.)



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BAD
CHECKED AWF

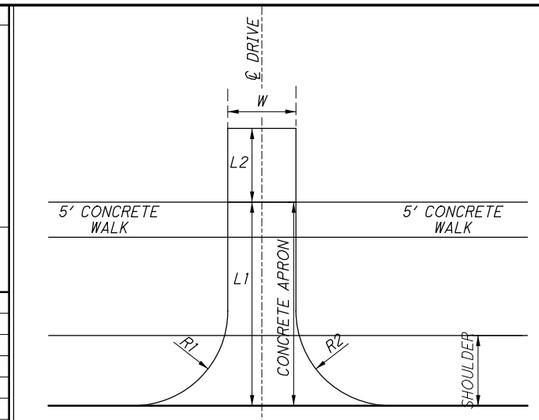
INTERSECTION DETAIL
SOUTH OLD STATE RD & ABBEY KNOLL DR.

DEL-CR10-0.90

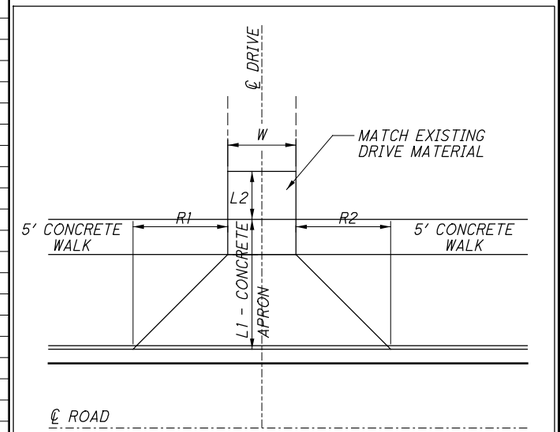
2952-DR.E

258
437

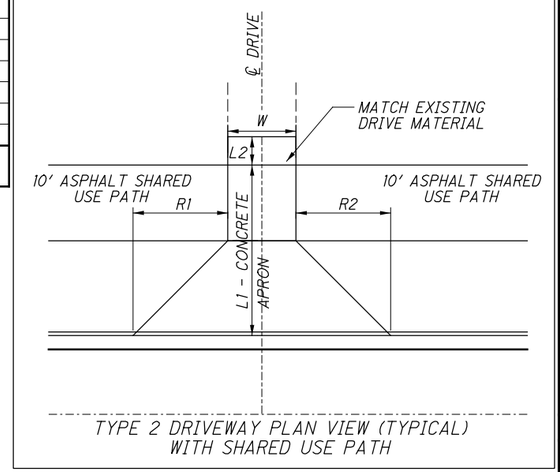
SHEET NO.	REFERENCE NO.	STATION	SIDE	PAV'T TYPE	COM/RES	DRIVE TYPE	APRON LENGTH "L1"	DRIVEWAY LENGTH "L2"	WIDTH "W"	R1 (LEFT SIDE RADII OF DRIVE LOOKING FROM CL)	R2 (RIGHT SIDE RADII OF DRIVE LOOKING FROM CL)	CADD GENERATED SURFACE AREA (SQ FT)			204	203	304	304	442	442	442	452	452	452
															SUBGRADE COMPACTION	EXCAVATION	6" AGGREGATE BASE	8" AGGREGATE BASE	1 3/4" ASPHALT CONCRETE, INTERMEDIATE COURSE, 19MM, TYPE A (448) (DRIVEWAYS)	2" ASPHALT CONCRETE, SURFACE COURSE, 12.5MM, TYPE A (448), AS PER PLAN	2 1/4" ASPHALT CONCRETE, SURFACE COURSE, 12.5MM, TYPE A (448), AS PER PLAN	6" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1	8" PLAIN PORTLAND CEMENT CONCRETE (FAST SETTING)	8" NON-REINFORCED CONCRETE PAVEMENT, CLASS QC1
										FT.	FT.	APRON L1	AREA TO ROW	AREA BYND ROW	SQ YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	SQ YD	SQ YD	SQ YD
128	DR-1	1001+45.19	RT	ASPH	COM	1	21.0		35.8	20	20	935			104	23.1								104
129	DR-2	1001+69.50	LT	ASPH	RES	4	19.8		12.2	6.5	6.3	312			35	7.7						34.7		
129	DR-3	1002+63.88	RT	CONC	COM	1	20.1		24.9	45	5	420			47	10.4								47
129	DR-4	1003+16.87	LT	ASPH	RES	4	14.7		13.4	5.7	9.8	276			31	6.8						30.7		
129	DR-5	1004+63.71	RT	CONC	COM	3	11.9	21.6	39.2	20	20	573	90	727	154	34.3								154
130	DR-6	1006+63.50	RT	AGG	COM	2	12.2	15.7	15.2	5	5	222	148	96	52	11.5		6.0						25
130	DR-7	1007+37.00	LT	AGG	COM	3	17.0	2.9	25.2	15	15	517	73		66	14.6		1.8						57
130	DR-8	1008+89.75	RT	ASPH	COM	3	11.5	20.1	41.5	20	20	573	171	584	148	32.8	14.0		4.08	4.66				64
130	DR-9	1009+00.00	LT	ASPH	COM	3	16.5	10.0	29.0	20	20	650	161	131	105	23.3	5.4		1.58	1.80				72
131	DR-10	1015+48.81	LT	CONC	COM	3	16.5	11.0	35.7	9.7	17	678	183		96	21.3	FOR ADDITIONAL GEOMETRY AND QUANTITIES, SEE SHEET						263	96
133	DR-11	1017+46.92	RT	ASPH	COM	3	12.0	56.0	24.0	45	50	858	246	1,532	293	65.1	32.9		9.60	10.98				95
133	DR-12	1017+88.18	LT	ASPH	COM	3	16.5	11.0	24.0	20	20	563	130	611	145	32.2	FOR ADDITIONAL GEOMETRY AND QUANTITIES, SEE SHEET						263	145
133	DR-13	1019+55.05	LT	ASPH	COM	3	16.5	34.8	23.8	15	15	465	131		66	14.7	2.4		0.71	0.81				52
135	DR-14	1025+29.57	LT	AGG	RES	2	16.9	6.8	11.0	5	5	209	62	13	32	7.0	1.4					23.2		
136	DR-15	1030+63.86	RT	CONC	RES	3	12.4	13.2	24.0	23	23	538	116	229	98	21.8						98.1		
136	DR-16	1026+50.00	RT	TURF	RES	3	13.5	22.3	22.0	20	20	465	324	171	107	23.7	9.2					51.7		
141	DR-17	1049+36.51	RT	ASPH	RES	2	11.7	13.6	10.0	5	5	135	72	46	28	6.2	2.2				0.82	15.0		
141	DR-18	1051+29.73	RT	ASPH	RES	2	11.9	14.8	10.0	5	5	91	39	31	18	4.0	1.3				0.49	10.1		
142	DR-19	1052+71.91	RT	AGG	RES	3	11.4	97.0	9.0	5	5	143	135	750	114	25.4	16.4					15.9		
143	DR-20	1058+57.25	LT	CONC	RES	2	16.7	24.2	13.4	5	5	246	157	167	63	14.1						63.3		
143	DR-21	1061+17.20	RT	ASPH	RES	2	11.5	7.1	15.1	5	5	190	106		33	7.3	2.0				0.74	21.1		
144	DR-22	1061+68.07	LT	AGG	RES	2	16.0	15.5	11.4	5	5	211	132	46	43	9.6	3.3					23.4		
144	DR-23	1064+11.89	LT	ASPH	RES	2	16.5	20.7	17.8	5	5	131	205	165	56	12.4	6.9				2.57	14.6		
144	DR-44	1065+39.72	LT	AGG	RES	2	17.9	30.1	8.5	5	5	198	116	156	52	11.6	5.0					22.0		
144	DR-24	1066+14.69	LT	AGG	COM	2	16.5	29.5	11.2	5	5	252	155	217	69	15.4		9.2						28
145	DR-25	1066+66.34	LT	CONC	RES	2	16.5	33.6	15.9	5	5	284	184	352	91	20.2						91.1		
145	DR-26	1068+71.34	RT	AGG	RES	2	11.5	20.9	8.5	5	5	122	136	34	32	7.2	3.1					13.6		
145	DR-27	1070+97.24	RT	ASPH	RES	2	11.7	31.5	12.0	5	5	149	198	180	59	13.0	7.0				2.63	16.6		
146	DR-28	1071+97.54	RT	ASPH	RES	2	11.6	30.6	11.0	5	5	145	183	154	54	11.9	6.2				2.34	16.1		
146	DR-29	1073+39.24	LT	AGG	RES	2	16.5	19.5	10.0	5	5	188	110	67	41	9.0	3.3					20.9		
146	DR-30	1074+09.35	RT	ASPH	RES	2	11.8	18.3	19.5	5	5	251	333	26	68	15.1	6.6				2.49	27.9		
146	DR-31	1075+71.43	RT	ASPH	RES	2	11.5	25.7	9.0	5	5	122	149	83	39	8.7	4.3				1.61	13.6		
147	DR-32	1076+60.91	RT	AGG	RES	2	11.5	21.3	11.0	5	5	158	190	52	44	9.9	4.5					17.6		
150	DR-33	1088+78.13	RT	CONC	RES	2	11.5	16.2	18.0	5	5	220	285		56	12.5						56.1		
150	DR-34	1089+44.62	RT	ASPH	RES	2	11.5	28.8	13.0	5	5	180	275	107	62	13.9	7.1				2.65	20.0		
150	DR-35	1091+12.91	RT	ASPH	COM	3	11.9	27.2	36.0	20	35	654	619	404	186	41.4	18.9		5.52	6.31			73	73
151	DR-36	1094+68.94	RT	ASPH	COM	2	11.5	31.1	7.6	5	5	138	148	130	46	10.3	5.1		1.50	1.72			15	15
153	DR-37	1102+82.91	RT	CONC	COM	3	32.0	19.0	20.0	20	20	784			87	19.4								87
153	DR-38	1102+90.74	LT	ASPH	RES	2	9.7		12.0	5	5	141	12		17	3.8	0.2				0.08	15.7		
153	DR-39	1103+59.80	RT	CONC	COM	3	32.0	19.0	50.5	20	20	1,731		1,913	405	90.0								405
153	DR-40	1104+74.14	RT	ASPH	COM	3	33.8		17.2	20	20	718		32	83	18.5	0.6		0.17	0.20				80
154	DR-41	1108+73.14	LT	ASPH	RES	4	8.0	21.5	11.1	5	5	143	224	17	43	9.5	4.5				1.67	15.9		
154	DR-42	1110+08.02	LT	ASPH	RES	4	8.0	10.5	9.5	5	5	116	94		23	5.2	1.7				0.65	12.9		
155	DR-43	1113+92.71	LT	AGG	RES	1	8.0	22.6	9.9	15	15	220	144	98	51	11.4	4.5					24.4		
TOTALS CARRIED TO GENERAL SUMMARY															3,542	787	198		24		46	786	1,687	



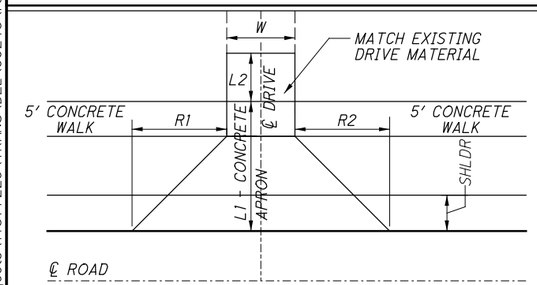
TYPE 1 DRIVEWAY PLAN VIEW (TYPICAL)



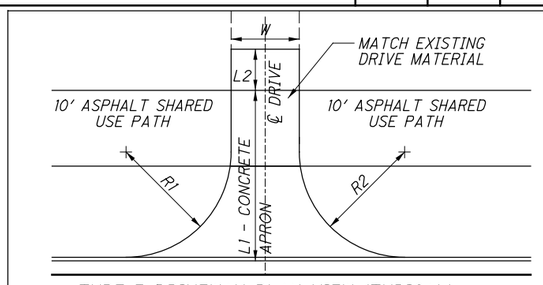
TYPE 2 DRIVEWAY PLAN VIEW (TYPICAL) WITH SIDEWALK



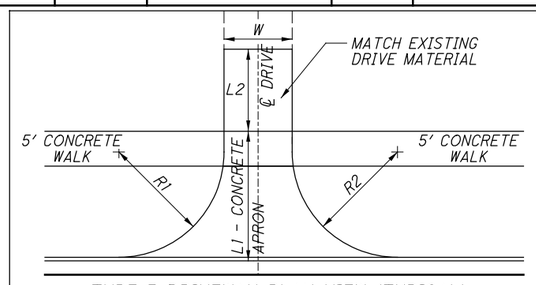
TYPE 2 DRIVEWAY PLAN VIEW (TYPICAL) WITH SHARED USE PATH



TYPE 4 DRIVEWAY PLAN VIEW (TYPICAL)



TYPE 3 DRIVEWAY PLAN VIEW (TYPICAL) WITH SHARED USE PATH



TYPE 3 DRIVEWAY PLAN VIEW (TYPICAL) WITH SIDEWALK

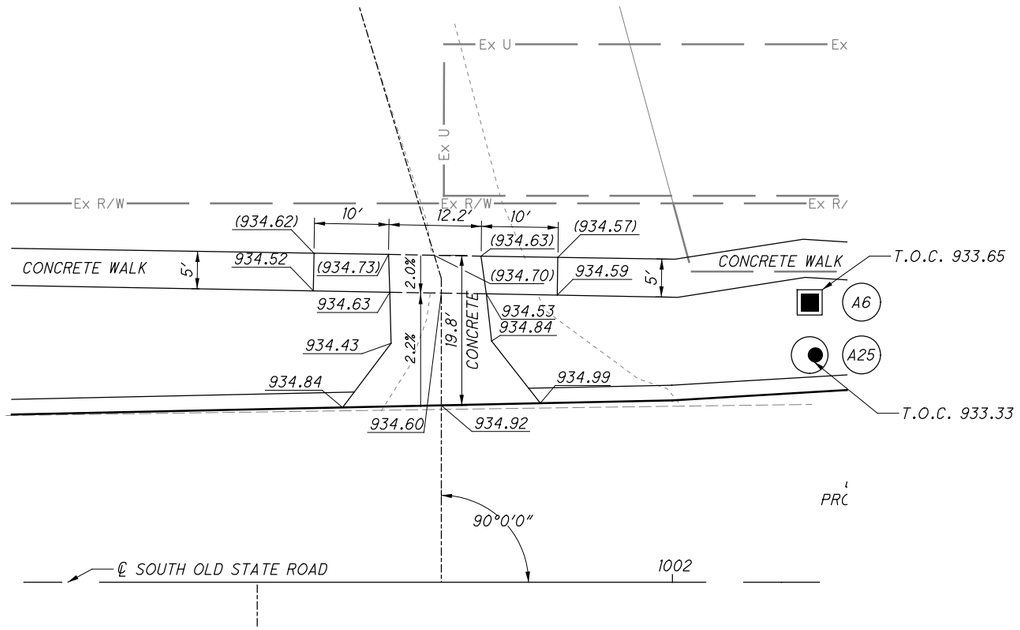
CALCULATED AWF
CHECKED PHF

DRIVEWAY SUBSUMMARY

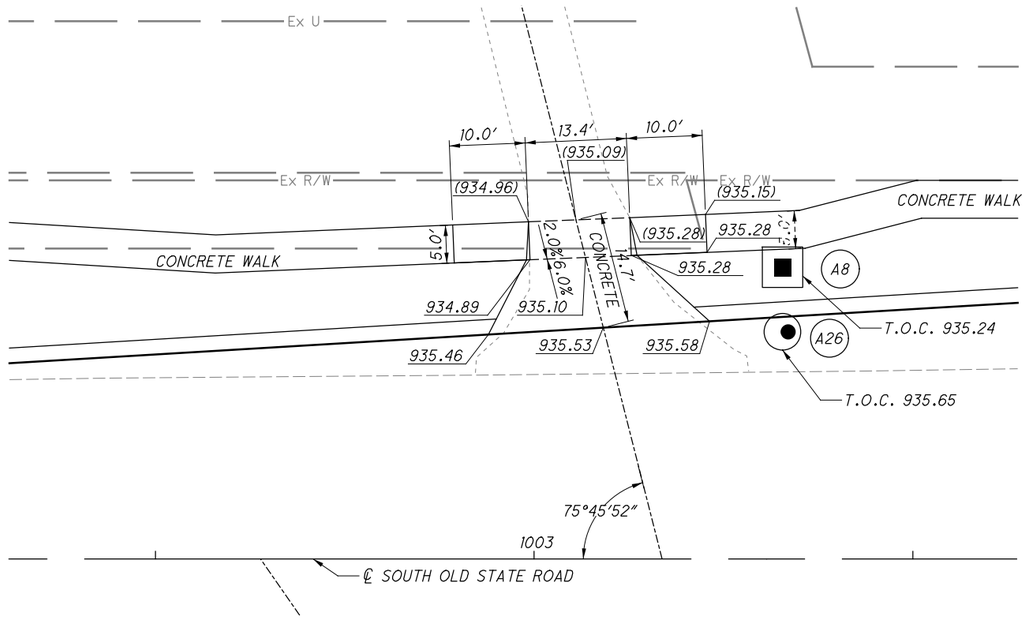
DEL-CR10-0.90

2952-DR.E

259
437

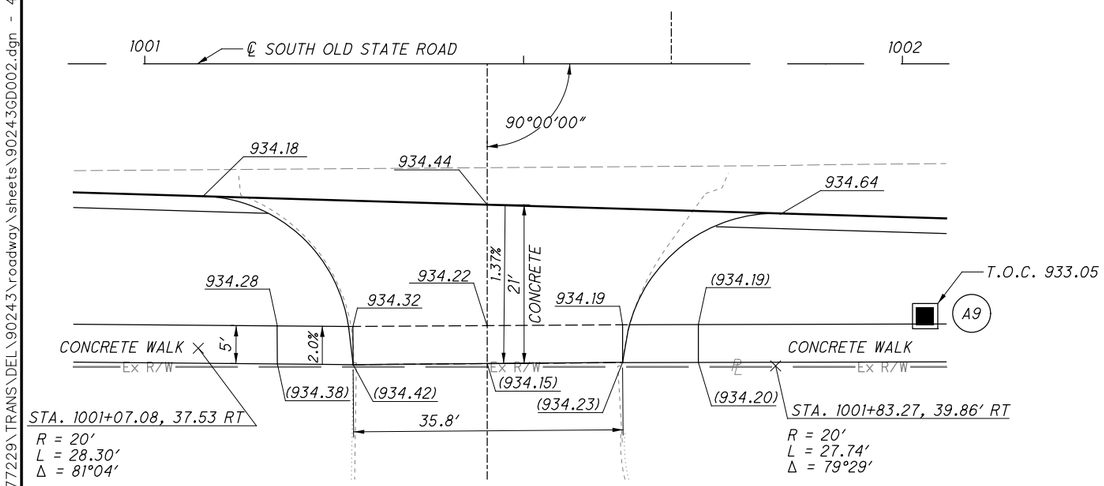


RESIDENTIAL DRIVE (DR-2) @ 1001+69.50 LT.

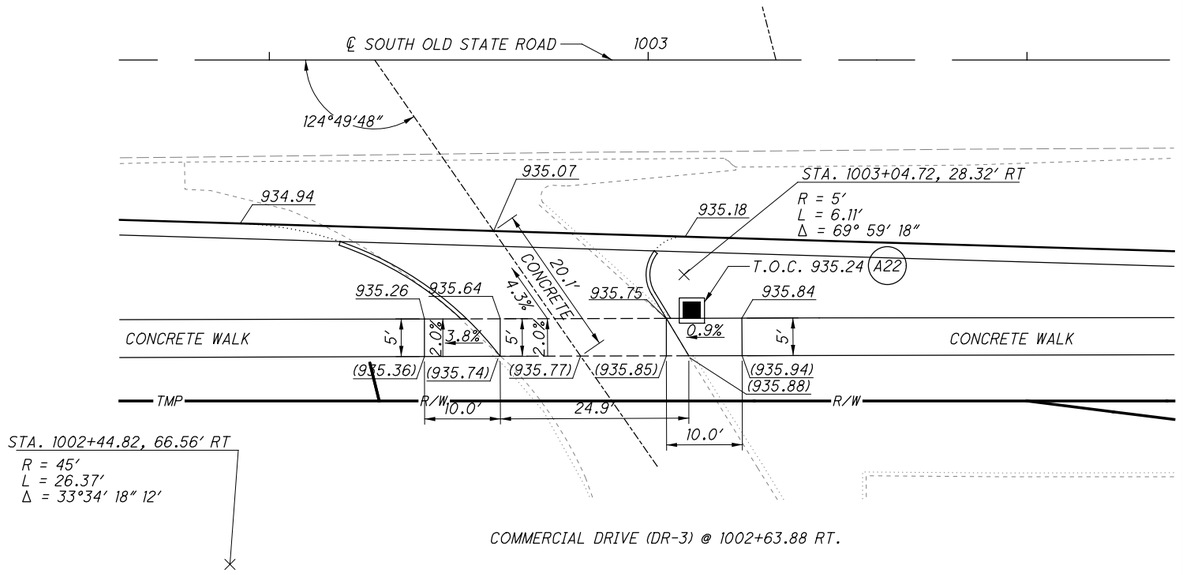


RESIDENTIAL DRIVE (DR-4) @ 1003+16.87 LT.

LEGEND	
XXX.XX	PROPOSED ELEVATIONS
(XXX.XX)	EXISTING ELEVATIONS
XXX.XX	PROP. PVMT./WALK ELEV.
TC XXX.XX	PROP. TOP OF CURB ELEV.
EP XXX.XX	PROP. EDGE OF PVMT. ELEV.
T.O.C.	TOP OF CASTING



COMMERCIAL DRIVE (DR-1) @ 1001+45.19 RT.



COMMERCIAL DRIVE (DR-3) @ 1002+63.88 RT.

HORIZONTAL SCALE IN FEET
0 5 10 20

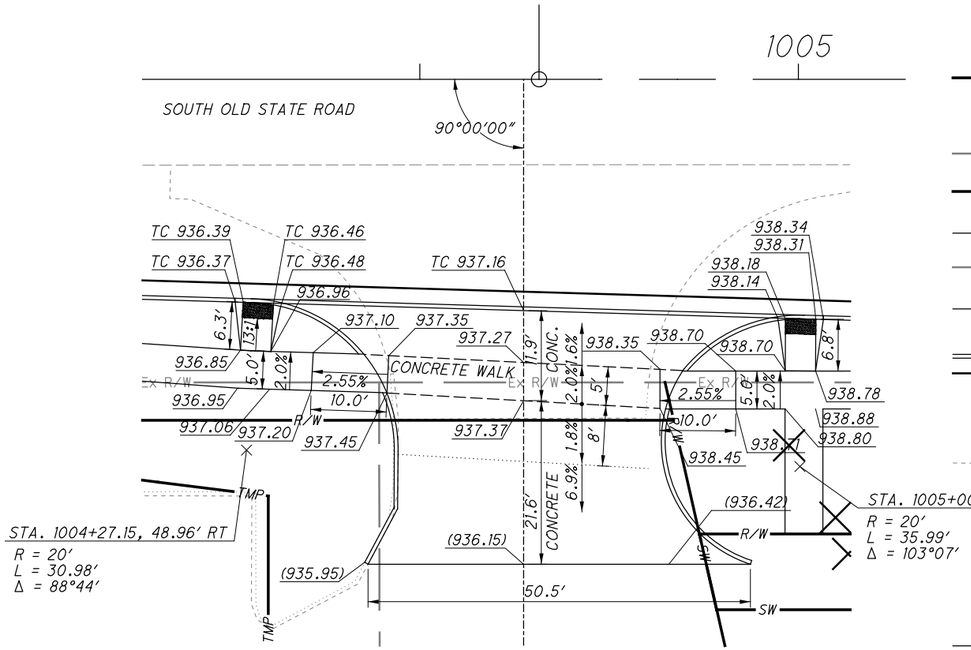
CALCULATED AWF
CHECKED PHF

DRIVEWAY DETAILS

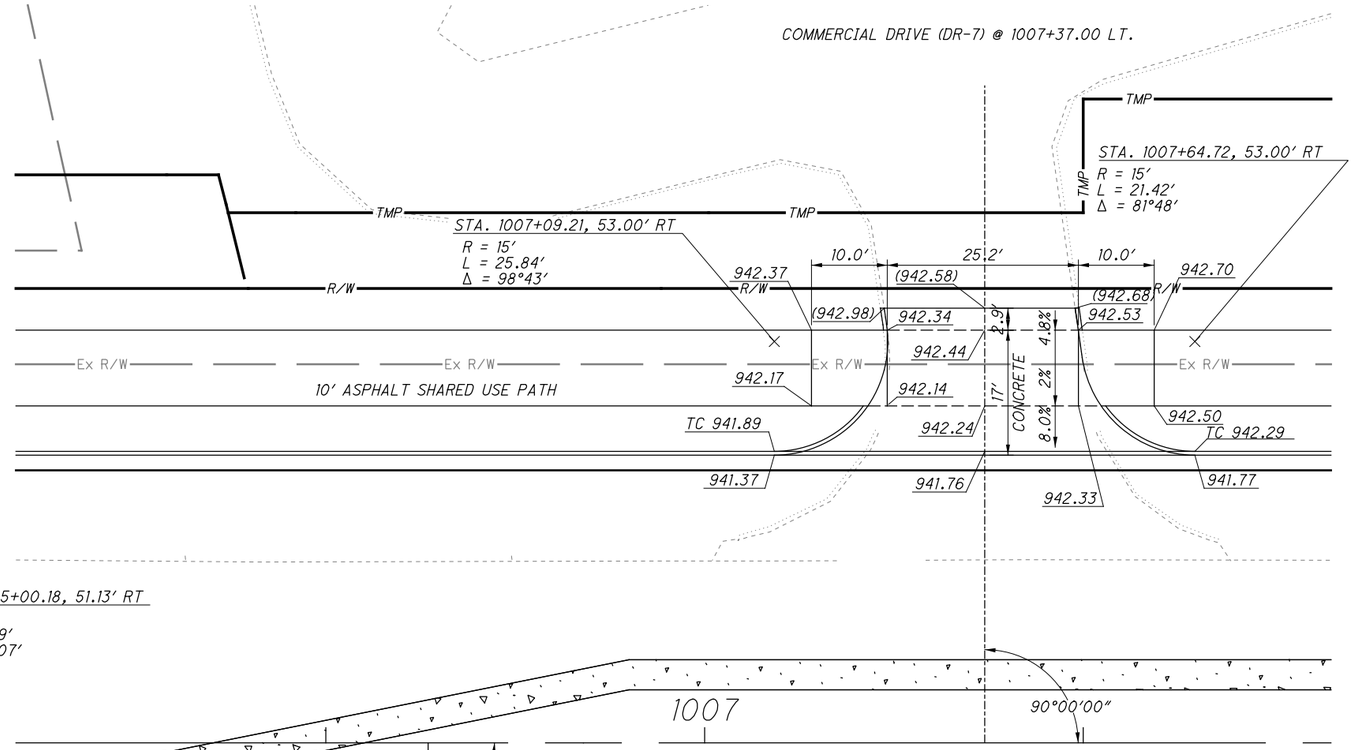
DEL-CR10-0.90

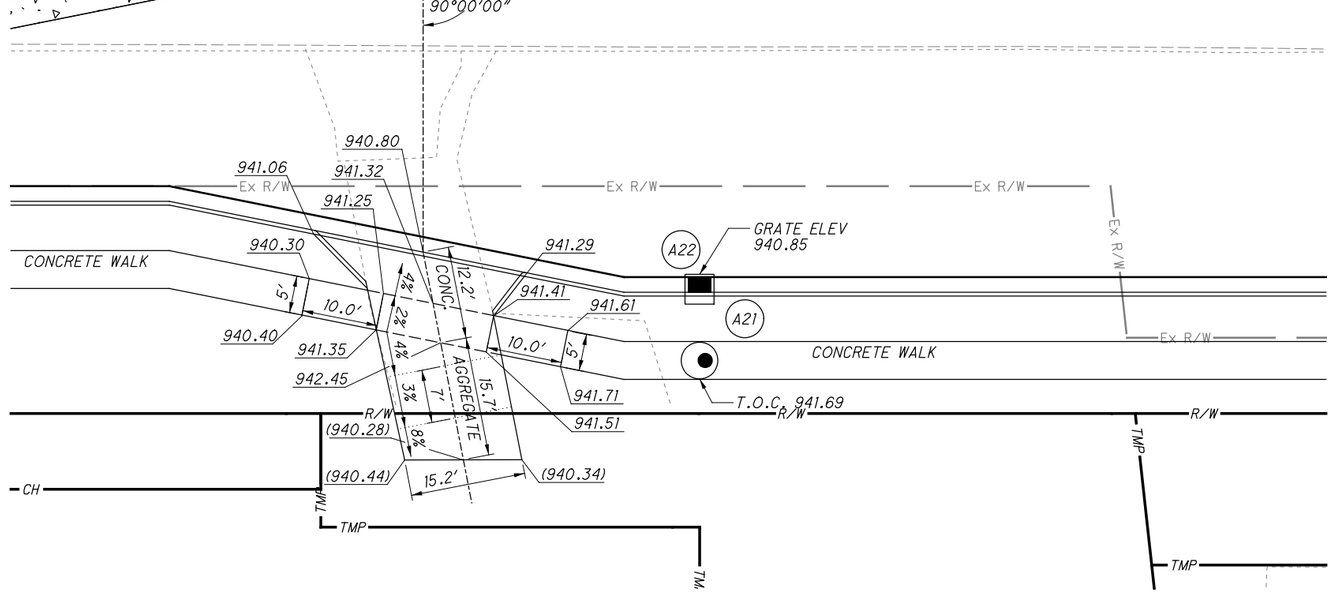
2845-DR.E

260
437



COMMERCIAL DRIVE (DR-5) @ 1004+63.71 RT.





COMMERCIAL DRIVE (DR-6) @ 1006+63.50 RT.

LEGEND	
XXX.XX	PROPOSED ELEVATIONS
(XXX.XX)	EXISTING ELEVATIONS
XXX.XX	PROP. PVMT./WALK ELEV.
TC XXX.XX	PROP. TOP OF CURB ELEV.
EP XXX.XX	PROP. EDGE OF PVMT. ELEV.
T.O.C.	TOP OF CASTING

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED AWF
CHECKED PHF

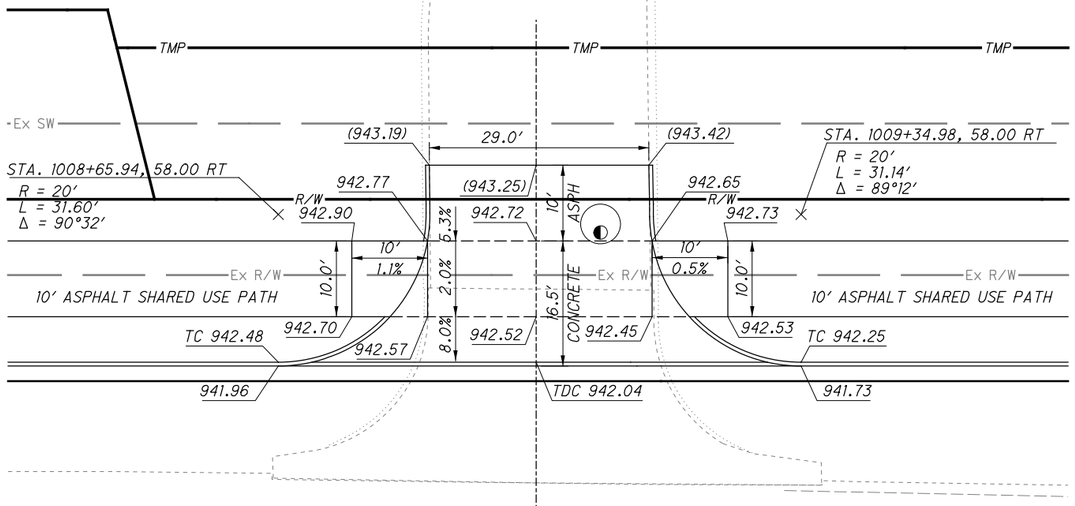
DRIVEWAY DETAILS

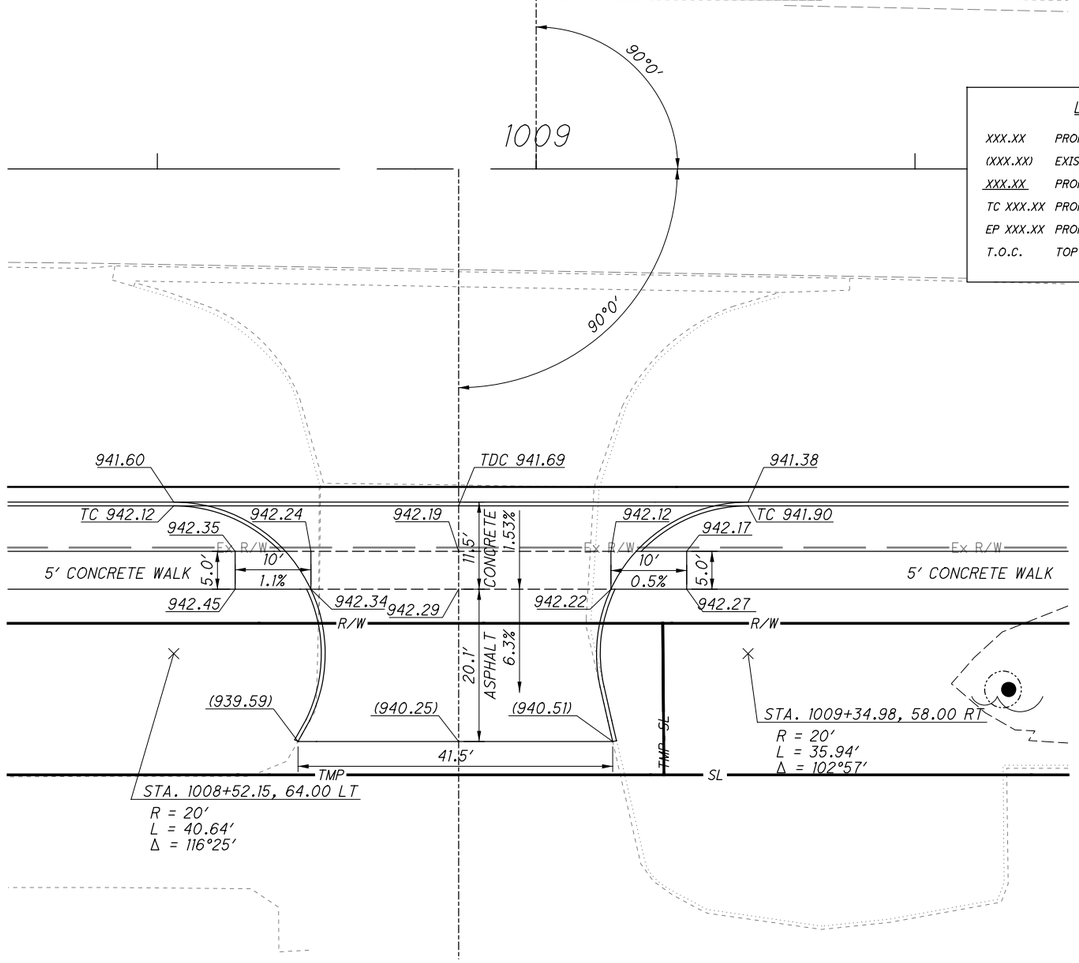
DEL-CR10-0.90

2845-DR.E

261
437

COMMERCIAL DRIVE (DR-9) STA. 1009+00, LT.

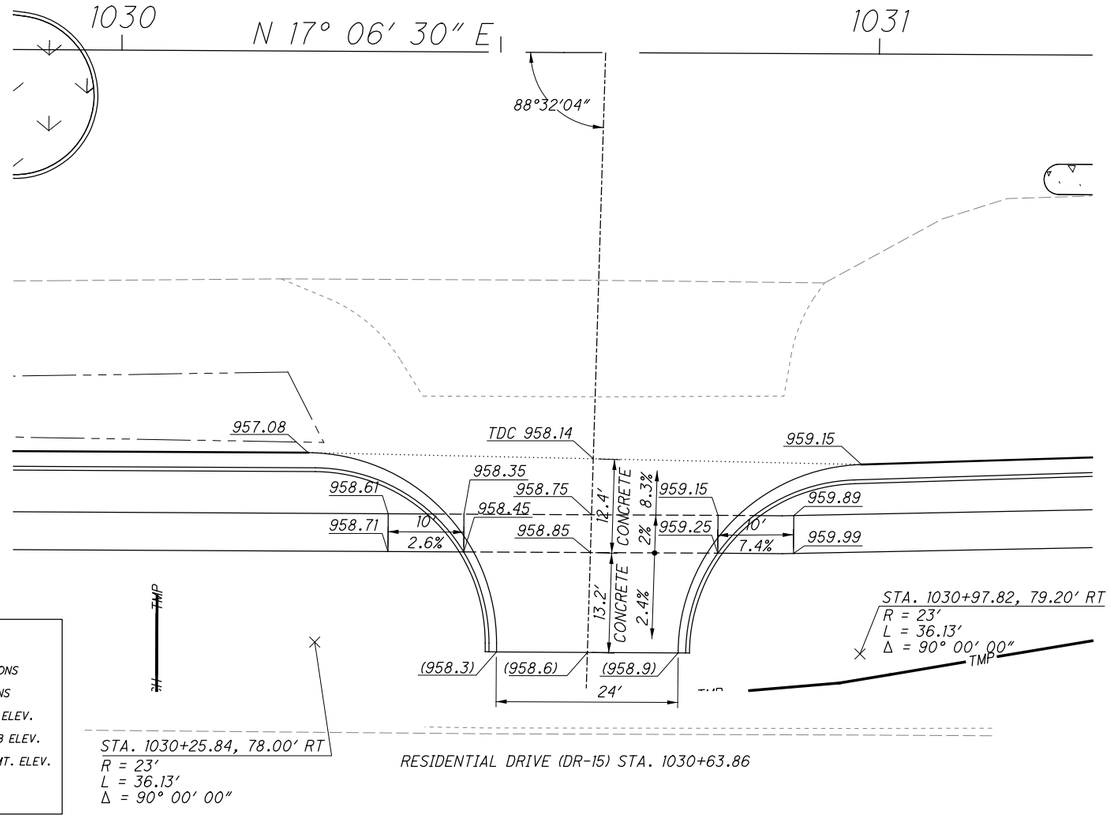




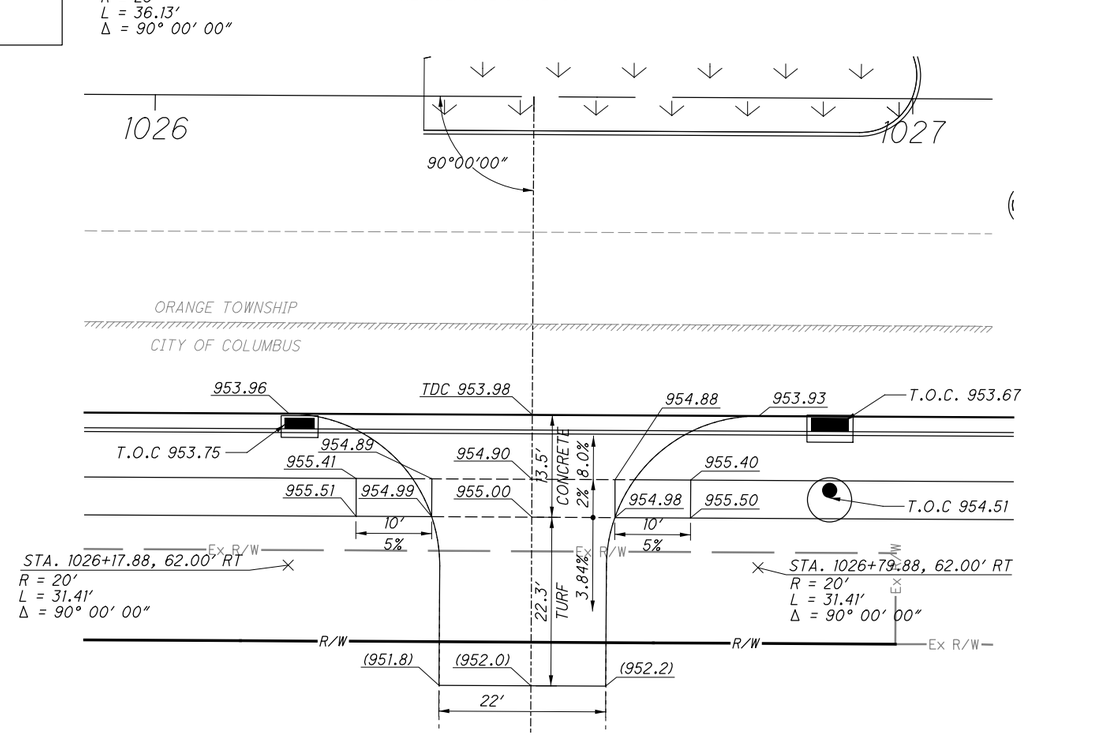
COMMERCIAL DRIVE (DR-8) STA. 1008+89.75, RT.

LEGEND

XXX.XX	PROPOSED ELEVATIONS
(XXX.XX)	EXISTING ELEVATIONS
XXX.XX	PROP. PVMT./WALK ELEV.
TC XXX.XX	PROP. TOP OF CURB ELEV.
EP XXX.XX	PROP. EDGE OF PVMT. ELEV.
T.O.C.	TOP OF CASTING



RESIDENTIAL DRIVE (DR-15) STA. 1030+63.86



RESIDENTIAL DRIVE (DR-16) STA. 1026+50.00

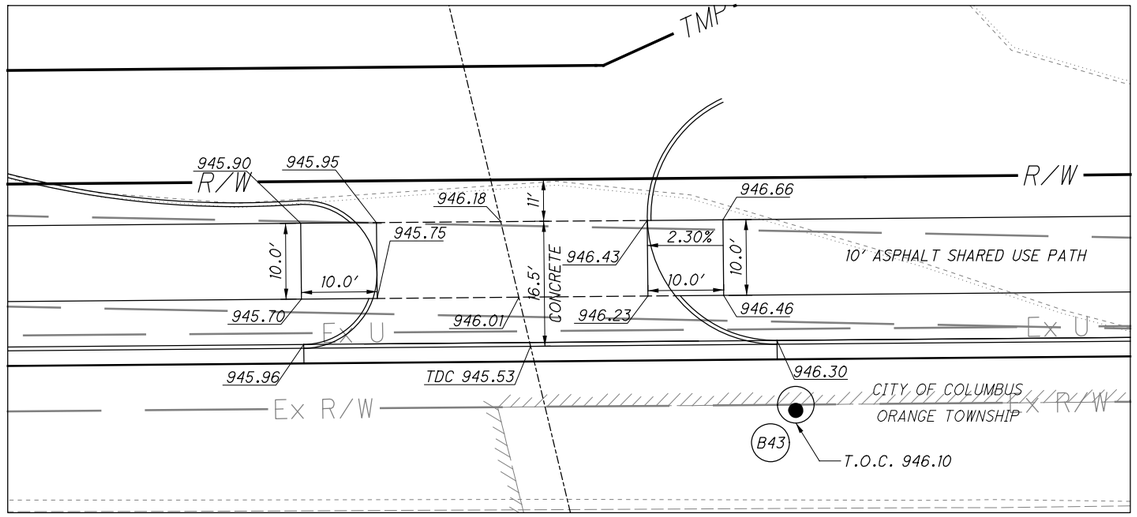
HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED AWF
CHECKED PHF

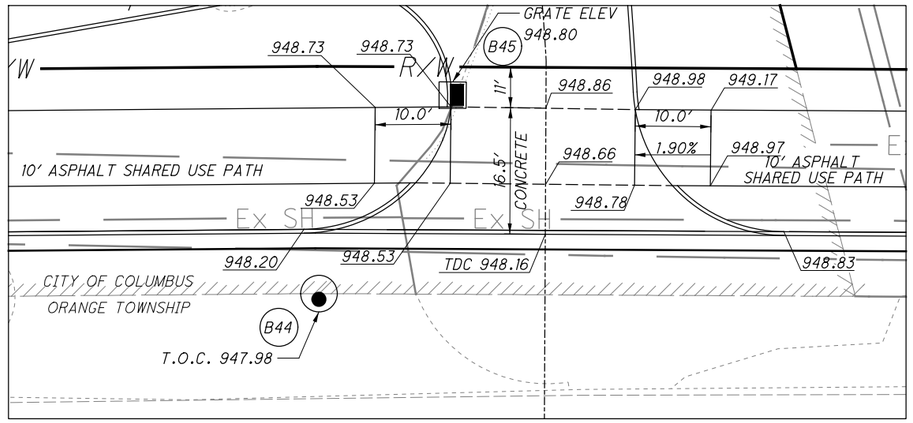
DRIVEWAY DETAILS

DEL-CR10-0.90

2845-DR.E

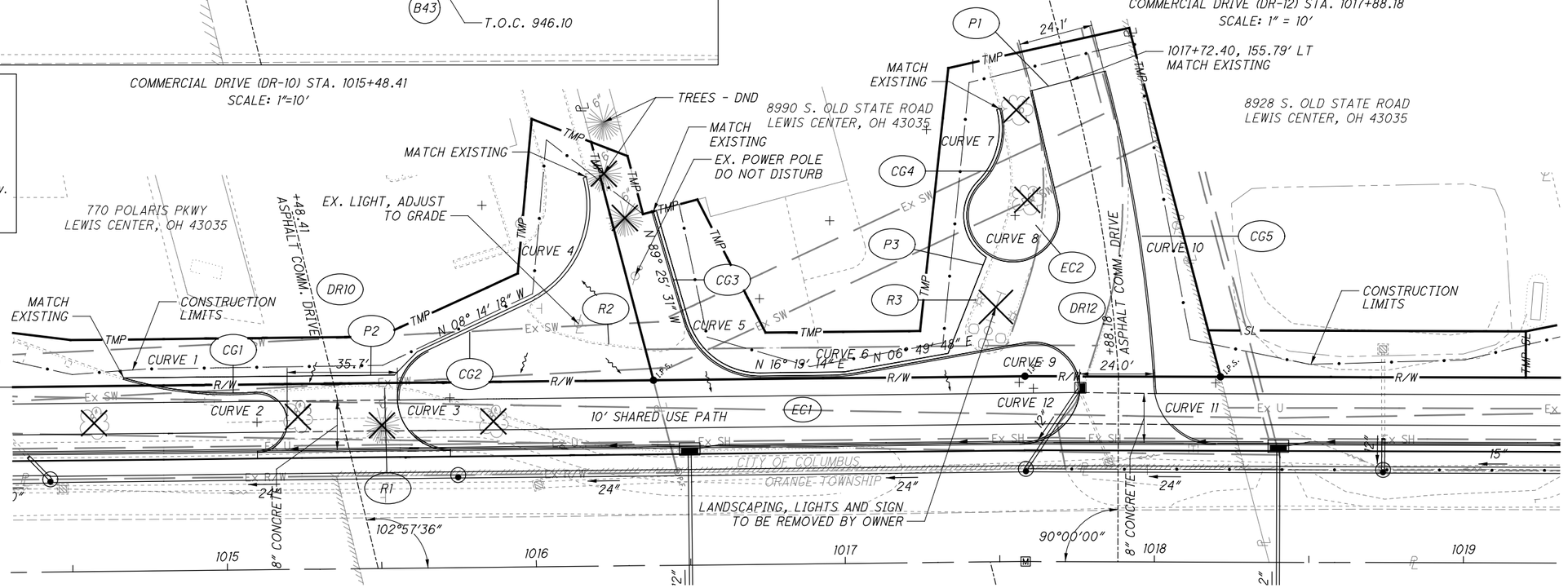


COMMERCIAL DRIVE (DR-10) STA. 1015+48.41
SCALE: 1"=10'



COMMERCIAL DRIVE (DR-12) STA. 1017+88.18
SCALE: 1" = 10'

LEGEND	
XXX.XX	PROPOSED ELEVATIONS
(XXX.XX)	EXISTING ELEVATIONS
XXX.XX	PROP. PVMT./WALK ELEV.
TC XXX.XX	PROP. TOP OF CURB ELEV.
EP XXX.XX	PROP. EDGE OF PVMT. ELEV.
T.O.C.	TOP OF CASTING

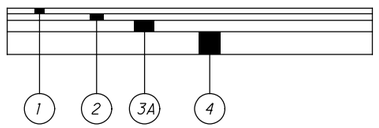


QUANTITIES SHOWN FOR WORK WEST OF THE PROPOSED RIGHT-OF-WAY

FOR ROADWAY DETAILS, SEE SHEETS 133AND 135

NOTE:

GRADE SEEDED AND SODDED AREAS TO DRAIN TO RESPECTIVE PROPERTIES



ASPHALT PAVEMENT BUILDUP FOR THIS SHEET
FOR LEGEND, SEE SHEET 16

CURVE #	RADIUS (FT)	STATION	OFFSET (FT LEFT)	BEGIN POINT STATION	BEGIN POINT OFFSET	CURVE LENGTH (FT)	END POINT STATION	END POINT OFFSET
1	119.4	1015+02.36	176.71	1014+67.15	62.57	42.91	1015+09.53	57.48
2	9.7	1015+10.12	47.75	1015+09.53	57.48	31.22	1015+10.12	38.50
3	17.0	1015+72.61	55.00	1015+72.61	38.50	46.12	1015+65.54	70.46
4	35.0	1015+83.76	116.74	1015+98.13	85.36	48.90	1016+17.46	126.01
5	25.0	1016+73.11	86.00	1016+49.05	79.22	32.40	1016+73.11	61.00
6	50.0	1016+96.09	111.00	1016+96.09	61.00	8.28	1017+04.36	61.60
7	25.0	1017+27.75	140.20	1017+44.92	122.67	26.03	1017+51.54	146.65
8	15.0	1017+56.14	112.03	1017+44.92	122.67	62.19	1017+68.55	115.35
9	20.0	1017+60.69	56.06	1017+58.34	70.82	32.14	1017+74.55	50.33
10	512.0	1012+89.01	32.94	1017+83.23	158.71	103.39	1017+99.70	56.81
11	20.0	1018+19.66	58.00	1017+99.70	56.81	30.23	1018+19.66	38.00
12	20.0	1017+56.86	58.00	1017+74.55	50.33	23.29	1017+56.86	38.00

REF. NO.	STATION FROM	STATION TO	202 CURB REMOVED FT	202 PAVEMENT REMOVED SQ YD	203 EXCAVATION SQ YD	252 FULL DEPTH PAVEMENT SAWING FT	609 CURB, TYPE 6 FEET	659 SEEDING & MULCHING SQ YD	659 TOP SOIL CU YD	660 SODDING SQ YD
CG1	1014+67.15	1015+10.12					74			
CG2	1015+72.61	1016+17.46					131			
CG3	1016+39.05	1017+58.34					212			
CG4	1017+51.54	1017+59.94					126			
CG5	1017+83.23	1018+19.66					207			
EC1	1015+55.60	1017+75.90						150	105	480
EC2	1017+40.50	1018+21.20							30	180
P1	1014+67.15	1016+17.46				186				
P2	1017+60.00	1017+85.00				25				
P3	1016+40.00	1017+50.60				218				
R1	1014+67.15	1017+11.11	250							
R2	1016+01.16	1016+44.79	60	630						
R3	1017+52.02	1017+58.62	115	410						
TOTALS CARRIED TO GENERAL SUMMARY			425	1040	0	429	750	150	135	660

HORIZONTAL SCALE IN FEET
0 10 20 40

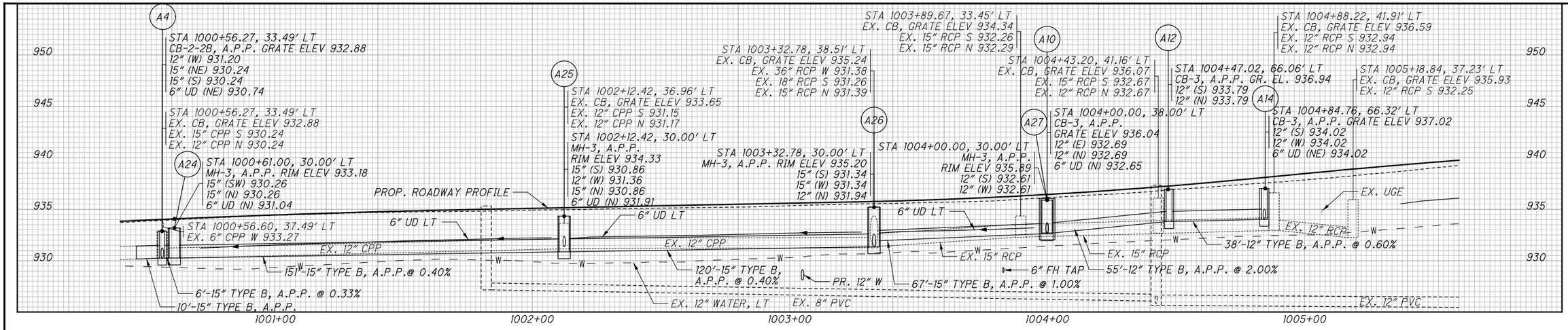
CALCULATED AWF/FGW
CHECKED PHF

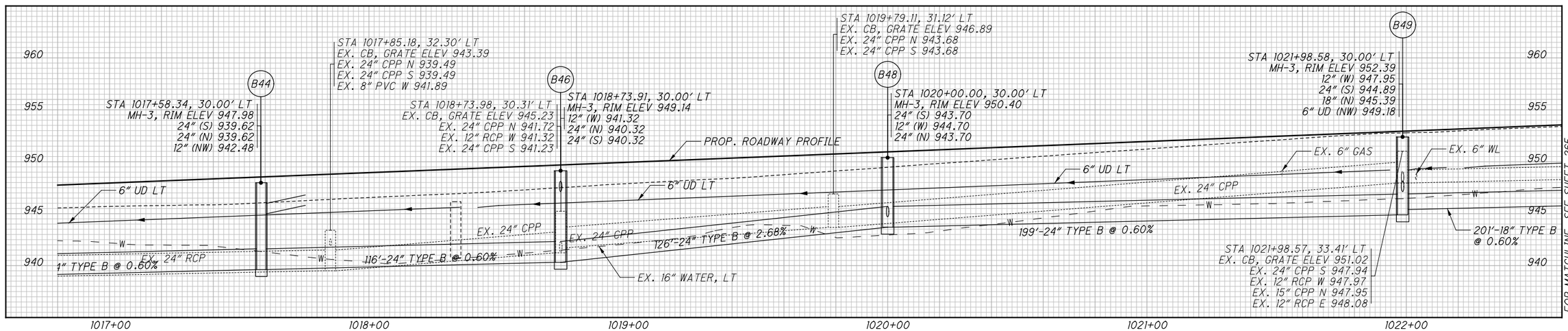
DRIVEWAY DETAILS
STA. 1014+30 TO STA. 1019+30

DEL-CR10-0.90

2952-DR.E

263
437





CALCULATED FGW
CHECKED PHF

SEWER PROFILES

DEL-CR10-0.90

2952-DR.E

264
437

FOR MATCHLINE, SEE SHEET 265

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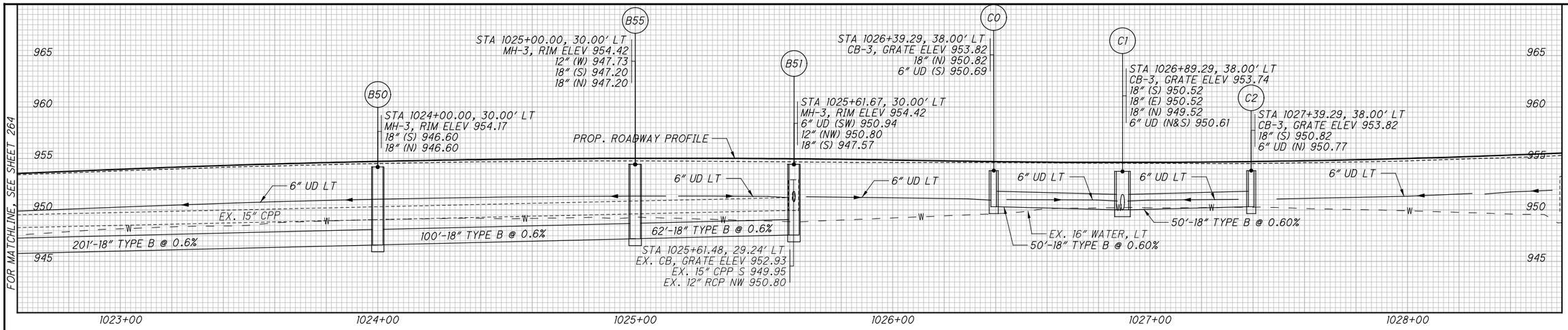
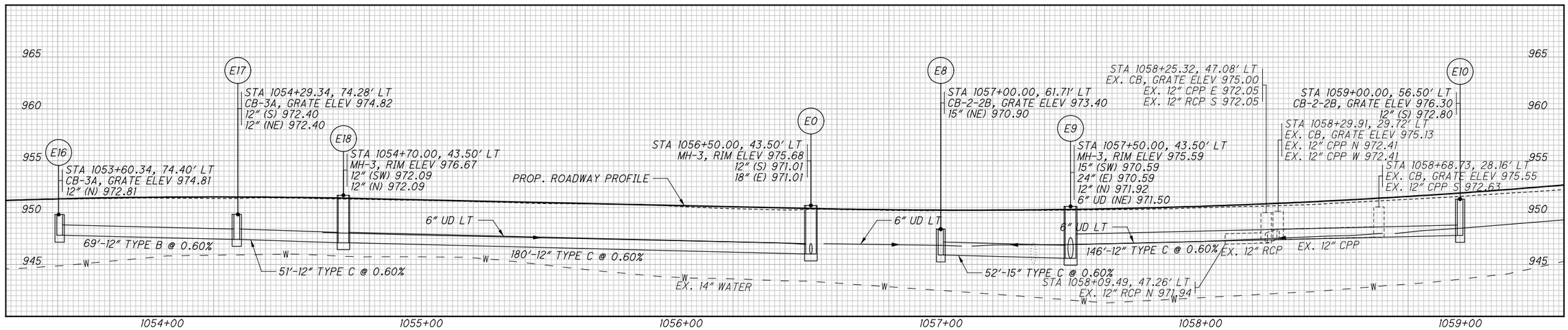
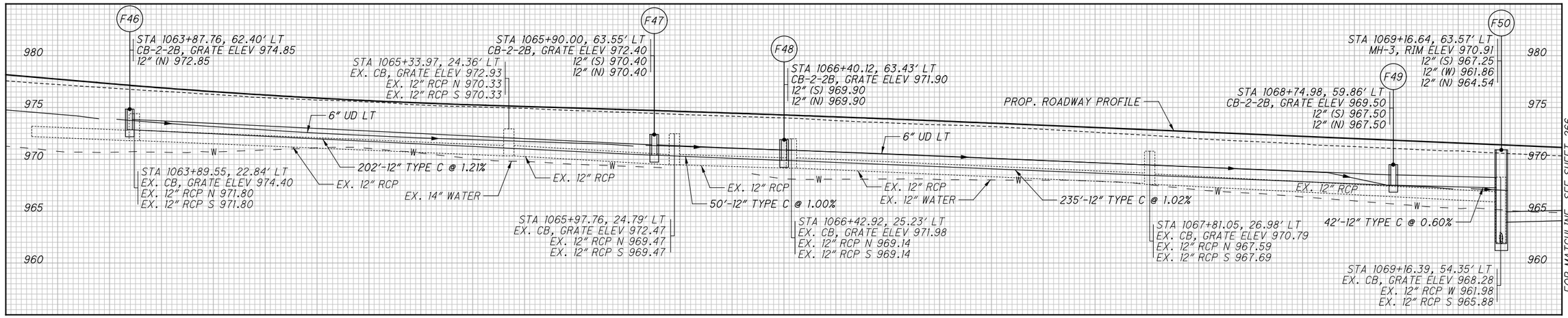






CALCULATED FGW
CHECKED PHF

SEWER PROFILES

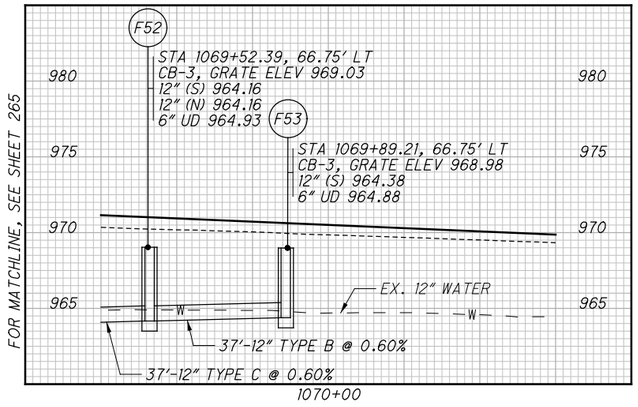
DEL-CR10-0.90

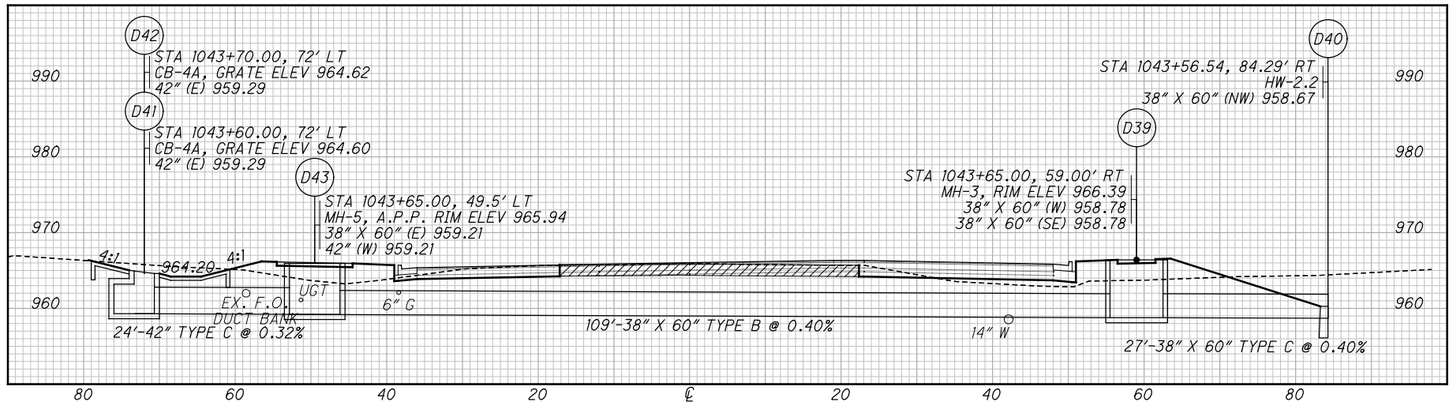
2952-DR.E

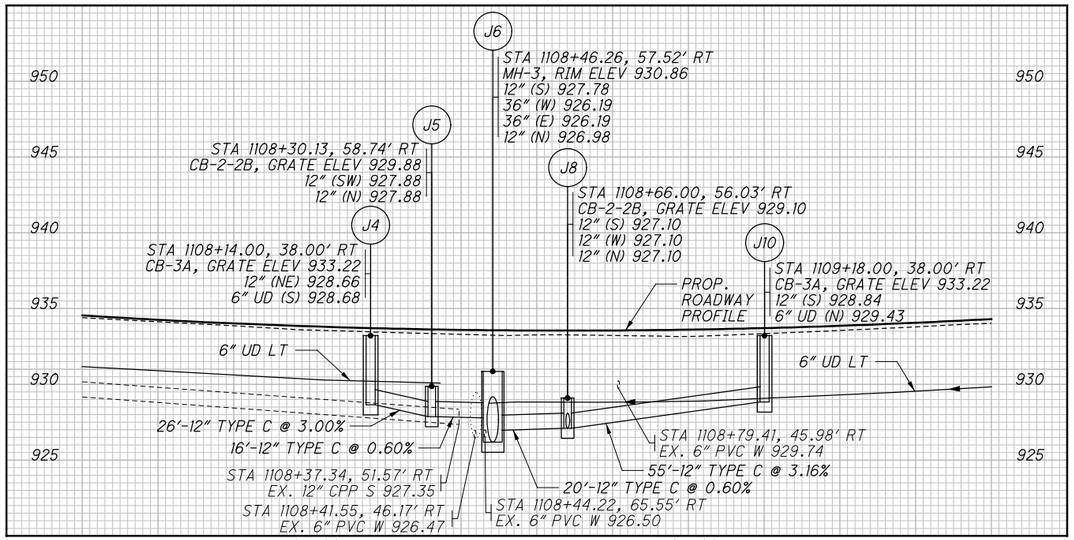
265
437

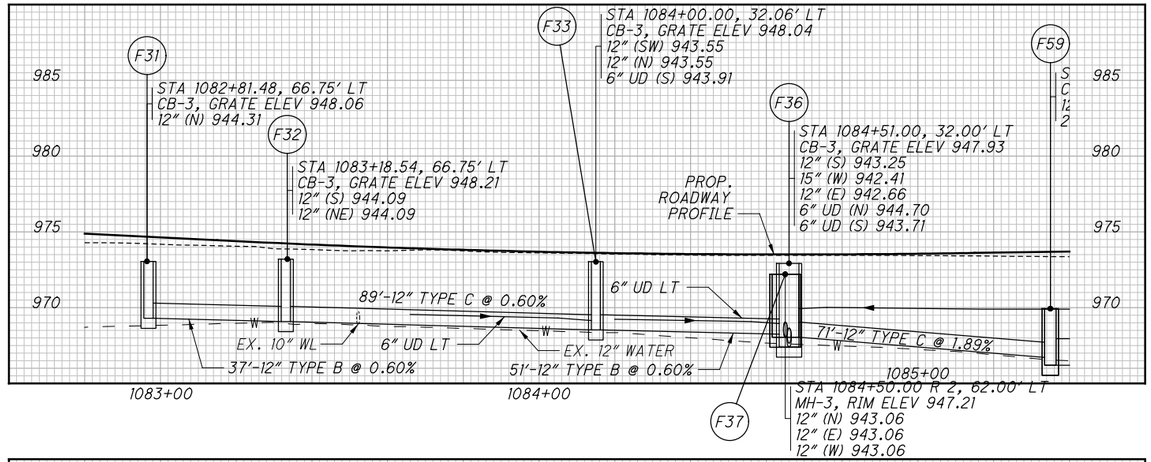
SEWER PROFILES

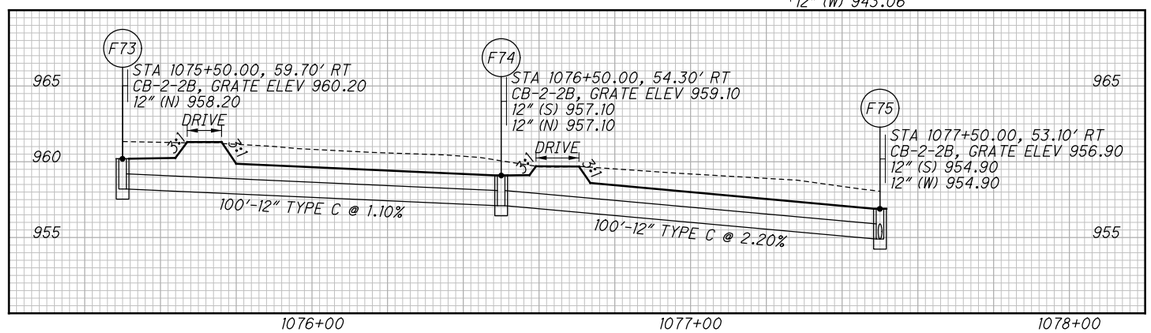
CALCULATED FGW | CHECKED PHF

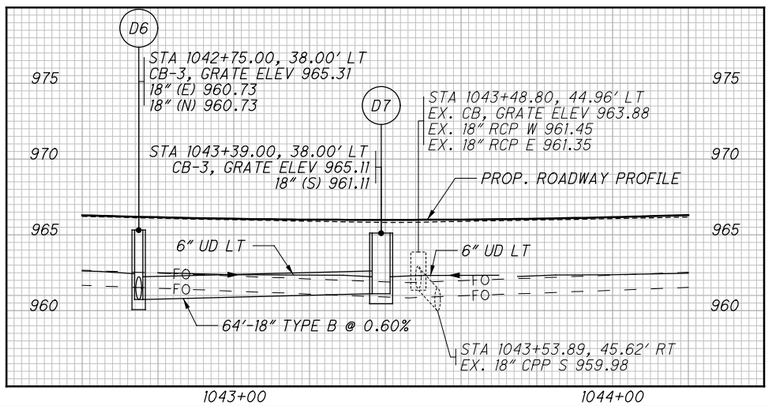


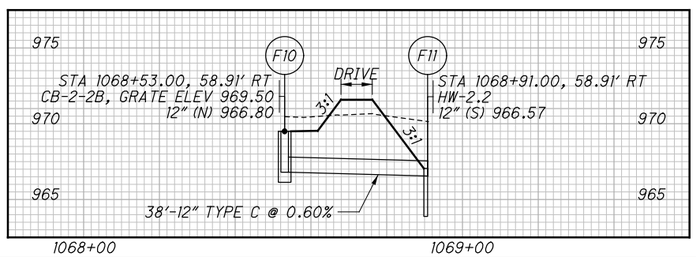


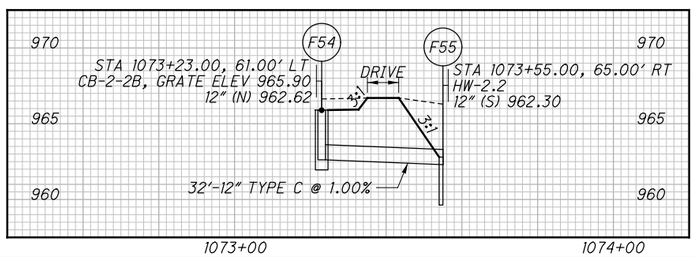








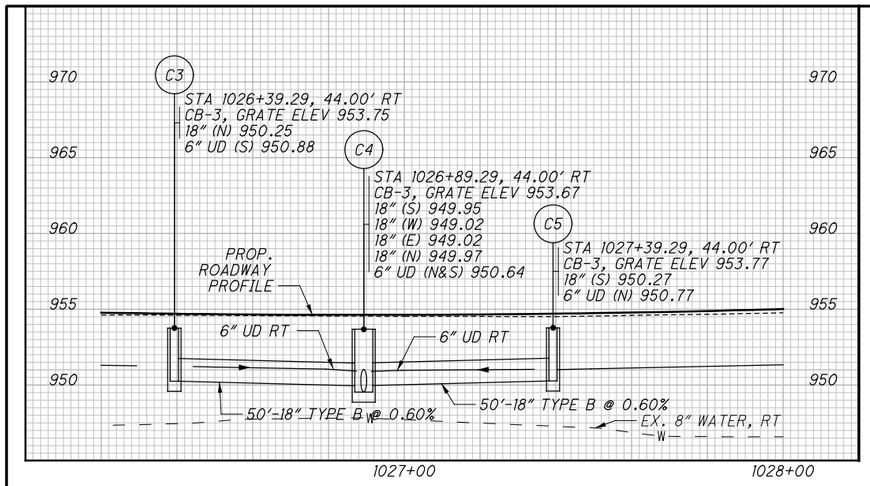


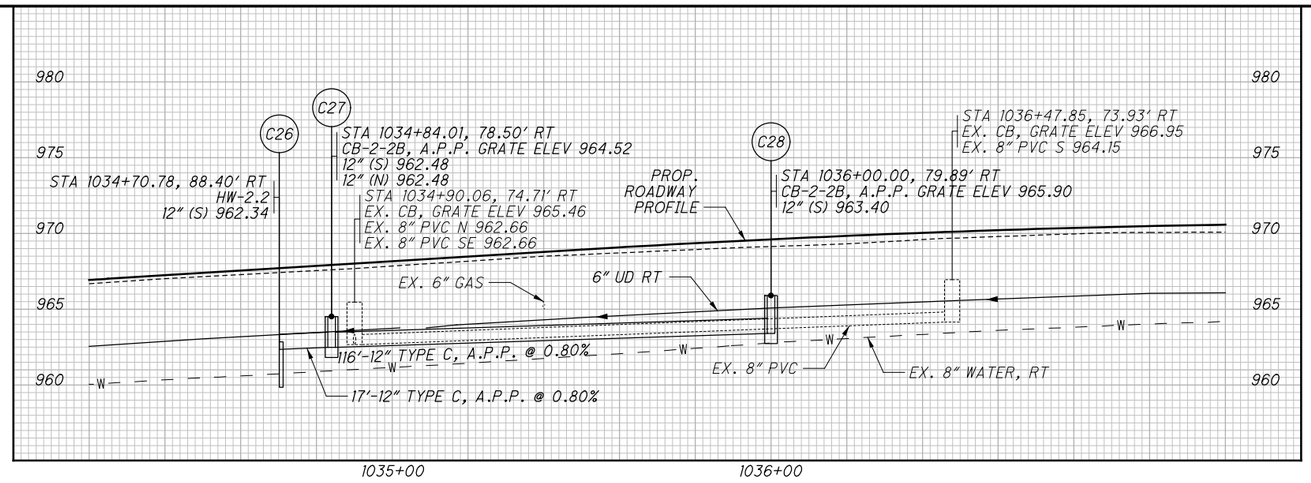


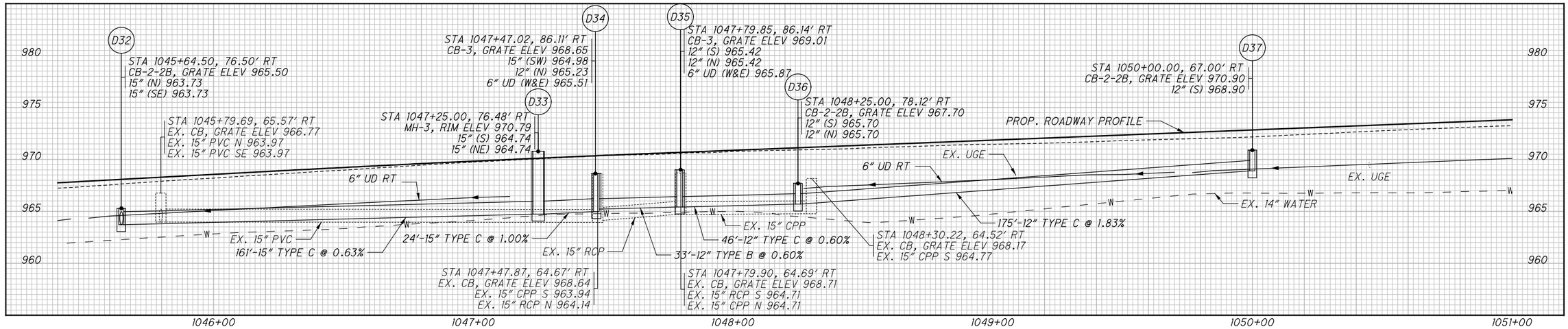
DEL-CR10-0.90

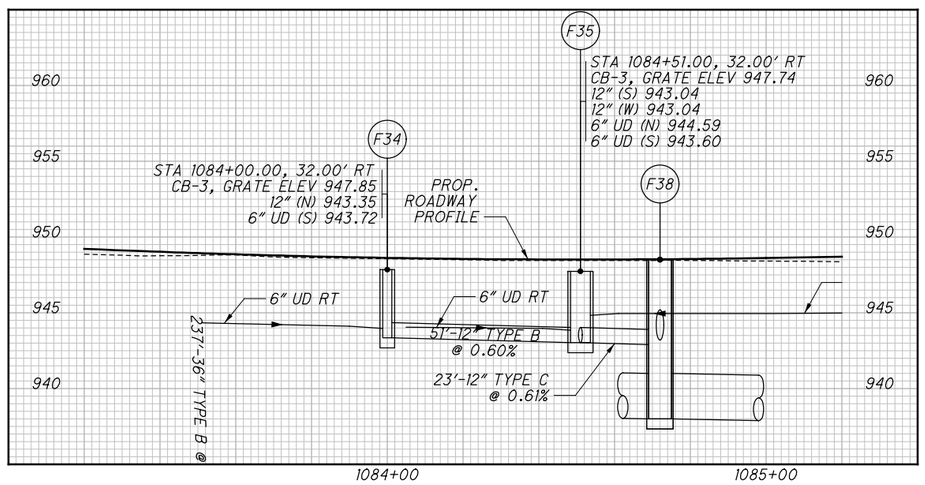
2952-DR.E

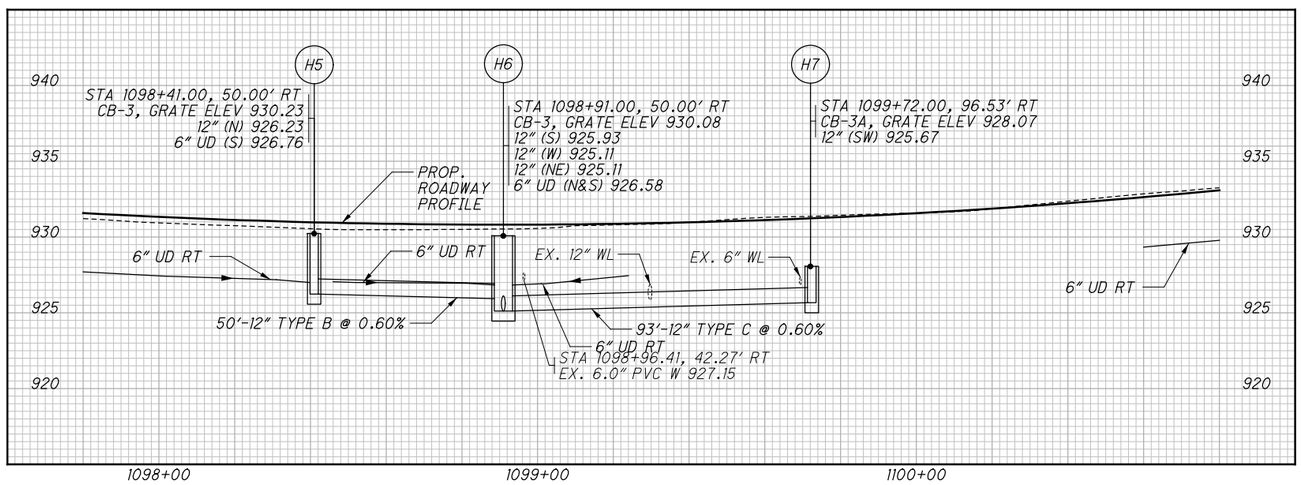
266
437











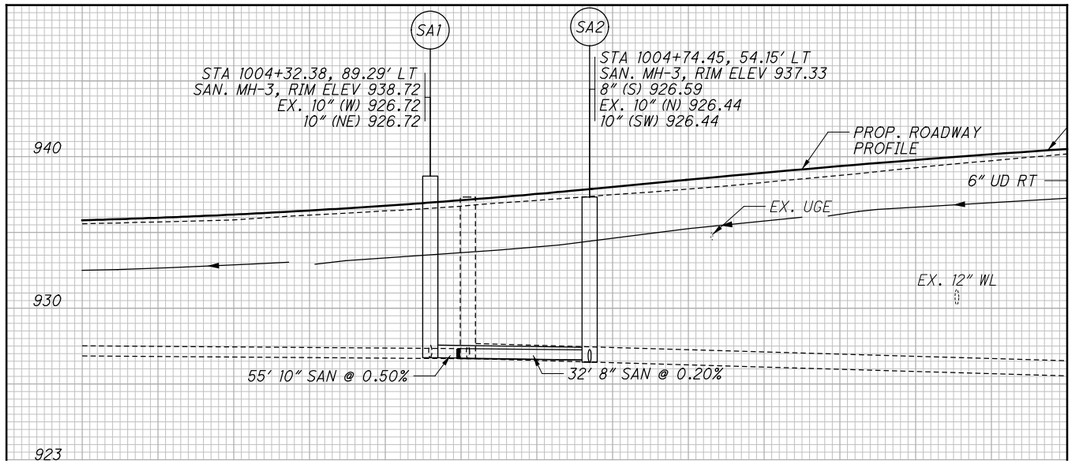
SEWER PROFILES

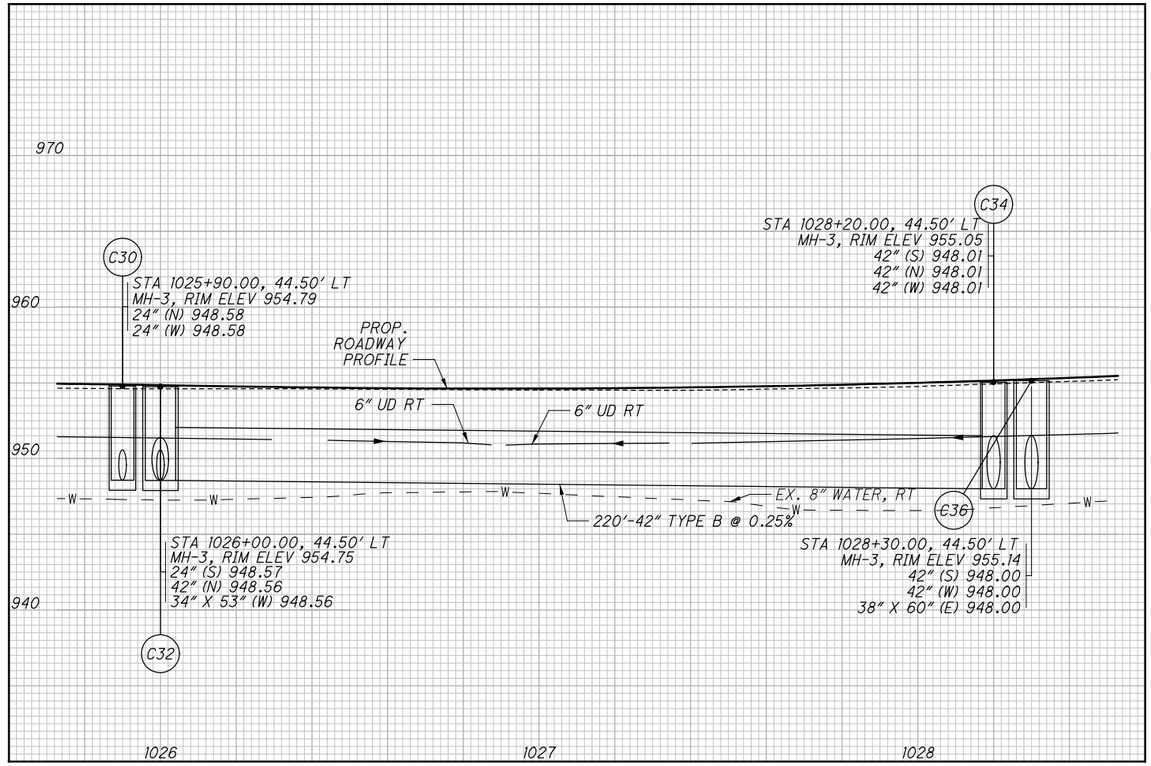
CALCULATED FGW
CHECKED PHF

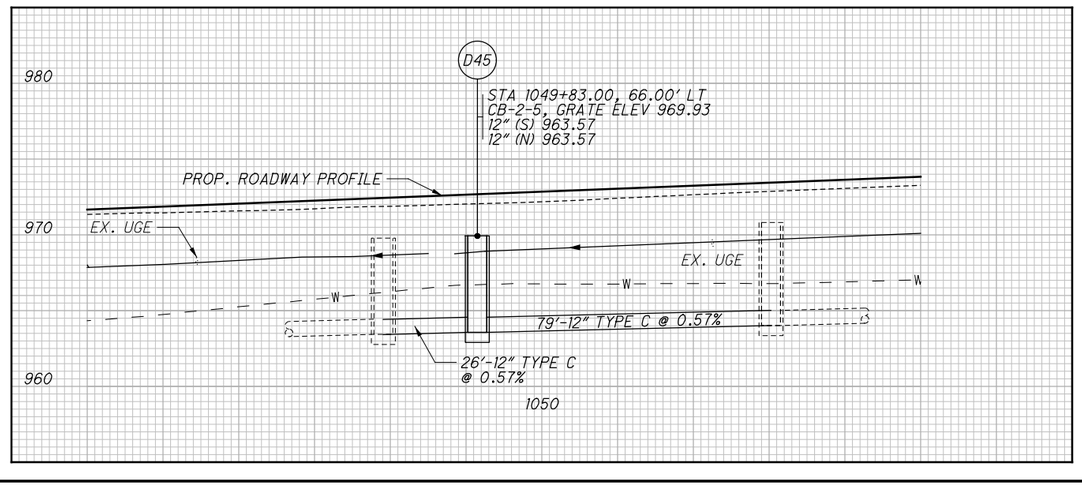
DEL-CR10-0.90

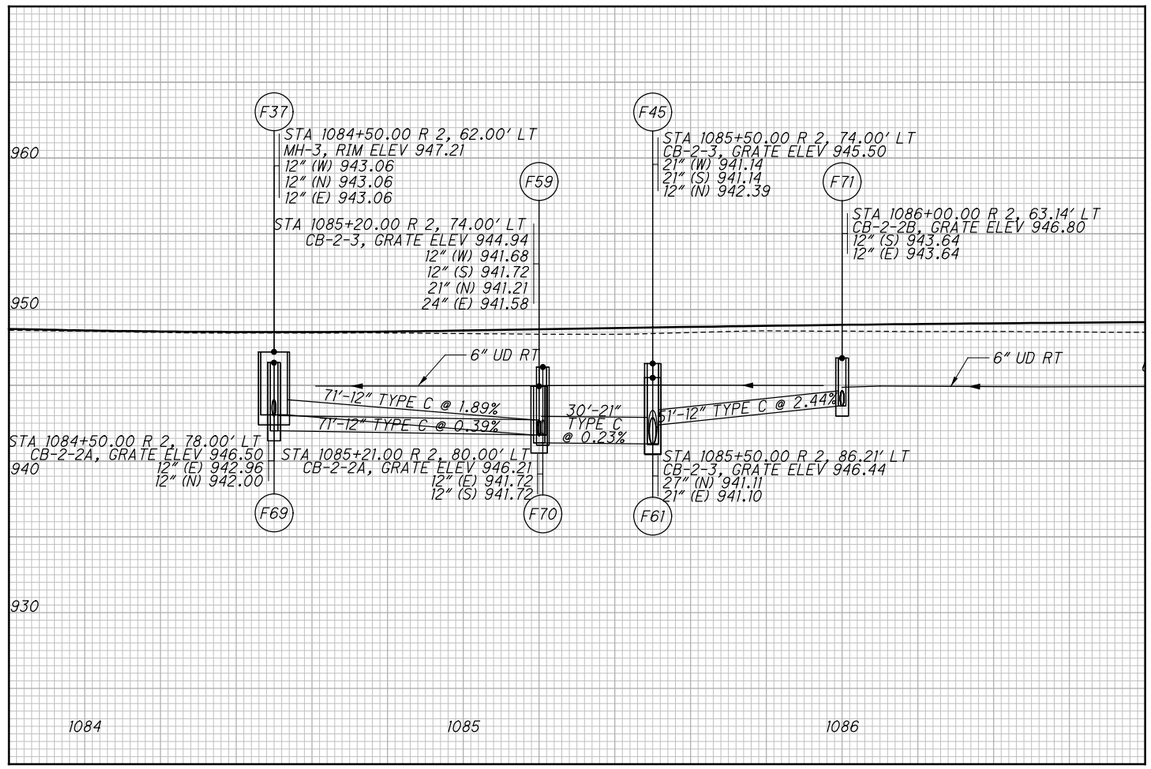
2952-DR.E

267
437









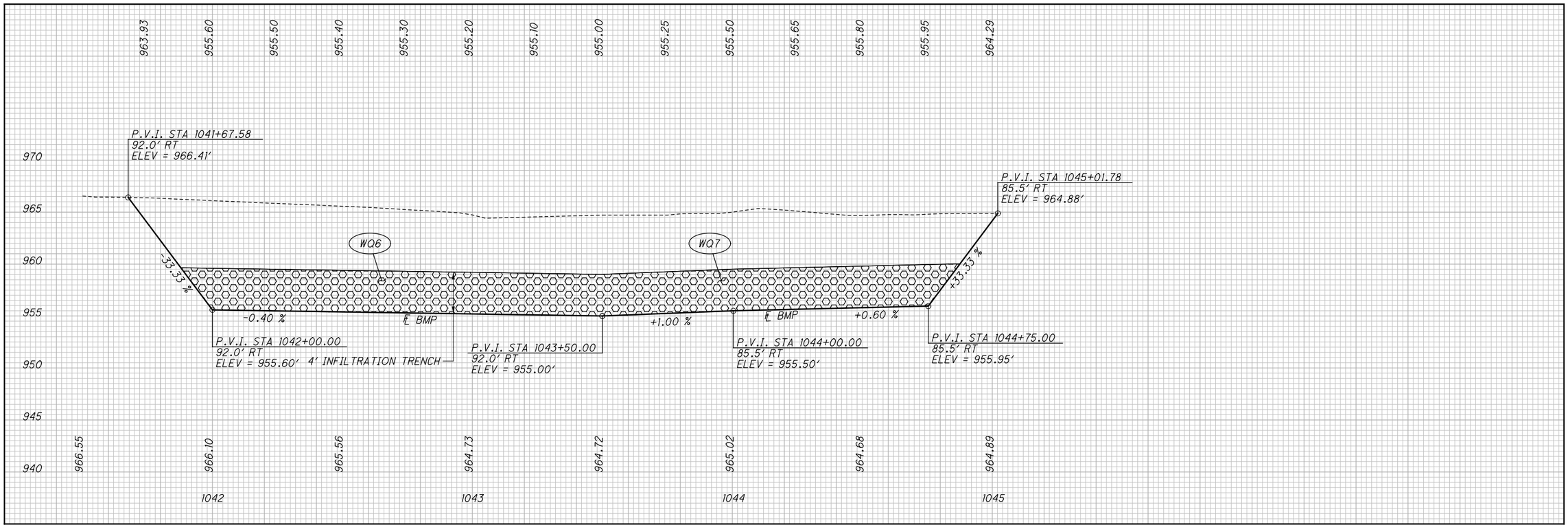
CALCULATED AWF
CHECKED PHF

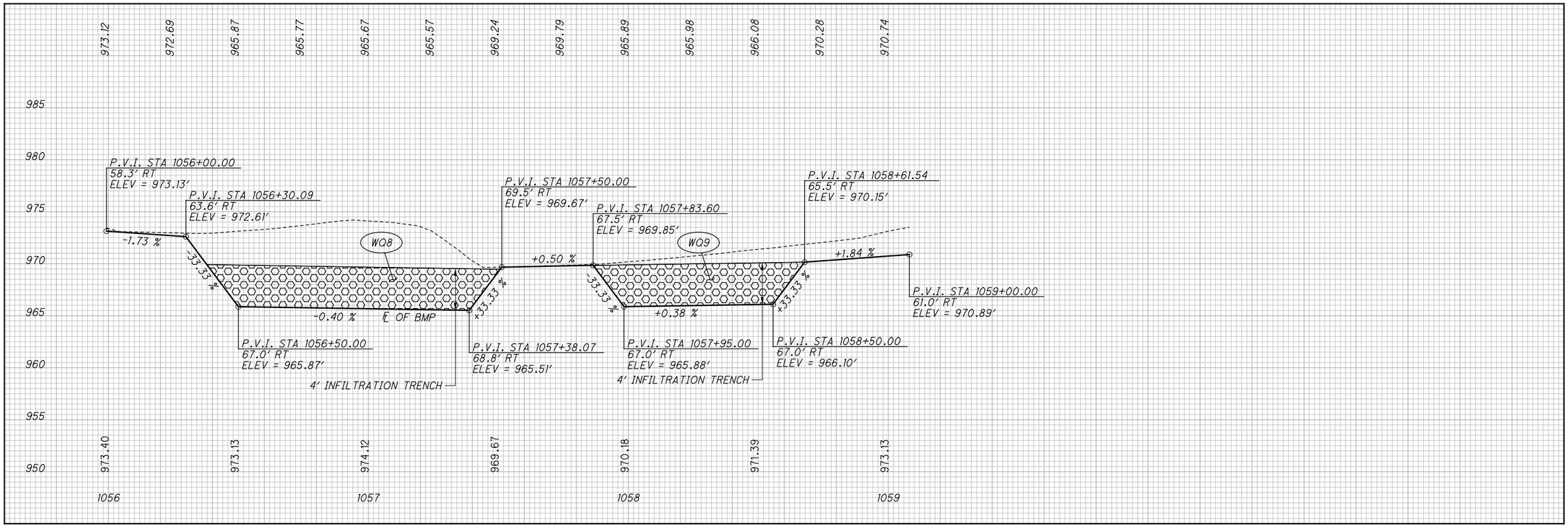
SEWER PROFILES

DEL-CR10-0.90

2952-DR.E

268
437





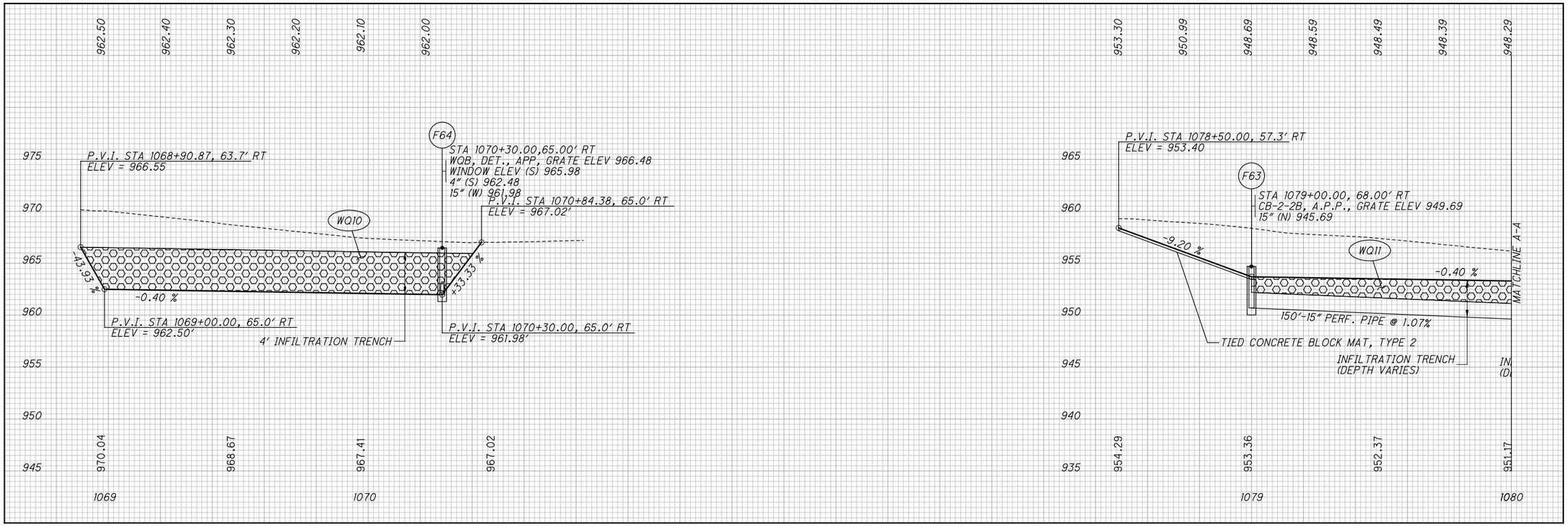
CALCULATED E.AK
CHECKED PHF

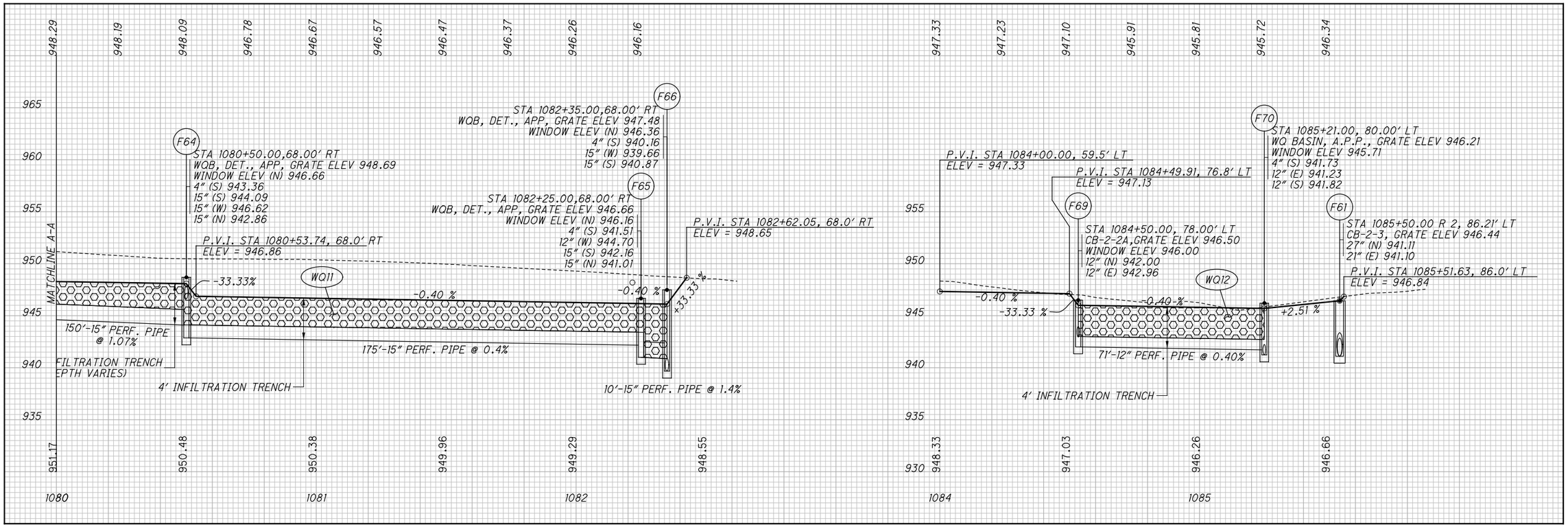
BMP DETAILS - PROFILES

DEL-CR10-0.90

2952-DR.E

269
437





CALCULATED EAK
CHECKED PHF

BMP DETAILS - PROFILES

DEL-CR10-0.90

2952-DR.E

270
437

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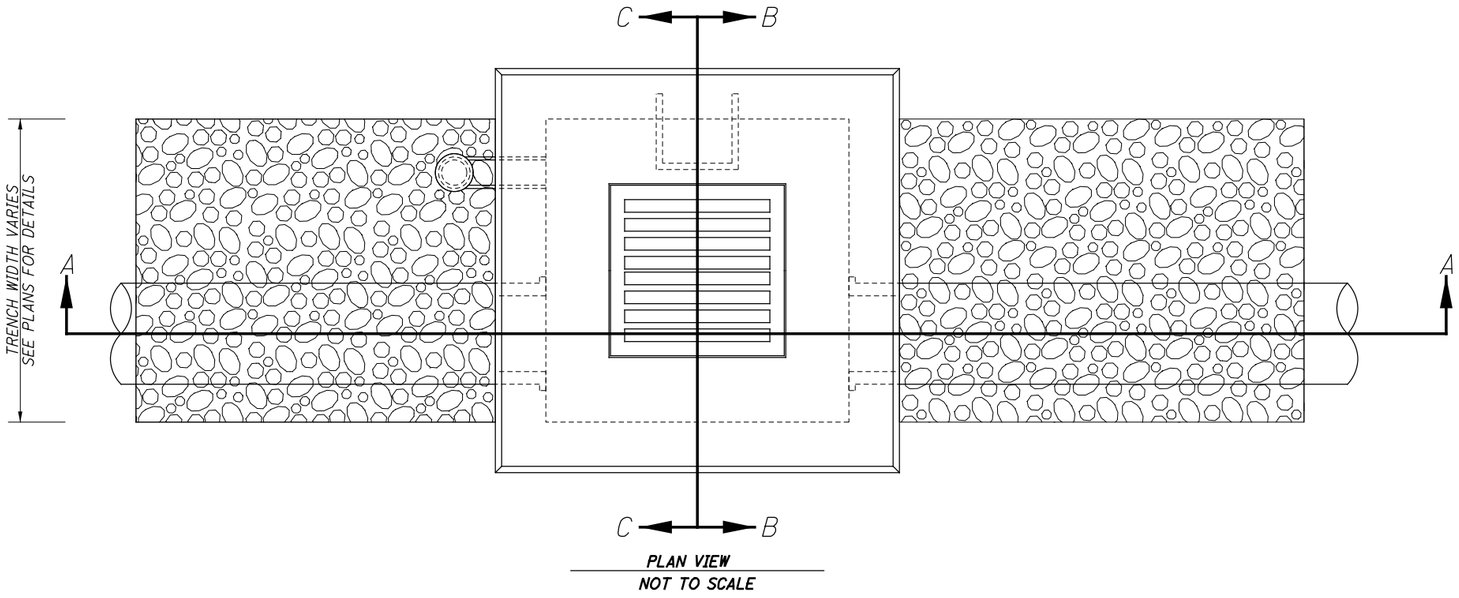
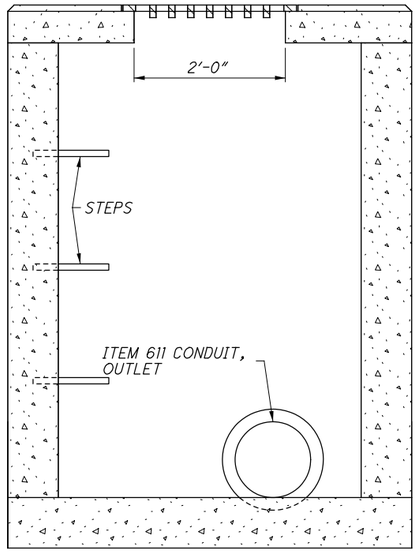
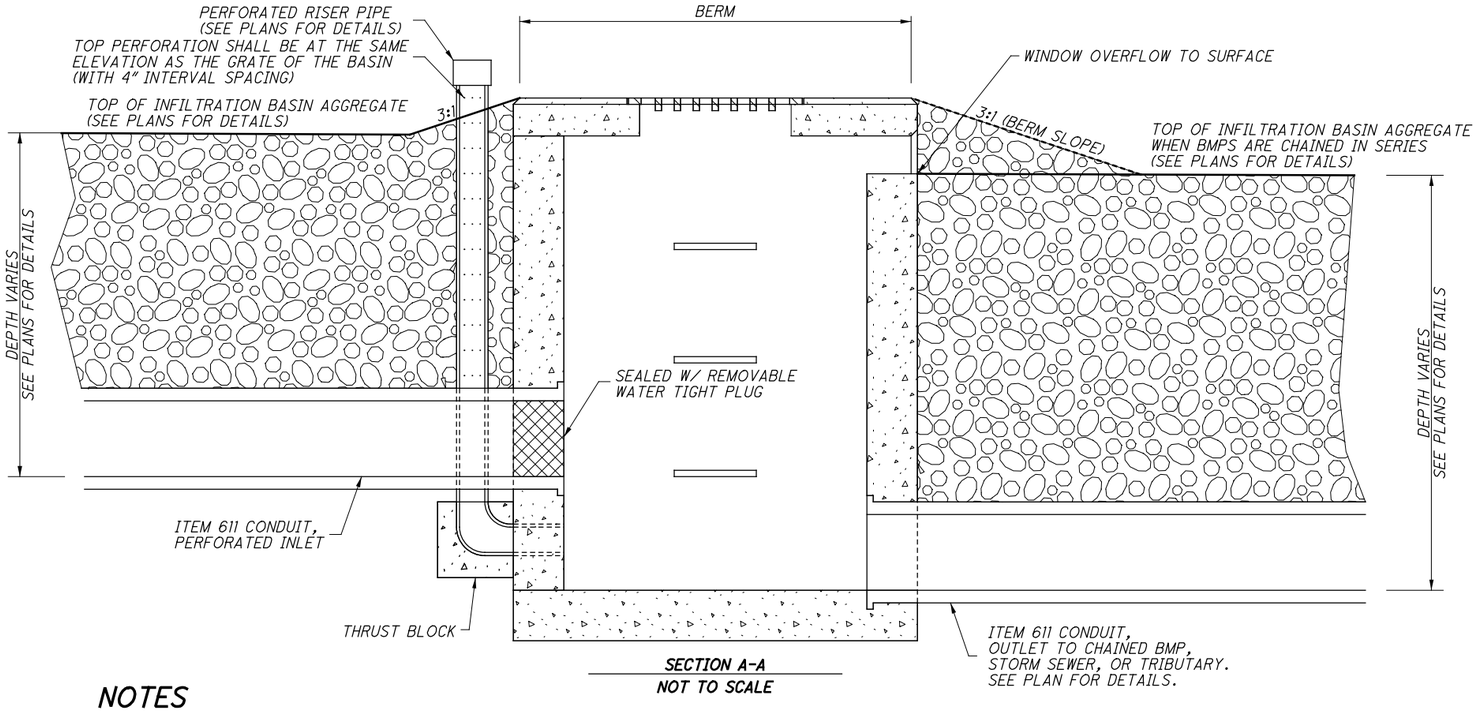


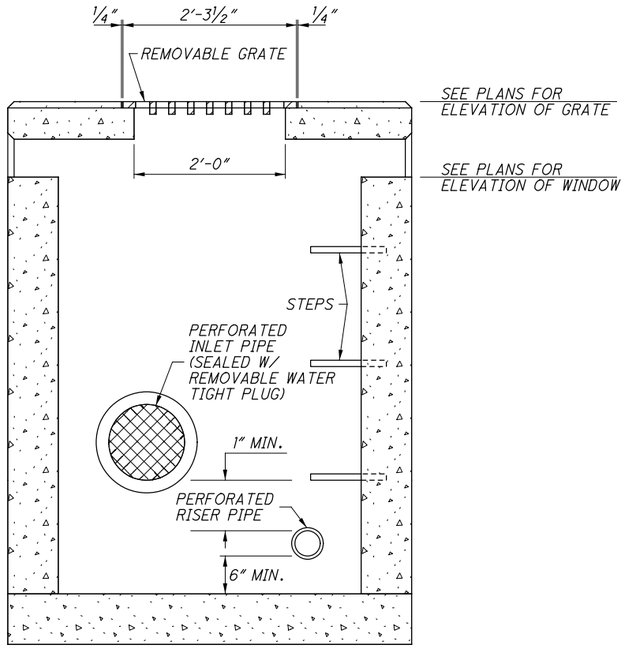
PLAN VIEW
NOT TO SCALE



SECTION B-B
NOT TO SCALE



SECTION A-A
NOT TO SCALE



SECTION C-C
NOT TO SCALE

NOTES

GENERAL: LOCATION AND ELEVATION, AGGREGATE MATERIALS, RISER PIPE, TRASH SKIMMER, AND STABILIZER AND ANCHOR STRAP SHALL BE AS PER ODOT S.C.D. WQ-1.1 EXCEPT AS DETAILED HERE.

BASIN MATERIALS: PROVIDE BASIN DIMENSIONS, MATERIALS, AND GRATE PER ODOT S.C.D. CB-1.1, CB-1.2, AND/OR CB-1.3, EXCEPT AS DETAILED HERE.

PAYMENT: ALL MATERIALS AND LABOR, INCLUDING EXCAVATION AND BACKFILL, ARE PAID FOR AT THE CONTRACT PRICE FOR ITEM 611 - WATER QUALITY BASIN, DETENTION, AS PER PLAN

CALCULATED EAK
CHECKED PHF

WATER QUALITY BASIN, DETENTION, AS PER PLAN DETAIL

DEL-CR10-0.90

2952-DR.E

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STORM SYSTEM COORDINATE TABLE - WITHIN THE CITY OF COLUMBUS						
STRUCTURE NUMBER	STRUCTURE TYPE	STATION	AS-BUILT			
			SEE SHT	NORTHING	EASTING	ELEVATION
A0	EX CB	997+51.04	128			
A2	NOT USED					
A3	CB-2-2B	998+48.91	128			
A4	EX CB	1000+56.27	128			
A5	NOT USED					
A6	CB-2-2B	1002+12.42	128			
A7	MH-3	1000+50.00	128			
A8	CB-2-2B	1003+32.78	129			
A9	CB-2-2B	1002+03.00	129			
A10	CB-3	1004+00.00	129			
A11	MH-3	1004+00.00	129			
A12	CB-3	1004+47.02	129			
A13	CB-3	1004+00.00	129			
A14	CB-3	1004+84.76	129			
A15	MH-3	1005+35.43	129			
A16	CB-3	1004+84.13	129			
A17	CB-3	1005+35.43	129			
A18	CB-3	1005+35.43	129			
A19	CB-2-2B	1005+37.24	129			
A20	MH-3	1007+00.00	130			
A21	CB-3A	1007+00.00	130			
A22	CB-2-2B	1003+05.76	130			
A23	CB-2-2B	1000+56.27	130			
A24	MH-3	1000+61.43	130			
A25	MH-3	1002+12.42	130			
A26	MH-3	1003+32.78	130			
A27	MH-3	1004+00.00	130			
A28	NOT USED					
A29	NOT USED					
A30	NOT USED					
B99	CB-3A	1009+75.00	130			
B0	MH-3	1009+75.00	130			
B1	CB-3A	1010+46.50	130			
B2	MH-3	1010+46.50	130			
B3	CB-3	1010+75.00	130			
B4	MH-3	1010+75.00	130			
B5	CB-3A	1011+39.00	130			
B6	MH-3	1011+39.00	130			
B7	MH-3	1011+39.00	130			
B8	CB-3A	1009+75.00	130			
B9	MH-3	1009+75.00	130			
B10	CB-3	1010+75.00	130			
B11	MH-3	1010+75.00	130			
B12	MH-3	1011+39.00	130			
B13	CB-3A	1011+39.00	130			
B14	MH-3	1012+29.40	131			
B15	HW	1012+33.54	131			
B16	MH-3	1012+32.18	131			
B17	MH-3	1013+56.07	131			
B18	MH-3	1013+90.24	131			
B19	NOT USED					
B20	MH-3	1013+90.24	131			
B21	CB-3	1014+10.00	131			
B22	MH-3	1013+91.02	131			
B23	HW	1013+91.45	131			
B24	HW	1014+92.09	131			
B25	MH-3	1014+92.09	131			
B26	CB-3	1016+50.00	131			
B27	CB-3	1016+50.00	131			
B28	MH-3	1016+50.00	131			
B52	CB-5	1013+55.64	131			
G1		62+99.00	278			
G2	HW	63+19.00	278			

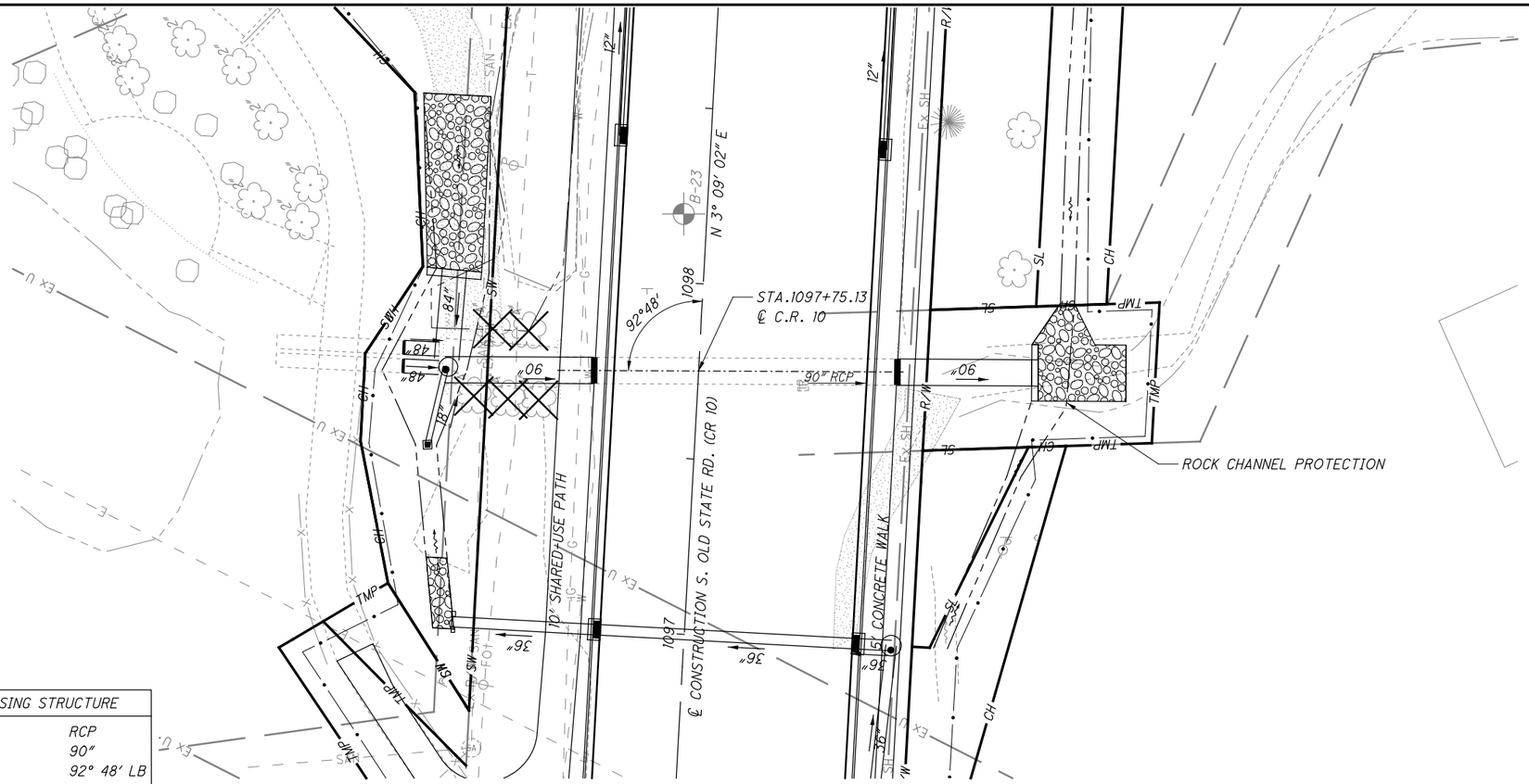
CALCULATED AWF
CHECKED PHF

STORM SURVEY COORDINATE TABLE

DEL-CR10-0.90

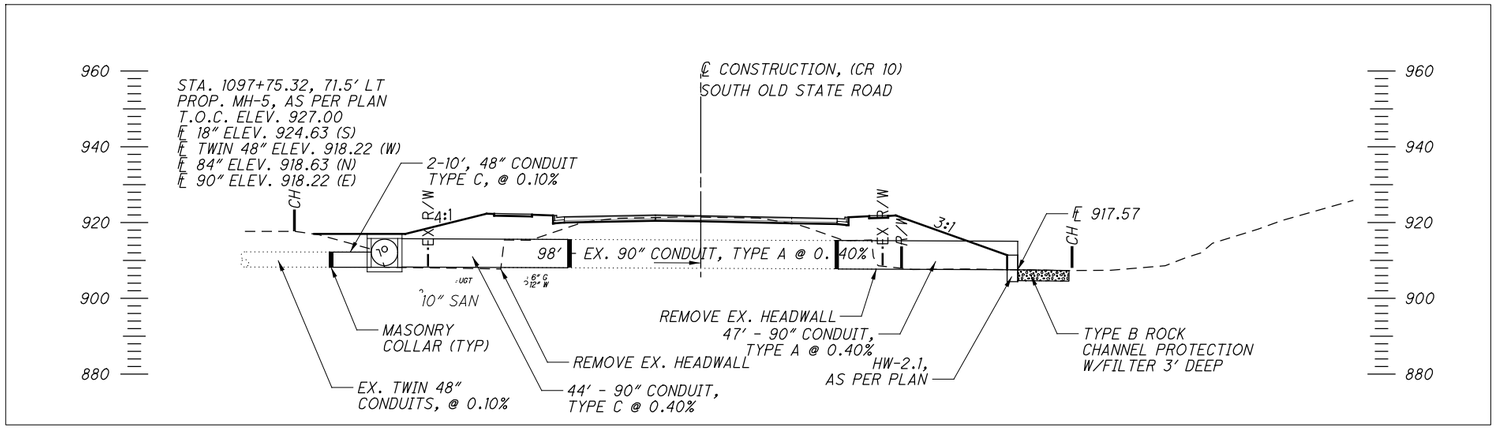
2845-DR.E

272
437



PLAN

EXISING STRUCTURE	
TYPE:	RCP
SIZE:	90"
SKEW:	92° 48' LB
DATE BUILT:	2005
CONDITION:	GOOD



PROFILE ALONG ℄ OF CONDUIT

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED RC

CULVERT EXTENSION DETAILS STA. 1097+75.13

DEL-CR10-0.90

2952-DR.E

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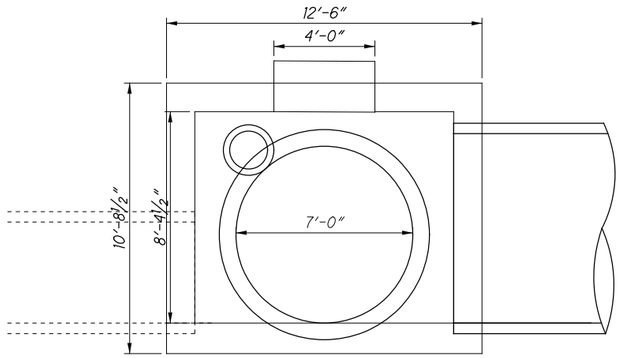
437

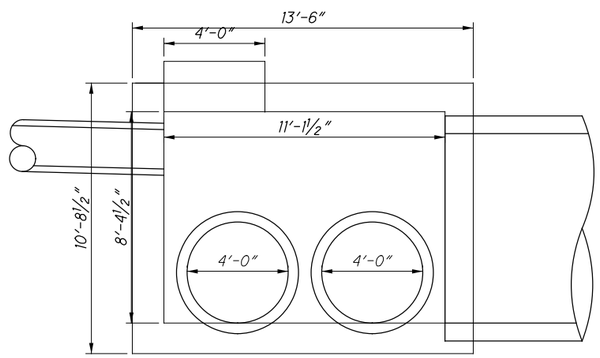
REINFORCING STEEL LIST		
BAR	SPACING	BAR SIZES FOR SEWERS
A		
B		
C		
D		
E		

INCLUDED FOR ESTIMATING PURPOSES ONLY. THE COST OF FURNISHING AND PLACING ALL REINFORCING STEEL IS INCLUDED IN ITEM 604 FOR PAYMENT

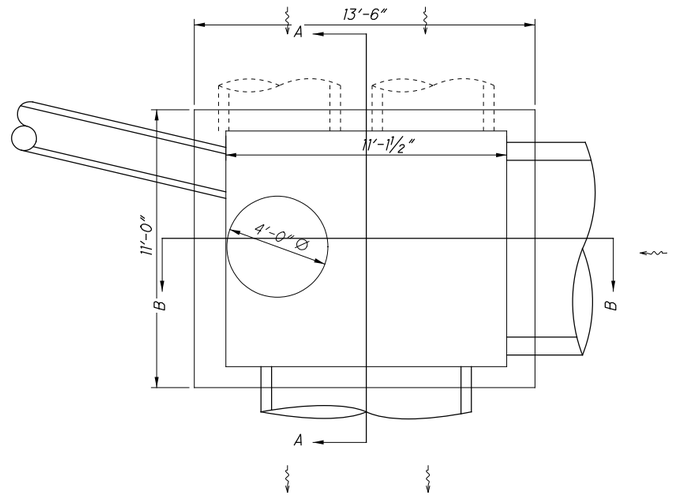
CALCULATED DRC
CHECKED AWF



ELEVATION VIEW
A-A



ELEVATION VIEW
B-B



PLAN VIEW

MANHOLE NO. 5, AS PER PLAN
STA. 1097+75, 72' LT.

DRAINAGE DETAIL - MANHOLE NO. 5, AS PER PLAN

DEL-CR10-0.90

2952-DR.E

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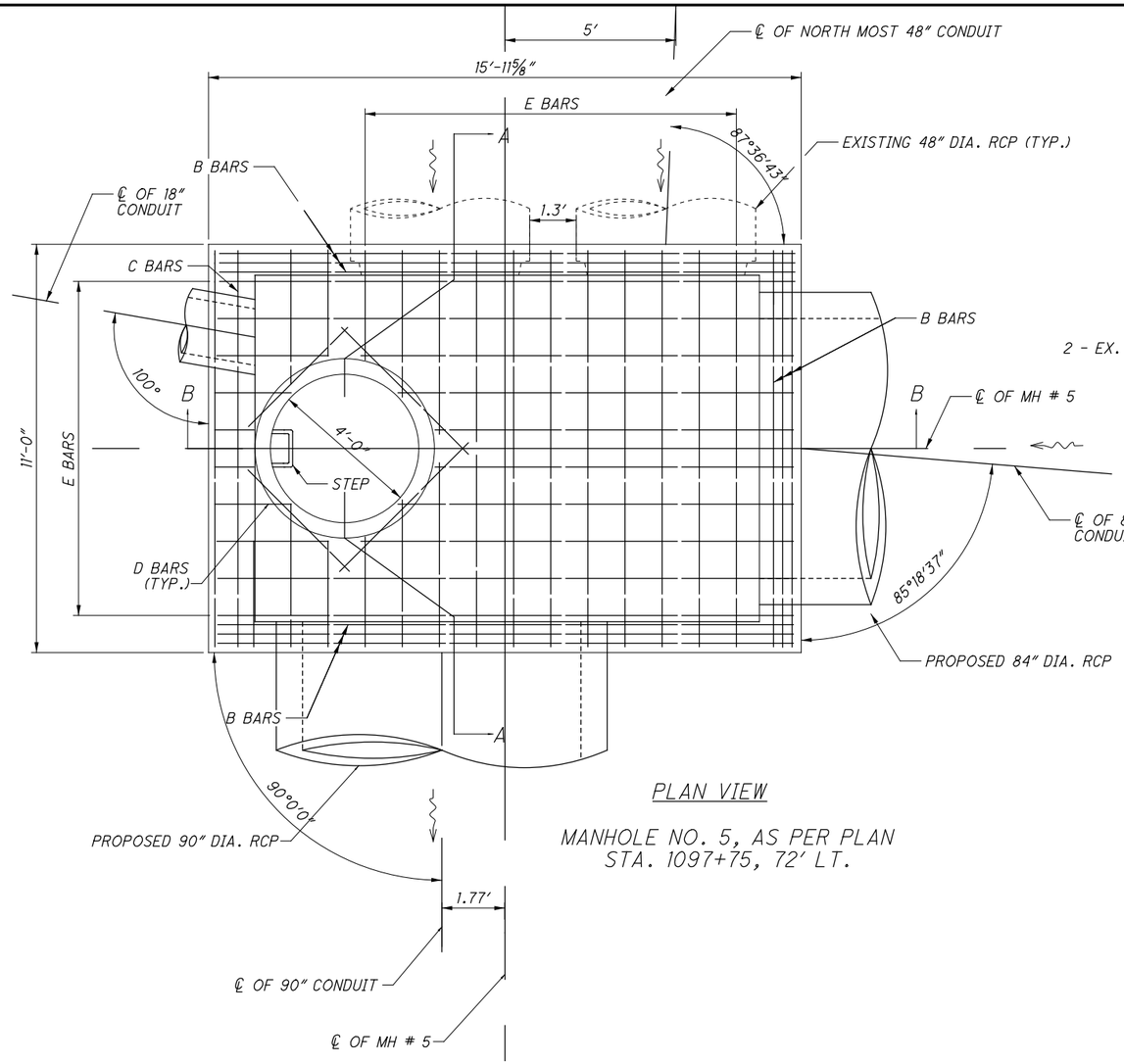
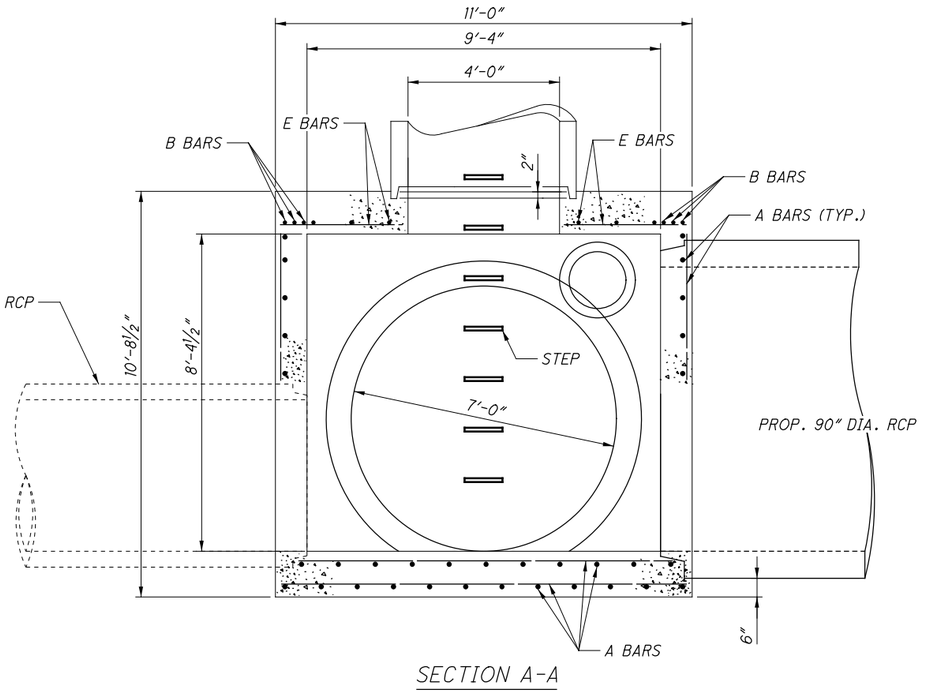
437



PLAN VIEW

MANHOLE NO. 5, AS PER PLAN
STA. 1097+75, 72' LT.



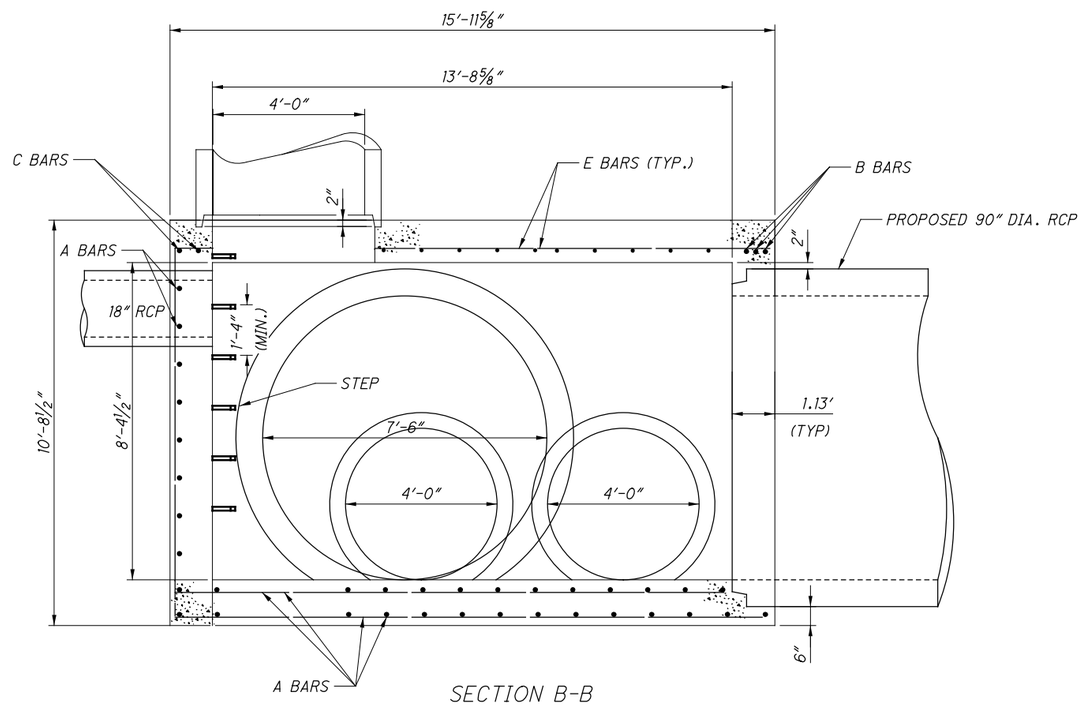
SECTION A-A

NOTES:

1. FOR ADDITIONAL NOTES AND INFORMATION SEE STANDARD HYDRAULIC CONSTRUCTION DRAWING MH-1.3.

REINFORCING STEEL LIST		
BAR	SPACING	BAR SIZES
A	12" C/C BOTH WAYS	#7
B	3" C/C BOTH WAYS	#7
C	AS SHOWN	#7
D	AS SHOWN	#5
E	12" C/C	#5

INCLUDED FOR ESTIMATING PURPOSES ONLY. THE COST OF FURNISHING AND PLACING ALL REINFORCING STEEL IS INCLUDED IN ITEM 604 FOR PAYMENT



SECTION B-B

CALCULATED DRC
CHECKED AWF

DRAINAGE DETAIL - MANHOLE NO. 5, AS PER PLAN

DEL-CR10-0.90

2952-DR.E

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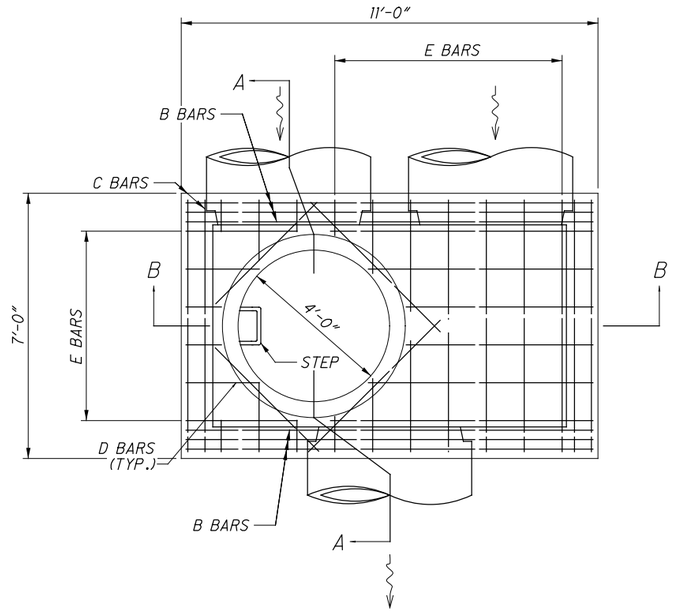
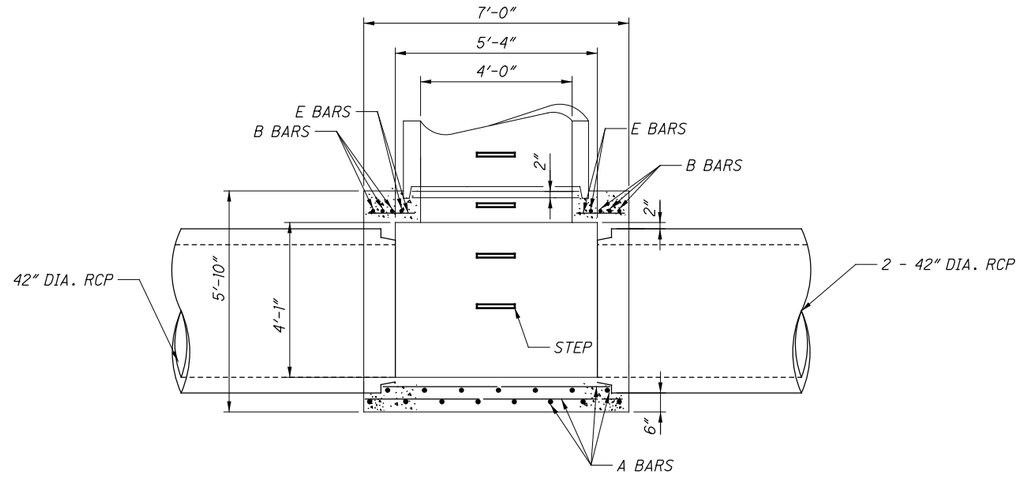
437



PLAN VIEW

MANHOLE NO. 5, AS PER PLAN
STA. 1043+65, 49.5' LT.



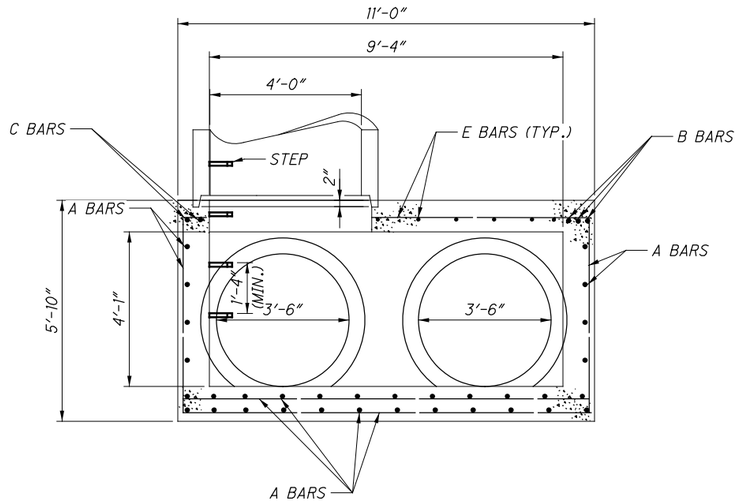
SECTION A-A

NOTES:

1. FOR ADDITIONAL NOTES AND INFORMATION SEE STANDARD HYDRAULIC CONSTRUCTION DRAWING MH-1.3.

REINFORCING STEEL LIST		
BAR	SPACING	BAR SIZES
A	12" C/C BOTH WAYS	#7
B	3" C/C BOTH WAYS	#7
C	AS SHOWN	#7
D	AS SHOWN	#5
E	12" C/C	#5

INCLUDED FOR ESTIMATING PURPOSES ONLY. THE COST OF FURNISHING AND PLACING ALL REINFORCING STEEL IS INCLUDED IN ITEM 604 FOR PAYMENT



SECTION B-B

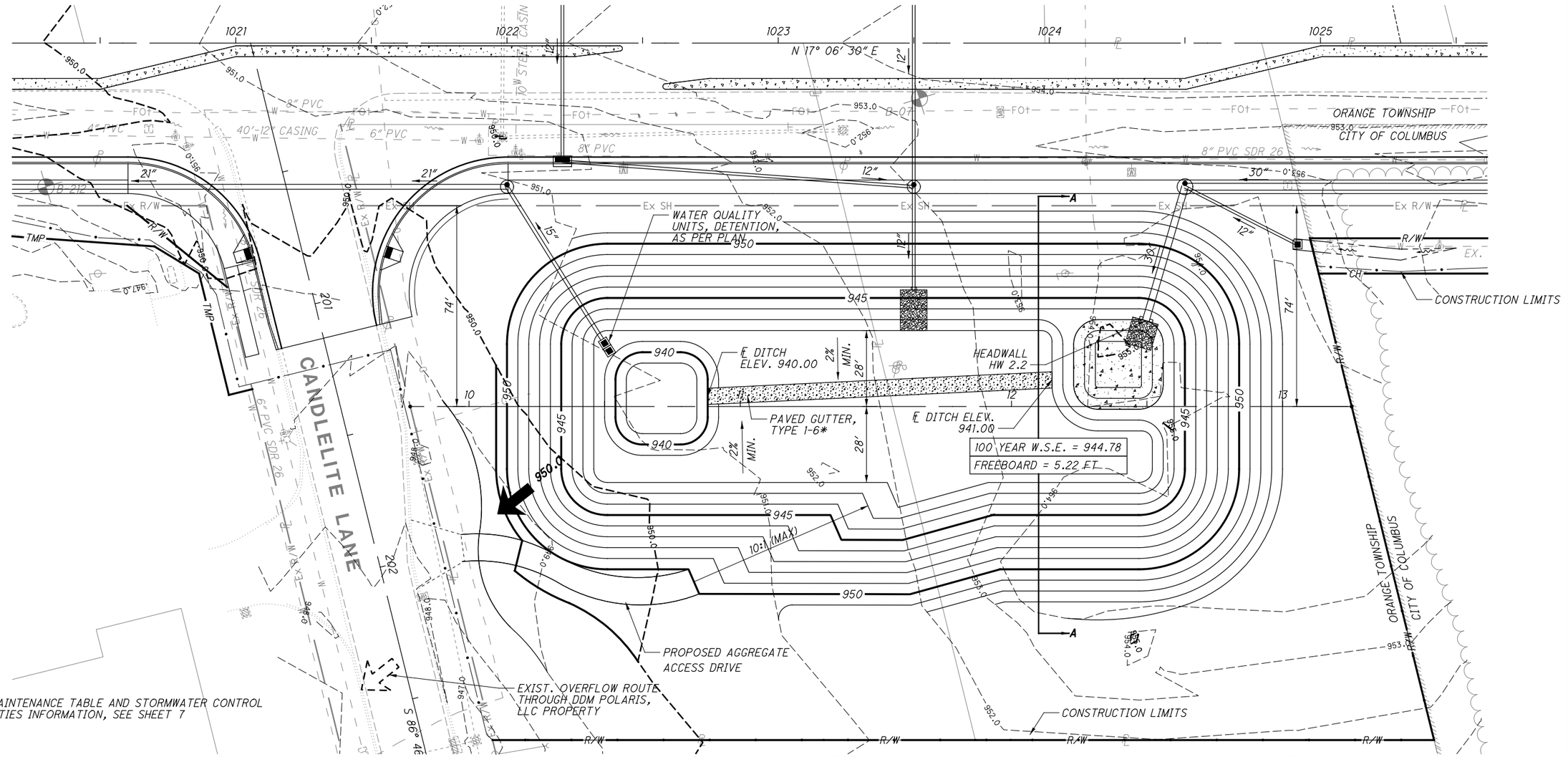
CALCULATED DRC
CHECKED AWF

DRAINAGE DETAIL - MANHOLE NO. 5, AS PER PLAN

DEL-CR10-0.90

2952-DR.E

276
437



NOTE:
FOR MAINTENANCE TABLE AND STORMWATER CONTROL FACILITIES INFORMATION, SEE SHEET 7

OUTLET STRUCTURE			
WATER QUALITY BASIN, DETENTION, AS PER PLAN, 1 EACH			
CATCH BASIN NO. 2-2B		2	EACH
STAGE 2	TOP GRATE ELEVATION		944.00
STAGE 1	WINDOW ELEVATION	2 EACH AT (6* x 19*)	943.00
MICRO POOL OUTLET	4* HORIZONTAL PERFORATED PIPE (2 LF, 2 ROWS OF 8 HOLES, (1/2-INCH DIAMETER)) WITH VERTICAL NON-PERFORATED RISER CLEANOUT PIPE AND CAP		941.22
STRUCTURE OUTLET PIPE	15* (SW)	FLOWLINE ELEVATION	941.22
MICRO POOL SUMP ELEVATION (BOTTOM SURFACE OUTSIDE OUTLET STRUCTURE)			939.00
STRUCTURE BOTTOM CHANNELIZATION (MINIMUM THICKNESS / FLOWLINE TO INSIDE BOTTOM SLAB)			2.5 FEET +/-
STRUCTURE BOTTOM ELEVATION (FROST LINE BELOW MICRO POOL SUMP)			936.00

THE REQUIREMENTS OF THE ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS AS WELL AS THE STANDARD CONSTRUCTION DRAWING FOR ITEM 611 WATER QUALITY BASIN, DETENTION, SHALL APPLY EXCEPT THAT THE STRUCUTRE TO BE USED SHALL BE TWO (2) CATCH BASIN NO. 2-2B SEPARATED BY A 1 FOOT MINIMUM DISTANCE (OUTSIDE TO OUTSIDE) AND CONNECTED WITH A CONDUIT OF EQUAL SIZE AND SLOPE AS THE OUTLET PIPE INCORPORATING THE INFORMATION NOTED HEREIN.

DRY BASIN SUMMARY

RECURRENCE INTERVAL	INFLOW	REQUIRED STORED VOLUME	STORED VOLUME	WATER SURFACE ELEVATION	OUTFLOW
(YEAR)	(CFS)	(Acre-Feet)	(Acre-Feet)	(1988 NAVD)	(CFS)
1	9.46	0.35	0.32	943.12	1.46
2	12.5	0.39	0.39	943.34	3.87
5	16.23	0.42	0.49	943.62	5.78
10	19.14	0.43	0.58	943.88	6.2
25	23.56	0.45	0.71	944.24	7.48
50	27.45	0.46	0.82	944.51	8.71
100	31.55	0.47	0.93	944.78	9.17

THIS EXTENDED DRY DETENTION BASIN PROVIDES SUFFICIENT STORAGE AND ROUTING TO COMPLY WITH THE STORMWATER QUANTITY AND QUALITY DESIGN CRITERIA AND GUIDELINES OF THE CITY OF COLUMBUS STORMWATER DRAINAGE MANUAL, AUGUST 2012. AS SUCH, THIS DETENTION BASIN EXCEEDS THE ODOT LOCATION AND DESIGN MANUAL, VOLUME 2, BMP REQUIREMENTS AND THEREFORE EXCEEDS THE OEPA GENERAL PERMIT REQUIREMENTS FOR STORMWATER DISCHARGE FOR CONSTRUCTION ACTIVITY FOR TRANSPORTATION PROJECTS.

TRIBUTARY AREA CHARACTERISTICS

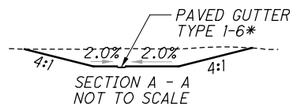
TRIBUTARY AREA (acres)	Sum C*A	TC (minutes)	CW	REMARKS
5.26	4.23	15.4	0.8	BMP FOR TRIBUTARY AREA C AND ROUTED TO TRIBUTARY B.

MOSTLY ROADWAY TRIBUTARY AREA WITH MINOR AMOUNTS OF OFFSITE TRIBUTARY AREA FROM EAST POWELL ROAD TO CANDLELITE LANE.

NORMAL POOL ELEV.	: N/A (DRY DETENTION BASIN)
EMERGENCY OVERFLOW ELEV.	: 950.00
100YR WATER SURFACE ELEV.	: 944.78
100YR PEAK DISCHARGE RATE (IN)	: 31.55 CFS
100YR PEAK DISCHARGE RATE (OUT)	: 9.17 CFS
DETENTION VOLUME REQUIRED	: SEE TABLE <-
DETENTION VOLUME PROVIDED	: SEE TABLE <-

℄ DITCH BASIN ALIGNMENT

STATION	NORTHING	EASTING
9+78.30	177501.1947	1829781.8146
13+25.44	177832.9776	1829883.9371



* PAVED GUTTER TYPE 1-6
BOTTOM WIDTH = 6 FEET
SIDE SLOPES = 4:1
DEPTH = 1.0 FT. MIN.
SLOPE = 0.5%

ESTIMATE OF QUANTITIES

REF. NO.	203 EXCAVATION	304 AGGREGATE BASE	601 PAVED GUTTER, TYPE 1-6
	CU YD	CU YD	FT
DRAINAGE BASIN	8825		
PG1			128
D1		21	
TOTALS CARRIED TO GENERAL SUMMARY	8825	21	128

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED PHF

DRAINAGE DETAILS - LAYOUT & GRADING PLAN
DRY EXTENDED DETENTION BASIN

DEL-CR10-0.90

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OUTLET STRUCTURE			
WATER QUALITY BASIN, DETENTION, AS PER PLAN, 1 EACH			
CATCH BASIN NO. 2-2B		2	EACH
STAGE 2		TOP GRADE ELEVATION	937.50
STAGE 1	WINDOW / ORIFICE ELEVATION	3 EACH AT (6* x 12*)	936.28
MICRO POOL OUTLET		4* DIAMETER ORIFICE OR 4" CONDUIT STUB.	935.00
OUTLET PIPE	15* (S)	FLOWLINE ELEVATION	935.00
MICRO POOL SUMP ELEVATION (BOTTOM SURFACE OUTSIDE OUTLET STRUCTURE)			933.00
STRUCTURE BOTTOM CHANNELIZATION (MINIMUM THICKNESS / FLOWLINE TO INSIDE BOTTOM SLAB)			2.5 FT +/-
STRUCTURE BOTTOM ELEVATION (FROST LINE BELOW MICRO POOL SUMP)			931.00

THE REQUIREMENTS OF THE ODOT CONSTRUCTION AND MATERIALS SPECIFICATIONS AS WELL AS THE STANDARD CONSTRUCTION DRAWING FOR ITEM 611 WATER QUALITY BASIN, DETENTION, SHALL APPLY EXCEPT THAT THE STRUCUTRE TO BE USED SHALL BE TWO (2) CATCH BASIN NO. 2-2B SEPARATED BY A 1 FOOT MINIMUM DISTANCE (OUTSIDE TO OUTSIDE) AND CONNECTED WITH A CONDUIT OF EQUAL SIZE AND SLOPE AS THE OUTLET PIPE INCORPORATING THE INFORMATION NOTED HEREIN.

℄ DITCH BASIN ALIGNMENT		
STATION	NORTHING	EASTING
9+88.72	176877.0549	1829516.1497
13+94.45	176796.3171	1829913.7668

NOTE:
FOR MAINTENANCE TABLE AND STORMWATER CONTROL FACILITIES INFORMATION, SEE SHEET 7

DRY BASIN SUMMARY					
RECURRENCE INTERVAL	INFLOW	REQ'D STORED VOLUME	STORED VOLUME	WATER SURFACE ELEVATION	OUTFLOW
(year)	(cfs)	(Acre-Feet)	(Acre-Feet)	(1988 NAVD)	(cfs)
1	28.04	0.486	0.745	937.22	5.73
2	37.74	0.544	1.049	937.65	7.12
5	51.49	0.592	1.450	938.18	9.51
10	61.35	0.619	1.745	938.55	10.26
25	75.13	0.647	2.169	939.04	11.19
50	88.86	0.662	2.610	939.53	12.05
100	104.48	0.674	3.128	940.09	12.97

THIS EXTENDED DRY DETENTION BASIN PROVIDES SUFFICIENT STORAGE AND ROUTING TO COMPLY WITH THE STORMWATER QUANTITY AND QUALITY DESIGN CRITERIA AND GUIDELINES OF THE CITY OF COLUMBUS STORMWATER DRAINAGE MANUAL, AUGUST 2012. AS SUCH, THIS DETENTION BASIN EXCEEDS THE ODOT LOCATION AND DESIGN MANUAL, VOLUME 2, BMP REQUIREMENTS AND THEREFORE EXCEEDS THE OEPA GENERAL PERMIT REQUIREMENTS FOR STORMWATER DISCHARGE FOR CONSTRUCTION ACTIVITY FOR TRANSPORTATION PROJECTS.

TRIBUTARY AREA CHARACTERISTICS				
TRIBUTARY AREA (acres)	Sum C*A	TC (minutes)	CW	REMARKS
73.53 (OVERALL)	22.38	44.5	0.32	STORM SEWER DIVERSION OVERFLOW WEIR CREST ELEVATION 940.35, IN STRUCTURE B-22
16.70 (ROADWAY)	13.12	10	0.65	

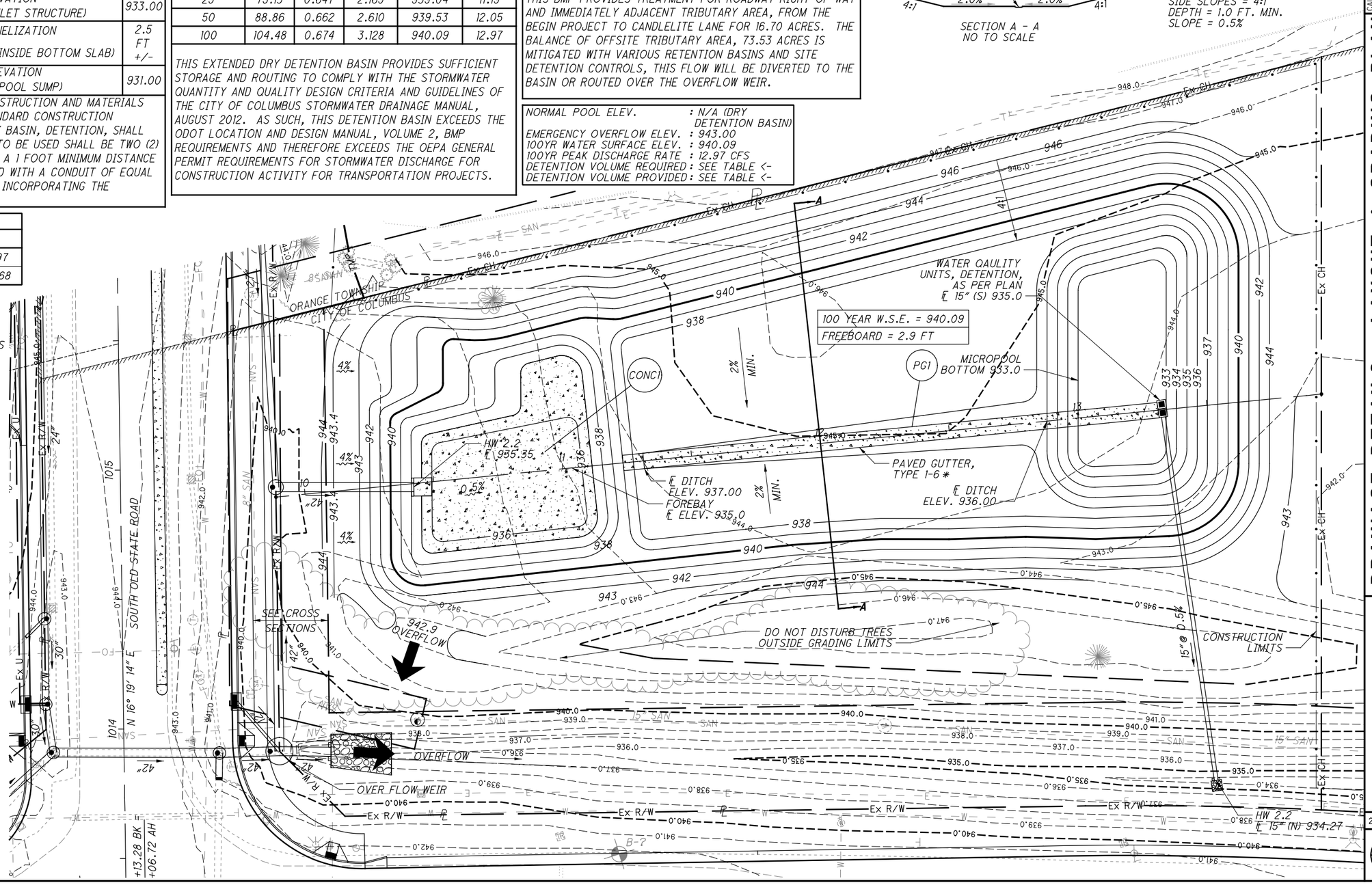
THIS BMP PROVIDES TREATMENT FOR ROADWAY RIGHT-OF-WAY AND IMMEDIATELY ADJACENT TRIBUTARY AREA, FROM THE BEGIN PROJECT TO CANDLELITE LANE FOR 16.70 ACRES. THE BALANCE OF OFFSITE TRIBUTARY AREA, 73.53 ACRES IS MITIGATED WITH VARIOUS RETENTION BASINS AND SITE DETENTION CONTROLS, THIS FLOW WILL BE DIVERTED TO THE BASIN OR ROUTED OVER THE OVERFLOW WEIR.

NORMAL POOL ELEV. : N/A (DRY DETENTION BASIN)
EMERGENCY OVERFLOW ELEV. : 943.00
100YR WATER SURFACE ELEV. : 940.09
100YR PEAK DISCHARGE RATE : 12.97 CFS
DETENTION VOLUME REQUIRED : SEE TABLE <-
DETENTION VOLUME PROVIDED : SEE TABLE <-

REF. NO.	203 EXCAVATION	203 EMBANKMENT	451 6" REINFORCED CONCRETE PAV'T	601 PAVED GUTTER, TYPE 1-6
	CU YD	CU YD	SQ YD	FT
DRAINAGE BASIN	10415	78		
PG1				208
CONC1			409	
TOTALS CARRIED TO GENERAL SUMMARY	10415	78	409	208

PAVED GUTTER TYPE 1-6*
4:1 2.0% 2.0% 4:1
SECTION A - A
NO TO SCALE

* PAVED GUTTER TYPE 1-6
BOTTOM WIDTH = 6 FEET
SIDE SLOPES = 4:1
DEPTH = 1.0 FT. MIN.
SLOPE = 0.5%



DRAINAGE DETAILS - LAYOUT & GRADING PLAN
DEL-CR10-0.90 DRY EXTENDED DETENTION BASIN

HORIZONTAL SCALE IN FEET
0 10 40 80

CALCULATED AWF
CHECKED PHF

2952-DR.E

278
437

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795 WYNSTONE DRIVE
LEWIS CENTER, OH 43035

800 WYNSTONE DR
LEWIS CENTER, OH 43035

9158 S OLD STATE RD
LEWIS CENTER, OH 43035

W.L. STA. 1002+82.42 =
℄ STA. 1002+92.57, 42.50' LT.
BEGIN PROP. 12" W.L.
BEGIN EX. 12" PIPE ABANDONMENT
CONNECT TO EX. 12" W.L. WITH
PROP. 12" - 45° BEND
Δ = 45°00'00"

W.L. STA. 1004+35.61 =
℄ STA. 1004+35.61, 38.00' LT.
PROP. 12" VALVE W/
COLS. STD. HD VALVE BOX

W.L. STA. 1003+88.00, 23.65' LT. =
℄ STA. 1003+88.00, 41.65' LT.
TYPE A MODIFIED F.H.

W.L. STA. 1004+91.38 =
℄ STA. 1004+91.38, 18.00' LT.
12" X 8" ANCHORING TEE
AND HD VALVE W/ COLS. STD. HD BOX
DISCONNECT EXIST. 8" WL FROM EXIST. 12" WL (TBA)
AND CONNECT 8" PROP. WL TO RELOCATED 12" WL MAIN.

W.L. STA. 1006+93.00, 22.50' LT. =
℄ STA. 1006+93.00, 40.50' LT.
TYPE A MODIFIED F.H.
CONSTRUCTION LIMIT

EX. 12" WATER
TO BE ABANDONED

W.L. STA. 1003+17.07 =
℄ STA. 1003+17.07,
18.00' LT.
12" - 45° BEND
Δ = 45°00'00"

W.L. STA. 1003+83.00 =
℄ STA. 1003+83.00, 18.00' LT.
12" X 6" ANCHORING TEE
AND HD VALVE WITH
COLUMBUS STD HD VALVE BOX
FOR PROFILE SEE SHEET 160.

WW1 WW2 WW3 WW4 WW6 WW7 WW8

PROP. 12" WATER

W.L. STA. 1006+53.01 =
℄ STA. 1006+53.01, 18.00' LT.

W.L. STA. 1006+56.01 =
℄ STA. 1006+56.01, 18.00' LT.

W.L. STA. 1007+16.67 =
℄ STA. 1007+16.67, 18.00' LT.

W.L. STA. 1007+00 =
℄ STA. 1007+00.00, 18.00' LT.
12" X 6" ANCHORING TEE
AND HD VALVE WITH
COLUMBUS STD HD VALVE BOX

STA. 1004+65.76 S. OLD STATE RD. (CR 10) =
STA. 4+46.11 WYNSTONE DR.

WYNSTONE DR.

10' MULTI-USE PATH

5' CONCRETE WALK

CONSTRUCTION LIMIT

MATCH LINE STA. 1008+00 S. OLD STATE RD. SEE SHEET 280

9235 S. OLD STATE ROAD
LEWIS CENTER, OH 43035

ANTARES AVE
COLUMBUS OH 43240

9181 S OLD STATE RD
LEWIS CENTER, OH 43035

9175 S OLD STATE RD
LEWIS CENTER, OH 43035

PROP. ℄
OF PROP. W.L.

MATCH EXISTING 12" W.L.
ELEVATION. CONTRACTOR
TO VERIFY

PROP. GRADE ABOVE W.L.

EX. GRADE ABOVE W.L.

120'-15" TYPE B @ 0.4%

2.48%

0.0%

+6.22%

+1.53 %

+1.53 %

0.00 %

4' MIN.

18" MIN.

℄ 12"=
935.26

BEGIN PROP. 12" W.L.
CONNECT TO EX. 12" W.
935.37 935.14

12" - 45° BEND
W.L. STA. 1002+82.42
℄ ELEV. (929.27)
935.80 935.28

12" - 45° VERT. BEND
W.L. STA. 1002+88.00
℄ ELEV. 928.20

12" - 45° HORIZ. BEND
W.L. STA. 1003+17.07
℄ ELEV. 929.29
936.21 935.97

12"X6" ANCHORING TEE & VALVE
W/COLS STD. HD BOX
TYPE A MODIFIED F.H.
W.L. STA. 1003+88
℄ ELEV. 930.70
936.94 936.53 935.82

12" VALVE W/COLS STD. HD BOX
W.L. STA. 1004+35.61
℄ ELEV. 931.88
937.17 936.62

GRADE BREAK
W.L. STA. 1004+60.00
℄ ELEV. 932.49
937.56

12"X8" ANCHORING TEE & VALVE
W/COLS STD. HD BOX
TYPE A MODIFIED F.H.
W.L. STA. 1004+91.38
℄ ELEV. 932.49
938.15 937.50

GRADE BREAK
W.L. STA. 1005+40.00
℄ ELEV. 932.49
938.72 939.26 938.90

GRADE BREAK
W.L. STA. 1005+80.00
℄ ELEV. 934.98
939.74 940.07

940.18 940.58 940.95 940.98 941.38

12"X6" ANCHORING TEE & VALVE
W/COLS STD. HD BOX & GRADE BREAK
TYPE A MODIFIED F.H.
W.L. STA. 1007+00.00
℄ ELEV. 936.82
941.81 941.52

942.03 941.84 942.21 942.35 942.45 941.87

936.82

1003+00 1004+00 1005+00 1006+00 1007+00 1008+00

945 940 935 930 925 920 915 910

12" WATERLINE PLAN AND PROFILE
STA. 1003+00 TO STA. 1008+00
DEL-CR10-0.90

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED BLW
CHECKED PHF

2952-DR.E

279
437

L:\Projects\14577229\TRANS\DEL\90243\utilities\sheets\90243UP001.dgn - 4/9/2015 1:21:14 PM - brian_wallace

ASPHALT PARKING LOT

771 POLARIS PKWY
LEWIS CENTER, OH 43035

CONSTRUCTION LIMIT

W.L. STA. 1008+53.04 =
℄ STA. 1008+53.04, 18.00' LT.

W.L. STA. 1010+17.99, 22.50' LT. =
℄ STA. 1010+17.99, 40.50' LT.
TYPE A MODIFIED F.H.

EX. 12" WATER
TO BE ABANDONED

10' SHARED-USE PATH
12"-1195-24

W.L. STA. 1012+01.10 =
℄ STA. 1012+01.10, 43.55' LT.
END PROP. 12" W.L.
END EX. 12" PIPE ABANDONMENT
CONNECT TO EX. 12" W.L. WITH
12" - 45° BEND LT
Δ = 45°00'00"

℄ CONSTRUCTION
S. OLD STATE RD. (CR 10)

W.L. STA. 1011+75.11 =
℄ STA. 1011+75.11, 18.00' LT.
12" - 45° BEND RT
Δ = 45°00'00"

W.L. STA. 1009+64.62 =
℄ STA. 1009+64.62, 18.00' LT.

W.L. STA. 1010+24.99 =
℄ STA. 1010+24.99, 18.00' LT.
12" X 6" ANCHORING TEE
AND HD VALVE WITH COLS STD HD VALVE BOX
FOR PROFILE SEE SHEET 164.

PROP. 12" WATER

MATCH LINE STA. 1008+00 S. OLD STATE RD. SEE SHEET 279

CONCRETE WALK

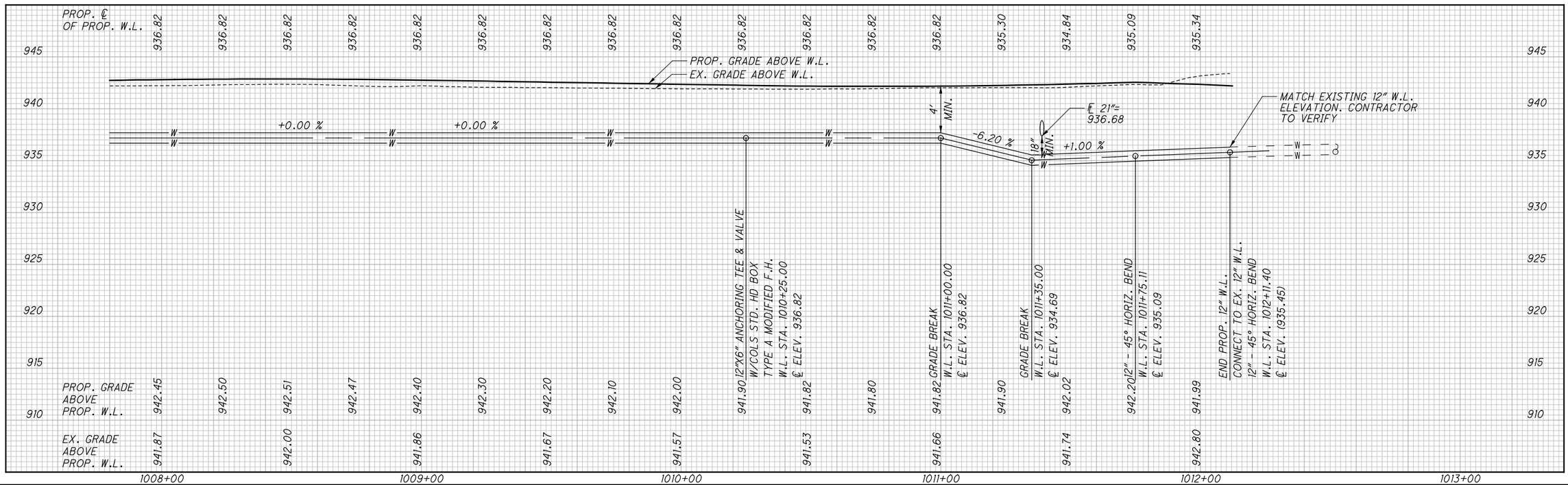
WW1 WW2 WW3 WW4 WW5

9175 S OLD STATE RD
LEWIS CENTER, OH 43035

9151 S OLD STATE RD
LEWIS CENTER, OH 43035

ASPHALT PARKING LOT

POLARIS PKWY.



HORIZONTAL SCALE IN FEET
0 10 20 40

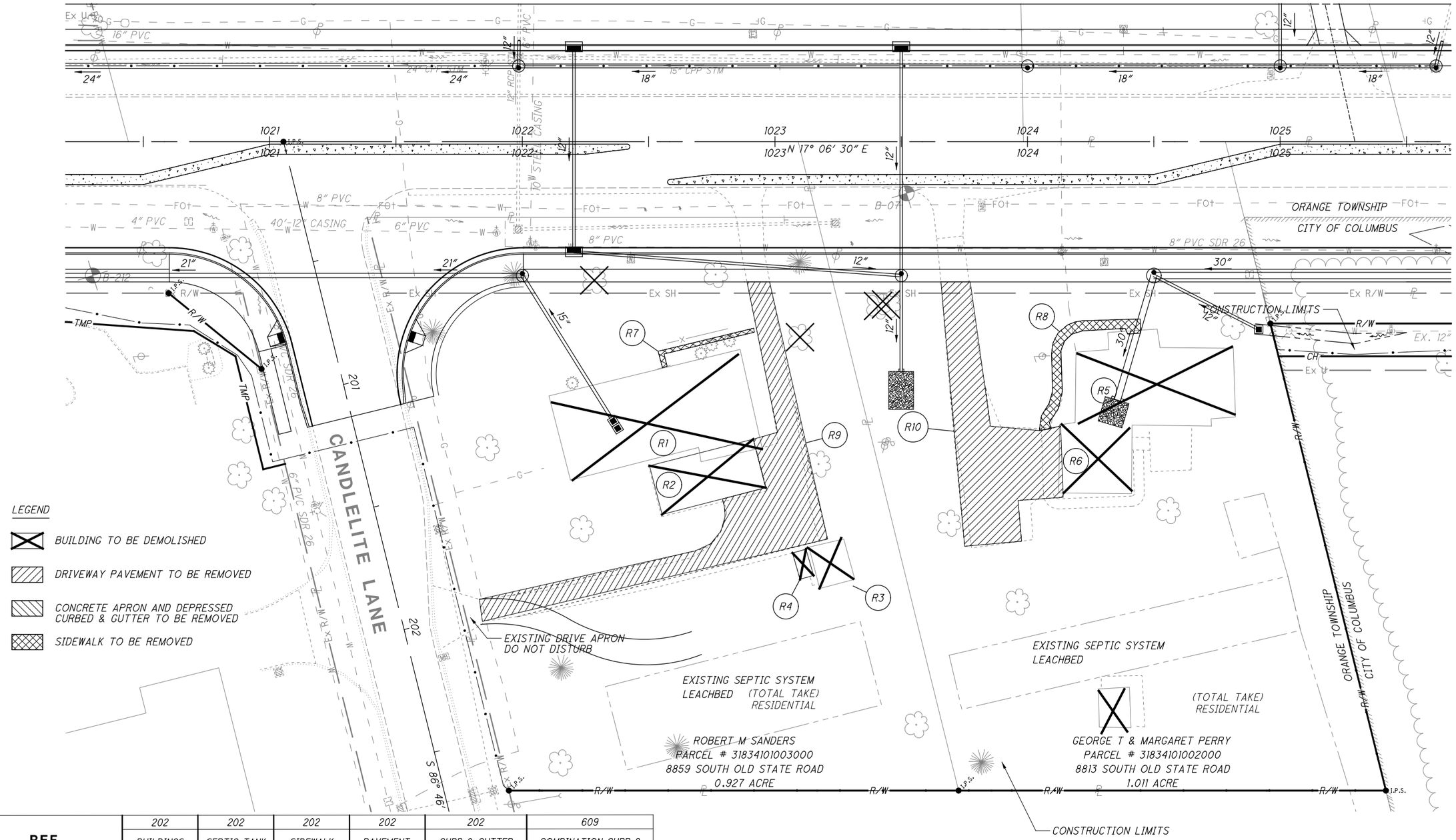
CALCULATED BLW
CHECKED PHF

12" WATERLINE PLAN AND PROFILE
STA. 1008+00 TO STA. 1013+00

DEL-CR10-0.90

2952-DR.E

280
437



LEGEND

- *BUILDING TO BE DEMOLISHED*
- *DRIVEWAY PAVEMENT TO BE REMOVED*
- *CONCRETE APRON AND DEPRESSED CURBED & GUTTER TO BE REMOVED*
- *SIDEWALK TO BE REMOVED*

REF. NO.	202 BUILDINGS DEMOLISHED	202 SEPTIC TANK REMOVED	202 SIDEWALK REMOVED	202 PAVEMENT REMOVED	202 CURB & GUTTER REMOVED	609 COMBINATION CURB & GUTTER, TYPE 2
	EACH	EACH	SQ FT	SQ YD	FT	FT
1R BUILDING A	1	1				
2R BUILDING B	1					
3R BUILDING C	1					
4R BUILDING D	1					
5R BUILDING A	1	1				
6R BUILDING B	1					
7R			75			
8R			285			
9R				322	26	26
10R				258		
TOTALS CARRIED TO GENERAL SUMMARY	6	2	360	580	26	26

NOTE:

CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE OHIO DEPARTMENT OF TRANSPORTATOPM, CONSTRUCTION AND MATERIAL SPECIFICATIONS, SECTION 202, FOR ALL REMOVAL ITEMS NOTED AS PART OF THE DEMOLITION OF THE RESIDENTIAL PROPERTIES LISTED ON THESE PLANS.

HORIZONTAL SCALE IN FEET
0 10 20 40

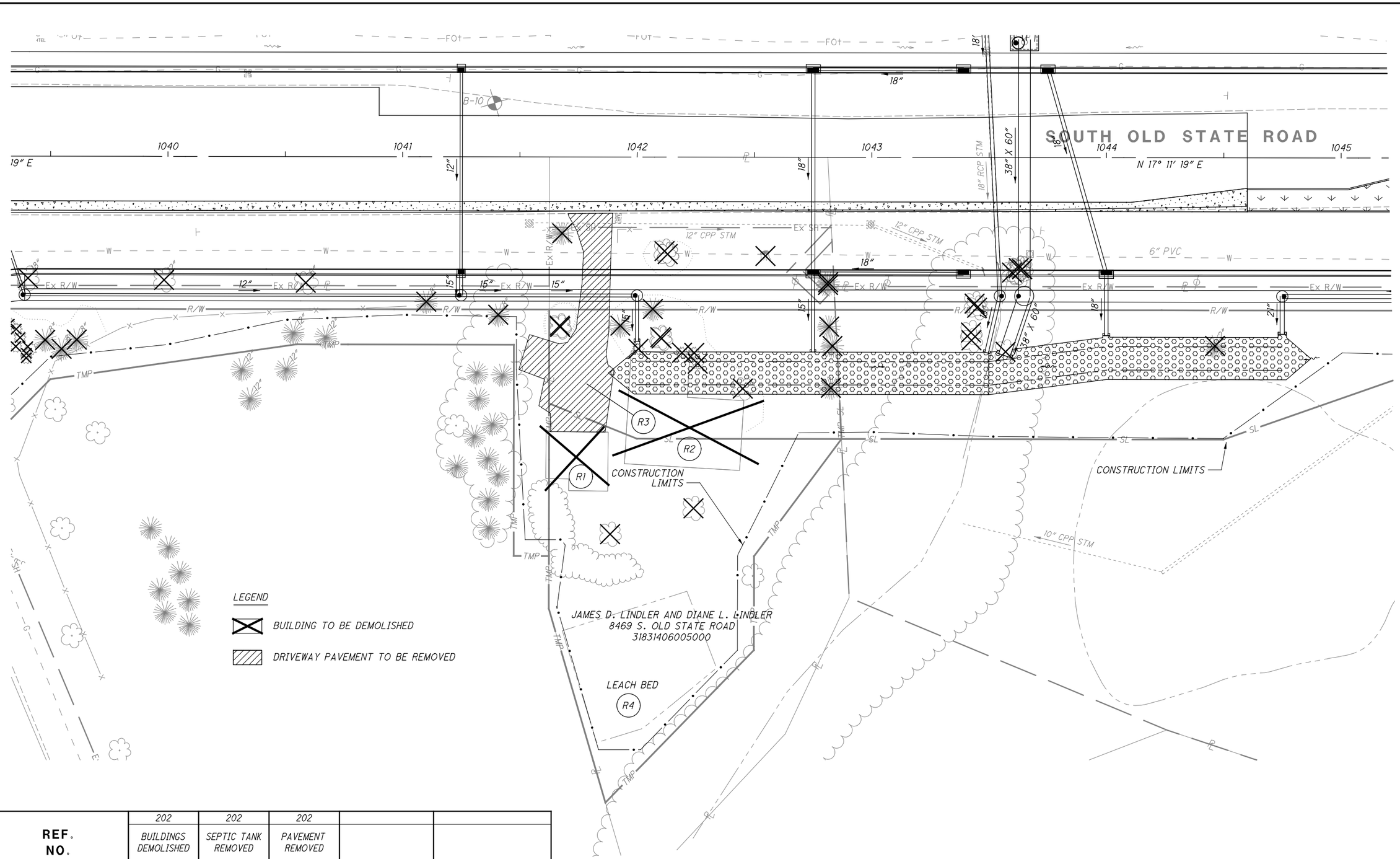
CALCULATED AWF
CHECKED PHF

BUILDING DEMOLITION DETAILS

DEL-CR10-0.90

2952-DR.E

281
437



REF. NO.	202 BUILDINGS DEMOLISHED	202 SEPTIC TANK REMOVED	202 PAVEMENT REMOVED		
	EACH	EACH	SQ YD		
R1 BUILDING A	1				
R2 BUILDING B	1				
R3			206		
R4		1			
TOTALS CARRIED TO GENERAL SUMMARY	2	1	206		

NOTE:

CONTRACTOR SHALL FOLLOW THE REQUIREMENTS OF THE OHIO DEPARTMENT OF TRANSPORTATOPM, CONSTRUCTION AND MATERIAL SPECIFICATIONS, SECTION 202, FOR ALL REMOVAL ITEMS NOTED AS PART OF THE DEMOLITION OF THE RESIDENTIAL PROPERTIES LISTED ON THESE PLANS.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED PHF

BUILDING DEMOLITION DETAILS

DEL-CR10-0.90

2952-DR.E

281
437

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 EDGE LINE (WHITE)	644 EDGE LINE (YELLOW)	644 CENTERLINE	644 STOP LINE	644 LANE LINE	644 SOLID DOUBLE CENTER LINE	644 CENTERLINE LINE PASSING PROHIBITED	644 DOTTED LINE	644 CROSS WALK LINE	644 CHANNELIZING LINE	644 TRANSVERSE LINE (WHITE)	644 TRANSVERSE LINE (YELLOW)	644 LANE ARROW	644 WORD ON PAVEMENT	644 ISLAND MARKING			
						MILE	MILE	MILE	FT	MILE	MILE	MILE	FT	FT	FT	FT	FT	EACH	EACH	SQ FT			
292	A1	OLD STATE RD	1003+95		RT													1					
292	A2	OLD STATE RD	1005+29		LT													1					
292	A3	OLD STATE RD	1007+32		LT													2					
292	A4	OLD STATE RD	1008+81		RT													2					
292	A5	OLD STATE RD	1010+31															2					
292	A6	OLD STATE RD	1005+49															1					
292	A7	OLD STATE RD	1005+88															1					
292	A8	OLD STATE RD	1006+29															1					
292	A9	OLD STATE RD	1006+72															1					
292	CH1	OLD STATE RD	1002+59	1004+25	LT										166								
292	CH2	OLD STATE RD	1002+59	1004+25	LT										166								
292	CH3	OLD STATE RD	1005+15	1007+15	LT										200								
292	CH4	OLD STATE RD	1005+15	1006+30	LT										115								
292	CH5	OLD STATE RD	1005+15	1006+30	RT										115								
292	CH6	OLD STATE RD	1007+10	1011+95	RT										485								
292	CH7	OLD STATE RD	1006+30	1011+95	RT										565								
292	CH8	OLD STATE RD	1000+40	1004+17	LT										377								
292	CLD1	OLD STATE RD	1002+07	1004+25	RT						0.04												
292	CLD2	OLD STATE RD	1002+07	1003+10	RT						0.02												
292	CLP1	OLD STATE RD	998+18	1002+07	LT							0.07											
292	CLP2	OLD STATE RD	998+18	1002+07	RT							0.07											
292	EY1	OLD STATE RD	1005+12	1012+00	LT		0.13																
292	EY2	OLD STATE RD	1005+12	1012+00	RT		0.13																
292	LL1	OLD STATE RD	1006+43	1011+95	LT					0.10													
292	LL2	OLD STATE RD	1007+20	1011+95	RT					0.09													
292	TLW1	OLD STATE RD	1002+59	1004+25	RT											131							
292	TLW2	OLD STATE RD	1002+81	1004+40	RT											105							
292	TLW3	OLD STATE RD	1005+15	1006+30												70							
292	TLY1	OLD STATE RD	1002+07	1003+10	RT												82						
292	W1	OLD STATE RD	1003+46		LT														1				
292	W2	OLD STATE RD	1005+49		RT														1				
292	W3	OLD STATE RD	1005+88		LT&RT														1				
292	W4	OLD STATE RD	1010+97		RT														2				
292	YIM1	OLD STATE RD	1005+15		RT															15.00			
294	A1	OLD STATE RD	1014+36		LT													2					
294	A2	OLD STATE RD	1015+70		LT													2					
294	A3	OLD STATE RD	1017+89		LT													2					
294	A4	OLD STATE RD	1020+07		LT													2					
294	A5	OLD STATE RD	1021+48		LT													1					
294	A6	OLD STATE RD	1021+80		LT													1					
294	A7	OLD STATE RD	1024+00		LT													1					
294	A8	OLD STATE RD	1025+65		RT													1					
294	A9	OLD STATE RD	1026+78		RT													1					
294	A10	OLD STATE RD	1011+65		RT													2					
294	CH1	OLD STATE RD	1014+06	1025+88	LT										1182								
294	CH2	OLD STATE RD	1014+06	1020+30	LT										624								
294	CH3	OLD STATE RD	1022+75	1024+30	LT										155								
294	CH4	OLD STATE RD	1025+20	1027+00	RT										180								
294	CLP1	OLD STATE RD	1021+50	1022+25	RT			0.01															
294	CLP2	OLD STATE RD	1022+25	1022+76	RT					0.01													
294	CW1	POLARIS PKWY	100+37		LT									170									
294	CW2	POLARIS PKWY	101+82		RT									204									
294	CW3	OLD STATE RD	1013+95		RT									164									
294	CW4	OLD STATE RD	1012+06		LT									164									
294	EY1	OLD STATE RD	1014+06	1021+00	LT					0.13													
294	EY2	OLD STATE RD	1014+06	1020+89	RT					0.13													
294	EY3	OLD STATE RD	1022+25	1027+02	LT		0.09																
294	EY4	OLD STATE RD	1022+25	1027+02	RT		0.09																
TOTALS CARRIED TO GENERAL SUMMARY							0.44	0.01		0.46	0.06	0.14		702	4330	306	82	27	5	15			

CALCULATED BAD
CHECKED RAM

PAVEMENT MARKING SUBSUMMARY

DEL-CR10-0.90

2952-DR.E

283
437

1.3247E+12	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 EDGE LINE (WHITE) MILE	644 EDGE LINE (YELLOW) MILE	644 CENTERLINE MILE	644 STOP LINE FT	644 LANE LINE MILE	644 SOLID DOUBLE CENTER LINE MILE	644 CENTERLINE PASSING PROHIBITED MILE	644 CROSS WALK LINE FT	644 CHANNELIZING LINE FT	644 TRANSVERSE LINE (WHITE) FT	644 TRANSVERSE LINE (YELLOW) FT	644 LANE ARROW EACH	644 WORD ON PAVEMENT EACH	644 ISLAND MARKING SQ FT	644 DOTTED LINE FT			
294	EY5	OLD STATE RD	1027+16	1030+00	LT		0.05																
294	EY6	OLD STATE RD	1027+00	1030+00	RT		0.06																
294	LL1	OLD STATE RD	1014+06	1030+05	LT					0.30													
294	LL2	OLD STATE RD	1014+06	1030+05	RT					0.30													
294	SL1	POLARIS PKWY	100+25		LT				48														
294	SL2	POLARIS PKWY	101+95		RT				35														
294	YIM1	OLD STATE RD	1014+06		RT															15			
294	SL3	OLD STATE RD	1014+06		LT				48														
294	SL4	OLD STATE RD	1011+95		RT				50														
294	W1	OLD STATE RD	1015+04		LT													2					
294	W2	OLD STATE RD	1022+90		LT													1					
296	A1	OLD STATE RD	1031+54		RT												1						
296	A3	OLD STATE RD	1033+35		LT												1						
296	A4	OLD STATE RD	1034+10		LT												1						
296	A5	OLD STATE RD	1037+00		℄												1						
296	A6	OLD STATE RD	1039+34		LT												1						
296	A7	OLD STATE RD	1041+10		LT												1						
296	A8	OLD STATE RD	1028+58		RT												1						
296	A9	OLD STATE RD	1028+82		RT												1						
296	CLD1	POWELL RD	314+00	314+22	LT						0.01												
296	CLD2	POWELL RD	316+31	316+58	LT																		
296	CH1	OLD STATE RD	1031+24	1034+40	LT									316									
296	CH2	OLD STATE RD	1031+24	1033+02	RT									178									
296	CH3	OLD STATE RD	1033+02	1037+30										428									
296	CH4	OLD STATE RD	1034+10	1037+30										320									
296	CH5	OLD STATE RD	1039+04	1044+60	LT									556									
296	CH6	OLD STATE RD	1039+04	1046+15	LT									711									
296	CH7	POWELL RD	314+00	314+22										22									
296	CH8	POWELL RD	314+00	314+22										22									
296	CH9	POWELL RD	316+31	316+58										27									
296	CH10	POWELL RD	316+31	316+58										27									
296	CW1	OLD STATE RD			LT								122										
296	CW2	OLD STATE RD	1038+74		LT								206										
296	CW3	OLD STATE RD			RT								133										
296	CW4	OLD STATE RD	1037+46		RT								202										
296	EW1	OLD STATE RD	1028+50	1044+50	LT	0.30						0.30											
296	EY3	OLD STATE RD	1031+24	1037+30	LT		0.11																
296	EY4	OLD STATE RD	1031+24	1037+30	RT		0.11																
296	EY5	OLD STATE RD	1039+04	1042+10	LT		0.06																
296	EY6	OLD STATE RD	1039+04	1046+90	RT		0.15																
296	EY7	OLD STATE RD	1042+10	1046+85	LT		0.09																
296	EY8	OLD STATE RD	1044+10	1045+53	LT		0.03																
296	LL3	OLD STATE RD	1031+24	1037+30	LT					0.11													
296	LL4	OLD STATE RD	1031+24	1037+30	RT					0.11													
296	LL5	OLD STATE RD	1039+04	1046+85	LT					0.15													
296	LL6	OLD STATE RD	1039+04	1047+14	RT					0.15													
296	SL1	POWELL RD	314+22		LT				39														
296	SL2	OLD STATE RD	1039+02		LT				54														
296	SL3	POWELL RD	316+30		RT				43														
296	SL4	OLD STATE RD	1037+30		RT				54														
296	TLW1	OLD STATE RD	1031+24	1033+02	LT										120								
296	TLW2	OLD STATE RD	1034+10	1037+30	RT										306								
296	TLW3	OLD STATE RD	1039+04	1044+60	LT										608								
296	TLY4	OLD STATE RD	1043+50	1045+53	LT											138							
296	WD1	OLD STATE RD	1031+00	103270	RT																170		
296	W1	OLD STATE RD	1032+41		RT													1					
296	W2	OLD STATE RD	1036+12		RT													1					
296	W3	OLD STATE RD	1040+22		LT													1					
TOTALS CARRIED TO GENERAL SUMMARY						0.30	0.66		371	1.12	0.01	0.30	663	2607	1034	138	8	6	15	170			

CALCULATED BAD
CHECKED RAM

PAVEMENT MARKING SUBSUMMARY

DEL-CR10-0.90

2952-DR.E

284
437

PAVEMENT MARKING SUBSUMMARY

DEL-CR10-0.90

2952-DR.E

285
437

CALCULATED BAD
CHECKED RAM

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 EDGE LINE (WHITE) MILE	644 EDGE LINE (YELLOW) MILE	644 CENTERLINE MILE	644 STOP LINE FT	644 LANE LINE MILE	644 SOLID DOUBLE CENTER LINE MILE	644 CENTERLINE LINE PASSING PROHIBITED MILE	644 DOTTED LINE FT	644 CROSS WALK LINE FT	644 CHANNELIZING LINE FT	644 TRANSVERSE LINE (WHITE) FT	644 TRANSVERSE LINE (YELLOW) FT	644 LANE ARROW EACH	644 WORD ON PAVEMENT EACH	644 ISLAND MARKING SQ FT			
296	YIM1	OLD STATE RD	1037+30		LT															15			
296	YIM2	OLD STATE RD	1039+04		RT															15			
297	A1	OLD STATE RD	1045+85		LT													1					
297	A2	OLD STATE RD	1048+30		LT													1					
297	A3	OLD STATE RD	1050+05		LT													1					
297	A4	OLD STATE RD	1051+75															1					
297	A5	OLD STATE RD	1053+20		RT													1					
297	A6	OLD STATE RD	1059+00		CL													2					
297	CH1	OLD STATE RD	1048+00	1050+29	LT										229								
297	CH2	OLD STATE RD	1048+00	1050+29	LT										229								
297	CH3	OLD STATE RD	1051+45	1053+50	RT						0.04												
297	CLD1	OLD STATE RD	1048+00	1053+50	LT						0.10												
297	CLD2	OLD STATE RD	1050+75	1051+25	RT						0.01												
297	CLP1	OLD STATE RD	1054+40	1064+35	LT							0.19											
297	CLP2	OLD STATE RD	1054+40	1064+35	RT							0.19											
297	LL1	OLD STATE RD	1048+00	1053+50	LT					0.10													
297	LL2	OLD STATE RD	1048+00	1053+35	RT					0.10													
297	LL3	OLD STATE RD	1054+40	1064+35	LT					0.19													
297	LL4	OLD STATE RD	1054+40	1064+35	RT					0.19													
297	TLY1	OLD STATE RD	1048+00	1050+29	LT												230						
297	TLY2	OLD STATE RD	1049+10	1053+50	LT												191						
297	W1	OLD STATE RD	1049+18		LT														1				
297	W2	OLD STATE RD	1052+38		RT														1				
297	YIM1	OLD STATE RD	1054+40		CL															67			
298	A1	OLD STATE RD	1063+20		CL													2					
298	A2	OLD STATE RD	1065+15		CL													1					
298	A3	OLD STATE RD	1067+13		CL													2					
298	A4	OLD STATE RD	1069+10		CL													1					
298	A5	OLD STATE RD	1071+79		CL													2					
298	A6	OLD STATE RD	1074+65		CL													2					
298	CH1	OLD STATE RD	1064+85	1065+65	LT										80								
298	CLD1	OLD STATE RD	1065+88	1066+35	LT						0.01												
298	CLD2	OLD STATE RD	1067+90	1068+40	LT						0.01												
298	CLD3	OLD STATE RD	1065+85	1066+35	RT						0.01												
298	CLD4	OLD STATE RD	1067+90	1069+40	RT						0.03												
298	CLP1	OLD STATE RD	1066+35	1066+35	LT							0.00											
298	CLP2	OLD STATE RD	1066+35	1067+90	RT							0.03											
298	CLP3	OLD STATE RD	1070+00	1081+39	LT							0.22											
298	CLP4	OLD STATE RD	1070+00	1080+89	RT							0.21											
298	LL1	OLD STATE RD	1064+85	1069+40	LT					0.09													
298	LL2	OLD STATE RD	1064+85	1069+40	RT					0.09													
298	LL3	OLD STATE RD	1070+00	1082+10	LT					0.23													
298	LL4	OLD STATE RD	1070+00	1082+10	RT					0.23													
298	TLY1	OLD STATE RD	1065+85	1066+85	LT												34						
298	TLY2	OLD STATE RD	1067+90	1068+40	RT												34						
298	YIM1	OLD STATE RD	1064+35		CL															67			
298	YIM2	OLD STATE RD	1070+00		CL															67			
299	A1	OLD STATE RD	1079+29		RT													2					
299	A2	OLD STATE RD	1082+08		RT													1					
299	A3	OLD STATE RD	1083+90		LT													1					
299	A4	OLD STATE RD	1086+26		LT													2					
299	A5	OLD STATE RD	1088+75		RT													2					
299	A6	OLD STATE RD	1091+45		LT													2					
299	CH1	OLD STATE RD	1081+59	1082+39	RT										80								
299	CH2	OLD STATE RD	1083+60	1084+40	LT										80								
299	CLD1	OLD STATE RD	1081+10	1082+39	LT						0.02												
299	CLD2	OLD STATE RD	1084+60	1085+10	RT						0.01												
TOTALS CARRIED TO GENERAL SUMMARY										1.22	0.24	0.84			698		489	27	2	231			

SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 EDGE LINE (WHITE) MILE	644 EDGE LINE (YELLOW) MILE	644 CENTERLINE MILE	644 STOP LINE FT	644 LANE LINE MILE	644 SOLID DOUBLE CENTER LINE MILE	644 CENTERLINE LINE PASSING PROHIBITED MILE	644 DOTTED LINE FT	644 CROSS WALK LINE FT	644 CHANNELIZING LINE FT	644 TRANSVERSE LINE (WHITE) FT	644 TRANSVERSE LINE (YELLOW) FT	644 LANE ARROW EACH	644 WORD ON PAVEMENT EACH	644 ISLAND MARKING SQ FT			
299	CLP1	OLD STATE RD	1085+10	1093+00	RT							0.15											
299	CLP2	OLD STATE RD	1084+60	1093+00	LT							0.16											
299	CW1	OLD STATE RD			LT									71									
299	CW2	OLD STATE RD	1083+50		LT									124									
299	CW3	OLD STATE RD			RT									102									
299	CW4	OLD STATE RD	1082+51		LT									124									
299	LL1	OLD STATE RD	1083+60	1099+24	LT					0.30													
299	LL2	OLD STATE RD	1083+60	1099+16	RT					0.29													
299	SL1	OLD STATE RD			LT				22														
299	SL2	OLD STATE RD	1083+60		LT				34														
299	SL3	OLD STATE RD			RT				32														
299	SL4	OLD STATE RD	1082+39		RT				36														
300	A1	OLD STATE RD	1094+00		RT													1					
300	A3	OLD STATE RD	1097+10		RT													1					
300	A4	OLD STATE RD			RT													1					
300	A5	OLD STATE RD	1097+10		RT													1					
300	A6	OLD STATE RD	1098+86		RT													1					
300	A7	OLD STATE RD	1100+70		LT													1					
300	A8	OLD STATE RD	1102+46		LT													1					
300	A9	OLD STATE RD	1105+40		LT													1					
300	A10	OLD STATE RD	1108+00	1108+11	RT													2					
300	A11	OLD STATE RD	1105+20		RT													1					
300	A12	OLD STATE RD	1103+20		RT													1					
300	CH1	OLD STATE RD	1093+70	1099+16	RT										546								
300	CH2	OLD STATE RD	1096+75	1099+16	RT										241								
300	CH3	OLD STATE RD	1100+40	1105+90	LT										550								
300	CH4	OLD STATE RD	1104+00	1110+50	LT										650								
300	CLD1	OLD STATE RD	1093+00	1093+50	LT						0.01												
300	CLD2	OLD STATE RD	1093+00	1099+16	LT						0.12												
300	CLD3	OLD STATE RD	1100+40	1106+40	RT						0.11												
300	CLD4	OLD STATE RD	1105+90	1106+40							0.01												
300	CLP1	OLD STATE RD	1106+40	1110+40	LT																		
300	CLP2	OLD STATE RD	1106+40	1110+40	RT																		
300	CW1	OLD STATE RD	1099+28		RT									150									
300	CW2	OLD STATE RD	921+20		RT									105									
300	LL1	OLD STATE RD	1100+40	1104+00	LT					0.07													
300	SL1	OLD STATE RD	1099+16		RT				48														
300	SL2	ORANGE RD	919+64		LT				38														
300	SL3	OLD STATE RD	1100+40		LT				31														
300	SL4	ORANGE RD	921+31		RT				35														
300	TLW1	OLD STATE RD	1106+40	1110+19	RT											212							
300	W1	OLD STATE RD	1097+98		RT														1				
300	W2	OLD STATE RD	1097+98		RT														1				
300	W3	OLD STATE RD	1001+58		LT														1				
301	A1	OLD STATE RD	1009+45	1009+56	RT													2					
301	A2	OLD STATE RD	1111+40		LT													1					
301	A3	E. ORANGE RD	921+41		LT													1					
301	A4	E. ORANGE RD	921+41		LT													1					
301	CH1	OLD STATE RD	1111+00	1111+80	LT										80								
301	CH2	E. ORANGE RD	921+31	922+45	LT										114								
301	CH3	E. ORANGE RD	921+31	922+45	LT										114								
301	CLD1	OLD STATE RD	1112+00	1115+00	LT																		
301	CLD2	OLD STATE RD	1112+00	1115+00	RT																		
301	CLD3	E. ORANGE RD	921+31	924+38	LT						0.06												
301	CLD4	E. ORANGE RD	922+65	924+38	RT						0.03												
301	CLD5	ABBEY KNOLL DR	950+50	950+82	CL						0.01												
301	CW1	E. ORANGE RD	1099+27		RT									154									
301	SL1	E. ORANGE RD	1099+16		RT				16														
TOTALS CARRIED TO GENERAL SUMMARY									292	0.66	0.35	0.31		830	2295	212		17	3				

CALCULATED BAD
CHECKED RAM

PAVEMENT MARKING SUBSUMMARY

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SHEET NO.	REFERENCE NO.	LOCATION	STATION FROM	STATION TO	SIDE	644 EDGE LINE (WHITE)	644 EDGE LINE (YELLOW)	644 CENTERLINE	644 STOP LINE	644 LANE LINE	644 SOLID DOUBLE CENTER LINE	644 CENTERLINE LINE PASSING PROHIBITED	644 DOTTED LINE	644 CROSS WALK LINE	644 CHANNELIZING LINE	644 TRANSVERSE LINE (WHITE)	644 TRANSVERSE LINE (YELLOW)	644 LANE ARROW	644 WORD ON PAVEMENT	644 ISLAND MARKING			
						MILE	MILE	MILE	FT	MILE	MILE	MILE	FT	FT	FT	FT	FT	EACH	EACH	SQ FT			
301	TLW1	OLD STATE RD	1108+50	1110+19	RT											103							
301	TLY1	OLD STATE RD	1112+00	1115+00	RT												165						
301	TLY2	E. ORANGE RD	922+65	924+38	LT												70						
301	YIM1	OLD STATE RD	1110+40		RT															67.00			
302	A1	POLARIS PKWY	60+19		LT													1					
302	A2	POLARIS PKWY	61+52		LT													1					
302	A3	POLARIS PKWY	60+19		LT													2					
302	A4	POLARIS PKWY	61+53		LT													2					
302	A5	POLARIS PKWY	63+31		LT													1					
302	A6	POLARIS PKWY	65+10		LT													1					
302	A7	POLARIS PKWY	65+10		LT													1					
302	A8	POLARIS PKWY	68+67		LT													1					
302	CH1	POLARIS PKWY	59+89	68+90	LT										901								
302	CH2	POLARIS PKWY	59+89	65+33	LT										544								
302	ELW1	POLARIS PKWY	59+89	69+60	LT	0.18																	
302	ELY1	POLARIS PKWY	59+89	69+60	LT		0.18																
302	LL1	POLARIS PKWY	59+89	69+60	LT					0.18													
TOTALS CARRIED TO GENERAL SUMMARY						0.18	0.18			0.18					1445	103	235	10		67			

CALCULATED BAD
CHECKED RAM

PAVEMENT MARKING SUBSUMMARY

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIGN CODE	SIDE	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 STREET NAME SIGN SUPPORT, NO. 4 POST FT	630 SPAN WIRE SIGN SUPPORT TYPE TC-17.10, DESIGN 4 EACH	630 SPAN WIRE SIGN SUPPORT ASSEMBLY, TC-17.10, DESIGN 6 EACH	630 SIGN, FLAT SHEET SQ FT	630 SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	630 SPAN WIRE SIGN SUPPORT FOUNDATION EACH	630 GROUND MOUNTED BEAM SUPPORT FOUNDATION EACH	630 BREAKAWAY BEAM CONNECTION EACH	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4x7.7 FT	630 STREET NAME SIGN (COLUMBUS SS-1100) SQ FT			
293	S1	OLD STATE RD	1002+59	I-H2F-48	LT			13 / 13				8.00									
293	S2	OLD STATE RD	1004+45	SNS	RT				18			10.00									
293	S3	OLD STATE RD	1005+40	R4-7-24	LT			14				7.25									
293	S4	OLD STATE RD	1006+35	D3-4	LT								27.00		2	2	29				
293	S5	OLD STATE RD	1007+35	R6-2R-24	RT			14				5.00									
293	S6	OLD STATE RD	1009+00	R6-2R-24	RT			14				5.00									
293	S7	OLD STATE RD	1005+40	OM1-3-18	LT																
293	S9	OLD STATE RD	1007+75	R3-5L-30	LT					1		7.50		2							
293	S10	OLD STATE RD	1007+75	R3-5L-30	LT							7.50									
293	S11	OLD STATE RD	1009+00	R6-2R-24	LT			14				5.00									
293	S12	OLD STATE RD	1010+00	R2-1-30	RT			14				7.50									
293	S13	OLD STATE RD	1011+00	R3-7R-30 / R3-7R-30	RT			14				10.00									
293	S14	OLD STATE RD	1010+40	R2-1-30	LT			14				7.50									
293	S15	OLD STATE RD	1004+50	R1-1-36	RT			14				9.00									
293	R1	OLD STATE RD	1002+48		LT	1	1														
293	R2	OLD STATE RD	1004+30		LT	1	1														
293	R3	OLD STATE RD	1004+35		RT	1	1														
293	R4	WYNSTONE	1004+86		RT	1	1														
293	R5	OLD STATE RD	1006+07		RT	1	1														
293	R6	OLD STATE RD	1006+36		LT	1	1														
293	R7	OLD STATE RD	1007+06		LT	1	1														
293	R8	OLD STATE RD	1008+14		RT	1	1														
293	R9	OLD STATE RD	1009+78		RT	1	1														
293	R10	OLD STATE RD	1010+37		RT	1	1														
293	R11	OLD STATE RD	1010+38		LT	1	1														
293	R12	OLD STATE RD	1010+92		RT	1	1														
293	R13	OLD STATE RD	1002+56		LT	1	2														
295	S1	OLD STATE RD	1012+00	R4-7B-24	RT			14				5.00									
295	S2	OLD STATE RD	1012+00	OM1-3-18	RT							2.25									
295	S3	OLD STATE RD	99+50	M1-5-30	RT			14				5.00									
295	S4	OLD STATE RD	1014+15	OM1-3-18	LT							2.25									
295	S5	OLD STATE RD	1014+15	R4-7B-24	LT			14				5.00									
295	S6	OLD STATE RD	1015+40	R6-2R-24	RT			14				5.00									
295	S7	OLD STATE RD	1015+42	I-H2A-48	RT			14 / 14				8.00									
295	S9	OLD STATE RD	1017+85	R6-2R-24	RT			14				5.00									
295	S11	OLD STATE RD	1020+86	SNS	LT				20			20.00									
295	S12	OLD STATE RD	1020+86	SNS	LT							20.00									
295	S14	OLD STATE RD	1021+67	D-3	LT			14 / 14				18.00									
295	S16	CANDLELITE	1021+57	R1-1-36	LT			14				9.00									
295	S17	OLD STATE RD	1022+58	RR-76-24/R5-1-30	LT			14				11.25									
295	S18	OLD STATE RD	1023+75	M2-H10-60	RT						1	15.00		2							
295	S19	OLD STATE RD	1023+75	M2-H10-60	RT							15.00									
295	S20	OLD STATE RD	1025+25	R6-2R-24	RT			14				5.00									
295	S21	OLD STATE RD	1025+36	SPECIAL 30"x48"	LT			14 / 14				10.00									
295	S22	OLD STATE RD	1027+25	R5-2A-24	RT			14 / 14				5.00									
295	S23	OLD STATE RD	1027+25	R3-H48-24	LT							5.00									
295	S24	OLD STATE RD	1027+25	R3-2-24	LT							5.00									
295	S26	OLD STATE RD	1018+50	R3-5L-30	RT					1		7.50		2							
295	S27	OLD STATE RD	1018+50	R3-5L-37	RT							7.50									
295	S28	OLD STATE RD	1022+42	OM1-3-8	LT			9				2.25									
295	S29	OLD STATE RD	1026+50	R3-H8CA-48	LT			14 / 14				10.00									
295	S30	OLD STATE RD	1026+75	R4-7B-24	RT			14				5.00									
295	S31	OLD STATE RD	1026+75	OM1-3-8	RT							2.25									
295	S32	OLD STATE RD	1028+00	R3-H8CB-48	RT			14 / 14				10.00									
295	S33	CANDLELITE	1021+25	CM-R8-2R	RT			14				5.00									
295	S34	STRAIN POLE "B"	1012+17	COLUMBUS SSN	LT													4.5			
295	S35	STRAIN POLE "C"	1013+68	COLUMBUS SSN	LT													4.5			
295	S36	STRAIN POLE "D"	1013+73	COLUMBUS SSN	RT													4.5			
295	S37	STRAIN POLE "A"	1012+34	COLUMBUS SSN	RT													4.5			
TOTALS CARRIED TO GENERAL SUMMARY						13	14	443	38	2	1	315	27	6	2	2	29	18.0			

CALCULATED BAD
CHECKED RAM

SIGNING SUBSUMMARY

DEL-CR10-0.90

2952-DR.E

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIGN CODE	SIDE	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 STREET NAME SIGN SUPPORT, NO. 4 POST	630 SPAN WIRE SIGN SUPPORT TYPE TC-17.10, DESIGN 4	630 SPAN WIRE SIGN SUPPORT TYPE TC-17.10, DESIGN 6	630 SIGN, FLAT SHEET	630 SIGN, GROUND MOUNTED EXTRUSHEET	630 SPAN WIRE SIGN SUPPORT FOUNDATION	630 GROUND MOUNTED BEAM SUPPORT FOUNDATION	630 BREAKAWAY BEAM CONNECTION	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT, S4x7.7	630 SIGNING, MISC.: POLE MOUNTED STREET NAME SIGN (DELAWARE CO.)			
						EACH	EACH	FT	FT	EACH	EACH	SQ FT	SQ FT	EACH	EACH	EACH	FT	EACH			
295	R1	OLD STATE RD	1013+50		RT	1	1														
295	R2	OLD STATE RD	1013+67		LT	1	1														
295	R3	OLD STATE RD	1015+50		RT	1	1														
295	R4	OLD STATE RD	1016+74		RT	1	2														
295	R5	OLD STATE RD	1017+86		LT	1	1														
295	R6	OLD STATE RD	1018+00		RT	1	1														
295	R7	OLD STATE RD	1020+81		RT	1	1														
295	R8	OLD STATE RD	1021+63		LT	1	1														
295	R9	OLD STATE RD	1021+42		RT	1	1														
295	R10	OLD STATE RD	1023+00		RT	1	1														
295	R11	OLD STATE RD	1023+00		LT	1	1														
295	R12	OLD STATE RD	1023+25		RT	1	1														
295	R13	OLD STATE RD	1027+88		RT	1	1														
296	S1	OLD STATE RD	1029+00	D-3-2	RT								21		2	2	29				
296	S2	OLD STATE RD	1029+94	R4-7B-24	LT			14				5.00									
296	S3	OLD STATE RD	1029+94	OMI-3-18	LT							2.25									
296	S4	OLD STATE RD	1031+23	OMI-3-18	LT			14				2.25									
296	S5	OLD STATE RD	1031+23	R4-7B-24	LT							5.00									
296	S6	OLD STATE RD	1032+25	R3-H8CG-48	RT			14 /14				10.00									
296	S7	OLD STATE RD	1034+25	R3-H8CA-48	LT			14 / 14				10.00									
296	S8	OLD STATE RD	1036+00	R2-1-24	LT			14				5.00									
296	S9	OLD STATE RD	1037+11	R4-7B-24	RT			14				5.00									
296	S10	OLD STATE RD	1037+11	OMI-3-18	RT							2.25									
296	S11	OLD STATE RD	1038+28	R2-1-24	RT			14				5.00									
296	S12	OLD STATE RD	1039+10	OMI-3-18	RT							2.25									
296	S13	OLD STATE RD	1039+10	R4-7B-24	RT			14				5.00									
296	S14	OLD STATE RD	1040+00	R2-1-24	RT			14				5.00									
296	S15	OLD STATE RD	POLE "C"	DELCO SNS	LT													1			
296	S16	OLD STATE RD	POLE "E"	DELCO SNS	LT													1			
296	S17	OLD STATE RD	POLE "G"	DELCO SNS	RT													1			
296	S18	OLD STATE RD	POLE "A"	DELCO SNS	RT													1			
296	R1	OLD STATE RD	1033+00		RT	1	1														
296	R2	OLD STATE RD	1033+72		LT	1	1														
296	R3	OLD STATE RD	1034+92		RT	1	1														
296	R4	OLD STATE RD	1035+16		LT	1	1														
296	R5	OLD STATE RD	1036+07		LT	1	1														
296	R6	OLD STATE RD	1038+23		RT	1	1														
296	R7	OLD STATE RD	1040+13		RT	1	1														
296	R8	OLD STATE RD	1043+72		RT	1	1														
297	S1	OLD STATE RD	1046+30	R3-H8CG-48	LT			14 / 14				10.00									
297	S2	OLD STATE RD	1048+80	W16-8P-48	RT							2.70									
297	S3	OLD STATE RD	1047+83	SNS	RT				18			10.00									
297	S4	OLD STATE RD	1047+83	SNS	RT							10.00									
297	S5	OLD STATE RD	1047+83	R1-1-36	LT							9.00									
297	S6	OLD STATE RD	1051+00	R3-H8CG-48	RT			14 / 14				10.00									
297	S7	OLD STATE RD	1050+00	R2-1-24	RT			14				5.00									
297	S8	OLD STATE RD	1052+00	R3-H8chh-54	LT			14 / 14				11.25									
297	S9	OLD STATE RD	1053+56	SNS	RT				18			10.00									
297	S10	OLD STATE RD	1053+56	SNS	RT							10.00									
297	S11	OLD STATE RD	1053+56	R1-1-36	RT			14				9.00									
297	S12	OLD STATE RD	1054+70	R3-9B-24	LT			14				6.00									
297	S13	OLD STATE RD	1048+80	W2-1-36	RT				15			9.00									
297	S14	OLD STATE RD	1052+60	W2-2L-36	LT				15			9.00									
297	S15	OLD STATE RD	1052+60	W16-8HP-48	LT							2.67									
297	S16	OLD STATE RD	1058+25	W2-1-36	LT				15			9.00									
297	S17	OLD STATE RD	1058+25	W16-8HP-48	LT							2.67									
297	R1	OLD STATE RD	1044+50		RT	1	1														
TOTALS CARRIED TO GENERAL SUMMARY						22	23	140	81			199.29	21.00		2	2	29	4			

CALCULATED BAD
CHECKED RAM

SIGNING SUBSUMMARY

DEL-CR10-0.90

2952-DR.E

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIGN CODE	SIDE	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL EACH	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL EACH	630 GROUND MOUNTED SUPPORT, NO. 3 POST FT	630 STREET NAME SIGN SUPPORT, NO. 4 POST FT	630 SPAN WIRE SIGN SUPPORT TYPE TC-17.10, DESIGN 4 EACH	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED EACH	630 SIGN, FLAT SHEET SQ FT	630 SIGN, GROUND MOUNTED EXTRUSHEET SQ FT	630 SPAN WIRE SIGN SUPPORT FOUNDATION EACH	630 GROUND MOUNTED BEAM SUPPORT FOUNDATION EACH	630 BREAKAWAY BEAM CONNECTION EACH	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT FT	630 GROUND MOUNTED SUPPORT, NO. 4 POST, TYPE S FT	630 SIGNING, MISC.: POLE MOUNTED STREET NAME SIGN (DELAWARE CO.) EACH		
297	R2	OLD STATE RD	1046+53		LT	1	1														
297	R3	OLD STATE RD	1047+19		LT	1	1														
297	R4	OLD STATE RD	1047+35		LT	1	1														
297	R5	OLD STATE RD	1047+43		RT	1	1														
297	R6	OLD STATE RD	1049+97		RT	1	1														
297	R7	OLD STATE RD	1050+42		RT	1	1														
297	R8	OLD STATE RD	1053+46		LT	1	1														
297	R9	OLD STATE RD	1053+60		RT	1	1														
297	R10	OLD STATE RD	1053+57		RT	1	1														
298	S1	OLD STATE RD	1064+90	R3-9B-24	LT			14				6.00									
298	S2	OLD STATE RD	1064+89	R1-1-36	RT			14				9.00									
298	S3	OLD STATE RD	1064+94	SNS	RT				18			10.00									
298	S4	OLD STATE RD	1064+94	SNS	RT							10.00									
298	S5	OLD STATE RD	1060+75	W16-8HP-48	LT							2.67									
298	S6	OLD STATE RD	1067+00	R2-1-24	RT			14				5.00									
298	S7	OLD STATE RD	1060+95	W2-2R-36	RT							9.00							15		
298	S8	OLD STATE RD	1069+49	R1-1-36	LT			14				9.00									
298	S9	OLD STATE RD	1069+49	SNS	LT				18			10.00									
298	S10	OLD STATE RD	1069+49	SNS	LT							10.00									
298	S11	OLD STATE RD	1070+50	R3-9B-24	RT			14				6.00									
298	S12	OLD STATE RD	1065+50	W16-8HP-48	RT							2.67									
298	S13	OLD STATE RD	1065+50	W2-2L-36	RT				15			9.00									
298	S14	OLD STATE RD	1068+60	W2-2L-36	LT							2.67									
298	S15	OLD STATE RD	1068+60	W16-8HP-48	LT				15			9.00									
298	S16	OLD STATE RD	1074+00	W2-2R-36	LT				15			9.00									
298	S17	OLD STATE RD	1074+00	W16-8HP-48	LT							2.67									
298	R1	OLD STATE RD	1063+25		RT	1	1														
298	R2	OLD STATE RD	1064+88		RT	1	1														
298	R3	OLD STATE RD	1065+66		LT	1	1														
298	R4	OLD STATE RD	1066+90		RT	1	1														
298	R5	OLD STATE RD	1067+95		LT	1	1														
298	R6	OLD STATE RD	1068+48		LT	1	1														
298	R7	OLD STATE RD	1069+49		RT	1	1														
298	R8	OLD STATE RD	1069+97		RT	1	1														
298	R9	OLD STATE RD	1072+45		LT	1	1														
298	R10	OLD STATE RD	1072+64		RT	1	1														
299	S2	OLD STATE RD	1079+00	R2-1-24	LT			14				5.00									
299	S3	OLD STATE RD	1080+55	R3-H8CA-48	RT			14 / 14				10.00									
299	S4	OLD STATE RD	1080+90	R3-9B-24	LT			14				6.00									
299	S6	OLD STATE RD	POLE "B"	DELCO SNS	RT															1	
299	S7	OLD STATE RD	1087+50	R3-H8CA-48	LT			28				10.00									
299	S8	OLD STATE RD	1085+50	R3-9B-24	RT			14				6.00									
299	S9	OLD STATE RD	1087+00	R2-1-24	RT			14				5.00									
299	S13	OLD STATE RD	1091+00	W11-8-36	RT							9.00							15		
299	S14	OLD STATE RD	POLE "A"	DELCO SNS	RT															1	
299	S15	OLD STATE RD	POLE "C"	DELCO SNS	LT															1	
299	S16	OLD STATE RD	POLE "D"	DELCO SNS	LT															1	
299	R1	OLD STATE RD	1077+84		RT	1	1														
299	R2	OLD STATE RD	1081+78		LT	1	1														
299	R3	OLD STATE RD	1082+72		LT	1	1														
299	R5	OLD STATE RD	1082+68		RT	1	1														
299	R6	OLD STATE RD	1082+71		RT	1	1														
299	R7	OLD STATE RD	1084+48		RT	1	1														
299	R8	OLD STATE RD	1084+52		LT	1	1														
299	R9	OLD STATE RD	1085+50		RT	1	1														
299	R10	OLD STATE RD	1087+75		LT	1	1														
299	R11	OLD STATE RD	1089+97		RT	1	1														
299	R12	OLD STATE RD	1091+59		RT	1	1														
TOTALS CARRIED TO GENERAL SUMMARY						21	21	154	81			172.68							30	4	

CALCULATED BAD
CHECKED RAM

SIGNING SUBSUMMARY

DEL-CR10-0.90

2952-DR.E

290
437

SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIGN CODE	SIDE	630 REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	630 REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	630 GROUND MOUNTED SUPPORT, NO. 3 POST	630 STREET NAME SIGN SUPPORT, NO. 4 POST	630 SPAN WIRE SIGN SUPPORT TYPE TC-17.10, DESIGN 4	630 SIGN SUPPORT ASSEMBLY, POLE MOUNTED	630 SIGN, FLAT SHEET	630 SIGN, GROUND MOUNTED EXTRUSHEET	630 SPAN WIRE SIGN SUPPORT FOUNDATION	630 GROUND MOUNTED BEAM SUPPORT FOUNDATION	630 BREAKAWAY BEAM CONNECTION	630 GROUND MOUNTED STRUCTURAL BEAM SUPPORT	630 GROUND MOUNTED SUPPORT, NO. 4 POST, TYPE S	630 SIGNING, MISC.: POLE MOUNTED STREET NAME SIGN (DELAWARE CO.)	
						EACH	EACH	FT	FT	EACH	EACH	SQ FT	SQ FT	EACH	EACH	EACH	FT	FT	EACH	
300	S1	OLD STATE RD	1093+00	R3-9Cp-24	LT			14				6.00								
300	S2	OLD STATE RD	1093+00	R3-H8CA-48	RT			14 / 14				10.00								
300	S3	OLD STATE RD	POLE "E"	DELCO SNS	LT														1	
300	S4	OLD STATE RD	1095+90	W16-H8da-54	RT			14 / 14				10.00								
300	S5	OLD STATE RD	POLE "F"	DELCO SNS	LT														1	
300	S6	OLD STATE RD	POLE "B"	DELCO SNS	RT														1	
300	S7	OLD STATE RD	POLE "A"	DELCO SNS	RT														1	
300	S8	OLD STATE RD	1106+60	R3-H8BH-36	LT			14				7.50								
300	S9	OLD STATE RD	1106+00	R3-9Cp-24	RT			14				1.00								
300	S10	OLD STATE RD	1105+50	W2-1-36	RT							9.00						15		
300	S11	OLD STATE RD	1094+00	W16-H8p-48	RT							2.67								
300	S12	OLD STATE RD	1102+00	W4-2R-36	RT				15			9.00								
300	R1	OLD STATE RD	1093+57		RT	1	1													
300	R2	OLD STATE RD	1095+90		RT	1	1													
300	R3	OLD STATE RD	1095+91		LT	1	1													
300	R4	OLD STATE RD	1099+41		LT	1	1													
300	R5	OLD STATE RD	1100+21		RT	1	1													
300	R6	OLD STATE RD	1105+51		RT	1	1													
300	R7	OLD STATE RD	1106+32		LT	1	1													
301	S1	OLD STATE RD	1109+50	W11-8-36	LT							9.00						15		
301	S2	OLD STATE RD	1110+00	R3-9cP-24 (MOD)/R3-9b-24	RT			14				7.00								
301	S3	OLD STATE RD	1110+50	R3-9cP-24/R3-9b-24	LT			14				7.00								
301	S4	OLD STATE RD	1110+93	SNS	RT				18			10.00								
301	S5	OLD STATE RD	1110+93	SNS	RT							10.00								
301	S6	OLD STATE RD	1110+93	R1-1-36	RT			14				9.00								
301	S7	OLD STATE RD	1112+25	R3-H8BA-30	LT			14				6.25								
301	S8	OLD STATE RD	924+32	R3-H8B-48	LT			14 / 14				10.00								
301	R1	OLD STATE RD	1109+00		RT	1	1													
301	R2	OLD STATE RD	1109+00		RT	1	1													
301	R3	OLD STATE RD	1109+38		RT	1	1													
301	R4	OLD STATE RD	1065+66		LT	1	1													
301	R5	OLD STATE RD	1066+90		RT	1	1													
301	R6	OLD STATE RD	1067+80		LT	1	1													
301	R7	OLD STATE RD	1067+95		LT	1	1													
302	S1	POLARIS PKWY	66+59	R3-H8CA-54	RT			14 /14				11.25								
302	S2	POLARIS PKWY	68+75	R3-H8CB-48	RT			14 / 14				10.00								
302	S3	POLARIS PKWY	70+93	D3-H1-72	RT			12 / 12				5.00								
302	R1	POLARIS PKWY	62+06		RT	1	1													
TOTALS CARRIED TO GENERAL SUMMARY						15	15	56	33			106.17						30	4	

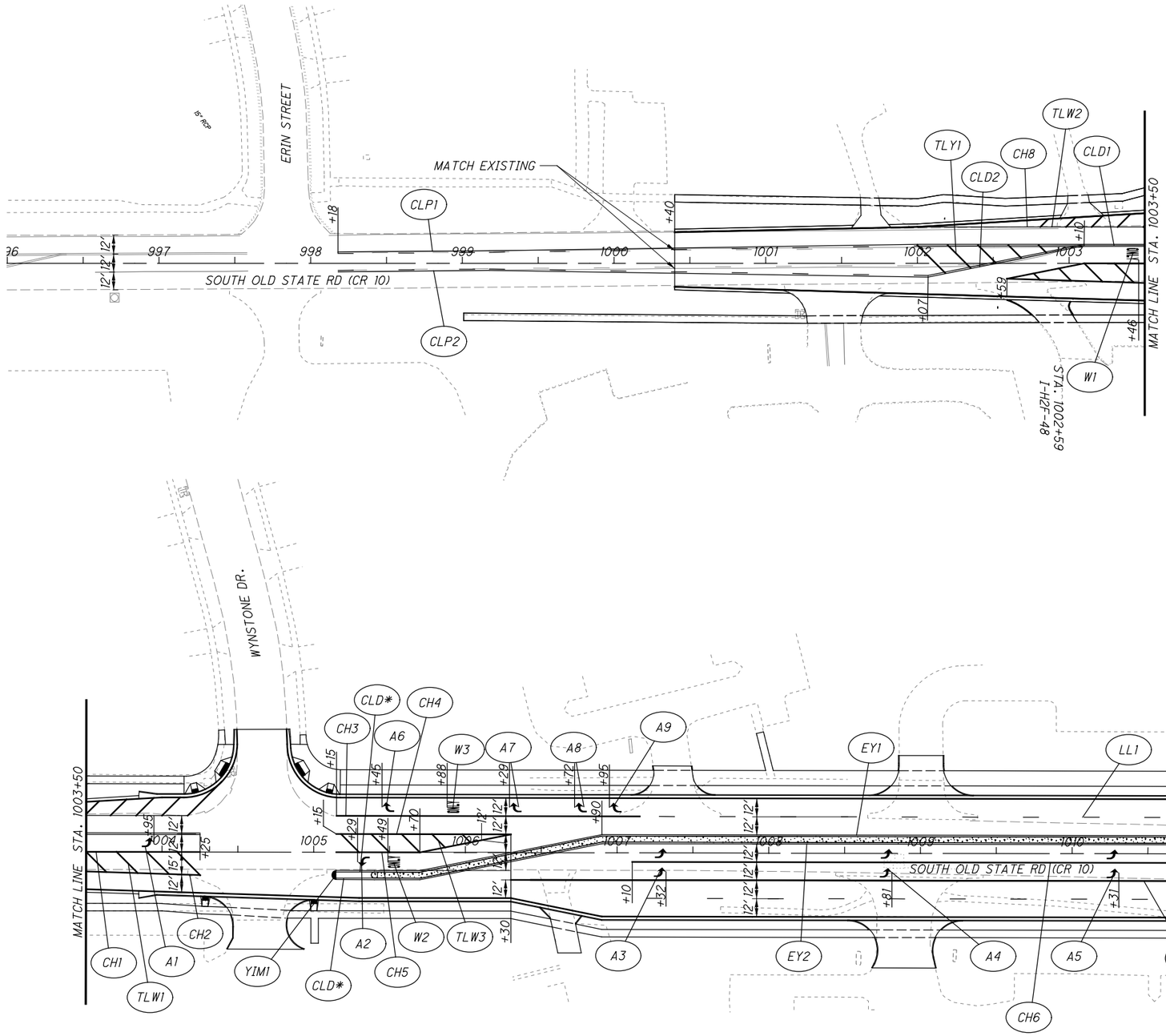
CALCULATED BAD
CHECKED RAM

SIGNING SUBSUMMARY

DEL-CR10-0.90

2952-DR.E

291
437



LEGEND

- A - LANE ARROW
- W - WORD ON PAVEMENT
- CH - CHANNELIZING LINE
- LL - LANE LINE
- EW - EDGE LINE (WHITE)
- EY - EDGE LINE (YELLOW)
- WD - DOTTED LINE
- TLW - TRANSVERSE LINE WHITE
- TLY - TRANSVERSE LINE YELLOW
- SL - STOP LINE
- CLD - SOLID DOUBLE CENTER LINE
- CLP - CENTER LINE PASSING PROHIBITED
- CW - CROSSWALK
- D - OM2-2W-2U DELINEATOR
- ( ) - INDICATES QUANTITIES CARRIED ON THE ADJACENT SHEET
- YIM - YELLOW ISLAND MARKING
- CLD* - SOLID DOUBLE CENTER LINE INCIDENTAL TO OTHER SOLID DOUBLE CENTER LINE QUANTITY

FOR PROPOSED SIGN LAYOUT,
SEE SHEET 293

HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED BAD
CHECKED RAM

PAVEMENT MARKING PLAN
STA. 1000+40 TO STA. 1011+50

DEL-CR10-0.90

2952-DR.E

292
437

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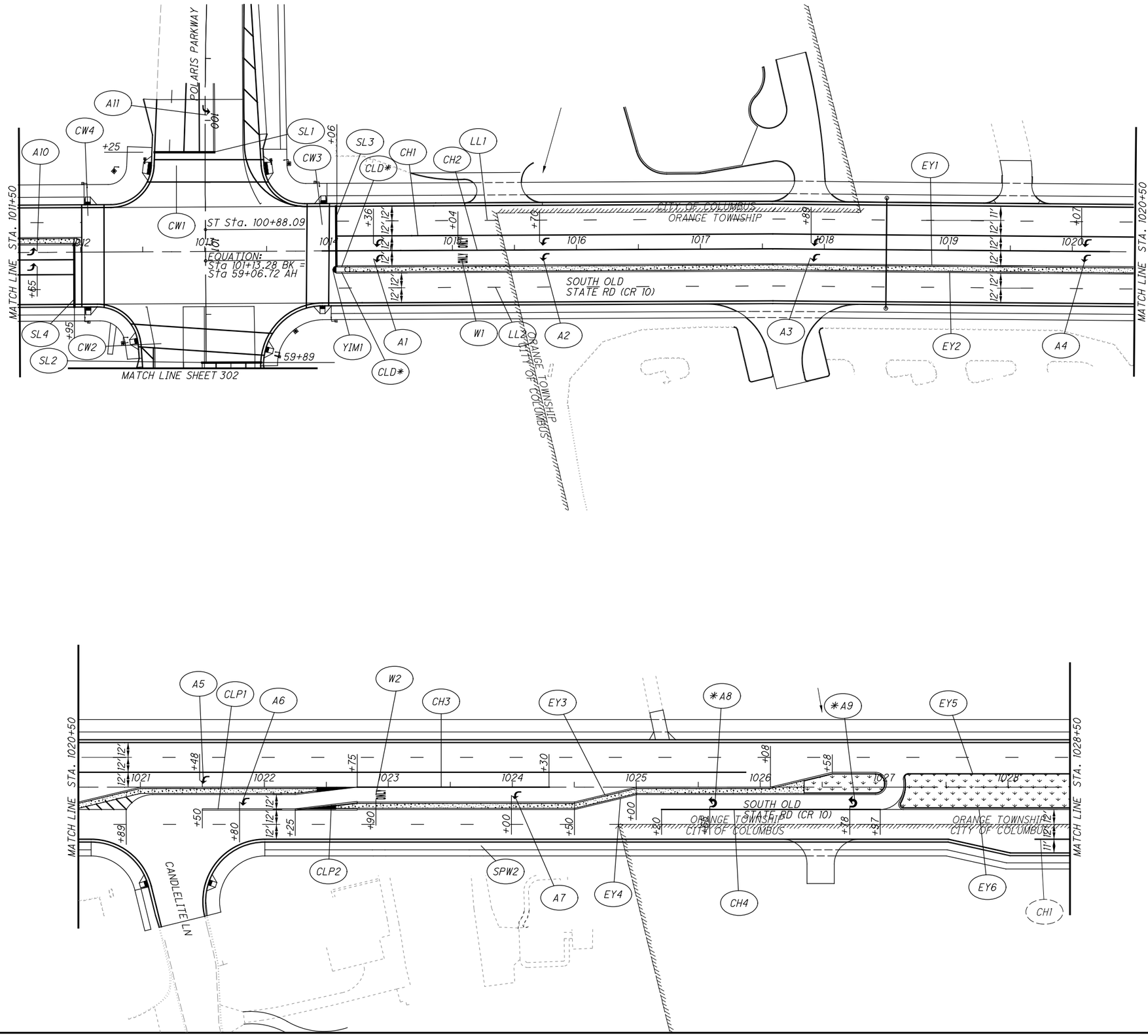
LEGEND
XXXXXXXXX
SNS
- DELAWARE CO. STREET SAME SIGN - SEE SHEET 304
- EXISTING SIGN AND POST REMOVED AND DISPOSED OF
- PROPOSED SIGN
- EXISTING SIGN
STOP
ERIN STREET
SPEED LIMIT 25
END CENTER LANE ONLY
BEGIN CENTER LANE ONLY (NO WORK)
+40
996
997
998
999
1000
1001
1002
1003
SOUTH OLD STATE RD (CR 10)
MATCH LINE STA. 1003+50
+18
BEGIN CENTER LANE ONLY
ONLY
DELAWARE COUNTY LINE
STA. 1002+59
I-H2F-48
ENTER DELAWARE CO
LEAVE FRANKLIN CO
R1
R13
S1
S12
SPEED LIMIT 45
STA. 1010+00
R2-1-30
S13
RIGHT LANE MUST TURN RIGHT
600 FT
STA. 1011+00
R3-7R-30
W16-2AP-30
STA. 1009+00
R6-2R-24
R8
ONE WAY
S6
R9
HIDDEN DRIVE
BEGIN CENTER LANE ONLY
STA. 1007+35
R6-2R-24
S5
ONE WAY
R6
BEGIN CENTER LANE ONLY
CRIME WATCH
ONLY
R5
STOP
STA. 3+70
R1-1-36
SPEED LIMIT 25
S15
R4
WYNSTONE DR.
S. OLD STATE RD
WYNGATE DR.
S2
R3
S OLD STATE RD
MATCH LINE STA. 1003+50
1004
1005
1006
1007
1008
1009
1010
1011
SOUTH OLD STATE RD (CR 10)
MATCH LINE STA. 1011+50
ONLY
R2
STA. 1005+40
R4-7-24
OM1-3-18
S3
S7
S4
Polaris Pkwy
NEXT SIGNAL
STA. 1006+35
D3-2
SIGNAL AHEAD
R7
SIGNS CENTERED OVER NORTH BOUND LANES MOUNTED ON SPAN WIRE
STA. 1007+75
ONLY
R3-5L-30
S9
ONLY
R3-5L-30
S10
ONE WAY
STA. 1009+00
R6-2R-24
S11
SPEED LIMIT 45
ONLY
R11
R10
STA. 1010+40
R2-1-30
SPEED LIMIT 45
R12
S14
FOR PROPOSED PAVEMENT MARKINGS, SEE SHEET 292
FOR LEGEND, SEE SHEET 292
HORIZONTAL SCALE IN FEET
0
20
40
80
CALCULATED BAD
CHECKED RAM
SIGN PLAN
STA. 1000+40 TO STA. 1011+50
DEL-CR10-0.90
2952-DR.E
293
437
L:\Projects\14577229\TRANS\DEL\90243\traffic\sheets\90243TP001A.dgn - 4/9/2015 1:21:29 PM - brian_wallace



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HORIZONTAL SCALE IN FEET
0 20 40 80

CALCULATED BAD
CHECKED RAM

PAVEMENT MARKING PLAN
STA. 1012+50 TO STA. 1028+50

DEL-CR10-0.90

2952-DR.E

294
437

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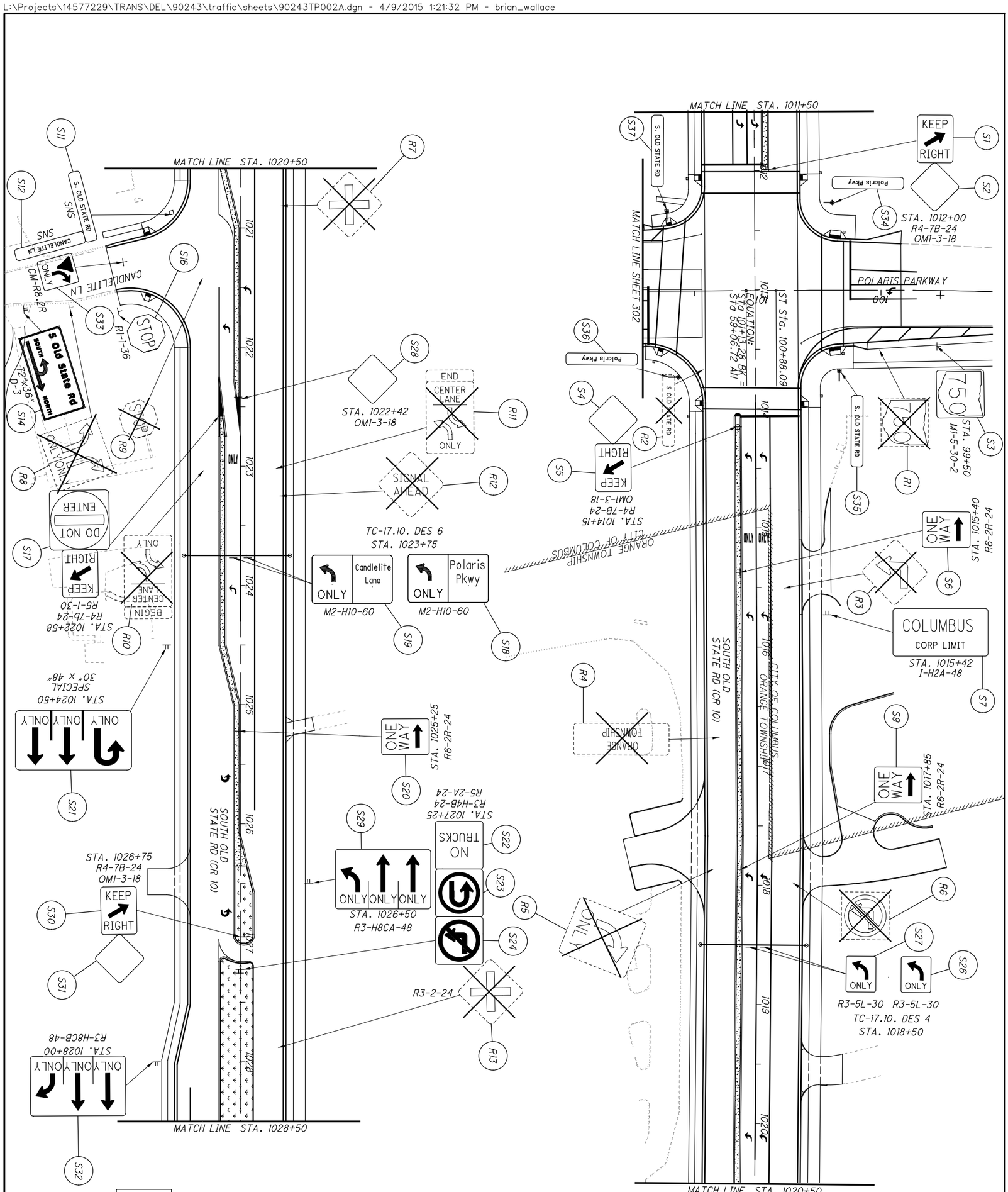

S23 S24 DUAL POST MOUNTED - DRILL THE SIGN PLATES AS NEEDED

S25 NOT USED

FOR PROPOSED PAVEMENT MARKINGS, SEE SHEET 294

FOR LEGEND, SEE SHEET 292

295 / 437	2952-DR-E	DEL-CR10-0.90	SIGN PLAN STA. 1011+50 TO STA. 1028+50	CALCULATED BAD CHECKED RAM	0 40 20 80 HORIZONTAL SCALE IN FEET

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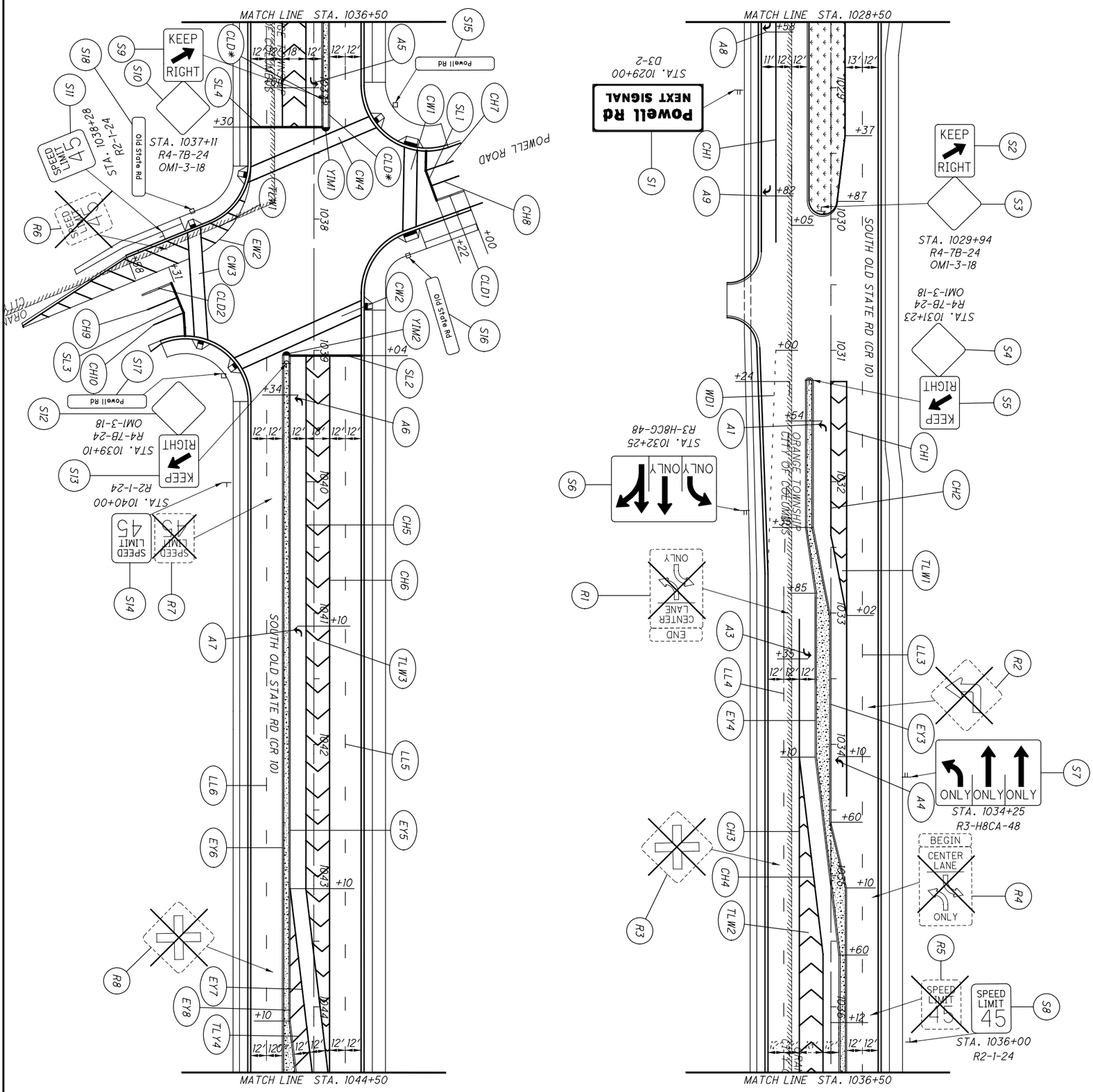
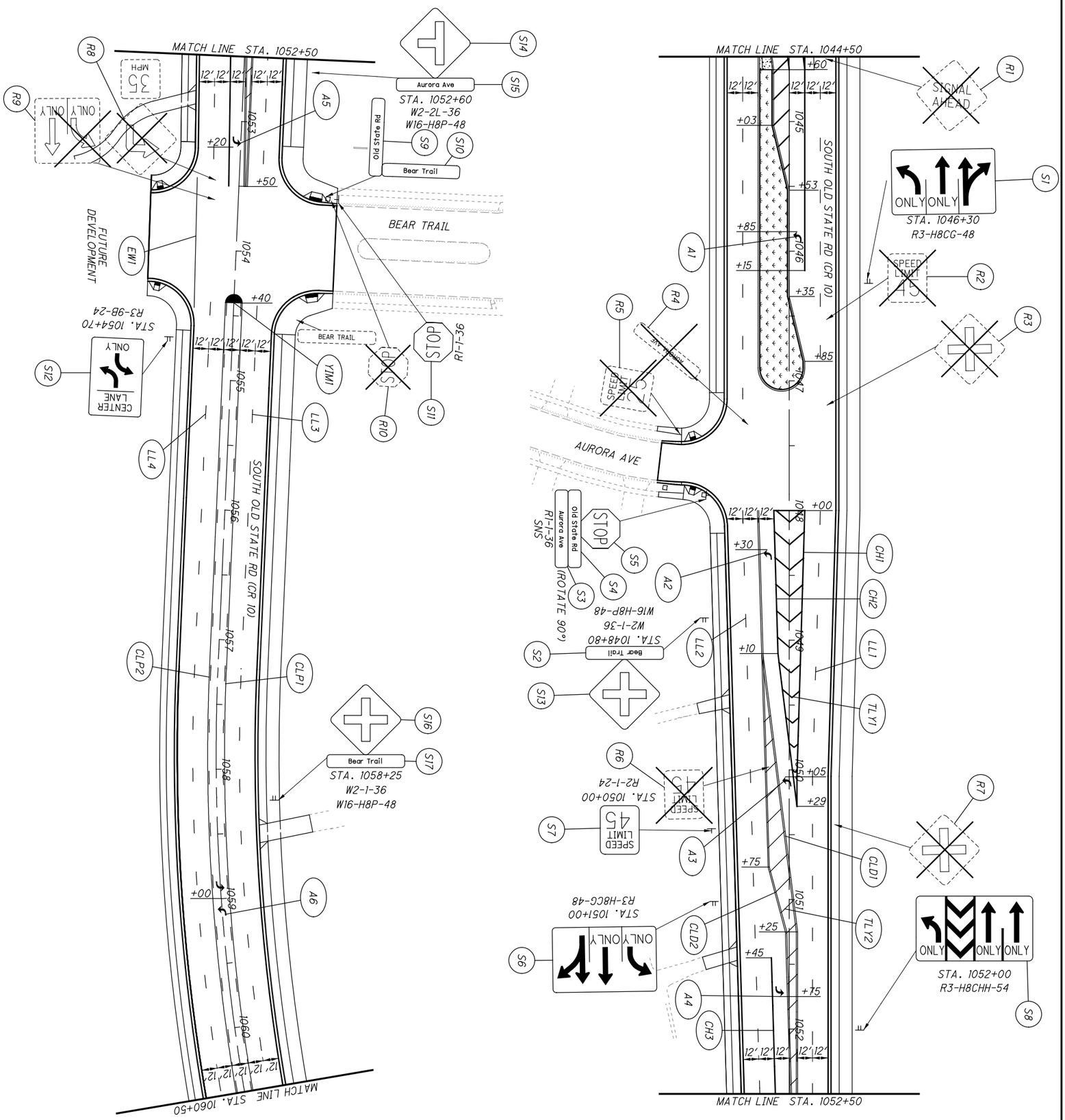


FOR LEGEND, SEE SHEET 292

296 / 437	2952-DR-E	DEL-CR10-0.90	SIGN AND PAVEMENT MARKING PLAN STA. 1028+50 TO STA. 1044+50	CALCULATED BAD CHECKED RAM 0 40 20 80 HORIZONTAL SCALE IN FEET

L:\Projects\14577229\TRANS\DEL\90243\traffic\sheets\90243TP004.dgn - 4/9/2015 1:21:35 PM - brian_wallace



FOR LEGEND, SEE SHEET 292

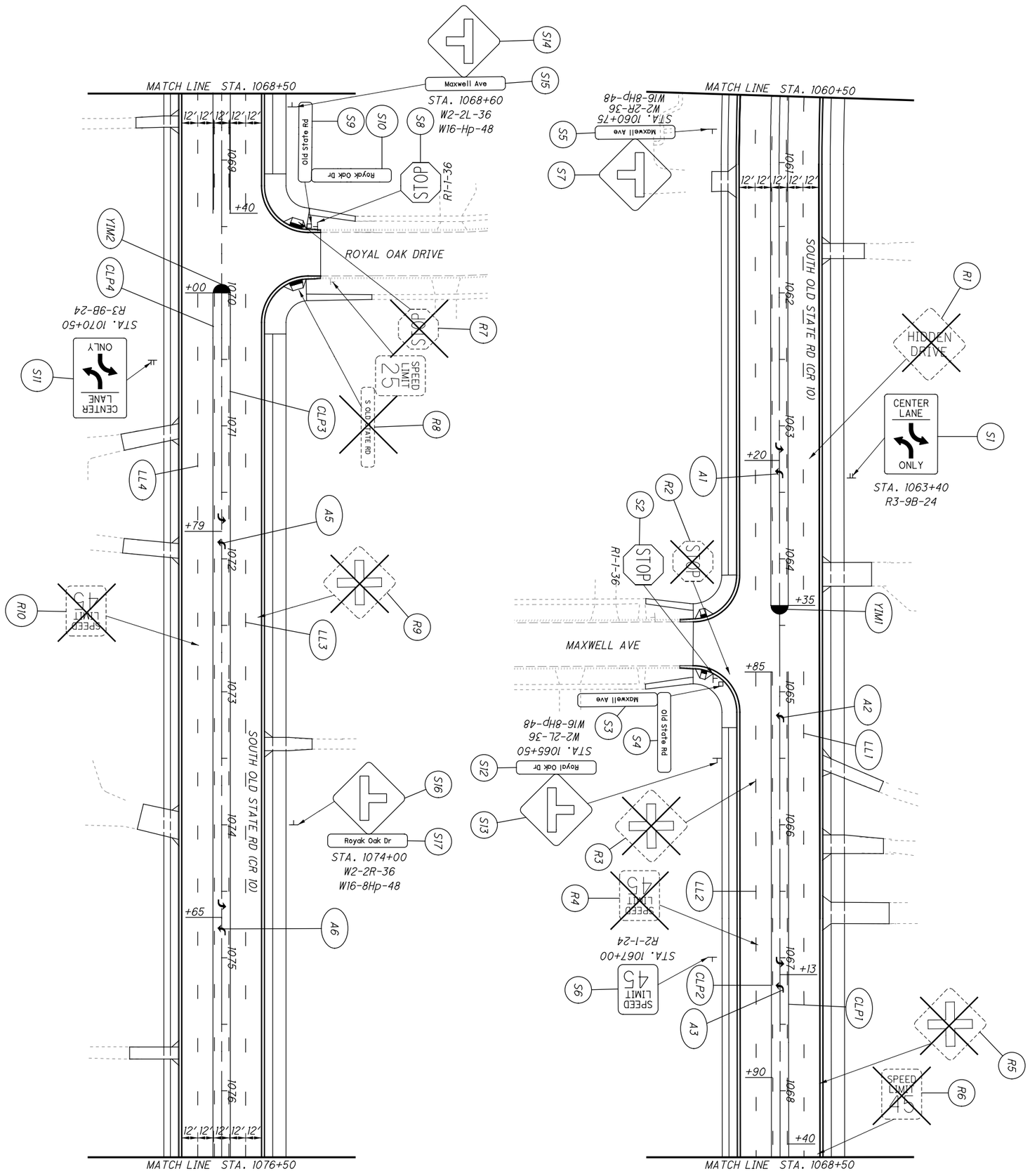
DEL-CR10-0.90

SIGN AND PAVEMENT MARKING PLAN
STA. 1044+50 TO STA. 1060+50

CALCULATED BAD
CHECKED RAM

0 20 40 80
HORIZONTAL SCALE IN FEET

L:\Projects\14577229\TRANS\DEL\90243\traffic\sheets\90243TP005.dgn - 4/9/2015 1:21:36 PM - brian_wallace



FOR LEGEND, SEE SHEET 292

298
437

2952-DR-E

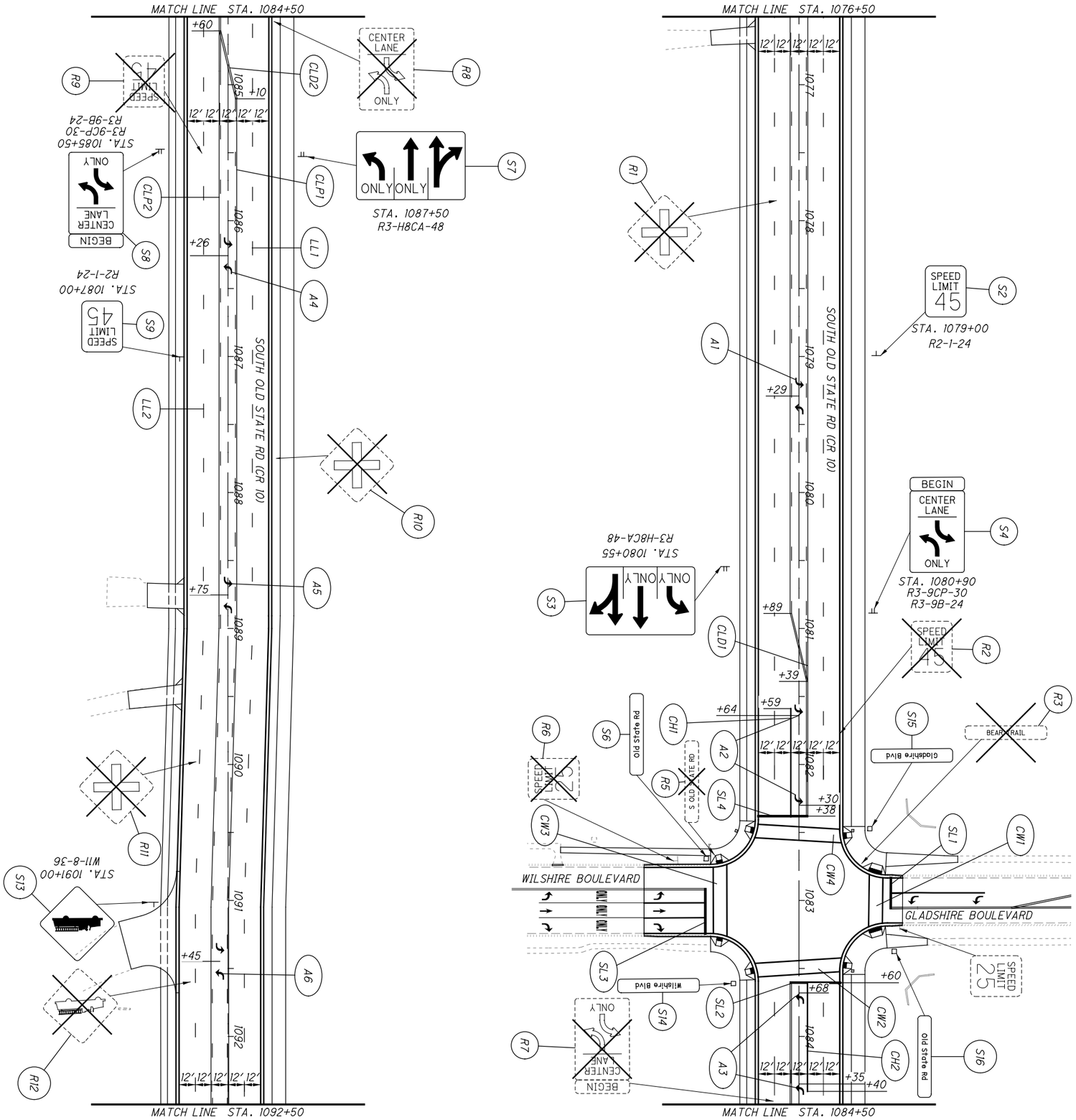
DEL-CR10-0.90

SIGN AND PAVEMENT MARKING PLAN
STA. 1060+50 TO STA. 1076+50

CALCULATED BAD
CHECKED RAM

0 20 40 80
HORIZONTAL SCALE IN FEET

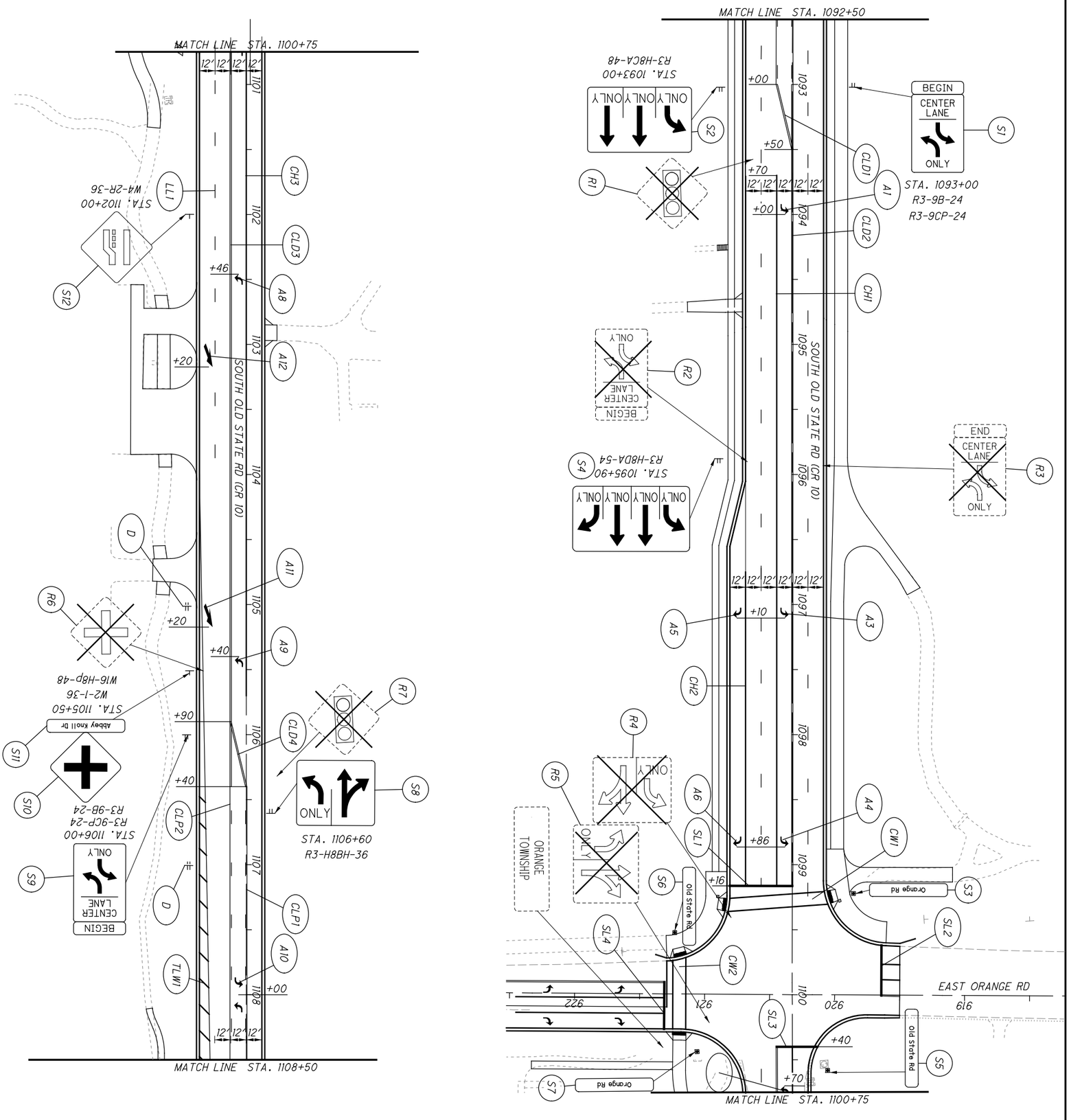
L:\Projects\14577229\TRANS\DEL\90243\traffic\sheets\90243TP006.dgn - 4/9/2015 1:21:37 PM - brian_wallace



FOR LEGEND, SEE SHEET 292

S1 S10 S11 S12 NOT USED

299 / 437	2952-DR-E	DEL-CR10-0.90	SIGN AND PAVEMENT MARKING PLAN STA. 1076+50 TO STA. 1092+50	CALCULATED BAD / CHECKED RAM	0 20 40 80 HORIZONTAL SCALE IN FEET



NOTE:
FOR EAST ORANGE PAVEMENT MARKINGS, SEE SHEET 301

DELINEATOR TABLE D

STA. 1105+00	LOCATE 4' OFF PROPOSED
STA. 1107+00	CHANNELIZING LINE DRILL
STA. 1109+00	PAVEMENT WHERE NEEDED
STA. 1111+25	LOCATE 2.5' BEHIND FACE OF
STA. 1113+00	CURB
STA. 1115+00	

6 EA. OMZ-ZV (WHITE)

FOR LEGEND, SEE SHEET 292

DEL-CR10-0.90

SIGN AND PAVEMENT MARKING PLAN
STA. 1092+50 TO STA. 1108+50

CALCULATED BAD
CHECKED RAM

0 20 40 80
HORIZONTAL SCALE IN FEET

SIGN AND PAVEMENT MARKING PLAN
STA. 1108+50 TO STA. 1115+00

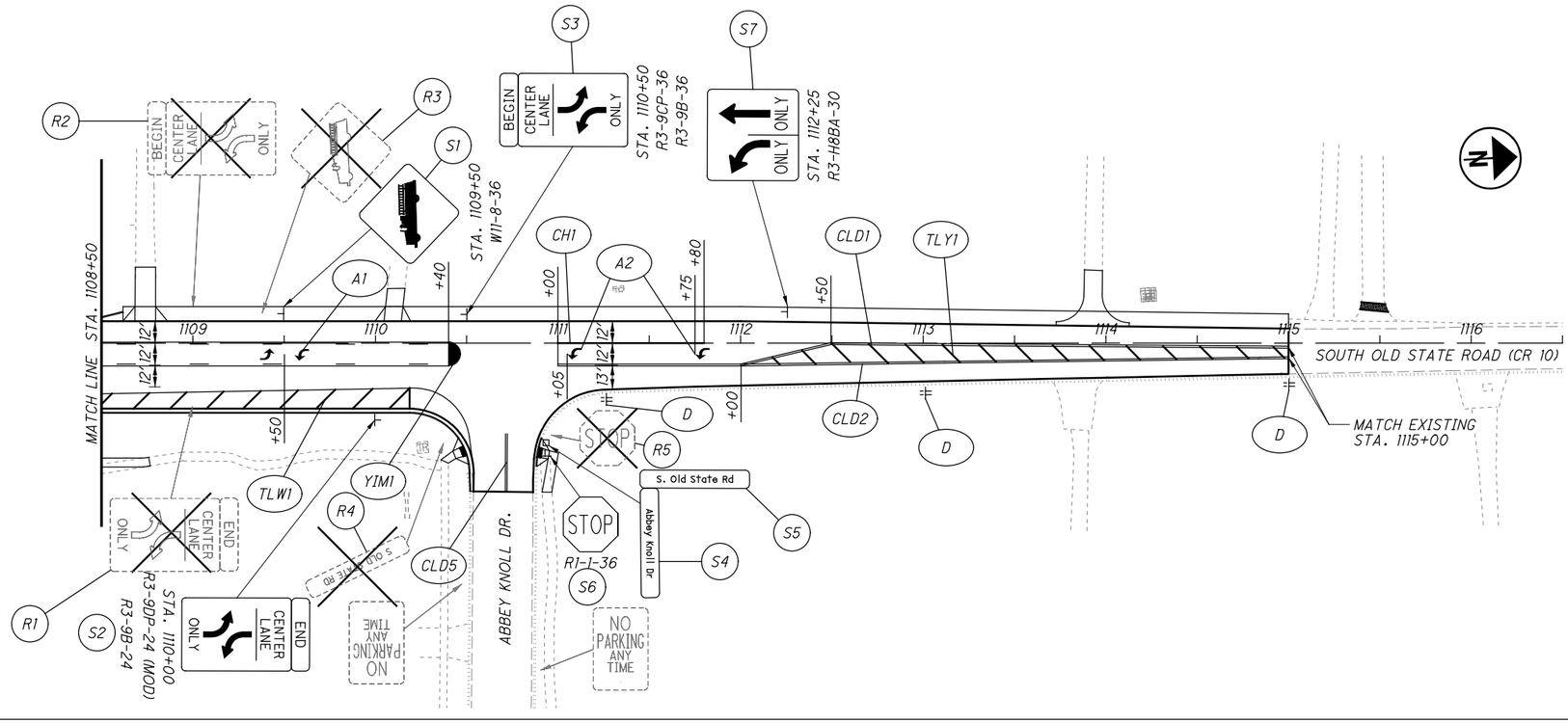
DEL-CR10-0.90

2952-DR.E

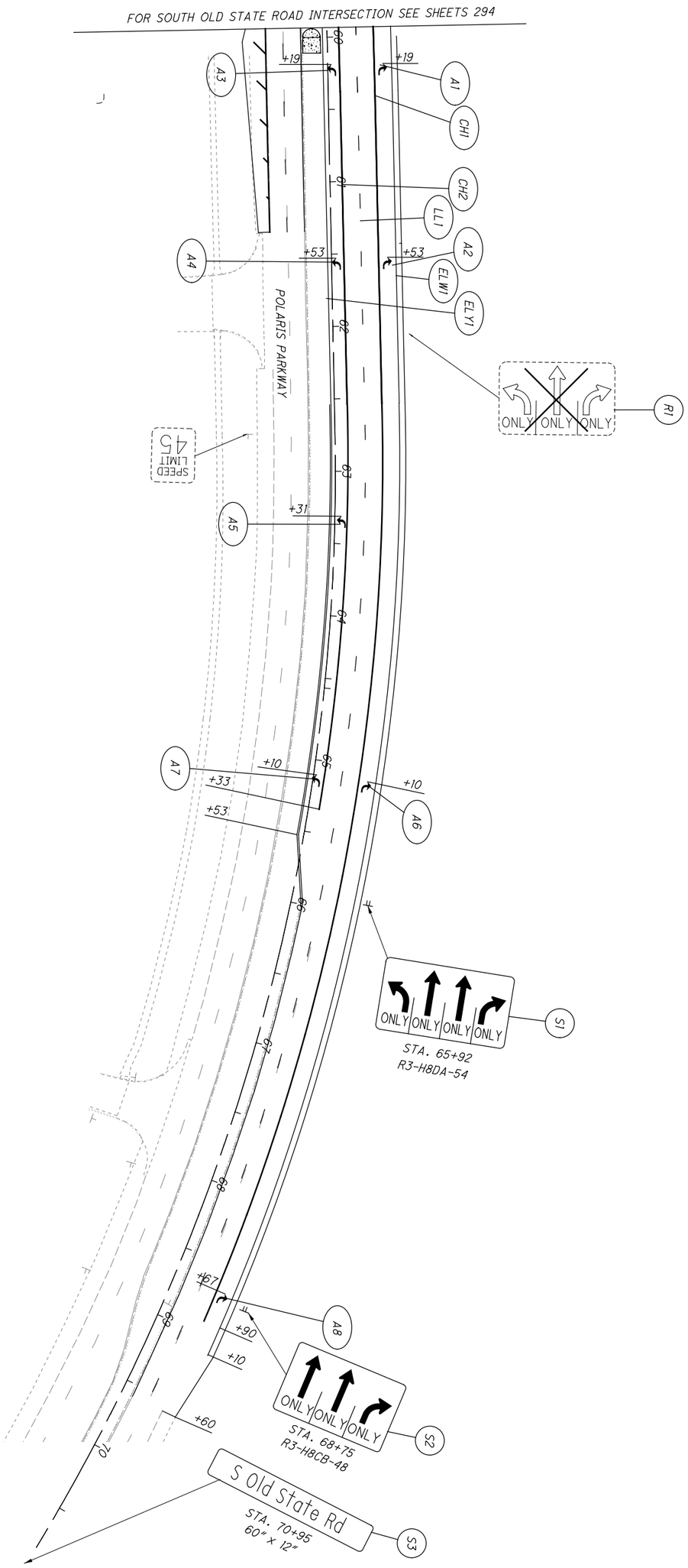
301
437

HORIZONTAL SCALE IN FEET
0 20 40 80

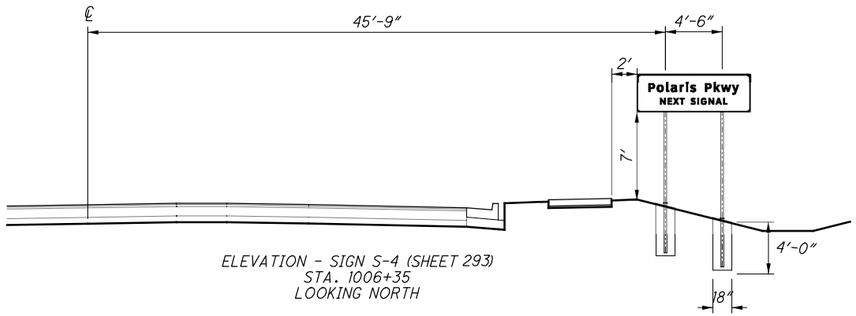
CALCULATED BAD
CHECKED RAM



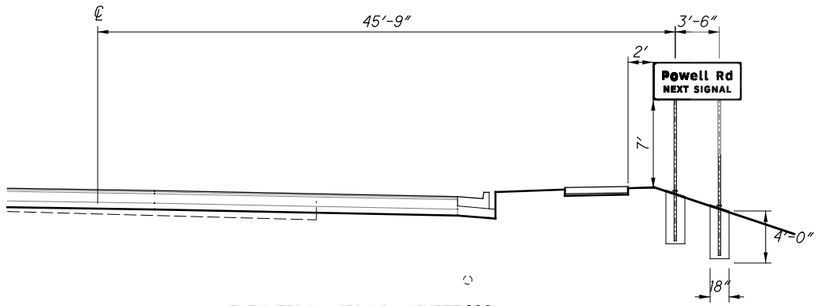
FOR LEGEND, SEE SHEET 292



302 / 437	2952-DR.E	DEL-CR10-0.90	SIGN AND PAVEMENT MARKING PLAN POLARIS PARKWAY	CALCULATED BAD CHECKED RAM	0 20 40 80 HORIZONTAL SCALE IN FEET



ELEVATION - SIGN S-4 (SHEET 293)
STA. 1006+35
LOOKING NORTH



ELEVATION - SIGN S-1 (SHEET 296)
STA. 1029+00.00
LOOKING NORTH

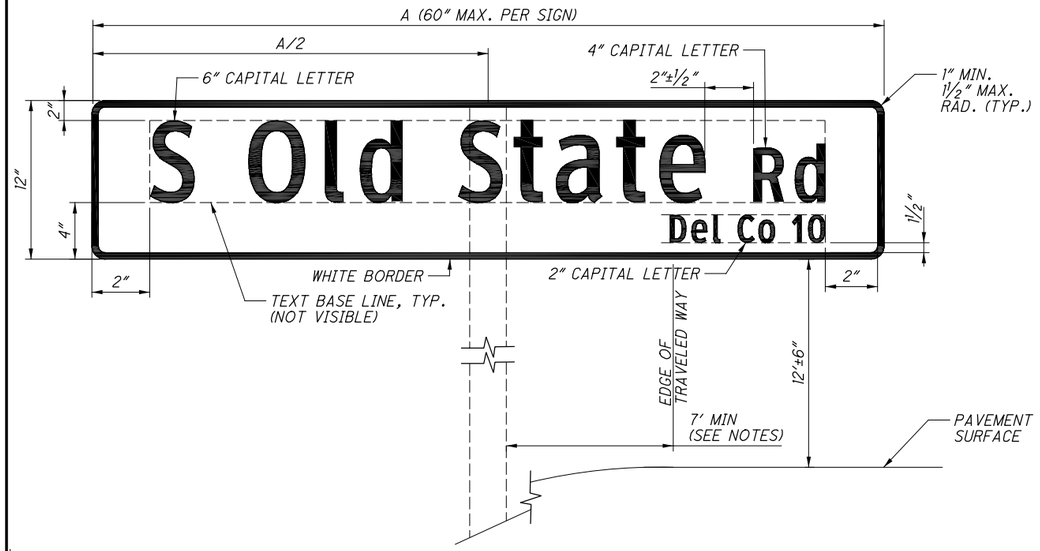
CALCULATED BAD
CHECKED RAM

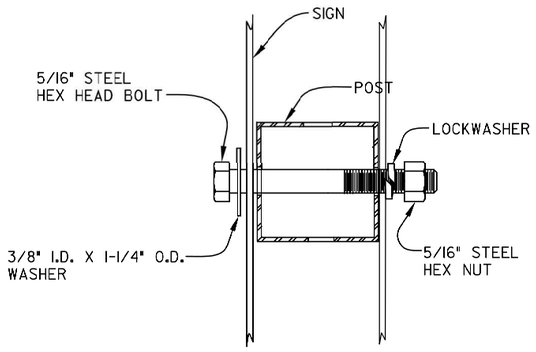
SIGN ELEVATION DETAILS

DEL-CR10-0.09

2952-DR.E

303
437





SQUARE POST
SIGN ATTACHMENT DETAIL

NOTES

GENERAL: THIS DRAWING IS APPLICABLE FOR ROAD AND STREET NAME SIGNS PLACED AT INTERSECTIONS OF COUNTY OR TOWNSHIP ROADS WITH ANY OTHER ROAD.

MATERIALS: SIGN SHALL BE TYPE H ALUMINUM FLAT SHEET AND MEET THE REQUIREMENTS OF ODOT CMS 630.02.

SIGN: FONT SHALL BE THE CLEAR VIEW 2-W OR 3-W FONT. ALL WORDS OF THE FIRST LETTER OF EACH WORD SHALL BE CAPITALIZED AND REMAINING LETTERS USE LOWER CASE. BACKGROUND SHALL BE DIAMOND FACE, GREEN REFLECTIVE.

SUPPORT: SIGN SUPPORT SHALL BE SQUARE POST CONFORMING TO ODOT CMS 630.02 AND SHALL BE PROVIDED BASED ON TOTAL WIDTH OF SIGN, COUNTING SIGNS IN MULTIPLE DIRECTIONS BUT NOT FRONT AND BACK SIGNS:

USE OF ANCHOR BASE WITH NO. 4 SQUARE POST IS REQUIRED. SQUARE POST MAY HAVE DIE-CUT KNOCKOUTS OR OPEN HOLES.

LOCATION: SIGN SHALL BE PLACED AT LEAST 3' FROM THE PAVED SURFACE. BUT NO CLOSER THAN 7' FROM THE EDGE OF TRAVELLED WAY.

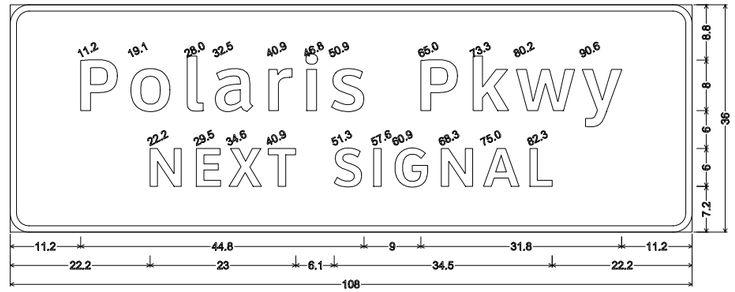
PAYMENT: ALL MATERIALS AND LABOR, INCLUDING INCIDENTAL WORK TO ERECT SIGNS AND SUPPORTS SHALL BE PAID FOR UNDER THE FOLLOWING

ITEM 630, SIGN, FLAT SHEET, TYPE G
ITEM 630, STREET NAME SIGN SUPPORT, NO 4 POST

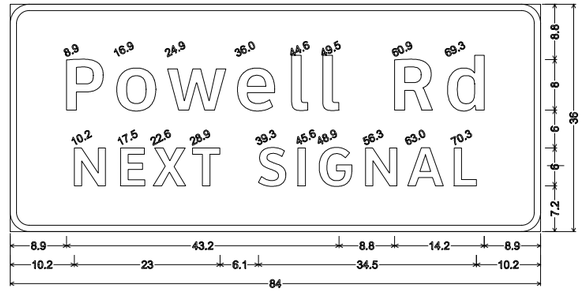
DELAWARE COUNTY STREET NAME SIGNS

STREET NAME	ROAD NUMBER
S Old State Rd	Del Co 10
Candelite Ln	(Blank)
E. Powell Rd	Del Co 14
Maxwell Ave	(Blank)
Royal Oak Dr	(Blank)
Wilshire Blvd	(Blank)
Gladshire Blvd	(Blank)
E Orange Rd	Orange Twp 114
Abbey Knoll Dr	(Blank)

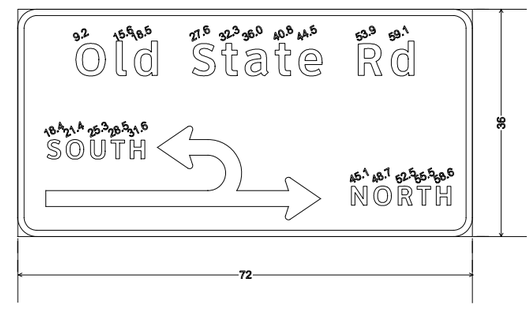
NOTE: FOR SIGNS WITHOUT ROAD NUMBERS (BLANK), THE STREET NAME COPY SHALL BE CENTERED VERTICALLY ON THE SIGN BLANK



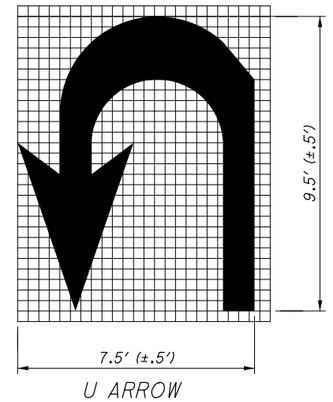
3.0" Radius, 1.0" Border, White on Green;
"Polaris Pkwy" ClearviewHwy-5-W; "NEXT SIGNAL" ClearviewHwy-5-W;



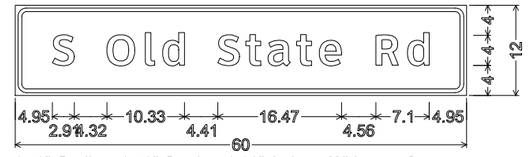
3.0" Radius, 1.0" Border, White on Green;
"Powell Rd" ClearviewHwy-5-W; "NEXT SIGNAL" ClearviewHwy-5-W;



3.0" Radius, 1.0" Border, White on Green;
"Old State Rd" ClearviewHwy-5-W; 6"
"SOUTH" ClearviewHwy-5-W; 4"
"NORTH" ClearviewHwy-5-W; 4"
Standard Arrow Custom 8.0" X 6.8" 180°; Standard Arrow Custom 30.0' X 6.8" 0°;



U ARROW



1.50" Radius, 0.50" Border, 0.38" Indent, White on Green;
"S Old State Rd" ClearviewHwy-5-W;
Table of letter and object lefts.

S	O	l	d	S	t	a	t	e	R	d
4.95	12.18	17.29	19.59	26.92	30.67	33.60	37.42	40.43	47.95	52.14

CALCULATED BAD CHECKED RAM

STREET NAME AND GUIDE

DEL-CR10-0.90

2952-DR.E

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NOTES

GENERAL: THIS DRAWING IS APPLICABLE FOR ROAD AND STREET NAME SIGNS PLACED ON TRAFFIC SIGNAL SUPPORTS WITHIN DELAWARE COUNTY

MATERIALS: IN ADDITION TO 630, ALL SIGN SHEET MATERIAL SHALL BE DIAMOND GRADE DG3 MANUFACTURED BY 3M COMPANY.

SIGN: FONT SHALL BE CLEARVIEW 2-W OR 3-W FONT. ALL WORDS OF THE FIRST LETTER OF EACH WORD SHALL BE CAPITALIZED AND REMAINING LETTERS USE LOWER CASE. BACKGROUND SHALL BE STANDARD GREEN EC FILM MANUFACTURED BY 3M. SIGNS SHALL BE DOUBLE FACED

BRACKETS: STREET NAME BRACKETS SHALL BE MANUFACTURED BY SIGNFIX OR EQUAL. THE 36", 42", AND 48" SIGN BRACKETS SHALL BE SIGNFIX SS O/S WITH HDTE OR EQUAL. THE 60", 66", 72", OR 84" SIGN BRACKETS SHALL BE SIGNFIX DBL O/S WITH HDTE OR EQUAL. THE BRACKETS SHALL BE BLACK IN COLOR.

LOCATION: THE SIGNS SHALL BE PLACED ON PROPOSED AND EXISTING SIGNAL POLES AS SHOWN ON THE PLANS. THE BOTTOM OF EACH SIGN SHALL BE 14' ABOVE THE ROAD SURFACE.

PAYMENT: ALL MATERIALS AND LABOR, INCLUDING INCIDENTAL WORK TO ERECT SIGNS AND BRACKETS SHALL BE PAID FOR UNDER THE FOLLOWING:

ITEM 630, SIGNING, MISC.: POLE MOUNTED STREET NAME SIGN (DELAWARE CO), EACH

No border, Green;
"Orange Rd" White Clearview-Hwy-2-W;
Table of letter and object lefts.

O	r	a	n	g	e	R	d
3.45	13.06	18.20	26.50	34.41	42.55	54.41	59.12

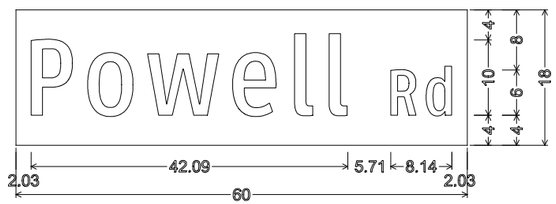
No border, Green;
"Gladshire Blvd" White Clearview-Hwy-2-W;
Table of letter and object lefts.

G	l	a	d	s	h	i	r	e
1.77	10.59	14.77	22.79	30.53	37.59	45.62	50.02	55.28

B	l	v	d
67.14	72.02	74.29	78.80

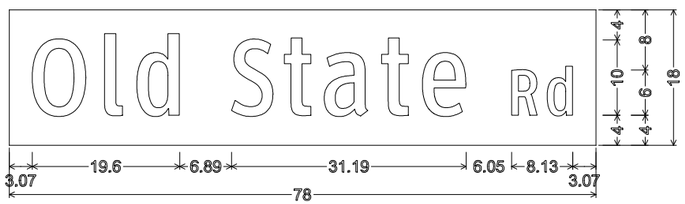
No border, Green;
"Wilshire Blvd" White Clearview-Hwy-2-W;
Table of letter and object lefts.

W	i	l	s	h	i	r	e	B	l	v	d
2.98	15.02	19.42	23.32	30.38	38.41	42.81	48.07	59.93	64.81	67.08	71.59



No border, Green;
"Powell Rd" White Clearview-Hwy-2-W;
Table of letter and object lefts.

P	o	w	e	l	l	R	d
2.03	9.55	17.51	28.81	37.06	41.64	49.83	54.54



Delaware Co Large SNS; No border, Green;
"Old State Rd" White Clearview-Hwy-2-W;
Table of letter and object lefts.

O	l	d	S	t	a	t	e	R	d
3.07	12.67	16.97	29.56	36.57	41.88	49.51	54.93	66.80	71.51

CALCULATED BAD
CHECKED RAM

SIGN GUIDE DETAILS

DEL-CR10-0.90

2952-DR.E

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GENERAL NOTES

1. STREET LIGHTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CITY OF COLUMBUS "CONSTRUCTION AND MATERIAL SPECIFICATIONS", INCLUDING ALL SUPPLEMENTS THERETO, IN FORCE ON THE DATE OF CONTRACT. THESE SPECIFICATIONS SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS, EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING OR BY THE SPECIFICATIONS DETAILS SET FORTH HEREIN.

2. POWER SERVICES SHALL COMPLY WITH CITY OF COLUMBUS SPECIFICATION MIS-119 - CONTROLLER, PAD MOUNT CONTROL, SITE, COMPLETE WITH EQUIPMENT GROUNDING CONDUCTOR. CONTROLLER CABINET SHALL HAVE THE CAPACITY FOR THREE INDIVIDUALLY FUSED CIRCUITS.

   THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:
   AMERICAN ELECTRIC POWER
   850 TECH CENTER DR.
   GAHANNA, OH 43230

   THE CONTRACTOR IS RESPONSIBLE TO OBTAIN THE RESPONSIBLE UTILITY OWNER'S SPECIFICATIONS AS IT RELATES TO AN ACCEPTED POWER SERVICE. IN ADDITION TO THE ITEMS INCLUDED UNDER MIS-019, THE CONTRACTOR WILL BE RESPONSIBLE TO SUPPLY AND INSTALL ALL APPURTENANCES REQUIRED BY THE POWER COMPANY, INCLUDING BUT NOT LIMITED TO A SECOND DISCONNECT SWITCH.

   THE ELECTRIC COMPANY WILL SUPPLY 480 VOLT SINGLE PHASE, 3 WIRE GROUNDED POWER SERVICES AS INDICATED BY THE PLAN. THE CONTRACTOR SHALL MAINTAIN ALL NEW OR MODIFIED STREET CIRCUITS, INCLUDING POWER BILLS, FOR THE ENTIRETY OF THE PROJECT, WITH THE RESPONSIBILITY TURNED OVER TO THE CITY OF COLUMBUS ONLY WHEN THE ENTIRE PROJECT HAS BEEN ACCEPTED IN FULL BY THE CITY.

3. GROUNDING OF ALL POLES AND STREET LIGHTING SYSTEM COMPONENTS SHALL BE IN COMPLIANCE WITH CITY OF COLUMBUS SPECIFICATION MIS-111 - GROUND - UNDERGROUND STREET LIGHTING SYSTEM.

4. ANY REQUIRED RELOCATION, SUPPORT, PROTECTION, OR ANY OTHER ACTIVITY CONCERNED WITH THE CITY'S STREET LIGHTING SYSTEM IN THE CONSTRUCTION AREA IS TO BE PERFORMED BY THE CONTRACTOR UNDER THE DIRECTION OF DOPW(P) PERSONNEL AND AT THE EXPENSE OF THE PROJECT. AMERICAN ELECTRIC POWER SHALL MAKE ALL FINAL CONNECTIONS OF THE STREET LIGHTING SYSTEM TO THEIR ELECTRICAL SYSTEM. THE CONTRACTOR SHALL USE MATERIAL AND MAKE REPAIRS TO A CITY OF COLUMBUS STREET LIGHTING SYSTEM BY FOLLOWING DOPW(P)'S "MATERIAL AND INSTALLATION SPECIFICATIONS" (MIS) AND THE CITY OF COLUMBUS "CONSTRUCTION AND MATERIAL SPECIFICATIONS" (CMS). ANY NEW OR RE-INSTALLED UNDERGROUND STREETLIGHT SYSTEM SHALL REQUIRE TESTING AS REFERRED TO IN SECTION 1000.18 OF THE CMS MANUAL. THE CONTRACTOR SHALL CONFORM TO DOPW(P)'S EXISTING CONDUCTOR SAFETY POLICY AND HOLD CARD SYSTEM, MIS-95, COPIES OF WHICH ARE AVAILABLE FROM DOPW(P). IF YOU HAVE ANY QUESTIONS, CALL CHRIS VOGEL AT (614) 645-6963.

5. IF ANY ELECTRIC FACILITY BELONGING TO DOPW(P) IS DAMAGED IN ANY MANNER BY THE CONTRACTOR, ITS AGENTS, SERVANTS OR EMPLOYEES, AND REQUIRES EMERGENCY REPAIRS, DOPW(P) SHALL MAKE ALL NECESSARY REPAIRS, AND THE EXPENSE OF SUCH REPAIRS AND OTHER RELATED COSTS SHALL BE PAID BY THE CONTRACTOR TO THE DIVISION OF POWER AND WATER (POWER), CITY OF COLUMBUS, OHIO.

6. THE CONTRACTOR IS RESPONSIBLE TO COMPLY WITH ALL LOCAL CODES AND ORDINANCES PERTINENT TO THE PROGRESSION OF THE WORK DESCRIBED WITHIN THE PROJECT PLANS. ANY REQUIRED PERMIT SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR. THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO AN EQUAL OR BETTER CONDITION THAN EXISTED PRIOR TO CONSTRUCTION.

7. THE PLAN DETAILS SHALL BE CONSIDERED SUPPLEMENTAL TO (MIS) DIVISION OF POWER AND WATER (POWER) MATERIAL AND INSTALLATION SPECIFICATION.

8. ALL EXISTING UNDERGROUND UTILITIES MAY NOT BE SHOWN ON THE PLANS. INDIVIDUAL SERVICE LINES ARE NOT SHOWN AND SHOULD BE LOCATED BY THE CONTRACTOR PRIOR TO COMMENCING WITH WORK. FIELD VERIFICATION MAY BE NECESSARY AND THE CONTRACTOR SHALL INCLUDE HIS COST FOR THIS WORK IN THE VARIOUS UNIT PRICES. LOCATION, SUPPORT, PROTECTION OR RESTORATION OF ALL UTILITY LINES, SERVICES AND APPURTENANCES IS THE RESPONSIBILITY OF THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE REPAIRS OR OVERSEE THE REPAIR BY THE APPROPRIATE UTILITY PROVIDER AT THE CONTRACTOR'S EXPENSE.

   THE LOCATION OF UTILITIES AND STRUCTURES, BOTH SURFACE AND SUBSURFACE AS SHOWN ON THE PROJECT PLANS ARE COMPILED FROM DATA AVAILABLE AT THE TIME OF SURVEY AND ARE NOT NECESSARILY COMPLETE. OBTAINING THE EXACT LOCATION AND PROTECTION OF UTILITIES AND STRUCTURES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL USE DUE DILIGENCE IN PROTECTING ALL EXISTING UTILITIES AND STRUCTURES FROM DAMAGE, WHETHER SHOWN ON THE PROJECT PLANS OR NOT. THE CONTRACTOR SHALL COORDINATE WITH AND NOTIFY ALL UTILITIES A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO ANY WORK PERFORMED TO ESTABLISH EXACT LOCATIONS OF MAIN LINES, SERVICE LINES OR ANY OTHER EQUIPMENT WORK IN AREAS UNMARKED BY UTILITIES. IF DAMAGE IS CAUSED BY THE CONTRACTOR'S WORK, THE CONTRACTOR IS RESPONSIBLE TO IMMEDIATELY NOTIFY THE RESPECTIVE UTILITY AND PROPERTY OWNER OF INTERRUPTED SERVICE AND OVERSEE REPAIR AND RESTORATION OF SERVICE TO THE SATISFACTION OF THE CITY AT THE CONTRACTOR'S EXPENSE.

9. CONDUIT LOCATION MAY BE DEFLECTED AND LIGHT POLE FOUNDATION MAY BE RELOCATED AROUND OBSTACLES OR UTILITIES AS APPROVED BY THE ENGINEER.

10. PULL BOXES SHALL BE LOCATED APPROXIMATELY WHERE SHOWN ON PLANS WITH EXACT LOCATIONS TO BE DETERMINED IN THE FIELD AFTER CONSIDERATION IS GIVEN TO THE LOCATION OF UTILITIES, PAVEMENT AND GRADES.

CALCULATED AWF
CHECKED KAP

LIGHTING NOTES

DEL-CR10-0.90

2952-DR.E

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LIGHTING SUBSUMMARY

CALCULATED AWF | CHECKED KAP

CITY OF COLUMBUS 1000

SHEET NO.	REFERENCE NO.	STATION TO STATION FROM	STATION TO STATION TO	SIDE	LENGTH	MEDIUM DUTY PULL BOX, 13" x 24" (MIS-4)	2" CONDUIT IN OPEN AREAS, CONCRETE ENCASED (MIS-15)		FOUNDATION-REMOVAL (MIS-23)	POLE TO BE WIRED, TRANSFORMER AND ANCHOR BASE (MIS-41)	CONDUIT-3" RIGID STEEL/JACKED-DRILLED OR PUSHED UNDER PAVEMENT (MIS-63)	CLEAN AND RELAMP HPS LUMINAIRE (MIS-68)	FOUNDATION-REINFORCED, 8' (FOR 40' MH POLES) (MIS-81)	480 VOLT STREET LIGHT STANDARD RELOCATION (MIS-107)	LUMINAIRE, 400W HPS, 480 VOLT CUT OFF STYLE (POLARIS) (MIS-151)	LUMINAIRE, 250W HPS, 480 VOLT CUT OFF STYLE (POLARIS) (MIS-163)	POLE-ALUMINUM LIGHT POLE ASSEMBLY W/4' DAVIT BKT, T-BASE, 40'MH (POLARIS) (MIS-152)	STREET LIGHTING CIRCUIT-3 WIRE (2-#4-5KV CABLES; 1-#8-600V EQUIPMENT GROUND) (MIS-190)	POLE TO BE WIRED (3 WIRE SYSTEM) (MIS-191)	480V PAD MOUNT CONTROL SITE-COMPLETE WITH EQUIPMENT GROUNDING CONDUCTOR (MIS-119)	RELOCATED EXISTING SPLICE BOX AND DIRECT BURIED LIGHT POLE	REMOVE EXISTING SPLICE BOX AND DIRECT BURIED LIGHT POLE
						EACH	FT		EACH	EACH	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	EACH	EACH	LUMP	LUMP
311	L-11	1001+00	1002+50	RT	150		154						1			1	1	160	1				
312	L-10	1002+50	1004+22	RT	172		172						1			1	1	182	1				
312	L-9	1004+22	1005+20	RT	98		98						1			1	1	108	1				
312	L-12	1005+20	1005+20	LT	80		4				80		1			1	1	90	1				
312	PB-3	1005+20	1005+79	RT	59	1	59											69					
312	L-8	1005+79	1007+74	RT	195		195						1			1	1	205	1				
312	R-1	1003+91		LT																		1	
312	L-18	3+70		LT																	1		
313	L-3	1007+66	1009+86	LT	220		220						1		1		1	230	1				
313	L-2	1009+86	1011+90	LT	204		204						1		1		1	214	1				
313	L-7	1007+74	1009+86	RT	212		212						1		1		1	222	1				
313	L-6	1009+86	1011+90	RT	204		204						1		1		1	214	1				
314	L-17	102+11	1014+20	RT	110		110			1		1	1	1				120					
314	L-16	1014+20	1014+25	RT	5		5						1		1		1	15	1				
314	PB-7	1014+25	1014+25	RT	90	1					90							100					
314	PB-6	1014+25	1014+20	LT	5	1	5											15					
314	L-15	1014+20	100+19	LT	85		85						1		1		1	95	1				
314	PB-5	100+19	100+19	LT	100	1					100							110					
314	L-14	100+15	100+19	LT	5		9						1		1		1	15	1				
314	L-13	100+15	100+19	RT	5		9						1		1		1	15	1				
314	PB-4	100+19	1012+15	LT	70	1	70											80					
314	L-4	102+12	1012+53	RT	85		89						1		1		1	95	1				
314	L-5	1011+90	1012+53	RT	25		25						1		1		1	35	1				
314	PB-2	1012+53	1012+15	RT	106	1					106							116					
314	L-1	1011+90	1012+15	LT	25		25						1		1		1	35	1				
314	PB-1	1012+25	1012+18	LT	8	1	16											36					
314	CC-1	1212+26		LT																1			
314	R-5	59+88		LT					1														
315	L-19	60+04	65+88	LT	584		584			1		1	1	1				594					
315	L-20	65+88	68+90	LT	302		302			1		1	1	1				312					
315	R-3	65+88		LT					1														
315	R-4	62+88		LT					1														
316	L-21	68+90	69+63	LT	73		73			1		1	1	1				83					
316	PB-8	69+63		LT		1																	
316	R-2	68+87		LT					1														
TOTALS CARRIED TO GENERAL SUMMARY						8	2,929		4	4	376	4	20	4	11	5	16	3,565	16	1	1	1	

DEL-CR10-0.90

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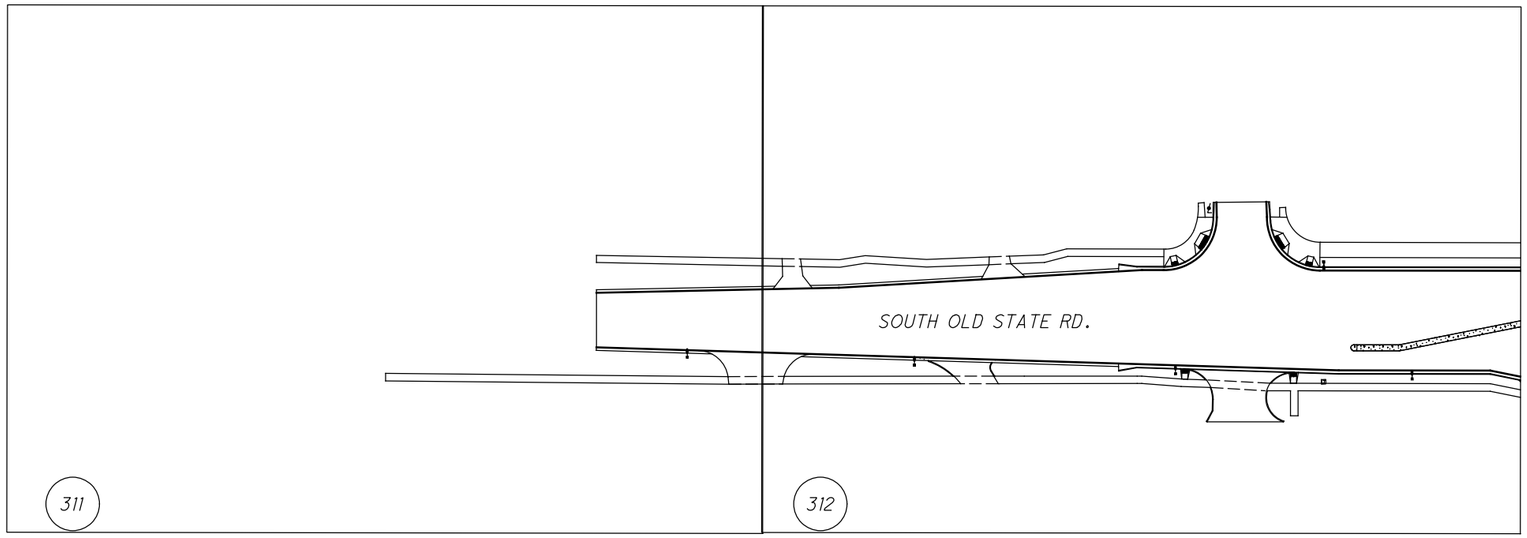
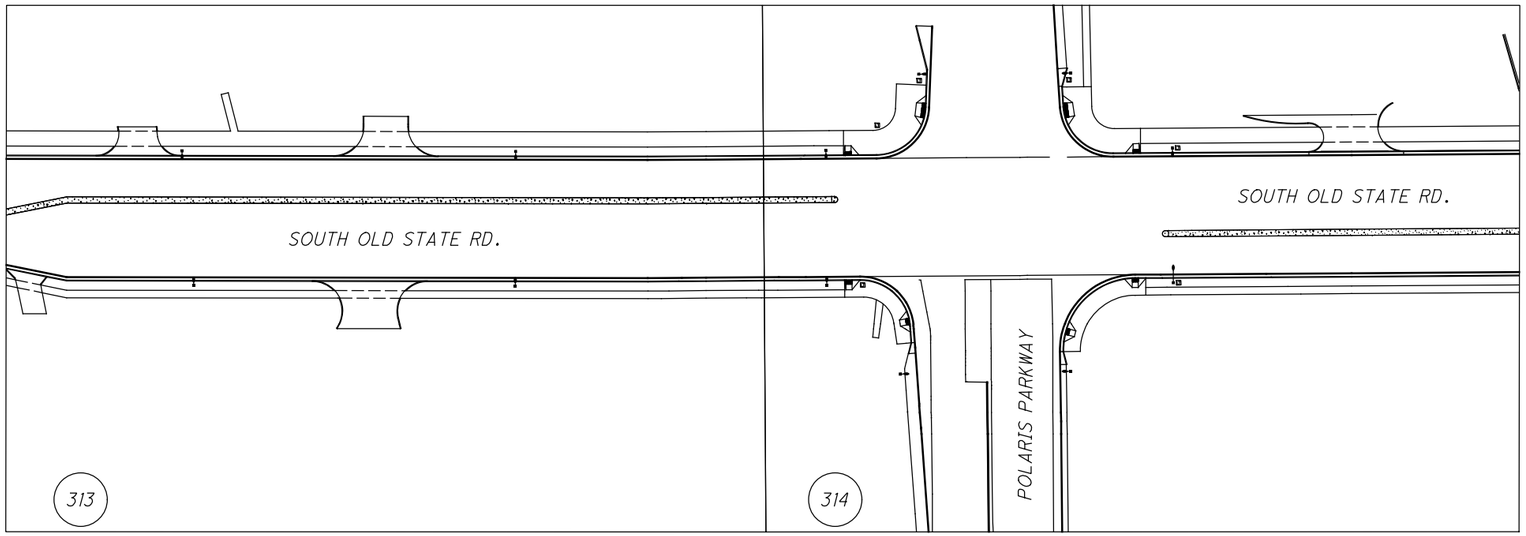




LEGEND			
	NEW CONVENTIONAL LIGHT POLE, IES TYPE III DISTRIBUTION, HPS LUMINAIRE.	LT PB-1	NEW LIGHTING PULL BOX WITH IDENTIFICATION NUMBER
	EXISTING LIGHT POLE		NEW LIGHTING CIRCUIT, NUMBER OF CONDUCTORS (HASHES).
			PROPOSED LIGHTING CONDUIT, 2" (UNLESS NOTED OTHERWISE)
▲	NEW POWER SERVICE, SERVICE REQUIREMENTS AS NOTED.		PROPOSED LIGHTING CONDUIT, 3", (UNLESS NOTED OTHERWISE), JACKED OR DRILLED UNDER PAVEMENT.
AB-1	POLE IDENTIFICATION NUMBER (TO BE CONSTRUCTED IN ENTIRETY)		

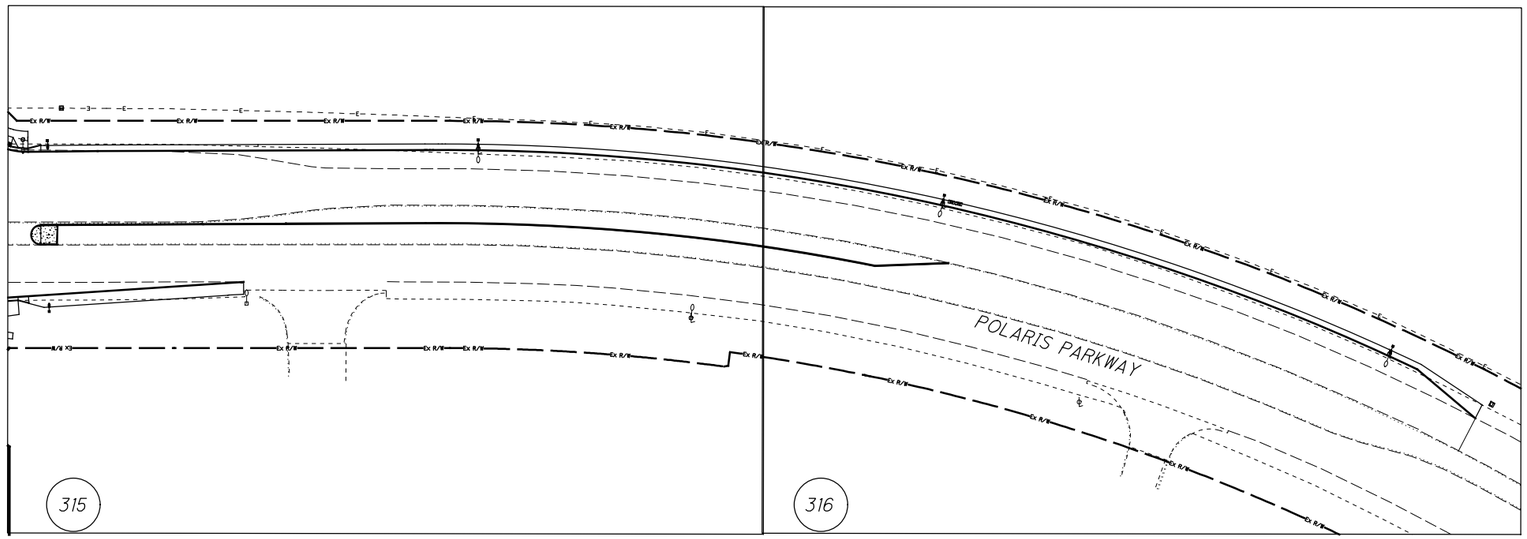
HORIZONTAL SCALE IN FEET
0 25 50 100

CALCULATED AWF
CHECKED KP

SCHEMATIC LIGHTING PLAN
SOUTH OLD STATE ROAD

DEL-CR10-0.90

2952-DR.E



LEGEND			
	NEW CONVENTIONAL LIGHT POLE, IES TYPE III DISTRIBUTION, HPS LUMINAIRE.	PB-1	NEW LIGHTING PULL BOX WITH IDENTIFICATION NUMBER
	EXISTING LIGHT POLE		NEW LIGHTING CIRCUIT, NUMBER OF CONDUCTORS (HASHES).
	NEW POWER SERVICE, SERVICE REQUIREMENTS AS NOTED.		PROPOSED LIGHTING CONDUIT, 2" (UNLESS NOTED OTHERWISE)
AB-1	POLE IDENTIFICATION NUMBER (TO BE CONSTRUCTED IN ENTIRETY)		PROPOSED LIGHTING CONDUIT, 3", (UNLESS NOTED OTHERWISE), JACKED OR DRILLED UNDER PAVEMENT.

N

0 25 50 100
HORIZONTAL SCALE IN FEET

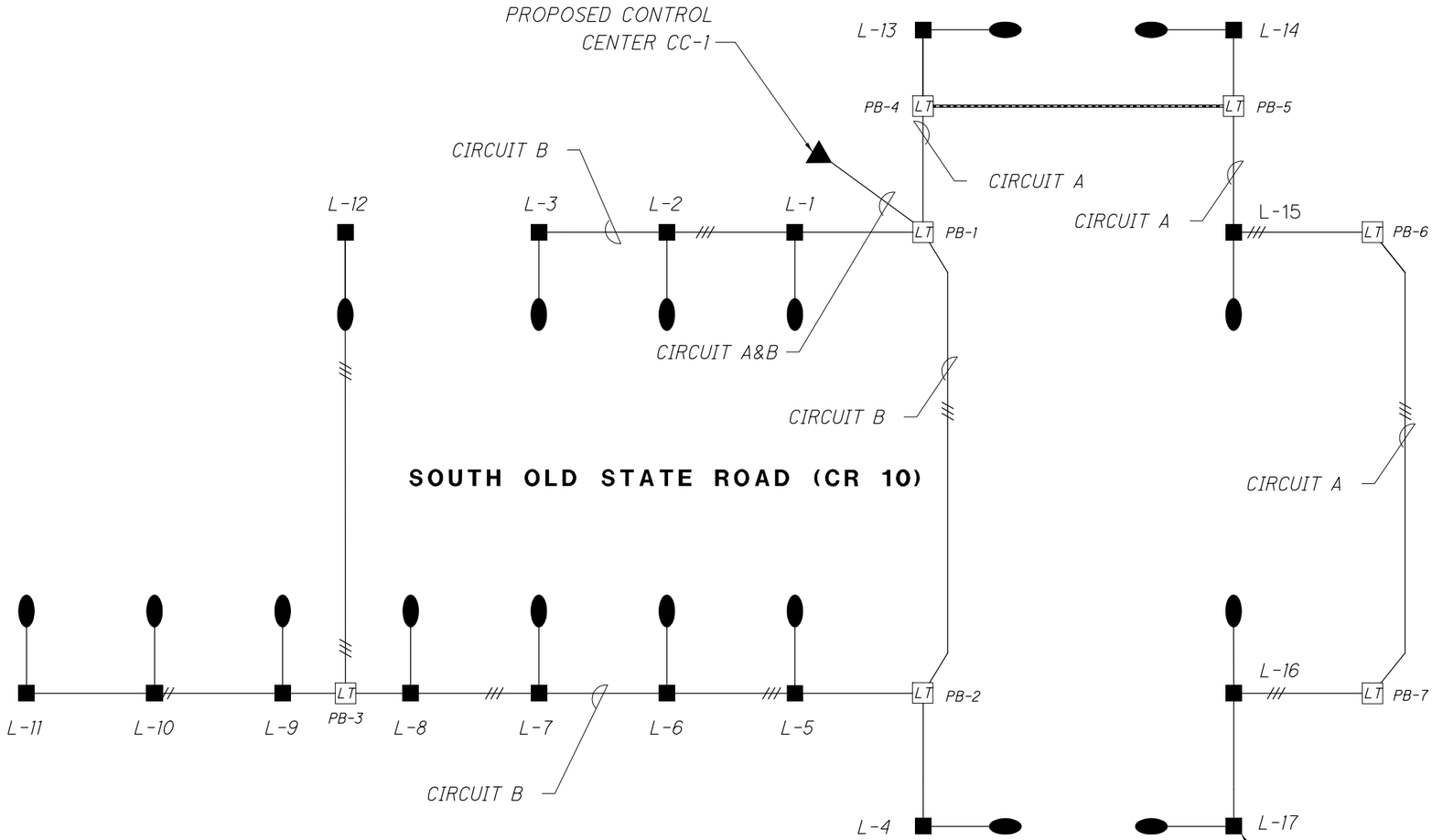
CALCULATED AWF
CHECKED KP

SCHEMATIC LIGHTING PLAN
POLARIS PARKWAY

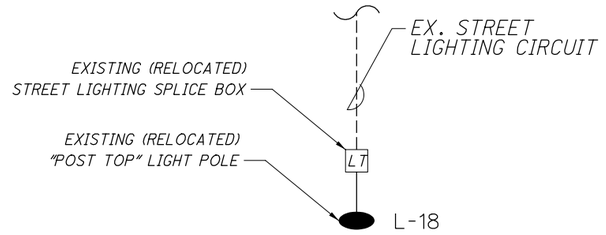
DEL-CR10-0.90

2952-DR.E

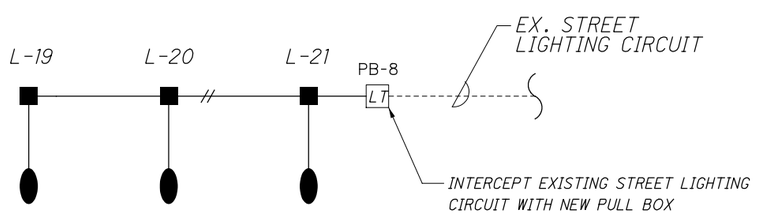
309
437



NEW CONTROL CENTER #1
SOUTH OLD STATE ROAD
(NOT TO SCALE)



RELOCATED POST TOP LIGHT POLE
SOUTH OLD STATE ROAD &
WYNSTONE DRIVE



RELOCATED LIGHT POLES
POLARIS PARKWAY

POWER SERVICE DATA - SOUTH OLD STATE ROAD CONTROL CENTER #1									
POWER SERVICE	LINE VOLTAGE (VOLTS)	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CABLE (AWG)	ENCLOSURE RATINGS (AMPS)	CIRCUIT NUMBER	CIRCUIT LOAD (AMPS)	CIRCUIT BREAKER SIZE (AMPS)	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
CONTROL CENTER CC-1	480	7.06	4	100	A	4.84	30	4	CITY OF COLUMBUS
					B	9.85	30	4	CITY OF COLUMBUS

NOTE: FOR ADDITIONAL POWER SERVICE DETAILS, SEE STANDARD DRAWINGS.

CALCULATED AWF
CHECKED KAP

LIGHTING CIRCUIT MAP

DEL-CR10-0.90

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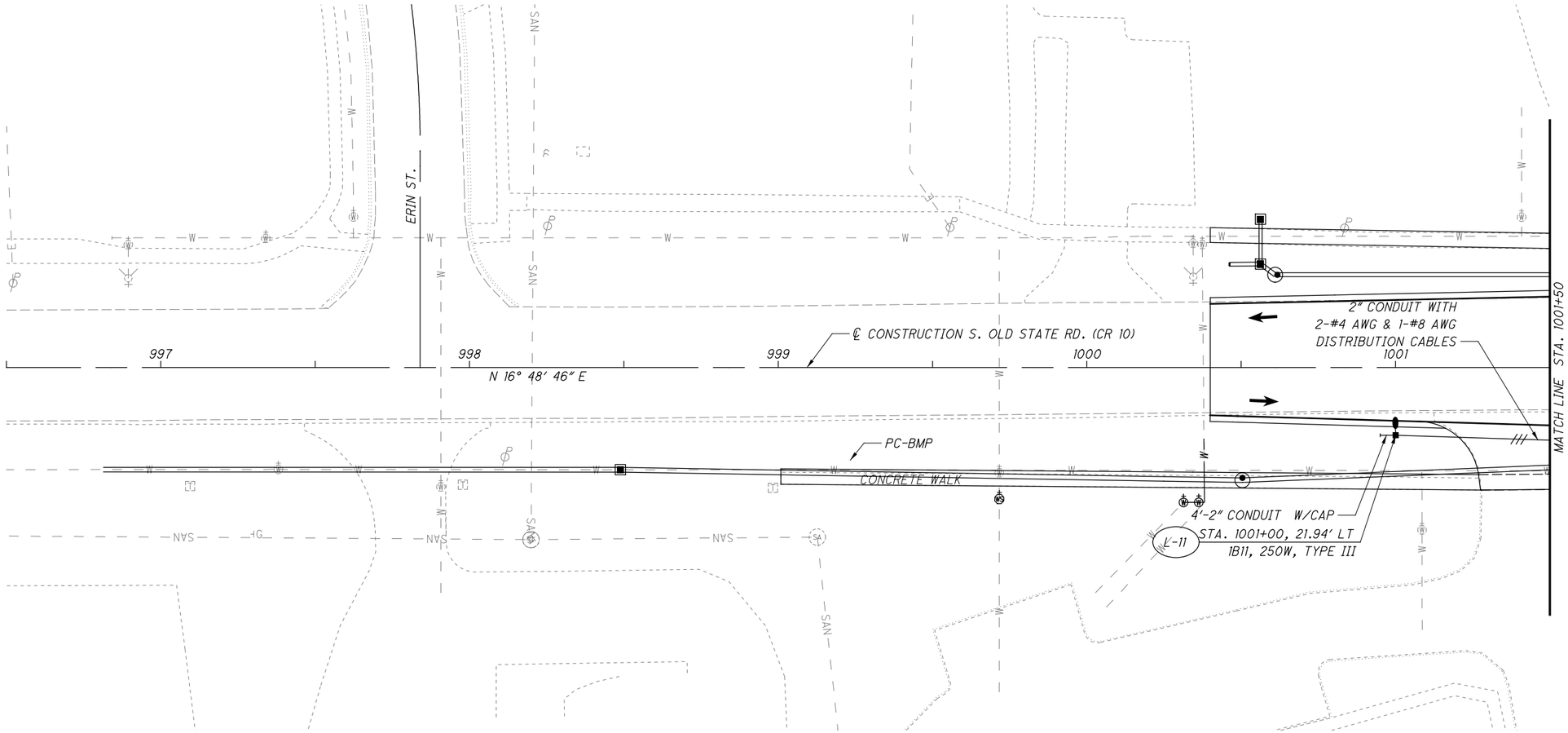

NOTE: MAINTAIN 12″ MIN. VERTICAL CLEARANCE AT ALL WATERLINE CROSSINGS.

0 20 40 60 SCALE IN FEET

CALCULATED AWF
CHECKED KAP

LIGHTING PLAN - SOUTH OLD STATE ROAD
STA. 998+50 TO STA. 1001+50

DEL-CR10-0.90

2952-DR.E

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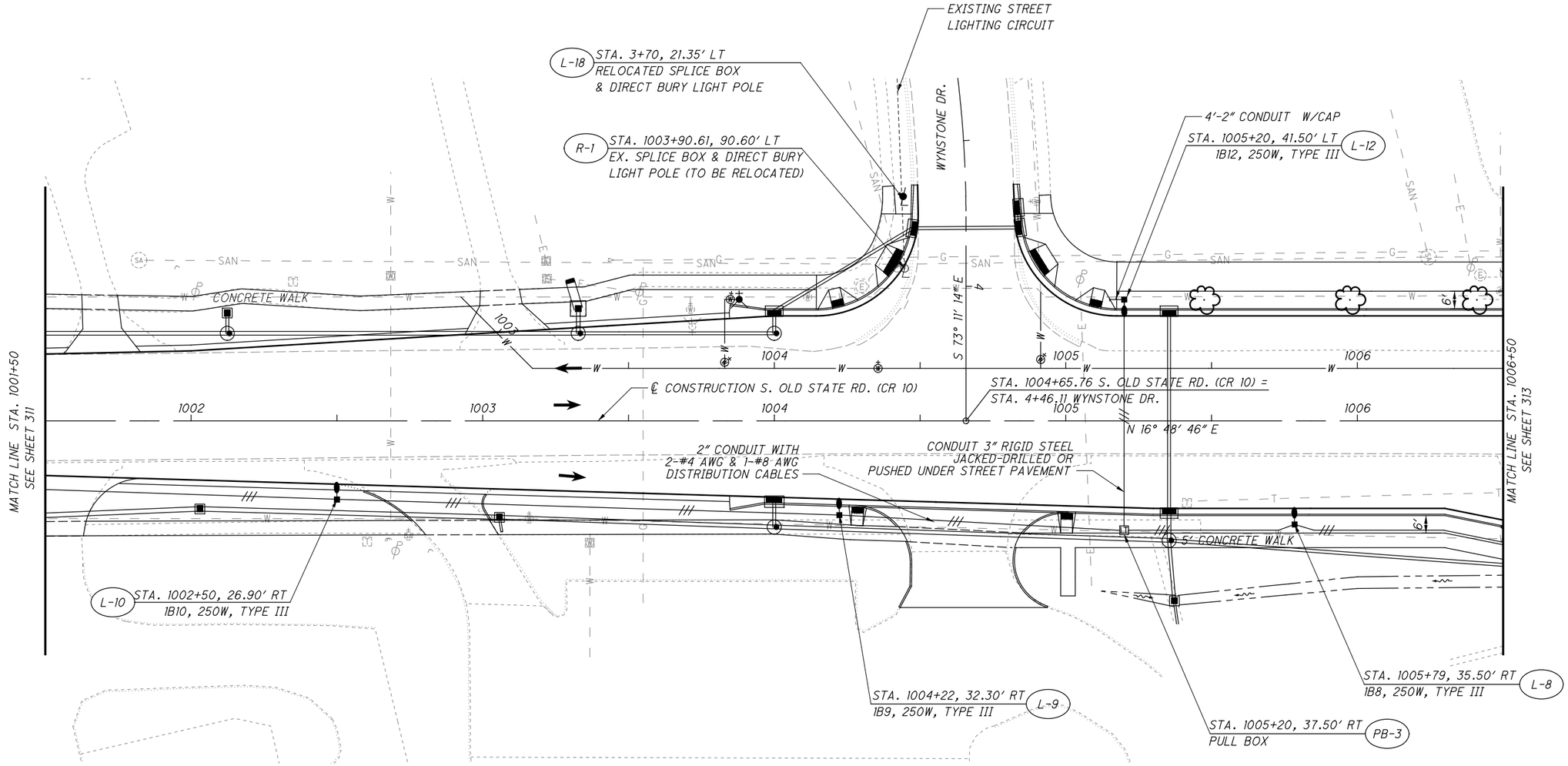

NOTE: MAINTAIN 12" MIN. VERTICAL CLEARANCE AT ALL WATERLINE CROSSINGS.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED KAP

LIGHTING PLAN - SOUTH OLD STATE ROAD
STA. 1001+50 TO STA. 1006+50

DEL-CR10-0.90

2952-DR.E

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437

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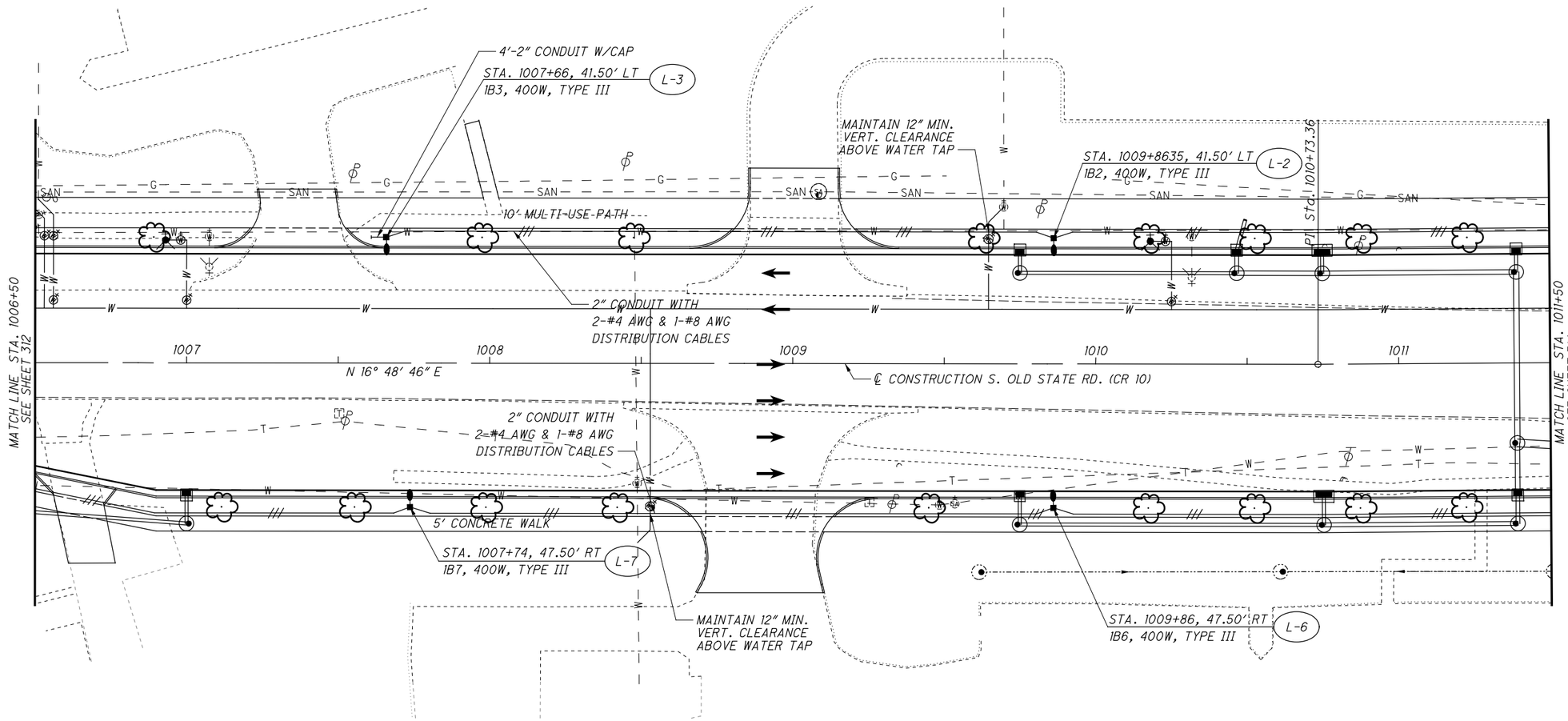


NOTE: MAINTAIN 12" MIN. VERTICAL CLEARANCE AT ALL WATERLINE CROSSINGS.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED KAP

LIGHTING PLAN - SOUTH OLD STATE ROAD
STA. 1006+50 TO STA. 1011+50

DEL-CR10-0.90

2952-DR.E

313
437

L-13 STA. 100+15, 47.95' RT
1A1, 400W, TYPE III

PB-4 STA. 100+19, 47.67' RT
PULL BOX

CC-1 STA. 1012+26, 65.2' LT
LIGHTING CONTROL CENTER

PB-1 STA. 1012+25, 57.75' LT
PULL BOX

L-1 STA. 1011+90, 41.50' LT
1B1, 400W, TYPE III

2" CONDUIT WITH
2-#4 AWG & 1-#8 AWG
DISTRIBUTION CABLES

4'-2" CONDUIT W/CAP

3" CONDUIT, DRILLED
OR JACKED

POLARIS PKWY.

4'-2" CONDUIT W/CAP
STA. 100+15, 52.43' LT
1A2, 400W, TYPE III
L-14

STA. 100+19, 51.3' LT
PULL BOX
PB-5

STA. 1014+20, 41.50' LT
1A3, 400W, TYPE III
L-15

STA. 1014+25, 41.50' LT
PULL BOX
PB-6

10' SHARED-USE PATH

ST Sta. 100+88.09

CONDUIT 3" RIGID STEEL
JACKED-DRILLED OR
PUSHED UNDER
STREET PAVEMENT

1012 1013 1014 1015 1016

STA. EQ : Sta 101+13.28 BK
Sta 59+06.72 AH

S 73° 43' 35" E

CONDUIT 3" RIGID STEEL
JACKED-DRILLED OR PUSHED
UNDER STREET PAVEMENT

℄ CONSTRUCTION S. OLD STATE RD. (CR 10)

MATCH LINE STA. 1011+50 - SOUTH OLD STATE ROAD
SEE SHEET 313

2" CONDUIT WITH
2-#4 AWG & 1-#8 AWG
DISTRIBUTION CABLES

MAINTAIN 12" MIN.
VERT. CLEARANCE
ABOVE 12" WATERLINE

5' CONCRETE WALK

ORANGE TOWNSHIP
CITY OF COLUMBUS

L-5 STA. 1011+90, 47.50' RT
1B5, 400W, TYPE III

PB-2 STA. 1012+53, 87.11' LT
PULL BOX

POLARIS PKWY.

S 73° 43' 35" E

STA. 1014+25, 47.50' RT
PULL BOX
PB-7

STA. 1014+20, 47.50' RT
1A4, 400W, TYPE III
L-16

L-4 STA. 60+05, 61.5' RT
1B4, 400W, TYPE III

4'-2" CONDUIT W/CAP

STA. 59+88.3, 52.0' LT
EXISTING LIGHT POLE AND
LUMINAIRE TO BE RELOCATED
R-5

STA. 60+04.8, 51.1' LT
RELOCATED POLE & LUMINAIRE
1A5, 400W, TYPE III
L-17

2" EMPTY CONDUIT
W/ PULL WIRE BETWEEN
L-17 AND L-19 = 282'

MATCH LINE STA. 60+93.43 - POLARIS PARKWAY
SEE SHEET 315

NOTE: MAINTAIN 12" MIN. VERTICAL CLEARANCE
AT ALL WATERLINE CROSSINGS.

HORIZONTAL SCALE IN FEET
0 10 20 40

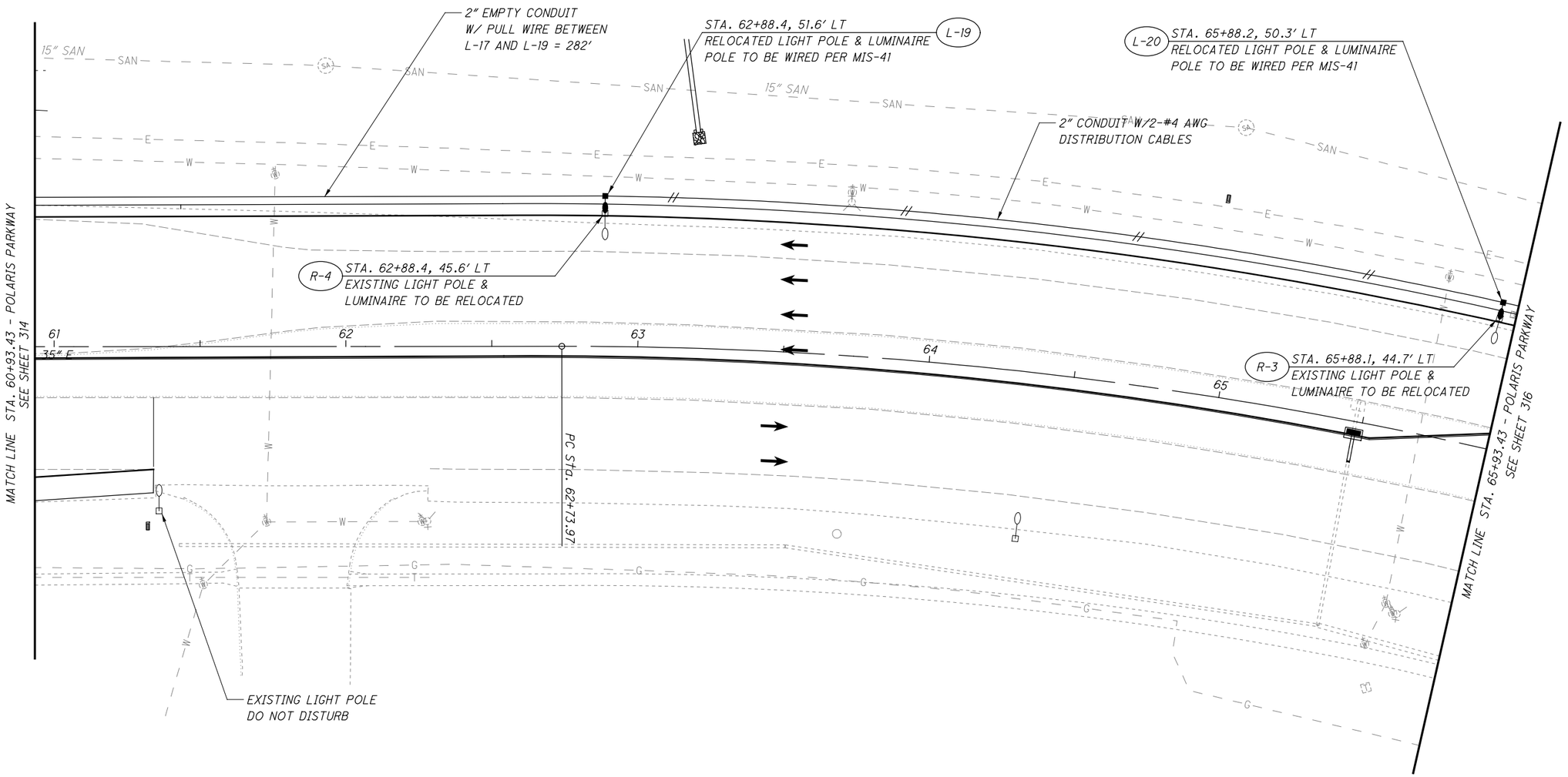
CALCULATED AWF
CHECKED PHF

LIGHTING PLAN - SOUTH OLD STATE ROAD
STA. 1011+50 TO STA. 1016+50

DEL-CR10-0.90

2952-DR.E

314
437



NOTE: MAINTAIN 12" MIN. VERTICAL CLEARANCE AT ALL WATERLINE CROSSINGS.

HORIZONTAL SCALE IN FEET
0 10 20 40

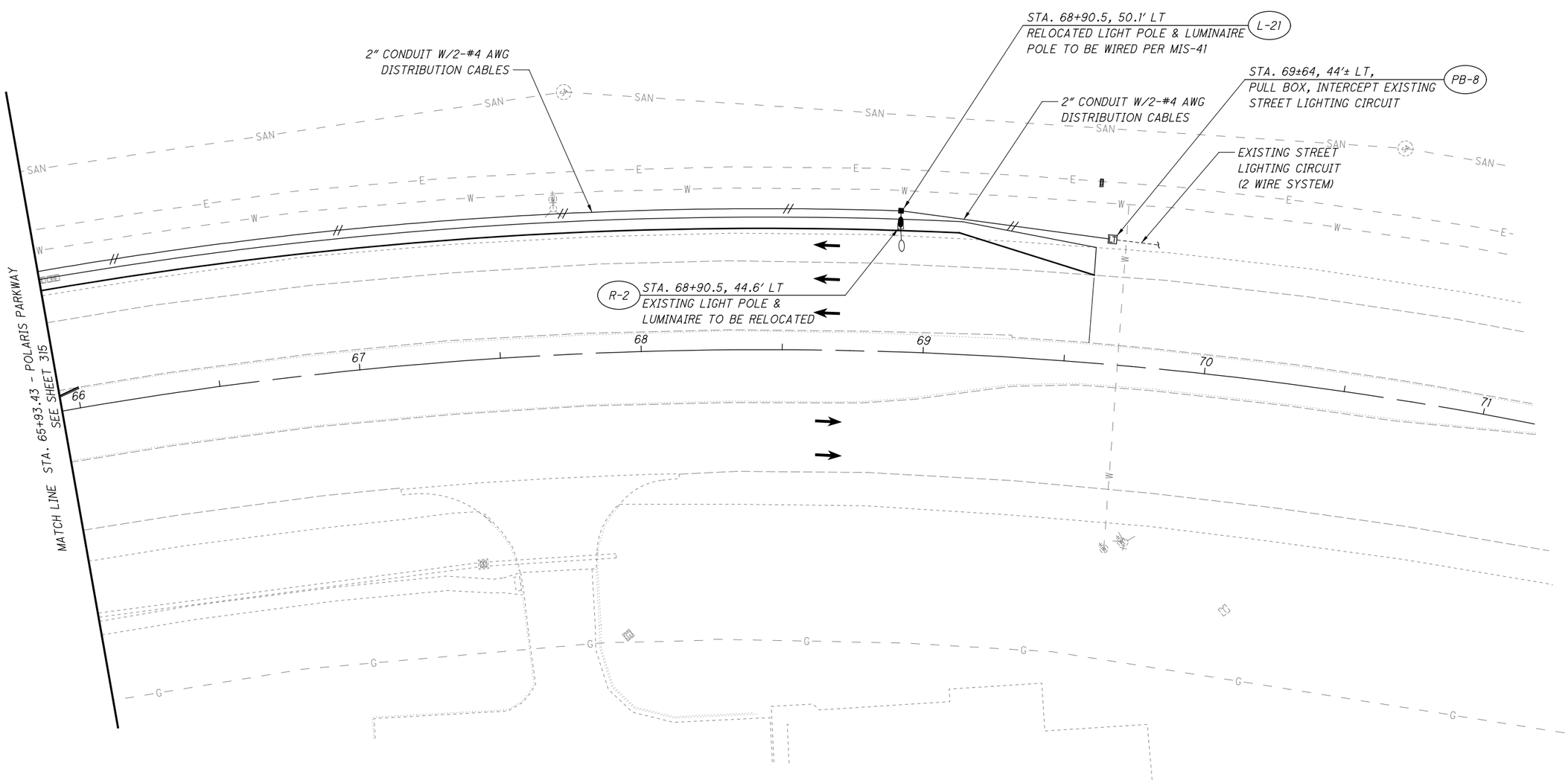
CALCULATED AWF
CHECKED PHF

LIGHTING PLAN - POLARIS PARKWAY
STA. 60+90.43 TO STA. 65+90.43

DEL-CR10-0.90

2952-DR.E

315
437



NOTE: MAINTAIN 12" MIN. VERTICAL CLEARANCE AT ALL WATERLINE CROSSINGS.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED PHF

LIGHTING PLAN - POLARIS PARKWAY
STA. 65+93.43 TO STA. 71+15

DEL-CR10-0.90

2952-DR.E

316
437

THIS WORK CONSISTS OF FURNISHING AND PLANTING TREES, SHRUBS, VINES, AND OTHER MATERIALS.

PLANT MATERIALS

PLANT MATERIALS INCLUDE ALL TREES, SHRUBS, VINES, AND PLANTS REQUIRED FOR THE PROJECT. ENSURE THAT ALL PLANT MATERIALS CONFORM TO THE CURRENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AS PUBLISHED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION. ENSURE THAT ALL PLANTS ARE HEALTHY REPRESENTATIVES, TYPICAL OF THEIR SPECIES OR VARIETY, AND EXHIBIT A NORMAL HABIT OF GROWTH. ENSURE THAT ALL PLANTS ARE HARDY UNDER CLIMATIC CONDITIONS AND GROW IN THE SAME HARDINESS ZONE OR COLDER AS THE ONE IN WHICH THE PROJECT IS LOCATED.

LABELING

ATTACH LEGIBLE LABELS TO ALL SPECIMENS, OR BOXES, BUNDLES, AND OTHER CONTAINERS, INDICATING DETAILED INFORMATION COVERING THE BOTANICAL GENUS AND THE SPECIES NAME, THE COMMON NAME, THE SIZE OR AGE OF EACH SPECIES OR VARIETY, AND THE QUANTITY CONTAINED IN THE INDIVIDUAL BUNDLES, BOXES, AND BALES. REMOVE ALL LABELS BEFORE THE COMPLETION OF THE ESTABLISHMENT PERIOD.

INSPECTION

THE ENGINEER WILL INSPECT AND SEAL ALL PLANT MATERIALS ON THE PROJECT SITE WITH DEPARTMENT SEALS BEFORE USE OR PLANTING. THE ENGINEER WILL INSPECT ALL PLANTS TO ENSURE THEY ARE HEALTHY, VIGOROUS, AND FREE FROM HARMFUL DEFECTS, DECAY, DISFIGURED STEMS AND ROOTS, PLANT DISEASES, AND INSECT PESTS.
THE DEPARTMENT WILL GIVE FINAL ACCEPTANCE OF ALL PLANT MATERIALS ONLY AFTER THE MATERIALS ARE PLANTED AND HAVE MET ALL THE REQUIREMENTS OF THIS ITEM.
REMOVE THE DEPARTMENT SEALS FROM THE PLANT MATERIALS AFTER THE FINAL INSPECTION.

LOCATION AND SOURCE OF SUPPLY

SUPPLY THE ENGINEER WITH COMPLETE AND DETAILED INFORMATION CONCERNING THE SOURCE OF SUPPLY FOR EACH ITEM OF REQUIRED PLANT MATERIAL WITHIN 15 DAYS AFTER RECEIVING THE NOTICE OF AWARD OF THE CONTRACT.

SCHEDULING

DIG AND PLANT ALL PLANTS AFTER SEPTEMBER 15 AND BEFORE JUNE 1. PLANT REPLACEMENT PLANTS AFTER SEPTEMBER 15 AND BEFORE JUNE 1. WATER ACCORDING TO ITEM 662.

TRANSPORTATION, STORAGE, AND HANDLING

TRANSPORT ALL PLANTS FROM NURSERY SOURCES TO THE PROJECT SITE WITH THE ENTIRE LOAD COMPLETELY COVERED FOR PROTECTION FROM DRYING WINDS.
THOROUGHLY WATER ALL PLANTS THAT CANNOT BE IMMEDIATELY PLANTED SO AS TO KEEP THE ROOTS CONTINUALLY MOIST. THE ENGINEER MAY REJECT PLANTS THAT ARE NOT ADEQUATELY PROTECTED DURING TRANSPORTATION AND STORAGE. HANDLE ALL PLANT MATERIALS BY THE ROOT BALL OR CONTAINER.

LAYOUT OF PLANT MATERIALS

BEFORE DIGGING, USE SUITABLE STAKING TO LAY OUT THE LOCATIONS OF ALL PLANTING HOLES AND BEDS. OBTAIN THE ENGINEER'S APPROVAL OF THESE LOCATIONS BEFORE DIGGING.

PLANTING HOLES

DIG PLANTING HOLES THAT HAVE SLOPED SIDE WALLS "BOWL SHAPED". SLOPES OF THE SIDE WALLS SHALL HAVE A MINIMUM OF 1:1 SIDE SLOPES. THE TOP OF THE PLANTING HOLES SHALL BE TWO TIMES THE DIAMETER OF THE ROOT BALL. PLANTING HOLES SHALL BE DUG TO THE SAME DEPTH AS THE ROOT BALL STRUCTURE. THE EARTH UNDER ROOT BALLS SHALL BE COMPACTED OR UNEXCAVATED SOIL TO PREVENT SETTLEMENT.

FOR DEPTH OF PLANTING

DIG PLANTING HOLES FOR VINES AND PERENNIALS TO A MINIMUM DEPTH AND DIAMETER OF 6 INCHES (150 MM). MAKE PLANTING HOLES FOR ROOTED CUTTINGS AND TREE SEEDLINGS LARGE ENOUGH TO ACCOMMODATE THE ROOT SYSTEM.

PLANTING BEDS

ONE MONTH BEFORE CULTIVATION, TREAT ALL PLANTING BEDS THAT ARE TO BE DEVELOPED IN AREAS OF EXISTING TURF WITH PRE-EMERGENT AND POST-EMERGENT TYPE HERBICIDES. USE A STATE-LICENSED PESTICIDE APPLICATOR TO APPLY THE HERBICIDE ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

BEFORE PLANTING, TOP DRESS ALL PLANTING BEDS WITH A MINIMUM OF 2 INCHES (50 MM) OF BACKFILL MIX, THEN CULTIVATE IT TO A DEPTH OF 6 INCHES (150 MM) USING A PLOW, DISC, OR ROTO-TILLER.

BACKFILL MIX

FOR ALL PLANTINGS, USE BACKFILL MIX CONSISTING OF THE FOLLOWING:

A. ONE PART EXCAVATED SOIL.
B. ONE PART SPHAGNUM PEAT MOSS, SHREDDED PINE BARK, OR EPA RATED CLASS IV COMPOST.
C. ONE PART SAND.
D. A SLOW RELEASE COMMERCIALFERTILIZER (0-20-20 OR EQUAL) ADDED AT A RATE OF 5 POUNDS PER CUBIC YARD (3 KG/M3) TO THE BACKFILL MIX.

DO NOT USE BACKFILL MIX IN A FROZEN OR MUDDY CONDITION. MIX BACKFILL ON THE PROJECT SITE.

PLANTING

PLANTING TREES & SHRUBS: SET EACH PLANT IN THE CENTER OF THE PLANTING HOLE, PLUMB, AND STRAIGHT AT A LEVEL SUCH THAT THE TOP OF THE ROOT STRUCTURE (I.E., TRUNK FLARE OR ROOT COLLAR) IS 1 INCH (25 MM) ABOVE THE SURROUNDING SOIL. PRIOR TO BACKFILLING THE HOLE, REMOVE ALL TWINE, BAGS, AND ROPING. FOR TREES SHIPPED WITH WIRE BASKETS SUPPORTING THE ROOT STRUCTURE, REMOVE THE TOP TWO-THIRD OF THE WIRE BASKET FROM ROOT BALLS. REMOVE ALL ROT-PROOF BURLAP. REMOVE OR FOLD DOWN THE TOP ONE-THIRD OF STANDARD (BIODEGRADABLE) BURLAP. GREAT CARE MUST BE TAKEN TO NOT SEPARATE THE SOIL OF THE ROOT BALL FROM THE PLANTS ROOT SYSTEM. CIRCLING ROOTS SHALL BE CUT OR REMOVED PRIOR TO PLANTING.

BACKFILL THE PLANTING HOLE WITH THE BACKFILL MIX. FILL THE HOLE GRADUALLY AND SETTLE THE BACKFILL WITH WATER TO THE TOP OF THE ROOT STRUCTURE. DO NOT PLACE BACKFILL MIX IN DIRECT CONTACT WITH THE TRUNKS OR STEMS. ADD BACKFILL MIX AROUND THE ROOT STRUCTURE SO THAT THE EDGES OF THE ROOT STRUCTURE ARE COVERED BY A MINIMUM OF 12 INCHES.

DO NOT PLANT GROUNDCOVERS, VINES, OR PERENNIALS CLOSER THAN 12 INCHES TO TREE TRUNKS AND SHRUB STEMS OR WITHIN 6 INCHES OF THE EDGE OF PLANTING BEDS.

LOCATE TREES AND SHRUBS AS SPECIFIED IN THE PLAN.

MULCH

SMOOTH AND SHAPE THE BACKFILL MIX TO FORM A SHALLOW BASIN SLIGHTLY LARGER THAN THE PLANTING HOLE. MULCH THESE AREAS WITH A 4-INCH (100 MM) LAYER OF FINELY SHREDDED HARDWOOD BARK OF UNIFORM TEXTURE AND SIZE. MULCH SHALL NOT BE PLACED IN DIRECT CONTACT WITH THE TRUNK OF THE TREE. USE SHREDDED BARK AGED AT LEAST ONE YEAR. RAKE AND SMOOTH THE ENTIRE AREA OF THE PLANTING BEDS.

AFTER MULCHING AND BEFORE WATERING, ADD A SLOW RELEASE COMMERCIAL FERTILIZER (12-12-12 OR EQUAL), IN GRANULAR FORM, TO THE TOP OF THE MULCH AT A RATE OF 5 POUNDS PER 100 SQUARE FEET (0.25 KG/M2). DO NOT ALLOW THE FERTILIZER TO CONTACT THE STEMS, TRUNK, BRANCHES, OR LEAVES OF THE PLANTS.

WATER THOROUGHLY AS PER 661.17.

PRUNING

TO BALANCE THE LOSS OF ROOTS AFTER PLANTING, PRUNE THE BRANCHES OF DECIDUOUS PLANTS TO PRESERVE THE NATURAL CHARACTERISTICS OF THE SPECIES, FOLLOWING STANDARD HORTICULTURAL PRACTICES. REMOVE BROKEN, DAMAGED, AND UNSYMMETRICAL BRANCHES AND OTHER GROWTH TO ENSURE HEALTHY AND SYMMETRICAL GROWTH OF NEW WOOD. DO NOT TRIM THE CENTRAL LEADER OF THE TREES.

WRAPPING

WRAP ALL SINGLE DECIDUOUS TREE TRUNKS OF 1 INCH CALIPER AND LARGER. BEFORE WRAPPING, INSPECT FOR INSECT INFESTATION AND TAKE CORRECTIVE MEASURES. WRAP TREES WITHIN 48 HOURS AFTER PLANTING, USING A DOUBLE-LAYERED, BITUMINOUS-CEMENTED, WATERPROOF, CRINKLED PAPER. START AT THE GROUND AND WRAP THE TRUNK NEATLY AND SNUGLY TO THE HEIGHT OF THE FIRST BRANCHES, THEN ATTACH SECURELY. WITH EACH TURN OF THE WRAPPING, OVERLAP THE PREVIOUS TURN BY HALF THE WIDTH OF THE PAPER.

BRACING

BRACE ALL TREES BY STAKING AS SHOWN ON THE STANDARD CONSTRUCTION DRAWING LA-1.2. ONLY FLEXIBLE OR BIODEGRADABLE TIES SHALL BE USED WHEN STAKING TREES.

STAKING SHOULD ONLY BE USED IN AREAS WHERE MOWER DAMAGE, VANDALISM, OR WINDY CONDITIONS ARE A CONCERN OR AS DIRECTED BY THE ENGINEER. THE TIES SHALL BE LOOSE FITTING, (AS NOT TO GIRDLE THE TRUNK) ATTACHED TO THE LOWER HALF OF THE TREE, AND ALLOW TRUNK MOVEMENT AND GROWTH. ALL STAKING AND WRAPPING MATERIALS SHALL BE REMOVED AT THE END OF THE ESTABLISHMENT PERIOD.

PERIOD OF ESTABLISHMENT

BEFORE FINAL INSPECTION, PLACE ALL PLANTS AND CARE FOR THEM FOR A PERIOD OF ESTABLISHMENT. THE PERIOD OF ESTABLISHMENT BEGINS IMMEDIATELY UPON COMPLETION OF THE PLANTING OPERATIONS AND CONTINUES UNTIL OCTOBER 1. THE MINIMUM PERIOD OF ESTABLISHMENT IS ONE GROWING SEASON, JUNE 1 THROUGH OCTOBER 1.

DURING THE PERIOD OF ESTABLISHMENT, FOLLOW STANDARD HORTICULTURAL PRACTICES TO ENSURE THE VIGOR AND GROWTH OF THE TRANSPLANTED MATERIAL. WATER, REMULCH, RESTAKE, AND CULTIVATE AS NECESSARY. PERFORM AT LEAST TWO WEEDING AND MOWING PROGRAMS (AROUND TREES, SHRUBS, AND BED EDGES) OF SUCH INTENSITY AS TO COMPLETELY RID THE PLANTED AND MULCHED AREAS OF WEEDS AND GRASSES. BEGIN THE FIRST PROGRAM ON OR ABOUT JUNE 15 AND THE SECOND APPROXIMATELY 8 WEEKS LATER.

ON OR ABOUT SEPTEMBER 15, THE ENGINEER WILL INSPECT THE PLANTING AND SUPPLY THE CONTRACTOR WITH A LIST OF PLANTS THAT HAVE FALLEN OVER OR ARE TILTED FROM PLUMB, MISSING OR, DEAD; AND THOSE THAT HAVE DIED BACK BEYOND NORMAL PRUNING LINES. REPLANT AS REQUIRED ACCORDING TO THE SPECIFICATIONS OF THE ORIGINAL MATERIAL. REPLACEMENT PLANTS ARE SUBJECT TO A NEW PERIOD OF ESTABLISHMENT. IMMEDIATELY REPLACE PLANTS PLANTED INITIALLY IN THE FALL THAT HAVE DIED BEFORE THE SPRING PLANTING SEASON. CARE FOR THE REPLACEMENT PLANTS DURING THE NEW ESTABLISHMENT PERIOD.

REMOVAL OF STAKES AND WRAPPING

REMOVE ALL STAKES AND WRAPPING MATERIAL FROM ALL PLANTS JUST BEFORE THE FINAL INSPECTION, WITH THE EXCEPTION OF THE REPLACEMENT PLANTINGS THAT HAVE NOT BEEN IN PLACE FOR A FULL GROWING SEASON. TAKE OWNERSHIP OF REMOVED ITEMS. USE REMOVED MATERIALS IN THE WORK WHEN THE MATERIAL CONFORMS TO THE SPECIFICATIONS; IF NOT, THEN RECYCLE OR DISPOSE OF THE MATERIAL ACCORDING TO 105.16 AND 105.17.

METHOD OF MEASUREMENT

THE DEPARTMENT WILL MEASURE THE NUMBER OF PLANT MATERIALS OF EACH SPECIES AND SIZE, COMPLETED AND ACCEPTED, IN PLACE.
661.20 BASIS OF PAYMENT. THE DEPARTMENT WILL PAY 50 PERCENT OF THE BID PRICE WHEN DELIVERED TO THE PROJECT SITE AND THE REMAINING 50 PERCENT OF THE BID PRICE WHEN PLANTED.

AT THE END OF THE ESTABLISHMENT PERIOD, THE DEPARTMENT WILL MAKE THE FINAL INSPECTION AND DETERMINE THE ACTUAL NUMBER OF LIVING PLANTS. THE DEPARTMENT WILL PAY AN ADDITIONAL 20 PERCENT OF THE BID PRICE FOR ALL PLANTS LIVING AT THE END OF THE ESTABLISHMENT PERIOD. THE DEPARTMENT WILL NOT PAY THE ADDITIONAL 20 PERCENT PAYMENT FOR PLANTINGS THAT DID NOT SURVIVE THE ESTABLISHMENT PERIOD. REPLACE ALL PLANTS NOT SURVIVING THE ESTABLISHMENT PERIOD AT NO ADDITIONAL COST TO THE DEPARTMENT. THE DEPARTMENT WILL EXTEND THE ESTABLISHMENT PERIOD FOR ALL REPLACEMENT PLANTINGS WITH NO ADDITIONAL PAYMENT.

THE DEPARTMENT WILL PAY FOR ACCEPTED QUANTITIES AT THE CONTRACT UNIT PRICE FOR:

ITEM 661 - DECIDUOUS TREE, 3" EACH

CALCULATED AWF
CHECKED PHF

LANDSCAPING GENERAL NOTES

DEL-CR10-0.90

2952-DR.E

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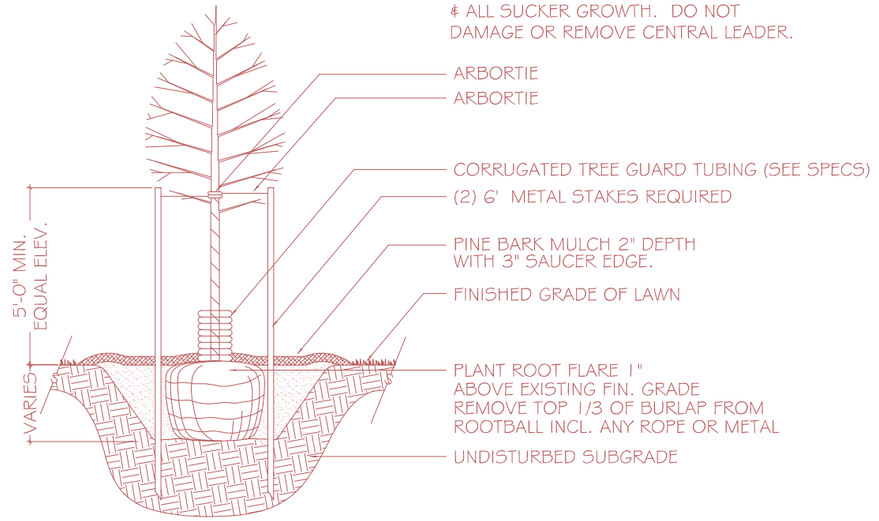
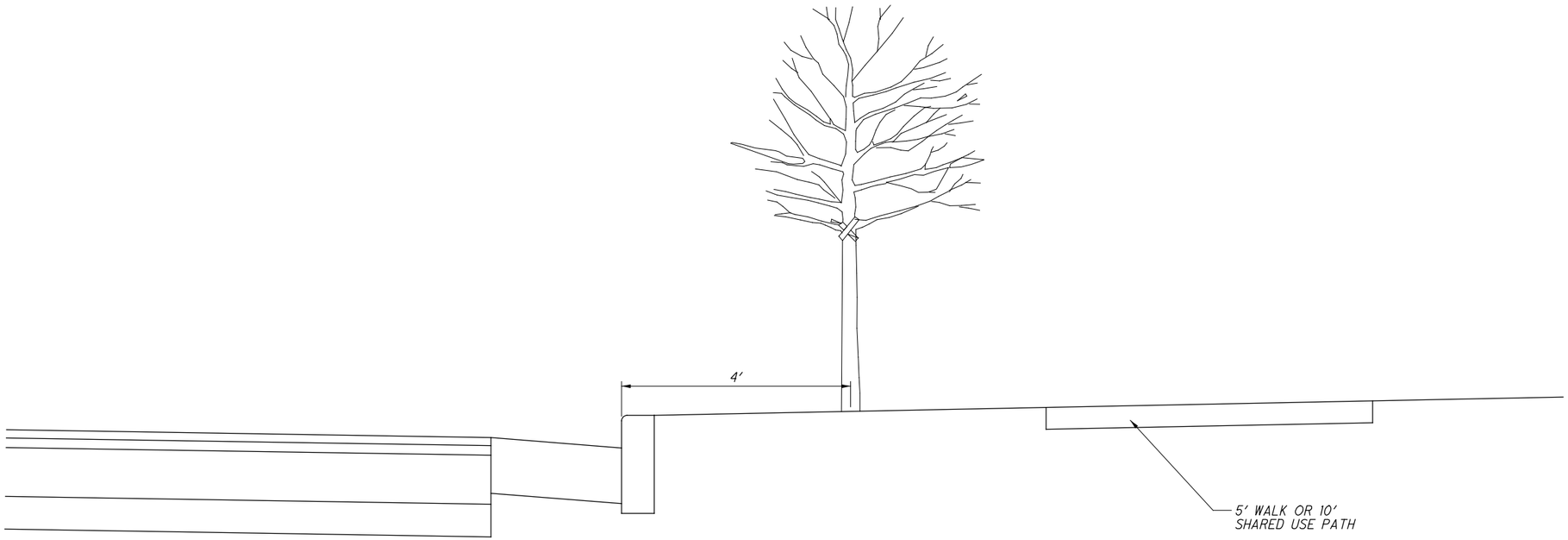
GENUS	SPECIES	CULTIVAR	COMMON NAME	Size
QUERCUS	RUBRA		RED OAK	50
TILIA	CORDATA	GREENSPIRE	LITTLE LEAF LINDEN	40'



DECIDUOUS TREE PLANTING
SECTION NTS



CALCULATED AWF
CHECKED PHF

LANDSCAPING NOTES & DETAILS

DEL-CR10-0.90

2952-DR.E

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SHEET NUMBER		PARTICIPATION		ITEM	EXTENSION	UNIT	QUANTITY	DESCRIPTION
320	321	CITY OF COLUMBUS	DELAWARE COUNTY					
12	11	23		661	40060	EACH	23	DECIDUOUS TREE, 1 1/2" - 2" CALIPER, TILIA CORDATA (LITTLE LEAF LINDEN)
10		10		661	40100	EACH	10	DECIDUOUS TREE, 2 1/2" - 3" CALIPER, QUERCUS RUBRA (RED OAK)
QUANTITIES CARRIED TO THE GENERAL SUMMARY								

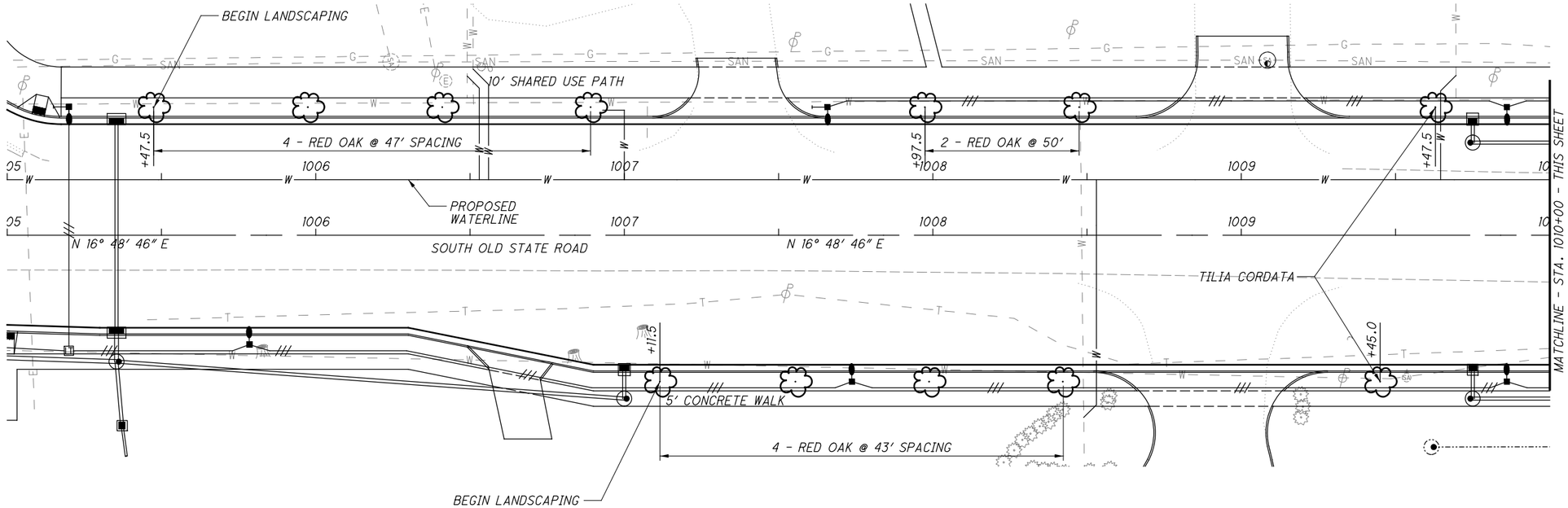
CALCULATED AWF
CHECKED ML

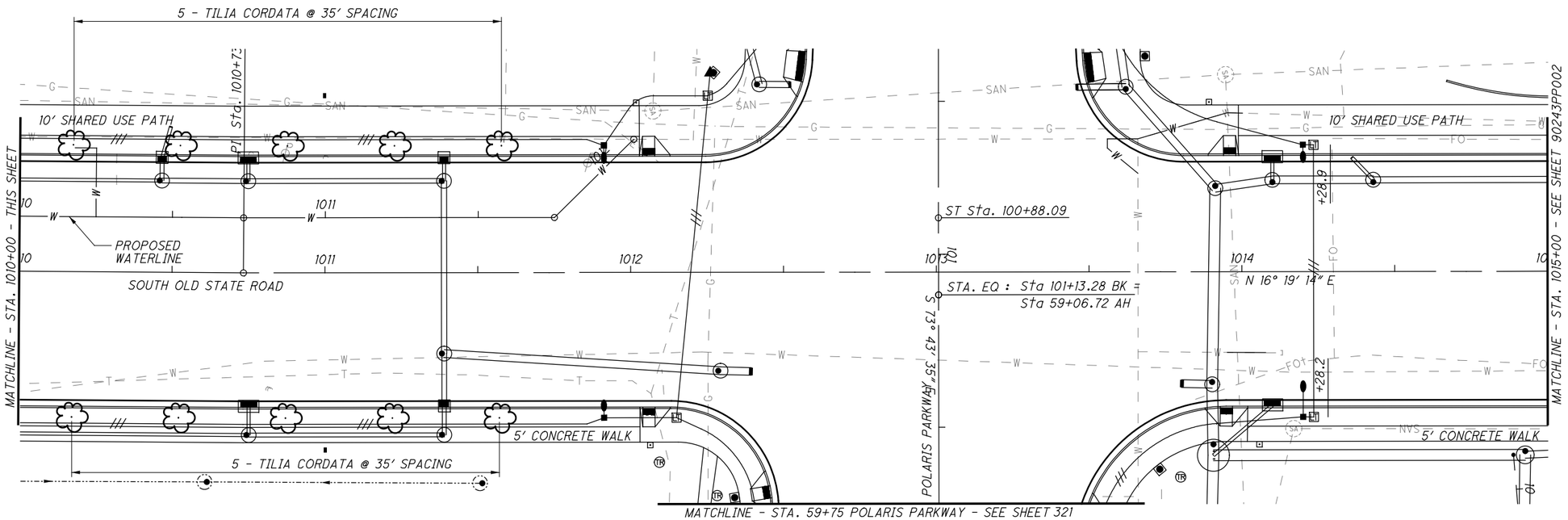
LANDSCAPE GENERAL SUMMARY

DEL-CR10-0.90

2952-DR.E

319
437





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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED ML

LANDSCAPING PLAN
STA. 1005+00 TO STA. 1015+00

DEL-CR10-0.90

2952-DR.E

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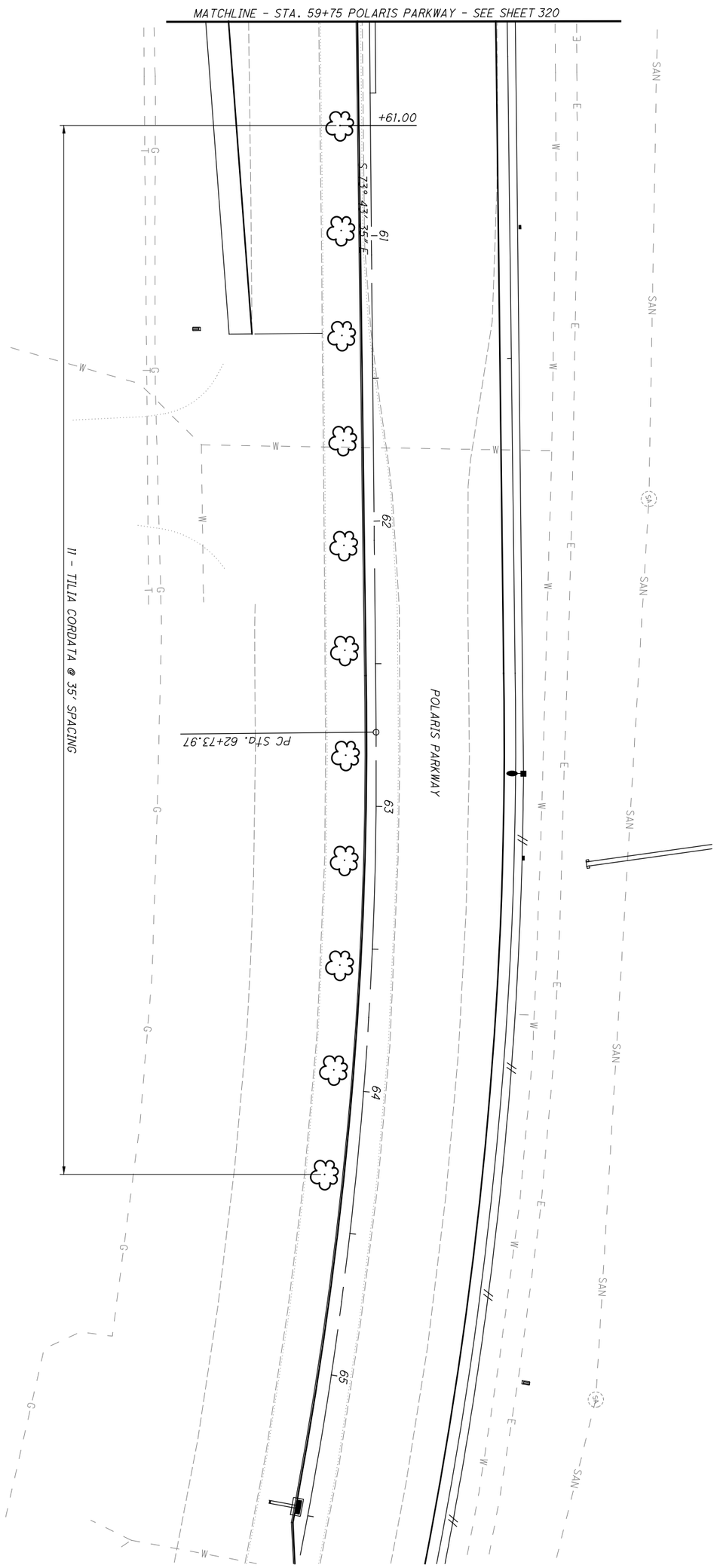

321 / 437	2952-DR.E	**DEL-CR10-0.90**	**LANDSCAPING PLAN** **POLARIS PARKWAY**	CALCULATED AWF CHECKED ML	0 10 20 40 HORIZONTAL SCALE IN FEET

TRAFFIC SIGNAL GENERAL NOTES CITY OF COLUMBUS SIGNAL

THIS SECTION APPLIES ONLY TO THE SIGNAL AT POLARIS PARKWAY AND OLD STATE ROAD. THIS INTERSECTION IS OWNED AND OPERATED BY THE CITY OF COLUMBUS. COORDINATION IS VIA A FIBER OPTIC INTERCONNECT TO AN OFF PROJECT MASTER.

THE DIVISION OF DESIGN AND CONSTRUCTION IS A SUBUNIT OF THE CITY OF COLUMBUS, PUBLIC SERVICE DEPARTMENT AND IS OWNER OF PART OR ALL OF THE FACILITIES COVERED BY THESE PLANS.

ALL INCIDENTAL WORK ITEMS CALLED FOR IN THESE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR AND THE TOTAL COST OF SAID ITEMS SHALL BE INCLUDED IN THE PRICE OF ITS ASSOCIATED BID ITEM.

ACCEPTANCE OF SIGNAL

THE DIVISION OF DESIGN AND CONSTRUCTION SHALL BE THE SOLE AGENCY TO ACCEPT ANY TRAFFIC SIGNAL INSTALLATION ON BEHALF OF THE CITY. THE DIVISION WILL NOT GIVE PERMISSION TO THE CONTRACTOR TO EITHER PLACE A PROPOSED SIGNAL ON FLASH OR ACTIVATE IT OR ACCEPTED ANY SIGNAL INSTALLATION IF ANY ELECTRICAL CLEARANCE REGULATIONS OR ANY OSHA ELECTRICAL SAFETY CLEARANCES ARE IN VIOLATION. IF ANY PROPOSED AERIAL CABLE IS ATTACHED TO ANY NON-DIVISION OWNED POLE, THEN PERMISSION TO ATTACH MUST BE GRANTED BY THE POLE OWNER AND ATTACHMENT CONFIRMATION RECEIVED BY THIS DIVISION BEFORE THE SIGNAL WILL BE ACCEPTED. IF A RECORDED EASEMENT IS REQUIRED, A COPY OF THE RECORDED EASEMENT MUST BE DELIVERED TO THE DIVISION'S PROJECT ENGINEER BEFORE THE SIGNAL INSTALLATION IS ACCEPTED.

PROJECT SIGNAL INSPECTION, SIGNAL PLAN CHANGES & NOTIFICATION

IN ADDITION TO PROJECT PERSONNEL, A REPRESENTATIVE FROM THE DIVISION OF DESIGN AND CONSTRUCTION, CONSTRUCTION SECTION, SHALL BE PRESENT TO INSPECT THE SIGNAL INSTALLATION AT ALL SIGNALS WITHIN THE JURISDICTION OF THE CITY OF COLUMBUS. ANY CHANGE TO THE SIGNAL PLANS SHALL BE APPROVED BY THE SIGNAL DESIGN SECTION PRIOR TO ITS IMPLEMENTATION. THE CONTRACTOR SHALL CONTACT BOTH THE PROJECT PERSONNEL AND CONSTRUCTION SECTION PERSONNEL (614-645-7883) TO ARRANGE A TIME AND DATE FOR A SIGNAL PRECONSTRUCTION CONFERENCE TO DISCUSS THIS PROJECT. NO SIGNAL WORK SHALL START PRIOR TO THIS MEETING.

EXISTING UTILITIES

THE DIVISION OF DESIGN AND CONSTRUCTION ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OR THE DEPTHS OF THE UNDERGROUND FACILITIES SHOWN ON THESE PLANS. SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE COST OF THIS WORK SHALL BE INCLUDED IN THE BID PRICE FOR THE VARIOUS ITEMS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OHIO UTILITIES PROTECTION SERVICE (OUPS) AND THE FOLLOWING CITY UTILITIES SO THEIR RESPECTIVE UTILITIES CAN BE MARKED. THE PROJECT ENGINEER SHALL NOT AUTHORIZE THE START OF ANY SIGNAL UNDERGROUND WORK UNTIL ALL UTILITIES HAVE BEEN MARKED.

SEWERS & DRAINS 614-645-7102 (FAX -3242)
ELECTRICITY 614-645-7627 (FAX -7150)
TRANSPORTATION 614-645-7393 (FAX -5967)
WATER 614-645-7788 (FAX -0220)
TELECOMMUNICATIONS 614-645-1501 (FAX -6627)
COMMUNICATIONS 614-645-7344 (FAX -6588)

PLAN AND SPECIFICATION COMPLIANCE

THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC SIGNAL DEVICES IN COMPLIANCE WITH THESE PLANS AND SPECIFICATIONS, THE 2012 COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS AND ITS SUPPLEMENTAL SPECIFICATIONS, OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AND THE "TC" STANDARD CONSTRUCTION DRAWINGS ISSUED BY THE ODOT OFFICE OF TRAFFIC ENGINEERING (SUPPLEMENTS THE PLAN SPECIFICATIONS). THE CITY OF COLUMBUS, DIVISION OF DESIGN AND CONSTRUCTION, SHALL DETERMINE WHETHER THE SUPPLIED ITEMS MEET OR EXCEED THESE SPECIFICATIONS.

TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL MEET OR EXCEED THE STANDARDS SPECIFIED IN THE FOLLOWING DOCUMENTS.

(A) SPECIFICATIONS LISTED IN THIS PLAN;

(B) APPLICABLE SECTIONS OF NEMA STANDARDS PUBLICATION NO. TS2-1998 AND/OR TS111989;

(C) 2012 COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS 625, 632, 633, 725, 732 & 733; OTHER ODOT DRAWINGS AND SUPPLEMENTALS.

IN CASE OF A CONFLICTING SPECIFICATION STATEMENT, THE SPECIFICATION DOCUMENT HIERARCHY SHALL BE IN THE ORDER LISTED FROM (A), HIGHEST, TO (C), LOWEST.

SIGNAL INSTALLATION & MAINTENANCE PERSONNEL REQUIREMENTS

THE CONTRACTOR SHALL ASSIGN A PROJECT SUPERVISOR. THE SUPERVISOR SHALL BE A FULL TIME EMPLOYEE OF THE CONTRACTOR. THE CONTRACTOR SHALL NOT CHANGE THE PROJECT SUPERVISOR WITHOUT GIVING THE PROJECT ENGINEER WRITTEN NOTICE. THE CONTRACTOR SHALL PROVIDE INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION (IMSA) CERTIFIED DOCUMENTATION FOR THEIR EMPLOYEES IF REQUESTED BY PROJECT OR DIVISION PERSONNEL.

ALL CONTROLLER WORK AS DEFINED BELOW IN ITEMS 1 THROUGH 4 SHALL BE PERFORMED BY AN IMSA LEVEL TWO CERTIFIED TECHNICIAN.

1. BACK PANEL WIRING TERMINATIONS
2. PROGRAMMING
3. TESTING OR TURN ON
4. TROUBLESHOOTING

THE CONTRACTOR SHALL ALSO HAVE A FOREMAN ASSIGNED TO EACH CREW PERFORMING WORK FOR THIS PROJECT. A FOREMAN SHALL BE PRESENT AT ALL TIMES WHEN WORK IS PERFORMED BY THE CREW. EACH FOREMAN SHALL BE AN IMSA LEVEL ONE CERTIFIED TECHNICIAN. THE CONTRACTOR SHALL PROVIDE PRIOR VERBAL NOTICE TO THE PROJECT ENGINEER IN ORDER TO REPLACE A CREW FOREMAN.

IN ADDITION, ANY TRADE PERSON PERFORMING WORK AS DEFINED BELOW IN ITEMS 1 THROUGH 7 SHALL BE AN IMSA LEVEL ONE CERTIFIED TECHNICIAN.

1. CABLE SPLICES
2. SIGNAL HEAD INSTALLATION
3. CABLE AND WIRE INSTALLATION
4. POWER SERVICE INSTALLATION
5. GROUND ROD TESTING
6. CABLE INSULATION TESTING
7. FIELD WIRING TERMINATIONS

MATERIAL INFORMATION SUBMITTAL

THE CONTRACTOR SHALL SUBMIT ALL REQUIRED MATERIALS FOR APPROVAL TO THE CITY OF COLUMBUS, DIVISION OF DESIGN AND CONSTRUCTION, CONSTRUCTION SECTION, 1800 EAST 17TH AVENUE, COLUMBUS, OHIO 43219-1007, ATTN: TRAFFIC SIGNAL CONSTRUCTION COORDINATOR. THE MATERIAL SUBMISSION SHALL CONTAIN ONE (1) COMPLETE SET OF CATALOG CUTS, DIAGRAMS, SHOP DRAWINGS, BROCHURES OR OTHER DESCRIPTIVE MATERIAL FOR THE SIGNAL ITEMS THAT THE CONTRACTOR INTENDS TO FURNISH THAT HAVE NOT BEEN SPECIFICALLY NAMED IN THESE PLANS BY PRODUCT MODEL NUMBER. THE CONTRACTOR SHALL ALSO PROVIDE A DETAILED LIST OF ALL VARIANCES FROM ODOT SPECIFICATIONS AND FROM THE SPECIFICATIONS CONTAINED HEREIN FOR EACH NONSPECIFIED ITEM THAT DOES NOT COMPLY 100% WITH THESE SPECIFICATIONS. UNLESS OTHERWISE STATED BY THE CONTRACTOR THE SUPPLIED ITEMS WILL BE CONSIDERED AS BEING IN STRICT ACCORDANCE WITH ALL SPECIFICATIONS.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL NON-CURRENT CARRYING METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR AT THE CONTROLLER CABINET.
   A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04)/POLYVINYL CHLORIDE CONDUITS (725.051) AND POLYETHYLENE CONDUITS (725.052) IN ADDITION TO THE CONDUCTORS SPECIFIED.
   B. METAL PULL BOX FRAMES SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME AS ILLUSTRATED ON CITY OF COLUMBUS STANDARD CONSTRUCTION DRAWINGS 4021 THROUGH 4023.
   C. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
   D. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS SHALL 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 UNLESS OTHERWISE DIRECTED BY THE CITY.

2. CONDUITS.
   A. THE 725.04 CONDUIT SHALL HAVE HEAVY DUTY 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.

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. THE INSULATION SHALL BE GREEN WITH TWO (2) YELLOW STRIPES (TRACERS).
      III. SPLICES IN THE GROUNDING AND BONDING CABLE SHALL NOT BE PERMITTED IN PULL BOXES.

4. GROUND ROD
   A. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. POWER SERVICE AND DISCONNECT.
   A. AT THE CONTROLLER CABINET, THE GROUNDING ELECTRODE CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS UNSPLICED CONDUCTOR.
   B. POWER SERVICE DISCONNECTS ARE NOT USED BETWEEN THE SECONDARY SIDE OF THE TRANSFORMER SUPPLYING POWER SERVICE AND THE CONTROLLER CABINETS.

PAYMENT
PAYMENT FOR THE ABOVE WORK SHALL BE INCIDENTAL TO "ITEM 625, NO. 4 AWG, 600 VOLT DISTRIBUTION CABLE".

CONTRACTOR TESTING OF ELECTRONIC SIGNAL COMPONENTS BEFORE PRIMARY POWER INSTALLATION

IF ANY TESTING OF THE SIGNAL INSTALLATION OR ANY ASPECT THEREOF IS PLANNED BY THE CONTRACTOR PRIOR TO AN APPROVED FLASH OR SIGNAL TURN-ON, THE CONTRACTOR SHALL NOTIFY THE DIVISION'S ELECTRONIC SHOP SUPERVISOR AT 614-645-7933 ONE DIVISION WORKING DAY IN ADVANCE AND SHALL HAVE A SPECIAL DUTY OFFICER PRESENT FOR THE TEST TO CONTROL TRAFFIC AS NEEDED. TESTING AND/OR TROUBLESHOOTING SHALL BE PERFORMED BY AN IMSA LEVEL TWO CERTIFIED TECHNICIAN. IF PORTABLE POWER IS USED, IT SHALL BE PROPERLY CONNECTED TO A GROUND ROD READING 10 OHMS OR LESS AND HAVE A PROPER REGULATING DEVICE TO SMOOTH CURRENT.

TEN DAY TEST REQUIREMENTS

THE DIVISION OF DESIGN AND CONSTRUCTION REQUIRES A 10 DAY TEST TO START AFTER THE SIGNAL INSTALLATION IS 100% COMPLETE WHICH INCLUDES ESTABLISHING DATA COMMUNICATION IF PRESENT. NO PARTIAL TESTS WILL BE CONDUCTED. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE CONSTRUCTION MATERIAL TESTING/SURVEY MANAGER AT 1800 EAST 17TH AVENUE, COLUMBUS, OH 43219-1007 STATING THAT THE SIGNAL INSTALLATION IS 100% COMPLETE AND A START DATE FOR THE TEN DAY TEST IS REQUESTED. THIS DIVISION SHALL MONITOR THE TEST AND SHALL BE THE SOLE AGENCY TO ACCEPT THE SIGNAL INSTALLATION ON BEHALF OF THE CITY. IF LESS THAN 100% COMPLETION IS DETECTED UPON INSPECTION BY THIS DIVISION OR ANY MALFUNCTION IS DETECTED, THEN THE TEN DAY TEST SHALL BE COMPLETELY RESTARTED. CONTACT THE DIVISION AT 645-8376. FAX TRANSMISSION IS ACCEPTABLE. FAX NUMBER IS 614-645-3298 (ATTN.: TRAFFIC SIGNAL CONSTRUCTION COORDINATOR).

CALCULATED AJB | CHECKED VMF

TRAFFIC SIGNAL GENERAL NOTES
CITY OF COLUMBUS

DEL-CR10-0.90

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INSTALLATION LAYOUT

ALL TRAFFIC SIGNAL STRAIN POLES, PEDESTALS OR SIGNAL SUPPORTS AND ALL OTHER STATIONED SIGNAL ITEMS SHALL BE LOCATED AND MARKED BY A PROFESSIONAL SURVEYOR USING THE STATION NUMBERS AND OFFSETS PROVIDED IN THESE PLANS. THE SURVEYOR SHALL ALSO SET CONTROLS FOR MASTARM STRUCTURES WHEN PRESENT SO THE MASTARM ALIGNMENT CAN BE SET PROPERLY. THE SURVEYOR SHALL SET PROPER POLE, PEDESTAL AND CABINET FOUNDATION ELEVATIONS AND STAKE ALL ASSOCIATED RADII SO FOUNDATIONS CAN BE ALIGNED PROPERLY. TRANSPORTATION DIVISION PERSONNEL SHALL APPROVE ALL FOUNDATION LOCATIONS AND ELEVATIONS PRIOR TO THE CONTRACTOR INSTALLING THEM. THE SURVEYOR SHALL ALSO STAKE THE RIGHT-OF-WAY ANYTIME A STATIONED TRAFFIC SIGNAL ITEM IS WITHIN ONE (1) FOOT OF THE RIGHT-OF-WAY. WHEN REQUESTED BY PROJECT PERSONNEL, THE SURVEYOR SHALL SET AND MARK A PROPOSED TOP-OF-CURB ELEVATION STAKE AT THE BACK-OF-CURB OR IF NO CURB AN EDGE-OF-PAVEMENT ELEVATION STAKE AT THE PROPOSED EDGE-OF-PAVEMENT. RADIALLY ALIGN THIS ELEVATION STAKE WITH THE RADIUS HUB AND SIGNAL/SUPPORT POLE LOCATION STAKE. COSTS INCURRED FOR THIS SERVICE SHALL BE INCIDENTAL TO THE COST OF THE PROJECT OR PROVIDED UNDER A CONSTRUCTION LAYOUT STAKE ITEM.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATIONS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PROPOSED TRAFFIC SIGNAL DEVICES UNDER THE FOLLOWING CONDITIONS FROM THE TIME OF INSTALLATION UNTIL THE DEVICE HAS BEEN ACCEPTED BY THE TRANSPORTATION DIVISION.

THE CONTRACTOR SHALL PROVIDE TWO CONTACT PERSONS WHO CAN RECEIVE ALL DEVICE OUT-OF-SERVICE CALLS THAT FALL UNDER THE CONTRACTOR'S RESPONSIBILITY. THE CONTRACTOR SHALL DISPATCH MAINTENANCE PERSONNEL TO CORRECT THE PROBLEM. THE CONTRACTOR SHALL PROVIDE THIS DIVISION AND THE PROJECT ENGINEER WITH ADDRESSES AND PHONE NUMBERS OF THESE CONTACT PERSONS. MAINTENANCE PERSONNEL MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS CONTINUOUSLY AVAILABLE TWENTY-FOUR (24) HOURS A DAY AND SEVEN (7) DAYS A WEEK. THE CONTRACTOR SHALL PROVIDE MAINTENANCE SERVICE ENTIRELY WITH HIS PERSONNEL.

THE CONTRACTOR SHALL CORRECT ALL BULB OUTAGES, DEVICE MALFUNCTIONS OF ANY TYPE, INTERNAL CABINET POWER LOSSES, SPAN OR CABLE PROBLEMS AND MISALIGNED OR DAMAGED VEHICULAR OR PEDESTRIAN SIGNAL HEADS WITHIN TWO (2) HOURS AFTER THE CONTRACTOR'S CONTACT PERSON HAS BEEN NOTIFIED OF ANY ONE OF THE ABOVE. IN THE EVENT A NEW SIGNAL DEVICE IS DAMAGED PRIOR TO ACCEPTANCE, THE DAMAGED DEVICE EXCEPT POLES SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THIS DIVISION. ANY DAMAGED CABINET ASSEMBLY DEVICE IF REPAIRED SHALL BE TESTED ONCE AGAIN BY THIS DIVISION BEFORE THE DEVICE CAN BE INSTALLED.

IN THE EVENT OF A LOSS OF POWER TO THE SIGNAL INDICATIONS OTHER THAN AN ELECTRIC COMPANY GENERAL POWER OUTAGE, THE CONTRACTOR AT HIS EXPENSE SHALL IMMEDIATELY TAKE ACTION [WITHIN 30 MINUTES] TO PROPERLY ERECT TEMPORARY STOP SIGN(S) AND PROVIDE POLICE OFFICER(S) TO DIRECT TRAFFIC UNTIL THE SIGNAL IS BACK ON "FLASH" OR OPERATING PROPERLY.

IF A TRAFFIC STRAIN, SUPPORT OR PEDESTAL POLE IS DAMAGED AND THAT DAMAGE CAUSED POLE INSTABILITY, THEN THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION (WITHIN 2 HOURS) TO STABILIZE IT. THE CONTRACTOR SHALL STILL BE RESPONSIBLE FOR PROVIDING THE PROJECT WITH A NEW UNDAMAGED POLE.

WHERE OUT-OF-SERVICE CALLS ARE THE DIRECT RESULT OF A VEHICULAR ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COLLECTION OF ANY COMPENSATION FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE TO THE CONTRACTOR'S MATERIALS.

WHERE THE CONTRACTOR HAS FAILED TO RESPOND OR CANNOT RESPOND TO AN OUT-OF-SERVICE CALL WITHIN THE TIME PERIOD SPECIFIED ABOVE AT LOCATIONS UNDER HIS RESPONSIBILITY, THIS DIVISION MAY TAKE ACTION AS IT DEEMS NECESSARY TO CORRECT THE SITUATION. THIS ACTION MAY INCLUDE CONTROLLING THE INTERSECTION USING COLUMBUS POLICE OFFICERS, COMPLETELY REMOVING OR REPLACING ANY MALFUNCTIONING TRAFFIC CONTROL DEVICE, AND/OR INSTALLING ANY DEVICE(S) REQUIRED TO RETURN THE INTERSECTION TO REGULAR SIGNAL OPERATION. ALL COSTS ASSOCIATED WITH THESE ACTIONS SHALL BE BILLED DIRECTLY TO THE CONTRACTOR AND NOT INCLUDED IN ITEM 614 MAINTAINING TRAFFIC.

ALL COSTS ASSOCIATED WITH THESE ACTIONS SHALL BE BILLED DIRECTLY TO THE CONTRACTOR AND NOT INCLUDED IN ITEM 614, MAINTENANCE OF TRAFFIC.

ANY NON-OPERATING VEHICULAR OR PEDESTRIAN SIGNAL HEAD OR PUSHBUTTON SHALL BE COVERED AS REFERENCED IN THESE PLANS. ALL SIGNAL HEADS WHILE COVERED SHALL BE DARK BY DISCONNECTING POWER TO THE SIGNAL INDICATIONS. NO COVERED HEAD SHALL BLOCK THE VIEW OF AN OPERATING HEAD. A MINIMUM OF TWO (2) VEHICULAR HEADS PER TRAVELLED DIRECTION (SPACED 8' APART MINIMUM AND 12' MAXIMUM) SHALL BE OPERATING AT ALL TIMES. NO EXCEPTIONS.

ITEM 625 GROUND ROD, AS PER PLAN

GROUND RODS SHALL MEET THE REQUIREMENTS OF 713.16 WITH THE ADDITIONAL PROVISION THAT ALONG WITH STAINLESS STEEL JACKETED STEEL AND HOT DIP GALVANIZED STEEL, COPPER-CLAD STEEL GROUND RODS MAY ALSO BE USED. COPPER-CLAD STEEL GROUND RODS SHALL BE OF SIMILAR CONSTRUCTION AS THE STAINLESS STEEL JACKETED STEEL AND HOT DIP GALVANIZED STEEL GROUND RODS AS DESCRIBED IN 713.16(2) OF THE CMS.

THE GROUND WIRE CABLE SHALL BE CROSS-LINKED POLYETHYLENE, #6 AWG COPPER, STRANDED, RHW INSULATED, 600 VOLT RATED AND EXOTHERMICALLY WELDED TO THE GROUND ROD WITH INSULATING VARNISH APPLIED TO THE WELD. THE COPPER USED IN THE GROUND WIRE SHALL BE HARD ENOUGH TO WITHSTAND THE EXOTHERMAL WELDING PROCESS BUT SOFT ENOUGH TO MELT AND FORM A SOLID BOND TO THE ROD. THE OHM READING AT THE END OF THE UNATTACHED GROUND WIRE THROUGH THE GROUND ROD SHALL BE 10 OHMS OR LESS FOR THE GROUNDING SYSTEM ATTACHED TO THE CONTROL CABINET OR TO ANY OTHER ELECTRONIC CABINET AND 25 OHMS OR LESS FOR THE GROUNDING SYSTEM ATTACHED TO THE SIGNAL STRAIN, SUPPORT OR PEDESTAL POLE. ANY ELECTRONIC CABINET, POLE OR BASE MOUNTED, SHALL HAVE TWO (2) GROUND RODS INSTALLED ONE (1) FOOT APART. A GROUND WIRE JUMPER THAT IS WELDED TO EACH ROD SHALL CONNECT THE RODS. THE SIGNAL STRAIN/SUPPORT POLE THAT HAS A POLE MOUNTED CABINET ATTACHED TO IT SHALL ALSO HAVE A SEPARATE POLE GROUND ROD AND WIRE. THE GROUND WIRE ATTACHED TO THE CABINET SIGNAL POLE SHALL HAVE A SEPARATE "EMT" AND BE ON THE OPPOSITE SIDE OF THE FOUNDATION FROM THE CABINET GROUNDING SYSTEM.

QUALIFIED CITY PERSONNEL SHALL BE PRESENT WHEN ANY TRAFFIC SIGNAL INSTALLATION GROUND ROD READING IS TAKEN. THE CONTRACTOR SHALL HAVE ON SITE A CALIBRATION CERTIFICATE FOR EACH TESTING DEVICE FROM A CERTIFIED, INDEPENDENT INSTRUMENT CALIBRATION COMPANY AND SHALL HAVE ON SITE THE OPERATING INSTRUCTION MANUAL FOR ALL TEST DEVICES SO CITY TECHNICAL PERSONNEL CAN FIELD VERIFY THE TEST PROCEDURE AND RESULTS. DEVICE CALIBRATION SHALL BE PER ITS MANUFACTURER'S STANDARDS. THE CERTIFICATE OF CALIBRATION FOR EACH TEST DEVICE MUST BE DATED WITHIN 6 MONTHS OF THE TEST. NO TEST SHALL BE CONDUCTED IF ANY TEST REQUIREMENT IS NOT MET.

ITEM 625 PULL BOX, AS PER PLAN

THE PULLBOX ASSEMBLY SHALL BE RATED AS HEAVY DUTY, SHALL BE RATED FOR INSTALLATION IN CONCRETE AREAS AND SHALL HAVE ALL STAINLESS STEEL HARDWARE. THE PULLBOX COVER SHALL HAVE THE WORD "TRAFFIC" ON IT. THE COVER SHALL BE BOLTED TO THE BOX USING HEX HEAD BOLTS AND SHALL BE POLYMER CONCRETE. THE BOX DEPTH SHALL BE 15 INCHES MINIMUM. THE SUPPLIED PULLBOX ASSEMBLY SHALL BE A SYNERTECH CATALOG NO. S1118B18FA OR A CDR SYSTEMS MODEL SA32-1015-18, OR APPROVED EQUAL. CONDUIT ELLS MAY BE USED TO BRING THE CONDUIT UP INTO THE HOUSING. EXTENSIONS, IF AVAILABLE, CAN BE USED TO ELIMINATE THE NEED FOR CONDUIT ELLS.

ITEM 625 ENCASED INTERCONNECT CONDUIT BANK, TC-2, SCH 40, AS PER PLAN

ANY CONDUIT WITHOUT A SPACER ABOVE IT SHALL BE WIRE-WRAPPED TO THE SPACER BENEATH IT IN ORDER TO BE HELD IN PLACE.

A NUMBER 10 GAUGE, STRANDED COPPER, POLYESTER OR CROSS LINKED POLYETHYLENE (XLPE) INSULATED TRACING WIRE SHALL BE INSTALLED IN THE 1½" CONDUIT. THE WIRE INSULATION SHALL BE RESISTANT TO MOISTURE ABSORPTION AND ABRASIVE ACTIONS. THE TRACING WIRE JACKET SHALL BE ORANGE; NO OTHER JACKET COLOR IS ALLOWED. THE TRACING WIRE SHALL ENTER A PULLBOX THROUGH THE 1½" CONDUIT AND SHALL BE ROUTED AROUND THE INSIDE PERIMETER OF THE PULLBOX TO THE OTHER SIDE AND THEN EXIT THE OPPOSING 1½" CONDUIT. THE TRACING WIRE SHALL BE CONTINUOUSLY RUN BETWEEN PULLBOXES (ABSOLUTELY NO SPLICES EXCEPT IN A PULLBOX). CONDUIT THAT BRANCHES OFF THE MAIN CONDUIT RUN SHALL HAVE ITS TRACING WIRE TERMINATED IN A PULLBOX OR CONTROLLER CABINET. THE WIRE SHALL BE TAGGED AS "TRACING WIRE", COILED (3 FEET IN LENGTH) AND LEFT DISCONNECTED AT EACH END (OPEN CIRCUIT). THE COST FOR THE TRACING WIRE AND ITS INSTALLATION SHALL BE INCIDENTAL TO THE COST OF THIS PAY ITEM.

ITEM 632 VEHICULAR SIGNAL HEAD, L.E.D., 3, 4 & 5 SECTION, 12" LENS, 1 WAY, WITH BACKPLATE, AS PER PLAN

THE CIRCULAR LIGHT EMITTING DIODE (LED) TRAFFIC SIGNAL MODULES SHALL BE DIALIGHT MODEL NUMBERS 433-1210-003XL (12" RED), 433-3230-901XL (12" YELLOW), AND 433-2270-001XL (12" GREEN) OR GE LUMINATION MODEL NUMBERS DR6-RTFB-17A (12" RED), DR6-YTFB-17A-YX (12" YELLOW), AND DR6-GCFB-17A (12" GREEN), OR APPROVED EQUALS. TURN ARROWS SHALL BE DIALIGHT MODEL NUMBERS 432-1314-001XOD (12", 3 ROW RED), 431-3334-901XOD (12", 3 ROW YELLOW), AND 432-2374-001XOD (12", 3 ROW GREEN) OR GE LUMINATION DR6-RTAAN-17A (12", 3 ROW RED), DR6-YTAAN-17A-YX (12", 3 ROW YELLOW), AND DR6-GCAAN-17A (12", 3 ROW GREEN), OR APPROVED EQUALS. ALL MODULES SHALL HAVE SPADE TYPE TERMINALS SECURELY ATTACHED TO THE UNIT'S LEAD WIRES.

THE SIGNAL HEAD HOUSING AND THE OUTSIDE VISOR SURFACE SHALL BE COATED YELLOW MATCHING THE FEDERAL STANDARD 595B, COLOR # 13655 SPECIFICATIONS. THE HOUSING SHALL BE SUPPLIED WITH FIVE PAIR (FOR 3 OR 4 SECTION HEADS) OR SIX PAIR (FOR 5 SECTION HEADS), BARRIER TYPE TERMINAL BLOCK (NO QUICK-DISCONNECT SLIP-ON CONNECTORS ACCEPTABLE) THAT IS SCREW MOUNTED AT EACH END AND LOCATED IN THE RED SECTION. THE TERMINAL BLOCK SHALL MEET UL E62622, CSA LR15364, BE IEC COMPLIANT, CONTAIN #10-32 X 1/4" (MIN) ZINC PLATED STEEL PHILSLOT SCREWS THAT ARE INSTALLED BETWEEN BARRIERS WHOSE WIDTH OPENING IS A NOMINAL .41" AND HEIGHT IS A NOMINAL .45" ABOVE THE TERMINAL PLATE, BE RATED FOR 30 AMPS, AND SHALL HAVE A BREAKDOWN VOLTAGE OF 7500V RMS (SIMILAR TO BUSSMAN CIRCUIT COMPONENT SERIES TB345). ALL BOLTS AND WASHERS FOR SECURING SECTIONS TOGETHER, ALL LENS MOUNTING HARDWARE, ALL DOOR LATCHING BOLTS, AND ALL HINGE PINS SHALL BE STAINLESS STEEL. DOOR LATCHING BOLTS SHALL FIT THROUGH A SLOT IN THE DOOR. THE GREEN AND/OR YELLOW INDICATION DOORS ON ALL 4 AND 5 SECTION HEADS SHALL OPEN IN BOOK LIKE FASHION.

AN ALUMINUM, WEATHERPROOF TRI-STUD SINGLE WIRE ENTRANCE WITH THREE (3) 5/16" X 1-7/16" STAINLESS STEEL STUDS, LOCK WASHERS, AND HEX NUTS SHALL BE PROVIDED WITH EACH SIGNAL HEAD. THE WEATHER HEAD ENTRANCE SHALL HAVE A MINIMUM INSIDE DIAMETER OPENING OF 1-1/2", INCLUDING ANY RUBBER OR PLASTIC GROMMET THAT PROTECTS THE CABLE. THE OPENING AT THE TRI-STUD END MAY BE IRREGULARLY SHAPED, BUT IT MUST HAVE A MINIMUM OPENING OF 1-1/2" AT ITS WIDEST POINT AND A MINIMUM OPENING OF 11/16" AT ITS NARROWEST POINT. THE TRI-STUD WASHER MUST HAVE THE SAME OPENING AT THE ENTRANCE. THE TOP OF THE ENTRANCE SHALL HAVE ONLY ONE (1) CLEVIS HOLE AND IT MUST ACCOMMODATE A 5/8" STAINLESS STEEL CLEVIS PIN. THE CLEVIS ATTACHMENT, MEASURED AT THE CENTER OF THE CLEVIS HOLE, SHALL BE NO GREATER THAN 5/8" THICK OR GREATER THAN 1-3/4" IN WIDTH. (SIMILAR TO ENGINEERED CASTINGS MODEL # 2084-T1) FOR SPAN WIRE MOUNTING INSTALLATIONS, THE WIRE ENTRANCE SHALL BE COATED THE SAME COLOR AS THE VEHICULAR SIGNAL HEAD. FOR USE ON MASTARMS THE WIRE ENTRANCE SHALL BE COATED THE SAME COLOR AS THE MASTARM STRUCTURE.

SPAN WIRE HANGER, PROVIDED WITH EACH SIGNAL HEAD, SHALL BE ALUMINUM, SHALL HAVE A 5/8" STAINLESS STEEL CLEVIS PIN AND SHALL BE CAPABLE OF MOUNTING TO SPAN WIRES UP TO 1/2" IN DIAMETER. THE HANGER SHALL BE PROVIDED WITH TWO (2) U-TYPE STAINLESS STEEL MOUNTING BOLTS WITH HEX NUTS AND LOCK WASHERS. THE HANGER SPACER SHALL BE CAST ALUMINUM. THE CLEVIS PIN HOLE SHALL HAVE A STAINLESS STEEL BUSHING INSERT AND SHALL BE LOCATED A MINIMUM OF 2-1/2" FROM THE OUTSIDE TOP OF THE HANGER. (SIMILAR TO ENGINEERED CASTINGS MODEL #2079-S)

FOR MASTARM STRUCTURES A 90 DEGREE 3/4" CLEVIS HANGER WITH PINS SIMILAR TO PELCO PART SE-0467 OR ENGINEERING CASTINGS PART EC-65 SHALL BE USED TO ALLOW THE SIGNAL HEAD TO FREELY SWING ON THE ARM. THE CLEVIS HANGER SHALL BE COATED THE SAME COLOR AS THE MASTARM STRUCTURE. THE BUSHING SHALL BE STAINLESS STEEL.

ITEM 632 PEDESTRIAN SIGNAL HEAD, AS PER PLAN

THE PEDESTRIAN SIGNAL HEAD SHALL BE A 16-IN. X 18-IN., SYMBOLIC LED COUNTDOWN UNIT WITH FULL HAND AND FULL PERSON SYMBOLS. THE UNIT SHALL BE A DIALIGHT CORPORATION LED PEDESTRIAN SIGNAL, PART NO. 430-6479-001X; GE LUMINATION GTI LED PEDESTRIAN SIGNAL, MODEL NO. PS7-CFF1-26A; OR TRASTAR, INC. DURALIGHT LED PEDESTRIAN SIGNAL, MODEL NO. JXM-400VIEIL. THE HOUSING SHALL BE BLACK AND SHALL BE MOUNTED ON BLACK, TWO-HINGED TYPE BRACKETS THAT ARE BOLTED OR BANDED (2 BANDS PER BRACKET) TO THE POLE. BRACKETS USED ON MASTARM POLES SHALL BE BOLTED ONLY. THE HOUSING SHALL BE FIELD DRILLED AND REINFORCED (MANUFACTURER TO SUPPLY REINFORCEMENT) SO IT FITS ON THE HINGED BRACKET. WHEN TWO PEDESTRIAN SIGNAL HEADS ARE ATTACHED TO A SINGLE POLE, THE BOTTOM OF THE MAINLINE SIGNAL HEAD SHALL BE MOUNTED AT 8 FT. ABOVE FOUNDATION LEVEL AND THE SECOND SIDE STREET SIGNAL HEAD SHALL BE MOUNTED ONE-HALF ITS HOUSING HEIGHT ABOVE THE FIRST. THE BRACKETS SHALL BE HINGED TO ALLOW THE PEDESTRIAN HEADS TO SWING AWAY FROM EACH OTHER.

ITEM 632 PEDESTRIAN PUSHBUTTON, AS PER PLAN

THE PUSHBUTTON SHALL BE A POLARA BULLDOG III, MODEL NO. BDL3-Y WITH POLARA BULLDOG MOUNTING MODEL NO. APBC-Y. THE PUSHBUTTON SHALL BE RATED FOR MEDIUM OR HEAVY DUTY USAGE AND HAVE A BARRIER TYPE OF LUG TERMINAL FOR ATTACHMENT OF THE FIELD CABLE. A CLEAR BEAD OF SILICON SEALANT SHALL BE APPLIED TO THE TOP OF THE PUSHBUTTON HOUSING (1 INCH EACH SIDE OF TOP CENTER) AGAINST THE POLE TO PREVENT WATER FROM ENTERING THE BACK OF THE PUSHBUTTON HOUSING. TWO ALUMINUM SIGNS SHALL BE SUPPLIED WITH EACH PUSHBUTTON. THE BOTTOM OF THE SIGNS SHALL BE MOUNTED JUST ABOVE THE TOP OF THE PUSHBUTTON. MOUNT THE CENTER OF THE PUSHBUTTON 42" ABOVE THE PEDESTRIAN PATHWAY SURFACE.

ITEM 632 STRAIN POLE FOUNDATION, AS PER PLAN
ITEM 632 PEDESTAL FOUNDATION, AS PER PLAN

THE ANCHOR BASE POLE FOUNDATION SIDES SHALL BE ORIENTATED PARALLEL TO THE SIDEWALK OR BACK-OF-CURB OR EDGE-OF-PAVEMENT AS SHOWN ON THE SIGNAL PLANS. THE TOP OF THE FOUNDATION SHALL BE FLUSH WITH ANY ADJACENT SIDEWALK OR CONCRETE AREA EXCEPT WHERE THE GROUND RISES STEEPLY BEHIND THE SIDEWALK OR CONCRETE AREA. THEN THE BACK SIDE OF THE FOUNDATION SHALL MATCH THE GROUND SLOPE AND THE STREET SIDE OF THE FOUNDATION SHALL BE ABOVE THE SIDEWALK OR CONCRETE AREA AND COMPLETELY OUT OF THE SIDEWALK OR CONCRETE AREA. A MINIMUM OF TWO 2" CONDUIT ELLS, USED OR UNUSED, SHALL BE INSTALLED IN EACH POLE FOUNDATION. SEE POLE ORIENTATION CHART FOR ANGULAR POSITION. THE ANCHOR BOLTS AND CONDUIT ELLS ARE INCIDENTAL TO THIS ITEM. THE POLE FOUNDATION TOP SHALL BE EDGED USING A 1/2" SIDEWALK EDGER AND NOT CHAMFERED.

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TRAFFIC SIGNAL GENERAL NOTES
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ITEM 632 STRAIN POLE, TYPE TC-81.10, ANCHOR BASE, DESIGN 10, AS PER PLAN

STRAIN POLES SHALL BE MANUFACTURED BY UNION METAL OR VALMONT ONLY. THE POLES SHALL BE GALVANIZED, THEN COATED WITH A SEMI-GLOSS, DARK BRONZE POWDER COATING FINISH. THE GALVANIZING SHALL BE PROPERLY PREPARED SO THE POWDER COATING WILL ADHERE TO THE GALVANIZING.

THE POLE SHAFT SHALL:

1. BE MADE OF WELDABLE GRADE, HOT ROLLED COMMERCIAL QUALITY CARBON STEEL FORMED WITH A BASE DIAMETER AND HEIGHT AS PER PLAN.
2. BE CONTINUOUSLY TAPERED FROM THE POLE BOTTOM TO THE POLE TOP AT A RATE OF 0.14 INCH PER FOOT.
3. BE CONSTRUCTED WITH ONE (1) LONGITUDINAL AUTOMATICALLY, ELECTRICALLY WELDED SEAM.
4. BE CONSTRUCTED USING A CONTINUOUS NON-OVERLAPPING TAPERED TUBE.
5. CONFORM TO ASTM-A572 GRADE 55, ASTM-A595 GRADE A (55,000 PSI MINIMUM YIELD STRENGTH AFTER FABRICATION), OR ASTM-A572 GRADE 65 AS PER PLAN DESIGN REQUIREMENTS.
6. HAVE 1 OR 2 HANDHOLES, AS PER PLAN DESIGN, EACH COMPLETE WITH A COVER, A RECTANGULAR OR ELLIPTICAL REINFORCED FRAME, AND A STAINLESS STEEL FASTENER FOR THE COVER. THE FASTENER SHALL BE FLUSH WITH THE HANDHOLE SURFACE. THE HANDHOLES SHALL BE LOCATED AS PER PLAN.
   A) THE TOP HANDHOLE SHALL HAVE A MINIMUM INSIDE OPENING OF 4" X 6" AND BE SIMILAR IN DESIGN TO THE BOTTOM HANDHOLE EXCEPT THAT NO GROUNDING PROVISION IS REQUIRED.
   B) THE BOTTOM HANDHOLE SHALL HAVE A MINIMUM INSIDE OPENING OF 5" X 8". A GROUNDING BOLT CAPABLE OF ACCEPTING FOUR (4) #4 AWG AND TWO (2) #8 AWG COPPER GROUNDING WIRE LUGS SHALL BE PROVIDED AND ATTACHED TO THE POLE FRAME.
7. HAVE A REMOVABLE POLE CAP ATTACHED EITHER BY A MINIMUM OF 3 STAINLESS STEEL SET SCREWS OR BY A STAINLESS STEEL THROUGH BOLT.
8. HAVE 1 OR 2 WELDED CABLE SUPPORT HOOKS ('J' OR 'C' HOOKS) LOCATED ON THE INSIDE OF THE POLE.
9. BE TELESCOPED THROUGH A BASE PLATE THAT HAS A BOLT PATTERN AS PER PLAN.

THE POLE BASE PLATE SHALL:

1. BE FABRICATED FROM ASTM-A36 STEEL (36K PSI) OR ASTM-A42 STEEL (42K PSI) AS PER PLAN DESIGN REQUIREMENTS.
2. TELESCOPE THE POLE SHAFT AND BE WELDED TO THE POLE BY MEANS OF 2 CONTINUOUS WELDS--ONE ON THE INSIDE OF THE BASE PLATE AT THE END OF THE POLE SHAFT AND THE OTHER ON THE OUTSIDE AT THE TOP OF THE BASE PLATE. ALL INSIDE WELDS SHALL BE VOID OF SHARP EDGES. ALL OUTSIDE WELDS SHALL BE ROLLED OR GROUND SMOOTH.
3. CONFORM TO THE BOLT PATTERN AS PER PLAN.

ANCHOR BOLTS SHALL HAVE ROLLED THREADS FOR ALL POLE DESIGNS UP TO AND INCLUDING D11. CUT THREADS SHALL BE USED FOR 2.5" DIAMETER BOLTS OR LARGER. THE ANCHOR BOLTS SHALL MEET ODOT REQUIREMENTS. IF THE MANUFACTURER REQUIREMENTS EXCEED ODOT REQUIREMENTS, THE ANCHOR BOLTS SHALL BE AS SPECIFIED BY THE MANUFACTURER. BOLT-NUT COVERS SHALL BE INSTALLED.

EACH ANCHOR BOLT SHALL:

1. CONFORM TO ASTM-F1554 GRADE 105.
2. BE GALVANIZED PER ASTM-A153.
3. COME WITH 2 HEX NUTS MEETING ASTM-F563 GRADE DH, ANSI B18.2.2 AND SHALL HAVE ANSI B1.1 CLASS 2 UNC ROLLED THREADS. A WASHER AND LOCKWASHER SHALL ALSO BE PROVIDED. HARDWARE SHALL BE HD GALVANIZED PER ASTM-A153.
4. HAVE DIMENSIONS AS PER PLAN.

STRAIN POLE STRUCTURE SURFACES SHALL BE PREPARED FOR GALVANIZING BY USING A SOLVENT CLEANING METHOD TO REMOVE DIRT, OIL, DUST, GREASE AND ANY OTHER CONTAMINANT THAT WILL REDUCE THE ADHESION OF THE GALVANIZING. MILL SCALE, RUST OR ANY OTHER FOREIGN MATERIAL NOT REMOVED BY SOLVENTS SHALL BE REMOVED USING MECHANICAL METHODS (PER STEEL STRUCTURES PAINTING COUNCIL, SSPC-VIS-1-67.). MANUFACTURER RECOMMENDED ABRASIVE TECHNIQUES SHALL BE USED TO PROVIDE THE PROPER PROFILE FOR ADHERENCE TO ASTM A123 GALVANIC COATING.

THE STRAIN POLE STRUCTURE SHALL THEN BE COATED AS PER PLAN. EACH COATING LAYER SHALL BE PROPERLY CURED BEFORE THE APPLICATION OF THE NEXT COAT. MINIMUM DRY THICKNESS MEASUREMENTS FOR STEEL SHALL CONFORM TO SECTION SSPC-PA2-82, STEEL STRUCTURES PAINTING COUNCIL.

ALL STRUCTURAL STEEL PRODUCTS SHALL BE GALVANIZED ON THE INTERIOR AND EXTERIOR SURFACES AS PER ASTM A123. THE EXTERIOR SURFACE OF ALL STRUCTURAL STEEL AND ALUMINUM PRODUCTS SHALL BE PROPERLY PREPARED FOR THE APPLICATION OF AN EXTERIOR COATING. THE COATING COLOR ON BOTH STEEL AND ALUMINUM PRODUCTS SHALL MATCH EACH OTHER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT BOTH PRODUCT MANUFACTURERS MATCH COATING COLORS SO THAT AN EXCELLENT LOOKING END PRODUCT IS ACHIEVED.

ALL EXTERIOR SURFACES OF THE STRAIN POLE STRUCTURE, ALL BOLT COVERS, ALL ATTACHMENT HARDWARE, ALL WIRE ENTRANCES, ALL SPAN WIRE CLAMPS, ALL HANDHOLE COVERS, BRACKETS, POLE CAPS AND TRAFFIC PEDESTAL STRUCTURES SHALL HAVE A COATING APPLIED TO THEM. EXTERIOR SURFACES OF ALL BOLT AND SCREW FASTENERS, WASHERS, NUTS, AND OTHER ATTACHMENT HARDWARE SHALL HAVE A COATING APPLIED TO THEM. FASTENER THREADS SHALL NOT BE CLOGGED WITH COATING MATERIAL.

THE EXTERIOR COATING FOR ALL ITEMS LISTED IN THE PREVIOUS PARAGRAPH SHALL:

1. MEET FEDERAL STANDARD # 595C AND CONFORM TO COLOR # 20040 (DARK BRONZE).
2. BE APPLIED OVER PROPERLY PREPARED GALVANIZING MATERIAL ON STEEL PRODUCTS AND OVER PROPERLY PREPARED ALUMINUM FOR ALUMINUM PRODUCTS.
3. HAVE A MINIMUM 5-YEAR REPAIR WARRANTY OF COATING DELAMINATION, BLISTERING, OR CORROSION. POWDER COATED UNION METAL STRUCTURES SHALL HAVE THE THOMARIOS COATING WARRANTY REVISION DATE JULY 17, 2007. POWDER COATED VALMONT STEEL STRUCTURES SHALL BE COATED WITH FINISH SPECIFICATION F-573, DATED APRIL 11, 2007, WHICH INCLUDES EPOXY POWDER PRIME COAT AND PENTABOND POWDER FINISH COAT.

ALL COATED ITEMS SHALL BE SHIPPED IN A MANNER SELECTED BY THE MANUFACTURER, WHICH WILL PROTECT MATERIAL FROM DAMAGE DURING DELIVERY. MATERIALS DAMAGED IN TRANSIT SHALL BE REPAIRED OR REPLACED. ALL COSTS ASSOCIATED WITH CORRECTING DAMAGED MATERIAL SHALL BE BORNE BY THE CONTRACTOR.

ITEM 632 PEDESTAL, 5', TRANSFORMER BASE, AS PER PLAN

THE PUSHBUTTON ONLY PEDESTAL SHALL BE EITHER A PELCO PB 5335 T-BASE (15" HIGH) WITH A 46.75" PB 5100-L POLE SHAFT & PB 5401 ACORN CAP, AN AKRON FOUNDRY MODEL TS-1000-L T-BASE (16" HIGH) WITH A 46.75" POLE SHAFT & FINIAL CAP (ACORN STYLE PREFERRED) OR APPROVED EQUAL. THE POLE SHAFT DIAMETER SHALL BE 4" NPT (4.5" OD, SCH 40), CONCENTRIC ABOUT ITS DIAMETER & SHALL BE THREADED FOR INSERTION INTO THE T-BASE. THE T-BASE SHALL BE DESIGNED TO ACCOMMODATE A # 4 GROUNDING WIRE & MEET 1985 AASHTO BREAKAWAY REQUIREMENTS. THE BOLT CIRCLE SHALL BE 14.5" & THE BOLT SQUARE SHALL BE 10.25". USE 3/4" BOLTS. ONE INCH BOLTS ARE ACCEPTABLE BUT NOT DESIRED. THE 5' STRUCTURE HEIGHT ENCOMPASSES THE T-BASE HEIGHT PLUS THE INSERTED POLE SHAFT HEIGHT. THE PUSHBUTTON STRUCTURE SHALL BE ALL ALUMINUM COATED WITH A SEMI-GLOSS, DARK BRONZE POWDER COATING FINISH. THE ALUMINUM SHALL BE PROPERLY PREPARED SO THE POWDER COATING WILL ADHERE.

ITEM 632 POWER CABLE, 2 CONDUCTOR, CU, #8 AWG, AS PER PLAN

POWER SHALL BE SUPPLIED BY AMERICAN ELECTRIC POWER (AEP), SHALL BE 120VAC, AND SHALL BE FROM THE APPROXIMATE LOCATION AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL CONTACT AEP AND MAKE ARRANGEMENTS FOR THE CONNECTION OF POWER TO THE CONTROLLER CABINET. CONTACT GREG ZORICH (614-883-7935) A MINIMUM OF FOUR (4) WORK WEEKS PRIOR TO THE NEED FOR POWER.

ITEM 632 COVERING OF VEHICULAR/PEDESTRIAN SIGNAL HEAD AND PUSHBUTTON, AS PER PLAN

ALL SIGNAL HEADS AND PUSHBUTTONS ALONG WITH THEIR SIGNS THAT ARE INSTALLED PRIOR TO BEING USED TO CONTROL TRAFFIC OR PEDESTRIANS SHALL BE COVERED. IF PLASTIC BAGS ARE USED TO COVER THE HEADS, THEN ONLY HEAVY DUTY PLASTIC BAGS SHALL BE PERMITTED. TWO BAGS PER HEAD SHALL BE USED. THE BAGS SHALL BE SECURELY LASHED DOWN SO THE WIND DOES NOT RIP THEM FROM THE SIGNAL HEAD. IF VEHICULAR SIGNAL HEADS WILL BE COVERED FOR MORE THAN TWO WEEKS, THEN CANVAS COVERS SHALL BE USED. ALL SIGNAL HEADS WHILE COVERED SHALL BE DARK BY DISCONNECTING POWER TO THE SIGNAL INDICATIONS. NO COVERED HEAD SHALL BLOCK THE VIEW OF AN OPERATING HEAD. ANY EXISTING VEHICULAR OR PEDESTRIAN HEAD THAT IS NOT FUNCTIONAL SHALL BE REMOVED IMMEDIATELY OR COVERED.

ITEM 633 CONTROLLER W/8PH UNIT TS2/A2, W/CABINET, 8PH, P44, BASE MOUNT, AS PER PLAN

IN ADDITION TO THE OTHER REQUIREMENTS OF ODOT 633 & 733, THE CONTROLLER (TS2, TYPE 2/TS1 COMPATIBLE) SHALL BE ECONOLITE ASC/3-211120 CLOSED LOOP MODEL WITH AN ETHERNET PORT. THE TS1 CABINET ASSEMBLY SHALL BE COMPLETELY WIRED (INCLUDES ALL PANELS & HARNESSES) FOR RS-232 FIBER OPTIC CLOSED LOOP SYSTEM OPERATION AND FOR THE PHASE OPERATION, DETECTION, AND ALL ADDITIONAL DEVICES AS CALLED FOR IN THE PLANS AND SHALL CONTAIN AN EXPANDABLE SYSTEM DETECTOR TYPE OF CONFIGURATION PROM. EACH LOCAL CONTROLLER SHALL BE SHIPPED WITH TWO (2) SYSTEM COMPATIBLE INTERNAL TELEMETRY MODULE BOARDS (ONE SHALL BE A SPARE). THE COLUMBUS MUTCD FLASH CIRCUITRY SHALL BE INSTALLED AS A PANEL MOUNTED, CABINET ASSEMBLY ITEM. THE CABINET ASSEMBLY SHALL MEET ALL CITY STANDARDS AS SET FORTH BETWEEN THE SUPPLIERS AND THIS DIVISION. CONTACT THE DIVISION'S ELECTRONIC SYSTEMS SUPERVISOR FOR DETAILS (614-645-7933).

THE LOOP DETECTOR UNIT SHALL BE A SOLID STATE, 2 CHANNEL, SHELF MOUNTED INTERSECTION DEVELOPMENT CORPORATION (IDC) MODEL 921-2TCSS-1, RENO A&E MODEL T210-SS, OR EBERLE DESIGN INC. (EDI) MODEL ORACLE S2ECS.

IN ADDITION TO THE FIBER OPTIC PLUG-IN MODEMS, BOARD, AND THE PLUG-IN FIBER OPTIC TELEMETRY MODULE, SIECOR ZIPCORDS AND A SIECOR WIC012 WALL MOUNTABLE INTERCONNECT CENTER SHALL BE INSTALLED IN THE CABINET.

ZIPCORDS SHALL BE PROVIDED TO CONNECT THE INTERCONNECT CENTER ADAPTERS TO THE PLUG-IN MODEMS. EACH ZIPCORD SHALL BE CONSTRUCTED USING TWO SINGLE-FIBER PATCH CORDS THAT ARE CONTINUOUSLY JOINED TOGETHER. EACH FIBER END SHALL HAVE A 'ST' CONNECTOR AS DESCRIBED BELOW ATTACHED TO IT. THE ZIPCORDS SHALL BE SIMILAR TO SIECOR ZIPCORD CABLE (5050-02K5141-006F).

EACH INTERCONNECT CENTER SHALL CONTAIN A WIC-CP1-15 CONNECTOR PANEL, A WXC-SEAL-KIT, ONE (1) OR TWO (2) BUFFER TUBE FAN OUT KITS SIMILAR TO SIECOR FAN-0D25-06 KIT, AND TWO (2) OR FOUR (4) 'ST' COMPATIBLE CONNECTORS. THE 'ST' CONNECTOR SHALL BE DESIGNED FOR A 62.5/125 MICROMETER, MULTIMODE FIBER AND SHALL HAVE NEITHER A CERAMIC OR COMPOSITE FERRULE WITH A COMPOSITE HOUSING. THE CONNECTOR SHALL BE NEITHER A SIECOR UNICAM 95-000-50 OR 95-000-51 CONNECTOR. THE ADAPTERS SHALL BE FLANGED, 'ST' COMPATIBLE SIECOR TER-067 (CERAMIC) OR TER-067-P (COMPOSITE).

IN ADDITION TO THE OTHER SPECIFICATION DOCUMENTS, THE CABINET ASSEMBLY SHALL MEET THE FOLLOWING SPECIFICATIONS.

(A) ALL LABELS SHALL BE PERMANENTLY SECURED TO THE CABINET. PLASTIC LABEL MAKER TAPE IS NOT CONSIDERED TO BE PERMANENT. CROY TYPE LABELS ARE ACCEPTABLE.

(B) IN LIEU OF A LAMP ASSEMBLY, A DOOR MOUNTED FLEX LIGHT THAT ILLUMINATES THE ENTIRE BACK PANEL SHALL BE INSTALLED. THE 120 VAC, CONVENIENCE OUTLET ASSEMBLY (GFI TYPE) SHALL BE MOUNTED ON THE RIGHT CABINET SIDE PANEL NEAR THE DOOR HINGE AREA AND FACE THE DOOR OR THE CENTER INTERIOR PORTION OF THE CABINET. THE OUTLET & FLEX LIGHT ASSEMBLIES SHALL NOT INTERFERE WITH THE REMOVAL OR INSTALLATION OF ANY EQUIPMENT.

(C) LOAD SWITCHES SHALL BE EDI MODEL 510 WITH LIGHTS PERMANENTLY LABELLED AS R, Y, G OR A, B, C. A LOAD SWITCH SHALL BE PROVIDED FOR EACH BACK PANEL LOAD SWITCH SOCKET POSITION WHETHER USED OR UNUSED. ALL LOAD SWITCHES SHALL REST IN A SUPPORT RACK. LOAD SWITCH POSITIONS 5-8 (4PH) OR 9-12 (8PH) SHALL BE USED FOR EITHER A PEDESTRIAN OR OVERLAP LOAD SWITCH UNLESS SPECIFIED OTHERWISE.

(D) LIGHTNING PROTECTION DEVICES SUCH AS ITT, SURRESTOR, GENERAL ELECTRIC, OR APPROVED EQUAL (AS DETERMINED BY THE COLUMBUS TRANSPORTATION DIVISION) SHALL BE PROVIDED.

(F) THE NEMA 3R CABINET SHALL BE MADE BY APX ENCLOSURES, CALIFORNIA CHASSIS, EAGLE OR ECONOLITE. IT SHALL BE OF STANDARD SIZE AND SHALL BE SUPPLIED WITH A COMPLETE BACK PANEL AS PER PLAN. THE CABINET MATERIAL SHALL BE 5052 MARINE GRADE, .125 INCH THICK ALUMINUM SHEETING WITH A 32 HARDNESS IN ITS NATURAL COLOR AND SHALL BE PAINTED WHITE ON THE INSIDE. THE INSIDE OF THE CABINET SHALL BE TREATED WITH A THREE (3) STAGE IRON PHOSPHATE COATING AND A ZINC CHROMATE PRIMER COATING. A BAKED WHITE ALKALI ENAMEL FINISH SHALL THEN BE APPLIED. ALL COATINGS SHALL BE PROPERLY DRIED AND APPLIED SUCH THAT THE INSIDE WHITE PAINT WILL NOT PEEL FOR A GUARANTEED PERIOD OF TWO (2) YEARS. ALL EXTERIOR SEAMS SHALL BE EITHER CONTINUOUSLY WELDED, TACK WELDED, SEALED WITH A 15 TO 20 YEAR SILICONE SEALER, AND/OR OVERLAPPED SUCH THAT WATER DOES NOT ENTER THE CABINET. ALL CABINET EDGES SHALL BE SMOOTH (FREE OF ANY SHARP EDGES). THE CABINET DOOR FRAME OPENING SHALL BE DOUBLE-FLANGED ON ALL FOUR SIDES. THE CABINET DOOR SHALL BE HINGED USING A HEAVY GAUGE CONTINUOUS HINGE THAT HAS A STAINLESS STEEL HINGE PIN. THE HINGE SHALL BE BOLTED TO THE CABINET SO THE DOOR CAN BE REMOVED. THE BOLTS AND NUTS SHALL BE MADE OF STAINLESS STEEL, TAMPERPROOF AND SECURELY FASTENED TO PREVENT VIBRATIONS FROM LOOSENING THE NUTS. THE DOOR, SEALED WITH A NEOPRENE GASKET, SHALL BE EQUIPPED WITH A THREE (3) POINT LATCHING MECHANISM AND A HANDLE WHICH CAN BE PADLOCKED. THE DOOR SHALL BE DESIGNED SUCH THAT THE DOOR CAN BE LOCKED IN AN OPEN POSITION AT 90, 135, AND 180 DEGREES TO THE CABINET FACE (NOMINAL VALUES). THE POLICE DOOR AND MAIN CABINET DOOR SHALL HAVE A KEYHOLE COVER. BOLT PATTERN SHALL CONSIST OF AN ANCHOR BOLT POSITIONED IN EACH CABINET CORNER. (M36 CABINET SIZE - 50"H X 36"W X 17"D; DOOR OPENING - 39"H X 33.5"W; P44 CABINET SIZE - 55"H X 44"W X 26"D; DOOR OPENING - 44"H X 41.5"W)

(G) A THYRECTOR SURGE PROTECTOR WITH A RMS INPUT OF 150 VOLTS AND INPUT PEAK OF 210 VOLTS SHALL BE PROVIDED IN ADDITION TO ANY LIGHTNING PROTECTION DEVICE. THE THYRECTOR SHALL BE PLACED ACROSS THE INPUT AC POWER LINE.

(H) A 35 AMP LINE FILTER SHALL BE SUPPLIED AND SHALL BE MOUNTED ON THE POWER DISTRIBUTION PANEL.

CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL GENERAL NOTES
CITY OF COLUMBUS

DEL-CR10-0.90

2952-DR.E

324
437

(I) TWO (2) CIRCUIT SOLID STATE FLASHER, EDI MODEL 810, RATED AT 15 AMPS (MINIMUM) PER CIRCUIT SHALL BE PROVIDED (NEMA TYPE 3). CIRCUIT 1 SHALL CONTROL THE MAINLINE FLASHING SIGNAL INDICATIONS. CIRCUIT 2 SHALL CONTROL THE SIDE STREET FLASHING SIGNAL INDICATIONS.

(J) ONE (1) 30-AMP CIRCUIT BREAKER, LABELLED AS "MAIN", SHALL BE WIRED AS THE MAIN POWER DISTRIBUTION BREAKER. A SECOND CIRCUIT BREAKER, LABELLED AS "PED" AND RATED AT 10 AMPS, SHALL BE SUPPLIED FOR THE PEDESTRIAN SIGNAL LOAD ONLY. THE PEDESTRIAN SIGNAL BREAKER SHALL BE WIRED IN SERIES WITH BUT AFTER THE MAIN POWER BREAKER. A THIRD CIRCUIT BREAKER, LABELLED AS "AUX" AND RATED AT 15 AMPS, SHALL SUPPLY A SEPARATE BRANCH OF AC+ POWER TO THE VENTILATING FAN, CONVENIENCE 'GFI' OUTLET AND LIGHT SO THAT THEY MAY OPERATE INDEPENDENTLY OF THE MAIN POWER BREAKER. THE POWER TO THE FAN AND LIGHT SHALL ALSO BE INTERRUPTED BY THE 'GFI' OUTLET. ALL BREAKERS SHALL BE MOUNTED SIDE-BY-SIDE ON THE POWER DISTRIBUTION PANEL.

(K) ALL CONTROLLER MS CONNECTOR HARNESSES SHALL HAVE A CONDUCTOR FOR EACH PLUG PIN EXCEPT THE REMOTE RESET FUNCTION FOR THE CONFLICT MONITOR. THE CONTROLLER AND CONFLICT MONITOR MS HARNESS CONDUCTORS SHALL BE CONNECTED TO A BACK PANEL TERMINAL STRIP WHICH IS ACCESSIBLE FROM THE FRONT OF THE PANEL. DETECTOR UNIT HARNESS CONDUCTORS SHALL BE CONNECTED TO A LEFT SIDE CABINET MOUNTED TERMINAL STRIP. OTHER EQUIPMENT SHALL BE CONNECTED AS APPROPRIATE.

(L) THE CABINET ASSEMBLY SHALL CONTAIN ALL PEDESTRIAN SIGNAL CIRCUITRY FOR EACH NEMA DEFINED THROUGH PHASE.

(M) A POLICE DOOR MOUNTED SIGNAL SHUTDOWN SWITCH WITH SWITCH POSITIONS LABELED AS "SIG ON" AND "SIG OFF" SHALL BE INSTALLED.

(N) A POLICE DOOR MOUNTED SIGNALFLASH SWITCH WITH SWITCH POSITIONS LABELLED AS "ON SIG" AND "ON FLASH" SHALL NOT ONLY PLACE THE SIGNALS ON FLASH BUT ALSO STOP-TIME THE CONTROLLER UNIT. A RUN/STOP-TIME SWITCH WITH SWITCH POSITIONS LABELLED AS "CONT. RUN" AND "STOP-TIME" SHALL BE INSTALLED ON THE INSIDE OF THE CABINET DOOR. THE RUN/STOP-TIME SWITCH SHALL ALLOW THE CONTROLLER UNIT TO TIME NORMALLY BUT KEEP THE SIGNALS ON FLASH. THE SIGNALFLASH SWITCH SHALL NOT RETURN THE SIGNALS TO NORMAL OPERATION UNLESS THE RUN/STOP-TIME SWITCH IS RESET TO THE STOP-TIME POSITION SO THE SIGNALFLASH SWITCH CAN AGAIN STOP-TIME THE CONTROLLER UNIT. THE SIGNALFLASH SWITCH SHALL NOT REMOVE POWER TO THE CONTROLLER UNIT OR ITS AUXILIARY EQUIPMENT.

(O) A POLICE DOOR MOUNTED AUTOMANUAL TRANSFER SWITCH WITH SWITCH POSITIONS LABELLED AS "AUTO" AND "MANUAL" SHALL BE INSTALLED. A MANUAL PUSH BUTTON CONTROL SHALL NOT BE INSTALLED UNLESS SPECIFIED, BUT WIRING FOR A PUSH BUTTON CONTROL SHALL BE PROVIDED UP TO THE POINT WHERE THE PUSH BUTTON WOULD HAVE BEEN CONNECTED.

(P) A CONTROLLER SHUTDOWN SWITCH WITH SWITCH POSITIONS LABELLED AS "CONT ON" AND "CONT OFF" AND A COORDINATED/FREE SWITCH WITH SWITCH POSITIONS LABELLED AS "COORD" AND "FREE" SHALL BE INSTALLED INSIDE THE CABINET NEXT TO THE RUN/STOP-TIME SWITCH. A COORDINATED/FREE SWITCH SHALL NOT BE REQUIRED IF THE CONTROLLER HAS A BUILT-IN COORD/FREE SWITCH.

(Q) AFTER A NEMA DEFINED POWER INTERRUPTION THE CONFLICT MONITOR SHALL CAUSE THE INTERSECTION SIGNALS TO FLASH AS PER PLAN FOR 10 SECONDS BEFORE THE INITIALIZED CONTROLLER UNIT TAKES CONTROL OF THE INTERSECTION SIGNALS. THE CONFLICT MONITOR SHALL BE EDI MODEL SERIES SSM LE AND SHALL CONTAIN SUFFICIENT CHANNELS AS CALLED FOR IN THESE PLANS.

(R) THE CONFLICT MONITOR SHALL BE CONNECTED DIRECTLY TO THE FIELD TERMINALS. USING JUMPERS OR LINKS ON THE BACK PANEL TO FORM A CIRCUIT FOR THE CONFLICT MONITOR SHALL NOT BE ACCEPTABLE.

(S) THE CONFLICT MONITOR SETTINGS FOR MINIMUM YELLOW TIMING ON ALL CHANNELS SHALL BE SET AT THREE AND ONE HALF (3.5) SECONDS.

(T) THE WATCH DOG TIMER SHALL CAUSE THE CONTROLLER TO GO INTO A FLASH OPERATION IF A MICROPROCESSOR FAILURE IS DETECTED.

(U) ALL BACK PANEL HARDWARE SHALL BE MOUNTED WITH SCREWS. ALL SCREWS SHALL BE COMPLETELY SCREWED DOWN. RIVETS OR OTHER NONREMOVABLE FASTENERS ARE NOT ACCEPTABLE.

(V) WIRE CONNECTIONS ON THE BACK PANEL SHALL BE MADE WITH CRIMP TERMINALS AND THREADED FASTENERS. TELEPHONE TYPE KNIFE CONNECTORS (SOLDERED OR OTHERWISE) ARE NOT ACCEPTABLE.

(W) ALL WIRES FASTENED TO THE LOAD SWITCH AND FLASHER PLUGS SHALL BE SOLDERED IN PLACE.

(X) THE BACK PANEL AND POWER DISTRIBUTION PANEL SHALL HAVE SILK SCREENED TERMINAL/SOCKET FUNCTION IDENTIFICATION LABELS SUCH AS AC COM, PHASE 3 GREEN, 115 VAC, SIGNAL BUS, ETC. REFERENCE NUMBERS SHALL NOT BE ACCEPTABLE IN LIEU OF FUNCTION LABELS BUT THEY CAN SUPPLEMENT THEM. ADDITIONAL TERMINAL BLOCKS AND AUXILIARY PANELS SHALL USE SILK SCREENED REFERENCE NUMBERS TO IDENTIFY TERMINAL CONNECTIONS.

(Y) ALL TERMINAL STRIPS IN CLOSE PROXIMITY OF SHELF MOUNTED CONTROL DEVICE EQUIPMENT SHALL BE COVERED WITH NON-CONDUCTIVE MATERIAL TO PREVENT ACCIDENTAL CONTACT WITH THE DEVICES. ALL TERMINAL STRIPS SHALL BE READILY ACCESSIBLE WITHOUT REMOVAL OF ANY EQUIPMENT.

(Z) THE CABINET SHALL HAVE TWO (2) NONVENTED (SOLID) SHELVES SPACED AT LEAST 9" APART. BOTH SHELVES SHALL HAVE A WIDTH OF 13" AND THE BACK EDGE OF THE SHELF SHALL BE LIPPED WITH THE LIP POINTING UP. THE FRONT EDGE OF THE SHELF SHALL BE LIPPED WITH THE LIP POINTING DOWN. ALL LIP EDGES SHALL BE ROUNDED. THE SHELVES SHALL BE ATTACHED TO THE CABINET SIDE PANELS. THE SHELF ARRANGEMENT SHALL BE DESIGNED SO ALL SHELF DEVICES FIT ON THEM.

(AA) THERE SHALL BE A MINIMUM OF ONE (1) INCH EMPTY SPACE BETWEEN ALL ITEMS ATTACHED TO THE DOOR AND ALL SHELF-MOUNTED DEVICES INCLUDING ITS CONNECTING HARNESS(ES), ALL LOAD SWITCHES, FLASHER AND ALL SIDE-PANEL-MOUNTED ITEMS.

(BB) "P" AND "M" SIZED CABINETS SHALL HAVE TWO VENTILATION FANS. THE THERMOSTAT CONTROLLING THE VENTILATING FAN CIRCUIT SHALL BE SET AT 95 DEGREES FAHRENHEIT.

(CC) ALL FLASH TRANSFER RELAYS SHALL BE WIRED FOR FAILSAFE OPERATION (ENERGIZED DURING NORMAL OPERATION) AND WIRED WITH A MAXIMUM OF TWO PHASES PER RELAY.

(DD) THE CONTROLLER ASSEMBLY, WHEN PLACED IN OR COMING OUT OF AN AUTOMATIC FLASHING MODE, SHALL CONFORM TO THE AUTOMATIC FLASHING CRITERIA SET FORTH IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, SECTION 4D.29 - 4D.31, INCLUDING THE FOLLOWING ADDITIONS.

1) A VEHICULAR CALL SHALL BE PLACED ON ALL PHASES IMMEDIATELY PRIOR TO ENTERING THE "FLASH" MODE SO THE CONTROLLER WILL CYCLE TO THE "FLASH" POINT. IT IS OPTIONAL TO HAVE ONE EXTERNAL VEHICULAR CALL PLACED IMMEDIATELY ON ALL PHASES WHEN THE "FLASH" MODE TERMINATES. THE CONTROLLER SHALL OPERATE NORMALLY ONCE THE "FLASH" MODE SEQUENCE IS TERMINATED.

2) THE CONTROLLER SHALL ENTER THE "FLASH" MODE AT THE END OF THE THROUGH SIDE STREET PHASE(S) YELLOW (OR DURING THE SIDESTREET PHASE(S) RED CLEARANCE INTERVAL) BUT JUST PRIOR TO ANY MAIN STREET GREEN.

THE FLASH TRANSFER LOGIC DEVICE SHALL TRIGGER THE "FLASH" OPERATION, SHALL BE SOLID STATE, SHALL BE EXTERNAL TO THE CONTROLLER (A CABINET ASSEMBLY DEVICE), AND SHALL FUNCTION WITH ANY NEMA CONTROLLER. THIS CIRCUITRY SHALL BE SUPPLIED IN ADDITION TO ANY INTERNAL CONTROLLER FLASH LOGIC PROVIDED BY THE CONTROLLER.

EXCEPTION: FOR ON-STREET MASTER ARTERIAL CONTROLLERS ONLY, INTERNAL IC LOGIC CAN BE USED IN LIEU OF AN EXTERNAL DEVICE AS LONG AS THE INTERNAL IC LOGIC MEETS THE STANDARDS SET FORTH ABOVE.

(EE) THE POWER CABLE SHALL BE CONNECTED TO AN ACCESSIBLE TERMINAL STRIP THAT SHALL BE LOCATED NEAR THE BOTTOM OF THE CABINET AND SHALL BE OF SUFFICIENT SIZE TO ACCEPT A SUPPLIED #8 WIRE LUG. THE TERMINAL STRIP SHALL BE COVERED OR SHIELDED TO MINIMIZE ACCIDENTAL CONTACT DURING NORMAL SERVICING OPERATIONS. THE COVER SHALL BE SNAPPED ON/OFF OR SECURED BY STANDARD SCREWS. THE POWER CABLE LUG TERMINAL CONNECTION SHALL BE LOCATED IMMEDIATELY BELOW THE MAIN POWER DISTRIBUTION BREAKER. POWER SHALL BE JUMPERED TO THE MAIN POWER DISTRIBUTION BREAKER. THE POWER DISTRIBUTION PANEL SHALL BE LOCATED IN THE BOTTOM RIGHT SIDE OF THE CABINET OR IT SHALL BE AN INTEGRAL PART OF THE RIGHT SIDE OF THE BACK PANEL. THERE SHALL BE A MINIMUM OF TWO (2) INCHES CLEARANCE BETWEEN THE POWER TERMINAL AND THE BOTTOM OF THE CABINET.

(FF) A #4 WIRE LUG SHALL BE PROVIDED FOR ATTACHING A GROUNDING WIRE FROM A GROUND ROD. THE GROUNDING WIRE LUG SHALL BE ATTACHED TO THE POWER DISTRIBUTION PANEL (LOWER LEFT CORNER), OR IF NONE, TO THE BACK PANEL (BOTTOM MIDDLE). IT SHALL BE DIRECTLY GROUNDED TO THE CABINET.

(GG) A SINGLE POLE MERCURY PLUNGER RELAY SHALL BE INSTALLED WHICH WILL ALLOW POWER TO BE REMOVED FROM THE VEHICULAR AND PEDESTRIAN POWER BUSES. THE MERCURY RELAY SHALL BE RATED AT 35 AMPS AND THE RELAY COIL WIRED WITH A NOISE SUPPRESSION DEVICE.

(HH) ALL EXTERNAL RELAY COILS SHALL HAVE NOISE SUPPRESSION DEVICES.

(II) THE DOOR FILTER (U.L. LISTED CLASS 2, STANDARD 900) SHALL CONSIST OF THREE DISTINCT LAYERS OF FILTERING MEDIA. THE FIRST AIR ENTERING LAYER SHALL BE COMPOSED OF A DUAL FIBER BLEND OF 100% NON-WOVEN POLYESTER TO TRAP LARGER SIZED PARTICLES. THE NEXT LAYER SHALL BE A DUAL PLY, DUAL DENIER, 100% NON-WOVEN POLYESTER OF SMALLER SIZE TO TRAP FINER PARTICLES PASSING THROUGH THE FIRST LAYER. A NON-TOXIC, NON-MIGRATORY, ODORLESS TACKIFIER SHALL BE APPLIED TO THESE LAYERS. ADHESIVES SPRAYED ON THE LAYERS ARE NOT ACCEPTABLE. THE TACKIFIER SHALL BE INCORPORATED INTO THE LAYER MEDIA DURING THE MANUFACTURING PROCESS OF THE RAW MATERIAL. A 10 GAUGE MESH SHALL BE INCORPORATED IN THE FILTER DESIGN FOR RIGIDITY. SUFFICIENT MEDIA OVERLAP SHALL BE PRESENT ABOUT THE WIRE PERIMETER TO INSURE POSITIVE SELF SEAL. THE DOOR FILTER HOLDER SHALL BE DESIGNED SO THE FILTER MAKES POSITIVE CONTACT WITH THE CABINET DOOR AT ALL TIMES AND UNDER ALL CONDITIONS AND SITUATIONS.

JJ) ALARM 1 CIRCUITRY SHALL BE ASSOCIATED WITH A DOOR SWITCH: DOOR OPEN = TRUE; DOOR CLOSED = FALSE.

SYSTEM DETECTORS "A1" THROUGH "D2" CAN BE HARDWIRED DIRECTLY TO THE SCREW TERMINALS ON THE TIO BOARD. ALL "D" HARNESS WIRES SHALL BE ROUTED THROUGH A LABELED TERMINAL STRIP THAT IS MOUNTED ON THE LEFT SIDE OF THE CABINET. THE J18 SYSTEM DETECTOR HARNESS SHALL BE USED FOR SYSTEM DETECTOR OR EXPANDED DETECTOR PULSED INPUTS TO THE IO BOARD OR TO THE "D" TERMINAL BLOCK STRIP.

FOUR (4) SETS OF CABINET WIRING SCHEMATICS, TWO (2) SERVICE MANUALS AND TWO (2) INSTRUCTIONAL MANUALS SHALL BE PROVIDED PER CABINET. DELIVERY OF THESE DIAGRAMS & MANUALS SHALL ACCOMPANY THE CABINET. THE CONTRACTOR SHALL CLEARLY NOTE ANY DEVIATIONS, CHANGES, ADDITIONS OR OTHER MODIFICATIONS ON THE DIAGRAMS AND MANUALS THAT ARE APPROPRIATE TO REFLECT THE EXACT EQUIPMENT TO BE PROVIDED. THE COST FOR THIS MATERIAL SHALL BE INCIDENTAL TO THE COST OF THE SIGNAL EQUIPMENT. THE COPIES OF DIAGRAMS AND MANUALS SHALL BE STORED IN A PLASTIC ENVELOPE MOUNTED HORIZONTALLY AND SECURELY FASTENED TO THE INSIDE OF THE MAIN CABINET DOOR. THE ENVELOPE OPENING SHALL BE TO THE RIGHT OR LEFT. THE ENVELOPE SHALL NOT BLOCK ANY PART OF THE AIR FILTER OR THE AIR INTAKE LOCATED IN THE DOOR.

SERVICE & INSTRUCTIONAL MANUALS SHALL INCLUDE SECTIONS COVERING THE GENERAL DESCRIPTION OF EQUIPMENT, EQUIPMENT INSTALLATION PROCEDURES, EQUIPMENT PROGRAMMING PROCEDURES, THEORY OF OPERATION WITH SYSTEM DESCRIPTION INCLUDING BLOCK DIAGRAMS AND DETAILED CIRCUIT DIAGRAMS, PREVENTIVE MAINTENANCE, FIELD TROUBLE ANALYSIS, BENCH TROUBLE ANALYSIS, TROUBLESHOOTING ANALYSIS CHART, WAVE FORMS, VOLTAGE MEASUREMENTS, VOLTAGE MEASUREMENT CHARTS, PARTS LIST, ELECTRICAL INTERCONNECTION DRAWINGS, SCHEMATIC AND LOGIC DIAGRAMS, ASSEMBLY DRAWINGS WITH PICTORIAL DIAGRAMS SHOWING PHYSICAL LOCATIONS AND IDENTIFICATION OF EACH COMPONENT.

ADDITIONAL SPARE COMPONENTS SHALL ALSO BE PROVIDED: ONE TIO BOARD WITH ALL CONNECTING HARNESSES AND MOUNTING HARDWARE, TWO BLANK RACK PROGRAM BOARDS, ONE COLUMBUS MUTCD FLASH CIRCUIT BOARD WITH HARNESS, AND ONE CONFLICT MONITOR. COST FOR THE ADDITIONAL SPARE COMPONENTS SHALL BE INCIDENTAL TO THE COST OF THE CONTROL EQUIPMENT.

<u>ITEM 816 VIDEO DETECTION SYSTEM, (4 IMAGE SENSORS), AS PER PLAN</u>

THE VIDEO DETECTION SYSTEM SHALL MONITOR VEHICLES ON THE ROADWAY VIA PROCESSING OF VIDEO IMAGES AND PROVIDE STANDARD DETECTOR OUTPUTS TO THE TRAFFIC SIGNAL CONTROLLER. THE SYSTEM SHALL BE DESIGNED TO OPERATE ON A 110/220 VAC, 50/60 HZ INCOMING CONTROLLER CABINET POWER LINE. ALL MAJOR COMPONENTS OF THE VIDEO DETECTION SYSTEM SHALL BE SUPPLIED BY THE SAME MANUFACTURER AS A COMPLETE SYSTEM, READY TO OPERATE.

THE VIDEO DETECTION SYSTEM SHALL BE COMPRISED OF IMAGE SENSOR UNITS (CAMERAS), EACH ATTACHED TO A SUPPORT BRACKET ARM (SEPARATE BID ITEM); ALL MOUNTING HARDWARE; A MODULAR CABINET INTERFACE UNIT; A COMMUNICATIONS INTERFACE PANEL; AND ALL CABLING, HARNESSES, AND CONNECTORS. ALL VIDEO DETECTION DEVICES EXCEPT THE IMAGE SENSOR UNITS SHALL BE HOUSED IN THE CONTROLLER CABINET. ALL DEVICES SHALL BE MOUNTED SO ALL CABLE CONNECTIONS ARE ACCESSIBLE AND ALL DEVICE DOORS CAN BE FULLY OPENED FOR SERVICING. SHELF MOUNTED DEVICES SHALL BE POSITIONED SO THEY ARE ACCESSIBLE AND DO NOT INTERFERE WITH OTHER CABINET DEVICES.

THE VIDEO DETECTION SYSTEM SHALL PROVIDE SELF-DIAGNOSTIC PROGRAMMING AND SHOW THE OPERATIONAL STATUS OF ALL DEVICES. THIS SYSTEM SHALL BE CAPABLE OF OPERATING SIMULTANEOUSLY WITH AND WITHOUT INTERFERENCE FROM A LOOP DETECTOR SYSTEM AND PROVIDING TIME-DELAYED DETECTION INPUTS. THE SYSTEM SHALL MONITOR AND PROCESS ALL PROPOSED PHASE GREENS AND REDS FOR EACH SIGNAL PHASE INDICATED. ALL DATA SHALL BE TRANSMITTED AND PROCESSED IN REAL TIME. THE SYSTEM SHALL PROVIDE I/O'S FOR FIELD PROGRAMMING VIA A LAPTOP COMPUTER AND A VIDEO MONITOR.

A PC NETWORK SYSTEM COMMUNICATION SOFTWARE SHALL ALSO BE PROVIDED AND INSTALLED ON EXISTING EQUIPMENT AS PART OF THIS BID ITEM SO INCIDENT ALARMS, TRAFFIC DATA PARAMETERS, REMOTE IMAGE SENSOR PROGRAMMING AND CUSTOMIZED DETECTOR ZONES CAN BE ACCOMPLISHED. THIS SYSTEM SHALL PROVIDE VOLUME COUNTS, LANE OCCUPANCIES, PRESENCE OR PULSE DETECTION AND THE ABILITY TO ADD OR ASSIGN DIRECTIONALITY TO DETECTION ZONES. VIDEO DETECTION SYSTEM LAPTOP PROGRAMMING SOFTWARE SHALL ALSO BE PROVIDED FOR EIGHT (8) CITY MAINTENANCE TECH LAPTOPS. THE LAPTOP AND SYSTEM COMMUNICATION SOFTWARE PROVISIONS SHALL BE WAIVED IF THE CITY OF COLUMBUS DIVISION OF PLANNING AND OPERATIONS HAS SOFTWARE THAT FUNCTIONS COMPLETELY WITH THE PROPOSED VIDEO DETECTION SYSTEM.

THE IMAGE SENSOR UNIT SHALL BE DESIGNED TO MEET THE FOLLOWING SPECIFICATIONS:

1. BE A SELF-CONTAINED, LOW POWER (30 WATTS MAX), TOTALLY INTEGRATED, IMAGING COLOR CCD ARRAY WITH ZOOM LENS OPTICS, HIGH-SPEED, DUAL-CORE IMAGE PROCESSING HARDWARE BUNDLED INTO A SEALED ENCLOSURE. THE CCD ARRAY SHALL BE DIRECTLY CONTROLLED BY THE DUAL-CORE PROCESSOR.

2. PROVIDE JPED VIDEO COMPRESSION AS WELL AS STANDARD MPEG-4 DIGITAL STREAMING VIDEO WITH FLASHING DETECTOR OVERLAY.

3. HAVE A 22X OR LARGER CONTINUOUSLY FOCUSING ZOOM LENS THAT HAS A HORIZONTAL VIEW OF 4 TO 74 DEGREES AND A VERTICAL VIEW OF 3 TO 59 DEGREES.

CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL GENERAL NOTES
CITY OF COLUMBUS

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4. OPERATE ON 110/220 VAC, 50/60 HZ, AT A MAXIMUM OF 25 WATTS. THE CAMERA AND PROCESSOR ELECTRONICS SHALL CONSUME A MAXIMUM OF 10 WATTS WHILE THE REMAINING 15 WATTS SHALL SUPPORT AN ENCLOSED HEATER.

5. QUICKLY ADJUST TO DYNAMIC LIGHT CHANGES IN SUCH A WAY AS TO NOT LOSE THE IMAGE OF A CURRENT VEHICULAR DETECTION AND THUS NOT FAIL TO DETECT OR HOLD THE VEHICULAR CALL INPUT.

6. CONTAIN LIGHTNING AND TRANSIENT VOLTAGE PROTECTION.

7. CONTAIN APPROPRIATE ELECTRONIC CIRCUITRY AND OPTICAL FILTER(S) TO MINIMIZE THE EFFECTS OF NIGHTTIME HEADLIGHT BLOOMING AND STREAKING.

8. HAVE DIRECT REAL-TIME IRIS AND SHUTTER SPEED CONTROL AND BE INDIVIDUALLY ADDRESSABLE FOR USE IN A MULTI-CAMERA IMAGING VIDEO DETECTION NETWORK SYSTEM.

9. BE HOUSED IN A RUGGED, NEMA 4, WEATHERPROOF, ENVIRONMENTALLY SEALED ENCLOSURE THAT UTILIZES AN ADJUSTABLE SUNSHIELD AND FACEPLATE DRIP GUARD.

10. OPERATE IN A TEMPERATURE RANGE OF 29 TO +165 DEGREES FAHRENHEIT AND 100% HUMIDITY RANGE AS SPECIFIED IN MIL-E-5400T.

11. HAVE A HYDROPHILIC FACEPLATE COATING AND A LOW POWERED (ABOUT 5 WATTS), THERMOSTATICALLY CONTROLLED ITO FACEPLATE HEATER THAT DOES NOT INTERFERE WITH ANY OTHER ELECTRONIC CIRCUIT.

12. HAVE FAILSAFE CHANNEL DETECTION THAT PROVIDES A CONSTANT VEHICULAR CALL IF THE DETECTION CHANNEL FAILS TO OPERATE PROPERLY.

13. HAVE A SELF-CONTAINED DIAGNOSTIC PROGRAM THAT WILL EVALUATE THE UNITS OWN PERFORMANCE AND AN OPERATIONAL LOGGING PROGRAM THAT WILL RETAIN COMMUNICATION AND OPERATIONAL DATA.

14. BE WARRANTED FOR NO LESS THAN TWO YEARS.

THE IMAGE SENSOR UNIT SHALL BE MOUNTED ON A BRACKET ARM USING A LOW PROFILE BANDED OR CLAMPED MOUNTING ASSEMBLY. THE IMAGE SENSOR MOUNTING ASSEMBLY AND THE IMAGE SENSOR HOUSING, INCLUDING THE VISOR, SHALL BE POWDER COATED BLACK, CONFORMING TO THE REQUIREMENTS OF FEDERAL STANDARD #595B, COLOR #27038, TO MATCH THE COLOR OF THE BRACKET ARM AND THE SIGNAL SUPPORT STRUCTURE.

PLACEMENT OF DETECTION ZONES SHALL BE BY MEANS OF A PC WITH A WINDOWS XP OR VISTA OPERATING SYSTEM, A KEYBOARD, AND A MOUSE. THE SYSTEM SHALL PROVIDE THE CAPABILITY TO SHOW THE DETECTION ZONES SUPERIMPOSED ON IMAGES OF TRAFFIC SCENES ON THE PC MONITOR. THE DETECTION ZONES SHALL BE CREATED BY USING A MOUSE TO DRAW DETECTION ZONES ON THE PC MONITOR. IT SHALL BE POSSIBLE TO PLACE, SIZE, AND ORIENT DETECTION ZONES TO PROVIDE OPTIMAL ROAD COVERAGE FOR VEHICLE DETECTION USING THE MOUSE AND KEYBOARD. THE SYSTEM SHALL PROVIDE THE CAPABILITY TO DOWNLOAD DETECTOR CONFIGURATIONS FROM THE PC TO THE IMAGE SENSOR AND CABINET INTERFACE MODULE, TO RETRIEVE THE DETECTOR CONFIGURATION THAT IS CURRENTLY RUNNING IN THE IMAGE SENSOR, AND TO BACK UP DETECTOR CONFIGURATIONS BY SAVING THEM TO THE PC FIXED DISKS OR OTHER REMOVABLE STORAGE MEDIA. THE SYSTEM SHALL PROVIDE THE CAPABILITY TO USE THE MOUSE AND KEYBOARD OF THE SUPERVISOR COMPUTER TO EDIT PREVIOUSLY DEFINED DETECTOR CONFIGURATIONS IN ORDER TO PERMIT ADJUSTMENT OF DETECTION ZONE SIZE AND PLACEMENT, TO ADD DETECTION ZONES FOR ADDITIONAL TRAFFIC APPLICATIONS, OR TO REPROGRAM THE IMAGE SENSOR FOR DIFFERENT TRAFFIC APPLICATIONS OR CHANGES IN INSTALLATION SITE GEOMETRY OR TRAFFIC.

THE IMAGE SENSOR EMBEDDED SOFTWARE SHALL INCORPORATE MULTIPLE APPLICATIONS THAT PERFORM A VARIETY OF DIAGNOSTIC, INSTALLATION, FAULT TOLERANT OPERATIONS, DATA COMMUNICATIONS, DIGITAL VIDEO STREAMING, AND VEHICLE DETECTION PROCESSING. THE DETECTION SHALL BE RELIABLE AND CONSISTENT AND SHALL PERFORM UNDER ALL WEATHER, LIGHTING, AND TRAFFIC CONGESTION LEVELS. AN EMBEDDED WEB SERVER SHALL PERMIT STANDARD INTERNET BROWSERS TO CONNECT AND PERFORM BASIC CONFIGURATION, MAINTENANCE, AND VIDEO STREAMING SERVICES.

THE SUITE OF CLIENT APPLICATIONS THAT RESIDE ON A HOST CLIENT/SERVER PC SHALL EXECUTE UNDER MICROSOFT WINDOWS XP OR VISTA. THE AVAILABLE CLIENT APPLICATIONS SHALL INCLUDE:
1.MASTER NETWORK BROWSER: LEARN A NETWORK OF CONNECTED MODULAR CABINET INTERFACE UNITS AND IMAGE SENSORS, DISPLAY BASIC INFORMATION, AND LAUNCH APPLICATIONS SOFTWARE TO PERFORM OPERATIONS WITHIN THAT SYSTEM OF IMAGE SENSORS.

2.CONFIGURATION SETUP: CREATE AND MODIFY DETECTOR CONFIGURATIONS TO BE EXECUTED ON THE IMAGE SENSOR AND MODULAR CABINET INTERFACE UNIT.

3.OPERATION LOG: RETRIEVE, DISPLAY, AND SAVE FIELD HARDWARE RUN-TIME OPERATION LOGS OF SPECIAL EVENTS THAT HAVE OCCURRED.

4.SOFTWARE INSTALL: RECONFIGURE ONE OR MORE IMAGE SENSORS WITH A NEWER RELEASE OF EMBEDDED SYSTEM SOFTWARE.

5.STREAMING VIDEO PLAYER: PLAY AND RECORD STREAMING VIDEO WITH FLASHING DETECTOR OVERLAY.

6.DATA RETRIEVAL: FETCH ONCE OR POLL FOR TRAFFIC DATA AND ALARMS AND STORE ON PC STORAGE MEDIA.

7.COMMUNICATIONS SERVER: PROVIDE FAULT-TOLERANT, REAL-TIME TCP/IP COMMUNICATIONS TO/FROM ALL DEVICES AND CLIENT APPLICATIONS WITH FULL LOGGING CAPABILITY FOR SYSTEMS INTEGRATION.

THE MODULAR CABINET INTERFACE UNIT SHALL PROVIDE THE HARDWARE AND SOFTWARE MEANS FOR UP TO EIGHT (8) IMAGE SENSORS TO COMMUNICATE REAL-TIME DETECTION STATES AND ALARMS TO A LOCAL TRAFFIC SIGNAL CONTROLLER. THE INTERFACE UNITS SHALL BE DESIGNED TO COMMUNICATE WITH A NEMA TS2 TYPE 2/TS1 CONTROLLER. THE MODULAR CABINET INTERFACE UNIT SHALL BE A SHELF-MOUNTED UNIT AND SHALL COMPLY WITH THE FORM FACTOR AND ELECTRICAL CHARACTERISTICS TO PLUG DIRECTLY INTO A NEMA TYPE C OR D DETECTOR RACK, ACCEPTING UP TO SIXTEEN (16) PHASE INPUTS AND PROVIDING UP TO TWENTY-FOUR (24) DETECTOR OUTPUTS. THE MODULAR CABINET INTERFACE UNIT SHALL CONTAIN OPTICALLY ISOLATED OUTPUTS AND HAVE FRONT PANEL I/O INDICATOR LIGHTS AND CONNECTORS.

THE COMMUNICATIONS INTERFACE PANEL SHALL SUPPORT UP TO EIGHT (8) IMAGE SENSORS. THE COMMUNICATIONS INTERFACE PANEL SHALL ACCEPT 110/220 VAC, 50/60 HZ POWER AND PROVIDED PREDEFINED WIRE TERMINATION BLOCKS FOR THE IMAGE SENSOR POWER CONNECTIONS, A BROADBAND-OVER-POWER LINE TRANSCEIVER TO SUPPORT UP TO 10 MB/SEC INTERDEVICE COMMUNICATIONS, ELECTRICAL SURGE PROTECTORS TO ISOLATE THE MODULAR INTERFACE UNIT AND IMAGE SENSORS, AND AN INTERFACE CONNECTOR TO CABLE DIRECTLY TO THE MODULAR CABINET INTERFACE UNIT. THE COMMUNICATIONS INTERFACE PANEL SHALL PROVIDE SINGLE-POINT ETHERNET CONNECTIVITY VIA RJ45 CONNECTOR FOR COMMUNICATIONS TO AND BETWEEN THE MODULAR CABINET INTERFACE UNIT AND THE IMAGE SENSORS.

THE COMMUNICATIONS INTERFACE PANEL SHALL PROVIDE POWER FOR UP TO EIGHT (8) IMAGE SENSORS, TAKING LOCAL LINE VOLTAGE 110/220 VAC, 50/60 HZ AND PRODUCING 110/220 VAC, 50/60 HZ, AT APPROXIMATELY 30 WATTS TO EACH IMAGE SENSOR. TWO 0.5 AMP SLO-BLO FUSES SHALL PROTECT THE COMMUNICATIONS INTERFACE PANEL. THE CONDUCTOR FUNCIONS OF THE INTERFACE PANEL SHALL BE PERMANENTLY-LABELED NEXT TO THE APPROPRIATE TERMINALS.

THE DIGITAL STREAMING VIDEO OUTPUT AND ALL DATA COMMUNICATIONS SHALL BE TRANSMITTED OVER 3-CONDUCTOR CAMERA CABLE. THE 3-CONDUCTOR CAMERA CABLE INSTALLED SHALL MEET ALL THE REQUIREMENTS FOR VIDEO AND DATA TRANSMISSION SET FORTH IN THESE SPECIFICATIONS AND SHALL MEET ALL SPECIFICATIONS SET FORTH BY THE VIDEO DETECTION SYSTEM MANUFACTURER. THE CAMERA CABLE SHALL BE SUITABLE FOR INSTALLATION IN CONDUIT AND OVERHEAD WITH APPROPRIATE SPAN WIRE. THE CAMERA CABLE SHALL BE RUN CONTINUOUSLY FROM THE IMAGE SENSOR UNIT TO THE CONTROLLER CABINET (NO SPLICES). THE CAMERA CABLE SHALL BE INCIDENTAL TO THIS ITEM.

TWO (2) SERVICE MANUALS AND TWO (2) INSTRUCTIONAL MANUALS SHALL BE PROVIDED PER CABINET. DELIVERY OF THESE MANUALS SHALL ACCOMPANY THE CABINET. SERVICE & INSTRUCTIONAL MANUALS SHALL INCLUDE SECTIONS COVERING THE GENERAL DESCRIPTION OF EQUIPMENT, EQUIPMENT INSTALLATION PROCEDURES, EQUIPMENT PROGRAMMING PROCEDURES, THEORY OF OPERATION WITH SYSTEM DESCRIPTION INCLUDING BLOCK DIAGRAMS AND DETAILED CIRCUIT DIAGRAMS, PREVENTIVE MAINTENANCE, FIELD TROUBLE ANALYSIS, BENCH TROUBLE ANALYSIS, TROUBLESHOOTING ANALYSIS CHART, WAVE FORMS, VOLTAGE MEASUREMENTS, VOLTAGE MEASUREMENT CHARTS, PARTS LIST, ELECTRICAL INTERCONNECTION DRAWINGS, SCHEMATIC AND LOGIC DIAGRAMS, ASSEMBLY DRAWINGS WITH PICTORIAL DIAGRAMS SHOWING PHYSICAL LOCATIONS AND IDENTIFICATION OF EACH COMPONENT. THE COST FOR THIS MATERIAL SHALL BE INCIDENTAL TO THE COST OF THIS ITEM.

IN ADDITION TO THE MATERIALS THAT ARE MENTIONED ABOVE OR SHOWN IN THE PLANS, THE CONTRACTOR SHALL ALSO FURNISH ONE (1) SPARE IMAGE SENSOR (COMPLETE UNIT) WITH A LOW PROFILE MOUNTING ASSEMBLY. THE IMAGE SENSOR HOUSING, INCLUDING THE VISOR, AND THE MOUNTING ASSEMBLY SHALL BE POWDER COATED BLACK, CONFORMING TO THE REQUIREMENTS OF FEDERAL STANDARD #595B, COLOR #27038. THE COST OF THESE DEVICES SHALL BE INCIDENTAL TO THE COST OF THIS VIDEO DETECTION SYSTEM.

ITEM 625 BRACKET ARM, 25 FT, AS PER PLAN
ITEM 625 BRACKET ARM, 30 FT, AS PER PLAN

SEE COLUMBUS STANDARD DRAWING 4110 FOR DETAILS

ITEM 625 PULL BOX 27", AS PER PLAN

SEE COLUMBUS STANDARD DRAWING 4021 FOR DETAILS

ITEM 625 PULL BOX, CONCRETE ROUND, 48", AS PER PLAN

SEE COLUMBUS STANDARD DRAWING 4023 FOR DETAILS

ITEM 632, PEDESTAL, 5" TRANSFORMER BASE, AS PER PLAN

SEE COLUMBUS STANDARD DRAWING 4100 FOR DETAILS

ITEM 632, SIGNAL, MISC.: SIGNAL SUPPORT, MECHANICAL DAMPER

SEE COLUMBUS STANDARD DRAWING 4122 FOR DETAILS, MOUNTED ON CAMERA BRACKET ARM

CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL GENERAL NOTES
CITY OF COLUMBUS

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HEADS (1)(2)(8)(9) 12″

HEADS (5)(12) 12″

HEAD (7) 12″

HEADS (3)(4)(6)(10)(11)(13)(14) 12″

PEDESTRIAN HEADS N, E, S, & W 16″X18″ COUNTDOWN

LEFT ON GREEN ARROW ONLY R10-5-30 (S1)

SIGNAL HEADS

27″ PULL BOX STA. 1012+28, 79′ LT.

(1)-2″ CONDUIT W/(6) 2/C (1)-2″ CONDUIT W/(1)-GND IN TRENCH = 11′

STRAIN POLE "B" DESIGN 10, 32′ W/ (1) - PED. SIGNAL HEAD W/ (1) - 30′ BRACKET ARM W/ (1) - VIDEO DETECTOR STA. 1012+27, 65.3′ LT.

(1)-2″ CONDUIT W/(1)-9/C & (1)-GRD (1)-2″ CONDUIT - EMPTY IN TRENCH = 25′

PEDESTRIAN PEDESTAL "F", 10.7′ W/(1) - PED. SIGNAL HEAD STA. 1012+02, 55.5′ LT.

POWER SERVICE ON RELOCATED POLE

(1)-2″ CONDUIT W/(1) - POWER IN TRENCH, CONCRETE ENCASED = 15′

PULL BOX, AS PER PLAN STA. 1011+00, 58′ LT.

(1)-3″ CONDUIT W/(1) - POWER IN TRENCH, CONCRETE ENCASED = 116′

PEDESTRIAN PEDESTAL "G", 5′ W/(1) - PED. PUSH BUTTON STA. 1012+52, 75′ LT.

(1)-2″ CONDUIT W/(2)-2/C (1)-2″ CONDUIT W/(1)-GRD IN TRENCH = 18′

(1)-2″ CONDUIT W/(4)-2/C IN TRENCH = 115′

NOTE:
POLARIS PARKWAY STATION EQUATION
STA. 101+13.28 (BACK) = STA. 59+06.72 (AHEAD)

MATCH LINE STA. 99+50.00, SEE SHEET 328

POLARIS PARKWAY

REMOVE EXISTING POLES

REMOVE EXISTING POLE

REMOVE EXISTING CONTROLLER

REMOVE EXISTING FIBER OPTIC INTERCONNECT PULL BOX

PEDESTRIAN PEDESTAL "K", 5′ W/(1) - PED. PUSH BUTTON STA. 1013+54, 73.7′ LT.

(1)-2″ CONDUIT W/(1)-2/C (1)-2″ CONDUIT W/(1)-GND IN TRENCH = 15′

STRAIN POLE "C" - DESIGN 10, 32′ W/ (1) - PED. SIGNAL HEAD W/ (1) - 25′ BRACKET ARM W/VIDEO DETECTOR STA. 1013+68, 70.5′ LT. FOUNDATION FLUSH WITH WALK

27″ PULL BOX STA. 1013+71, 74.5′ LT.

(1)-2″ CONDUIT W/(2)-9/C & (1)-GRD (1)-2″ CONDUIT W/(1)-2/C IN TRENCH = 4′

(1)-2″ CONDUIT W/(2)-9/C & (1)-GRD (1)-2″ CONDUIT - EMPTY IN TRENCH = 24′

PEDESTRIAN PEDESTAL "H", 10.7′ W/(1) - PED. SIGNAL HEAD STA. 1013+89, 55.5′ LT.

SOUTH OLD STATE ROAD

LEGEND

- 5-SECTION SIGNAL HEAD
- 3-SECTION SIGNAL HEAD W/ ARROWS
- 3-SECTION SIGNAL HEAD
- CONDUIT
- 27″/32″ ROUND PULL BOX
- 48″ ROUND PULL BOX
- 11″X18″ PULL BOX
- CONTROLLER CABINET
- VIDEO DETECTION AREA
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN SIGNAL HEAD
- VIDEO DETECTION CAMERA
- STRAIN POLE
- PEDESTRIAN PEDESTAL

SOUTHEAST CORNER DETAIL
SCALE: 1″ = 10′

FOR INTERCONNECT DETAILS, SEE SHEET 329

PULL BOX, AS PER PLAN STA. 1011+00, 58′ RT.

(1)-2″ CONDUIT W/(1) - POWER IN TRENCH, CONCRETE ENCASED = 127′

PEDESTRIAN PEDESTAL "E" W/(1) -PED. SIGNAL HEAD STA. 1012+06, 56.4′ RT.

(1)-2″ CONDUIT W/(1)-7/C & (1) GRD (1)-2″ CONDUIT - EMPTY IN TRENCH = 4′

32″ PULL BOX STA. 1012+09, 62′ RT.

(1)-2″ CONDUIT W/(2)-7/C & (1) GRD (1)-2″ CONDUIT - EMPTY IN TRENCH = 19′

GROUND MOUNTED CONTROLLER, STA. 1012+21, 71′ RT.

(1)-3″ CONDUIT W/(7)-7/C, (2)-9/C & (1)-GND (1)-3″ CONDUIT W/(4) VIDEO CABLES (1)-3″ CONDUIT - EMPTY (1) 2″ CONDUIT W/(10)-2/C (1) 2″ CONDUIT - EMPTY IN TRENCH = 8′

32″ PULL BOX STA. 1012+28, 73′ RT.

(1)-3″ CONDUIT W/(7)-7/C, (2)-9/C & (1)-GND (1)-3″ CONDUIT W/(4) VIDEO CABLES (1)-3″ CONDUIT - EMPTY (1) 2″ CONDUIT W/(10)-2/C (1) 2″ CONDUIT - EMPTY IN TRENCH = 8′

STRAIN POLE "A" DESIGN 10, 32′ W/ (1) - PED. SIGNAL HEAD W/ (1) - PUSH BUTTON W/ (1) - 25′ BRACKET ARM W (1) - VIDEO DETECTOR STA. 1012+34, 74′ RT. FOUNDATION FLUSH WITH WALK

STRAIN POLE "A" NOTE: HAND DIG TO EXPOSE TELEPHONE CABLE BEFORE DRILLING FOUNDATION

EXISTING CONDUIT W/ PROP. FIBER OPTIC INTERCONNECT

REMOVE EX. POLE

MATCH LINE STA. 60+93.45, SEE SHEET 328

SEE FIBER OPTIC PLANS & NOTE - SHEET 329

SEE SHEET 328 FOR ADVANCE/DILEMMA ZONE DETECTION

PEDESTRIAN PEDESTAL "I", 10.7′ W/ (1) - PED. SIGNAL HEAD STA. 1014+06, 56.4′ RT.

27″ PULL BOX STA. 1013+80, 67′ RT.

(1)-2″ CONDUIT W/(2)-9/C & (1) GND (1)-2″ CONDUIT - EMPTY IN TRENCH = 27′

(1)-2″ CONDUIT W/(1)-9/C & (1)-GRD (1)-2″ CONDUIT W/(6)-2C IN TRENCH = 6′

STRAIN POLE "D" DESIGN 10, 32′ W/ (1) - 30′ BRACKET ARM W/ (1) - VIDEO DETECTOR STA. 1013+73, 65′ RT. FOUNDATION FLUSH WITH WALK

(1)-2″ CONDUIT W/(2)-9/C & (1)-GRD (1)-2″ CONDUIT W/(6)-2/C IN TRENCH = 24′

PEDESTRIAN PEDESTAL "J", 10.7′ W/(1) - PED. SIGNAL HEAD W/(1) - PED. PUSH BUTTON STA. 1013+60, 85′ RT.

(1)-2″ CONDUIT W/(4)-2/C IN TRENCH = 115′

NOTE: MAINTAIN 12″ MIN. VERTICAL CLEARANCE AT ALL WATERLINE CROSSINGS.

ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

QUANTITY	REMOVED ITEM DESCRIPTION	DELIVERED TO 1820 E 17TH AVE	DISPOSED OF BY PROJECT	REUSE WITH TEMPORARY
4	SIGNAL POLE BASE MOUNT	X		
10	VEHICULAR SIGNAL HEAD	X		
	PEDESTRIAN SIGNAL HEAD			
1	BASE MT'D CONTROLLER	X		X
4	POLE FOUNDATIONS		X	
LUMP	SIGNAL CONDUIT		X	
LUMP	SIGNAL CABLE		X	
LUMP	MESSENGER WIRE		X	

HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED AJB CHECKED VMF

SIGNAL PLAN - CITY OF COLUMBUS
POLARIS PKWY. AT SOUTH OLD STATE RD.

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NOTE:
POLARIS PARKWAY STATION EQUATION
STA. 101+13.28 (BACK) = STA. 59+06.72 (AHEAD)

LEGEND
- CONDUIT
- 11"x18" PULL BOX
- DETECTOR LOOP

11"x18" PULL BOX, AS PER PLAN
STA. 96+98, 48' RT.

(1)-2" CONDUIT W/(2)-2C
IN TRENCH = 221'

11"x18" PULL BOX, AS PER PLAN
STA. 99+16, 51' RT.

(1)-2" CONDUIT W/(4)-2C
IN TRENCH = 115'

POLARIS PARKWAY (SR 750)

Ex R/W

L1 L2 L3 L4 L5 L6 L7 L8

24"

MATCH LINE STA. 99+50,
SEE SHEET 327

MATCH LINE STA. 60+93.45,
SEE SHEET 327

(1)-2" CONDUIT W/(4)-2C
IN TRENCH = 115'

11"x18" PULL BOX, AS PER PLAN
STA. 61+00, 52' LT.

(1)-2" CONDUIT W/(2)-2C
IN TRENCH = 221'

PC Sta. 62+73.97

REMOVE
EXISTING PULL BOX

11"x18" PULL BOX, AS PER PLAN
STA. 63+20, 52' LT.

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AJB
CHECKED VMF

SIGNAL PLAN - CITY OF COLUMBUS
POLARIS PKWY. AT SOUTH OLD STATE RD.

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EXISTING FIBER OPTIC INTERCONNECT

THE EXISTING FIBER OPTIC INTERCONNECT SHALL BE KEPT IN SERVICE AT ALL TIMES AS FOLLOWS:

1. *LOCATE THE EXISTING FIBER OPTIC CONDUIT AND PLACE A NEW 48" PULL BOX OVER IT AS SHOWN IN THE PLANS. THE PROPOSED PULL BOX SHALL BE SLOTTED TO ACCEPT THE EXISTING CONDUIT WITHOUT DISTURBING THE EXISTING INTERCONNECT CABLE.*
2. *INSTALL THE PROPOSED FIBER OPTIC CONDUIT TO THE PROPOSED CONTROLLER LOCATION AS PER PLAN.*
3. *THE PROPOSED CABINET AND CONTROLLER SHALL BE INSTALLED AND READY TO PLACE IN SERVICE BEFORE THE FIBER OPTIC INTERCONNECT IS TRANSFERRED FROM THE EXISTING CABINET. THE INTERCONNECT TRANSFER SHALL BE MADE ON THE SAME DAY THE NEW SIGNAL IS PLACED IN OPERATION.*
4. *CAREFULLY PULL THE EXISTING FIBER OPTIC CABLE FROM THE EXISTING CONTROLLER LOCATION BACK TO THE PROPOSED 48" PULL BOX, AND REROUTE IT THRU THE PROPOSED CONDUIT TO THE RELOCATED CONTROLLER. RECONNECT TO THE EXISTING TELEMETRY MODULE.*
5. *ANY EXCESS SLACK IN THE FIBER OPTIC CABLE SHALL BE NEATLY COILED (TO A BEND RADIUS NOT LESS THAN APPROVED BY THE MANUFACTURER) IN THE PROPOSED 48" PULL BOX.*
6. *IF THE EXISTING CABLE IS DAMAGED BY THE CONTRACTOR, HE SHALL REPLACE THE ENTIRE RUN WITH NEW CABLE CONFORMING TO THE CITY'S CURRENT SPECIFICATIONS. THE ORIGIN OF THIS RUN IS IN THE CONTROLLER CABINET AT GEMINI PARKWAY (APPROXIMATELY 2200 FEET).*

NOTE:
POLARIS PARKWAY STATION EQUATION
STA. 101+13.28 (BACK) = STA. 59+06.72 (AHEAD)

LEGEND
- *5-SECTION SIGNAL HEAD*
- *3-SECTION SIGNAL HEAD W/ ARROWS*
- *3-SECTION SIGNAL HEAD*
- *CONDUIT*
- *27"/32" ROUND PULL BOX*
- *48" ROUND PULL BOX*
- *11"X18" PULL BOX*
- *CONTROLLER CABINET*
- *VIDEO DETECTION AREA*
- *PEDESTRIAN PUSH BUTTON*
- *PEDESTRIAN SIGNAL HEAD*
- *VIDEO DETECTION CAMERA*
- *STRAIN POLE*
- *PEDESTRIAN PEDESTAL*

MATCH LINE STA. 99+50.00

POLARIS PARKWAY

SOUTH OLD STATE ROAD

EXISTING GROUND MOUNTED CONTROLLER

GROUND MOUNTED CONTROLLER, STA. 1012+21, 71' RT.

TRAFFIC SIGNAL CONDUIT DUCT BANK
(2) 3" CONDUITS W/FIBEROPTIC CABLE
(1) 1 1/2" CONDUIT W/TRACER WIRE
CONCRETE ENCASED IN TRENCH = 38'
PER CITY OF COLUMBUS SCD 4001

48" PULL BOX STA. 1012+39, 104' RT. TAP INTO EXISTING FIBER OPTIC CONDUIT (SEE NOTE 1)

EXISTING CONDUIT W/ FIBER OPTIC INTERCONNECT (SEE NOTE 1)

REMOVE EXISTING FIBER OPTIC INTERCONNECT PULL BOX

REMOVE EXISTING CONDUIT

MATCH LINE STA. 60+93.45

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AJB CHECKED VMF

RELOCATION OF FIBER OPTIC INTERCONNECT
POLARIS PKWY. AT SOUTH OLD STATE RD.

DEL-CR10-0.90

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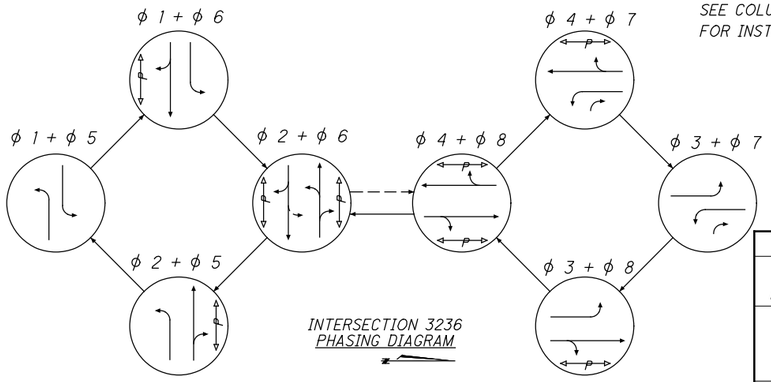
DETECTOR CHART - VIDEO DETECTION AT POLARIS PKWY

DETECTOR #	CAMERA #	PHASE NUMBER	DETECTION ZONE SIZE (W'XL')	PRESENCE	DELAY DATA	
					DELAY (SEC)	INHIBIT DELAY DURING GREEN (PHASE)
V4-1	VID-4	ϕ3	5X25	X	3	3
V4-2	VID-4	ϕ3	5X25	X	3	3
V4-3	VID-4	ϕ8	5X69	X	0	-
V4-4	VID-4	ϕ8	5X69	X	8	8
V3	VID-3	ϕ5	5X25	X	3	5
V2-1	VID-2	ϕ7	5X25	X	3	7
V2-2	VID-2	ϕ7	5X25	X	3	7
V2-3	VID-2	ϕ4	5X66	X	0	-
V2-4	VID-2	ϕ4	5X66	X	8	4
V1	VID-1	ϕ1	5X25	X	3	1

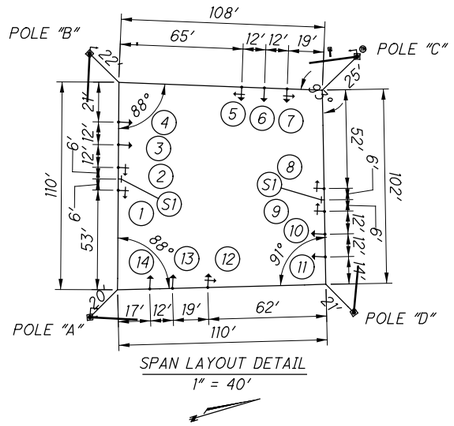
DETECTOR CHART - LOOP DETECTION AT POLARIS PKWY (SYSTEM DETECTION)

DETECTOR #	DETECTOR ASSIGNMENT		PHASE NUMBER	DETECTION ZONE SIZE (W'XL')	LOOP DELAY DATA		DETECTOR UNIT RACK & CABLE LABEL
	UNIT #	CHANNEL #s			DELAY (SEC)	INHIBIT DELAY DURING GREEN (PHASE)	
L1	1	1	ϕ6	6X6	0		EB (N) & (R)
L2	1	2	ϕ6	6X6	0		EB (W) & (L)
L3	2	1	ϕ6	6X6	0		EB (F) & (R)
L4	2	2	ϕ6	6X6	0		EB (F) & (L)
L5	3	1	ϕ2	6X6	0		WB (N) & (L)
L6	3	2	ϕ2	6X6	0		WB (W) & (R)
L7	4	1	ϕ2	6X6	0		WB (F) & (L)
L8	4	2	ϕ2	6X6	0		WB (F) & (R)

SEE COLUMBUS STD DWG 4300
FOR INSTALLATION AND WINDING DETAILS



INTERSECTION 3236
PHASING DIAGRAM

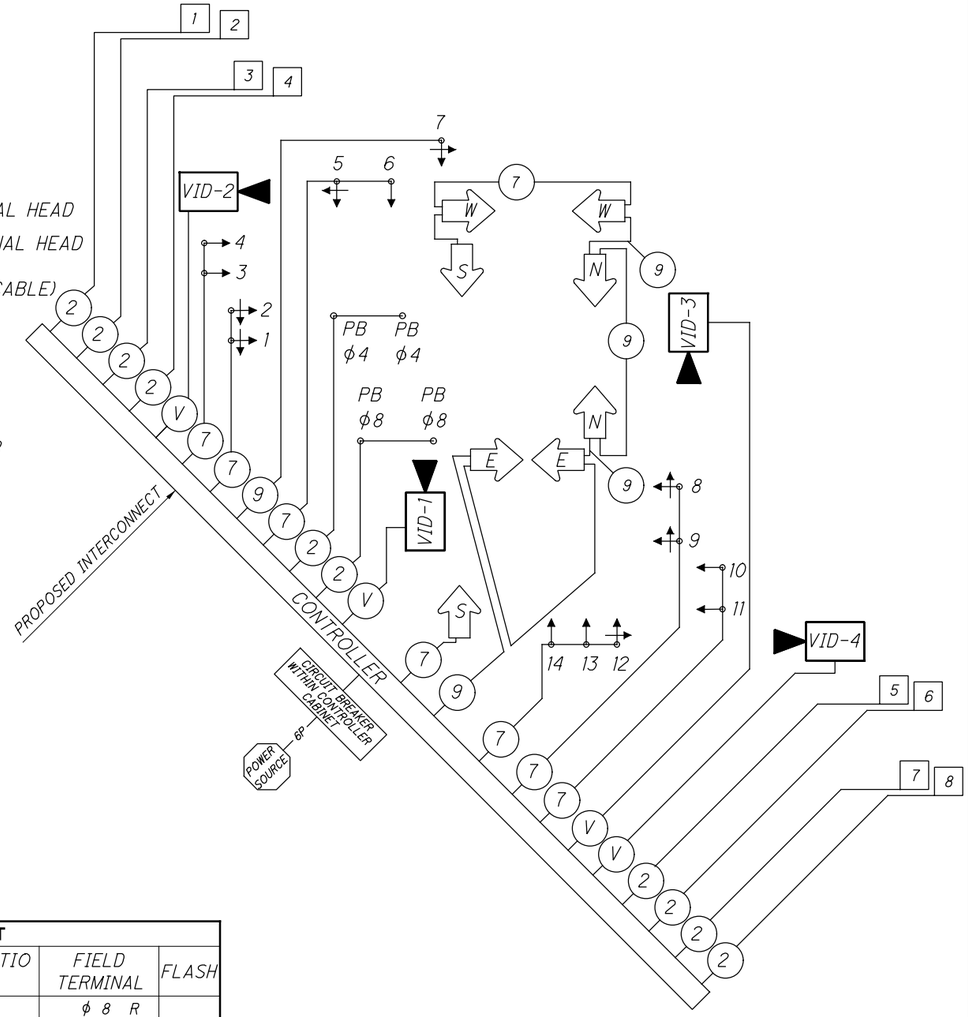


SPAN LAYOUT DETAIL
1" = 40'

CABINET WIRING DIAGRAM
PROPOSED CABLES ONLY

WIRING DIAGRAM LEGEND

- VIDEO DETECTOR
- PEDESTRIAN SIGNAL HEAD
- PB ∘ PEDESTRIAN PUSHBUTTON
- 3 SECTION VEHCULAR SIGNAL HEAD
- 5 SECTION VEHICULAR SIGNAL HEAD
- (2) 2/C #14 AWG. (LEAD-IN CABLE)
- (7) 7/C #14 AWG.
- (9) 9/C #14 AWG.
- (V) CAMERA CABLE
- VEHICLE LOOP DETECTOR
- — 6P — 2/C #8 AWG. (POWER)



FIELD WIRING HOOK-UP CHART

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1,2 (SB LT)	~~R~~	ϕ7 R	~~R~~	10,11 (NB)	R	ϕ 8 R	R
	~~Y~~	ϕ7 Y			Y	ϕ 8 Y	
	~~G~~	ϕ7 G			G	ϕ 8 G	
3,4 (SB)	R	ϕ4 R	R	12 (EB LT)	R	ϕ 6 R	Y
	Y	ϕ4 Y			Y	ϕ 6 Y	
	G	ϕ4 G			G	ϕ 6 G	
5 (WB LT)	R	ϕ2 R	Y		~~Y~~	ϕ 1 R	
	Y	ϕ2 Y			~~G~~	ϕ 1 Y	
	G	ϕ2 G		13,14 (EB)	R	ϕ 6 R	Y
	~~Y~~	ϕ5 Y			Y	ϕ 6 Y	
	~~G~~	ϕ5 G			G	ϕ 6 G	
6 (WB)	R	ϕ2 R	Y	N (NORTH)	W	G (ϕ2) W	OFF
	Y	ϕ2 Y			DW	R (ϕ2) DW	
	G	ϕ2 G		E (EAST)	W	G (ϕ8) W	OFF
7 (WB RT)	R	ϕ2 R	Y		DW	R (ϕ8) DW	
	Y	ϕ2 Y		S (SOUTH)	W	G (ϕ6) W	OFF
	G	ϕ2 G			DW	R (ϕ6) DW	
	~~Y~~	ϕ7 Y		W (WEST)	W	G (ϕ4) W	OFF
	~~G~~	ϕ7 G			DW	R (ϕ4) DW	
8,9 (NB LT)	~~R~~	ϕ3 R	~~R~~				
	~~Y~~	ϕ3 Y					
	~~G~~	ϕ3 G					

SIGNAL DISPLAY	WIRE COLOR PER APPROACH
THRU R	RED
THRU Y	ORANGE
THRU G	GREEN
L/T R	BLACK (FUTURE ONLY)
L/T Y	WHITE W/BLACK TRACER
L/T G	BLUE
R/T Y	RED W/BLACK TRACER
R/T G	GREEN W/BLACK TRACER

PED UNIT LOCATION	CROSSWALK DISPLAY	WIRE COLOR
SOUTH CROSSWALK	WALK	BLACK
	DON'T WALK	ORANGE
WEST CROSSWALK	WALK	GREEN
	DON'T WALK	RED
NORTH CROSSWALK	WALK	BLUE
	DON'T WALK	WHITE W/BLACK TRACER
EAST CROSSWALK	WALK	GREEN W/BLACK TRACER
	DON'T WALK	RED W/BLACK TRACER

WHITE SHALL BE USED FOR THE COMMON. SPLICE ALL WIRES IN THE SIGNAL HEAD OR PED. UNIT. USE A #14 AWG 2 WIRE SPADE TERMINAL FOR EVERY 2 WIRES PER CONNECTION AND A #14 AWG TO CONNECT ALL WIRES TO ALL FIELD TERMINALS. USE BUTT SPLICES ON ALL THROUGH WIRES. ALL UNUSED WIRES SHALL BE SPLICED THROUGH AND SHALL HAVE A DEAD-END TERMINAL AT THE END OF THE WIRE.

CALCULATED AJB | CHECKED VMF

TRAFFIC SIGNAL DETAILS- CITY OF COLUMBUS
POLARIS PKWY. AT SOUTH OLD STATE RD.

DEL-CR10-0.90

2952-DR.E

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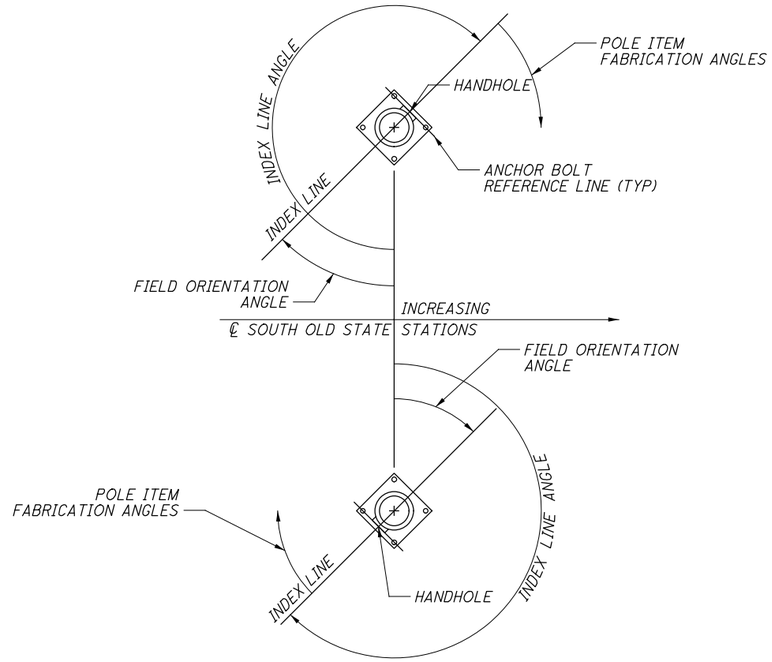
ITEM #		TOTAL	UNIT	CITY OF COLUMBUS QUANTITIES ITEM DESCRIPTION	REF. SHT. NO.
625		2	EA	IMAGE SENSOR MOUNTING BRACKET ARM, 25 FT, AS PER PLAN	326
625		2	EA	IMAGE SENSOR MOUNTING BRACKET ARM, 30 FT, AS PER PLAN	326
625	25408	962	FT	CONDUIT, 2", 725.051	
625	25504	211	FT	CONDUIT, 3", 725.051	
625	29000	930	FT	TRENCH	
625	31451	4	EA	PULL BOX, 11"x18", AS PER PLAN	326
625		4	EA	PULL BOX, 27", AS PER PLAN	326
625		1	EA	PULL BOX, CONCRETE ROUND, 48", AS PER PLAN	326
625	32001	5	EA	GROUND ROD, AS PER PLAN	323
632	05001	11	EA	VEHICULAR SIGNAL HEAD, LED, 3-SECTION, 12-INCH LENS, 1-WAY, AS PER PLAN	323
632	05081	8	EA	VEHICULAR SIGNAL HEAD, LED, 5-SECTION, 12-INCH LENS, 1-WAY, AS PER PLAN	323
632		8	EA	PEDESTRIAN SIGNAL HEAD, AS PER PLAN	323
632		14	EA	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	324
632		8	EA	COVERING OF PEDESTRIAN SIGNAL HEAD, AS PER PLAN	324
632		8	EA	PEDESTRIAN PUSHBUTTON, AS PER PLAN	323
632		8	EA	DETECTOR LOOP	
632		8	EA	LOOP DETECTOR UNIT	
632		528	FT	MESSENGER WIRE, 7 STRAND, 3/8 INCH DIA. WITH ACCESSORIES	
632		842	FT	SIGNAL CABLE, 2-CONDUCTOR, NO. 14 AWG	
632		1546	FT	SIGNAL CABLE, 7-CONDUCTOR, NO. 14 AWG	
632		1643	FT	SIGNAL CABLE, 9-CONDUCTOR, NO. 14 AWG	
632		4	EA	STRAIN POLE FOUNDATION, AS PER PLAN	323
632		6	EA	PEDESTAL FOUNDATION, AS PER PLAN	323
632		4	EA	SLEEVE FOR ANCHOR BASE FOUNDATION	
632		4411	FT	LOOP DETECTOR LEAD-IN CABLE, IMSA 50-2	
632		287	FT	POWER CABLE, 2-CONDUCTOR, NO. 8 AWG, CU, AS PER PLAN	324
632		4	EA	STRAIN POLE, TYPE TC-81.10 DESIGN 10, ANCHOR BASE, 32' FEET, AS PER PLAN	324
632		1	EA	PEDESTAL, 5', TRANSFORMER BASE, AS PER PLAN	324
632		5	EA	PEDESTAL, 10.7', TRANSFORMER BASE	
632		4	EA	SIGNAL, MISC.: SIGNAL SUPPORT, MECHANICAL DAMPER	326
633		1	EA	CONTROLLER UNIT TS2/A2, W/CABINET, 4 PH, P44, BASE, AS PER PLAN	324
633		1	EA	CABINET RISER	
633		1	EA	CABINET FOUNDATION	
633		1	EA	CONTROLLER WORK PAD (48"W X 36"D X 4"H)	
816		1	EA	VIDEO DETECTION SYSTEM, (4 IMAGE SENSORS), AS PER PLAN	325

QUANTITIES CARRIED TO THE TRAFFIC SIGNAL GENERAL SUMMARY



TYPICAL STRAIN POLE ORIENTATION DETAIL
NOT TO SCALE

NOTES:

ALL ANGLES MEASURED CLOCKWISE

INDEX LINE GOES THROUGH THE CENTER OF THE HANDHOLE

TIMING CHART								
PHASE	1	2	3	4	5	6	7	8
MOVEMENT	EBL	WB	NBL	SB	WBL	EB	SBL	NB
MIN INITIAL	7	20	7	10	7	20	7	10
PASS TIME	3	3	3	3	3	3	3	3
MAX GRN 1	25	45	20	55	25	45	30	30
MAX GRN 2	60	45	30	70	60	45	30	70
YELLOW	3.6	4.3	3.6	4.3	3.6	4.3	3.6	4.3
RED CLR	3.0	2.4	3.0	3.0	3.0	2.4	3.0	3.0
WALK		7		7		7		7
PED CLR		22		24.5		22		24.5
PED RECALL	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
VEH RECALL	OFF	MIN	OFF	OFF	OFF	MIN	OFF	OFF
MEMORY	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF

POLE ORIENTATION CHART

INTERSECTION	SHT. NO.	POLE SIZE & SPAN ATTACHMENT HEIGHT					VIDEO BRACKET ARM		POLE FABRICATION DATA CLOCKWISE FROM HANDHOLE AT 0°							FIELD ORIENTATION			
		POLE DESIGNATION	POLE COLOR	POLE DESIGN NO.	POLE HEIGHT (FT)	SPAN ATTACHMENT HT. (FT)	ATTACHMENT HEIGHT (BOTTOM)	BRACKET ARM LENGTH	ANCHOR BOLT REF. LINE	1.5" BHC ANGLE-HT. DEG.-FT.	3" BHC ANGLE-HT. DEG.-FT.	PEDESTRIAN SIGNALS	PEDESTRIAN PUSH- BUTTON	VIDEO DETECTION BRACKET ARM	STREET NAME SIGN	INDEX LINE ANGLE (HANDHOLE)	ANCHOR BOLT REF. LINE	2" CONDUIT ELL (CAPPED)	FOUNDATION ELEVATION
POLARIS PARKWAY @ S. OLD STATE ROAD	327	A	DARK BRONZE	10	32	28.9	28.5	25	90°	-	143°, 31'	102°	180°	190°	47°	222°	170°	180°	942.40
	327	B	DARK BRONZE	10	32	27.8	28.5	25	90°	180°, 31'	-	52°		229°	48°	132°	42°	132°	943.37
	327	C	DARK BRONZE	10	32	28.5	28.5	25	90°	134°, 31'	-	261°		170°	46°	224°	134°	0°	943.66
	327	D	DARK BRONZE	10	32	27.0	28.50	25	90°	173°, 31'	-			222°	47°	140°	50°	45°	944.27
	327	E	DARK BRONZE	PEDESTAL	10.7				90°			94°				180°	90°	N/A	942.15
	327	F	DARK BRONZE	PEDESTAL	10.7				90°			90°				180°	90°	N/A	942.67
	327	G	DARK BRONZE	PEDESTAL	5				90°			N/A	271°			93°	93°	N/A	943.67
	327	H	DARK BRONZE	PEDESTAL	10.7				90°			88°				180°	90°	N/A	942.83
	327	I	DARK BRONZE	PEDESTAL	10.7				90°			265°				180°	90°	N/A	944.40
	327	J	DARK BRONZE	PEDESTAL	10.7				90°			266°	180°			101°	90°	N/A	943.13
	327	K	DARK BRONZE	PEDESTAL	5				90°				90°			267°	90°	N/A	943.40

CALCULATED AJB CHECKED VMF

TRAFFIC SIGNAL DETAILS - CITY OF COLUMBUS
POLARIS PKWY. AT SOUTH OLD STATE RD.

DEL-CR10-0.90

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SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
331	338	341	344									COLUMBUS	DELAWARE						
																		TRAFFIC SIGNAL	
	2		2										4	625	00500	4	EACH	CONNECTOR KIT, TYPE II	
	2		2										4	625	00600	4	EACH	CONNECTOR KIT, TYPE III	
2												2		625	18501	2	EACH	BRACKET ARM, 25', AS PER PLAN	326
2												2		625	18511	2	EACH	BRACKET ARM, 30', AS PER PLAN	326
	498	632	305										1435	625	23200	1435	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
	120		120										240	625	23400	240	FT	NO. 10 AWG POLE AND BRACKET CABLE	
962												962		625	25408	962	FT	CONDUIT, 2", 725.051	
	1080	400	930										2410	625	25500	2410	FT	CONDUIT, 3", 725.04	
211	420	210	220									211	850	625	25504	1061	FT	CONDUIT, 3", 725.051	
	2		2										4	625	26250	4	EACH	LUMINAIRE, CONVENTIONAL, 200W HPS TYPE III	
930												930		625	29000	930	FT	TRENCH	
	9	4	8										21	625	30701	21	EACH	PULL BOX, 725.08, 18", AS PER PLAN	334
	1		1										2	625	30707	2	EACH	PULL BOX, 725.08, 24", AS PER PLAN	334
4												4		625	31451	4	EACH	PULL BOX, 11"x18", AS PER PLAN	323
4												4		625	SPEC	4	EACH	PULL BOX, 27", AS PER PLAN	326
1												1		625	SPEC	1	EACH	PULL BOX, CONCRETE ROUND, 48", AS PER PLAN	326
	5		5										10	625	32000	10	EACH	GROUND ROD	
5												5		625	32001	5	EACH	GROUND ROD, AS PER PLAN	323
	4	2	4										10	630	79100	10	EACH	SIGN HANGER ASSEMBLY, MAST ARM	
	20	10	20										50	630	80100	50	SQ FT	SIGN, FLAT SHEET	
	8	2	6										16	632	05007	16	EACH	VEHICULAR SIGNAL HEAD, (LED), BLACK, 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, WITH BACKPLATE, AS PER PLAN	334
11												11		632	05001	11	EACH	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, AS PER PLAN	323
	6		4										10	632	05087	10	EACH	VEHICULAR SIGNAL HEAD, (LED), BLACK, 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, WITH BACKPLATE, AS PER PLAN	334
8												8		632	05081	8	EACH	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, AS PER PLAN	323
	8	6	4										18	632	20730	18	EACH	PEDESTRIAN SIGNAL HEAD (LED) , (COUNTDOWN), TYPE D2	323
14												14		632	20731	14	EACH	PEDESTRIAN SIGNAL HEAD (LED) , (COUNTDOWN), TYPE D2, AS PER PLAN	323
	14	2	10										26	632	25000	26	EACH	COVERING OF VEHICULAR SIGNAL HEAD	334
8												8		632	25001	8	EACH	COVERING OF VEHICULAR SIGNAL HEAD, AS PER PLAN	324
	8	6	4										18	632	25010	18	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD	334
8												8		632	25011	8	EACH	COVERING OF PEDESTRIAN SIGNAL HEAD, AS PER PLAN	324
	4	4	2										10	632	26001	10	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN	334
8												8		632	26001	8	EACH	PEDESTRIAN PUSHBUTTON, AS PER PLAN	323
8												8		632	26500	8	EACH	DETECTOR LOOP	
8												8		632	27004	8	EACH	LOOP DETECTOR UNIT	
842												842		632	30200	842	FT	MESSENGER WIRE, 7 STRAND, 3/8" DIAMETER WITH ACCESSORIES	
1546	801	689	401									1546	1891	632	40200	3437	FT	SIGNAL CABLE, 2 CONDUCTOR, NO. 14 AWG	
	1607	1210	596										3413	632	40500	3413	FT	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	
1642.5	2930	428	915									1643	4273	632	40700	5916	FT	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	
1643												1643		632	40900	1643	FT	SIGNAL CABLE, 9 CONDUCTOR, NO. 14 AWG	
4												4		632	64001	4	EACH	STRAIN POLE FOUNDATION, AS PER PLAN	323
	4		4										8	632	64010	8	EACH	SIGNAL SUPPORT FOUNDATION	
	5	3	2										10	632	64020	10	EACH	PEDESTAL FOUNDATION	
4												4		632	64021	4	EACH	PEDESTAL FOUNDATION, AS PER PLAN	323
4												4		632	SPEC	4	EACH	SLEEVE FOR ANCHOR BASE FOUNDATION	
4411												4411		632	65200	4411	FT	LOOP DETECTOR LEAD-IN CABLE	
	20	20	20										60	632	66102	60	FT	POWER CABLE, 2 CONDUCTOR, NO. 10 AWG	
	42	201	47										290	632	66104	290	FT	POWER CABLE, 3 CONDUCTOR, NO. 10 AWG	
287												287		632	67201	287	FT	POWER CABLE, 2 CONDUCTOR, NO. 8 AWG, AS PER PLAN	324
	1	1	1										3	632	70001	3	EACH	POWER SERVICE, AS PER PLAN	334
	2		2										4	632	77230	4	EACH	SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM (GREATER THAN 59' IN LENGTH)	337
4												4		632	80700	4	EACH	SIGNAL, MISC.: SIGNAL SUPPORT, MECHANICAL DAMPER	
			1										1	632	80203	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 2, AS PER PLAN	334
	1												1	632	80403	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 4, AS PER PLAN	334
	1												1	632	80503	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11, AS PER PLAN	334

CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL - GENERAL SUMMARY

DEL-CR10-0.90

2952-DR.E

SHEET NUMBER												PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
331	338	341	344									COLUMBUS	DELAWARE						
			1										1	632	80621	1	EACH	SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 13, AS PER PLAN	334
			1										1	632	81080	1	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 12	
	2		1										3	632	81094	3	EACH	COMBINATION SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 14	
4												4		632	83001	4	EACH	STRAIN POLE, TYPE TC-81.10, DESIGN 10, 32 FEET, AS PER PLAN	324
	1	2	1										4	632	89803	4	EACH	PEDESTAL, 5', TRANSFORMER BASE, AS PER PLAN	335
1												1		632	89803	1	EACH	PEDESTAL, 5', TRANSFORMER BASE, AS PER PLAN	324
	2	1	1										4	632	89900	4	EACH	PEDESTAL, 8', TRANSFORMER BASE	
		1											1	632	90020	1	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM, AS PER PLAN	336
	1		1										2	632	90100	2	EACH	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	337
	2												2	632	632E90010	2	EACH	PEDESTAL MISC., 21' TRANSFORMER BASE, SIGNAL HEAD MOUNTING, AS PER PLAN	335
1												1		SPECIAL	632E90010	1	EACH	PEDESTAL MISC., 10.7', TRANSFORMER BASE	
	1		1										2	633	01551	2	EACH	CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN	335
1												1		633	01541	1	EACH	CONTROLLER UNIT, TYPE TS2/A2, AS PER PLAN W/8PH UNIT TS2/A2, W/CABINET, 8PH, P44, BASE MOUNT	325
1	1		1									1	2	633	67000	3	EACH	CABINET RISER	
1	1		1									1	2	633	67100	3	EACH	CABINET FOUNDATION	
1	1		1									1	2	633	67200	3	EACH	CONTROLLER WORK PAD	
	4		1										5	633	67301	5	EACH	PREEMPTION, AS PER PLAN	336
	4		1										5	633	67311	5	EACH	PREEMPTION RECEIVING UNIT, AS PER PLAN	336
	970		822										1792	633	67321	1792	FT	PREEMPTION DETECTOR CABLE, AS PER PLAN	336
	1		1										2	633	67351	2	EACH	PREEMPTION PHASE SELECTOR, AS PER PLAN	336
	4		4										8	633	67401	8	EACH	PREEMPTION CONFIRMATION LIGHT, AS PER PLAN	336
	2		2										4	633	69000	4	EACH	ADVANCE/DILEMMA ZONE DETECTION SYSTEM	336
	4		4										8	633	69100	8	EACH	STOP BAR DETECTION RADAR	336
	1		1										2	633	74001	2	EACH	UNINTERRUPTIBLE POWER SUPPLY (UPS), AS PER PLAN	336
	1		1										2	815	30000	2	EACH	SPREAD SPECTRUM RADIO, AS PER PLAN	337
1												1		816	30001	1	EACH	VIDEO DETECTION SYSTEM, AS PER PLAN	325

CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL - GENERAL SUMMARY

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TRAFFIC SIGNAL GENERAL NOTES DELAWARE COUNTY SIGNALS

THIS SECTION APPLIES ONLY TO THE FOLLOWING SIGNALS:

* POWELL ROAD & OLD STATE ROAD
* GLADSHIRE BLVD/WILSHIRE BLVD & OLD STATE ROAD
* EAST ORANGE RD & OLD STATE RD

THESE INTERSECTIONS ARE OWNED AND OPERATED BY THE DELAWARE COUNTY ENGINEER'S OFFICE.

PLAN AND SPECIFICATION COMPLIANCE

THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC SIGNAL DEVICES IN COMPLIANCE WITH THESE PLANS AND SPECIFICATIONS, THE 2010 ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS AND ITS SUPPLEMENTAL SPECIFICATIONS, OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, AND THE "TC" STANDARD CONSTRUCTION DRAWINGS ISSUED BY THE ODOT OFFICE OF TRAFFIC (SUPPLEMENTS THE PLAN SPECIFICATIONS). THE DELAWARE COUNTY ENGINEER'S OFFICE SHALL DETERMINE WHETHER THE SUPPLIED ITEMS MEET OR EXCEED THESE SPECIFICATIONS.

TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL MEET OR EXCEED THE STANDARDS SPECIFIED IN THE FOLLOWING DOCUMENTS.

(A) SPECIFICATIONS LISTED IN THIS PLAN;

(B) APPLICABLE SECTIONS OF NEMA STANDARDS PUBLICATION NO. TS2-1998 AND/OR TS11989;

(C) 2010 ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS 625, 632, 633, 725, 732 & 733; OTHER ODOT DRAWINGS AND SUPPLEMENTALS.

IN CASE OF A CONFLICTING SPECIFICATION STATEMENT, THE SPECIFICATION DOCUMENT HIERARCHY SHALL BE IN THE ORDER LISTED FROM (A), HIGHEST, TO (C), LOWEST.

SIGNAL INSTALLATION & MAINTENANCE PERSONNEL REQUIREMENTS

THE CONTRACTOR SHALL ASSIGN A PROJECT SUPERVISOR. THE SUPERVISOR SHALL BE A FULL TIME EMPLOYEE OF THE CONTRACTOR. THE CONTRACTOR SHALL NOT CHANGE THE PROJECT SUPERVISOR WITHOUT GIVING THE PROJECT ENGINEER WRITTEN NOTICE. THE CONTRACTOR SHALL PROVIDE INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION (IMSA) CERTIFIED DOCUMENTATION FOR THEIR EMPLOYEES IF REQUESTED BY PROJECT OR DIVISION PERSONNEL.

ALL CONTROLLER WORK AS DEFINED BELOW IN ITEMS 1 THROUGH 4 SHALL BE PERFORMED BY AN IMSA LEVEL TWO CERTIFIED TECHNICIAN.

1. BACK PANEL WIRING TERMINATIONS
2. PROGRAMMING
3. TESTING OR TURN ON
4. TROUBLESHOOTING

THE CONTRACTOR SHALL ALSO HAVE A FOREMAN ASSIGNED TO EACH CREW PERFORMING WORK FOR THIS PROJECT. A FOREMAN SHALL BE PRESENT AT ALL TIMES WHEN WORK IS PERFORMED BY THE CREW. EACH FOREMAN SHALL BE AN IMSA LEVEL ONE CERTIFIED TECHNICIAN. THE CONTRACTOR SHALL PROVIDE PRIOR VERBAL NOTICE TO THE PROJECT ENGINEER IN ORDER TO REPLACE A CREW FOREMAN.

IN ADDITION, ANY TRADE PERSON PERFORMING WORK AS DEFINED BELOW IN ITEMS 1 THROUGH 7 SHALL BE AN IMSA LEVEL ONE CERTIFIED TECHNICIAN.

1. CABLE SPLICES
2. SIGNAL HEAD INSTALLATION
3. CABLE AND WIRE INSTALLATION
4. POWER SERVICE INSTALLATION
5. GROUND ROD TESTING
6. CABLE INSULATION TESTING
7. FIELD WIRING TERMINATIONS

MATERIAL INFORMATION SUBMITTAL

THE CONTRACTOR SHALL SUBMIT ALL REQUIRED MATERIALS FOR APPROVAL TO THE DELAWARE COUNTY ENGINEER'S OFFICE, 50 CHANNING STREET, DELAWARE, OH 43015, ATTN: NATE MEYER. THE MATERIAL SUBMISSION SHALL CONTAIN ONE (1) COMPLETE SET OF CATALOG CUTS, DIAGRAMS, SHOP DRAWINGS, BROCHURES OR OTHER DESCRIPTIVE MATERIAL FOR THE SIGNAL ITEMS THAT THE CONTRACTOR INTENDS TO FURNISH THAT HAVE NOT BEEN SPECIFICALLY NAMED IN THESE PLANS BY PRODUCT MODEL NUMBER. THE CONTRACTOR SHALL ALSO PROVIDE A DETAILED LIST OF ALL VARIANCES FROM ODOT SPECIFICATIONS AND FROM THE SPECIFICATIONS CONTAINED HEREIN FOR EACH NONSPECIFIED ITEM THAT DOES NOT COMPLY 100% WITH THESE SPECIFICATIONS. UNLESS OTHERWISE STATED BY THE CONTRACTOR THE SUPPLIED ITEMS WILL BE CONSIDERED AS BEING IN STRICT ACCORDANCE WITH ALL SPECIFICATIONS.

CONTRACTOR TESTING OF ELECTRONIC SIGNAL COMPONENTS BEFORE PRIMARY POWER INSTALLATION

IF ANY TESTING OF THE SIGNAL INSTALLATION OR ANY ASPECT THEREOF IS PLANNED BY THE CONTRACTOR PRIOR TO AN APPROVED FLASH OR SIGNAL TURN-ON, THE CONTRACTOR SHALL NOTIFY NATE MEYER AT 740-272-2801 ONE WORKING DAY IN ADVANCE AND SHALL HAVE A SPECIAL DUTY OFFICER PRESENT FOR THE TEST TO CONTROL TRAFFIC AS NEEDED. TESTING AND/OR TROUBLESHOOTING SHALL BE PERFORMED BY AN IMSA LEVEL TWO CERTIFIED TECHNICIAN. IF PORTABLE POWER IS USED, IT SHALL BE PROPERLY CONNECTED TO A GROUND ROD READING 10 OHMS OR LESS AND HAVE A PROPER REGULATING DEVICE TO SMOOTH CURRENT.

TEN DAY TEST REQUIREMENTS

THE COUNTY, REQUIRES A 10 DAY TEST TO START AFTER THE SIGNAL INSTALLATION IS 100% COMPLETE WHICH INCLUDES ESTABLISHING DATA COMMUNICATION IF PRESENT. NO PARTIAL TESTS WILL BE CONDUCTED. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO NATE MEYER, 50 CHANNING ST, DELAWARE, OH 43015 STATING THAT THE SIGNAL INSTALLATION IS 100% COMPLETE AND A START DATE FOR THE TEN DAY TEST IS REQUESTED. THE COUNTY SHALL MONITOR THE TEST. IF LESS THAN 100% COMPLETION IS DETECTED UPON INSPECTION OR ANY MALFUNCTION IS DETECTED, THEN THE TEN DAY TEST SHALL BE COMPLETELY RESTARTED. CONTACT THE NATE MEYER 740-272-2801. E-MAIL NOTIFICATION IS ACCEPTABLE. NMeyer@co.delaware.oh.us

INSTALLATION LAYOUT

TRAFFIC SIGNAL STRAIN POLES, PEDESTALS OR SIGNAL SUPPORTS AND ALL OTHER STATIONED SIGNAL ITEMS SHALL BE LOCATED AND MARKED BY A PROFESSIONAL SURVEYOR USING THE STATION NUMBERS AND OFFSETS PROVIDED IN THESE PLANS. THE SURVEYOR SHALL ALSO SET CONTROLS FOR MASTARM STRUCTURES WHEN PRESENT SO THE MASTARM ALIGNMENT CAN BE SET PROPERLY. THE SURVEYOR SHALL SET PROPER POLE, PEDESTAL AND CABINET FOUNDATION ELEVATIONS AND STAKE ALL ASSOCIATED RADII SO FOUNDATIONS CAN BE ALIGNED PROPERLY. COUNTY PERSONNEL SHALL APPROVE ALL FOUNDATION LOCATIONS AND ELEVATIONS PRIOR TO THE CONTRACTOR INSTALLING THEM. THE SURVEYOR SHALL ALSO STAKE THE RIGHT-OF-WAY ANYTIME A STATIONED TRAFFIC SIGNAL ITEM IS WITHIN ONE (1) FOOT OF THE RIGHT-OF-WAY. WHEN REQUESTED BY PROJECT PERSONNEL, THE SURVEYOR SHALL SET AND MARK A PROPOSED TOP-OF-CURB ELEVATION STAKE AT THE BACK-OF-CURB OR IF NO CURB AN EDGE-OF-PAVEMENT ELEVATION STAKE AT THE PROPOSED EDGE-OF-PAVEMENT. RADIALLY ALIGN THIS ELEVATION STAKE WITH THE RADIUS HUB AND SIGNAL/SUPPORT POLE LOCATION STAKE. COSTS INCURRED FOR THIS SERVICE SHALL BE INCIDENTAL TO THE COST OF THE PROJECT.

ITEM 632 COVERING OF SIGNAL HEADS

ANY NON-OPERATING VEHICULAR OR PEDESTRIAN SIGNAL HEAD OR PUSHBUTTON SHALL BE COVERED AS REFERENCED TO IN THESE PLANS. ALL SIGNAL HEADS WHILE COVERED SHALL BE DARK BY DISCONNECTING POWER TO THE SIGNAL INDICATIONS. NO COVERED HEAD SHALL BLOCK THE VIEW OF AN OPERATING HEAD. A MINIMUM OF TWO (2) VEHICULAR SIGNAL HEADS PER TRAVELLED DIRECTION (SPACED 8' APART MINIMUM AND 12' MAXIMUM) SHALL BE OPERATING AT ALL TIMES. NO EXCEPTIONS!

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 180 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 DELAWARE COUNTY ENGINEER'S OFFICE 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.

ITEM 625, PULLBOX, AS PER PLAN

PULL BOXES OF THE SPECIFIED SIZE SHALL BE AS PER HL-30.11, WITH THE FOLLOWING EXCEPTIONS:

1. ONLY HEX HEAD CAP SCREWS SHALL BE USED TO FASTEN THE LID. THE CAP SCREWS SHALL NOT BE COUNTERSUNK.
2. THE PULLBOX SHALL HAVE AN EMBOSSED 'TRAFFIC' TAG SECURED TO THE COVER BY THREE (3) RIVETS, ONE ON EACH END AND ONE IN THE MIDDLE.
3. THE PULL RING OR PRY SLOT SHALL BE REPLACED WITH A ¾ INCH PICK HOLE

632, POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER CMS ITEM 632 AND SCD TC-83.10, WITH THE FOLLOWING EXCEPTIONS:

1. THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN 5 FEET HIGH, TO THE CENTER OF THE METER BASE FROM THE GROUND
2. THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES
3. ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.

DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS ITEM 632, POWER SERVICE AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4BKA OR W3ILSON BOHANNON 660 WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE TO THE STATE MASTER.

THE CONTRACTOR SHALL CONTACT AEP OHIO FOR RELOCATION OF EXISTING METERS AND SERVICES. THE INITIAL CONTACT WITH AEP IS AT THE WEB SITE: https://www.aepohio.com/service/UpgradeService.aspx

SERVICE ADDRESSES FOR THE EXISTING METERS ARE AS FOLLOWS:

OLD STATE & POWELL
8561 S OLD STATE RD
LEWIS CENTER, OH

OLD STATE & GLADSHIRE
7660 S OLD STATE RD
LEWIS CENTER, OH

OLD STATE & ORANGE
2159 S OLD STATE RD
LEWIS CENTER, OH

THE CONTRACTOR SHALL OBTAIN ALL INFORMATION NEEDED REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTION THE POWER COMPANY MAY REQUIRE. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES.

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

IN ADDITION TO THE REQUIREMENTS OF CMS ITEM 632 AND CMS 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

SIGNAL SECTIONS:
1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.
2. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.
3. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

MOUNTING HARDWARE:
4. ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE YELLOW LENS LOCATED IN FRONT OF THE MAST ARM.
5. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL FOR SIGNAL DISPLAYS OF TWO OR MORE SECTIONS.
6. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.

ITEM 632 PEDESTRIAN PUSHBUTTON, AS PER PLAN

THE PUSHBUTTON SHALL BE A POLARA BULLDOG MODEL NO. BDLM2-Y WITH POLARA BULLDOG MOUNTING, MODEL NO. BDPM-Y. THE PUSHBUTTON SHALL BE RATED FOR MEDIUM OR HEAVY DUTY USAGE AND HAVE A BARRIER TYPE OF LUG TERMINAL FOR ATTACHMENT OF THE FIELD CABLE. A CLEAR BEAD OF SILICON SEALANT SHALL BE APPLIED TO THE TOP OF THE PUSHBUTTON HOUSING (1 INCH EACH SIDE OF TOP CENTER) AGAINST THE POLE TO PREVENT WATER FROM ENTERING THE BACK OF THE PUSHBUTTON HOUSING. TWO ALUMINUM SIGNS SHALL BE SUPPLIED WITH EACH PUSHBUTTON. THE BOTTOM OF THE SIGNS SHALL BE MOUNTED JUST ABOVE THE TOP OF THE PUSHBUTTON. MOUNT THE CENTER OF THE PUSHBUTTON 42" ABOVE THE PEDESTRIAN PATHWAY SURFACE

ITEM 632 PEDESTAL FOUNDATION, AS PER PLAN
ITEM 632 SIGNAL SUPPORT FOUNDATION, AS PER PLAN

THE ANCHOR BASE POLE FOUNDATION SIDES SHALL BE ORIENTATED PARALLEL TO THE SIDEWALK OR BACK-OF-CURB OR EDGE-OF-PAVEMENT AS SHOWN ON THE SIGNAL PLANS. THE TOP OF THE FOUNDATION SHALL BE FLUSH WITH ANY ADJACENT SIDEWALK OR CONCRETE AREA EXCEPT WHERE THE GROUND RISES STEEPLY BEHIND THE SIDEWALK OR CONCRETE AREA. THEN THE BACK SIDE OF THE FOUNDATION SHALL MATCH THE GROUND SLOPE AND THE STREET SIDE OF THE FOUNDATION SHALL BE ABOVE THE SIDEWALK OR CONCRETE AREA AND COMPLETELY OUT OF THE SIDEWALK OR CONCRETE AREA. A MINIMUM OF TWO 2" CONDUIT ELLS, USED OR UNUSED, SHALL BE INSTALLED IN EACH POLE FOUNDATION. SEE POLE ORIENTATION CHART FOR ANGULAR POSITION. THE ANCHOR BOLTS AND CONDUIT ELLS ARE INCIDENTAL TO THIS ITEM. THE POLE FOUNDATION TOP SHALL BE EDGED USING A 1/2" SIDEWALK EDGER AND NOT CHAMFERED.

ITEM 632 SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 2, AS PER PLAN
ITEM 632 SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 4, AS PER PLAN
ITEM 632 SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 11, AS PER PLAN
ITEM 632 SIGNAL SUPPORT, TYPE TC-81.21, DESIGN 13, AS PER PLAN

STRAIN POLES SHALL BE MANUFACTURED BY UNION METAL OR VALMONT ONLY. THE POLES SHALL BE GALVANIZED THEN COATED WITH A SEMI-GLOSS, BLACK POWDER COATING FINISH. THE GALVANIZING SHALL BE PROPERLY PREPARED SO THE POWDER COATING WILL ADHERE TO THE GALVANIZING. ANCHOR BOLTS SHALL HAVE ROLLED THREADS FOR ALL POLE DESIGNS UP TO AND INCLUDING D11. CUT THREADS ARE TO BE USED FOR 2.5" DIAMETER BOLTS OR LARGER. THE BOLTS CAN BE A36/M55 FOR DESIGN 7 OR SMALLER POLES. FOR LARGER POLES THE ANCHOR BOLTS SHALL MEET ODOT REQUIREMENTS OR BE AS SPECIFIED BY THE MANUFACTURER. BOLT-NUT COVERS SHALL BE INSTALLED AND BE COATED BLACK. THE EXTERIOR COATING FOR ALL POWDER-COATED ITEMS SHALL MEET FEDERAL STANDARD 595B COLOR #27038 SPECIFICATIONS AND HAVE A MINIMUM 5-YEAR REPAIR WARRANTY OF COATING DELAMINATION, BLISTERING, OR CORROSION.

CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL GENERAL NOTES

DEL-CR10-0.90

2952-DR.E

334
437

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ITEM 632 PEDESTAL, 5', TRANSFORMER BASE, AS PER PLAN

THE PUSHBUTTON ONLY PEDESTAL SHALL BE EITHER A PELCO PB 5335 T-BASE (15" HIGH) WITH A 46.75" PB 5100-L POLE SHAFT & PB 5401 ACORN CAP, AN AKRON FOUNDRY MODEL TS-1000-L T-BASE (16" HIGH) WITH A 46.75" POLE SHAFT & FINIAL CAP (ACORN STYLE PREFERRED) OR APPROVED EQUAL. THE POLE SHAFT DIAMETER SHALL BE 4" NPT (4.5" OD, SCH 40), CONCENTRIC ABOUT ITS DIAMETER & SHALL BE THREADED FOR INSERTION INTO THE T-BASE. THE T-BASE SHALL BE DESIGNED TO ACCOMMODATE A # 4 GROUNDING WIRE & MEET 1985 AASHTO BREAKAWAY REQUIREMENTS. THE BOLT CIRCLE SHALL BE 14.5" & THE BOLT SQUARE SHALL BE 10.25". USE 3/4" BOLTS. ONE INCH BOLTS ARE ACCEPTABLE BUT NOT DESIRED. THE 5' STRUCTURE HEIGHT ENCOMPASSES THE T-BASE HEIGHT PLUS THE INSERTED POLE SHAFT HEIGHT. THE PUSHBUTTON STRUCTURE SHALL BE ALL ALUMINUM COATED WITH A SEMI-GLOSS, BLACK POWDER COATING FINISH. THE ALUMINUM SHALL BE PROPERLY PREPARED SO THE POWDER COATING WILL ADHERE.

ITEM 632 PEDESTAL, 21' TRANSFORMER BASE, SIGNAL HEAD MOUNTING, AS PER PLAN

THE 21' PEDESTAL SHALL CONFORM TO CITY OF COLUMBUS STANDARD DRAWING 4104, AND SHALL CONTAIN AN ATTACHED PEDESTRIAN HEAD IN ADDITION TO THE SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON SHOWN.

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

IN ADDITION TO THE OTHER REQUIREMENTS OF ODOT 633 & 733, THE CONTROLLER (TS2, TYPE 2/TS1 COMPATIBLE) SHALL BE ECONOLITE ASC/3-2100 MODEL WITH ETHERNET PORT. THE TS2 CABINET ASSEMBLY SHALL BE COMPLETELY WIRED (INCLUDES ALL PANELS & HARNESSES) FOR THE PHASE OPERATION, DETECTION AND ALL ADDITIONAL DEVICES AS CALLED FOR IN THE PLANS.

THE DETECTION SHALL BE VIDEO, STOP BAR RADAR AND ADVANCED DILEMMA ZONE, AS DESCRIBED ELSEWHERE IN THESE PLANS.

IN ADDITION TO THE OTHER SPECIFICATION DOCUMENTS, THE CABINET ASSEMBLY SHALL MEET THE FOLLOWING SPECIFICATIONS.

(A) ALL LABELS SHALL BE PERMANENTLY SECURED TO THE CABINET. PLASTIC LABEL MAKER TAPE IS NOT CONSIDERED TO BE PERMANENT. CROY TYPE LABELS ARE ACCEPTABLE.

(B) IN LIEU OF A LAMP ASSEMBLY, A DOOR MOUNTED FLEX LIGHT THAT ILLUMINATES THE ENTIRE BACK PANEL SHALL BE INSTALLED. THE 120 VAC, CONVENIENCE OUTLET ASSEMBLY (GFI TYPE) SHALL BE MOUNTED ON THE RIGHT CABINET SIDE PANEL NEAR THE DOOR HINGE AREA AND FACE THE DOOR OR THE CENTER INTERIOR PORTION OF THE CABINET. THE OUTLET & FLEX LIGHT ASSEMBLIES SHALL NOT INTERFERE WITH THE REMOVAL OR INSTALLATION OF ANY EQUIPMENT.

(C) LOAD SWITCHES SHALL BE EDI MODEL 510 WITH LIGHTS PERMANENTLY LABELED AS R, Y, G OR A, B, C. A LOAD SWITCH SHALL BE PROVIDED FOR EACH BACK PANEL LOAD SWITCH SOCKET POSITION WHETHER USED OR UNUSED. ALL LOAD SWITCHES SHALL REST IN A SUPPORT RACK. LOAD SWITCH POSITIONS 5-8 (4PH) OR 9-12 (8PH) SHALL BE USED FOR EITHER A PEDESTRIAN OR OVERLAP LOAD SWITCH UNLESS SPECIFIED OTHERWISE.

(D) LIGHTNING PROTECTION DEVICES SUCH AS ITT, SURRESTOR, GENERAL ELECTRIC, OR APPROVED EQUAL (AS DETERMINED BY THE DELAWARE COUNTY ENGINEER'S OFFICE) SHALL BE PROVIDED.

(E) THE MAIN CABINET DOOR LOCK (CCL ENCLOSURE LOCK 15481RS) SHALL HAVE A LOCK KEYHOLE COVER AND SHALL BE KEYED TO THE DELAWARE COUNTY MASTER, # 2 KEY (IR 6380). THE POLICE PANEL DOOR LOCK (CCL ENCLOSURE LOCK # R357SGS) SHALL HAVE A LOCK KEYHOLE COVER AND SHALL BE SUPPLIED WITH A R4266 KEY.

(F) THE NEMA 3R CABINET SHALL BE MADE BY APX ENCLOSURES, CALIFORNIA CHASSIS, EAGLE OR ECONOLITE. IT SHALL BE OF STANDARD SIZE AND SHALL BE SUPPLIED WITH A COMPLETE BACK PANEL AS PER PLAN. THE CABINET MATERIAL SHALL BE 5052 MARINE GRADE, .125 INCH THICK ALUMINUM SHEETING WITH A 32 HARDNESS IN ITS NATURAL COLOR AND SHALL BE PAINTED WHITE ON THE INSIDE. THE INSIDE OF THE CABINET SHALL BE TREATED WITH A THREE (3) STAGE IRON PHOSPHATE COATING AND A ZINC CHROMATE PRIMER COATING. A BAKED WHITE ALKALI ENAMEL FINISH SHALL THEN BE APPLIED. ALL COATINGS SHALL BE PROPERLY DRIED AND APPLIED SUCH THAT THE INSIDE WHITE PAINT WILL NOT PEEL FOR A GUARANTEED PERIOD OF TWO (2) YEARS. ALL EXTERIOR SEAMS SHALL BE EITHER CONTINUOUSLY WELDED, TACK WELDED, SEALED WITH A 15 TO 20 YEAR SILICONE SEALER, AND/OR OVERLAPPED SUCH THAT WATER DOES NOT ENTER THE CABINET. ALL CABINET EDGES SHALL BE SMOOTH (FREE OF ANY SHARP EDGES). THE CABINET DOOR SHALL BE HINGED USING A HEAVY GAUGE CONTINUOUS HINGE THAT HAS A STAINLESS STEEL HINGE PIN. THE HINGE SHALL BE BOLTED TO THE CABINET SO THE DOOR CAN BE REMOVED. THE BOLTS AND NUTS SHALL BE MADE OF STAINLESS STEEL, TAMPERPROOF AND SECURELY FASTENED TO PREVENT VIBRATIONS FROM LOOSENING THE NUTS. THE DOOR, SEALED WITH A NEOPRENE GASKET, SHALL BE EQUIPPED WITH A THREE (3) POINT LATCHING MECHANISM AND A HANDLE WHICH CAN BE PADLOCKED. THE DOOR SHALL BE DESIGNED SUCH THAT THE DOOR CAN BE LOCKED IN AN OPEN POSITION AT 90, 135, AND 180 DEGREES TO THE CABINET FACE (NOMINAL VALUES). THE POLICE DOOR AND MAIN CABINET DOOR SHALL HAVE A KEYHOLE COVER. BOLT PATTERN SHALL CONSIST OF AN ANCHOR BOLT POSITIONED IN EACH CABINET CORNER. (M36 CABINET SIZE - 50"H x 36"W x 17"D; DOOR OPENING - 39"H x 33.5"W; P44 CABINET SIZE - 55"H x 44"W x 26"D; DOOR OPENING - 44"H x 41.5"W)

(G) A THYRECTOR SURGE PROTECTOR WITH A RMS INPUT OF 150 VOLTS AND INPUT PEAK OF 210 VOLTS SHALL BE PROVIDED IN ADDITION TO ANY LIGHTNING PROTECTION DEVICE. THE THYRECTOR SHALL BE PLACED ACROSS THE INPUT AC POWER LINE.

(H) A 35 AMP LINE FILTER SHALL BE SUPPLIED AND SHALL BE MOUNTED ON THE POWER DISTRIBUTION PANEL.

(I) TWO (2) CIRCUIT SOLID STATE FLASHER, EDI MODEL 810, RATED AT 15 AMPS (MINIMUM) PER CIRCUIT SHALL BE PROVIDED (NEMA TYPE 3). CIRCUIT 1 SHALL CONTROL THE MAINLINE FLASHING SIGNAL INDICATIONS. CIRCUIT 2 SHALL CONTROL THE SIDE STREET FLASHING SIGNAL INDICATIONS.

(J) ONE (1) 30 AMP CIRCUIT BREAKER, LABELED AS "MAIN", SHALL BE WIRED AS THE MAIN POWER DISTRIBUTION BREAKER. A SECOND CIRCUIT BREAKER, LABELED AS "PED" AND RATED AT 10 AMPS, SHALL BE SUPPLIED FOR THE PEDESTRIAN SIGNAL LOAD ONLY. THE PEDESTRIAN SIGNAL BREAKER SHALL BE WIRED IN SERIES WITH BUT AFTER THE MAIN POWER BREAKER. A THIRD CIRCUIT BREAKER, LABELED AS "AUX" AND RATED AT 15 AMPS, SHALL SUPPLY A SEPARATE BRANCH OF AC+ POWER TO THE VENTILATING FAN, CONVENIENCE 'GFI' OUTLET AND LIGHT SO THAT THEY MAY OPERATE INDEPENDENTLY OF THE MAIN POWER BREAKER. THE POWER TO THE FAN AND LIGHT SHALL ALSO BE INTERRUPTED BY THE 'GFI' OUTLET. ALL BREAKERS SHALL BE MOUNTED SIDE-BY-SIDE ON THE POWER DISTRIBUTION PANEL.

(K) (PARAGRAPH OMITTED)

(L) THE CABINET ASSEMBLY SHALL CONTAIN ALL PEDESTRIAN SIGNAL CIRCUITRY FOR EACH NEMA DEFINED THROUGH PHASE.

(M) A POLICE DOOR MOUNTED SIGNAL SHUTDOWN SWITCH WITH SWITCH POSITIONS LABELED AS "SIG ON" AND "SIG OFF" SHALL BE INSTALLED.

(N) A POLICE DOOR MOUNTED SIGNALFLASH SWITCH WITH SWITCH POSITIONS LABELED AS "ON SIG" AND "ON FLASH" SHALL NOT ONLY PLACE THE SIGNALS ON FLASH BUT ALSO STOP-TIME THE CONTROLLER UNIT. A RUN/STOP-TIME SWITCH WITH SWITCH POSITIONS LABELED AS "CONT. RUN" AND "STOP-TIME" SHALL BE INSTALLED ON THE INSIDE OF THE CABINET DOOR. THE RUN/STOP-TIME SWITCH SHALL ALLOW THE CONTROLLER UNIT TO TIME NORMALLY BUT KEEP THE SIGNALS ON FLASH. THE SIGNALFLASH SWITCH SHALL NOT RETURN THE SIGNALS TO NORMAL OPERATION UNLESS THE RUN/STOP-TIME SWITCH IS RESET TO THE STOP-TIME POSITION SO THE SIGNALFLASH SWITCH CAN AGAIN STOP-TIME THE CONTROLLER UNIT. THE SIGNALFLASH SWITCH SHALL NOT REMOVE POWER TO THE CONTROLLER UNIT OR ITS AUXILIARY EQUIPMENT.

(O) A POLICE DOOR MOUNTED AUTOMANUAL TRANSFER SWITCH WITH SWITCH POSITIONS LABELED AS "AUTO" AND "MANUAL" SHALL BE INSTALLED. A MANUAL PUSH BUTTON CONTROL SHALL NOT BE INSTALLED UNLESS SPECIFIED, BUT WIRING FOR A PUSH BUTTON CONTROL SHALL BE PROVIDED UP TO THE POINT WHERE THE PUSH BUTTON WOULD HAVE BEEN CONNECTED.

(P) A CONTROLLER SHUTDOWN SWITCH WITH SWITCH POSITIONS LABELED AS "CONT ON" AND "CONT OFF" AND A COORDINATED/FREE SWITCH WITH SWITCH POSITIONS LABELED AS "COORD" AND "FREE" SHALL BE INSTALLED INSIDE THE CABINET NEXT TO THE RUN/STOP-TIME SWITCH. A COORDINATED/FREE SWITCH SHALL NOT BE REQUIRED IF THE CONTROLLER HAS A BUILT-IN COORD/FREE SWITCH.

(Q) AFTER A NEMA DEFINED POWER INTERRUPTION THE CONFLICT MONITOR SHALL CAUSE THE INTERSECTION SIGNALS TO FLASH AS PER PLAN FOR 10 SECONDS BEFORE THE INITIALIZED CONTROLLER UNIT TAKES CONTROL OF THE INTERSECTION SIGNALS. THE CONFLICT MONITOR SHALL BE EDI MODEL SERIES SSM LE AND SHALL CONTAIN SUFFICIENT CHANNELS AS CALLED FOR IN THESE PLANS.

(R) THE CONFLICT MONITOR SHALL BE CONNECTED DIRECTLY TO THE FIELD TERMINALS. USING JUMPERS OR LINKS ON THE BACK PANEL TO FORM A CIRCUIT FOR THE CONFLICT MONITOR SHALL NOT BE ACCEPTABLE.

(S) THE CONFLICT MONITOR SETTINGS FOR MINIMUM YELLOW TIMING ON ALL CHANNELS SHALL BE SET AT THREE AND ONE HALF (3.5) SECONDS.

(T) THE WATCH DOG TIMER SHALL CAUSE THE CONTROLLER TO GO INTO A FLASH OPERATION IF A MICROPROCESSOR FAILURE IS DETECTED.

(U) ALL BACK PANEL HARDWARE SHALL BE MOUNTED WITH SCREWS. ALL SCREWS SHALL BE COMPLETELY SCREWED DOWN. RIVETS OR OTHER NONREMOVABLE FASTENERS ARE NOT ACCEPTABLE.

(V) WIRE CONNECTIONS ON THE BACK PANEL SHALL BE MADE WITH CRIMP TERMINALS AND THREADED FASTENERS. TELEPHONE TYPE KNIFE CONNECTORS (SOLDERED OR OTHERWISE) ARE NOT ACCEPTABLE.

(W) ALL WIRES FASTENED TO THE LOAD SWITCH AND FLASHER PLUGS SHALL BE SOLDERED IN PLACE.

(X) THE BACK PANEL AND POWER DISTRIBUTION PANEL SHALL HAVE SILK SCREENED TERMINAL/SOCKET FUNCTION IDENTIFICATION LABELS SUCH AS AC COM, PHASE 3 GREEN, 115 VAC, SIGNAL BUS, ETC. REFERENCE NUMBERS SHALL NOT BE ACCEPTABLE IN LIEU OF FUNCTION LABELS BUT THEY CAN SUPPLEMENT THEM. ADDITIONAL TERMINAL BLOCKS AND AUXILIARY PANELS SHALL USE SILK SCREENED REFERENCE NUMBERS TO IDENTIFY TERMINAL CONNECTIONS.

(Y) ALL TERMINAL STRIPS IN CLOSE PROXIMITY OF SHELF MOUNTED CONTROL DEVICE EQUIPMENT SHALL BE COVERED WITH NON-CONDUCTIVE MATERIAL TO PREVENT ACCIDENTAL CONTACT WITH THE DEVICES. ALL TERMINAL STRIPS SHALL BE READILY ACCESSIBLE WITHOUT REMOVAL OF ANY EQUIPMENT.

(Z) THE CABINET SHALL HAVE TWO (2) NONVENTED (SOLID) SHELVES SPACED AT LEAST 9" APART. BOTH SHELVES SHALL HAVE A WIDTH OF 13" AND THE BACK EDGE OF THE SHELF SHALL BE LIPPED WITH THE LIP POINTING UP. THE FRONT EDGE OF THE SHELF SHALL BE LIPPED WITH THE LIP POINTING DOWN. ALL LIP EDGES SHALL BE ROUNDED. THE SHELVES SHALL BE ATTACHED TO THE CABINET SIDE PANELS. THE SHELF ARRANGEMENT SHALL BE DESIGNED SO ALL SHELF DEVICES FIT ON THEM.

(AA) THERE SHALL BE A MINIMUM OF ONE (1) INCH EMPTY SPACE BETWEEN ALL ITEMS ATTACHED TO THE DOOR AND ALL SHELF-MOUNTED DEVICES INCLUDING ITS CONNECTING HARNESS(ES), ALL LOAD SWITCHES, FLASHER AND ALL SIDE-PANEL-MOUNTED ITEMS.

(BB) "P" AND "M" SIZED CABINETS SHALL HAVE TWO VENTILATION FANS. THE THERMOSTAT CONTROLLING THE VENTILATING FAN CIRCUIT SHALL BE SET AT 95 DEGREES FAHRENHEIT.

(CC) ALL FLASH TRANSFER RELAYS SHALL BE WIRED FOR FAILSAFE OPERATION (ENERGIZED DURING NORMAL OPERATION) AND WIRED WITH A MAXIMUM OF TWO PHASES PER RELAY.

(DD) THE CONTROLLER ASSEMBLY, WHEN PLACED IN OR COMING OUT OF AN AUTOMATIC FLASHING MODE, SHALL CONFORM TO THE AUTOMATIC FLASHING CRITERIA SET FORTH IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, SECTION 4D12, INCLUDING THE FOLLOWING ADDITIONS.

1) A VEHICULAR CALL SHALL BE PLACED ON ALL PHASES IMMEDIATELY PRIOR TO ENTERING THE "FLASH" MODE SO THE CONTROLLER WILL CYCLE TO THE "FLASH" POINT. IT IS OPTIONAL TO HAVE ONE EXTERNAL VEHICULAR CALL PLACED IMMEDIATELY ON ALL PHASES WHEN THE "FLASH" MODE TERMINATES. THE CONTROLLER SHALL OPERATE NORMALLY ONCE THE "FLASH" MODE SEQUENCE IS TERMINATED.

2) THE CONTROLLER SHALL ENTER THE "FLASH" MODE AT THE END OF THE THROUGH SIDE STREET PHASE(S) YELLOW (OR DURING THE SIDESTREET PHASE(S) RED CLEARANCE INTERVAL) BUT JUST PRIOR TO ANY MAIN STREET GREEN.

THE FLASH TRANSFER LOGIC DEVICE SHALL TRIGGER THE "FLASH" OPERATION, SHALL BE SOLID STATE, SHALL BE EXTERNAL TO THE CONTROLLER (A CABINET ASSEMBLY DEVICE), AND SHALL FUNCTION WITH ANY NEMA CONTROLLER. THIS CIRCUITRY SHALL BE SUPPLIED IN ADDITION TO ANY INTERNAL CONTROLLER FLASH LOGIC PROVIDED BY THE CONTROLLER.

EXCEPTION: FOR ON-STREET MASTER ARTERIAL CONTROLLERS ONLY, INTERNAL IC LOGIC CAN BE USED IN LIEU OF AN EXTERNAL DEVICE AS LONG AS THE INTERNAL IC LOGIC MEETS THE STANDARDS SET FORTH ABOVE.

(EE) THE POWER CABLE SHALL BE CONNECTED TO AN ACCESSIBLE TERMINAL STRIP THAT SHALL BE LOCATED NEAR THE BOTTOM OF THE CABINET AND SHALL BE OF SUFFICIENT SIZE TO ACCEPT A SUPPLIED #8 WIRE LUG. THE TERMINAL STRIP SHALL BE COVERED OR SHIELDED TO MINIMIZE ACCIDENTAL CONTACT DURING NORMAL SERVICING OPERATIONS. THE COVER SHALL BE SNAPPED ON/OFF OR SECURED BY STANDARD SCREWS. THE POWER CABLE LUG TERMINAL CONNECTION SHALL BE LOCATED IMMEDIATELY BELOW THE MAIN POWER DISTRIBUTION BREAKER. POWER SHALL BE JUMPERED TO THE MAIN POWER DISTRIBUTION BREAKER. THE POWER DISTRIBUTION PANEL SHALL BE LOCATED IN THE BOTTOM RIGHT SIDE OF THE CABINET OR IT SHALL BE AN INTEGRAL PART OF THE RIGHT SIDE OF THE BACK PANEL. THERE SHALL BE A MINIMUM OF TWO (2) INCHES CLEARANCE BETWEEN THE POWER TERMINAL AND THE BOTTOM OF THE CABINET.

(FF) A #4 WIRE LUG SHALL BE PROVIDED FOR ATTACHING A GROUNDING WIRE FROM A GROUND ROD. THE GROUNDING WIRE LUG SHALL BE ATTACHED TO THE POWER DISTRIBUTION PANEL (LOWER LEFT CORNER), OR IF NONE, TO THE BACK PANEL (BOTTOM MIDDLE). IT SHALL BE DIRECTLY GROUNDED TO THE CABINET.

(GG) A SINGLE POLE MERCURY PLUNGER RELAY SHALL BE INSTALLED WHICH WILL ALLOW POWER TO BE REMOVED FROM THE VEHICULAR AND PEDESTRIAN POWER BUSES. THE MERCURY RELAY SHALL BE RATED AT 35 AMPS AND THE RELAY COIL WIRED WITH A NOISE SUPPRESSION DEVICE.

(HH) ALL EXTERNAL RELAY COILS SHALL HAVE NOISE SUPPRESSION DEVICES.

(II) THE DOOR FILTER (U.L. LISTED CLASS 2, STANDARD 900) SHALL CONSIST OF THREE DISTINCT LAYERS OF FILTERING MEDIA. THE FIRST AIR ENTERING LAYER SHALL BE COMPOSED OF A DUAL FIBER BLEND OF 100% NON-WOVEN POLYESTER TO TRAP LARGER SIZED PARTICLES. THE NEXT LAYER SHALL BE A DUAL PLY, DUAL DENIER, 100% NON-WOVEN POLYESTER OF SMALLER SIZE TO TRAP FINER PARTICLES PASSING THROUGH THE FIRST LAYER. A NON-TOXIC, NON-MIGRATORY, ODORLESS TACKIFIER SHALL BE APPLIED TO THESE LAYERS. ADHESIVES SPRAYED ON THE LAYERS ARE NOT ACCEPTABLE. THE TACKIFIER SHALL BE INCORPORATED INTO THE LAYER MEDIA DURING THE MANUFACTURING PROCESS OF THE RAW MATERIAL. A 10 GAUGE MESH SHALL BE INCORPORATED IN THE FILTER DESIGN FOR RIGIDITY. SUFFICIENT MEDIA OVERLAP SHALL BE PRESENT ABOUT THE WIRE PERIMETER TO INSURE POSITIVE SELF SEAL. THE DOOR FILTER HOLDER SHALL BE DESIGNED SO THE FILTER MAKES POSITIVE CONTACT WITH THE CABINET DOOR AT ALL TIMES AND UNDER ALL CONDITIONS AND SITUATIONS.

CALCULATED AJB CHECKED VMF

TRAFFIC SIGNAL GENERAL NOTES

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FOUR (4) SETS OF CABINET WIRING SCHEMATICS, TWO (2) SERVICE MANUALS AND TWO (2) INSTRUCTIONAL MANUALS SHALL BE PROVIDED PER CABINET. DELIVERY OF THESE DIAGRAMS & MANUALS SHALL ACCOMPANY THE CABINET. THE CONTRACTOR SHALL CLEARLY NOTE ANY DEVIATIONS, CHANGES, ADDITIONS OR OTHER MODIFICATIONS ON THE DIAGRAMS AND MANUALS THAT ARE APPROPRIATE TO REFLECT THE EXACT EQUIPMENT TO BE PROVIDED. THE COST FOR THIS MATERIAL SHALL BE INCIDENTAL TO THE COST OF THE SIGNAL EQUIPMENT. THE COPIES OF DIAGRAMS AND MANUALS SHALL BE STORED IN A PLASTIC ENVELOPE MOUNTED HORIZONTALLY AND SECURELY FASTENED TO THE INSIDE OF THE MAIN CABINET DOOR. THE ENVELOPE OPENING SHALL BE TO THE RIGHT OR LEFT. THE ENVELOPE SHALL NOT BLOCK ANY PART OF THE AIR FILTER OR THE AIR INTAKE LOCATED IN THE DOOR.

SERVICE & INSTRUCTIONAL MANUALS SHALL INCLUDE SECTIONS COVERING THE GENERAL DESCRIPTION OF EQUIPMENT, EQUIPMENT INSTALLATION PROCEDURES, EQUIPMENT PROGRAMMING PROCEDURES, THEORY OF OPERATION WITH SYSTEM DESCRIPTION INCLUDING BLOCK DIAGRAMS AND DETAILED CIRCUIT DIAGRAMS, PREVENTIVE MAINTENANCE, FIELD TROUBLE ANALYSIS, BENCH TROUBLE ANALYSIS, TROUBLESHOOTING ANALYSIS CHART, WAVE FORMS, VOLTAGE MEASUREMENTS, VOLTAGE MEASUREMENT CHARTS, PARTS LIST, ELECTRICAL INTERCONNECTION DRAWINGS, SCHEMATIC AND LOGIC DIAGRAMS, ASSEMBLY DRAWINGS WITH PICTORIAL DIAGRAMS SHOWING PHYSICAL LOCATIONS AND IDENTIFICATION OF EACH COMPONENT.

ITEM 633 - UNINTERRUPTIBLE POWER SUPPLY, AS PER PLAN

THE CONTRACTOR SHALL FURNISH AND INSTALL A "DIMENSIONS" 224 VOLT, SHELF MOUNT, UNINTERRUPTIBLE POWER SUPPLY, CONFORMING TO 733.09(A) AND 733.09(B), AND CONFIGURED AS FOLLOWS:

1. EQUIPPED WITH A TRANSIENT VOLTAGE SURGE SUPPRESSOR
2. FOUR (4) 105 Ah BATTERIES, AS PER 733.09 (C)
3. A 39" X 28" X 14" SIDE MOUNTED CABINET RISER, KEYED THE SAME AS THE CONTROLLER CABINET, WITH FOUR (4) SHELVES. TWO BATTERIES SHALL BE PLACED ON EACH OF THE LOWER SHELVES.
4. THE MANUAL BY-PASS SWITCH MAY BE EITHER INTEGRATED WITH THE UPS OR A SEPARATE SHELF MOUNTED UNIT.
5. A SEPARATE GROUND ROD SHALL BE PROVIDED FOR THE UPS CABINET. THIS GROUND ROD SHALL BE BONDED TO THE CONTROLLER CABINET GROUND ROD.
6. BOND THE UPS NEUTRAL AND CONTROLLER CABINET NEUTRAL TOGETHER.

ITEM 633 - PREEMPTION, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF THE INSTALLATION OF PREEMPTION EQUIPMENT AS SHOWN IN THE PLANS.

THE PREEMPTION SHALL CONFORM TO ODOT SPECIFICATION 632 AND SHALL UTILIZE COMMUNICATIONS TO IDENTIFY THE PRESENCE OF AN EMERGENCY PRIORITY VEHICLE. IT SHALL CAUSE THE TRAFFIC SIGNAL CONTROLLER TO SELECT A PRE-PROGRAMMED PREEMPTION PLAN THAT WILL DISPLAY AND HOLD THE DESIRED SIGNAL PHASE FOR THE DIRECTION OF THE EMERGENCY VEHICLE.

THE EQUIPMENT SHALL BE SHELF MOUNTED AND EASILY REMOVABLE AND REPLACEABLE WITHIN THE CABINET. THE EQUIPMENT SHALL BE COMPLETELY WIRED IN THE CONTROLLER CABINET AND TESTED.

THE CONTRACTOR SHALL THOROUGHLY CHECK OUT THE INSTALLED SYSTEM. AS A MINIMUM, THE CONTRACTOR SHALL VERIFY THAT ALL CONNECTIONS ARE PROPERLY MADE TO THE CONTROLLER CABINETS. THE CONTRACTOR SHALL CHECK THAT THE RANGE SETTING IS PROPER. THE CONTRACTOR SHALL VERIFY THAT ALL VEHICLE EMITTERS ARE BEING PROPERLY DETECTED.

THE EQUIPMENT SHALL BE THE 3M OPTICOM PRIORITY CONTROL SYSTEM OR APPROVED EQUAL. THE RECEIVING UNITS SHALL BE THE PRIORITY CONTROL DETECTOR MODEL 721 PHASE SELECTORS SHALL BE MODEL 764, CARD RACKS SHALL BE MODEL 793S AND SWITCHES AND DETECTOR CABLE SHALL BE MODEL 138. THE CONTRACTOR SHALL VERIFY THE MAKE AND MODEL OF ALL PREEMPTION EQUIPMENT TO ENSURE THAT IT IS THE SAME AS THE EXISTING PREEMPTION SYSTEM USED BY DELAWARE COUNTY.

PAYMENT FOR ITEM 632 PREEMPTION WILL BE MADE AT THE CONTRACT UNIT PRICE FOR PREEMPTION IN PLACE AND FULLY OPERATIONAL AS SHOWN IN THE PLANS, EXCEPT FOR THOSE ITEMS BID SEPARATELY.

ITEM 633 PREEMPT CONFIRMATION LIGHT, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT CONFIRMATION LIGHT INCLUDING MOUNTING HARDWARE AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT CONFIRMATION LIGHT COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

A CONFIRMATION LIGHT SHALL INDICATE THAT THE EMERGENCY VEHICLE HAS ACHIEVED CONTROL OF THE TRAFFIC SIGNAL.

THE CONFIRMATION LIGHT SHALL BE A 3M OPTICOM MODEL 575 OR APPROVED EQUAL.AND SHALL INCLUDE ALL MOUNTING HARDWARE TO ATTACH TO THE TRAFFIC SIGNAL MAST ARM. THE CONFIRMATION LIGHT SHALL BE POWERED BY A LOAD SWITCH IN THE TRAFFIC SIGNAL CONTROLLER.

PAYMENT FOR ITEM 633 CONTROLLER ITEM, MISC.: PREEMPT CONFIRMATION LIGHT WILL BE MADE AT THE CONTRACT PRICE FOR EACH LIGHT IN PLACE, COMPLETELY INSTALLED IN THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED, AND ACCEPTED.

ITEM 633 PREEMPT DETECTOR, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT DETECTOR INCLUDING MOUNTING HARDWARE AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT DETECTOR COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

THE PREEMPT DETECTOR SHALL BE THE 3M PRIORITY CONTROL DEVICE MODEL 721 APPROVED EQUAL.

PAYMENT FOR ITEM 633 CONTROLLER ITEM, MISC.: PREEMPT DETECTOR WILL BE MADE AT THE CONTRACT PRICE FOR EACH LIGHT IN PLACE, COMPLETELY INSTALLED IN THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED, AND ACCEPTED.

ITEM 633 PREEMPT PHASE SELECTOR, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING PREEMPT DETECTOR INCLUDING MOUNTING HARDWARE AND ALL OTHER ACCESSORIES THAT ARE NECESSARY TO MAKE THE PREEMPT PHASE SELECTOR COMPLETELY FUNCTIONAL AND OPERATIONAL AS SHOWN IN THE PLANS.

THE PREEMPT PHASE SELECTOR SHALL BE THE 3M PRIORITY CONTROL PHASE SELECTOR MODEL 764 OR APPROVED EQUAL.

PAYMENT FOR ITEM 633 CONTROLLER ITEM, MISC.: PREEMPT PHASE SELECTOR WILL BE MADE AT THE CONTRACT PRICE FOR EACH IN PLACE, COMPLETELY INSTALLED IN THE LOCATION SHOWN IN THE PLANS, WIRED, TESTED, AND ACCEPTED.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE SIGNAL GENERAL SUMMARY FOR: 2 EACH

STOP BAR DETECTION RADAR

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING STOP BAR DETECTION UNIT CAPABLE OF INTERSECTION DETECTION CONTROL UTILIZING ABOVE GROUND DIGITAL WAVE RADAR TECHNIQUES. THE UNIT SHALL BE NON-INTRUSIVE AND SHALL DETECT VEHICLES FROM 6 FT. (1.8 M) UP TO 140 FT. (42.7 M) FOR A 90 DEGREE FIELD OF VIEW FROM THE UNIT. THE UNIT SHALL PROVIDE REAL-TIME PRESENCE DATA FOR AT LEAST 10 LANES. THE UNIT SHALL PROVIDE AT LEAST SIXTEEN DETECTION ZONES SIMULTANEOUSLY FOR INTERSECTION CONTROL. ONE UNIT SHALL BE PROVIDED PER APPROACH, WHERE SPECIFIED IN THE PLANS, COVERING MULTIPLE LANES WHERE STOP BAR DETECTION IS REQUIRED. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING LIST OF FEATURES AND CAPABILITIES:

1) THE UNIT SHALL PROVIDE ACCURATE PRESENCE-DETECTION OF BOTH MOVING AND STOPPED VEHICLES. THE UNIT SHALL BE MOUNTED IN A FORWARD-FIRE OR SIDE-FIRE POSITION, LOOKING AT EITHER APPROACHING OR DEPARTING TRAFFIC AND SHALL ONLY DETECT VEHICLES IN ONE DIRECTION OF TRAVEL.

2) THE UNIT SHALL BE TESTED TO MEET NEMA TS2 ENVIRONMENTAL STANDARDS AND MAINTAIN ACCURATE PERFORMANCE IN THE FOLLOWING OPERATING CONDITIONS:

*RAIN UP TO 1 IN. (2.5 CM) PER HOUR
*FREEZING RAIN
*SNOW
*WIND
*DUST
*FOG
*CHANGING TEMPERATURE
*CHANGING LIGHTING

3) THE RADAR DESIGN FOR EACH UNIT SHALL CONFORM TO THE FOLLOWING:

*OPERATING FREQUENCY: 24.024.25 GHZ (K-BAND)
*MATRIX OF 16 RADARS
*NO MANUAL TUNING TO CIRCUITRY
*TRANSMITS MODULATED SIGNALS GENERATED DIGITALLY
*NO TEMPERATURE-BASED COMPENSATION NECESSARY
*BANDWIDTH STABLE WITHIN 1%
*PRINTED CIRCUIT BOARD ANTENNAS
*ANTENNA VERTICAL 6 DB BEAM WIDTH
(TWO-WAY PATTERN): 65 DEGREES
*HORIZONTAL FIELD OF VIEW: 90 DEGREES
*ANTENNA TWO-WAY SIDELOBES: -40 DB
*TRANSMIT BANDWIDTH: 245 MHZ
*UN-WINDOWED RESOLUTION: 2 FT. (0.6 M)
*RF CHANNELS: 8
*SELF-TEST FOR VERIFYING HARDWARE FUNCTIONALITY
*DIAGNOSTICS MODE FOR VERIFYING
SYSTEM FUNCTIONALITY

4) THE UNIT SHALL INCLUDE A SIMPLE SETUP ROUTINE THAT SHALL AUTOMATICALLY CONFIGURE AND CALIBRATE THE UNIT FOR PROPER OPERATION DURING INSTALLATION. THE UNIT SHALL ALSO BE CAPABLE OF BEING PROGRAMMED AND UPDATED FROM A LAPTOP COMPUTER OR OTHER PORTABLE PROGRAMMING DEVICE, SUCH AS A POCKET PC, VIA A LOCAL OR REMOTE ETHERNET CONNECTION USING VENDOR SUPPLIED SOFTWARE. THE SOFTWARE SHALL SUPPORT TCP/IP CONNECTIVITY, UNIT CONFIGURATION BACK-UP AND RESTORE, AND REAL-TIME TRAFFIC VISUALIZATION FOR PERFORMANCE VERIFICATION AND TRAFFIC DISPLAY. THE GRAPHICAL USER INTERFACE SHALL OPERATE ON A WINDOWS PLATFORM.

5) THE UNIT SHALL HAVE TWO HALF-DUPLEX RS-485 COMMUNICATION PORTS AND SHALL HAVE THE ABILITY TO UPGRADE FIRMWARE OVER ANY COMMUNICATION PORT.

6) THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MOST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.

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.

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.

THE UNIT SHALL COME WITH A 2-YEAR MANUFACTURER SUPPLIED WARRANTY.

PAYMENT FOR ITEM 633 STOP BAR DETECTION RADAR 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.

PRIOR TO PROGRAMMING, THE CONTRACTOR SHALL CONTACT THE DELAWARE COUNTY ENGINEER'S OFFICE AT 740-833-2400. A DELAWARE COUNTY ENGINEER REPRESENTATIVE SHALL BE PRESENT DURING THE PROGRAMMING OF THE SYSTEM.

ITEM 633 ADVANCE/DILEMMA ZONE DETECTION SYSTEM:

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING AN ADVANCE/DILEMMA ZONE DETECTION UNIT CAPABLE OF INTERSECTION ADVANCE DETECTION CONTROL UTILIZING ABOVE GROUND DIGITAL WAVE RADAR TECHNIQUES. THE UNIT SHALL BE NONINTRUSIVE AND SHALL DETECT VEHICLES FROM 50 FT. (15.2 M) UP TO 500 FT. (152.4 M) FROM THE UNIT. THE UNIT SHALL PROVIDE UP TO 8 DETECTION ZONES SIMULTANEOUSLY FOR INTERSECTION CONTROL. ONE UNIT SHALL BE PROVIDED PER APPROACH, WHERE SPECIFIED IN THE PLANS, COVERING MULTIPLE LANES WHERE ADVANCE DETECTION IS REQUIRED. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING LIST OF FEATURES AND CAPABILITIES:

1) THE UNIT SHALL PROVIDE ACCURATE PRESENCE-DETECTION OF BOTH STOPPED AND MOVING VEHICLES. THE UNIT SHALL BE MOUNTED IN A FORWARD-FIRE, LOOKING AT EITHER APPROACHING OR DEPARTING TRAFFIC AND SHALL ONLY DETECT VEHICLES IN ONE DIRECTION OF TRAVEL.

2) THE UNIT SHALL BE TESTED TO MEET NEMA TS2 ENVIRONMENTAL STANDARDS AND MAINTAIN ACCURATE PERFORMANCE IN THE FOLLOWING OPERATING CONDITIONS:

*RAIN UP TO 4 IN. (10.2 CM) PER HOUR
*FREEZING RAIN
*SNOW
*WIND
*DUST
*FOG
*CHANGING TEMPERATURE
*CHANGING LIGHTING

4) THE UNIT SHALL INCLUDE A SIMPLE SETUP ROUTINE THAT SHALL AUTOMATICALLY CONFIGURE AND CALIBRATE THE UNIT FOR PROPER OPERATION DURING INSTALLATION. THE UNIT SHALL ALSO BE CAPABLE OF BEING PROGRAMMED AND UPDATED FROM A LAPTOP COMPUTER OR OTHER PORTABLE PROGRAMMING DEVICE, SUCH AS A POCKET PC, VIA A LOCAL OR REMOTE ETHERNET CONNECTION USING VENDOR SUPPLIED SOFTWARE. THE SOFTWARE SHALL SUPPORT TCP/IP CONNECTIVITY, UNIT CONFIGURATION BACK-UP AND RESTORE, AND VIRTUAL SENSOR CONNECTIONS. THE GRAPHICAL USER INTERFACE SHALL OPERATE ON A WINDOWS PLATFORM.

5) THE UNIT SHALL HAVE ONE FULL-DUPLEX RS2-232 AND ONE HALF-DUPLEX RS-485 COMMUNICATION PORTS AND SHALL HAVE THE ABILITY TO UPGRADE FIRMWARE OVER ANY COMMUNICATION PORT.

6) THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MOST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE (S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.

7) 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.

8) POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET. THE UNIT SHALL CONSUME LESS THAN 10 WATTS AND OPERATE FROM A DC INPUT BETWEEN 9 VDC AND 28 VDC. COMPLETE AND AUTOMATIC RECOVERY FROM A POWER FAILURE SHALL BE WITHIN 15 SECONDS AFTER RESUMPTION OF NORMAL POWER.

9) 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.

10) 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.

11) THE UNIT SHALL COME WITH A 2-YEAR MANUFACTURER SUPPLIED WARRANTY.

12) PRIOR TO PROGRAMMING, THE CONTRACTOR SHALL CONTACT DELAWARE COUNTY TRAFFIC ENGINEER AT 740-833-2400. A DELAWARE COUNTY TRAFFIC DEPARTMENT REPRESENTATIVE SHALL BE PRESENT DURING THE PROGRAMMING OF THE SYSTEM.

PAYMENT FOR ITEM 633 ADVANCE/DILEMMA ZONE DETECTION SYSTEM 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. INCIDENTAL WORK TO THIS ITEM INCLUDES REMOVING AND DISPOSING OF ALL EXISTING LOOP LEAD-IN CABLE BETWEEN THE LOOP SPLICE AND THE CONTROLLER CABINET WHICH INCLUDES ALL UNDERGROUND AND OVERHEAD RUNS. ANY CONDUITS LEFT EMPTY AFTER THE REMOVAL OF THE LEAD-IN CABLE SHALL HAVE A PULL WIRE INSTALLED. THE NEW CABLES SHALL BE SUPPORTED BY A NEW CABLE SUPPORT ASSEMBLY AT THE TOP OF THE STRAIN POLE.

ITEM 632 REMOVAL OF MISC TRAFFIC SIGNAL ITEMS, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE REMOVAL OF AERIAL ITEMS NOTED ON PLANS SHEET WHICH INCLUDES SIGNAL CABLE, MESSENGER WIRE, DISTRUBUTION CABLE AND SERVICE CABLE.

QUANTITY FOR ITEM 632, REMOVAL OF MISC. TRAFFIC SIGNAL ITEMS SHALL BE LUMP SUM. PAYMENT SHALL INCLUDE REMOVAL AND DISPOSAL OF ITEMS NOTED.

CALCULATED AJB
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TRAFFIC SIGNAL GENERAL NOTES

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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. 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 THEN DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPICE.
   b. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
      i. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
      ii. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

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

632, REMOVAL OF TRAFFIC SIGNAL INSTALLATION

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 STORED ON THE PROJECT FOR SALVAGE BY THE DELAWARE COUNTY ENGINEER'S OFFICE IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

* CABINETS
* STRAIN POLES
* EXISTING PREEMPTION EQUIPMENT

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.

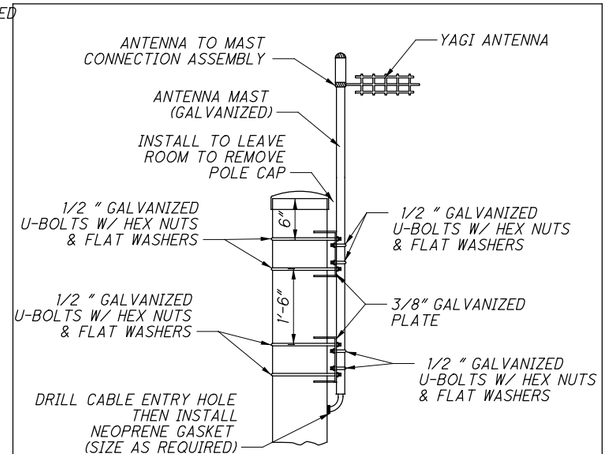
632, SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM GREATER THAN 59' IN LENGTH, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE CONTRACTOR INSTALLING A TUNED MECHANICAL STOCKBRIDGE OR MASSSPRING TYPE DAMPER ON A TC-81.21 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 48 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 MAST 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. 2G-1817-C1
2. VALMONT STRUCTURES ALCOA DEVICE DWG. NO. OH104242P1
3. FLORIDA DOT SPRING-MASS DAMPER DRAWING INDEX NO. 17749

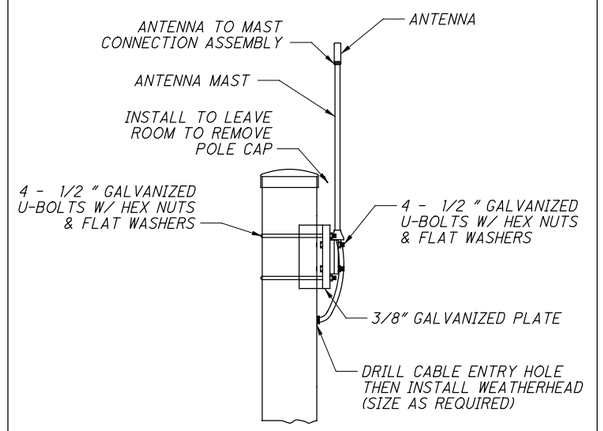
PAYMENT FOR ITEM 632 "SIGNAL SUPPORT, MECHANICAL DAMPER FOR TC-81.21 MAST ARM GREATER THAN 59 FEET IN LENGTH, AS PER PLAN" SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH COMPLETE AND IN PLACE, AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.



ANTENNA/ANTENNA MAST CONNECTION (6) TO SIGNAL POLE

(LOCAL CONTROLLERS)

- NO SCALE-



ANTENNA/ANTENNA MAST CONNECTION (1) TO SIGNAL POLE

(MASTER CONTROLLER AT ORANGE RD INTERSECTION)

- NO SCALE-

INSTALLATION OF "SPREAD SPECTRUM RADIO SYSTEM"

THE CONTRACTOR SHALL SUPPLY AND INSTALL A "SPREAD SPECTRUM RADIO SYSTEM" AT INTERSECTIONS AS DETAILED IN THESE PLANS. NOTE - POLARIS PARKWAY IS NOT PART OF THIS SYSTEM.

MASTER LOCATION

LOCATED AT OLD STATE ROAD WITH ORANGE ROAD INTERSECTION.

THIS MASTER LOCATION SHALL BE CAPABLE OF COMMUNICATING TO ALL OTHER INTERSECTIONS BY SPREAD SPECTRUM RADIO INTERCONNECT. ADDITIONAL INFORMATION REGARDING THESE INTERSECTIONS CAN BE FOUND IN THE GENERAL NOTES. THE MASTER LOCATION SHALL HAVE A MASTER ANTENNA (OMNI-DIRECTIONAL) ON POLE EX. POLE 'A' WITH ANTENNA MAST AND ANTENNA CABLE (HARDLINE) INSTALLED DOWN POLE TO RADIO TRANSCEIVER WITHIN CONTROLLER CABINET (SEE WORK DESCRIPTION).

RADIO CONTROLLED LOCAL INTERSECTION

THE OTHER RADIO CONTROLLED LOCAL INTERSECTIONS (POWELL ROAD, WILSHIRE BOULEVARD INTERSECTIONS AS DETAILED IN THESE PLANS) SHALL HAVE A REMOTE ANTENNA (YAGI TYPE) INSTALLED ON SIGNAL POLE WITH CONTROLLER AND ANTENNA MAST AS REQUIRED AND ANTENNA CABLE (HARDLINE) INSTALLED DOWN POLE TO A RADIO TRANSCEIVER WITHIN CABINET.

EACH LOCAL ANTENNA SHALL BE "AIMED" TOWARDS THE MASTER CONTROLLER.

BID ITEMS

1. SPREAD SPECTRUM RADIO SHALL INCLUDE THE EQUIPMENT AND INSTALLATION OF ALL RADIOS, ANTENNAS, CABLES, MOUNTING HANGERS AND ANY OTHER MATERIALS TO FURNISH A COMPLETE, FULLY FUNCTIONING WIRELESS ETHERNET INTERCONNECT SYSTEM, PER INTERSECTION, AS DESCRIBED IN ODOT SUPPLEMENTAL SPECIFICATION 815, AND COMPATIBLE WITH THE EXISTING SAWMILL ROAD SYSTEM.

2. TRAINING FOR SPREAD SPECTRUM RADIO SHALL BE BID LUMP SUM AND INCLUDE PROVIDING INSTRUCTION MATERIALS, INSTRUCTOR TRAVEL EXPENSES AND TEST OR MEDIA EQUIPMENT FOR PRESENTING THE TRAINING MATERIAL, AS DESCRIBED IN ODOT SUPPLEMENTAL SPECIFICATION 815. THIS WORK SHALL BE BID AS PART OF 815 TRAINING FOR SPREAD SPECTRUM RADIO.

INTERCONNECT NOTES:

1. CONTRACTOR IS RESPONSIBLE TO CHECK INTERSECTIONS FOR LINE OF SIGHT REQUIRED FOR COMMUNICATION. IF LINE OF SIGHT CANNOT BE OBTAINED, CONTRACTOR IS RESPONSIBLE FOR INSTALLING A REPEATER LOCATION INCLUDING POWER SOURCE, DETECTOR CABINET WITH TRANCEIVER, AND POLE.

CALCULATED AJB CHECKED VMF

SIGNAL GENERAL NOTES

TRAFFIC SIGNAL

DEL-CR10-0.90

2952-DR.E

337/437

LEGEND

- 5-SECTION SIGNAL HEAD
- 3-SECTION SIGNAL HEAD
- CONDUIT
- PULL BOX
- CONTROLLER CABINET
- UNINTERRUPTIBLE POWER SUPPLY
- RADAR DETECTION AREA
- ADVANCE DILEMMA ZONE DETECTION
- PED. PUSH BUTTON
- PEDESTRIAN SIGNAL HEAD
- LUMINAIRE, CONVENTIONAL, 200W HPS TYPE III
- PREEMPTION DETECTION UNIT
- STOP BAR DETECTOR RADAR

SIGNAL HEADS

PEDESTRIAN HEADS
N, S, E & W
24" COUNTDOWN

HEADS
2 3 5 7 9
10 12 14
12"

HEADS
1 4 8 11
12"

HEADS
6 13
12"

LEFT TURN YIELD ON GREEN
R10-12-24
S1 S2 S3 S4
MAST ARM MOUNTED

(2)-3" CONDUIT - 725.04, ENCASED IN TRENCH = 76'
TRAFFIC PULL BOX, 725.08, 18" STA. 1037+38, 63' LT.
(1)-3" CONDUIT - 725.051 IN TRENCH = 25'
5' PEDESTAL "D" WITH PED. PUSH BUTTON (PB-3) STA. 1037+18, 51' LT.
POLE "C" TC-81.21, DES. 14, (70' ARM) WITH PED. SIGNAL HEADS (PH-5 & 6) AND PED. PUSH BUTTON (PB-3) STA. 1037+14, 62' LT.
(1)-3" CONDUIT - 725.051 IN TRENCH = 18'
(1)-3" CONDUIT - 725.051 IN TRENCH = 19'
(1)-3" CONDUIT - 725.051 IN TRENCH = 7'
TRAFFIC PULL BOX, 725.08, 18" STA. 1037+18, 45' LT.
LIGHTING PULL BOX, 725.08, 18" STA. 1037+13, 43' LT.
TRAFFIC PULL BOX, 725.08, 18" STA. 1038+18, 60' LT.
(1)-3" CONDUIT - 725.051 IN TRENCH = 17'
POLE "E" TC-81.21, DES. 11, (45' ARM) WITH PED. SIGNAL HEADS (PH-7), AND STOP BAR RADAR DETECTORS STA. 1038+29, 72' LT.
(1)-3" CONDUIT - 725.051 IN TRENCH = 52'
TRAFFIC PULL BOX, 725.08, 18" STA. 1038+57, 41' LT.
(1)-3" CONDUIT - 725.051 IN TRENCH = 7'
21' PEDESTAL "F" SIGNAL HEAD #7 WITH PED. SIGNAL HEAD (PH-8) AND PED. PUSH BUTTON (PB-4) STA. 1038+63, 45' LT.

SOUTH OLD STATE ROAD
LIGHTING PULL BOX, 725.08, 18" STA. 1037+43, 52' RT.
POWER SERVICE TO CONNECT TO RELOCATED POWER POLE
TRAFFIC PULL BOX, 725.08, 18" STA. 1037+56, 55' RT.
21' PEDESTAL "B" WITH PED. SIGNAL HEAD (PH-4) SIGNAL HEAD #14 PED. PUSH BUTTON (PB-2) STA. 1037+65, 63' RT.
(1)-3" CONDUIT - 725.051 IN TRENCH = 22'
(1)-3" CONDUIT - 725.051 IN TRENCH = 147'
(1)-3" CONDUIT - 725.051 IN TRENCH = 14'
TRAFFIC PULL BOX, 725.08, 24" STA. 1037+83, 74' RT.
POLE "A" TC-81.21, DES. 4, (38' ARM) STOP BAR RADAR DETECTORS, AND SPREAD SPECTRUM ANTENNA STA. 1037+98, 72' RT.
LIGHTING PULL BOX, 725.08, 24" STA. 1037+98, 76' RT.
8' PEDESTAL "I" WITH PED. SIGNAL HEAD (PH-3) STA. 1038+09, 87' RT.
GROUND MOUNTED CONTROLLER, STA. 1037+99, 80' RT.
UPS, STA. 1038+00, 83' RT.
(1)-3" CONDUIT - 725.051 IN TRENCH = 16'

EAST POWELL ROAD
(2)-3" CONDUIT - 725.04, ENCASED IN TRENCH = 113'
(2)-3" CONDUIT - 725.04, ENCASED IN TRENCH = 116'
POLE "G" TC-81.21, DES. 14, (70' ARM) WITH PED. SIGNAL HEADS (PH-1) AND PED. PUSH BUTTON (PB-1) STA. 1039+21, 69' RT.
(1)-3" CONDUIT - 725.051 IN TRENCH = 13'
(1)-3" CONDUIT - 725.051 IN TRENCH = 13'
TRAFFIC PULL BOX, 725.08, 18" STA. 1039+13, 80' RT.
LIGHTING PULL BOX, 725.08, 18" STA. 1039+11, 78' RT.
(1)-3" CONDUIT - 725.051 IN TRENCH = 9'
8' PEDESTAL "H" WITH PED. SIGNAL HEAD (PH-2) STA. 1039+07, 84' RT.

(2)-3" CONDUIT - 725.04, ENCASED IN TRENCH = 105'
(2)-3" CONDUIT - 725.04, ENCASED IN TRENCH = 104'

PRE-1 PRE-2 PRE-3 PRE-4
ADZ-1 ADZ-2
RAD-1 RAD-2 RAD-3 RAD-4
V1 V2 V3 V4-1 V4-2 V4-3 V5 V5-1 V5-2 V5-3 V6 V7 V8
B-10

SIGNAL PLAN
S. OLD STATE RD. AT E. POWELL RD.

CALCULATED AJB
CHECKED VMF

HORIZONTAL SCALE IN FEET
0 10 20 40

DEL-CR10-0.90

2952-DR.E

338
437

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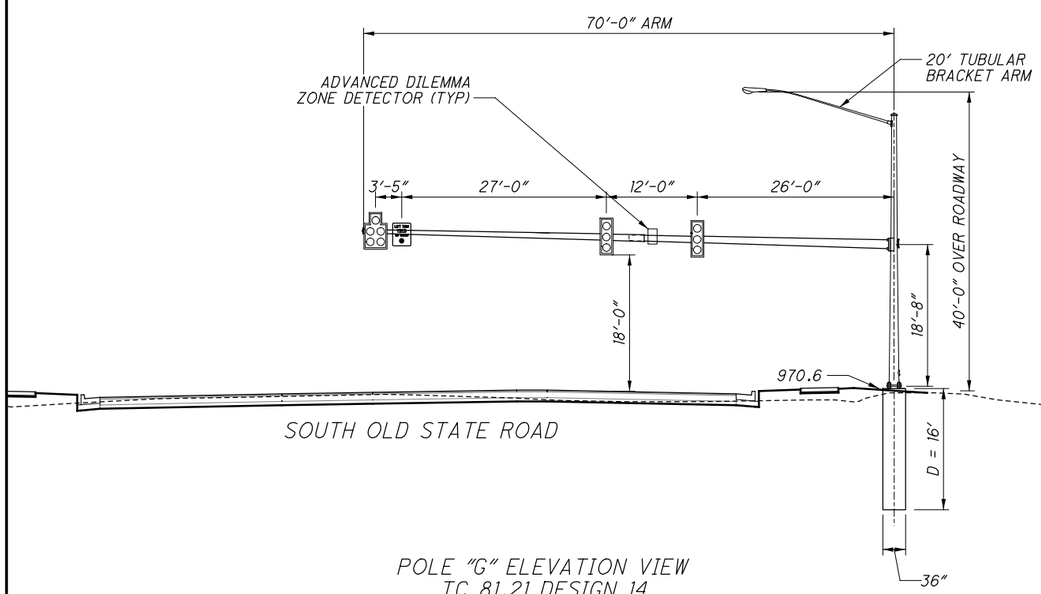
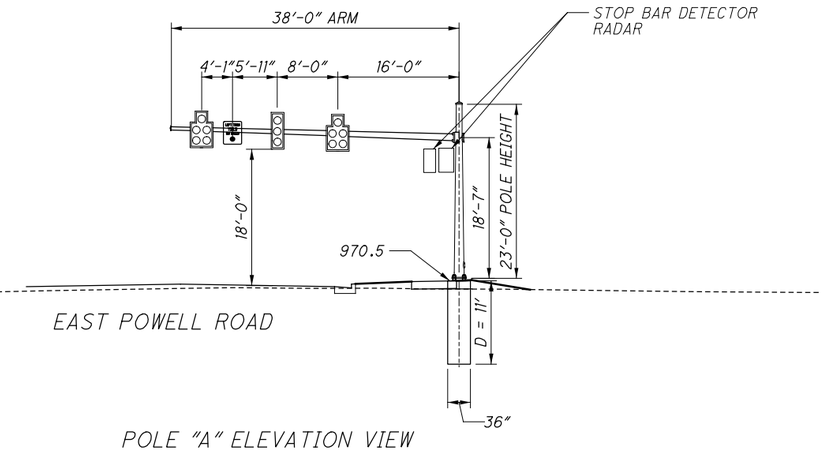
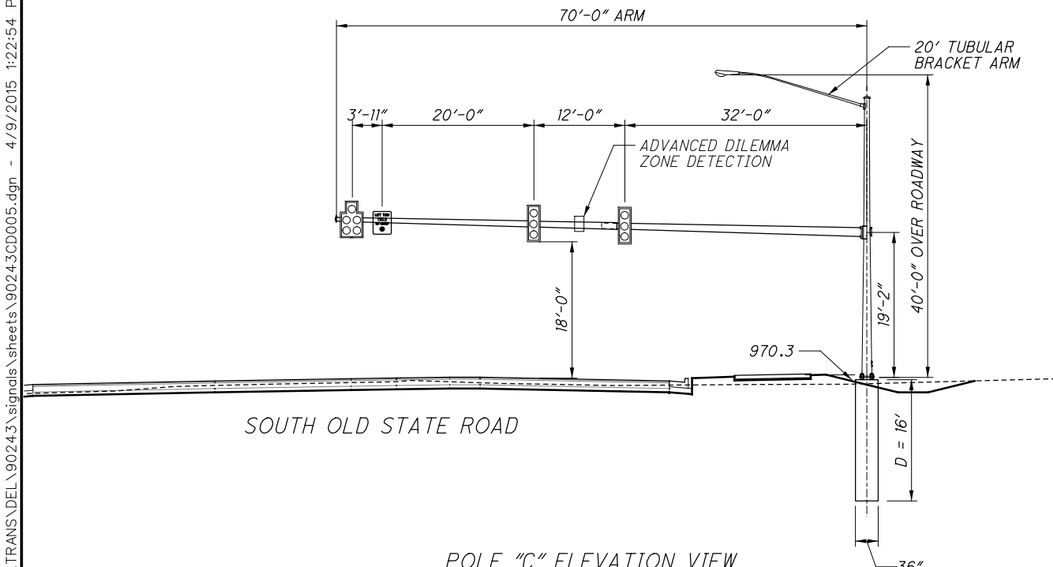


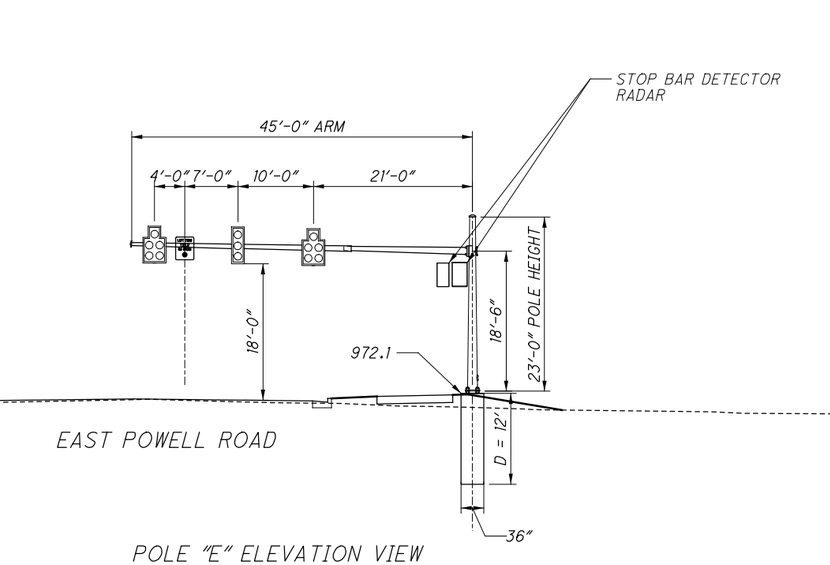
POLE "G" ELEVATION VIEW
TC 81.21 DESIGN 14
NORTHEAST CORNER
LOOKING NORTH



POLE "A" ELEVATION VIEW
TC 81.21 DESIGN 4
SOUTHEAST CORNER
LOOKING EAST



POLE "C" ELEVATION VIEW
TC 81.21 DESIGN 14
SOUTHWEST CORNER
LOOKING SOUTH



POLE "E" ELEVATION VIEW
TC 81.21 DESIGN 11
NORTHWEST CORNER
LOOKING WEST

CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL CROSS SECTION DETAILS
S. OLD STATE RD. AT E. POWELL RD.

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2952-DR.E

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437

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DETECTOR ASSIGNMENTS-S. OLD STATE RD AT E. POWELL RD

DETECTOR METHOD	DETECTION AREA	PHASE NUMBER	AREA SIZE	PULSE OR PRESENCE	DELAY DATA		DET UNIT & CABLE LABEL	SYSTEM DETECTOR
					TIME (SEC.)	INHIBIT DELAY DURING GREEN		
ADZ-2	V1	2	12x6	PULSE	-	-	NB ALL	-
ADZ-2	V2	2	12x6	PULSE	-	-	NB ALL	-
RAD-3	V3	5	12X30	PRESENCE	3	5	NB LT	-
RAD-2	V4-1	7	VARIABLE	PRESENCE	5	7	EB LT	-
RAD-2	V4-2	4	VARIABLE	PRESENCE	-	-	EB TH	-
RAD-2	V4-3	4	VARIABLE	PRESENCE	12	4	EB RT	-
RAD-4	V5-1	3	VARIABLE	PRESENCE	5	3	WB LT	-
RAD-4	V5-2	8	VARIABLE	PRESENCE	-	-	WB TH	-
RAD-4	V5-3	8	VARIABLE	PRESENCE	12	8	WB RT	-
RAD-1	V6	1	12x30	PRESENCE	3	1	SB LT	-
ADZ-1	V7	6	6X6	PULSE	-	-	SB ALL	-
ADZ-1	V8	6	6X6	PULSE	-	-	SB ALL	-

FIELD WIRING HOOK-UP CHART

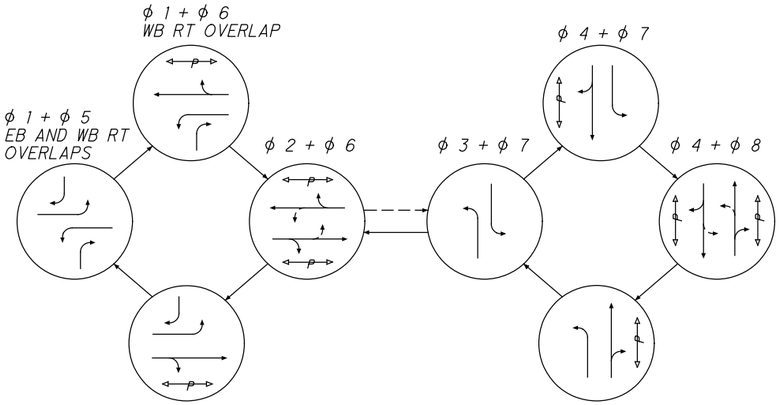
SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1 (SBLT)	R	PH 6 R	Y	11 (EBLT)	R	PH 4 R	R
	Y	PH 6 Y			Y	PH 4 Y	
	G	PH 6 G			G	PH 4 G	
	◄Y	PH 1 Y			◄Y	PH 7 Y	
	◄G	PH 1 G			◄G	PH 7 G	
2,3 (SB)	R	PH 6 R	Y	12 (EB)	R	PH 4 R	R
	Y	PH 6 Y			Y	PH 4 Y	
	G	PH 6 G			G	PH 4 G	
4 (WBLT)	R	PH 8 R	R	13 (EBRT)	R	PH 4 R	R
	Y	PH 8 Y			Y	PH 4 Y	
	G	PH 8 G			G	PH 4 G	
	◄Y	PH 3 Y			→	PH 5 Y	
	◄G	PH 3 G			→	PH 5 G	
5 (WB)	R	PH 8 R	R	14 (NB)	R	PH 2 R	Y
	Y	PH 8 Y			Y	PH 2 Y	
	G	PH 8 G			G	PH 2 G	
6 (WBRT)	R	PH 8 R	R	N (NORTH)	W	8-W	OUT
	Y	PH 8 Y			DW	8-DW	
	G	PH 8 G		E (EAST)	W	2-W	OUT
	→	PH 1 Y			DW	2-DW	
	→	PH 1 G		S (SOUTH)	W	4-W	OUT
7 (SB)	R	PH 6 R	Y		DW	4-DW	
	Y	PH 6 Y		W (WEST)	W	6-W	OUT
	G	PH 6 G			DW	6-DW	
8 (NBLT)	R	PH 2 R	Y				
	Y	PH 2 Y					
	G	PH 2 G					
	◄Y	PH 5 Y					
	◄G	PH 5 G					
9,10 (NB)	R	PH 2 R	Y				
	Y	PH 2 Y					
	G	PH 2 G					

EMERGENCY PREEMPTION INDICATION CHART

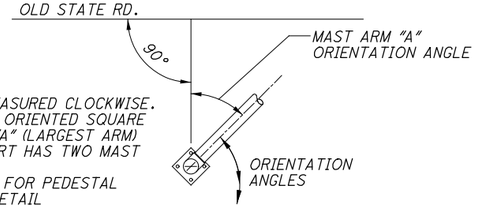
	SIGNAL HEAD NO.												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
NORTHBOUND EMERGENCY PREEMPTION	G	G	G	R	R	R	G	R	R	R	R	R	R	R
EASTBOUND EMERGENCY PREEMPTION	R	R	R	G	G	G	R	R	R	R	R	R	R	R
SOUTHBOUND EMERGENCY PREEMPTION	R	R	R	R	R	R	R	G	G	G	R	R	R	G
WESTBOUND EMERGENCY PREEMPTION	R	R	R	R	R	R	R	R	R	R	G	G	G	R

SIGNAL SUPPORT TYPE TC-81.21								ELEVATION	
MAST ARM	DESIGN NO.	POLE HEIGHT (FT)	ATTACH. HGT (FT)	L (FT)	L1 (FT)	L2 (FT)	L3 (FT)	A	B
A	4	23	18.58	38	16	24	32	970.5	960.5
C	14	23	19.17	70	32	44	68	970.3	954.3
E	11	23	18.50	45	21	31	40	972.1	960.1
G	14	23	18.67	70	26	38	68.5	970.6	954.6

POLE/PEDESTAL/POST	STATION	OFFSET	ORIENTATION ANGLE (DEG.) FROM MAST ARM OR HANDHOLE (PEDESTAL)							
			MAST ARM A ANGLE (DEG.)	PEDESTRIAN SIGNAL	PEDESTRIAN BUTTON	SIGNAL HEAD	POWER SERVICE	LUMINAIRE BRACKET	HANDHOLE	CABLE ENTRANCE 12" FROM TOP
A	1037+98	72' RT	70.2	N/A	N/A	224	230	N/A	180	0
B	1037+65	63' RT	N/A	347	253	180	N/A	N/A	0	NA
C	1037+14	62' LT	0	343/265	N/A	N/A	N/A	343	180	0
D	1037+18	51' LT	N/A	N/A	90	N/A	N/A	N/A	0	NA
E	1038+33	67' LT	67.6	95	N/A	230	N/A	N/A	180	0
F	1038+63	45' LT	N/A	245	90	180	N/A	N/A	0	NA
G	1039+21	69' RT	0	332	242	N/A	N/A	343	180	0
H	1039+07	64' RT	N/A	26	N/A	N/A	N/A	N/A	0	NA
I	1038+09	87' RT	N/A	340	N/A	N/A	N/A	N/A	0	NA



PHASING DIAGRAM

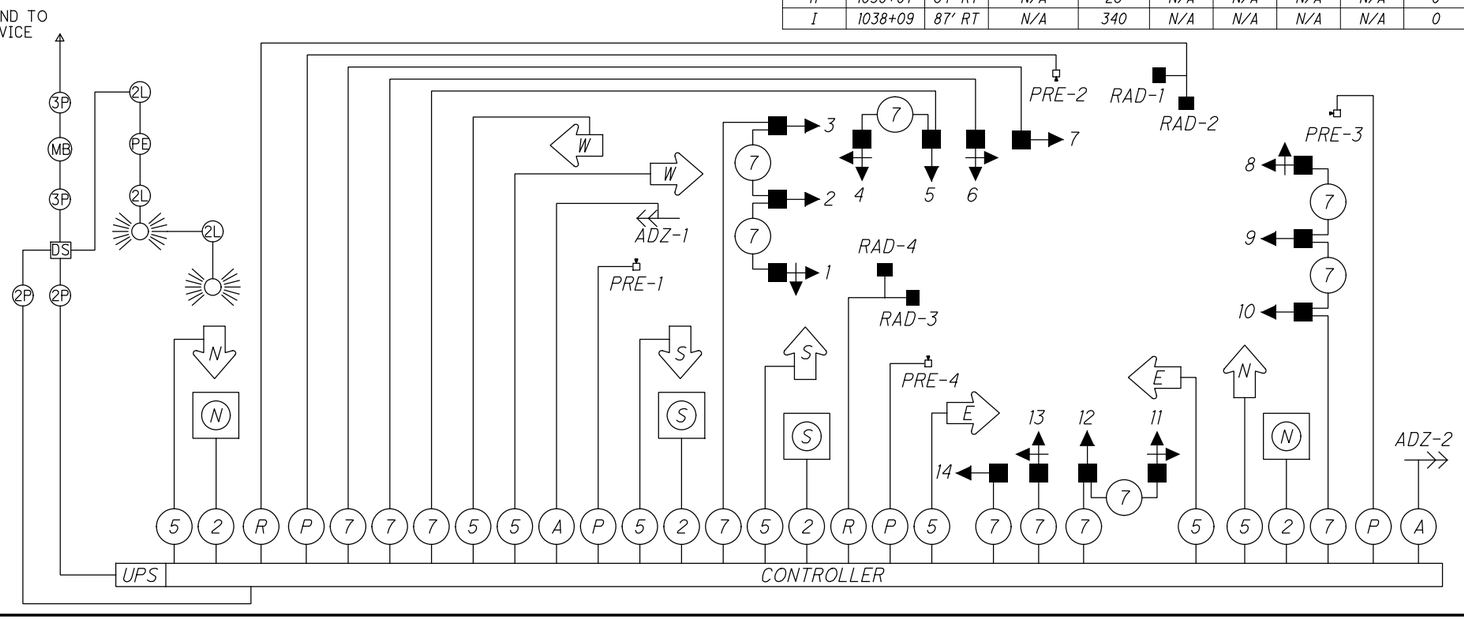


NOTES:
A) ALL ANGLES MEASURED CLOCKWISE.
B) BASE PLATE IS ORIENTED SQUARE TO MAST ARM "A" (LARGEST ARM) EVEN IF SUPPORT HAS TWO MAST ARMS.
C) SEE SHEET 339 FOR PEDESTAL ORIENTATION DETAIL

CABINET WIRING DIAGRAM
PROPOSED CABLES ONLY

WIRING DIAGRAM LEGEND

- (2P) 2/C #8 AWG (POWER)
- (3P) 3/C #8 AWG (POWER)
- (DS) DISCONNECT SWITCH
- 120 VOLT, 250 WATT LUMINAIRE
- (2L) 2/C #10 AWG DISTRIBUTION CABLE
- (PE) PHOTOELECTRIC CELL
- (MB) METER BOX
- (2) 2/C #14 AWG.
- (5) 5/C #14 AWG.
- (7) 7/C #14 AWG.
- (A) ADVANCE/DILEMMA ZONE CABLE
- (R) STOP BAR RADAR CABLE
- (P) PREEMPTION CABLE
- ADVANCE/DILEMMA ZONE DETECTOR
- STOP BAR RADAR DETECTOR
- PREEMPTION
- VEHICULAR SIGNAL HEAD 3-SECTION
- VEHICULAR SIGNAL HEAD 5-SECTION
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSHBUTTON



CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL DETAILS
S. OLD STATE RD. AT E. POWELL RD.

DEL-CR10-0.90

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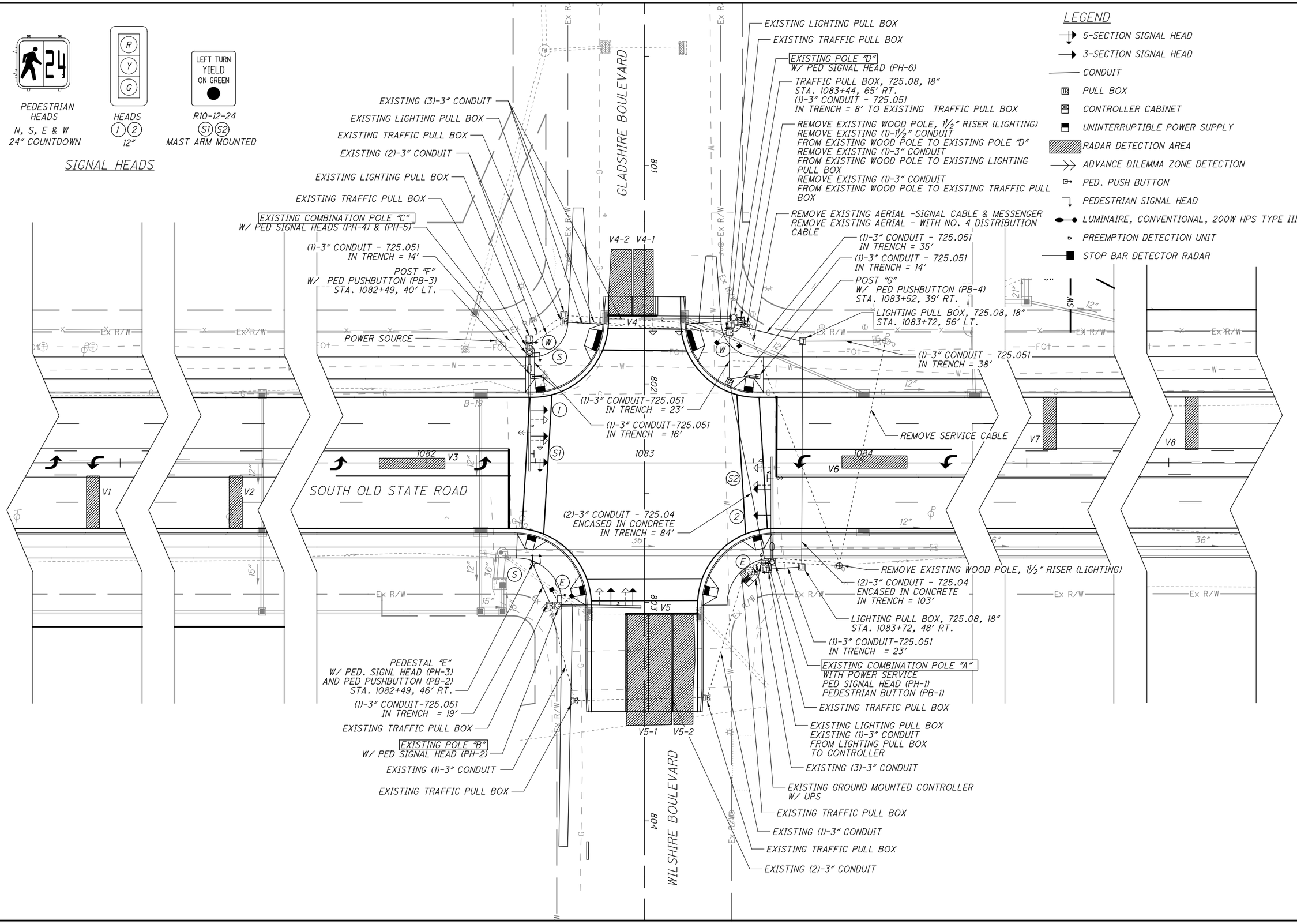
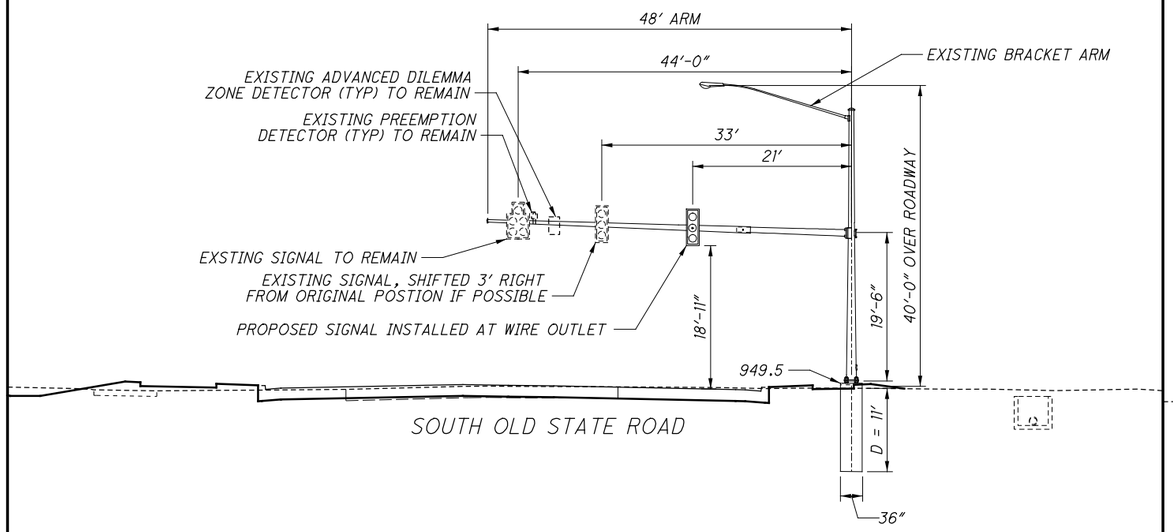
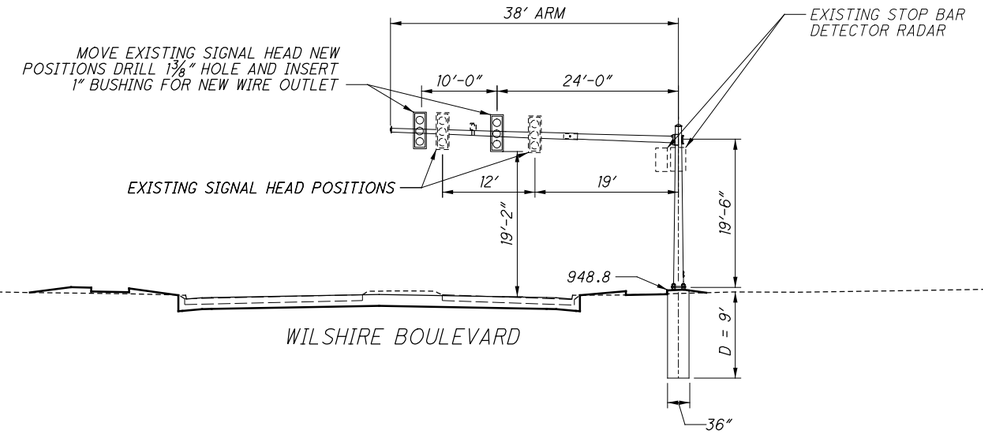
340
437

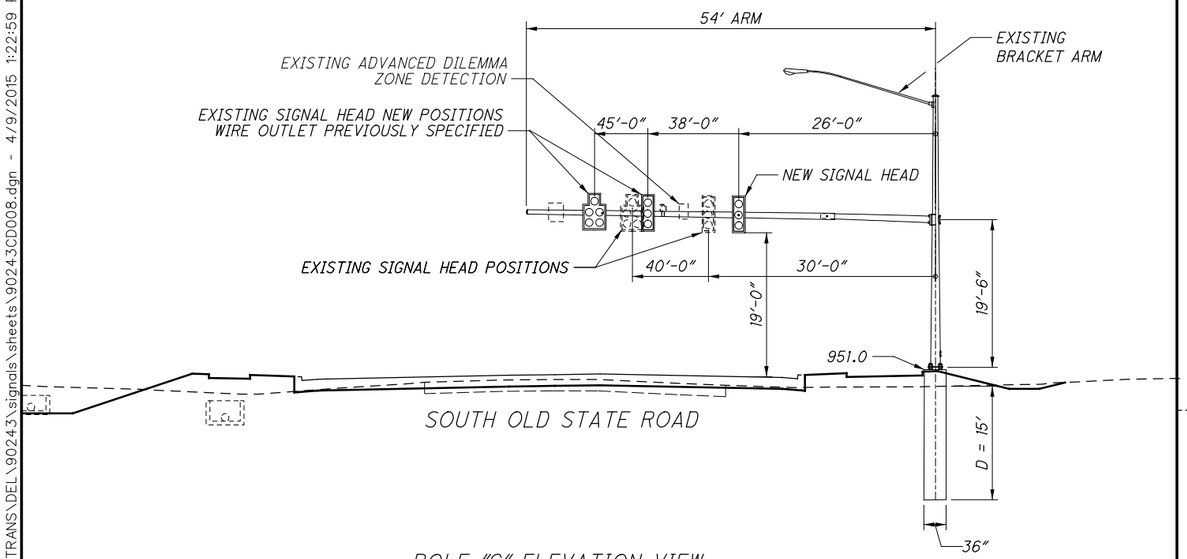




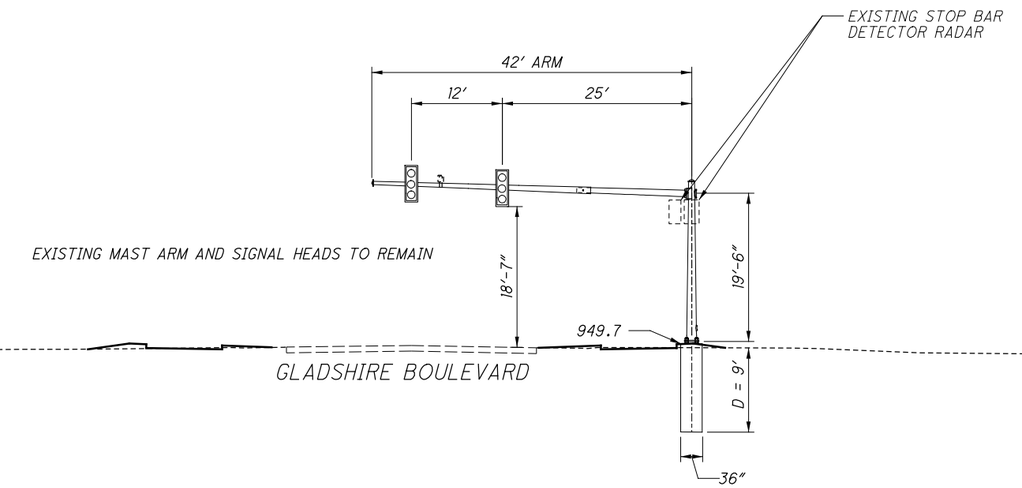
EXISTING POLE "A" ELEVATION VIEW
NORTHEAST CORNER
LOOKING NORTH



EXISTING POLE "B" ELEVATION VIEW
SOUTHEAST CORNER
LOOKING EAST



POLE "C" ELEVATION VIEW
SOUTHWEST CORNER
LOOKING SOUTH



EXISTING POLE "D" ELEVATION VIEW
NORTHWEST CORNER
LOOKING WEST

CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL CROSS SECTION DETAILS
S. OLD STATE RD. AT GLADSHIRE / WILSHIRE

DEL-CR10-0.90

2952-DR.E

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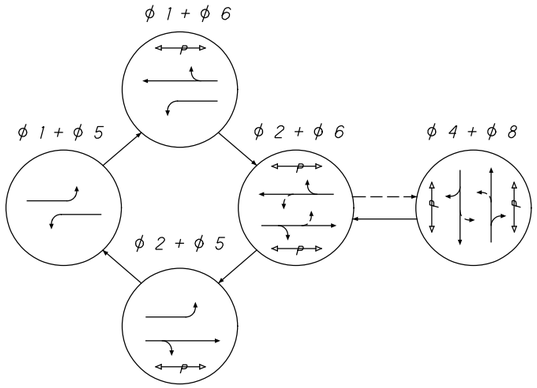
DETECTOR ASSIGNMENTS - S. OLD STATE RD AT GLADSHIRE/WILSHIRE

DETECTOR METHOD	DETECTION AREA	PHASE NUMBER	AREA SIZE	PULSE OR PRESENCE	DELAY DATA		DET UNIT & CABLE LABEL	SYSTEM DETECTOR
					TIME (SEC.)	INHIBIT DELAY DURING GREEN		
EX ADZ	V1	2	12x6	PULSE	-	-	NB ALL	-
EX ADZ	V2	2	12x6	PULSE	-	-	NB ALL	-
EX RAD	V3	5	12X30	PRESENCE	3	5	NB LT	-
EX RAD	V4-1	4	VARIABLE	PRESENCE	5	4	EB LT	-
EX RAD	V4-2	4	VARIABLE	PRESENCE	12	4	EB TR	-
EX RAD	V5-1	8	VARIABLE	PRESENCE	5	8	WB TL	-
EX RAD	V5-2	8	VARIABLE	PRESENCE	12	8	WB RT	-
EX RAD	V6	1	12x30	PRESENCE	3	1	SB LT	-
EX ADZ	V7	6	6X6	PULSE	-	-	SB ALL	-
EX ADZ	V8	6	6X6	PULSE	-	-	SB ALL	-

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
EXISTING (NBLT)	R	PH 2 R	Y	EXISTING, 1 (SB)	R	PH 6 R	Y
	Y	PH 2 Y			Y	PH 6 Y	
	G	PH 2 G			G	PH 6 G	
	◀Y	PH 5 Y		EXISTING, EXISTING (WB)	R	PH 8 R	R
	◀G	PH 5 G			Y	PH 8 Y	
EXISTING, 2 (NB)	R	PH 2 R	Y		G	PH 8 G	
	Y	PH 2 Y		N (NORTH)	W	8-W	OFF
	G	PH 2 G			DW	8-DW	
EXISTING, EXISTING (EB)	R	PH 4 R	R	E (EAST)	W	2-W	OFF
	Y	PH 4 Y			DW	2-DW	
	G	PH 4 G		S (SOUTH)	W	4-W	OFF
EXISTING (SBLT)	R	PH 6 R	Y		DW	4-DW	
	Y	PH 6 Y		W (WEST)	W	6-W	OFF
	G	PH 6 G			DW	6-DW	
	◀Y	PH 1 Y					
	◀G	PH 1 G					

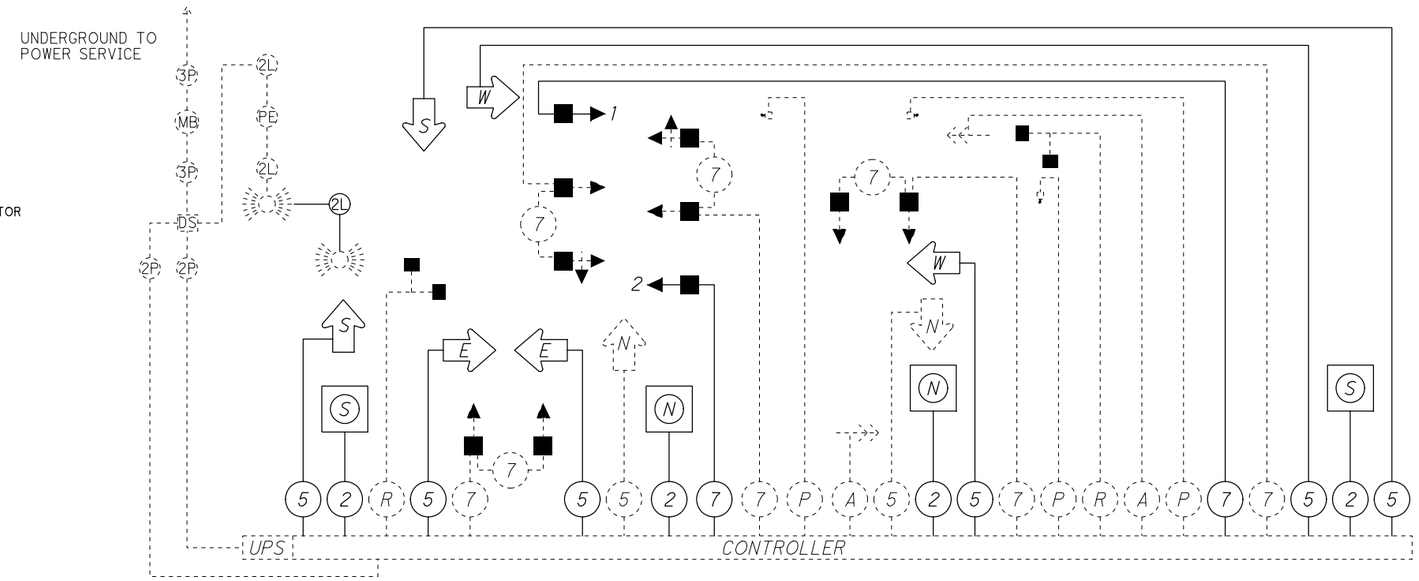


PHASING DIAGRAM

CABINET WIRING DIAGRAM
PROPOSED CABLES ONLY

WIRING DIAGRAM LEGEND

- (2P) 2/C #8 AWG (POWER)
- (3P) 3/C #8 AWG (POWER)
- (DS) DISCONNECT SWITCH
- 120 VOLT, 250 WATT LUMINAIRE
- (2L) 2/C #10 AWG DISTRIBUTION CABLE
- (PE) PHOTOELECTRIC CELL
- (MB) METER BOX
- (2) 2/C #14 AWG.
- (5) 5/C #14 AWG.
- (7) 7/C #14 AWG.
- (A) ADVANCE/DILEMMA ZONE CABLE
- (R) STOP BAR RADAR CABLE
- (P) PREEMPTION CABLE
- ADVANCE/DILEMMA ZONE DETECTOR
- STOP BAR RADAR DETECTOR
- PREEMPTION
- VEHICULAR SIGNAL HEAD 3-SECTION
- VEHICULAR SIGNAL HEAD 5-SECTION
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSHBUTTON



CALCULATED AJB | CHECKED VMF

TRAFFIC SIGNAL DETAILS
S. OLD STATE RD. AT GLADSHIRE/WILSHIRE

DEL-CR10-0.90

2952-DR.E

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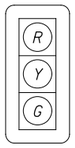
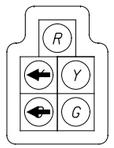
PEDESTRIAN HEADS S & E
24" COUNTDOWN



HEADS (2)(4)(5)(7)(9)(10)
12"



HEADS (1)(3)(6)(8)
12"

R10-12-24
(S1)(S2)(S3)(S4)
MAST ARM MOUNTED

SIGNAL HEADS

LEGEND

- 5-SECTION SIGNAL HEAD
- 3-SECTION SIGNAL HEAD
- CONDUIT
- PULL BOX
- CONTROLLER CABINET
- UNINTERRUPTIBLE POWER SUPPLY
- RADAR DETECTION AREA
- ADVANCE DILEMMA ZONE DETECTION
- PED. PUSH BUTTON
- PEDESTRIAN SIGNAL HEAD
- LUMINAIRE, CONVENTIONAL, 200W HPS TYPE III
- PREEMPTION DETECTION UNIT
- STOP BAR DETECTOR RADAR

TRAFFIC PULL BOX, 725.08, 18"
STA. 1099+34, 34' LT.

LIGHTING PULL BOX, 725.08, 18"
STA. 1099+43, 40' LT.

(1)-3" CONDUIT - 725.051
IN TRENCH = 18'

MAINTAIN CONNECT TO FIRE STATION
PREEMPTION OPTICAL SENSOR AT APPROXIMATELY
STA. 915+65, 30' RT.

(1)-3" CONDUIT - 725.051
IN TRENCH = 17'

V4-3 V4-2 V4-1

TRAFFIC PULL BOX, 725.08, 18"
STA. 1100+40, 22' LT.

COMBINATION POLE "E"
TC 81.21 DES. 12 (48' ARM)
W/ PED SIGNAL HEAD (PH-4)
STA. 1099+22, 46' LT.

(1)-3" CONDUIT - 725.051
IN TRENCH = 6'

(1)-3" CONDUIT - 725.051
IN TRENCH = 19'

POST "D"
AND PED PUSHBUTTON (PB-2)
STA. 1099+28, 36' LT.

POLE "F" TC 81.21 DES 13, (60') ARM
W/ STOP BAR RADAR DETECTORS
STA. 1100+58, 27' LT

EAST ORANGE ROAD

SOUTH OLD STATE ROAD

PRE-2 PRE-3 PRE-4

RAD-3 RAD-4

ADZ-1 ADZ-2

V1 V2 V3 V5-1 V5-2 V5-3 V6 V7 V8

(2)-3' CONDUIT - 725.04, ENCASED
IN TRENCH = 91'

(2)-3' CONDUIT - 725.04, ENCASED
IN TRENCH = 90'

(2)-3' CONDUIT - 725.04, ENCASED
IN TRENCH = 99'

TRAFFIC PULL BOX, 725.08, 18"
STA. 1099+64, 76' RT.

PEDESTAL "C"
W/ PED SIGNAL HEAD (PH-3)
AND PED PUSHBUTTON (PB-1)
STA. 1099+25, 57' RT.

(1)-3" CONDUIT - 725.051
IN TRENCH = 3'

TRAFFIC PULL BOX, 725.08, 18"
STA. 1099+34, 70' RT.

LIGHTING PULL BOX, 725.08, 18"
STA. 1099+44, 57' RT.

(1)-3" CONDUIT - 725.051
IN TRENCH = 32'

(1)-3" CONDUIT - 725.051
IN TRENCH = 29'

TRAFFIC PULL BOX, 725.08, 18"
STA. 1099+61, 77' RT.

POLE "B" TC 81.21 DES 2, (32') ARM
W/ PED SIGNAL HEAD (PH-2)
AND STOP BAR RADAR DETECTORS
STA. 1099+52, 90' RT

RAD-1 RAD-2 PRE-1

POWER SERVICE
UPS, STA. 1100+52, 69.8' RT.

GROUND MOUNTED CONTROLLER
STA. 1100+50, 72' RT.

COMBINATION POLE "A"
TC 81.21 DES. 14 (70' ARM)
W/ PED SIGNAL HEAD (PH-1)
AND SPREAD SPECTRUM ANTENNA
STA. 1100+44, 73' RT.

TRAFFIC PULL BOX, 725.08, 24"
STA. 1100+48, 78.5' RT.

(2)-3" CONDUIT - 725.051
IN TRENCH = 5',
PULL BOX TO CONTROLLER

LIGHTING PULL BOX, 725.08, 18"
STA. 1100+40, 73.6' RT.

(1)-3" CONDUIT - 725.051
IN TRENCH = 3',
TR PULL BOX TO LT PULL BOX
(1)-3" CONDUIT - 725.051
IN TRENCH = 4',
POLE "A" TO TR PULL BOX
(1)-3" CONDUIT - 725.051
IN TRENCH = 3',
POLE "A" TO LT PULL BOX

(2)-3' CONDUIT - 725.04, ENCASED
IN TRENCH = 78'

(2)-3' CONDUIT - 725.04, ENCASED
IN TRENCH = 80'

(1)-3" CONDUIT - 725.051
IN TRENCH = 16'

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AJB
CHECKED VMF

SIGNAL PLAN
S. OLD STATE RD. AT E. ORANGE RD.

DEL-CR10-0.90

2952-DR.E

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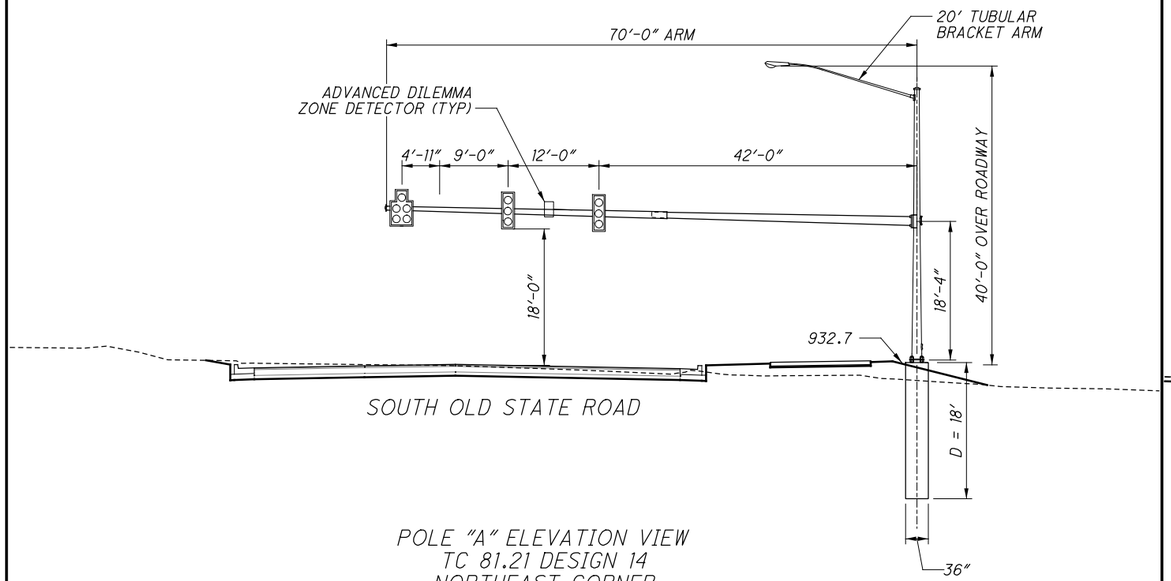
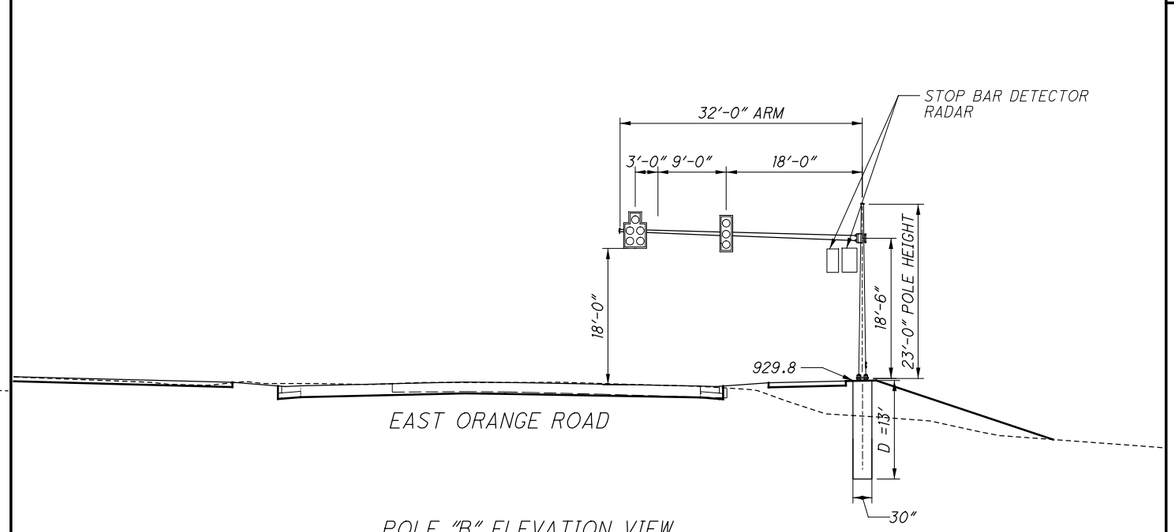
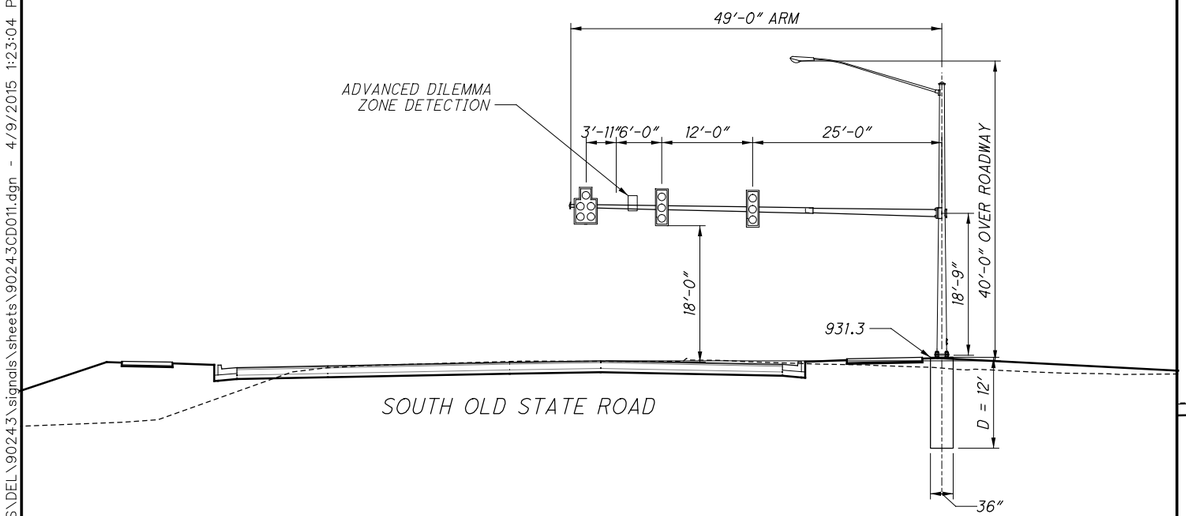


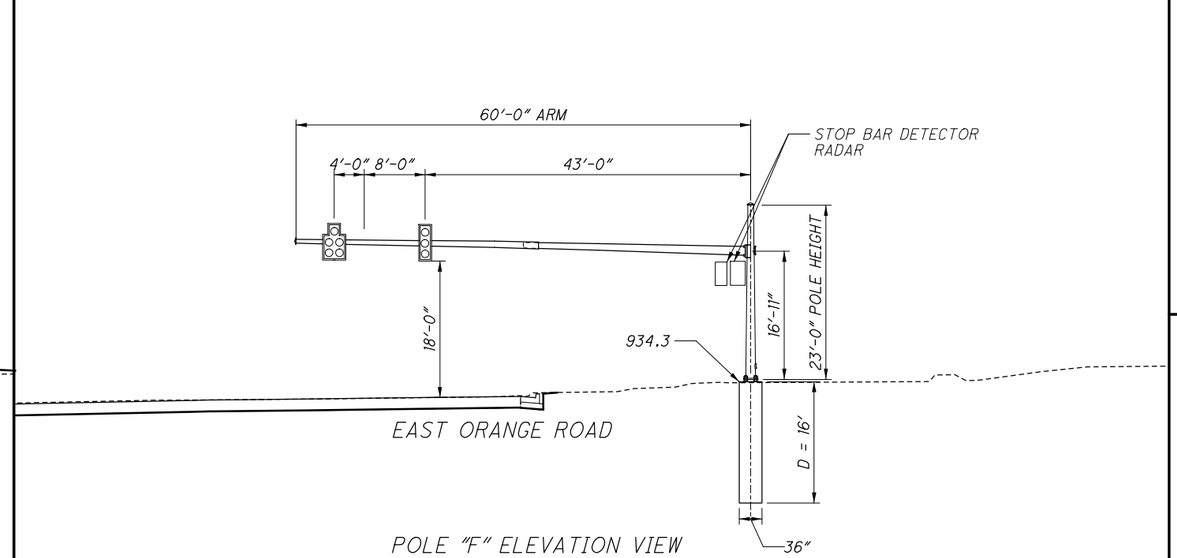
POLE "A" ELEVATION VIEW
TC 81.21 DESIGN 14
NORTHEAST CORNER
LOOKING NORTH



POLE "B" ELEVATION VIEW
TC 81.21 DESIGN 2
SOUTHEAST CORNER
LOOKING EAST



POLE "E" ELEVATION VIEW
TC 81.21 DESIGN 12
SOUTHWEST CORNER
LOOKING SOUTH



POLE "F" ELEVATION VIEW
TC 81.21 DESIGN 13
NORTHWEST CORNER
LOOKING WEST

CALCULATED EJT
CHECKED RAM

TRAFFIC SIGNAL CROSS SECTION DETAILS
S. OLD STATE RD. AT E. ORANGE RD.

DEL-CR10-0.90

2952-DR.E

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DETECTOR ASSIGNMENTS-S. OLD STATE RD AT E. ORANGE RD

DETECTOR METHOD	DETECTION AREA	PHASE NUMBER	AREA SIZE	PULSE OR PRESENCE	DELAY DATA		DET UNIT & CABLE LABEL	SYSTEM DETECTOR
					TIME (SEC.)	INHIBIT DELAY DURING GREEN		
ADZ-2	V1	2	12x6	PULSE	-	-	NB ALL	-
ADZ-2	V2	2	12x6	PULSE	-	-	NB ALL	-
RAD-3	V3	5	12X30	PRESENCE	3	5	NB LT	-
RAD-2	V4-1	7	VARIABLE	PRESENCE	5	7	EB LT	-
RAD-2	V4-2	4	VARIABLE	PRESENCE	-	-	EB TH	-
RAD-2	V4-3	4	VARIABLE	PRESENCE	12	8	EB RT	-
RAD-4	V5-1	3	VARIABLE	PRESENCE	5	3	WB LT	-
RAD-4	V5-2	8	VARIABLE	PRESENCE	-	-	WB TH	-
RAD-4	V5-3	8	VARIABLE	PRESENCE	12	8	WB RT	-
RAD-1	V6	1	12x30	PRESENCE	3	1	SB LT	-
ADZ-1	V7	6	6X6	PULSE	-	-	SB ALL	-
ADZ-1	V8	6	6X6	PULSE	-	-	SB ALL	-

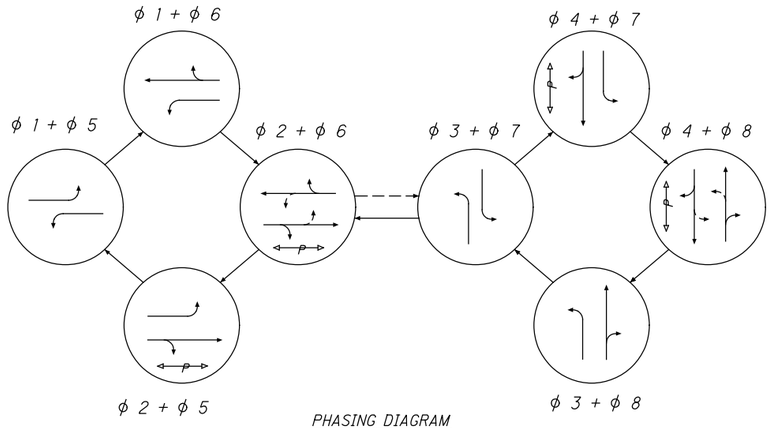
FIELD WIRING HOOK-UP CHART

SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1 (EBLT)	R	PH 4 R	R	8 (NBLT)	R	PH 2 R	Y
	Y	PH 4 Y			Y	PH 2 Y	
	G	PH 4 G			G	PH 2 G	
	~~Y~~	PH 7 Y			~~Y~~	PH 5 Y	
	~~G~~	PH 7 G			~~G~~	PH 5 G	
2 (EB)	R	PH 4 R	R	9,10 (NB)	R	PH 2 R	Y
	Y	PH 4 Y			Y	PH 2 Y	
	G	PH 4 G			G	PH 2 G	
3 (SBLT)	R	PH 6 R	Y	E (EAST)	W	2-W	OUT
	Y	PH 6 Y			DW	2-DW	
	G	PH 6 G		S (SOUTH)	W	4-W	OUT
	~~Y~~	PH 1 Y			DW	4-DW	
	~~G~~	PH 1 G					
4,5 (SB)	R	PH 6 R	Y				
	Y	PH 6 Y					
	G	PH 6 G					
6 (WB LT)	R	PH 8 R	R				
	Y	PH 8 Y					
	G	PH 8 G					
	~~Y~~	PH 3 Y					
	~~G~~	PH 3 G					
7 (WB)	R	PH 8 R	R				
	Y	PH 8 Y					
	G	PH 8 G					

EMERGENCY PREEMPTION INDICATION CHART

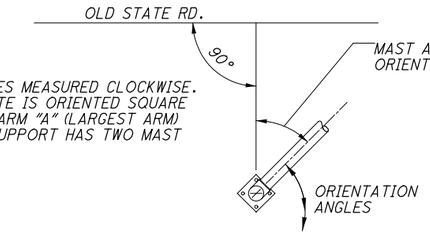
	SIGNAL HEAD NO.									
	1	2	3	4	5	6	7	8	9	10
NORTHBOUND EMERGENCY PREEMPTION	G	G	G	R	R	R	R	R	R	R
EASTBOUND EMERGENCY PREEMPTION	R	R	R	G	G	R	R	R	R	R
SOUTHBOUND EMERGENCY PREEMPTION	R	R	R	R	R	G	G	G	R	R
WESTBOUND EMERGENCY PREEMPTION	R	R	R	R	R	R	R	R	G	G

SIGNAL SUPPORT TYPE TC-81.21								ELEVATION	
MAST ARM	DESIGN NO.	POLE HEIGHT (FT)	ATTACH. HGT (FT)	L (FT)	L1 (FT)	L2 (FT)	L3 (FT)	A	B
A	14	23	18.33	70	42	54	68	932.7	914.7
B	2	23	18.50	32	18	30	N/A	929.8	916.8
E	12	23	18.75	49	25	37	47	931.3	919.3
F	13	23	16.92	60	43	55	N/A	934.3	918.3



PHASING DIAGRAM

NOTES:
A) ALL ANGLES MEASURED CLOCKWISE.
B) BASE PLATE IS ORIENTED SQUARE TO MAST ARM "A" (LARGEST ARM) EVEN IF SUPPORT HAS TWO MAST ARMS.

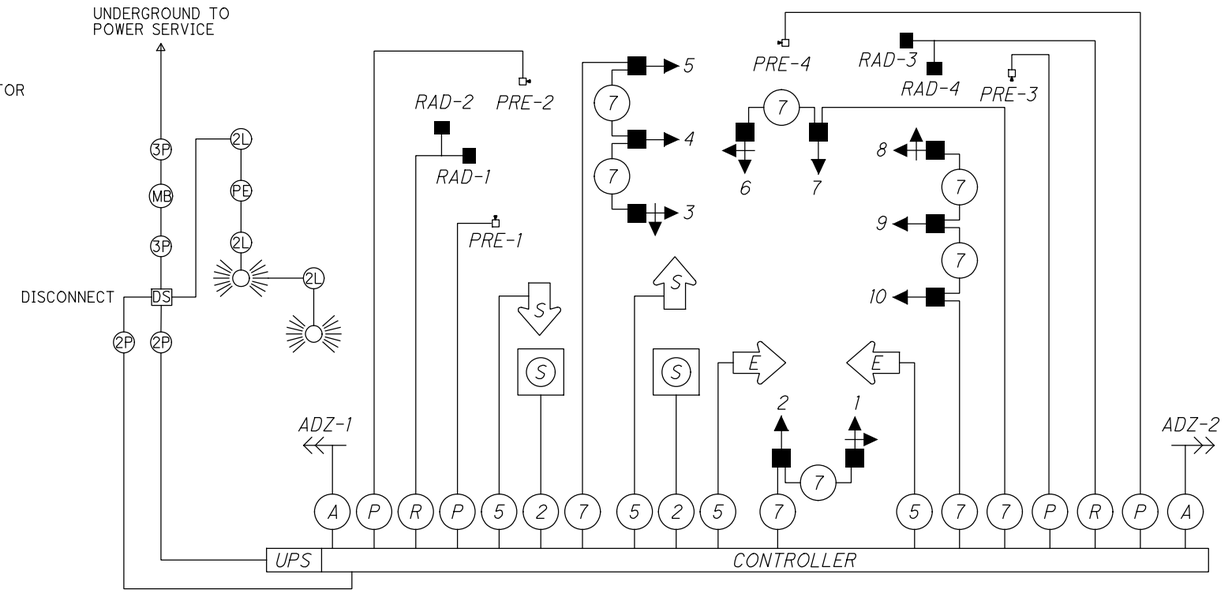


POLE/PEDESTAL/POST	STATION	OFFSET	ORIENTATION ANGLE (DEG.) FROM MAST ARM OR HANDHOLE (PEDESTAL)						
			MAST ARM A ANGLE (DEG.)	PEDESTRIAN SIGNAL	PEDESTRIAN BUTTON	POWER SERVICE	LUMINAIRE BRACKET	HANDHOLE	CABLE ENTRANCE 12" FROM TOP
A	1100+44	73' RT	0	270	N/A	54	0	180	0
B	1099+52	90' RT	90	0	N/A	N/A	N/A	180	0
C	1099+35	59' RT	N/A	180	90	N/A	N/A	0	N/A
D	1099+28	36' LT	N/A	N/A	270	N/A	N/A	0	N/A
E	1099+22	46' LT	0	0	N/A	N/A	0	180	0
F	1100+58	27' LT	90	N/A	N/A	N/A	N/A	180	0

CABINET WIRING DIAGRAM
PROPOSED CABLES ONLY

WIRING DIAGRAM LEGEND

- (2P) 2/C #8 AWG (POWER)
- (3P) 3/C #8 AWG (POWER)
- (DS) DISCONNECT SWITCH
- 120 VOLT, 250 WATT LUMINAIRE
- (2L) 2/C #10 AWG DISTRIBUTION CABLE
- (PE) PHOTOELECTRIC CELL
- (MB) METER BOX
- (2) 2/C #14 AWG.
- (5) 5/C #14 AWG.
- (7) 7/C #14 AWG.
- (A) ADVANCE/DILEMMA ZONE CABLE
- (R) STOP BAR RADAR CABLE
- (P) PREEMPTION CABLE
- ADVANCE/DILEMMA ZONE DETECTOR
- STOP BAR RADAR DETECTOR
- PREEMPTION
- VEHICULAR SIGNAL HEAD 3-SECTION
- VEHICULAR SIGNAL HEAD 5-SECTION
- PEDESTRIAN SIGNAL HEAD
- PEDESTRIAN PUSHBUTTON



CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL DETAILS
S. OLD STATE RD. AT EAST ORANGE RD.

DEL-CR10-0.90

2952-DR.E

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ACTUATED TRAFFIC SIGNAL CONTROLLER TIMING CHART
INTERSECTION: S. OLD STATE AT POWELL
MAINTAINING AGENCY: DELAWARE CO

START UP									
START IN: Y / R FLASH		DUAL ENTRY O							
TIME FOR FLASH OR ALL RED: 120 SEC		REST IN RED: RING 1 O RING 2 O							
FIRST PHASES(S): 2 & 6		OVERLAP				A	B	C	D
COLOR DISPLAYED: X GREEN; O YELLOW		PHASES							
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT		1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)	(SEC)	5	30	5	15	5	30	5	15
ADDED INITIAL	*(SEC/ACTUATION)								
MAXIMUM INITIAL	(SEC)								
PASSAGE TIME (PRESET GAP)	(SEC)		3		3		3		3
TIME BEFORE REDUCTION	(SEC)								
MINIMUM GAP	(SEC)		3		3		3		3
TIME TO REDUCE	(SEC)								
MAXIMUM GREEN I	(SEC)	30	60	30	30	30	60	30	30
MAXIMUN GREEN II	(SEC)								
YELLOW CHANGE	(SEC)	3.6	4.3	3.6	4.3	3.6	4.3	3.6	4.3
ALL RED CLEARANCE	(SEC)	2.5	3.0	3.0	3.0	2.5	3.0	3.0	3.0
WALK	(SEC)		7		7		7		7
PEDESTRIAN CLEARANCE	(SEC)		19		27		16		29
RECALL	MAXIMUM (ON/OFF)	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
	MINIMUM (ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	PEDESTRIAN (ON/OFF)								
MEMORY	(ON/OFF)								
CALL TO NON ACTUATED	NO. 1								
	NO. 2								

PLAN NO.	PLAN (CYCLE-SEC.)	SPLITS (G + Y + AR) IN SECONDS PHASE 1	2	3	4	5	6	7	8	OFFSET FROM PHASE #
1	120	15	45	39	21	15	45	15	45	0
2	120	15	55	17	33	15	55	27	23	0
0	FREE									

* OFFSETS ARE MEASURED FROM REFERENCE PHASE 2, BEGINNING OF YELLOW

(1) TBC PLAN EVENT	(2) HOURS	PLAN NO. (3)
PLAN 1 MON. - FRI.	0700 - 0900	1
FREE MON. - FRI.	0900 - 1500	0
PLAN 2 MON. - FRI.	1500 - 1800	2
FREE MON. - FRI.	1800 - 0700	0
PLAN 3 SAT. - SUN.	ALL	0

ACTUATED TRAFFIC SIGNAL CONTROLLER TIMING CHART
INTERSECTION: S. OLD STATE AT WILSHIRE
MAINTAINING AGENCY: DELAWARE CO

START UP									
START IN: Y / R FLASH		DUAL ENTRY O							
TIME FOR FLASH OR ALL RED: 120 SEC		REST IN RED: RING 1 O RING 2 O							
FIRST PHASES(S): 2 & 6		OVERLAP				A	B	C	D
COLOR DISPLAYED: X GREEN; O YELLOW		PHASES							
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT		1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)	(SEC)	5	30		15	5	30		15
ADDED INITIAL	*(SEC/ACTUATION)								
MAXIMUM INITIAL	(SEC)								
PASSAGE TIME (PRESET GAP)	(SEC)		3		3		3		3
TIME BEFORE REDUCTION	(SEC)								
MINIMUM GAP	(SEC)		3		3		3		3
TIME TO REDUCE	(SEC)								
MAXIMUM GREEN I	(SEC)	30	90		40	30	90		40
MAXIMUN GREEN II	(SEC)								
YELLOW CHANGE	(SEC)	3.6	4.3		4.3	3.6	4.3		4.3
ALL RED CLEARANCE	(SEC)	2.5	1.8		2.0	2.5	1.8		2.0
WALK	(SEC)		7		7		7		7
PEDESTRIAN CLEARANCE	(SEC)		13		16		13		16
RECALL	MAXIMUM (ON/OFF)	OFF	ON		OFF	OFF	ON		OFF
	MINIMUM (ON/OFF)	OFF	OFF		OFF	OFF	OFF		OFF
	PEDESTRIAN (ON/OFF)								
MEMORY	(ON/OFF)								
CALL TO NON ACTUATED	NO. 1								
	NO. 2								

PLAN NO.	PLAN (CYCLE-SEC.)	SPLITS (G + Y + AR) IN SECONDS PHASE 1	2	3	4	5	6	7	8	OFFSET FROM PHASE #
1	120	15	77		28	15	77		28	83
2	120	15	83		22	15	83		22	84
0	FREE									

* OFFSETS ARE MEASURED FROM REFERENCE PHASE 2, BEGINNING OF YELLOW

(1) TBC PLAN EVENT	(2) HOURS	PLAN NO. (3)
PLAN 1 MON. - FRI.	0700 - 0900	1
FREE MON. - FRI.	0900 - 1500	0
PLAN 2 MON. - FRI.	1500 - 1800	2
FREE MON. - FRI.	1800 - 0700	0
PLAN 3 SAT. - SUN.	ALL	0

ACTUATED TRAFFIC SIGNAL CONTROLLER TIMING CHART
INTERSECTION: S. OLD STATE AT ORANGE
MAINTAINING AGENCY: DELAWARE CO

START UP									
START IN: Y / R FLASH		DUAL ENTRY O							
TIME FOR FLASH OR ALL RED: 120 SEC		REST IN RED: RING 1 O RING 2 O							
FIRST PHASES(S): 2 & 6		OVERLAP				A	B	C	D
COLOR DISPLAYED: X GREEN; O YELLOW		PHASES							
INTERVAL OR FEATURE		CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT		1	2	3	4	5	6	7	8
MINIMUM GREEN (INITIAL)	(SEC)	5	30	5	15	5	30	5	15
ADDED INITIAL	*(SEC/ACTUATION)								
MAXIMUM INITIAL	(SEC)								
PASSAGE TIME (PRESET GAP)	(SEC)		3		3		3		3
TIME BEFORE REDUCTION	(SEC)								
MINIMUM GAP	(SEC)		3		3		3		3
TIME TO REDUCE	(SEC)								
MAXIMUM GREEN I	(SEC)	30	90	30	40	40	90	30	40
MAXIMUN GREEN II	(SEC)								
YELLOW CHANGE	(SEC)	3.6	4.3	3.6	4.3	3.6	4.3	3.6	4.3
ALL RED CLEARANCE	(SEC)	3.0	1.7	3.0	2.3	3.0	1.7	3.0	2.3
WALK	(SEC)		7		7				
PEDESTRIAN CLEARANCE	(SEC)		14		20				
RECALL	MAXIMUM (ON/OFF)	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
	MINIMUM (ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
	PEDESTRIAN (ON/OFF)								
MEMORY	(ON/OFF)								
CALL TO NON ACTUATED	NO. 1								
	NO. 2								

PLAN NO.	PLAN (CYCLE-SEC.)	SPLITS (G + Y + AR) IN SECONDS PHASE 1	2	3	4	5	6	7	8	OFFSET FROM PHASE #
1	120	15	69	18	18	15	69	15	21	69
2	120	15	61	15	29	28	48	15	29	58
0	FREE									

* OFFSETS ARE MEASURED FROM REFERENCE PHASE 2, BEGINNING OF YELLOW

(1) TBC PLAN EVENT	(2) HOURS	PLAN NO. (3)
PLAN 1 MON. - FRI.	0700 - 0900	1
FREE MON. - FRI.	0900 - 1500	0
PLAN 2 MON. - FRI.	1500 - 1800	2
FREE MON. - FRI.	1800 - 0700	0
PLAN 3 SAT. - SUN.	ALL	0

CALCULATED AJB
CHECKED VMF

TRAFFIC SIGNAL DETAILS
SIGNAL TIMING AND COORDINATION-S. OLD STATE RD.

DEL-CR10-0.90

2952-DR.E

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RETAINING WALL, MISC., MODULAR BLOCK

THIS WORK CONSISTS OF CONSTRUCTING RETAINING WALLS COMPOSED OF A SERIES OF CELLS FORMED BY ASSEMBLING PRECAST REINFORCED CONCRETE UNITS TO FORM STABLE WALLS.

CONCRETE CELLULAR WALLS CONSIST OF A SERIES OF RECTANGULAR OR TRIANGULAR CELLS FORMED BY BUILDING UP TIERS OF PRECAST REINFORCED CONCRETE UNITS.

SUBMIT TO THE ENGINEER FOR ACCEPTANCE, 30 DAYS BEFORE THE WORK IS TO BEGIN, DRAWINGS OF THE UNITS TO BE FURNISHED. ONLY SUBMIT INFORMATION FOR WALLS PRODUCED BY MANUFACTURERS WHOSE TYPE OF WALL, AND DESIGN OF UNITS COMPRISING SAME, HAS BEEN IN SUCCESSFUL COMMERCIAL USE FOR A PERIOD OF AT LEAST 3 YEARS.

FURNISH MANUFACTURED UNITS CONFORMING TO:

USE CONCRETE CONFORMING TO ITEM 499, CLASS C.
USE REINFORCING STEEL CONFORMING TO 509.02.

CAST CONCRETE CELLULAR WALL UNITS IN SUBSTANTIAL, UNYIELDING STEEL FORMS. PROPERLY ASSEMBLE, CLEAN, AND OIL THE FORMS BEFORE PLACING CONCRETE IN THE FORMS. DURING THE PLACING AND SETTING OF THE CONCRETE, HOLD THE FORMS RIGIDLY IN PLACE ON A SMOOTH AND LEVEL PLATFORM.

SECURE THE REINFORCEMENT TO ENSURE THAT IT REMAINS IN THE REQUIRED POSITION WHILE PLACING CONCRETE.

VIBRATE THE FRESH CONCRETE TO FILL ALL SPACE IN THE FORM WITH CONCRETE, TO DENSIFY THE CONCRETE, AND TO SURROUND THE REINFORCEMENT. REJECT UNITS WITH SEGREGATED AREAS.

CURE THE UNITS BY COVERING WITH BURLAP, THAT IS KEPT WET AT LEAST 7 DAYS OR BY APPLYING STEAM FOR AT LEAST 24 HOURS.

THE ENGINEER WILL REJECT REINFORCED CONCRETE UNITS FOR ANY OF THE FOLLOWING REASONS:

1. EXPOSURE OF THE REINFORCING.

2. DEFECTS THAT INDICATE IMPERFECT MIXING, PLACING, OR CURING.

3. FRACTURES AND CRACKS.

EXCAVATION

EXCAVATE ACCORDING TO ITEM 203. OBTAIN THE ENGINEER'S APPROVAL THAT THE BEARING FOR THE FOUNDATION OF THE WALLS IS FIRM AND TO THE PROPER ELEVATION BEFORE ERECTING THE WALL.

BACKFILL

BELOW THE ELEVATION OF THE PROPOSED GROUND LINE AT THE FACE OF THE WALL, FILL THE CELLS FORMED BY THE UNITS WITH SOIL AS DEFINED IN 203.02.R. ABOVE THE ELEVATION OF THE PROPOSED GROUND LINE AT THE FACE OF THE WALL, FILL THE CELLS WITH MATERIAL CONFORMING TO 203 GRANULAR MATERIAL TYPE B, EXCEPT THAT THE PERCENT PASSING THE NO. 200 SIEVE SHALL NOT EXCEED FIVE PERCENT (5%).

PLACE THE MATERIAL IN LAYERS THAT COMPACT TO A DEPTH NOT TO EXCEED 6 INCHES. COMPACT THE MATERIAL TO THE DENSITY ESTABLISHED BY THE ENGINEER USING APPROVED TAMPERS OR COMPACTORS. ADD WATER AS DIRECTED BY THE ENGINEER.

FILL THE SPACE BEHIND THE WALL ACCORDING TO 503.08, EXCEPT AS NOTED BELOW.

BACKFILL AROUND THE WALL AND IN THE INTERIOR CELLS, CONCURRENT WITH WALL ERECTION AND AS CLOSE TO THE WALL ELEVATION AS ALLOWED BY THE TYPE OF CONSTRUCTION.

DO NOT USE ROLLING EQUIPMENT DIRECTLY OVER A PORTION OF THE WALL UNTIL PLACING AT LEAST 12 INCHES (0.3 M) OF COMPACTED FILL.

WALL CONSTRUCTION

CONSTRUCT THE WALL AS FOLLOWS:

PLACE SILLS TO THE REQUIRED GRADE AND ALIGNMENT, AND SUPPORT THE ENTIRE SILL LENGTH ON THE FOUNDATION MATERIAL. DO NOT SHIM THE SILL.

PLACE AND INTERLOCK THE HEADERS PERPENDICULAR TO THE SILLS AND STRETCHES. USE TEMPLATES TO ENSURE THAT MEMBERS ARE PLACED IN THE PROPER POSITION AND WITH THE PROPER FACE BATTER.

BEFORE PLACING SILLS, SPREAD TWO LAYERS OF ASPHALT IMPREGNATED PAPER ON ALL POINTS OF CONTACT BETWEEN THE SILLS AND THE FOUNDATION MATERIAL TO ENSURE A UNIFORM BEDDING.

AFTER CONSTRUCTING TWO TIERS OF THE WALL, CHECK AND, IF NECESSARY, ADJUST THE ALIGNMENT, GRADE, AND BATTER OF THE UNITS, AND BACKFILL TO THIS HEIGHT BEFORE ADDING SUBSEQUENT UNITS. COMPLETE THE REMAINDER OF THE WALL.

THE FOLLOWING COLORS ARE ACCEPTABLE FOR THE RETAINING WALL:

FS - 595-23722 - SAND
FS - 595 23594 - BEIGE
FS - 595 30277 SAND BROWN
FS - 595 26270 MEDIUM GRAY

THE DEPARTMENT WILL PAY FOR ITEM 610 RETAINING WALL, MISC., COMPLETE IN PLACE AT THE CONTRACT PRICE BID FOR:

610 RETAINING WALL, MISC., MODULAR BLOCK 534 SQ FT

CALCULATED AWF
CHECKED PHF

RETAINING WALL GENERAL NOTES

2952-DR.E

DEL-CR10-0.90

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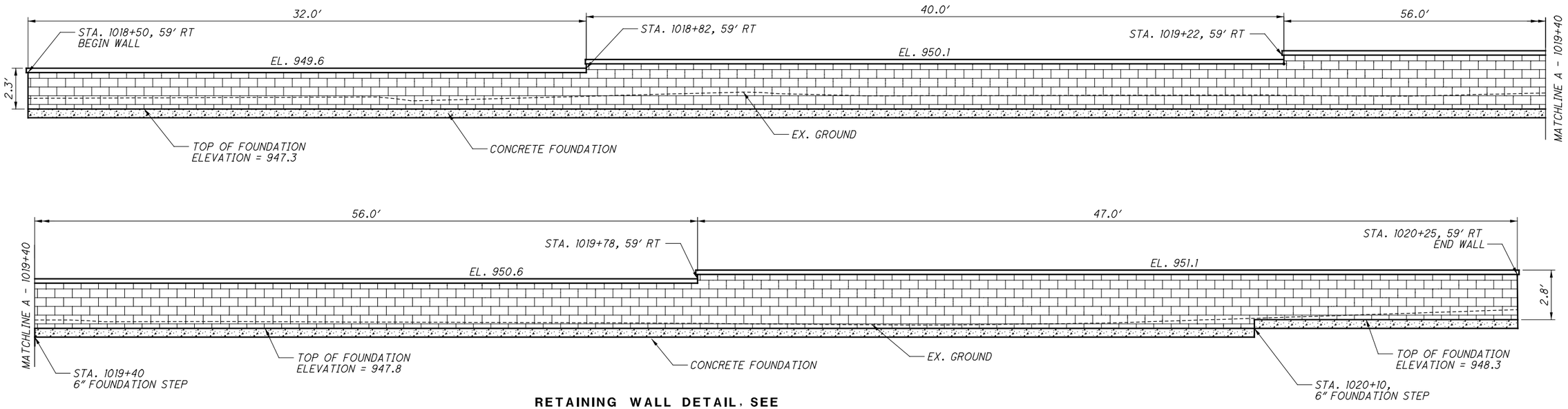
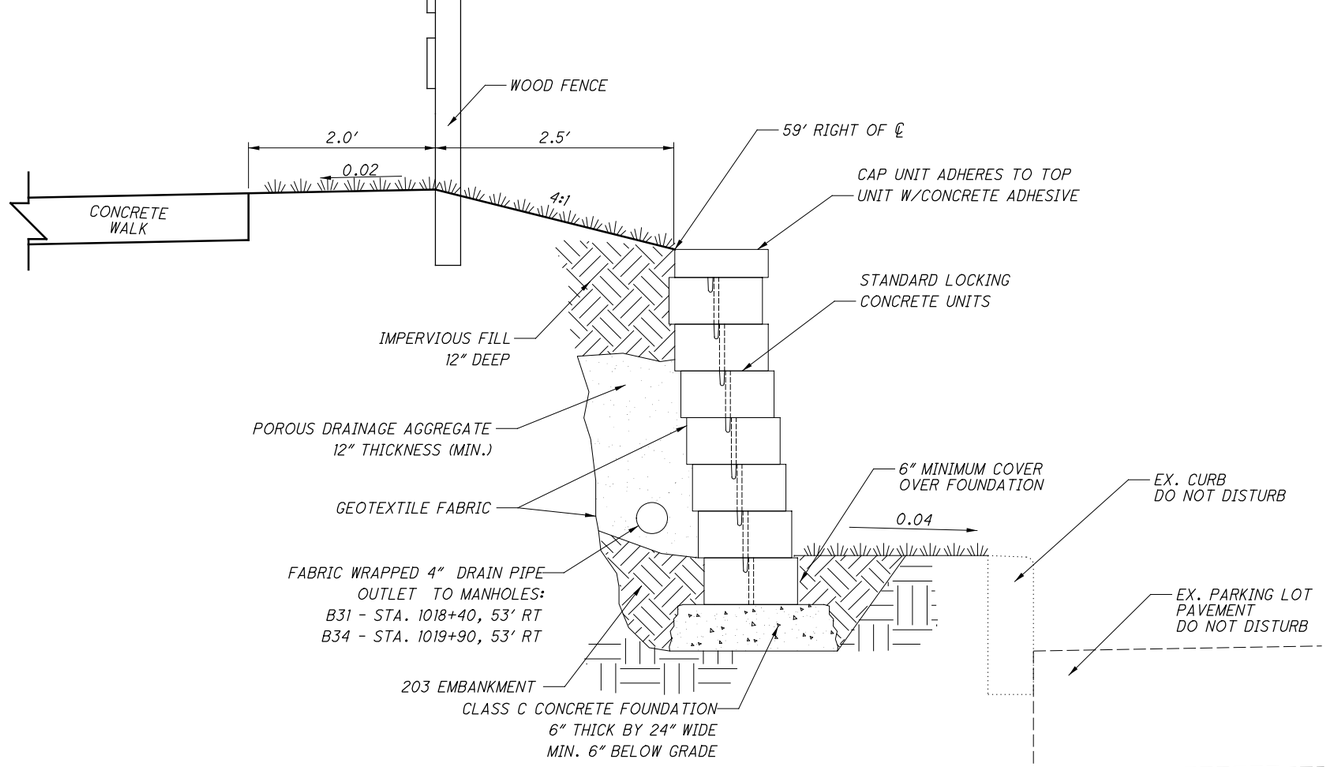
437



RETAINING WALL DETAIL, SEE CROSS SECTION SHEETS 169 AND 170 STA. 1018+50 TO 1020+25



TYPICAL SECTION - RETAINING WALL, MISC., MODULAR BLOCK

SCALE: NONE

CALCULATED AWF
CHECKED DRC

RETAINING WALL DETAILS

2952-DR.E

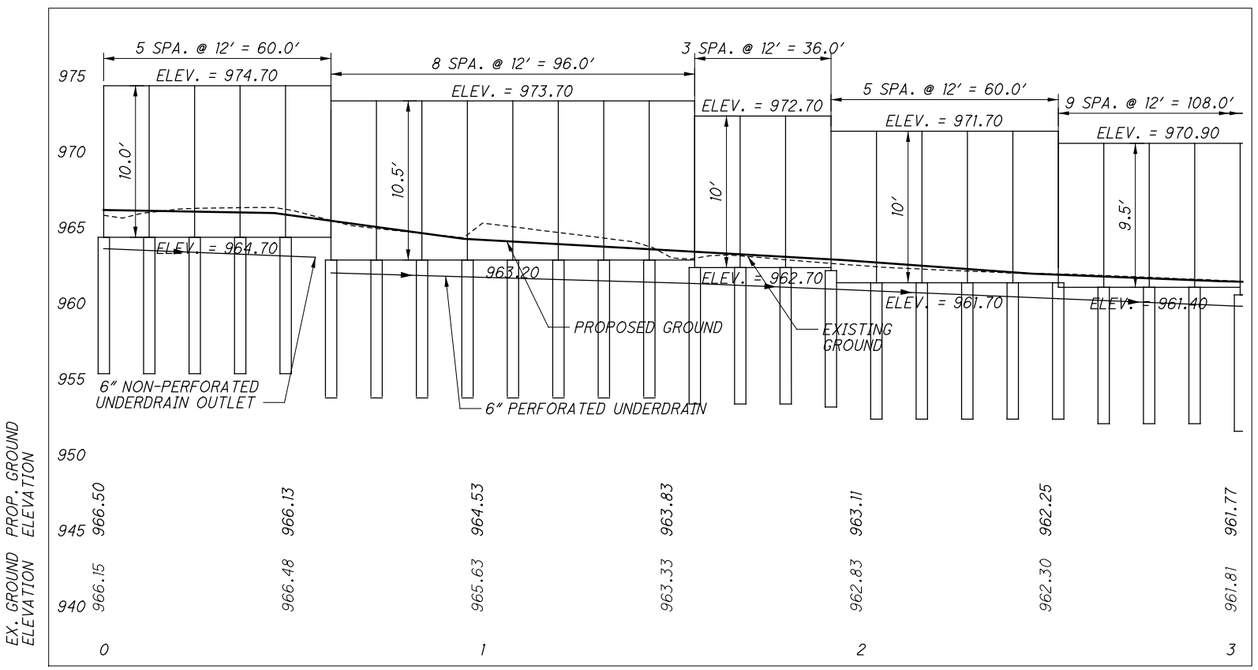
DEL-CR10-0.90

℄ STA. 1072+55.3, 88.4' LT.
℄ STA. 0+00.00
BEGIN NOISE BARRIER

℄ STA. 1072+03.3, 88.4' LT.
℄ STA. 0+48.00
DEFLECT WALL 5° 30'

℄ STA. 1075+94.5, 70.2' LT.
℄ STA. 2+40.00
DEFLECT WALL 5° 30'

CONSTRUCTION LIMIT
NOISE WALL
N 3° 10' 25" E
N 8° 49' 09" E
MATCH LINE STA. 3+00
10' SHARED-USE PATH
℄ CONSTRUCTION S. OLD STATE RD. (CR 10)
N 3° 10' 25" E
90°03"
96°53'54"
103°32'57"
89°42'53"
B-17
12" CMP STM
12" CPP STM
12" RCP STM
5' CONCRETE WALK
CONSTRUCTION LIMIT
+39.24 ASPH. RES. DRIVE
+97.54 ASPH. RES. DRIVE
+09.35 ASPH. RES. DRIVE
+71.43 ASPH. RES. DRIVE
1072
1073
1074
1075
1076
1072+00
1073+00
1074+00
1075+00
1076+00



NOISE BARRIER - PLAN AND ELEVATION
BASELINE STA. 0+00 TO STA. 3+00

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED DWB

2952-DR.E

DEL-CR10-0.90

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437

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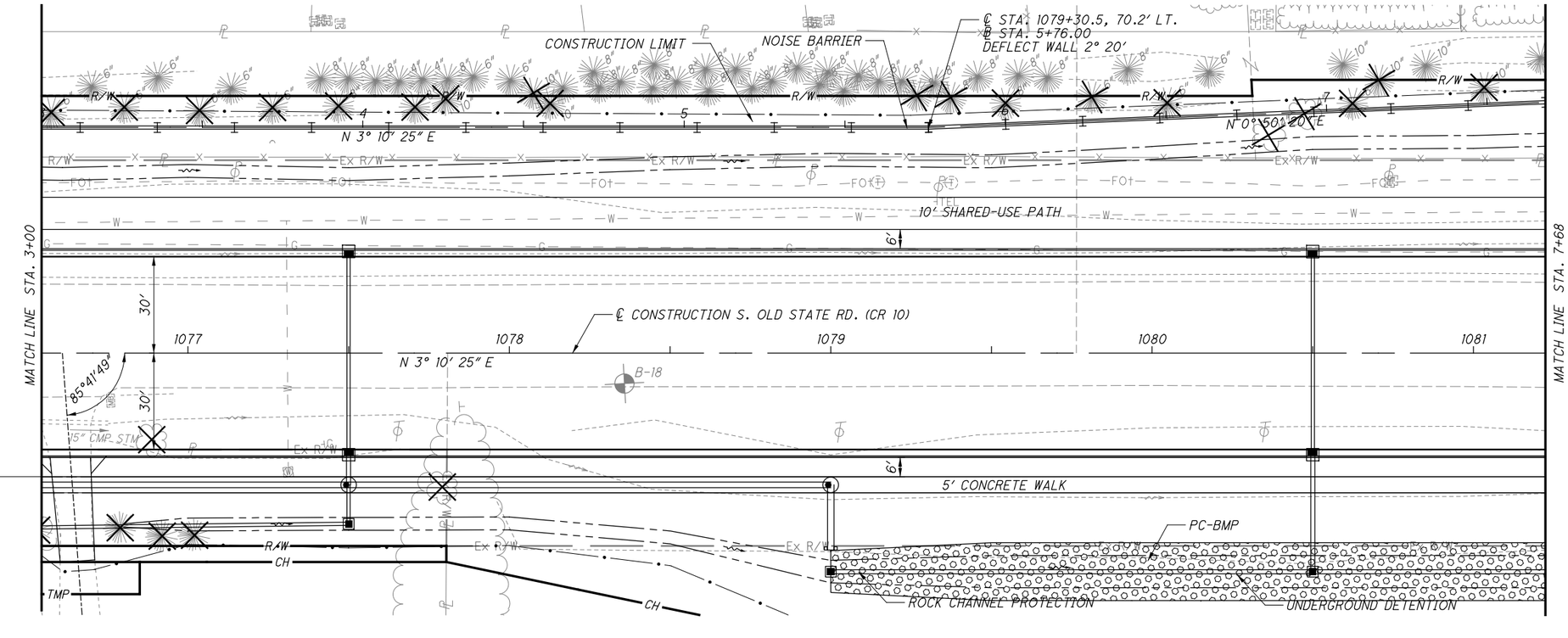
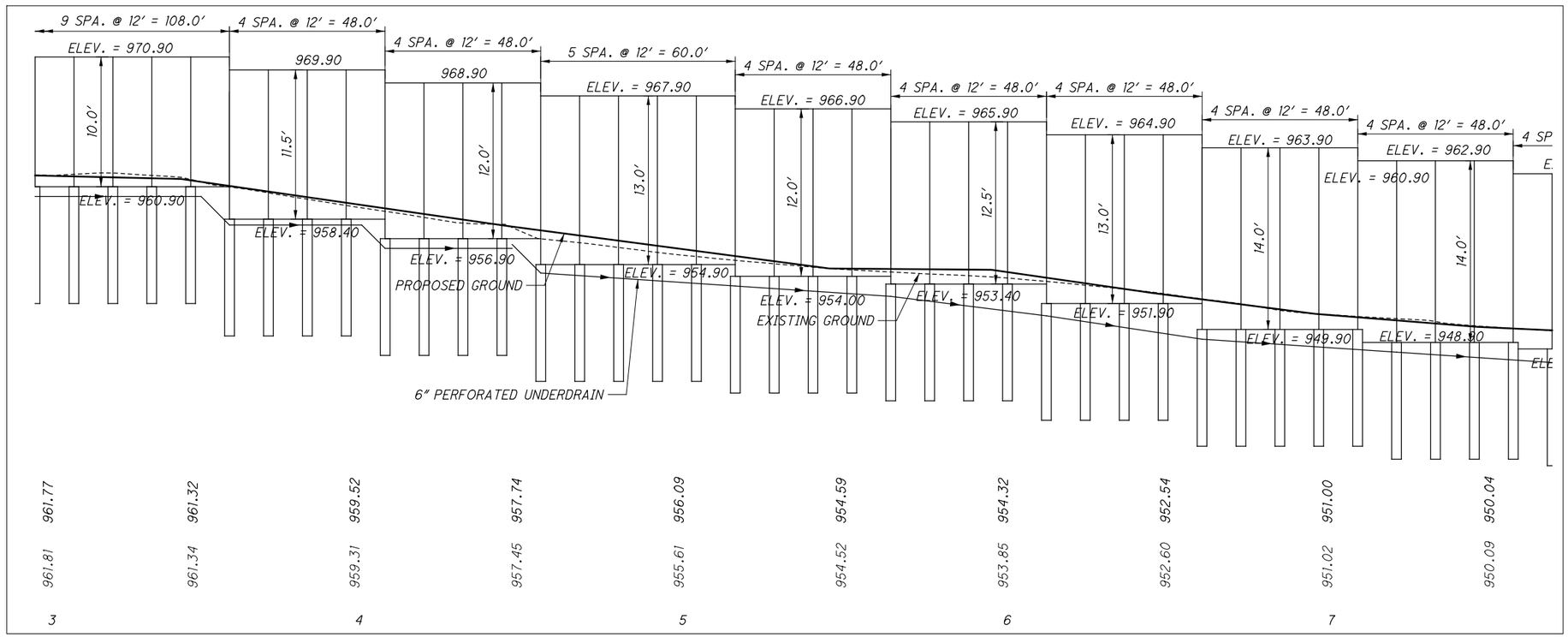




HORIZONTAL SCALE IN FEET
0 10 20 40

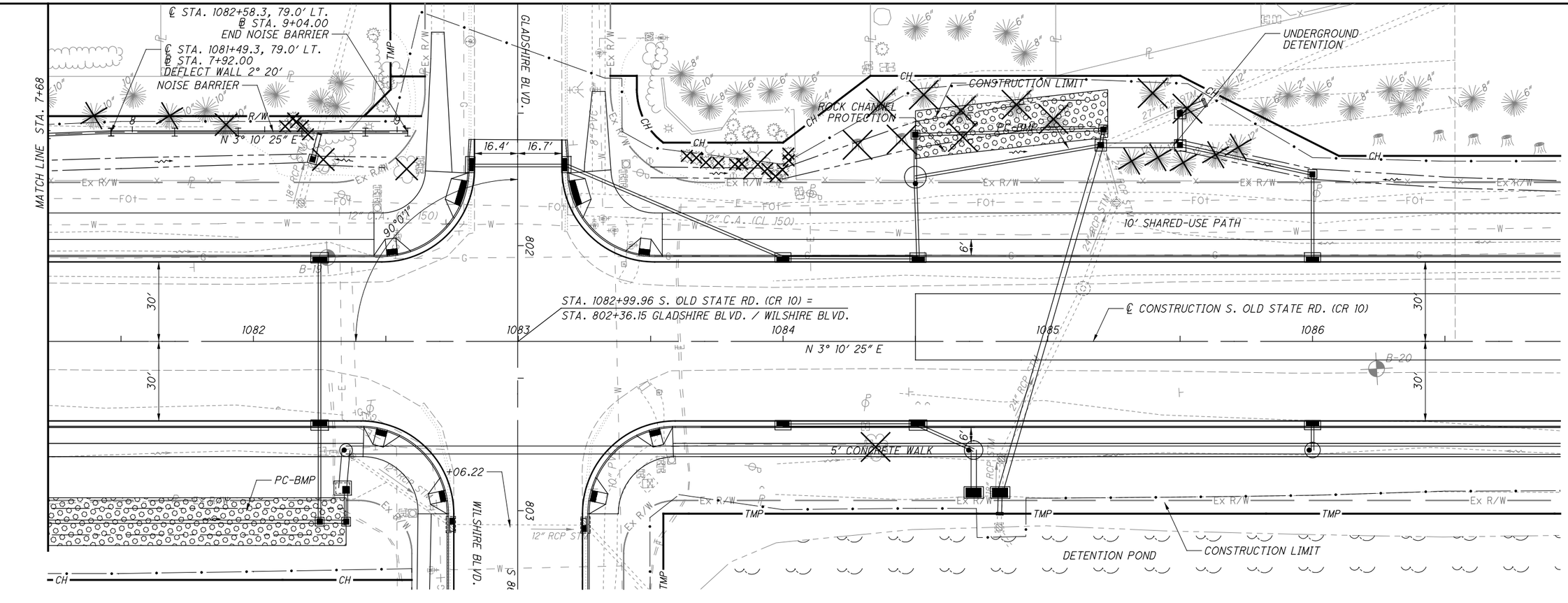
CALCULATED AWF
CHECKED DWB

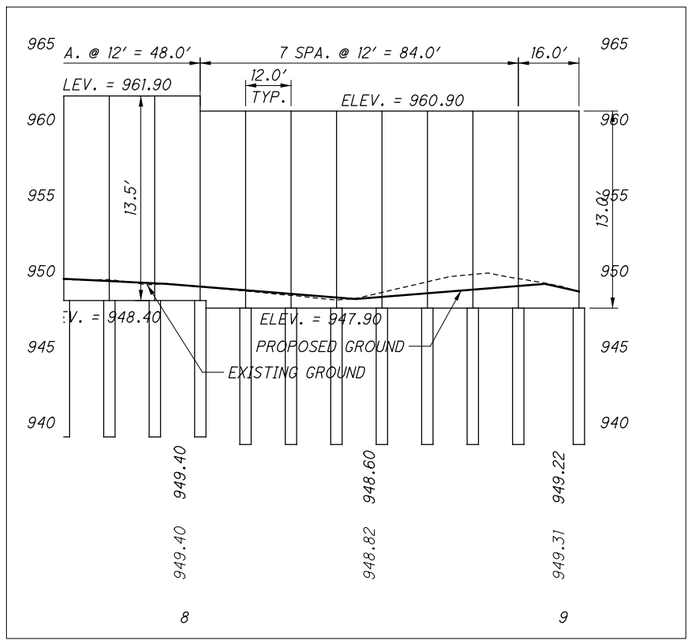
NOISE BARRIER - PLAN AND ELEVATION
BASELINE STA. 3+00 TO STA. 7+68

2952-DR.E

DEL-CR10-0.90

351
437





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HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED AWF
CHECKED DWB

NOISE BARRIER - PLAN AND ELEVATION
BASELINE STA. 7+68 TO STA. 9+04

2952-DR.E

DEL-CR10-0.90

352
437

ITEM SPECIAL - NOISE BARRIERS
GENERAL

1. DESCRIPTION:
THIS WORK CONSISTS OF PREPARING ANY NECESSARY SHOP DRAWINGS, AND MANUFACTURING, TESTING, TRANSPORTING, STORING, AND INSTALLING NOISE BARRIERS; FURNISHING AND INSTALLING DRILLED SHAFTS; EXCAVATING AND BACKFILLING; AND RESTORING THE WORK AREA IN ACCORDANCE WITH THESE PROVISIONS AND IN CONFORMITY WITH THE DIMENSIONS, LINES AND GRADES SHOWN ON THE PROJECT PLANS.

2. DESIGN SPECIFICATIONS:
ODOT BRIDGE DESIGN MANUAL, 2007
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 4TH EDITION, 2007
AASHTO "GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS", 1989, INCLUDING THE 1992 AND 2002 INTERIMS
PCI DESIGN HANDBOOK, FIFTH EDITION
ACI STANDARD 318-05, APPENDIX D

3. CONSTRUCTION SPECIFICATIONS AND WORKMANSHIP:
PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE CURRENT VERSION OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THESE STANDARD DRAWINGS.

4. DESIGN LOADS:
WIND LOAD:
APPLIED WIND LOAD ON POSTS IS 25 PSF (14' < BH < 25'),
AND 20 PSF (0' < BH < 14')
APPLIED WIND LOAD ON ALL PANELS IS 25 PSF
THE WIND LOAD IS BASED ON AN 80 MPH BASE WIND VELOCITY.
WIND LOAD IS FROM TABLE 1-2.1.2C OF THE AASHTO GUIDE SPECIFICATIONS FOR STRUCTURAL DESIGN OF SOUND BARRIERS.
ICE LOAD:
APPLIED ICE LOAD IS 3 INCHES AT 57.3 PCF = 14.32 PSF

5. DESIGN LOAD CASES:
"STRENGTH III" LOAD CASE
=1.25*(DEAD LOAD) + 1.40*(WIND LOAD)

"EXTREME EVENT II" LOAD CASE
=1.25*(DEAD LOAD) + 1.00*(ICE LOAD)

"SERVICE I" LOAD CASE
=1.00*(DEAD LOAD) + 0.30*(WIND LOAD)

PCI STRIPPING LOAD CASE
=1.4*(DEAD LOAD) - FOR PANELS
=1.3*(DEAD LOAD) - FOR POSTS

PCI TRANSPORTING LOAD CASE
=1.5*(DEAD LOAD)

6. MATERIAL SPECIFICATIONS:

REINFORCING STEEL:
REINFORCING STEEL SHALL BE EPOXY-COATED AS PER CMS 709.00 OR GALVANIZED AS PER CMS 709.16
REINFORCING STEEL SHALL CONFORM TO CMS 709.01, GRADE 60
WELDED WIRE FABRIC SHALL CONFORM TO CMS 709.10 OR 709.12 AND SHALL BE EPOXY-COATED PER CMS 709.14 OR GALVANIZED AFTER AFTER FABRICATION PER ASTM A1060.

CONCRETE:
COMPRESSIVE STRENGTH = 5,000 PSI (PANELS AND POSTS)
COMPRESSIVE STRENGTH AT STRIPPING = 3,100 PSI (PANELS AND POSTS)
CONCRETE CLASS S (MODIFIED) = 4,000 PSI (DRILLED SHAFTS)
CONCRETE SHALL CONFORM TO CMS 499 AND 511, EXCEPT FOR DRILLED SHAFT CONCRETE WHICH SHALL CONFORM TO CMS 524.
THE CONCRETE MIX DESIGN FOR PANELS SHALL CONTAIN A WATER REPELLANT ADMIXTURE AND 15% BY WEIGHT FLY ASH OR 15-30% GROUND GRANULATED BLAST FURNACE SLAG (GGBF).

STRUCTURAL STEEL: ASTM A709, GRADE 50 AS PER CMS 711.01

FASTENERS:
ANCHOR BOLTS SHALL BE ASTM F1554, GRADE 105
THREADED RODS SHALL BE DEFORMED, ONE-END THREADED, ASTM A615, GRADE 60
NUTS SHALL BE ASTM A563, GRADE DH
WASHERS SHALL BE ASTM F436

GALVANIZING: GALVANIZE ALL STRUCTURAL STEEL, BASE PLATES, ANCHOR BOLTS, THREADED RODS, NUTS, AND WASHERS AS PER CMS 711.02. ENSURE THAT THE ENTIRE LENGTH OF ANCHOR BOLTS AND THREADED RODS ARE GALVANIZED.

FOAM BACKER ROD:
THE BACKER ROD SHALL BE AN EXPANDED, CLOSED CELL POLYETHYLENE FOAM. THE BACKER ROD DIAMETER WILL BE AS SHOWN ON SHEET 6/13. OTHER BACKUP MATERIALS (PAPER, ROPE AND OPEN CELL FOAM) ARE NOT ACCEPTABLE. FURNISH FOAM BACKER ROD MEETING ASTM D1174.

SOUND ABSORPTIVE MATERIAL:
THE SOUND ABSORPTIVE MATERIAL SHALL BE INTEGRAL WITH THE PRECAST CONCRETE PANELS. SELECT A PREAPPROVED SOUND ABSORPTIVE MATERIAL FROM THE LIST BELOW OR EQUAL AS APPROVED BY THE ODOT OFFICE OF ENVIRONMENTAL SERVICES. FOR APPROVED EQUAL CONSIDERATION, PROVIDE CERTIFIED LABORATORY TEST DATA DOCUMENTING THE ACOUSTICAL, FREEZE THAW, FIRE RATING AND SALT SCALING REQUIREMENTS LISTED BELOW. ALSO PROVIDE DOCUMENTATION OF A MINIMUM 10-YEAR PERFORMANCE HISTORY OF NO DETERIORATION OR DELAMINATING FOR ALL NON-PREAPPROVED MATERIALS.

ACOUSTICAL: ASTM E90 AND ASTM E413
MINIMUM STC (SOUND TRANSMISSION CLASS) = 30
ASTM C423 AND ASTM E795
MINIMUM NRC (NOISE REDUCTION COEFFICIENT) = 0.70
FREEZE THAW: ASTM C666 PROCEDURE A
MAXIMUM MASS LOSS = 5% @ 300 CYCLES
FIRE RATING: ASTM E84 CLASS A FLAME SPREAD RATING
SALT SCALING: ASTM C672 VISUAL RATING = 0 AFTER 5 CYCLES; 1 AFTER 25 CYCLES; AND 2.5 AFTER 50 CYCLES

PREAPPROVED SOUND ABSORPTIVE MATERIALS:

A. ACOUSTACRETE
FADDIS CONCRETE PRODUCTS
3515 KINGS HWY.
DOWNINGTOWN, PA 19335

B. DURISOL
DURISOL INC.
67 FRID STREET
HAMILTON, ONTARIO
CANADA, L8P 4M3

C. WHISPER-WALL
CONCRETE INNOVATIONS SERVICES
4215 LAFAYETTE CENTER DRIVE, SUITE 1-A
CHANTILLY, VIRGINIA 20151

PROVIDE THE ENGINEER A LETTER FROM THE SOUND ABSORPTIVE MATERIAL SUPPLIER CERTIFYING THAT THE PANEL MANUFACTURER'S STRUCTURAL CONCRETE MIX DESIGN AND COMPOSITE PANEL PRODUCTION PROCESS ARE COMPATIBLE WITH THE SOUND ABSORPTIVE MATERIAL TO PREVENT DELAMINATION AT THE STRUCTURAL CONCRETE/ABSORPTIVE MATERIAL INTERFACE.

7. NOISE BARRIER HEIGHTS SHALL EQUAL OR EXCEED THE ACOUSTIC PROFILE.

8. PANEL HEIGHTS:
PANEL HEIGHTS PROVIDED IN THIS STANDARD RANGE FROM 2'-0" TO 8'-0" INCLUSIVE, IN 1'-0" INCREMENTS. PROVIDE STACKED PANELS TO A MAXIMUM BARRIER HEIGHT OF 25'-0". THE MINIMUM BOTTOM PANEL HEIGHT SHALL BE 4'-0".

9. POST SPACINGS:
POST SPACINGS PROVIDED IN THIS STANDARD RANGE FROM 8'-0" MIN. TO 24'-0" MAX.

10. HORIZONTAL PANEL JOINTS:
MINIMIZE THE NUMBER OF PANEL JOINTS
PROVIDE UNIFORM STEPS
IF STEPS ARE REQUIRED, THE ELEVATION DIFFERENCE BETWEEN ADJACENT PANELS IS NOT PERMITTED TO BE LESS THAN 3" OR GREATER THAN 1'-0", EXCEPT AT ANGLE BREAKS GREATER THAN 30°.

11. SHOP DRAWINGS:
PROVIDE SHOP DRAWINGS FOR ALL NOISE WALL COMPONENTS THAT REQUIRE SHOP FABRICATION. INCLUDE THE FABRICATION SCHEDULE FOR ALL NOISE BARRIER WALL COMPONENTS IN THE PROJECT PROGRESS SCHEDULE AS REQUIRED BY C&MS 108.02.

AT LEAST 30 DAYS BEFORE FABRICATION BEGINS, SUBMIT AN ELECTRONIC COPY OF THE PREPARED SHOP DRAWINGS FOR DEPARTMENT REVIEW IN ACCORDANCE WITH C&MS 105.02. THE SHOP DRAWINGS SHALL BE SIGNED, SEALED AND DATED BY AN OHIO REGISTERED ENGINEER. ALL MODIFICATIONS TO THE STRUCTURAL DESIGN OF THE PANELS, POSTS, BASE PLATES OR ANCHORAGES PROVIDED BY THIS STANDARD DRAWING SHALL BE CLEARLY NOTED ON THE SHOP DRAWINGS AND BE ACCOMPANIED WITH SUPPORTING CALCULATIONS STAMPED BY TWO OHIO REGISTERED ENGINEERS. DEPARTMENT ACCEPTANCE OF THE SHOP DRAWINGS AND SUPPORTING CALCULATIONS DOES NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS AND OMISSIONS FOUND AFTER ACCEPTANCE OF THE SUBMITTAL.

THE CONTRACTOR SHALL PROVIDE AN ELECTRONINC COPY OF A WRITTEN ACCEPTANCE LETTER THAT DOCUMENTS ACCEPTANCE OF THE SHOP DRAWINGS INCLUDING CONFIRMATION OF FIELD VERIFICATION, AS REQUIRED, AND DESCRIPTIONS OF ISSUES RESOLVED BETWEEN THE CONTRACTOR, THE FABRICATOR AND THE DEPARTMENT. BY ACCEPTING THESE DRAWINGS, THE CONTRACTOR REPRESENTS TO THE DEPARTMENT THAT ALL DIMENSIONS AND ELEVATIONS OF CONDITIONS SHOWN ON THE PLANS HAVE BEEN FIELD MEASURED AND VERIFIED, AND THAT THESE SHOP DRAWINGS COMPLY WITH ALL THE MATERIALS REQUIREMENTS, CONSTRUCTION REQUIREMENTS AND CONTRACT REQUIREMENTS. THE CONTRACTOR FURTHER REPRESENTS THAT THESE DRAWINGS HAVE BEEN COORDINATED AND VERIFIED WITH THE DETAILS OF THE WORK TO BE PERFORMED BY OTHER FABRICATORS AND ENTITIES ON THE PROJECT. DELAYS TO THE CONTRACTOR FOR INCORRECT FABRICATION AS A RESULT OF FAILURE TO COORDINATE OR PERFORM THIS ACCEPTANCE ARE NON-EXCUSABLE ACCORDING TO C&MS 108.06.E.

IDENTIFY AND DATE ALL REVISIONS ON RESUBMITTED SHOP DRAWINGS THAT RESOLVE "ACCEPTED AS NOTED" OR "NOT ACCEPTED" DRAWINGS. DELAYS RESULTING FROM "ACCEPTED AS NOTED" OR "NOT ACCEPTED" DRAWINGS ARE NON-EXCUSABLE ACCORDING TO C&MS 108.06.E.

ALL ELECTRONIC DOCUMENTS SHALL BE IN PORTABLE DOCUMENT FORMAT (PDF). SHOP DRAWINGS SHALL BE SUBMITTED IN 11" X 17" SHEET SIZE AND ACCEPTANCE LETTERS SHALL BE SUBMITTED IN 8 1/2" X 11" SHEET SIZE.

12. CONCRETE NOISE BARRIER PANELS AND POSTS:
EVERY PRODUCER OF PRECAST CONCRETE NOISE BARRIER COMPONENTS SUPPLIED TO THE PROJECT SHALL BE CERTIFIED IN ACCORDANCE WITH SUPPLEMENT 1073. THE DEPARTMENT WILL NOT ACCEPT PRECAST COMPONENTS FROM NON-CERTIFIED PLANTS. THE CONCRETE SUPPLIED FOR CONCRETE POSTS AND PANELS SHALL MEET THE REQUIREMENTS SPECIFIED ABOVE UNDER SECTION 6, MATERIAL SPECIFICATIONS.

NOISE BARRIERS REQUIRE A REINFORCED INTEGRAL CAP ON THE TOP OF THE TOP PANELS AND EITHER INTEGRAL OR NON-INTEGRAL REINFORCED CONCRETE CAP ON TOP OF THE POSTS. FOR GENERAL DIMENSION REQUIREMENTS REFER TO DETAIL "A" ON SHEET 6/13 FOR PANEL CAPS AND DETAILS "C" & "D" ON SHEET 7/13 FOR POST CAPS. CAPS SHALL NOT BE CAST WITH SOUND ABSORPTIVE MATERIAL.

THE NOISE BARRIER PANELS SHALL BE CAST WITH AN ASHLAR STONE PATTERN FORM LINER ON BOTH FACES IF NOT OTHERWISE SHOWN IN THE PLANS. OTHER FORM LINERS OR ARCHITECTURAL SURFACE TREATMENTS MAY BE USED UPON THE ACCEPTANCE OF THE DISTRICT AESTHETIC COORDINATOR.

SEAL THE CONCRETE NOISE BARRIER PANELS AND POSTS WITH AN APPROVED COATING FROM A SUPPLIER LISTED IN THE NOISE BARRIER SEALER SPECIFICIATION ON SHEET 3/13. COAT ALL SURFACES OF THE PANELS, POSTS, AND CAPS; APPLY THE SEALER/COATING AT THE FABRICATION PLANT. FURNISH THE SEALER/COATING MATERIAL FROM A SINGLE SUPPLIER FOR AN ENTIRE PROJECT. THE SEALER/COATING COLOR(S) SHALL BE AS NOTED IN THE PROJECT PLANS.

FOR AESTHETIC PURPOSES, HORIZONTAL JOINT LINES BETWEEN PANELS SHALL MATCH FOR A MINIMUM DISTANCE OF 96 FEET, EXCEPT AT ANGLE BREAKS GREATER THAN 30°.

REMOVE LEACHING OR EFFLORESCENCE THAT OCCURS PRIOR TO FINAL ACCEPTANCE OF THE ENTIRE PROJECT AND RESEAL THE AREA AT NO EXPENSE TO THE DEPARTMENT. THIS SHALL ALSO APPLY IN AREAS WHERE A PARTIAL ACCEPTANCE OF THE COMPLETED WALLS MAY HAVE BEEN GRANTED.

13. BEARING PADS:
ALL BOTTOM NOISE BARRIER PANELS REQUIRE A NEOPRENE PREFORMED BEARING PAD BETWEEN THE BOTTOM OF THE NOISE PANEL AND THE BEARING SURFACE. THE BEARING PADS SHALL BE A MINIMUM 1/8" THICK AND COVER A MINIMUM OF 25 SQUARE INCHES. THE BEARING PADS SHALL CONFORM TO ODOT CMS SECTION 711.21, PREFORMED BEARING PADS. USE A MAXIMUM OF 2 BEARING PADS AT EACH END OF THE PANEL.

14. DRILLED SHAFTS:
THE NOISE BARRIER POSTS SHALL BE SUPPORTED BY 30" DIAMETER DRILLED SHAFT FOUNDATIONS UNLESS ANOTHER DRILLED SHAFT SIZE OR FOUNDATION TYPE IS APPROVED BY THE OFFICE OF STRUCTURAL ENGINEERING IN ORDER TO ACCOMMODATE POOR SOIL CONDITIONS AND/OR AVOID CONFLICTS WITH UTILITIES, DRAINAGE FACILITES, MSE WALL COMPONENTS, OR SOME OTHER OBSTRUCTION.

CONSTRUCT DRILLED SHAFTS ACCORDING TO C&MS ITEM 524.

THE CENTER OF DRILLED SHAFTS FOR TYPE C, D AND E POSTS ARE OFFSET FROM THE CENTERLINE OF NOISE BARRIER ALIGNMENT. REFER TO SHEETS 8 & 9 OF 13.

15. NOISE BARRIER FOUNDATION IN BEDROCK:
IN AREAS WHERE BEDROCK IS UNEXPECTEDLY ENCOUNTERED, THE DRILLED SHAFT LENGTH MAY BE DECREASED BY EMBEDDING IT A MINIMUM OF 3'-0" INTO STRONG BEDROCK OR 5'-0" INTO WEAKER BEDROCK. THE ENGINEER WILL DETERMINE THE BEDROCK TYPE ACCORDING TO THE ODOT PUBLICATION "SPECIFICATIONS FOR GEOTECHNICAL EXPLORATIONS". FIELD CUT THE REINFORCING CAGE TO FIT THE SHORTENED DRILLED SHAFT.

16. NOISE BARRIER FOUNDATION IN POOR SOIL:
IN AREAS WHERE POOR SOIL CONDITIONS ARE ENCOUNTERED THAT WERE NOT REVEALED BY THE BORINGS, CONTACT THE ODOT OFFICE OF STRUCTURAL ENGINEERING TO DETERMINE IF THE DRILLED SHAFT EMBEDMENT SHOULD BE EXTENDED OR IF ANOTHER FOUNDATION TYPE SHOULD BE CONSTRUCTED.

A POOR SOIL CONDITION SHALL BE CONSIDERED TO EXIST WHEN OVER ONE-THIRD (1/3) OF THE EXCAVATED DEPTH SHOWS AN UNEXPECTED WEAK SOIL TYPE AS DETERMINED BY THE ENGINEER.

THE REINFORCEMENT FOR THE EXTENDED DRILLED SHAFT FOUNDATION SHALL BE DEVELOPED BY USING A MINIMUM 5'-0" LAP SPLICE WITHIN THE CAGE TO ATTACH THE ADDITIONAL LONGITUDINAL BARS. PROVIDE ADDITIONAL #4 TIES AT 1'-0" MAXIMUM SPACING.

17. AVOIDANCE OF UNEXPECTED OBSTRUCTIONS:
IF THE AVOIDANCE OF UNEXPECTED UTILITIES OR OTHER OBSTRUCTIONS REQUIRES THE USE OF CLOSER POST SPACINGS THAN WHAT WAS SHOWN ON THE PROJECT PLANS, FURNISH AND INSTALL ADDITIONAL FOUNDATIONS, POSTS, AND PANELS AS DIRECTED BY THE ENGINEER. THE ADDITIONAL FOUNDATIONS, POSTS, AND PANELS SHALL CONFORM TO THESE STANDARD DRAWINGS AND PROVISIONS. THE TOP AND BOTTOM ELEVATIONS OF THE ADDITIONAL POSTS AND PANELS, AND PANEL JOINT LOCATIONS SHALL CONFORM TO THE ORIGINAL DETAILS SHOWN IN THE PROJECT PLANS. THE DEPARTMENT WILL NOT ACCEPT FIELD CUTTING OF POSTS OR PANELS TO MATCH THE NEW POST LOCATIONS.

CALCULATED AWF CHECKED DWB

NOISE BARRIER NOTES

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CONSTRUCTION METHODS

1. LAYOUT AND STAKE EACH NOISE BARRIER IN THE FIELD AND VERIFY THE PROPOSED WALL GEOMETRY AND DIMENSIONS OF THE POSTS AND THE PANELS PRIOR TO DEVELOPING ANY NECESSARY SHOP DRAWINGS AND ORDERING FABRICATION OF THE BARRIER COMPONENTS.

2. CLEAR BRUSH AND NEATLY TRIM AND/OR REMOVE TREES IN CONFLICT WITH THE PROPOSED NOISE BARRIER LOCATIONS. REMOVE ONLY THOSE TREES THAT ARE ABSOLUTELY NECESSARY TO PERFORM THE WORK. OBTAIN APPROVAL FROM THE PROJECT ENGINEER PRIOR TO REMOVING ANY ORNAMENTAL TREES. CAREFULLY PERFORM THE TRIMMING SO THE TREES ARE NOT HARMED AND FUTURE GROWTH IS NOT HINDERED. MARK ALL TREES SCHEDULED TO BE TRIMMED OR REMOVED AND OBTAIN APPROVAL FROM THE PROJECT ENGINEER PRIOR TO PERFORMING THE WORK. FOR CLARIFICATION, TREES SHALL BE INTERPRETED AS ANY GROWTH WITH A MINIMUM TRUNK DIAMETER OF 3".

3. DO NOT SHIP CONCRETE PANELS, POSTS, OR CAPS UNTIL THE CONCRETE OBTAINS ITS 28-DAY DESIGN STRENGTH. DO NOT SUPPORT OR PICK-UP PANELS OR POSTS AT LOCATIONS OTHER THAN THOSE SHOWN IN THE STANDARD DRAWINGS. TRANSPORT AND STORE PANELS IN AN UPRIGHT POSITION; PROVIDE UNYIELDING SUPPORTS CAPABLE OF MAINTAINING THE PANELS IN AN UPRIGHT POSITION.

   WHEN TRANSPORTING, HANDLING, STORING, OR INSTALLING THE CONCRETE POSTS, CAPS, AND PANELS, USE EXTREME CARE TO NOT CAUSE SPALLING OF THE CONCRETE DUE TO MISHANDLING OR OVERLOADING OF THE COMPONENTS. DO NOT USE LIFTING DEVICES THAT CHIP OR SPALL THE CONCRETE.

   DO NOT INSTALL COMPONENTS THAT ARE DEFECTIVE. THE DEPARTMENT WILL CONSIDER COMPONENTS THAT ARE MARRED, CHIPPED, SCRATCHED, SPALLED, CRACKED, DELAMINATED OR HAVE ANY OTHER DAMAGE DEEMED DETRIMENTAL TO THE NOISE BARRIERS BY THE ENGINEER PRIOR TO FINAL ACCEPTANCE AS DEFECTIVE WORK IN ACCORDANCE WITH C&MS 105.11.

4. INSTALL NOISE BARRIERS IN ACCORDANCE WITH THE PROJECT PLANS. SECURE JOINTS AND CONNECTIONS IN SUCH A MANNER AS TO BE STRUCTURALLY ADEQUATE WITH NO VISIBLE OPENINGS FOR SOUND TRANSMISSION. NOISE PANEL ATTACHMENTS TO POSTS AND INSTALLATION METHODS SHALL BE STRUCTURALLY ADEQUATE, GIVE SUFFICIENT SUPPORT TO THE NOISE PANELS, AND BE SECURED TO THE POST OR ADEQUATELY BLOCKED BETWEEN THE POST'S FLANGES TO ELIMINATE MOVEMENT AT THE SUPPORT AND ELIMINATE ANY POSSIBLE VIBRATION. THE TOP OF INSTALLED NOISE BARRIERS SHALL MATCH THE TOP OF WALL DESIGN ELEVATIONS, WITH NO VARIATION BETWEEN POSTS, UNLESS THE PROJECT PLANS REQUIRE AN ELEVATION CHANGE.

5. PROTECTION OF EXISTING SEWERS AND CULVERTS:
   BEFORE EXCAVATING FOR THE DRILLED SHAFTS, FIELD VERIFY THE LOCATION OF ALL EXISTING SEWERS AND CULVERTS SHOWN IN THE PROJECT PLANS.

   SHOULD A SEWER OR CULVERT BE DAMAGED BY THE CONTRACTOR'S NEGLIGENCE IN THE ABOVE MENTIONED WORK, REPLACE THE DAMAGED SECTIONS OF THE SEWER OR CULVERT AT NO ADDITIONAL COST TO THE DEPARTMENT.

   REFER TO CMS 105.07 FOR REQUIREMENTS TO COOPERATE WITH UTILITIES.

6. DISPOSE OF ALL EXCESS EXCAVATION IN A MANNER SATISFACTORY TO THE ENGINEER.

7. FOR NOISE BARRIERS THAT ARE BUILT ON TOP OF EARTH BERMS, CONSTRUCT THE BERMS OF EMBANKMENT MATERIAL IN ACCORDANCE WITH ITEM 203 OF THE CMS.

8. INSTALL TEMPORARY FENCE WHEN THE TIME BETWEEN THE REMOVAL OF THE EXISTING FENCE AND THE INSTALLATION OF THE PROPOSED FENCE OR NOISE BARRIER WILL EXCEED ONE DAY. INSTALL THIS FENCE IMMEDIATELY AFTER THE EXISTING FENCE IS REMOVED. THE TEMPORARY FENCE SHALL BE A WOOD SNOW FENCE, PLASTIC NYLON CONSTRUCTION FENCE OR EXISTING FENCE FABRIC MOUNTED ON DRIVEN POSTS. FOR EACH NOISE BARRIER SECTION, DO NOT REMOVE THE EXISTING FENCE EARLIER THAN 3 MONTHS PRIOR TO THE COMPLETED INSTALLATION OF THE NOISE BARRIER PANELS.

9. RESTORATION OF WORK AREA:
   UPON COMPLETION OF NOISE BARRIER INSTALLATION, RESTORE ALL AREAS DISTURBED BY THE NOISE BARRIER CONSTRUCTION TO THEIR ORIGINAL CONDITION. RESTORATION SHALL INCLUDE SEEDING AND MULCHING IN ACCORDANCE WITH CMS ITEM 659 USING A CROWN VETCH TYPE SEED MIXTURE AS DEFINED IN SECTION 659.09. THE DEPARTMENT WILL WAIVE THE RESTRICTION FROM SOWING CROWN VETCH DURING THE MONTHS OF SEPTEMBER AND OCTOBER, BUT ALL OTHER RESTRICTIONS AND REQUIREMENTS OF 659 SHALL APPLY.

   IN THE AREA BETWEEN THE BACK OF THE NOISE BARRIER AND EXISTING FENCE, WHERE THE FENCE IS TO BE REMOVED AND THE ADJOINING PROPERTY IS GRASSED RESIDENTIAL, FINISH THIS AREA TO A STATE COMPARABLE TO THE ADJOINING PROPERTY IN ACCORDANCE WITH THE RESIDENTIAL PROVISIONS OF 659.

TOLERANCES

CONSTRUCT ALL MEMBERS TO CONFORM TO THE FOLLOWING TOLERANCES.

1. POST DIMENSIONAL TOLERANCES:
   A. POST HEIGHT = ±1/2"
   B. FLANGE AND WEB WIDTH AND DEPTH = ±1/4"
   C. SLOT DEPTH AND LOCATION = ±1/8"
   D. POST VERTICAL SWEEP:
      1/8" FOR POSTS LESS THAN OR EQUAL TO 16' TALL
      1/4" FOR POSTS GREATER THAN 16' TALL
   E. POSITION OF LIFTING INSERTS = ±1 "
   F. POSITION OF POST WORKING POINT TO CENTER OF STEEL BASE PLATE = ±1/4" IN ANY DIRECTION

2. PANEL DIMENSIONAL TOLERANCES :
   A. PANEL LENGTH AND HEIGHT = ±1/4"
   B. PANEL STRUCTURAL THICKNESS = +1/4", - 0"
   C. PANEL ARCHITECTURAL/ABSORPTIVE MATERIAL THICKNESS = ±1/4"
   D. PANEL HORIZONTAL SWEEP = ±1/2"
      REMOVE AND REPLACE PANELS THAT WILL NOT INTERLOCK AT KEYWAYS
   E. PANEL CAMBER = +1/8" PER 10'-0", +3/8" MAX.; -0"
      REMOVE AND REPLACE PANELS WITH GAPS EXCEEDING 3/8"
   F. POSITION OF LIFTING INSERTS:
      ±1 " ALONG PANEL LENGTH
      ±1/4" ALONG PANEL THICKNESS

3. REINFORCING STEEL TOLERANCES:
   A. CLEAR COVER = +1/8", -0"
   B. SPLICE LENGTHS = -1" FROM STANDARD LAP SPLICE REQUIREMENT

4. BASE PLATE DIMENSIONAL TOLERANCES:
   A. FURNISH STEEL BASE PLATES ACCORDING TO CMS 513.

5. NOISE BARRIER CONSTRUCTION TOLERANCES:
   A. POSITION AN INDIVIDUAL DRILLED SHAFT WITHIN ±1" OF THE PLAN LOCATION IN THE HORIZONTAL PLANE AT THE PLAN ELEVATION FOR THE TOP OF THE SHAFT.
   B. POSITION ADJACENT DRILLED SHAFTS WITHIN ±1/2" OF THE CENTER-TO-CENTER SPACING SHOWN IN THE PLANS, MEASURED IN THE HORIZONTAL PLANE AT THE TOP ELEVATION OF THE HIGHER SHAFT.
   C. POSITION AN INDIVIDUAL DRILLED SHAFT WITHIN ±1" OF THE PLAN ELEVATION SHOWN IN THE PLANS.
   D. FROM THE CENTER OF THE DRILLED SHAFT, POSITION BASE PLATE ANCHOR BOLTS WITHIN:
      ±1/8" IN THE DIRECTION PARALLEL TO THE SHORT SLOT
      ±1/16" IN THE DIRECTION NORMAL TO THE SHORT SLOT
   E. POSTS SHALL BE PLUMB.
   F. INSTALL NOISE BARRIERS SO THE FINAL TOP OF BARRIER ELEVATION IS WITHIN ±0.04 INCH/FT. OF HEIGHT FROM THE PLAN ELEVATION.

ACCEPTANCE REQUIREMENTS

IN ADDITION TO CONFORMING WITH THE STRUCTURAL REQUIREMENTS AS SHOWN IN THESE STANDARDS, NOISE BARRIERS SHALL ALSO COMPLY WITH THE FOLLOWING AESTHETIC REQUIREMENTS.

1. THE CONTRACTOR SHALL DELIVER TO THE JOB SITE AND ERECT ONE FULL BAY (POST-TO-POST) WITH PANELS AND CAPS. THE CONTRACTOR SHALL DELIVER ONE ADDITIONAL FULL SIZE NOISE BARRIER PANEL AND ONE ADDITIONAL FULL SIZE POST. ALL PRODUCTS DELIVERED SHALL BE REPRESENTATIVE OF THE PRODUCT THE CONTRACTOR IS GOING TO SUPPLY. THE ENGINEER WILL EVALUATE WHETHER BOTH THE PANELS AND POSTS MEET ALL SPECIFIED FEDERAL COLOR STANDARDS, TEXTURE, TRIM, AND/OR COATING REQUIREMENTS. TO FACILITATE THIS COMPARISON, THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH A COPY OF "FEDERAL STANDARD 595B-COLORS USED IN GOVERNMENT PROCUREMENT".

   IF THE ENGINEER IS NOT SATISFIED WITH ANY OF THE POSTS OR PANELS DELIVERED TO THE PROJECT, THE CONTRACTOR SHALL HAVE REPLACEMENTS MANUFACTURED AND DELIVERED TO THE JOB SITE FOR ACCEPTANCE. IF THE PROJECT PLANS DO NOT SPECIFY A COLOR, TEXTURE, OR TRIM REQUIREMENT, IT WILL STILL BE NECESSARY TO DELIVER THE SAMPLE POSTS AND PANELS TO THE JOB SITE FOR ACCEPTANCE PRIOR TO THE PRODUCTION OF ANY ADDITIONAL NOISE BARRIER PANELS OR POSTS. AFTER ACCEPTANCE, THE CONTRACTOR SHALL RETURN ONE PANEL AND ONE POST TO THE FABRICATOR PRIOR TO SHIPMENT OF PRODUCTION POSTS AND PANELS.

2. THE SAMPLE POSTS AND PANELS WILL BECOME CONTROL POSTS AND PANELS AGAINST WHICH THE ENGINEER WILL COMPARE ALL SUBSEQUENTLY DELIVERED POSTS AND PANELS. REMOVE AND REPLACE ANY DELIVERED AND/OR ERECTED POSTS AND PANELS THAT DO NOT MATCH THE CONTROL POST AND PANEL OR DO NOT CONFORM TO THE STRUCTURAL REQUIREMENTS AS SHOWN IN THESE STANDARDS AT NO ADDITIONAL COST TO THE DEPARTMENT. DO NOT SHIP POSTS AND PANELS THAT DO NOT MATCH THE CONTROL POST AND PANEL.

   ALL NOISE BARRIER PANELS SHALL BE MANUFACTURED USING THE SAME METHOD OF CONSTRUCTION SO AS TO PRODUCE A UNIFORM PANEL FINISH. ACCEPTANCE POSTS AND PANELS MAY BE INCORPORATED INTO THE WORK OR SHALL BE PROPERLY DISPOSED OF AT THE CONCLUSION OF THE PROJECT.

METHOD OF MEASUREMENT

THE DEPARTMENT WILL MEASURE THE NOISE BARRIER BY THE NUMBER OF SQUARE FEET.

THE DEPARTMENT WILL DETERMINE THE AREA OF INDIVIDUAL NOISE BARRIER SEGMENTS FROM PROJECT PLAN DIMENSIONS USING A HEIGHT FROM THE BOTTOM OF THE BOTTOM PANEL TO THE TOP OF THE CAP ON THE TOP PANEL, AND SPAN LENGTHS MEASURED AS SHOWN IN POST DETAILS ON SHEETS 8 & 9/13.

THE CALCULATED NOISE BARRIER AREA IN THE PROJECT PLANS IS BASED UPON 1'-0" INCREMENTAL PANEL HEIGHTS. THE DEPARTMENT WILL NOT ADJUST PAY QUANTITIES FOR NOISE BARRIER HEIGHTS OR LENGTHS GREATER THAN PROJECT PLAN REQUIREMENTS.

BASIS OF PAYMENT

PAYMENT FOR NOISE BARRIERS IS FULL COMPENSATION FOR FURNISHING AND INSTALLING FOUNDATIONS, POSTS, PANELS, CAPS, STEEL BASE PLATES AND CONNECTIONS, CONCRETE SEALER/COATING, FORM LINERS OR OTHER ARCHITECTURAL SURFACE TREATMENTS, SAMPLE POST(S) AND PANEL(S), BEARING PADS, EXCAVATION, DRAINAGE AND BACKFILL, AND OTHER ITEMS THAT DO NOT HAVE SEPARATE PAY ITEMS BUT ARE NECESSARY TO COMPLETE THE NOISE BARRIER.

THE DEPARTMENT WILL PAY FOR THE ADDITIONAL LENGTH OF DRILLED SHAFTS CONSTRUCTED AT THE DIRECTION OF THE ENGINEER IN UNEXPECTED AREAS OF POOR SOIL AS EXTRA WORK IN ACCORDANCE WITH C&MS 109.05.

THE DEPARTMENT WILL PAY FOR THE ADDITIONAL FOUNDATIONS, POSTS, AND PANELS FURNISHED AND INSTALLED AT THE DIRECTION OF THE ENGINEER TO AVOID UNEXPECTED UTILITIES OR OTHER OBSTRUCTIONS AS EXTRA WORK IN ACCORDANCE WITH C&MS 109.05.

THE DEPARTMENT WILL PAY FOR CLEARING AND GRUBBING AND TRIMMING TREES UNDER ITEM 201 - CLEARING AND GRUBBING.

THE DEPARTMENT WILL PAY FOR CONSTRUCTING EARTH BERMS UNDER ITEM 203 - EMBANKMENT.

THE DEPARTMENT WILL PAY FOR FURNISHING, ERECTING, MAINTAINING, AND REMOVING TEMPORARY FENCE UNDER ITEM 607 - FENCE, MISC.

THE DEPARTMENT WILL PAY FOR LAYING OUT AND STAKING THE NOISE BARRIER UNDER ITEM 623 - CONSTRUCTION LAYOUT STAKES.

IF THE CONTRACT INCLUDES A QUANTITY FOR ITEM 659 - SEEDING AND MULCHING, THE DEPARTMENT WILL PAY FOR RESTORING THE WORK AREA UNDER ITEM 659. IF THE CONTRACT DOES NOT INCLUDE A QUANTITY FOR ITEM 659, THE DEPARTMENT WILL NOT PAY FOR THIS WORK DIRECTLY BUT WILL CONSIDER IT INCIDENTAL TO PAYMENT FOR THE NOISE BARRIER.

WHERE THE DRILLED SHAFT LENGTH WAS DECREASED FROM THE PROJECT PLAN DIMENSION DUE TO INTERFERENCE WITH UNEXPECTED BEDROCK, THE DEPARTMENT WILL NON-PERFORM THE SHAFT LENGTH BELOW THE BEDROCK ELEVATION AND PAY FOR THE ROCK SOCKET AND INCIDENTALS AS EXTRA WORK ACCORDING TO C&MS 109.05.

THE DEPARTMENT WILL NOT PAY FOR REPAIRED OR REPLACED COMPONENTS DAMAGED BY IMPROPER HANDLING, TRANSPORTING, STORING, OR ERECTING.

THE FOLLOWING QUANTITIES ARE CARRIED TO THE GENERAL SUMMARY FOR:

ITEM 608	SPECIAL NOISE BARRIER (ABSORPTIVE), 10' HEIGHT AND UNDER	3,720 SQ FT
ITEM 608	SPECIAL, NOISE BARRIER (ABSORPTIVE), OVER 10' TO 14' HEIGHT	6,240 SQ FT

CALCULATED AWF | CHECKED DWB

NOISE BARRIER NOTES

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DEL-CR10-0.90

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NOISE BARRIER SEALER

DESCRIPTION:
APPLY A SEALER TO ALL CONCRETE SURFACE AREAS OF NOISE BARRIER PANELS AND CONCRETE POSTS, INCLUDING CONCRETE TO CONCRETE CONTACT SURFACES.

APPLY THE COLOR DEFINED BY THE FEDERAL COLOR STANDARD IDENTIFICATION NUMBER IN THE NOISE WALL PLANS. IF THERE IS NO NUMBER, THE ENGINEER WILL SPECIFY THE COLOR.

MATERIALS: SELECT AND USE PRODUCTS ONLY FROM THE OFFICE OF MATERIALS MANAGEMENT'S APPROVED LIST.

ONE COAT OF ANY OF THE APPROVED SEALERS SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

1. FREEZE-THAW TEST SUBJECT THE APPLIED FINISH COATING TO FREEZE-THAW CYCLE TESTS AS FOLLOWS:

   a. CAST THREE CONCRETE SPECIMENS, NOT LESS THAN 4" X 6" BY 6", MINIMUM 5000 PSI @ 28 DAYS. MOIST CURE SPECIMENS FOR FOURTEEN DAYS WITH A DRYING PERIOD AT ROOM TEMPERATURE, 60 DEGREES TO 80 DEGREES F, FOR 24 HOURS BEFORE COATING THE SPECIMENS WITH THE APPLIED FINISH. REMOVE EXCESSIVE OIL ON SPECIMEN FORMS. APPLY THE FINISH COATING TO THE SIDES OF SPECIMENS AT A SPREADING RATE OF 50 +/- 10 SQUARE FEET PER GALLON. BRUSH APPLICATION IS PERMITTED. CURE CEMENTITIOUS COATING AT ROOM TEMPERATURE WITH 50 PERCENT RELATIVE HUMIDITY FOR 24 HOURS; AT ROOM TEMPERATURE WITH 90 PERCENT RELATIVE HUMIDITY FOR 48 HOURS; AND AT ROOM TEMPERATURE WITH 50 PERCENT RELATIVE HUMIDITY FOR FOUR DAYS. TOTAL CURING TIME SHALL BE SEVEN DAYS. CURE OTHER COATINGS AT ROOM TEMPERATURE FOR 48 HOURS AFTER COMPLETION OF CURING.

   b. IMMERSE THE SPECIMENS IN WATER AT ROOM TEMPERATURE FOR THREE HOURS, THEN REMOVE.

   c. PLACE THE SPECIMENS IN COLD STORAGE AT -15 DEGREES F FOR ONE HOUR, THEN REMOVE.

   d. THAW THE SPECIMENS AT ROOM TEMPERATURE FOR ONE HOUR.

   e. REPEAT STEPS c AND d ABOVE FOR A TOTAL OF 300 CYCLES. AT THE END OF 300 CYCLES THE SPECIMENS SHALL SHOW NO VISIBLE DEFECTS.

2. ACCELERATED WEATHERING SUBJECT THE APPLIED COATING TO A 5,000 HOUR EXPOSURE TEST IN A TWIN-CARBON-ARC-WEATHEROMETER, ASTM G 23, TYPE D, AT AN OPERATING TEMPERATURE OF 145 DEGREES F. PERFORM THE TEST AT 20-MINUTE CYCLES CONSISTING OF 17 MINUTES OF LIGHT AND 3 MINUTES OF WATER SPRAY PLUS LIGHT. AT THE END OF THE EXPOSURE TEST, THE EXPOSED SAMPLES SHALL SHOW NO CHIPPING, FLAKING OR PEELING. PREPARE THE PANELS FOR THIS TEST BY APPLYING THE COATING AT A SPREADING RATE OF 50 +/- 10 SQ FEET PER GALLON TO BOTH SIDES AND EDGES OF PANELS CUT FROM ASBESTOS CEMENT SHINGLES IN ACCORDANCE WITH FEDERAL SPECIFICATION SS-S-346, TYPE I. CURING TIME SHALL BE IN ACCORDANCE WITH (1).

3. FUNGUS GROWTH RESISTANCE THE APPLIED FINISH COATING SHALL PASS THE FUNGUS RESISTANCE TEST IN ACCORDANCE WITH FEDERAL SPECIFICATIONS TT-P-29G. FUNGUS GROWTH SHALL NOT BE INDICATED AFTER A MINIMUM INCUBATION PERIOD OF 21 DAYS.

4. IMPACT RESISTANCE APPLY THE COATING TO A CONCRETE PANEL PREPARED ACCORDING TO FEDERAL TEST METHOD STANDARD 141S, METHOD 2051, AT A SPREADING RATE OF 50 +/- 10 SQUARE FEET PER GALLON AND CURE FOR 21 DAYS AT ROOM TEMPERATURE. PERFORM THE TEST USING THE GARDNER MANDREL IMPACT TESTER IN ACCORDANCE WITH ASTM D 2794 USING A ONE-HALF INCH INDENTER WITH AN IMPACT LOAD OF 6 INCH-POUNDS. THE COATING SHALL SHOW NO CHIPPING UNDER THIS IMPACT LOAD.

5. SALT-SPRAY RESISTANCE TEST COAT A CONCRETE SPECIMEN AT THE RATE OF 50 +/- 10 SQUARE FEET PER GALLON AND CURE FOR 21 DAYS AT ROOM TEMPERATURE. EXPOSE THE COATED SPECIMEN TO A 5% SALT SOLUTION IN ACCORDANCE WITH ASTM B117 FOR 2000 HOURS WHERE THE ATMOSPHERIC TEMPERATURE IS MAINTAINED AT 90 DEGREES +/- 2 DEGREES F. AT THE END OF THE 2000 HOURS OF EXPOSURE, THE COATING SHALL SHOW NO ILL EFFECTS, LOSS OF ADHESION OR DETERIORATION.

6. FLEXIBILITY TEST CAST A SHEET METAL SPECIMEN WITH THE APPLIED FINISH COATING AT A RATE OF 50 +/- 10 SQUARE FEET PER GALLON AND CURE FOR 48 HOURS AT ROOM TEMPERATURE. BEND THE COATED SPECIMEN 180 DEGREES OVER A ONE (1)-INCH ROUND MANDREL. AFTER BENDING, THE COATING SHALL SHOW NO BREAKING.

7. ABSORPTION THE ABSORPTION OF TREATED CONCRETE UNDER TOTAL IMMERSION SHALL NOT EXCEED 1.0% AFTER 48 HOURS OR 2.0% AFTER 50 DAYS (ASTM C642, NON-AIR ENTRAINED CONCRETE). PROPORTION AND MIX CONCRETE N ACCORDANCE WITH ASTM C672.

8. SCALING RESISTANCE TREATED CONCRETE SHALL PASS ASTM C672, SCALING RESISTANCE TEST WITH A RATING OF "NO SCALING" AFTER 50 CYCLES (NON-AIR ENTRAINED CONCRETE) AS COMPARED TO "SEVERE SCALING" ON UNTREATED CONCRETE.

9. NCHRP 244 SERIES IV - SOUTHERN EXPOSURE
   4.1 ABSORBED CHLORIDE - NOT TO EXCEED 10% OF UNTREATED CONCRETE

MATERIALS APPROVAL: SUBMIT CERTIFIED TEST DATA TO THE ENGINEER THAT SHOWS THE SEALER MEETS THE MATERIAL REQUIREMENTS.

THE FOLLOWING PRODUCTS AND COVERAGE RATES ARE PRE-APPROVED:

1. TAMMNSCOAT FINE ODOT
   TAMMS INDUSTRIES COMPANY
   61 AMERICAN STREET
   CHAGRIN FALLS, OHIO 44022

   APPLICATION DRY FILM THICKNESS 20 MILS
   SMOOTH SURFACE RATE OF 50 SQ FT/GAL
   TEXTURED SURFACE (ASHLAR STONE) RATE OF 40 SQ FT/GAL
   TEXTURED SURFACE (3/4 FLUTED) 25 SQ FT/GAL

2. BRIDGE COTE XL-70 W/SILANE (FINE TEXTURE) BY TEX COTE OR BRIDGE COTE XL-70 BY TEX COTE
   TEXTURED COATINGS OF AMERICA
   4101 RAVENSWOOD ROAD
   SUITE 101A
   FT. LAUDERDALE, FLORIDA 33312-5371

   APPLICATION DRY FILM THICKNESS 15 MILS
   SMOOTH SURFACE RATE OF 50 SQ FT/GAL
   TEXTURED SURFACE (ASHLAR STONE) RATE OF 40 SQ FT/GAL
   TEXTURED SURFACE (3/4 FLUTED) 25 SQ FT/GAL

3. TEXTUREDOT BY CHEMMASTERS
   300 EDWARDS STREET
   MADISON, OHIO 44057

   APPLICATION DRY FILM THICKNESS 15 MILS (380 MICROMETERS)
   SMOOTH SURFACE RATE OF 50 SQ FT/GAL
   TEXTURED SURFACE (ASHLAR STONE) RATE OF 40 SQ. FT/GAL
   TEXTURED SURFACE (3/4 FLUTED) 25 SQ. FT/GAL

4. MARK-173 BY POLY-CARB
   33095 BAINBRIDGE RD.
   CLEVELAND, OHIO 44139

   APPLICATION DRY FILM THICKNESS 19 MILS
   SMOOTH SURFACE RATE OF 50 SQ FT/GAL
   TEXTURED SURFACE (ASHLAR STONE) RATE OF 40 SQ FT/GAL
   TEXTURED SURFACE (3/4 FLUTED) 25 SQ FT/GAL

TAKE A VERIFICATION SAMPLE DURING THE COATING OPERATING BY COLLECTING A QUART SAMPLE FROM THE SPRAY GUN DURING APPLICATION. SEND THE SAMPLE TO THE OFFICE MATERIALS MANAGEMENT, 1600 W. BROAD ST., COLUMBUS, OH 43223, ATTN: CHEM SECTION FOR TESTING. INDICATE THE BRAND NAME, PRODUCER AND LOT NUMBER OF THE MATERIAL. THIS SAMPLE IS FOR VERIFICATION OF MATERIALS NOT ACCEPTANCE.

CONTRACTOR TESTING EQUIPMENT: PROVIDE, IN GOOD WORKING ORDER, THE FOLLOWING TESTING EQUIPMENT:

1. ONE SLING PSYCHROMETER INCLUDING PSYCHOMETRIC TABLES USED TO RELATIVE HUMIDITY AND DEW POINT TEMPERATURE.

2. TWO STEEL SURFACE THERMOMETERS ACCURATE WITHIN 2 DEGREES F OR ONE PORTABLE INFRARED THERMOMETER AVAILABLE FROM:
   MODEL: RAYNGER ST SERIES (-18 DEGREES C TO 400 DEGREES C)
   MANUFACTURER: RAYTEK INC.
   SANTA CRUZ, CA
   (800) 227-8074
   OR APPROVED EQUAL TO THE PORTABLE INFRARED THERMOMETER

3. SSPC VISUAL STANDARD FOR ABRASIVE BLAST CLEANED STEEL SSPC-VIS 1-89

4. ONE RECORDER THERMOMETER CAPABLE OF RECORDING THE DATE, TIME AND TEMPERATURE OVER A PERIOD OF AT LEAST 12 HOURS.

SURFACE PREPARATION: FOR BOTH ABSORPTIVE AND NON-ABSORPTIVE SURFACES, AFTER COMPLETING THE CURING PERIOD, THOROUGHLY CLEAN ALL CONCRETE SURFACES. REMOVE DUST, DIRT, OIL, WAX, CURING COMPONENTS, EFFLORESCENCE, LAITANCE, COATINGS AND OTHER FOREIGN MATERIALS. PROVIDE WRITTEN ACCEPTANCE FROM THE SEALER MANUFACTURER FOR ANY CHEMICALS AND OTHER CLEANING COMPOUNDS USED TO HELP REMOVE FOREIGN MATERIALS.

USE CLEANING EQUIPMENT FITTED WITH SUITABLE TRAPS, FILTERS, DRIP PANS AND OTHER DEVICES TO PREVENT OIL OR OTHER FOREIGN MATERIAL BEING DEPOSITED ON THE SURFACE.

FOR NON-ABSORPTIVE SURFACES, USE ONE OR BOTH OF THE FOLLOWING METHODS TO PRODUCE A SURFACE THAT FEELS AND LOOKS LIKE 100 GRIT SANDPAPER OR COARSER. PROVIDE THE ENGINEER SANDPAPER FOR COMPARISON:

1. WATER BLAST AT 7000 PSI MINIMUM, OR
2. ABRASIVE BLAST, FOLLOWED BY AIR BROOMING OR POWER SWEEPING, TO REMOVE DUST AND SAND FROM THE SURFACE AND OPENED PORES.

FOR ABSORPTIVE SURFACES, SUPPLY AND FOLLOW WRITTEN SURFACE PREPARATION RECOMMENDATIONS FROM THE COATING MANUFACTURER.

ALL ABSORPTIVE AND NON-ABSORPTIVE SURFACES TO BE COATED SHALL BE FREE OF DUST BEFORE SEALER APPLICATION.

APPLY THE SEALER AFTER NEW CONCRETE HAS AIR DRIED FOR AT LEAST THREE (3) DAYS IN ADDITION TO THE REQUIRED CURING TIME. CURE GROUT FILLED CAVITIES THE SAME AS THE NEW CONCRETE AND AIR-DRY FOR THREE DAYS.

APPLY THE SEALER TO ACCELERATED CURED PRECAST AFTER THE CONCRETE HAS REACHED ITS REQUIRED 28 DAY DESIGN STRENGTH; CAVITIES HAVE BEEN GROUT FILLED AND CURED; AND THE TOTAL COMPONENT IS AIR-DRIED FOR THREE (3) DAYS.

BLAST CLEAN ANY RUST STAINED AREAS ON THE CONCRETE TWICE.

IF EXPOSED REINFORCING STEEL CHAIR LEGS OR OTHER BARE SUPPORT STEEL IS VISIBLE, SANDBLAST CLEAN THAT LOCATION TO A SSPC-SP6 COMMERCIAL BLAST. CONTACT THE ENGINEER TO DETERMINE IF THE CONCRETE COMPONENT IS STILL ACCEPTABLE. IF THE EXPOSED STEEL IS REINFORCING, REMOVE THE CONCRETE COMPONENT AND CONSIDER IT REJECTED. IF THE ENGINEER APPROVES THE PIECE, RE-CLEAN THE AREA TO REMOVE RUST BEFORE APPLYING THE SEALER.

PROVIDE THE OFFICE OF MATERIALS MANAGEMENT AN APPLICATION PROCEDURE THAT DESCRIBES HOW ALL SURFACES WILL BE COATED AND HOW DAMAGED AREAS WILL BE TOUCHED UP. PRE-COATING IN THE PRECASTER'S YARD, WHETHER PARTIAL OR TOTAL, IS ACCEPTABLE. THE ENGINEER MAY REQUIRE ADDITIONAL FIELD APPLICATION BEFORE FINAL ACCEPTANCE.

EQUIPMENT: USE APPLICATION EQUIPMENT RECOMMENDED BY THE SEALER MANUFACTURER. SPRAY EQUIPMENT TANKS, HOSES, ROLLERS, ETC., SHALL BE CLEAN AND FREE OF FOREIGN MATTER, OIL RESIDUE AND WATER PRIOR TO APPLYING THE CONCRETE SEALER.

APPLICATION TEMPERATURES:

MINIMUM AMBIENT TEMPERATURE: 40 DEGREES F
MAXIMUM AMBIENT TEMPERATURE: 100 DEGREES F

DO NOT APPLY SEALER IF THE AMBIENT TEMPERATURE IS EXPECTED TO BE BELOW OR ABOVE THE ABOVE TEMPERATURE RANGE FOR UP TO 12 HOURS AFTER APPLICATION. DO NOT APPLY THE SEALER IF RAIN IS ANTICIPATED WITHIN 4 HOURS AFTER APPLICATION.

FOLLOW THE MANUFACTURER'S RECOMMENDED TEMPERATURES IF MORE RESTRICTIVE THAN SPECIFIED ABOVE.

CLEARLY NOTE WHERE APPLICATION HAS STOPPED IF UNABLE TO COMPLETE THE ENTIRE APPLICATION CONTINUOUSLY. RE-INSPECT AND REBLAST AT THE NEW START POINT TO MEET SPECIFICATIONS.

MIXING: MIX SEALER ACCORDING TO THE MANUFACTURER'S RECOMMENDED WRITTEN PROCEDURES. MIX TO A UNIFORM CONSISTENCY AND MAINTAIN THAT DURING THE APPLICATION.

TEST APPLICATION: APPLY THE SEALER TO A MEASURED TEST COVERAGE AREA OF DIFFERENT NOISE WALL COMPONENTS TO DEMONSTRATE THE DESIRED PHYSICAL AND VISUAL EFFECT OF THE SEALER AND TO SHOW THE OFFICE OF MATERIALS MANAGEMENT THAT COVERAGE IS ACHIEVED.

APPEARANCE: APPLY THE SEALER TO ACHIEVE A UNIFORM APPEARANCE. FOR WALLS WITH BRICK APPEARANCE, SEAL THE ENTIRE WALL WITH A GRAY SEALER AND APPLY THE BRICK COLOR IN A SECOND COAT USING ROLLERS.

STORAGE: STORE SEALER COMPONENTS IN TIGHTLY SEALED CONTAINERS IN A DRY LOCATION AND AS RECOMMENDED BY THE MANUFACTURER. PROVIDE THE OFFICE OF MATERIALS MANAGEMENT WITH THE MANUFACTURER'S WRITTEN DOCUMENTATION ON STORAGE AND REQUIRED TEMPERATURE.

PROTECTION OF ADJOINING SURFACES AND THE PUBLIC: WHEN APPLYING A SEALER, PROTECT ADJOINING SURFACES THAT SHOULDN'T BE COATED BY MASKING OFF, OR BY OTHER MEANS. PROTECT THE PUBLIC WHEN APPLYING SEALER IN AN AREA USED BY THE PUBLIC.

PROTECT ASPHALT AND MASTIC TYPE SURFACES FROM SPILLAGE AND HEAVY OVERSPRAY. DO NOT APPLY THE SEALER ON JOINT SEALANTS WHICH HAVE NOT CURED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS. JOINT SEALANTS, MAY BE APPLIED TO COATED SURFACES AFTER THE SEALER HAS BEEN APPLIED AND IS DRY TO THE TOUCH.

ENVIRONMENTAL REQUIREMENTS: PROTECT PLANTS AND VEGETATION FROM OVERSPRAY BY COVERING WITH DROP CLOTHS. COMPLY WITH ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL RESTRICTIONS.

PRECAUTIONS: FOLLOW PRECAUTIONS ON THE MANUFACTURER'S MSDS.

BASIS OF PAYMENT: THE DEPARTMENT WILL CONSIDER THE COST FOR MATERIALS, LABOR AND APPLICATION OF SEALER AS INCIDENTAL TO THE SQUARE FOOT COST OF THE NOISE WALL.

CALCULATED AWF CHECKED DWB

NOISE BARRIER NOTES

2952-DR.E

DEL-CR10-0.90

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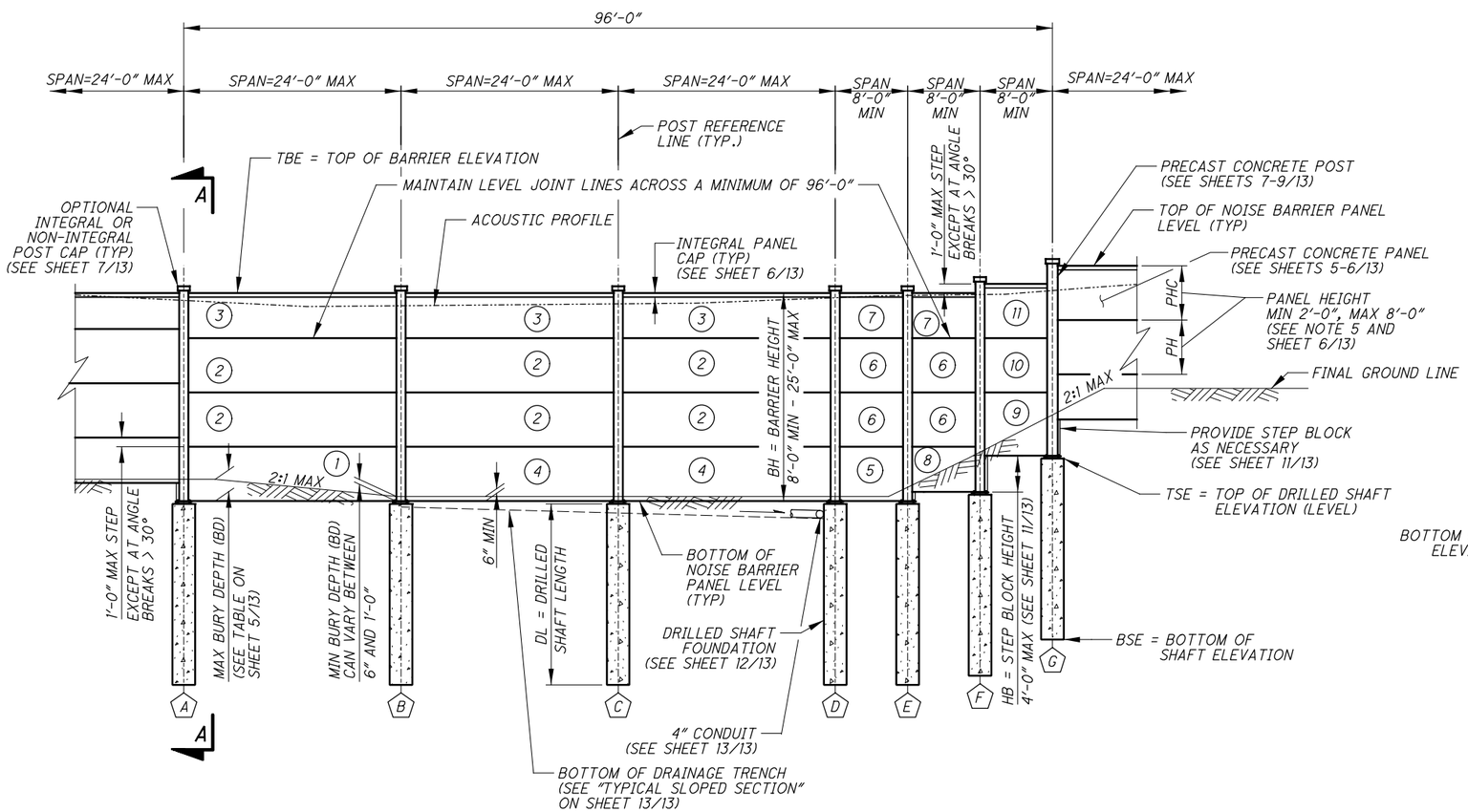
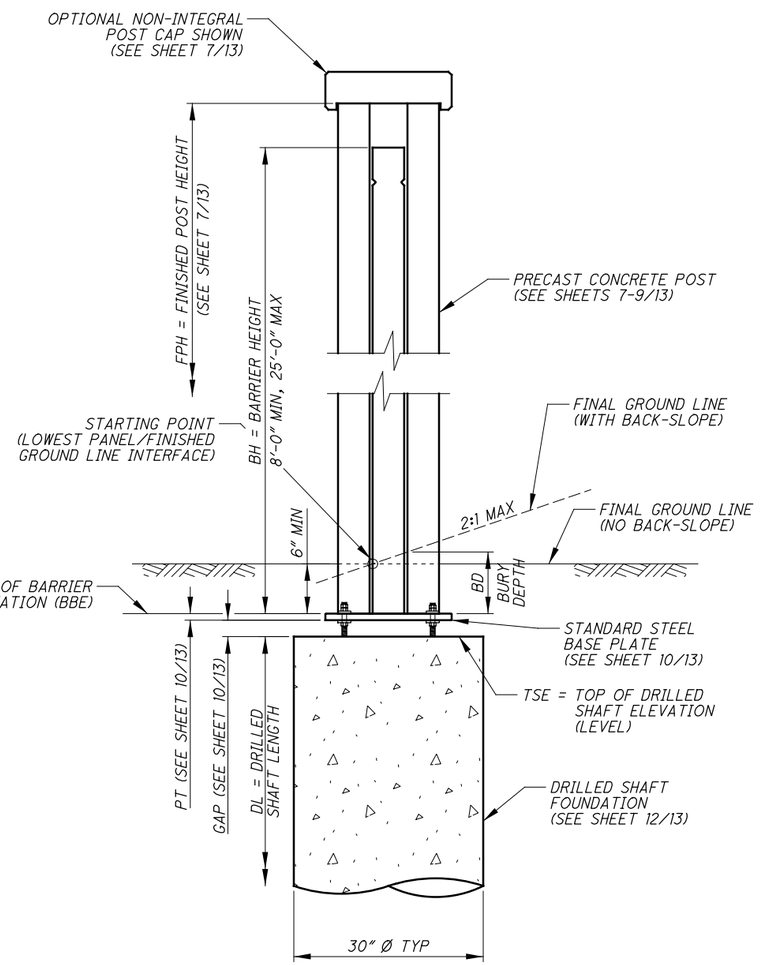
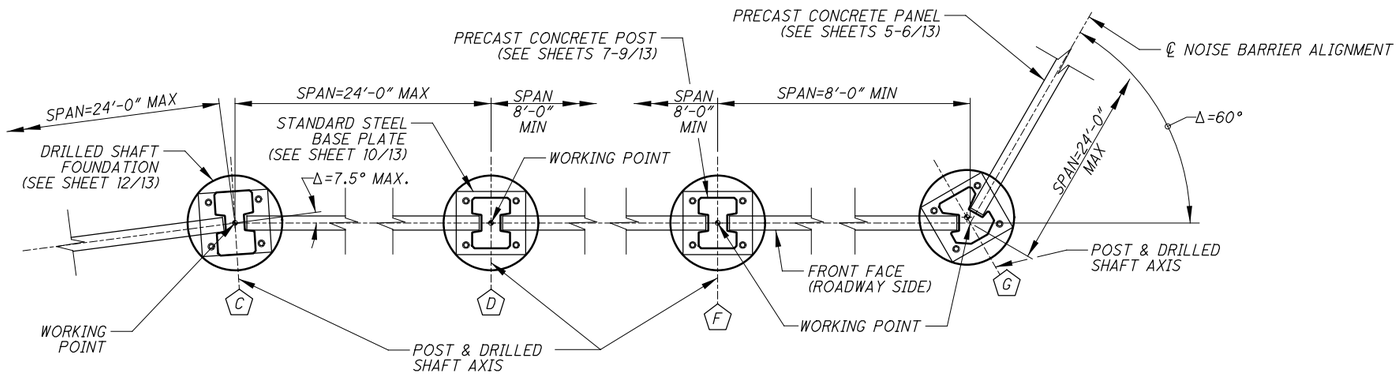


EXAMPLE ELEVATION ALONG FRONT FACE (ROADWAY SIDE)

(FOR INFORMATIONAL PURPOSES ONLY)



SECTION A-A



EXAMPLE PLAN VIEW

(FOR INFORMATIONAL PURPOSES ONLY)

LEGEND:

- (?) - POST DESIGN AND LOCATION NUMBER OR DESIGNATION
- (?) - PANEL DESIGN NUMBER OR DESIGNATION
- = CENTER OF DRILLED SHAFT

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. ALL CONCRETE NOISE BARRIERS SHALL HAVE A CAP ON TOP OF THE BARRIER AND POSTS FOR AESTHETIC PURPOSES.
3. REFER TO THE PROJECT PLANS FOR POST, PANEL, AND FOUNDATION DESIGN DATA.
4. WORKING POINT IS DEFINED AS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT TANGENTS. IF THE DEFLECTION ANGLE (Δ) EQUALS ZERO, THE WORKING POINT IS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT AND THE POST AXIS.
5. POST REFERENCE LINE IS DEFINED AS A VERTICAL LINE THRU THE WORKING POINT.
6. MINIMUM HEIGHT OF BOTTOM PANEL SHALL BE 4'-0".

CALCULATED AWF
CHECKED DWB

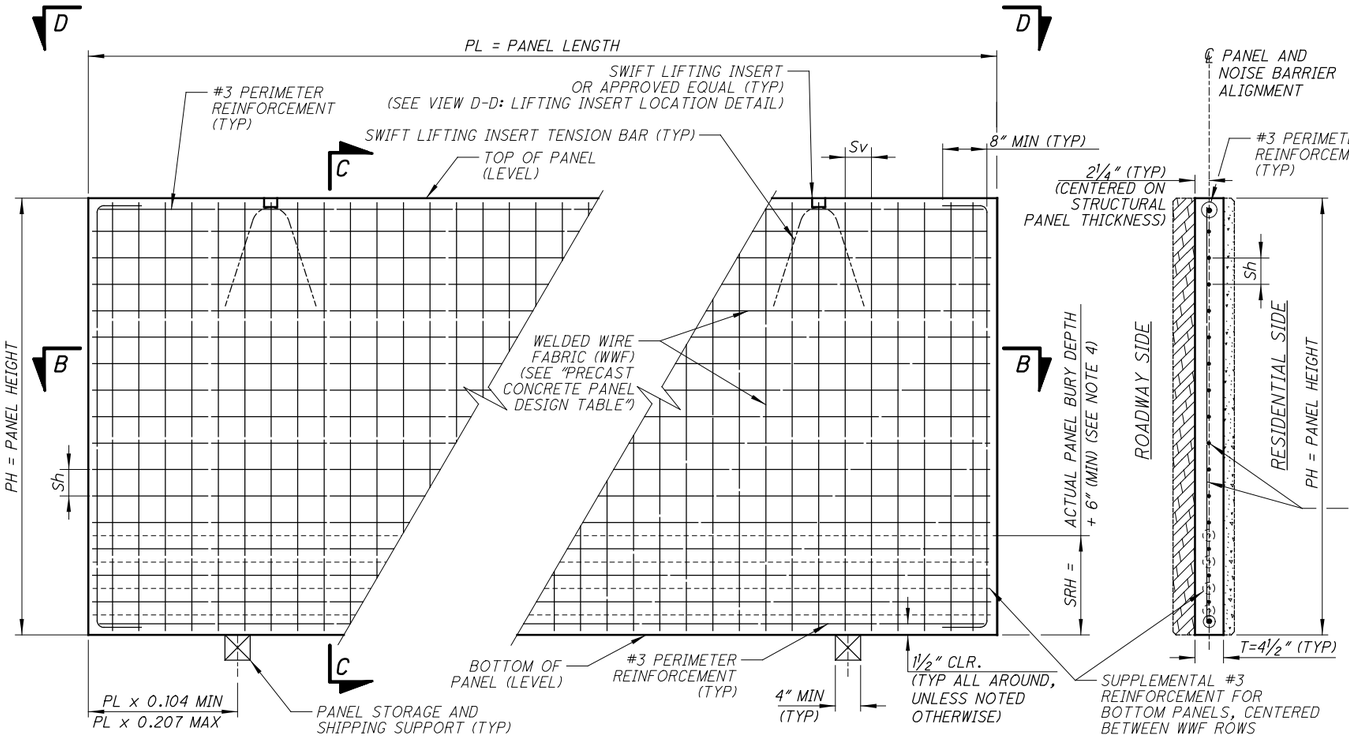
NOISE BARRIER WALL DETAILS

2952-DR.E

DEL-CR10-0.90

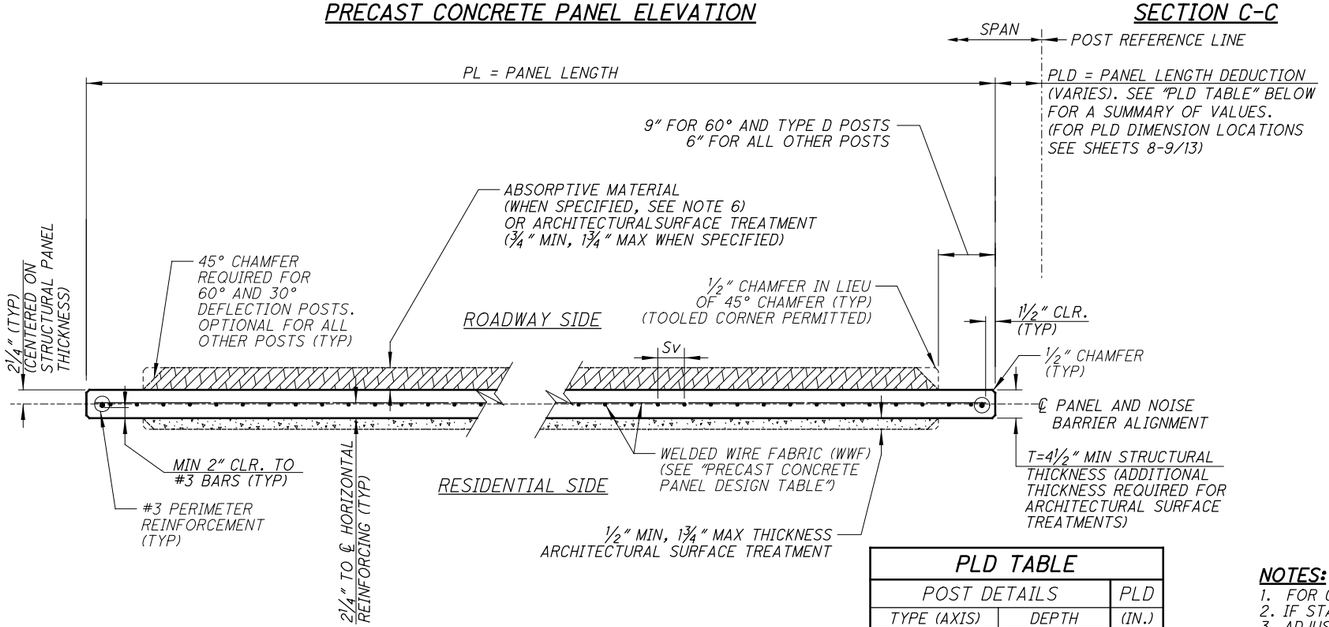
4 / 13

356 / 437



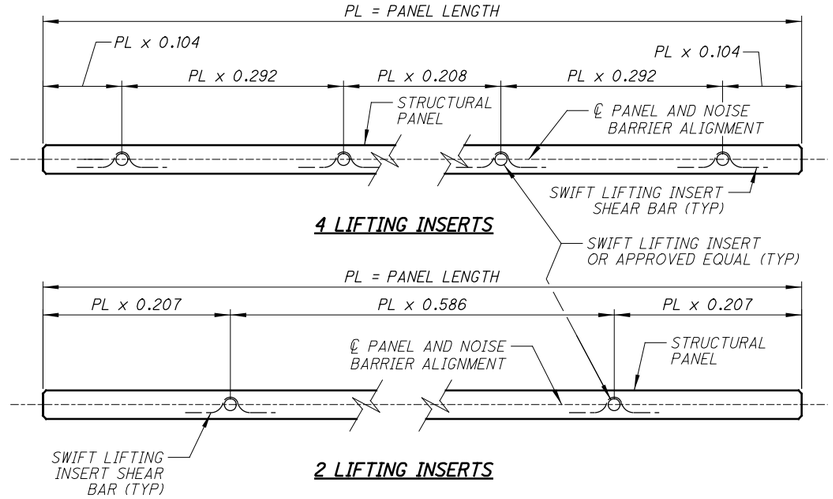
PRECAST CONCRETE PANEL ELEVATION

SECTION C-C



SECTION B-B

PLD TABLE		
POST DETAILS		PLD
TYPE (AXIS)	DEPTH	(IN.)
A & B	16" & 20"	3¾"
D	16" & 20"	3¼"
E	16" & 20"	4¼"
C (DEEP)	17½"	8"
C (DEEP)	20"	9½"
C (SHALLOW)	17½" & 20"	4¼"



VIEW D-D: LIFTING INSERT LOCATION DETAIL

(SURFACE TREATMENTS NOT SHOWN FOR CLARITY)

PRECAST CONCRETE PANEL DESIGN TABLE

DESIGN WIND PRESSURE = 25 PSF, SOIL UNIT WEIGHT = 120 PCF

POST SPACING (SPAN) (FT.)	PANEL HEIGHT (PH) (FT.)	WELDED WIRE FABRIC ** WWF AxB-WCxWD				MIN REINFORCING STEEL AREA (in²/ft)		*LIFTING INSERTS		MAX ALLOWABLE PANEL BURY DEPTH
		A	B	C	D	HORIZONTAL	VERTICAL	MIN NO.	MIN CAPACITY	
PS=8	2.0	6	6	2	2	0.040	0.040	2	0.7	N/A
	3.0	6	6	2	2	0.040	0.040	2	1.0	N/A
	4.0	6	6	2.9	2.5	0.056	0.048	2	1.3	3'-6"
	5.0	6	6	3.5	4	0.068	0.080	2	1.6	4'-6"
	6.0	6	6	4	5.5	0.080	0.110	2	1.9	5'-0"
	7.0	6	6	5	8	0.098	0.158	2	2.3	5'-0"
	8.0	6	6	5.5	10.5	0.110	0.210	2	2.6	5'-0"
8<PS≤16	2.0	6	6	7.5	6	0.148	0.118	2	1.4	N/A
	3.0	6	6	8.5	3.5	0.170	0.068	2	2.0	N/A
	4.0	6	6	12	5	0.240	0.098	2	2.7	3'-6"
	5.0	6	6	7.5	4	0.148	0.080	4	3.3	4'-6"
	6.0	6	6	7.5	5.5	0.148	0.110	4	3.9	5'-0"
	7.0	6	6	7.5	8	0.148	0.158	4	4.6	5'-0"
	8.0	6	6	7.5	10.5	0.148	0.210	4	5.2	5'-0"
16<PS≤24	2.0	4	4	12	5	0.360	0.147	2	2.1	N/A
	3.0	4	4	12	5	0.360	0.147	2	3.0	N/A
	4.0	4	4	16	6.5	0.477	0.195	2	4.0	3'-8"
	5.0	4	4	12	5	0.360	0.147	4	4.9	3'-8"
	6.0	4	4	12	5	0.360	0.147	4	5.9	3'-8"
	7.0	4	4	12	5.5	0.360	0.165	4	6.9	3'-8"
	8.0	4	4	12	7	0.360	0.210	4	7.8	3'-8"

* MIN. INSERT CAPACITY IS SPECIFIED IN TONS. THE MIN. NUMBER OF LIFTING INSERTS SHALL BE USED WHEN ROTATING THE PANEL ABOUT ITS EDGE FROM A HORIZONTAL TO VERTICAL POSITION. IT IS PERMISSIBLE TO USE ONLY THE OUTER-MOST INSERTS FOR HANDLING IF THE PANEL REMAINS IN A VERTICAL POSITION (± 14°).

** WWF AxB-WCxWD (U.S. CUSTOMARY)

WHERE A = SPACING OF HORIZONTAL BARS (Sh) - INCHES
B = SPACING OF VERTICAL BARS (Sv) - INCHES
C = HORIZONTAL WIRE SIZE
D = VERTICAL WIRE SIZE
WWF = WELDED WIRE FABRIC

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. IF STACKED PANELS ARE REQUIRED REFER TO DETAILS ON SHEET 6/13.
3. ADJUST PANEL LENGTH TO ACCOMMODATE POST DETAILS AT EACH END AS SHOWN IN SECTION B-B AND PLD TABLE.
4. PROVIDE SUPPLEMENTAL #3 REBARS, CENTERED BETWEEN WWF ROWS, FOR A DEPTH EQUAL TO "SRH" IN THE BOTTOM OF BOTTOM PANELS.
5. THE PROJECT PLANS WILL PROVIDE THE WELDED WIRE FABRIC REQUIREMENTS INCLUDING THE AREA OF STEEL, THE REQUIRED SUPPLEMENTAL REINFORCING, AND THE MINIMUM NUMBER OF LIFTING INSERTS REQUIRED FOR ALL PANELS.
6. THICKNESS OF ABSORPTIVE MATERIAL VARIES ACCORDING TO THE MATERIAL PROPERTIES USED BY THE MANUFACTURER. MAXIMUM ALLOWABLE UNIT WEIGHT OF THE MATERIAL IS 29.15 PSF.
7. POST REFERENCE LINE IS A VERTICAL LINE THRU THE WORKING POINT.

CALCULATED AWF
CHECKED DWB

NOISE BARRIER WALL DETAILS

2952-DR.E

DEL-CR10-0.90

5/13

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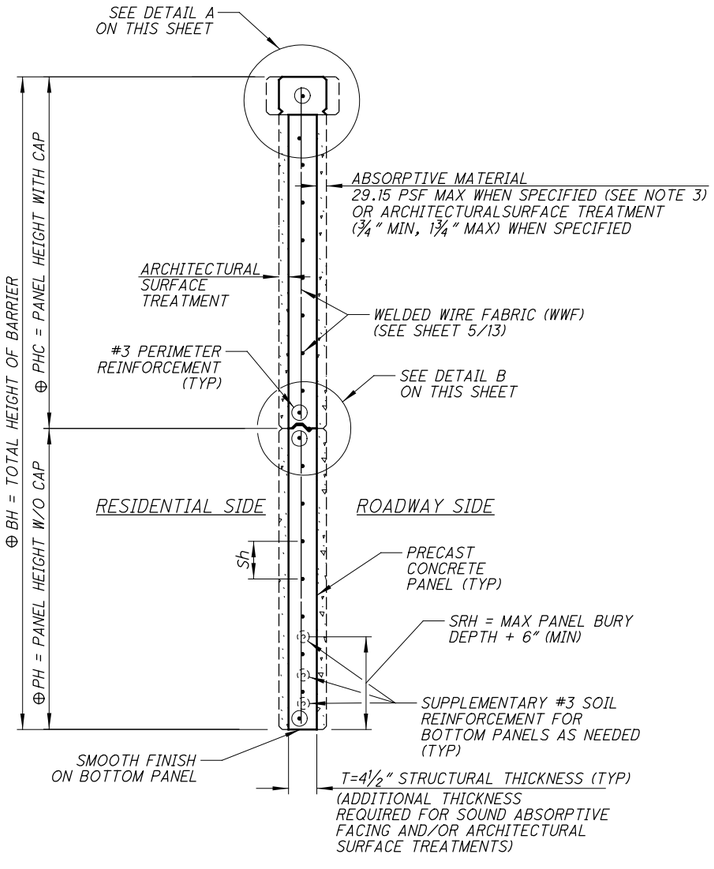
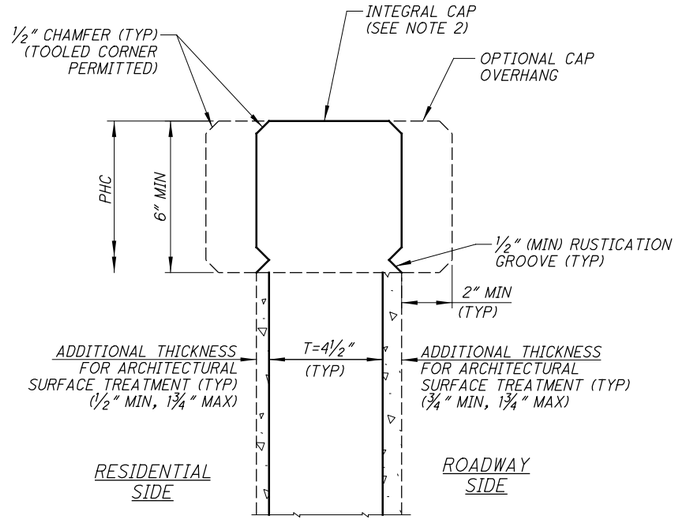
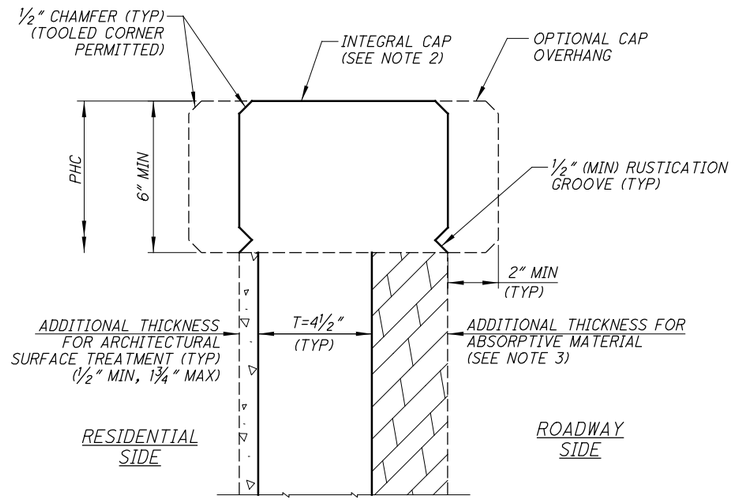


STACKED PANEL DETAIL



DETAIL A - REFLECTIVE PANEL WITH INTEGRAL CAP



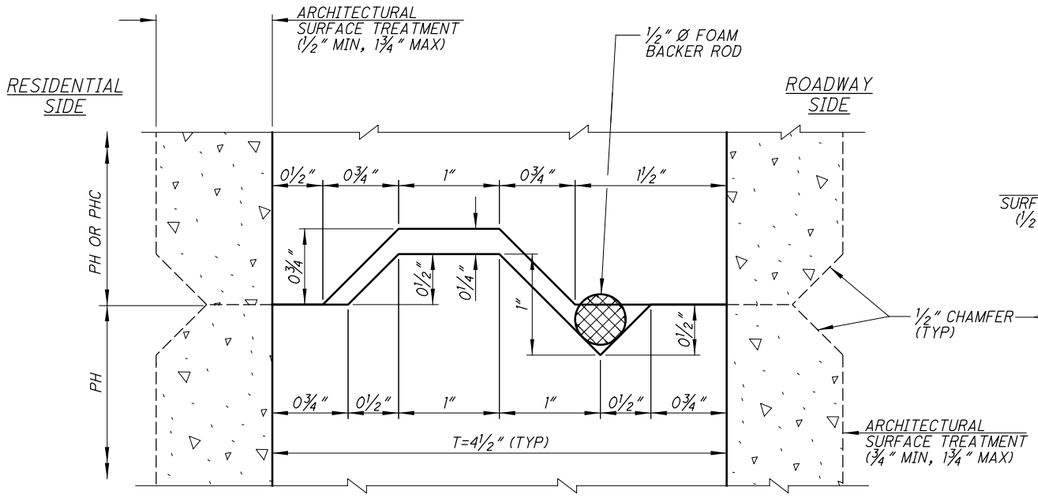
DETAIL A - ABSORPTIVE PANEL WITH INTEGRAL CAP

NOTES:

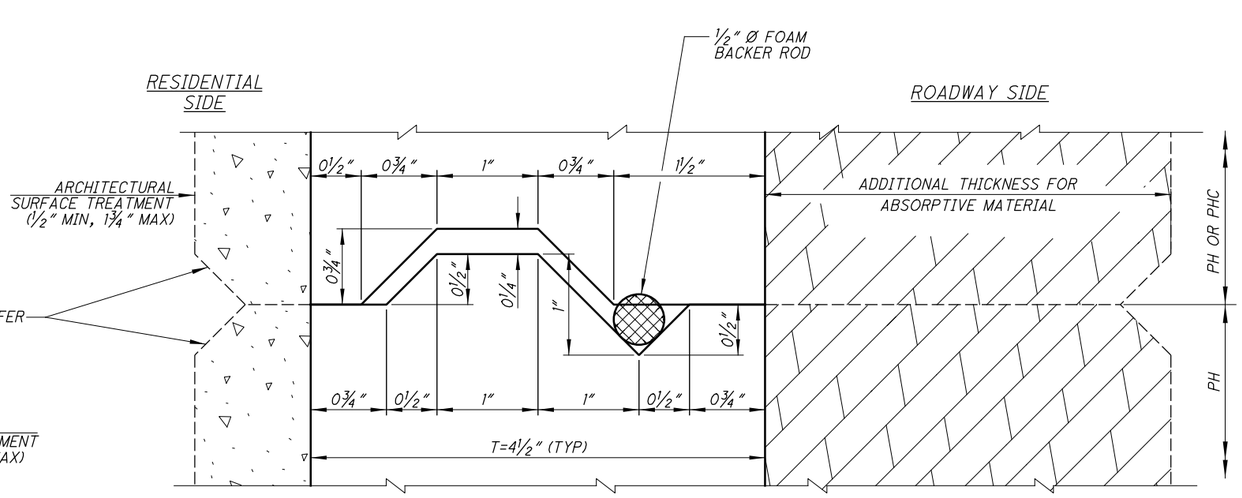
1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. INTEGRAL CAP DETAILS MAY VARY. REFER TO PROJECT PLANS FOR SPECIFIC DETAILS. BOTTOM OF CAP MUST HAVE RUSTICATION GROOVES OR OVERHANGS; PAINTED LINES ARE NOT ALLOWED.
3. THICKNESS OF ABSORPTIVE MATERIAL VARIES ACCORDING TO THE MATERIAL PROPERTIES USED BY THE MANUFACTURER.

LEGEND:

⊕ AS REQUIRED BY DESIGN AND SHOWN ON PROJECT PLANS



DETAIL B - REFLECTIVE PANEL KEYWAY DETAIL



DETAIL B - ABSORPTIVE PANEL KEYWAY DETAIL

CALCULATED AWF CHECKED DWB

NOISE BARRIER WALL DETAILS

2952-DR.E

DEL-CR10-0.90

6/13

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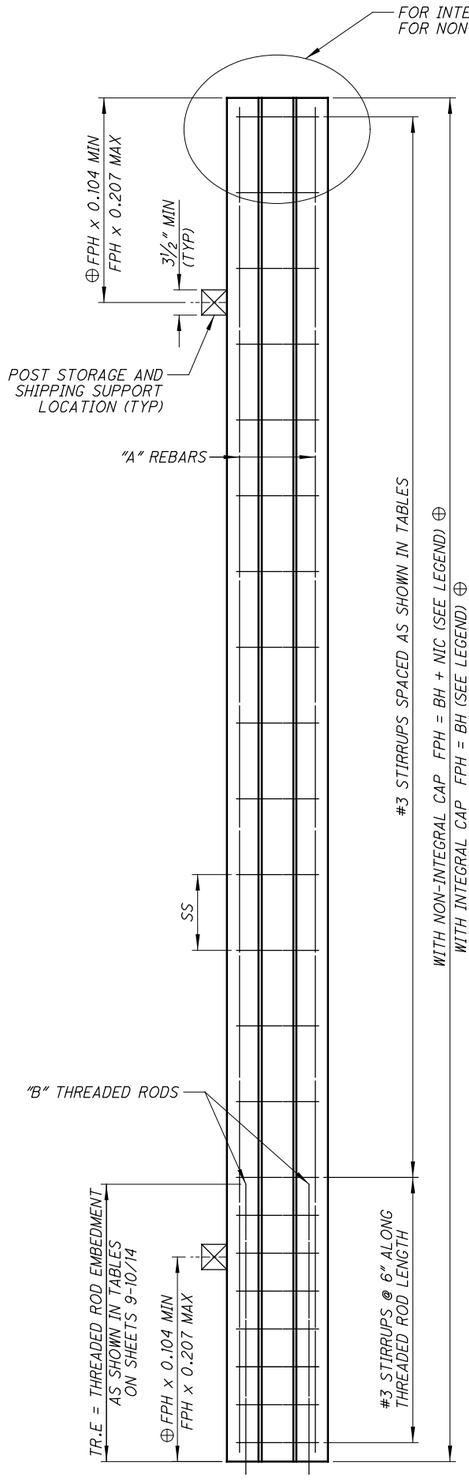
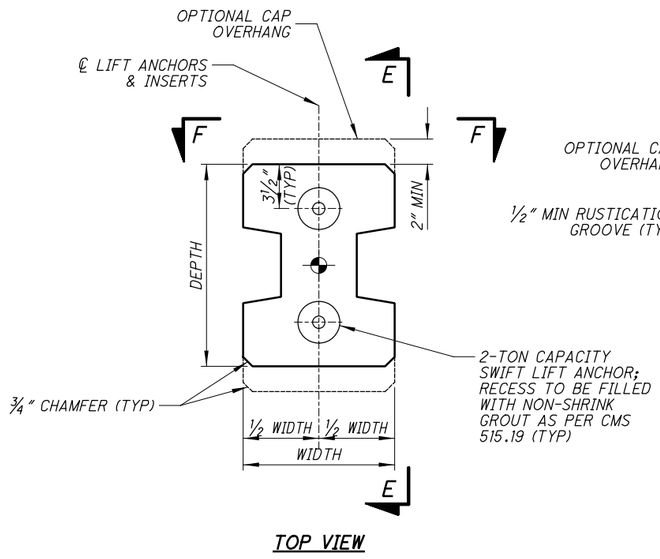
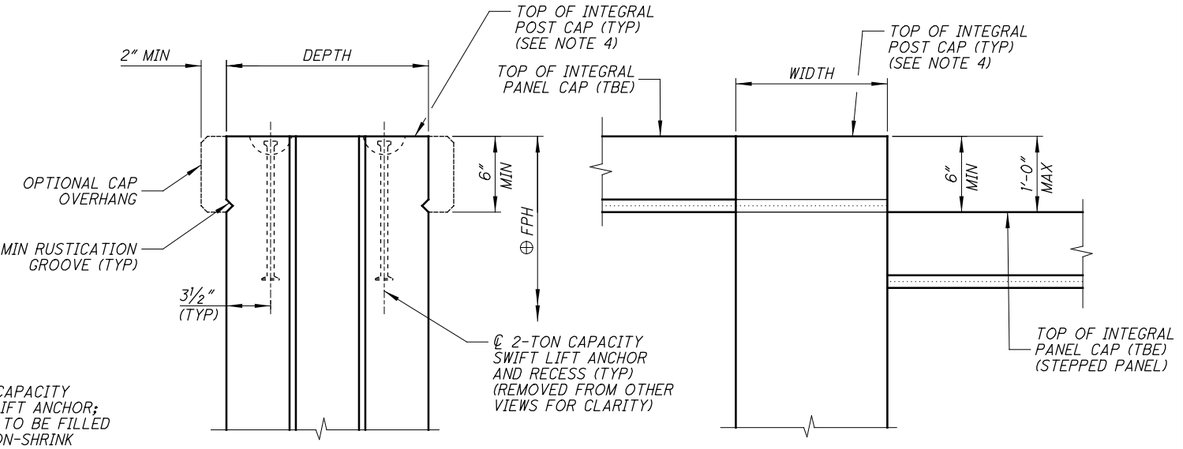


TYPICAL POST ELEVATION, REINFORCING, AND STORAGE PLAN



TOP VIEW

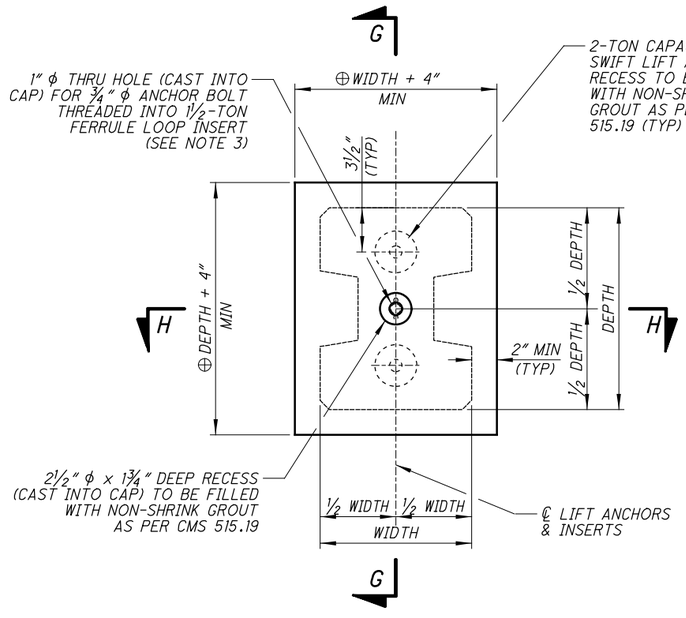


VIEW E-E

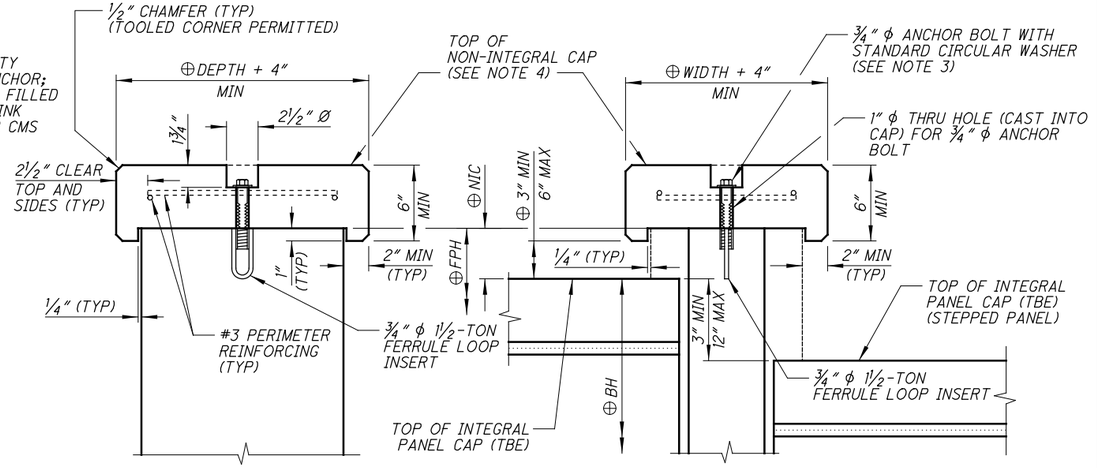
VIEW F-F

DETAIL C - INTEGRAL POST CAP DETAIL

(16" TYPE A POST SHOWN, OTHERS SIMILAR)



TOP VIEW



SECTION G-G

SECTION H-H

DETAIL D - NON-INTEGRAL POST CAP DETAIL

(16" TYPE A POST SHOWN, OTHERS SIMILAR)

LEGEND:

⊕ = DIMENSION VARIES WITH CAP DETAIL
BH = BARRIER HEIGHT
TBE = TOP OF BARRIER ELEVATION
FPH = FINISHED POST HEIGHT
NIC = NON-INTEGRAL CAP ADDITION

⊕ = CENTER OF DRILLED SHAFT

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. FASTEN THE NON-INTEGRAL CAP ATOP THE POST BY THREADING A ¾" Ø ANCHOR BOLT INTO THE FERRULE LOOP INSERT.
3. NON-INTEGRAL CAP ANCHOR BOLT SHALL BE GALVANIZED ASTM A325; STANDARD CIRCULAR WASHER SHALL BE GALVANIZED ASTM F436.
4. BOTTOM OF INTEGRAL CAP MUST HAVE RUSTICATION GROOVES OR OVERHANGS; PAINTED LINES ARE NOT ALLOWED.

CALCULATED AWF CHECKED DWB

NOISE BARRIER WALL DETAILS

2952-DR.E

DEL-CR10-0.90

7/13

359/437

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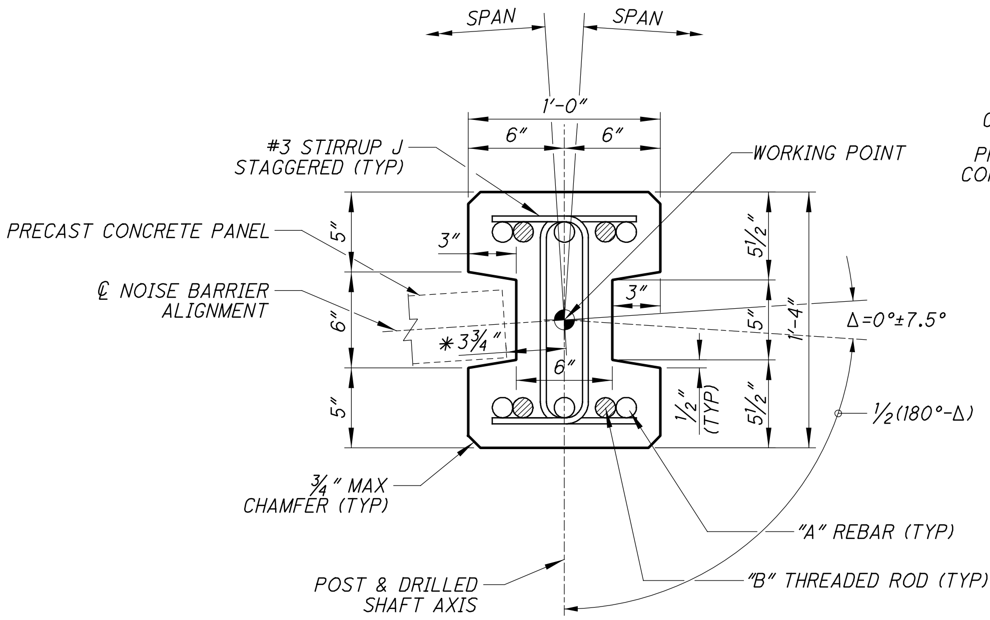
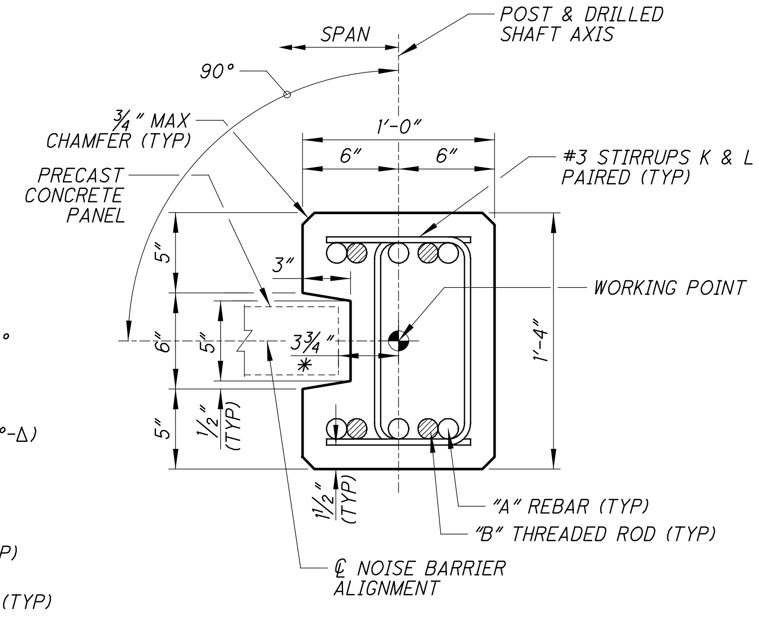
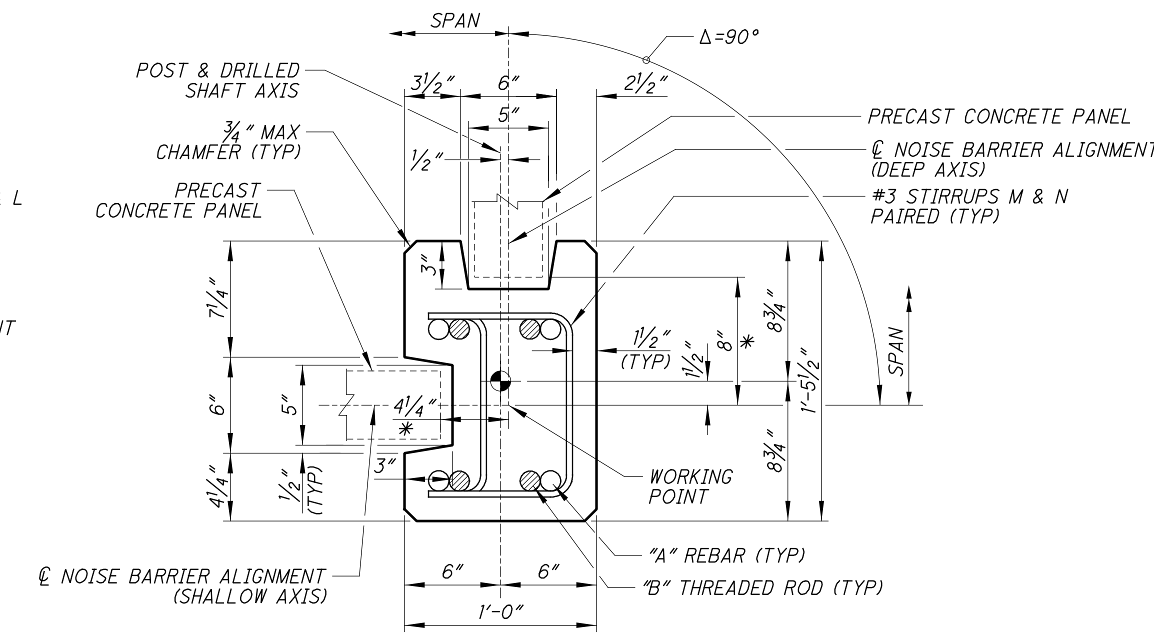


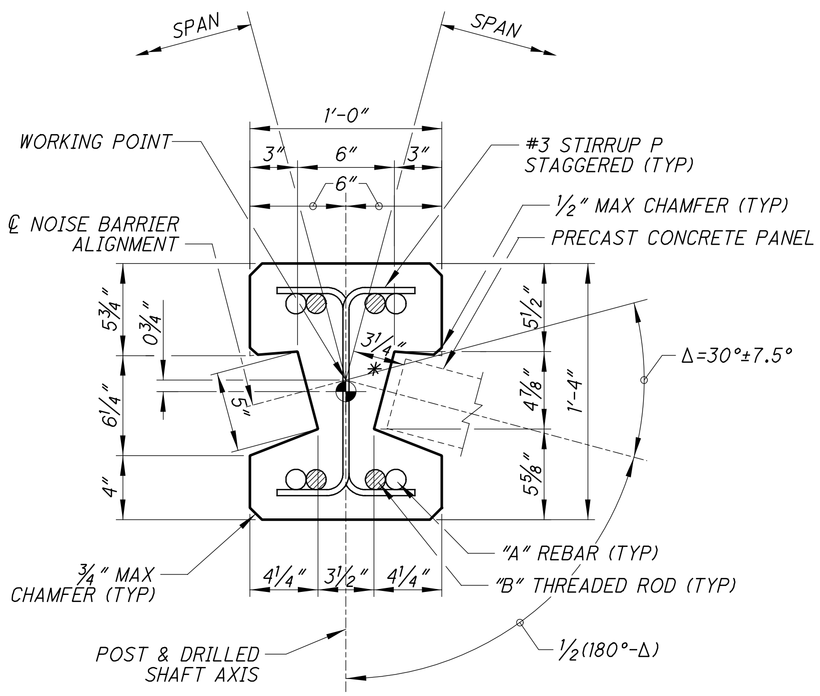
TYPE A POST



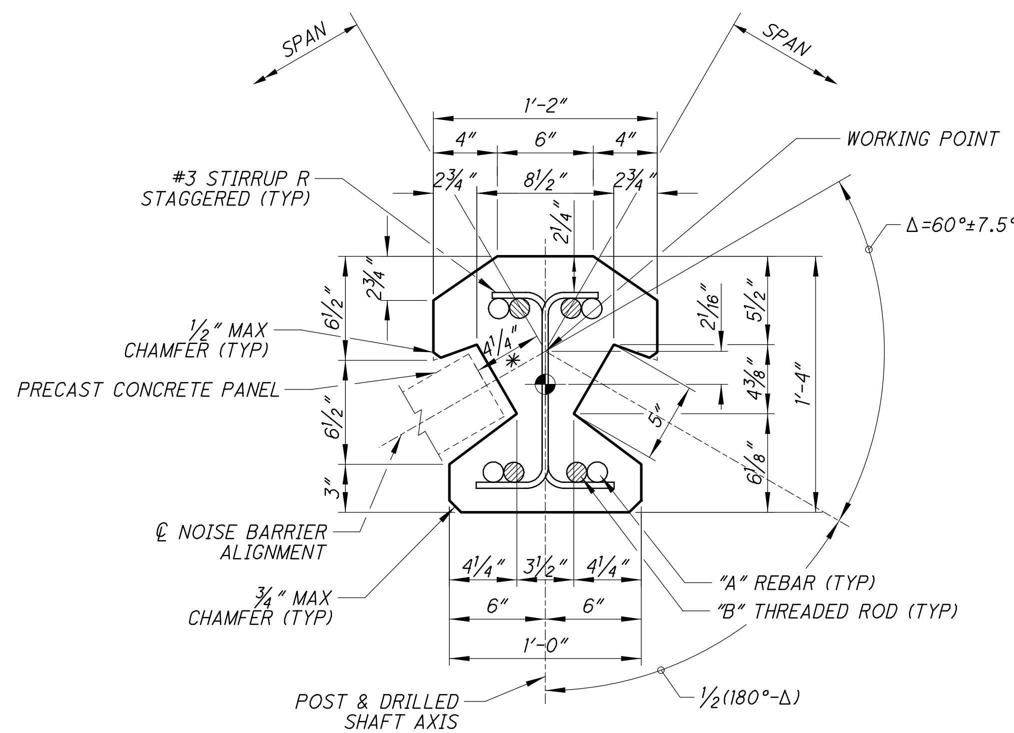
TYPE B POST



TYPE C POST



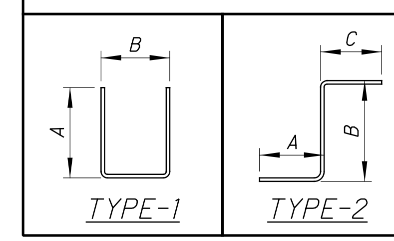
TYPE D POST



TYPE E POST

#3 STIRRUP SCHEDULE					
MARK	TYPE	LENGTH	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C
J	1	1'-11"	6"	1'-1"	
K	1	2'-5"	9"	1'-1"	
L	1	1'-11 "	6"	1'-1"	
M	1	1'-4½"	3½"	11½"	
N	1	2'-3½"	9"	11½"	
P	2	1'-8"	4½"	1'-1"	4½"
R	2	1'-6¼" "	4½"	1'-0¼"	3½"

BENDING DIAGRAMS



LEGEND:

✳ = PANEL LENGTH DEDUCTION (PLD) DIMENSION AS SHOWN IN "PLD TABLE" ON SHEET 5/13.
TR.E = THREADED ROD EMBEDMENT, SEE SHEET 7/13.
SS = STIRRUP SPACING, SEE SHEET 7/13.
Ø = MINIMUM NOMINAL THREAD DIAMETER

⊕ = CENTER OF DRILLED SHAFT

16" PRECAST CONCRETE POST DATA

GEOMETRY		TYPE A POST					TYPE B POST					TYPE D POST					TYPE E POST					TYPE C POST				
BARRIER HEIGHT (BH)	MAX POST SPACING (SPAN)	"A" REBAR SIZE	"B" THREADED ROD SIZE	Ø (IN.)	TR.E (IN.)	STIRRUP SPACING (SS) (IN.)	"A" REBAR SIZE	"B" THREADED ROD SIZE	Ø (IN.)	TR.E (IN.)	STIRRUP SPACING (SS) (IN.)	"A" REBAR SIZE	"B" THREADED ROD SIZE	Ø (IN.)	TR.E (IN.)	STIRRUP SPACING (SS) (IN.)	"A" REBAR SIZE	"B" THREADED ROD SIZE	Ø (IN.)	TR.E (IN.)	STIRRUP SPACING (SS) (IN.)	"A" REBAR SIZE	"B" THREADED ROD SIZE	Ø (IN.)	TR.E (IN.)	STIRRUP SPACING (SS) (IN.)
8'≤BH≤16'	16'-0"	#6	#6	¾	30	10	#5	#5	⅝	25	10	#7	#7	⅞	34	10	#7	#7	⅞	34	9	#6	#6	¾	29	7
	24'-0"	#7	#7	⅞	34	10	#6	#6	¾	29	10	#9	#9	1⅛	53	9	#8	#8	1	42	9	#8	#8	1	42	6
16'<BH≤25'	16'-0"	#10	#10	1¼	67	9	#7	#7	⅞	34	10	#11	#11	1⅜	81	9	#11	#11	1⅜	81	9	#10	#10	1¼	67	6
	24'-0"	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

◇ - USE 20" PRECAST CONCRETE POST; SEE SHEET 9/13.

NOTES:

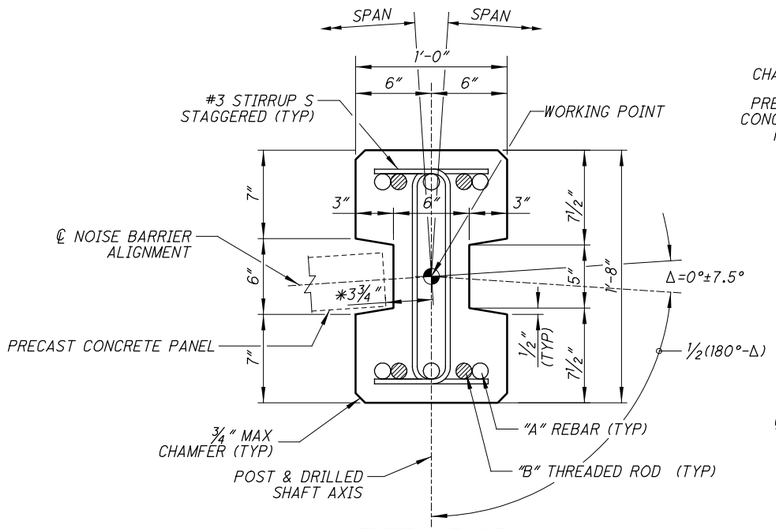
1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. "B" THREADED RODS ARE USED FOR THE STEEL BASE PLATE CONNECTIONS. IN LIEU OF PROVIDING SEPARATE THREADED RODS, THE "A" REBARS MAY BE EXTENDED AND SUPPLIED WITH THREADED ENDS TO CONNECT THE STEEL BASE PLATE TO THE BOTTOM OF THE POST. REFER TO THE STEEL BASE PLATE DETAILS ON SHEET 10/13. EXTENDED "A" REBARS SHALL BE GALVANIZED FULL LENGTH.
3. INSTALL REINFORCING STEEL WITH A MINIMUM CLEARANCE OF 1½" FROM ALL CONCRETE SURFACES UNLESS NOTED OTHERWISE.
4. FOR ADDITIONAL POST DETAILS REFER TO SHEET 7/13.
5. WORKING POINT IS DEFINED AS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT TANGENTS. IF THE DEFLECTION ANGLE (Δ) EQUALS ZERO, THE WORKING POINT IS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT AND THE POST AXIS.

CALCULATED AWF
CHECKED DWB

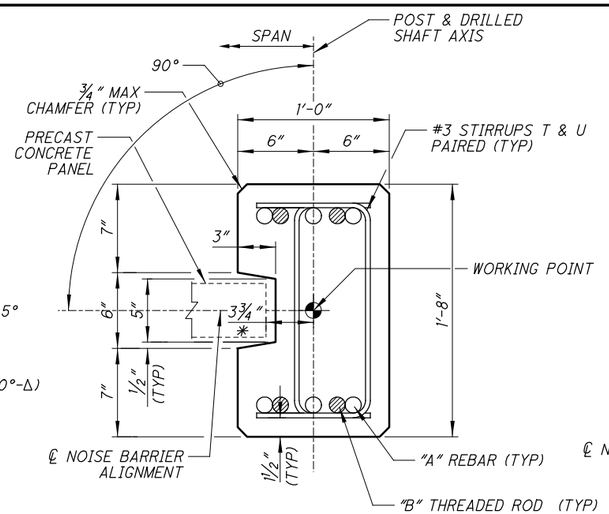
NOISE BARRIER WALL DETAILS

2952-DR.E

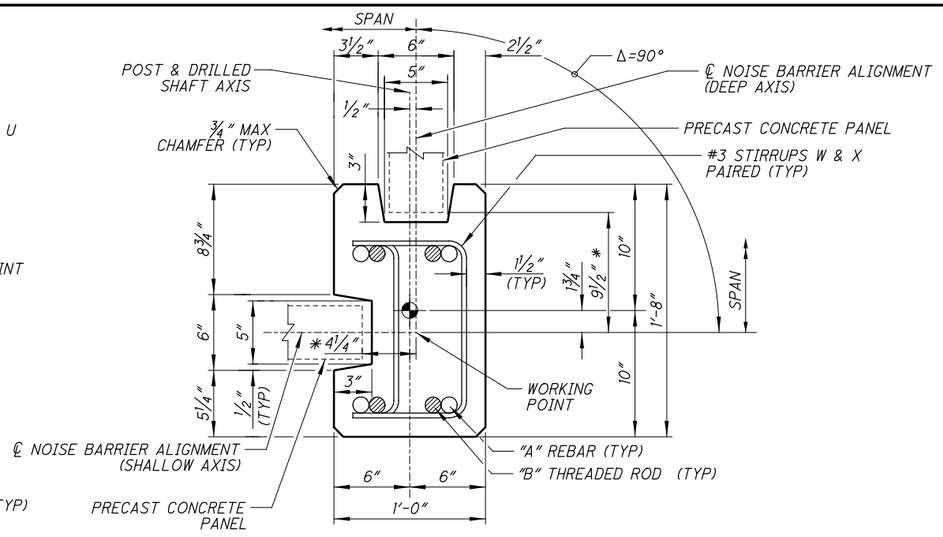
DEL-CR10-0.90



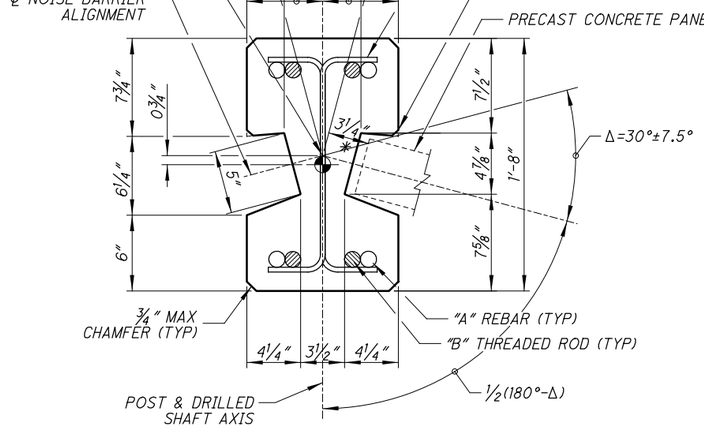
TYPE A POST



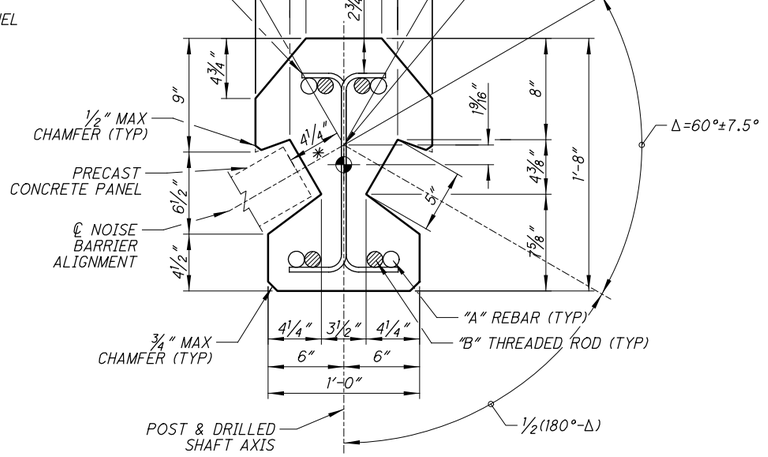
TYPE B POST



TYPE C POST



TYPE D POST

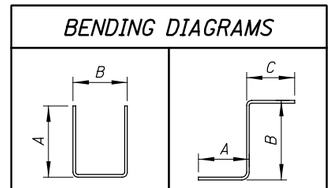


TYPE E POST

#3 STIRRUP SCHEDULE

MARK	TYPE	LENGTH	DIMENSIONS		
			A	B	C
S	1	2'-3"	6"	1'-5"	
T	1	2'-9"	9"	1'-5"	
U	1	2'-3"	6"	1'-5"	
W	1	1'-7"	3½"	1'-2"	
X	1	2'-6"	9"	1'-2"	
Y	2	2'-0"	4½"	1'-5"	4½"
Z	2	1'-9¾"	4½"	1'-3¾"	3½"

BENDING DIAGRAMS



20" PRECAST CONCRETE POST DATA

GEOMETRY		TYPE A POST					TYPE B POST					TYPE D POST					TYPE E POST					TYPE C POST				
BARRIER HEIGHT (BH)	MAX POST SPACING (SPAN)	"A" REBAR	"B" THREADED ROD			STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD			STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD			STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD			STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD			STIRRUP SPACING (SS)
		SIZE	SIZE	Ø (IN.)	TR.E (IN.)	(IN.)	SIZE	SIZE	Ø (IN.)	TR.E (IN.)	(IN.)	SIZE	SIZE	Ø (IN.)	TR.E (IN.)	(IN.)	SIZE	SIZE	Ø (IN.)	TR.E (IN.)	(IN.)	SIZE	SIZE	Ø (IN.)	TR.E (IN.)	(IN.)
BH≤23'	24'-0"	#10	#10	1¼	67	12	#7	#7	⅞	34	13	#11	#11	1⅜	81	10	#11	#11	1⅜	81	11	#11	#11	1⅜	82	6
BH≤24'	23'-0"	#10	#10	1¼	67	12	#7	#7	⅞	34	13	#11	#11	1⅜	81	10	#11	#11	1⅜	81	10	#11	#11	1⅜	82	6
BH≤25'	21'-0"	#10	#10	1¼	67	12	#7	#7	⅞	34	13	#11	#11	1⅜	81	10	#11	#11	1⅜	81	11	#11	#11	1⅜	82	6
BH≤25'	16'-0"	#8	#8	1	42	12	#6	#6	¾	30	13	#10	#10	1¼	67	12	#10	#10	1¼	67	11	#10	#10	1¼	67	6

LEGEND:

* = PANEL LENGTH DEDUCTION (PLD) DIMENSION AS SHOWN IN "PLD TABLE" ON SHEET 5/13.
TR.E = THREADED ROD EMBEDMENT, SEE SHEET 7/13.
SS = STIRRUP SPACING, SEE SHEET 7/13.
Ø = MINIMUM NOMINAL THREAD DIAMETER
⌖ = CENTER OF DRILLED SHAFT

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. "B" THREADED RODS ARE USED FOR THE STEEL BASE PLATE CONNECTIONS. IN LIEU OF PROVIDING SEPARATE THREADED RODS, THE "A" REBARS MAY BE EXTENDED AND SUPPLIED WITH THREADED ENDS TO CONNECT THE STEEL BASE PLATE TO THE BOTTOM OF THE POST. REFER TO STEEL BASE PLATE DETAILS ON SHEET 10/13. EXTENDED "A" REBARS SHALL BE GALVANIZED FULL LENGTH.
3. INSTALL REINFORCING STEEL WITH A MINIMUM CLEARANCE OF 1½" FROM ALL CONCRETE SURFACES UNLESS NOTED OTHERWISE.
4. FOR ADDITIONAL POST DETAILS REFER TO SHEET 7/13.
5. WORKING POINT IS DEFINED AS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT TANGENTS. IF THE DEFLECTION ANGLE (Δ) EQUALS ZERO, THE WORKING POINT IS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT AND THE POST AXIS.

CALCULATED AWF CHECKED DWB

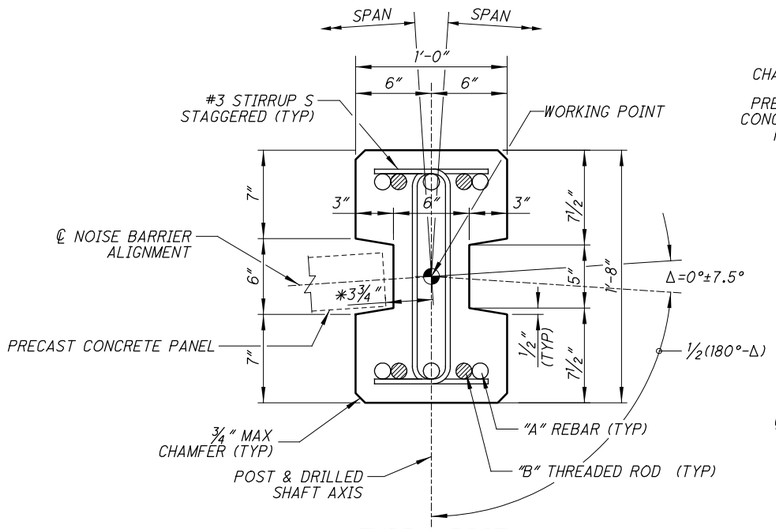
NOISE BARRIER WALL DETAILS

2952-DR.E

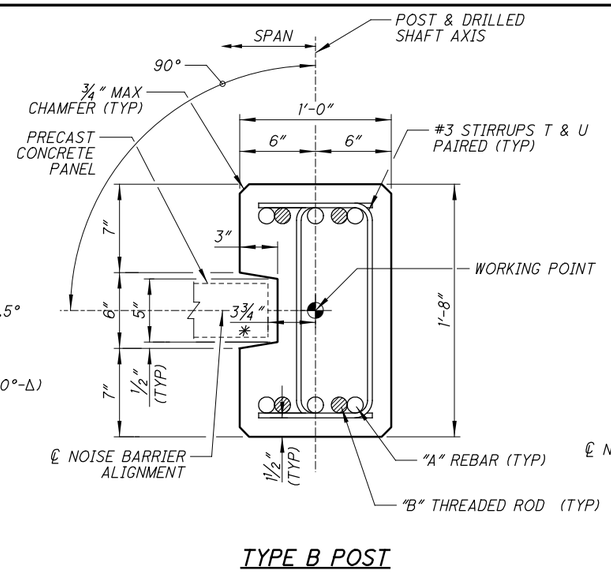
DEL-CR10-0.90

9/13

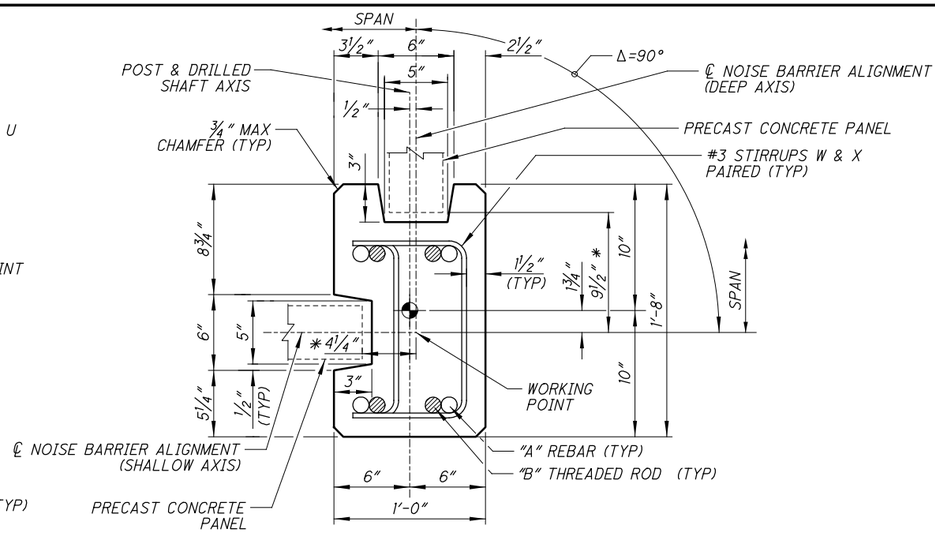
361/437



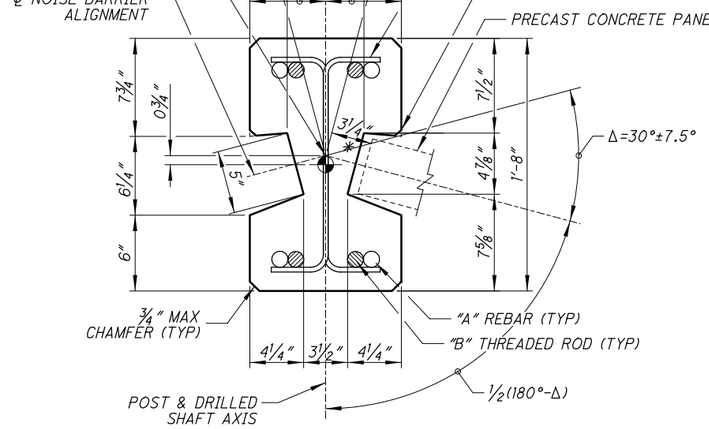
TYPE A POST



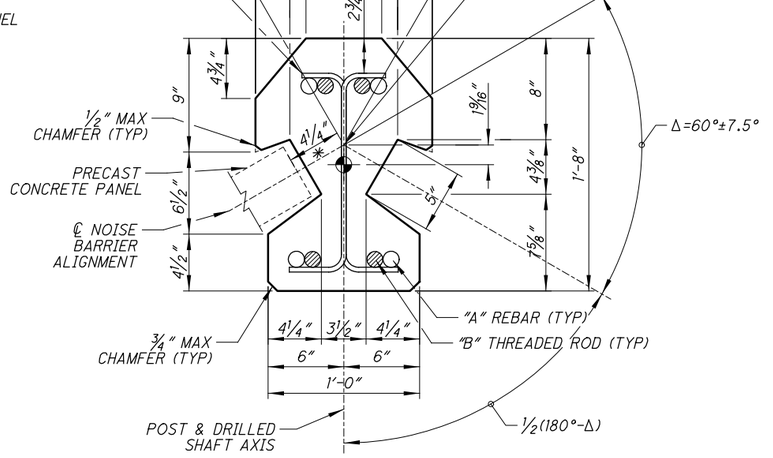
TYPE B POST



TYPE C POST



TYPE D POST

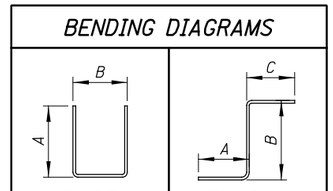


TYPE E POST

#3 STIRRUP SCHEDULE

MARK	TYPE	LENGTH	DIMENSIONS		
			A	B	C
S	1	2'-3"	6"	1'-5"	
T	1	2'-9"	9"	1'-5"	
U	1	2'-3"	6"	1'-5"	
W	1	1'-7"	3 1/2"	1'-2"	
X	1	2'-6"	9"	1'-2"	
Y	2	2'-0"	4 1/2"	1'-5"	4 1/2"
Z	2	1'-9 3/4"	4 1/2"	1'-3 3/4"	3 1/2"

BENDING DIAGRAMS



20" PRECAST CONCRETE POST DATA

GEOMETRY		TYPE A POST					TYPE B POST					TYPE D POST					TYPE E POST					TYPE C POST				
BARRIER HEIGHT (BH)	MAX POST SPACING (SPAN)	"A" REBAR	"B" THREADED ROD			STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD			STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD			STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD			STIRRUP SPACING (SS)	"A" REBAR	"B" THREADED ROD			STIRRUP SPACING (SS)
		SIZE	SIZE	Ø (IN.)	TR.E (IN.)	(IN.)	SIZE	SIZE	Ø (IN.)	TR.E (IN.)	(IN.)	SIZE	SIZE	Ø (IN.)	TR.E (IN.)	(IN.)	SIZE	SIZE	Ø (IN.)	TR.E (IN.)	(IN.)	SIZE	SIZE	Ø (IN.)	TR.E (IN.)	(IN.)
BH≤23'	24'-0"	#10	#10	1 1/4	67	12	#7	#7	7/8	34	13	#11	#11	1 3/8	81	10	#11	#11	1 3/8	81	11	#11	#11	1 3/8	82	6
BH≤24'	23'-0"	#10	#10	1 1/4	67	12	#7	#7	7/8	34	13	#11	#11	1 3/8	81	10	#11	#11	1 3/8	81	10	#11	#11	1 3/8	82	6
BH≤25'	21'-0"	#10	#10	1 1/4	67	12	#7	#7	7/8	34	13	#11	#11	1 3/8	81	10	#11	#11	1 3/8	81	11	#11	#11	1 3/8	82	6
BH≤25'	16'-0"	#8	#8	1	42	12	#6	#6	3/4	30	13	#10	#10	1 1/4	67	12	#10	#10	1 1/4	67	11	#10	#10	1 1/4	67	6

LEGEND:

* = PANEL LENGTH DEDUCTION (PLD) DIMENSION AS SHOWN IN "PLD TABLE" ON SHEET 5/13.
TR.E = THREADED ROD EMBEDMENT, SEE SHEET 7/13.
SS = STIRRUP SPACING, SEE SHEET 7/13.
Ø = MINIMUM NOMINAL THREAD DIAMETER
⌖ = CENTER OF DRILLED SHAFT

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. "B" THREADED RODS ARE USED FOR THE STEEL BASE PLATE CONNECTIONS. IN LIEU OF PROVIDING SEPARATE THREADED RODS, THE "A" REBARS MAY BE EXTENDED AND SUPPLIED WITH THREADED ENDS TO CONNECT THE STEEL BASE PLATE TO THE BOTTOM OF THE POST. REFER TO STEEL BASE PLATE DETAILS ON SHEET 10/13. EXTENDED "A" REBARS SHALL BE GALVANIZED FULL LENGTH.
3. INSTALL REINFORCING STEEL WITH A MINIMUM CLEARANCE OF 1 1/2" FROM ALL CONCRETE SURFACES UNLESS NOTED OTHERWISE.
4. FOR ADDITIONAL POST DETAILS REFER TO SHEET 7/13.
5. WORKING POINT IS DEFINED AS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT TANGENTS. IF THE DEFLECTION ANGLE (Δ) EQUALS ZERO, THE WORKING POINT IS THE POINT OF INTERSECTION OF THE WALL ALIGNMENT AND THE POST AXIS.

CALCULATED AWF CHECKED DWB

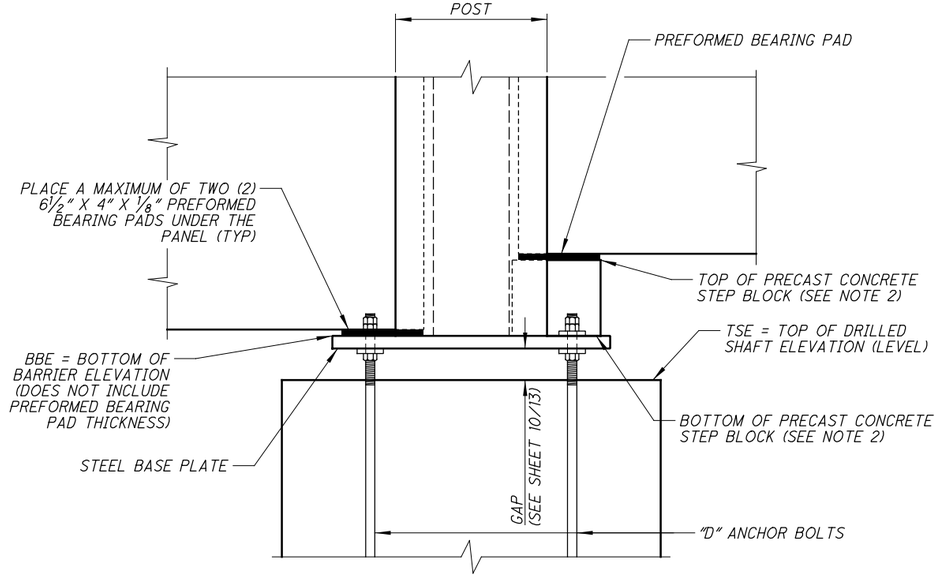
NOISE BARRIER WALL DETAILS

2952-DR.E

DEL-CR10-0.90

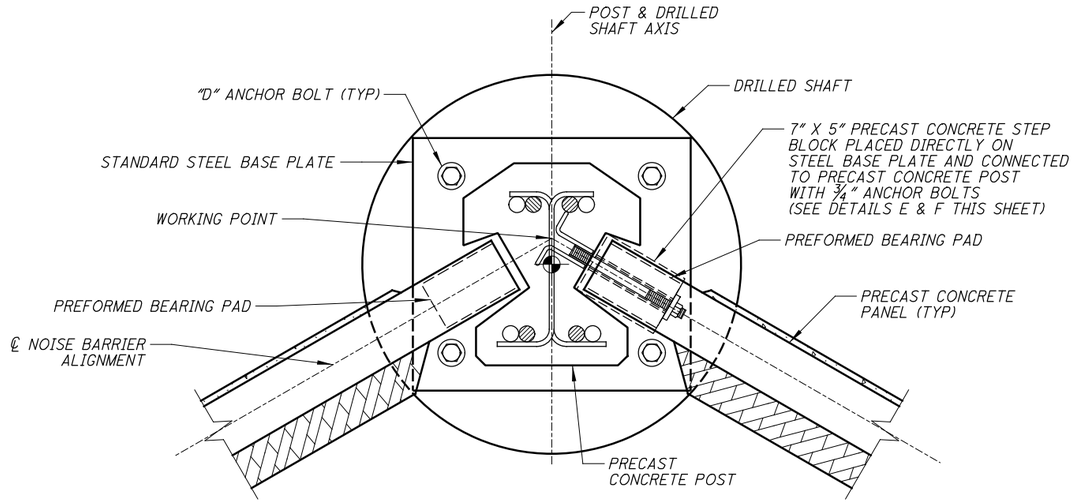
10/13

362/437



PANEL SEAT ELEVATION

(THREADED RODS NOT SHOWN FOR CLARITY)

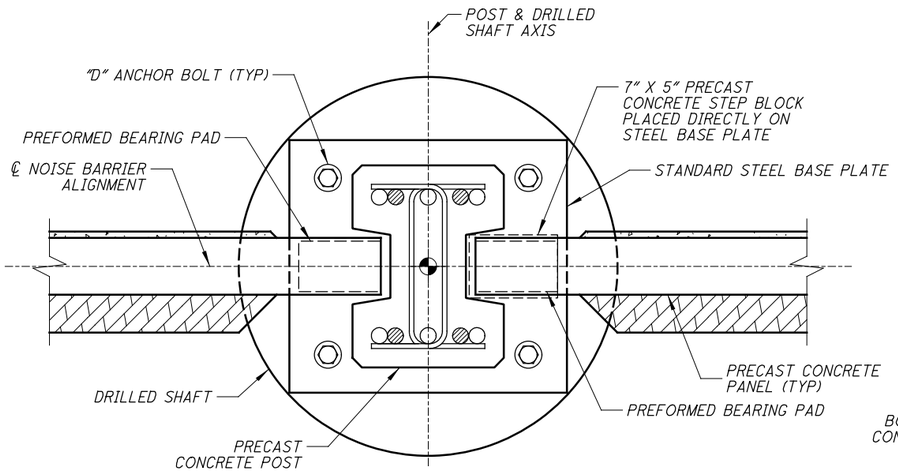


PANEL SEAT PLAN WITH INTEGRAL STEP BLOCK

(16", TYPE E POST SHOWN; OTHER POSTS SIMILAR)

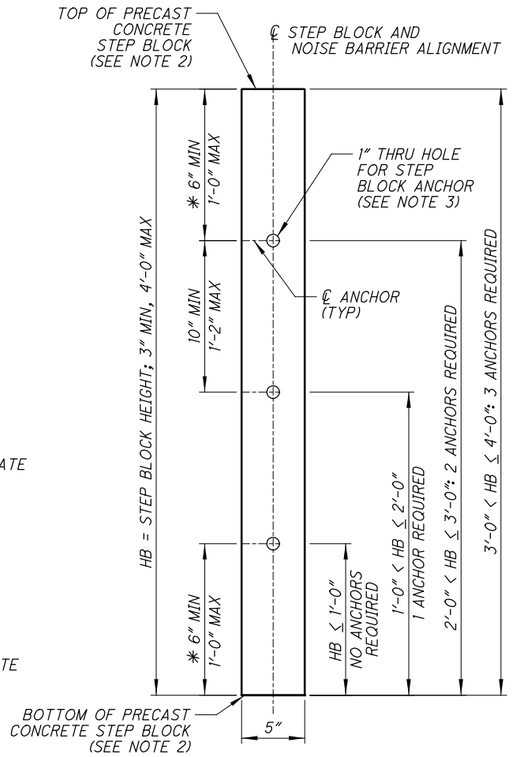
LEGEND:

⌖ = CENTER OF DRILLED SHAFT



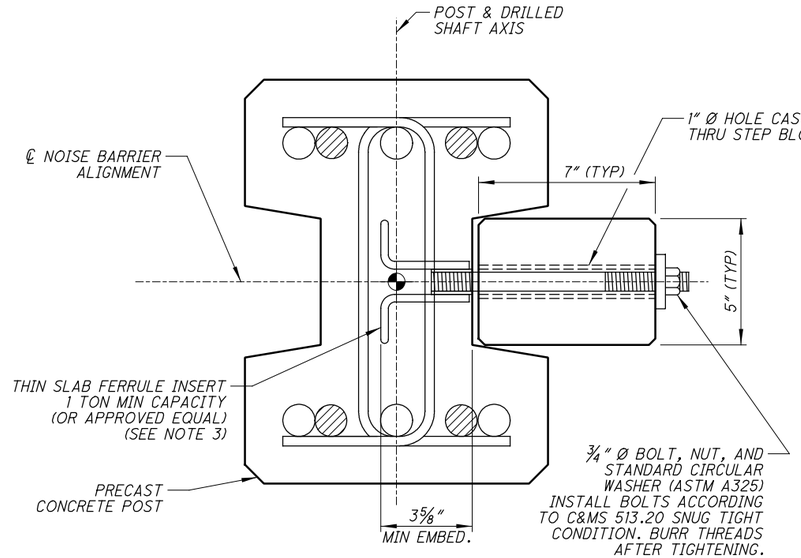
PANEL SEAT PLAN WITH NON-INTEGRAL STEP BLOCK

(16" TYPE A POST SHOWN; OTHER POSTS SIMILAR)



* DIMENSIONS TO BE EQUAL FROM EACH END OF STEP BLOCK. MAY BE UNEQUAL WHEN NECESSARY TO AVOID POST SHEAR REINFORCING.

DETAIL F - STEP BLOCK ANCHOR LAYOUT



DETAIL E - INTEGRAL STEP BLOCK

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. NON-INTEGRAL PRECAST CONCRETE STEP BLOCKS SHALL BE USED FROM A MINIMUM HEIGHT OF 3" TO A MAXIMUM HEIGHT OF 1'-0".

   INTEGRAL PRECAST CONCRETE STEP BLOCKS SHALL BE USED FOR FOR HEIGHTS OVER 1'-0" UP TO AND INCLUDING 4'-0", AS DETAILED ON THIS SHEET.

   PLACE THE STEP BLOCK DIRECTLY ON THE STEEL BASE PLATE AND THEN PLACE THE PREFORMED BEARING PAD(S) ON TOP OF THE STEP BLOCK. ENSURE THAT THE STEP BLOCK IS FULLY SEATED ON THE STEEL BASE PLATE.
3. ENSURE THAT STEP BLOCK ANCHOR LOCATIONS DO NOT INTERFERE WITH PRECAST CONCRETE POST SHEAR REINFORCING. REFER TO "DETAIL F" ON THIS SHEET FOR ANCHOR LOCATION REQUIREMENTS.

CALCULATED AWF
CHECKED DWB

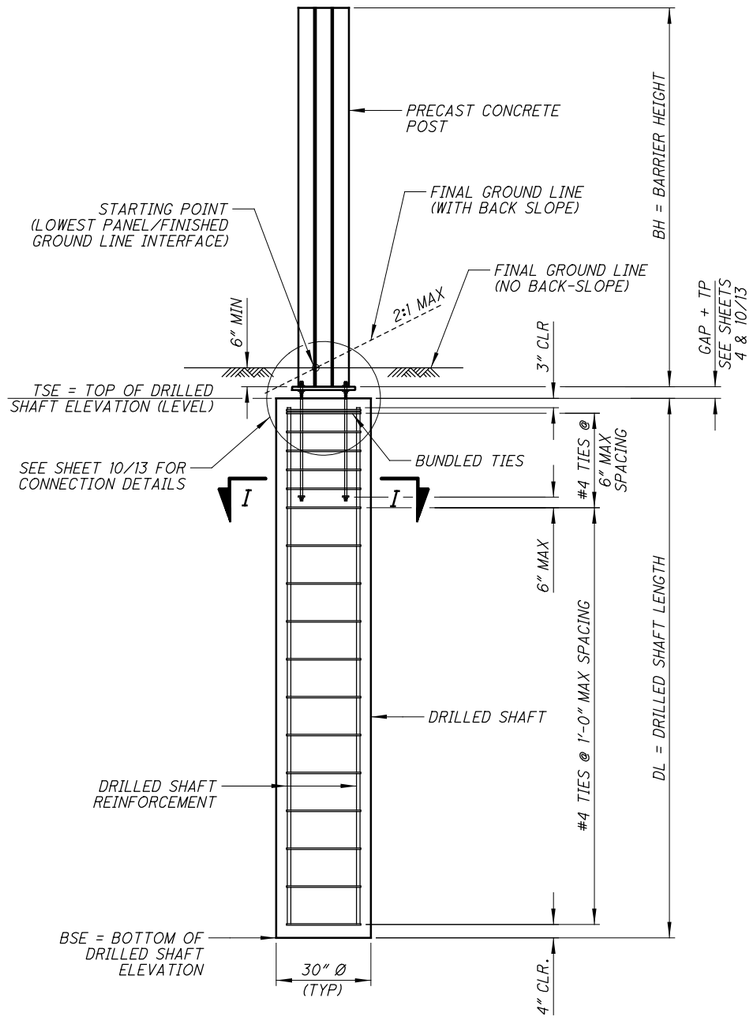
NOISE BARRIER WALL DETAILS

2952-DR.E

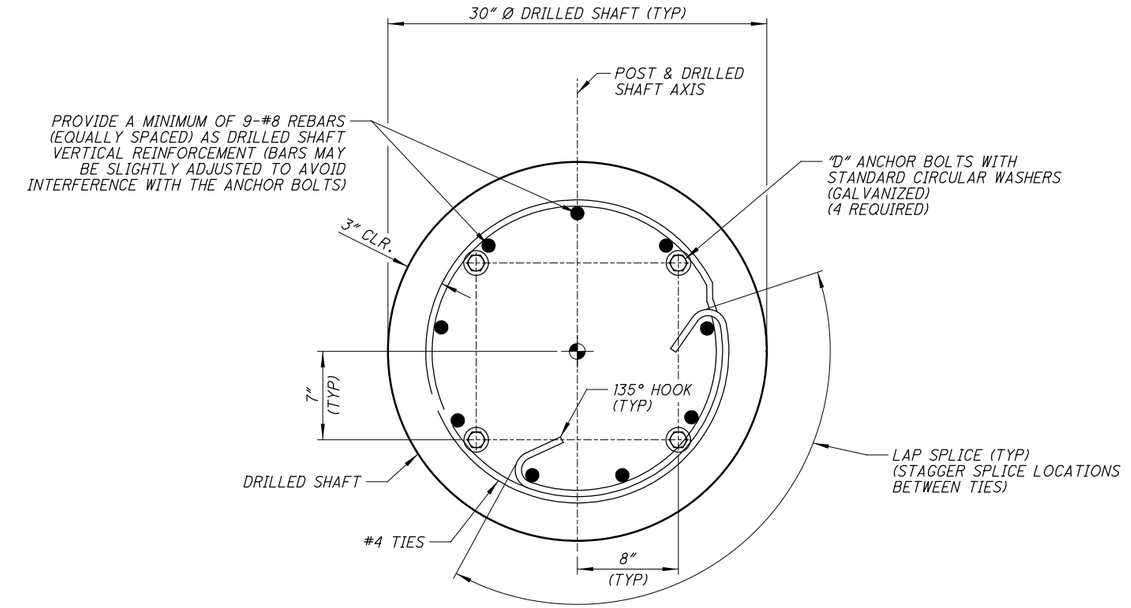
DEL-CR10-0.90

11 / 13

363
437



TYPICAL DRILLED SHAFT ELEVATION



SECTION I-I: TYPICAL DRILLED SHAFT

LEGEND:

⊕ = CENTER OF DRILLED SHAFT

NOTES:

1. FOR GENERAL NOTES REFER TO SHEETS 1-3/13.
2. REFER TO THE REINFORCING STEEL LIST IN THE PROJECT PLANS FOR THE REINFORCING STEEL DETAILS FOR EACH DRILLED SHAFT DESIGN.

CALCULATED AWF
CHECKED DWB

NOISE BARRIER WALL DETAILS

2952-DR.E

DEL-CR10-0.90

12/13

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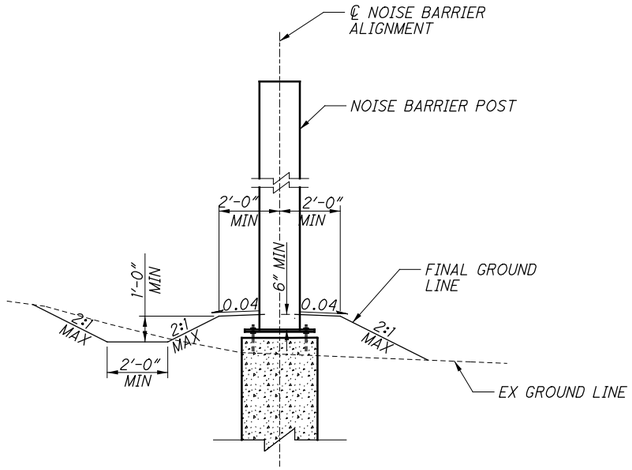
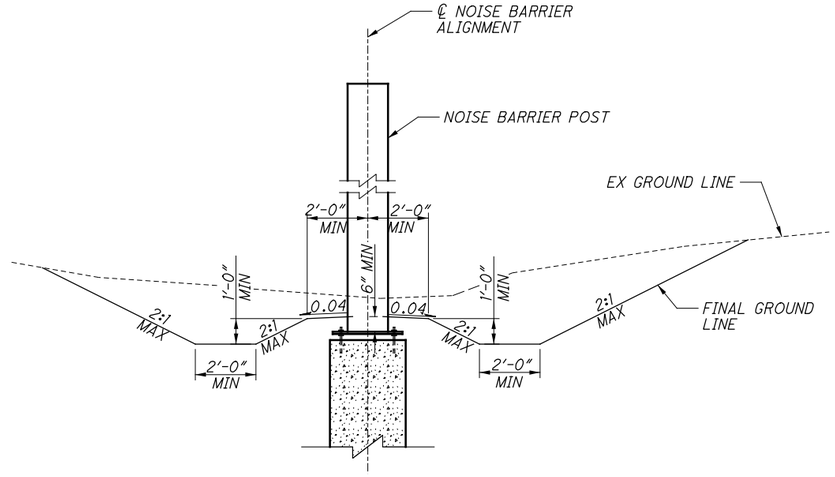
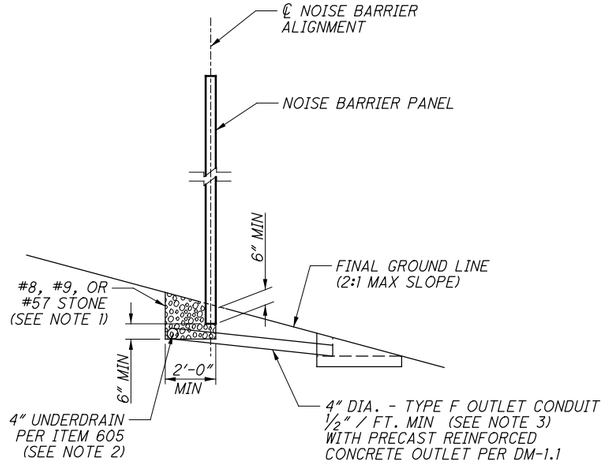
437



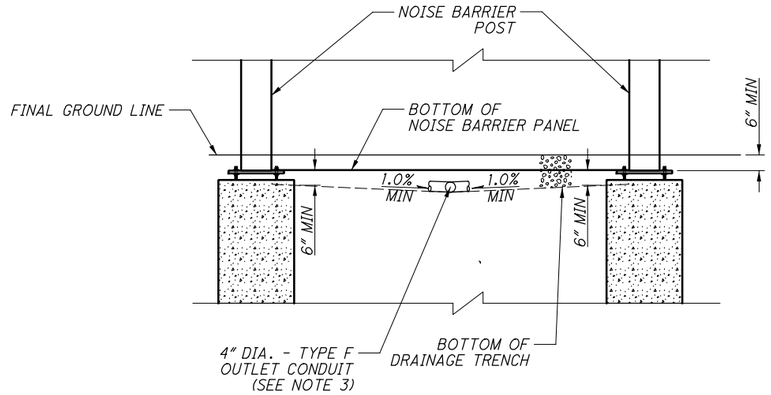
TYPICAL FILL SECTION



TYPICAL CUT SECTION



TYPICAL SLOPED SECTION



TYPICAL ELEVATION OF SLOPED SECTION - DRAINAGE

SLOPED SECTION DRAINAGE NOTES:

1. CONSTRUCT A TRENCH WITH A MINIMUM LONGITUDINAL SLOPE OF 1.0% UNDER THE NOISE BARRIER PANELS AS SHOWN IN THE TYPICAL ELEVATION.
2. PROVIDE UNDERDRAIN SLOPE OF 1% MINIMUM OR AS SPECIFIED IN PROJECT PLANS. INSTALL IN ACCORDANCE WITH ITEM 605.
3. OUTLET CONDUIT TO BE SPACED AT 500' MAX.; INSTALL IN ACCORDANCE WITH ITEM 605.

CALCULATED AWF
CHECKED DWB

NOISE BARRIER WALL DETAILS

NOISE

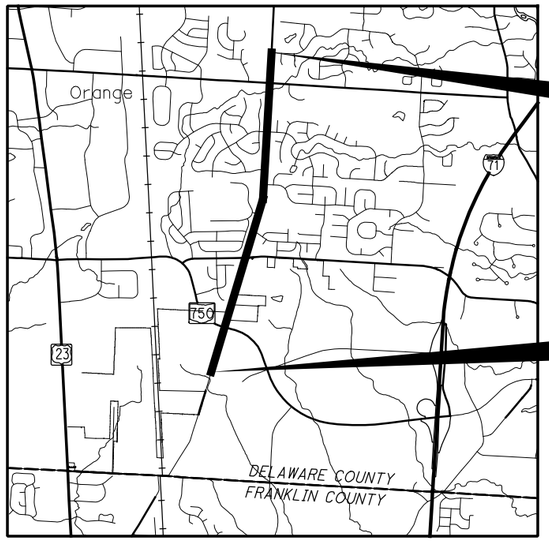
2952-DR.E

DEL-CR10-0.90

13 / 13

365
437

RIGHT OF WAY LEGEND SHEET DEL-CR10-0.90



LOCATION MAP

LATITUDE: 40°09'01" LONGITUDE: -82°59'52"

SCALE IN MILES

0 1 2 3 4

N

DELAWARE COUNTY

CITY OF COLUMBUS AND ORANGE TOWNSHIP

SECTIONS 1, 2, 3 & 4, T3 - R 18

UNITED STATES MILITARY LANDS

INDEX OF SHEETS:

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE RECONSTRUCTION AND WIDENING OF 2.08 MILES OF EXISTING SOUTH OLD STATE ROAD (CR 10) FROM TWO (2) LANES WITH TURN LANES AT EXISTING INTERSECTIONS TO A FIVE (5) LANE FACILITY. THESE IMPROVEMENTS INCLUDE TURN LANES, NEW PAVEMENT, CURB, SIDEWALK ALONG THE EAST SIDE OF THE ROAD AND A TEN-FOOT (10') SHARED USE PATH ALONG THE WEST SIDE OF THE ROAD, STREET LIGHTING AT INTERSECTIONS, STORM SEWER, TRAFFIC SIGNALS, SIGNAGE AND PAVEMENT MARKINGS.

THE EXISTING AND PROPOSED RIGHT-OF-WAY SHALL BE REFERENCED FROM THE CENTERLINE OF RIGHT-OF-WAY.

PROJECT CONTROL

STATE PLANE GRID OHIO STATE PLANE, NORTH
PROJECT ADJUSTMENT FACTOR 1.000016272

PLANS PREPARED BY:

FIRM NAME : URS CORPORATION
R/W DESIGNER: BRIAN WALLACE
R/W REVIEWER: DAN STANKAVICH
FIELD REVIEWER: PHIL FRY, TONY FALTER
PRELIMINARY FIELD REVIEW DATE: 11/15/2012
TRACINGS FIELD REVIEW DATE: 03/27/2014
OWNERSHIP UPDATED BY: TONY FALTER
DATE COMPLETED: 08/01/2014
PLAN COMPLETION DATE: 08/22/2014

UTILITIES

SEE PAGE 2 OF 72 FOR UTILITY CONTACT LIST.

STRUCTURE KEY

- RESIDENTIAL
- COMMERCIAL
- OUT-BUILDING

TYPES OF TITLE LEGEND:

WL = FEE SIMPLE WITH LIMITATION OF ACCESS
WD = WARRANTY DEED
PRW = PROPERTY RIGHT FEE SIMPLE
SH = STANDARD HIGHWAY EASEMENT
LA = LIMITED ACCESS EASEMENT
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
A = AERIAL EASEMENT
SL = SLOPE EASEMENT
S = SEWER EASEMENT
PRE = PROPERTY RIGHT EASEMENT

CONVENTIONAL SYMBOLS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (Ex) (Pr)
Center Line
Right of Way (Ex) Ex R/W
Right of Way (Pr) R/W
Standard Highway Ease.(Ex) Ex SH
Temporary Right of Way TMP
Channel Ease. (Pr) CH
Utility Ease. (Ex) Ex U
Railroad or
Guardrail (Ex) (Pr)
Construction Limits
Edge of Pavement (Ex)
Edge of Pavement (Pr)
Edge of Shoulder (Ex)
Edge of Shoulder (Pr)
Ditch / Creek (Ex)
Ditch / Creek (Pr)
Tree Line (Ex)
Ownership Hook Symbol , Example
Property Line Symbol , Example
Break Line Symbol , Example
Tree (Pr) , Tree (Ex) , Shrub (Ex)
Tree (Remove) , Shrub (Remove)
Evergreen (Ex) , Stump
Evergreen (Remove) , Stump (Remove)
Wetland (Pr) , Grass (Pr) , Aerial Target
Post (Ex) , Mailbox (Ex) MB , Mailbox (Pr) MB
Light (Ex) , Telephone Marker (Ex) TEL
Fire Hydrant (Ex) , Water Meter (Ex) WM
Water Valve (Ex) , Utility Valve Unknown (Ex.)
Telephone Pole (Ex) , Power Pole (Ex)
Light Pole (Ex)

I, Dan Stankavich, P. S., have prepared the CL plat and accompanying right of way plan for this project. I have reestablished the locations of the existing property lines and the existing centerline of Right of Way for property takes contained herein based on an actual field survey performed by Charles A. Wagner, P.S. No. 8091 in 2011. As a part of this project I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue areas. I have prepared the legal descriptions necessary to acquire the parcels as shown herein. As a part of this work I will oversee the setting of right of way monuments at the property corners, propertyintersection, points along the right of way and/or angle points on the right of way, Section Corners and other points as shown herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

_____
Dan Stankavich, Professional Land Surveyor 7122

Date: November 19, 2014

SURVEYORS SEAL

FEDERAL PROJECT NO. E110272
PID NO. 90243
CALCULATED BLW CHECKED DS

RIGHT OF WAY LEGEND SHEET

DEL-CR10-0.90

2952-DR.E

UTILITIES

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

AMERICAN ELECTRIC POWER
850 TECH CENTER DRIVE
GAHANNA, OH 43230
ROD SLONEKER
PH: 614-883-6817
RISLONEKER@AEP.COM
AEP SOLUTION CENTER: 800-277-2177

AT&T - OHIO
111 NORTH 4TH STREET
COLUMBUS, OH 43215
ROGER MIKESELL
PH: 614-223-7162
RX8936@ATT.COM
AT&T REPAIR SERVICE: 888-611-4966
DAMAGE PREVENTION: 937-296-3929

TCG OHIO/AT&T BUSINESS FIBER
300 NORTH POINT PARKWAY
ALPHARETTA, GA 30005
JOEL C. MCKINNEY
PH: 770-750-6416
JM2814LIO@ATT.COM

AT&T-METRO
5980-G WILCOX PLACE
DUBLIN, OH 43017
GREG BELEW
PH: 614-760-8320
GBELEW@HLGENGINEERING.COM

COLUMBIA GAS OF OHIO
3550 JOHNNY APPLESEED COURT
COLUMBUS, OH 43231
MIKE SUCHARSKI
PH: 614-818-2104
MSUCHARSKI@NISOURCE.COM
CUSTOMER SERVICE: 800-344-4077
DAMAGE PREVENTION: 866-632-6243

COLUMBUS FIBERNET
1600 WALCUTT ROAD
COLUMBUS, OH 43228
BILL VERHOFF
PH: 614-351-6265
BAVERHOFF@COLUMBUSFIBER.NET

COLUMBUS DEPT. OF PUBLIC UTILITIES
DIVISION OF SEWERS & DRAINS
1250 FAIRWOOD AV
COLUMBUS, OH 43206
PH: 614-645-7361
FAX: 614-645-8156
EMERGENCY: 614-645-7102

COLUMBUS DEPT. OF PUBLIC UTILITIES
DIVISION OF WATER
910 DUBLIN ROAD
COLUMBUS, OH 43215
PH: 614-645-7788
FAX: 614-645-5967
EMERGENCY: 614-645-7788

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

COLUMBUS DEPT. OF PUBLIC UTILITIES
DIVISION OF POWER
3500 INDIANOLA AVE.
COLUMBUS, OH 43214
PH: 614-645-7267

DEL-CO WATER
6773 OLENTANGY RIVER ROAD
DELAWARE, OH 43015
SHANE CLARK
PH: 740-201-0133
SCLARK@DELCOWATER.COM

FIBERTECH NETWORKS
300 MERIDIAN CENTER
ROCHESTER, NY 14618
JAMES HIGHSMITH
PH: 585-697-5145
JHIGHSMITH@FIBERTECH.COM

LEVEL 3 COMMUNICATIONS
226 N. 5TH ST - SUITE 100
JARAMIE MYERS
PH: 614-324-5199
JARAMIE.MYERS@LEVEL3.COM

TIME WARNER COMMUNICATIONS/INSIGHT
3760 INTERCHANGE ROAD
COLUMBUS, OH 43204
JEFFREY WHATLEY
PH: 614-255-0855J
JEFFREY.WHATLEY1@TWCABLE.COM

JP MORGAN CHASE BANK
1111 POLARIS PARKWAY
COLUMBUS, OH 43240
PAUL MELLOR
PH: 614-213-0041

MCI METRO ACCESS/
VERIZON BUSINESS
120 RAVINE ST
AKRON, OH 44303
AL GUEST
PH: 330-253-8267
ALLAN.GUEST@VERIZON.COM

SUBURBAN NATURAL GAS
2626 LEWIS CENTER RD
LEWIS CENTER, OH 43035
AARON ROLL
PH:740-548-2450 EXT. 213
AROLL@SNGCO.COM

TIME WARNER CABLE
3760 INTERCHANGE RD
COLUMBUS, OH 43204
RAY MAURER
PH: 614-481-5262
RAY.MAURER@TWCABLE.COM

TIME WARNER TELECOM
250 WEST OLD WILSON BRIDGE RD STE 130
WORTHINGTON, OH 43085
MARK BLACKBURN
PH: 614-255-2148
MARK.BLACKBURN@TWTELECOM.COM

WIDE OPEN WEST
3675 CORPORATE DR
COLUMBUS, OH 43231
ROB CARPENTER
PH: 614-948-4653
R_CARPENTER20@WIDEOPENWEST.COM

FRONTIER COMMUNICATIONS
2780 LIBERTY ROAD
DELAWARE, OH 43015
CHRIS AVERY & ROBERT CHANDLER
740-369-0829
IRA.AVERY@FTR.COM
ROBERT.L.CHANDLER@FTR.COM

THE FOLLOWING CITY OF COLUMBUS UTILITIES MAY BE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT AND DO NOT SUBSCRIBE TO A REGISTERED UNDERGROUND PROTECTION SERVIC

CITY OF COLUMBUS
DEPARTMENT OF PUBLIC SERVICE
TRAFFIC MAINTENANCE
1820 17TH AVENUE
COLUMBUS, OHIO 43219
PH:614-645-7393
FAX:614-645-5967

CITY OF COLUMBUS
DEPARTMENT OF TECHNOLOGY
90 W. BROAD ST. ROOM 316
COLUMBUS, OH 43215
CONTRACTOR LINE: 614-645-7756
CABLE LOCATE FAX: 614-645-6627

CITY OF COLUMBUS
DIVISION OF SUPPORT SERVICES - COMMUNICATIONS
4211 GROVES ROAD
COLUMBUS, OH 43232-4104
PH: 614-724-7047
FAX: 614-645-6588
RADIO ROOM: 614-724-4006

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RIGHT OF WAY
LEGEND SHEET - UTILITIES

DEL-CR10-0.90

FEDERAL PROJECT NO. E110272
PID NO. 90243
CALCULATED BLW
CHECKED DS

2952-DR.E
2 / 72
367 / 437

DEL-CR10-0.90

DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTIONS 1,2,3 & 4, T 3 - T 18
UNITED STATES MILITARY LANDS

BASIS FOR BEARINGS:

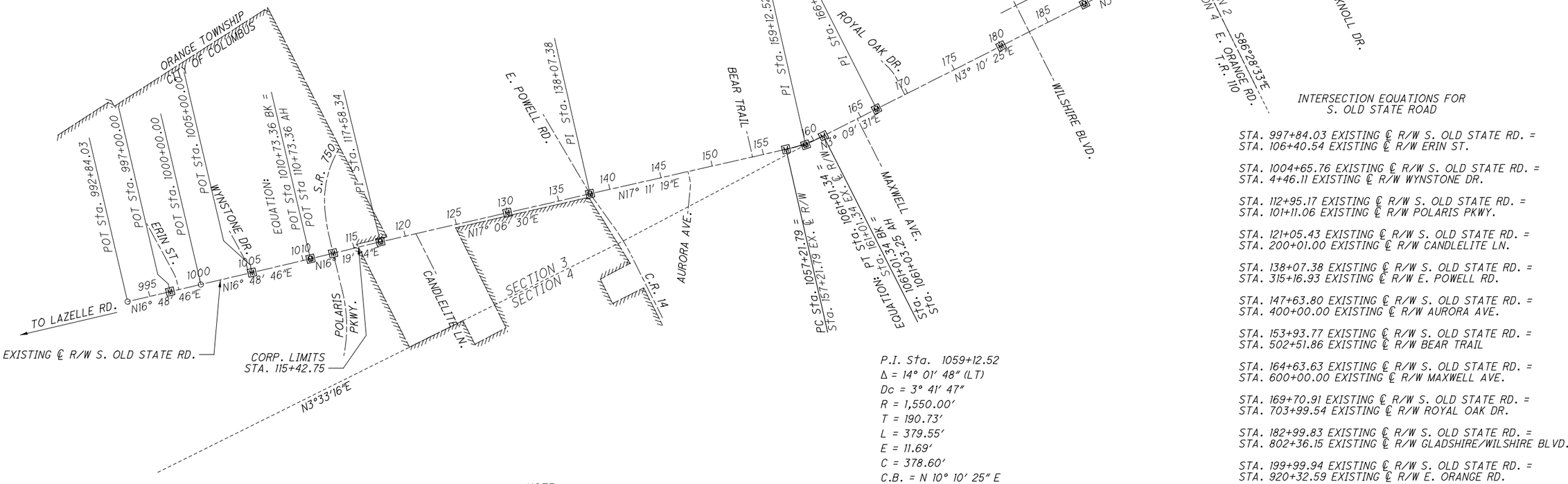
ALL BEARINGS SHOWN ARE OHIO NORTH ZONE
SPC GRID BEARING

NOTE: THE EXISTING R/W WIDTH AND LOCATION WERE DETERMINED USING THE FOLLOWING RECORD PLANS:

DELAWARE COUNTY PLANS ON FILE:
SOUTH OLD STATE ROAD
INTERSECTION IMPROVEMENT PLANS
EAST ORANGE ROAD

ODOT RECORD PLAN DESIGNATED:
DEL-CR14-1.39

RECORDED SUBDIVISIONS:
SEE REFERENCES SHEET 4 OF 72



P.I. Sta. 1059+12.52
Δ = 14° 01' 48" (LT)
Dc = 3° 41' 47"
R = 1,550.00'
T = 190.73'
L = 379.55'
E = 11.69'
C = 378.60'
C.B. = N 10° 10' 25" E

INTERSECTION EQUATIONS FOR S. OLD STATE ROAD

STA. 997+84.03 EXISTING ℄ R/W S. OLD STATE RD. = STA. 106+40.54 EXISTING ℄ R/W ERIN ST.

STA. 1004+65.76 EXISTING ℄ R/W S. OLD STATE RD. = STA. 4+46.11 EXISTING ℄ R/W WYNSTONE DR.

STA. 112+95.17 EXISTING ℄ R/W S. OLD STATE RD. = STA. 101+11.06 EXISTING ℄ R/W POLARIS PKWY.

STA. 121+05.43 EXISTING ℄ R/W S. OLD STATE RD. = STA. 200+01.00 EXISTING ℄ R/W CANDLELITE LN.

STA. 138+07.38 EXISTING ℄ R/W S. OLD STATE RD. = STA. 315+16.93 EXISTING ℄ R/W E. POWELL RD.

STA. 147+63.80 EXISTING ℄ R/W S. OLD STATE RD. = STA. 400+00.00 EXISTING ℄ R/W AURORA AVE.

STA. 153+93.77 EXISTING ℄ R/W S. OLD STATE RD. = STA. 502+51.86 EXISTING ℄ R/W BEAR TRAIL

STA. 164+63.63 EXISTING ℄ R/W S. OLD STATE RD. = STA. 600+00.00 EXISTING ℄ R/W MAXWELL AVE.

STA. 169+70.91 EXISTING ℄ R/W S. OLD STATE RD. = STA. 703+99.54 EXISTING ℄ R/W ROYAL OAK DR.

STA. 182+99.83 EXISTING ℄ R/W S. OLD STATE RD. = STA. 802+36.15 EXISTING ℄ R/W GLADSHIRE/WILSHIRE BLVD.

STA. 199+99.94 EXISTING ℄ R/W S. OLD STATE RD. = STA. 920+32.59 EXISTING ℄ R/W E. ORANGE RD.

STA. 210+70.55 EXISTING ℄ R/W S. OLD STATE RD. = STA. 950+00.00 EXISTING ℄ R/W ABBEY KNOLL DR.

NOTE:
SEE PLAT SHEET 2 OF 2 FOR PROPOSED MONUMENT TABLE DATA.

MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- I.R.F. IRON PIN FOUND
- R.F. IRON PIPE FOUND

RECEIVED _____, 20____
RECORDED _____, 20____
BOOK _____ PAGE _____
_____
COUNTY RECORDER

I, Dan Stankavich, P. S., have prepared this CL plat and accompanying right of way plan for this project. I have reestablished the locations of the existing property lines and the existing centerline of Right of Way for property takes contained herein based on an actual field survey performed by Charles A. Wagner, P.S. No. 8091 in 2011. As a part of this project I have established the proposed property lines, calculated the Gross Take, present roadway occupied (PRO), Net Take and Net Residue areas. I have prepared the legal descriptions necessary to acquire the parcels as shown herein. As a part of this work I will oversee the setting of right of way monuments at the property corners, propertyintersection, points along the right of way and/or angle points on the right of way, Section Corners and other points as shown herein. All of my work contained herein was conducted in accordance with Ohio Administrative Code 4733-37 commonly known as "Minimum Standards for Boundary Surveys in the State of Ohio" unless noted. The words I and my as used herein are to mean either myself or someone working under my direct supervision.

_____
Dan Stankavich, Professional Land Surveyor 7122

Date: November 19, 2014

SURVEYORS SEAL

HORIZONTAL SCALE IN FEET
0 250 500 1000

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

SHEET 1 OF 2
CENTERLINE PLAT
DEL-CR10-0.90

2952-DR.E
3 / 72
368 / 437

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DEL-CR10-0.90

DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTIONS 1,2,3 & 4, T 3 - T 18
UNITED STATES MILITARY LANDS

EXISTING MONUMENTATION FOUND AND USED TO ESTABLISH ℄ R/W OF SOUTH OLD STATE ROAD

Point #	North	East	Station	Offset (ft)	Description
8772	184851.20	1830995.83	196+48.98	30.30	IPIN
17953	178836.07	1829989.54	135+01.22	-60.16	IPIPE
17954	178718.15	1829952.94	133+77.75	-60.45	IPIN
17956	177677.97	1829758.57	123+26.41	59.79	IPIN
17957	177507.77	1829706.54	121+48.44	60.12	IPIN
17959	177442.97	1829560.72	120+43.61	-60.18	IPIPE
17960	177053.47	1829473.74	116+46.16	-30.28	IPIPE
17961	176096.92	1829169.27	1006+42.16	-49.98	IPIPE
17962	176181.01	1829278.44	1007+54.23	30.21	IPIPE
17963	176177.44	1829298.23	1007+56.53	50.19	IPIPE
17965	175976.01	1829132.85	1005+15.88	-49.87	IPIPE
17974	175559.03	1829006.77	1000+80.26	-49.95	IPIPE
17975	175323.35	1828935.51	998+34.03	-49.98	IPIPE
17976	175309.92	1828910.59	998+13.98	-69.96	IPIPE
17977	175145.65	1828881.81	996+48.40	-50.00	IPIPE
18028	180553.97	1830613.53	153+26.70	28.72	IPIPE
18029	181083.59	1830778.66	158+81.47	29.96	IPIPE
18030	181510.96	1830810.70	163+03.62	29.98	IPIPE
18035	181973.26	1830831.19	167+66.35	24.94	IPIN
18036	182191.55	1830848.61	169+85.28	30.25	IPIN
18037	182251.56	1830851.67	170+45.36	29.98	IPIPE
18038	182370.20	1830858.42	171+64.20	30.15	IPIN
18039	182643.57	1830873.65	174+37.98	30.22	IPIPE
18040	182814.65	1830883.04	176+09.33	30.13	IPIPE
18041	182985.94	1830892.44	177+80.87	30.03	IPIN
18044	184826.65	1830904.05	196+19.43	-59.99	IPIPE
18052	181816.06	1830767.33	166+05.87	-30.14	IPIPE
18053	181666.38	1830759.30	164+55.97	-29.90	IPIPE
18054	181516.53	1830750.92	163+05.89	-30.01	IPIPE
18055	181276.93	1830737.66	160+65.92	-30.06	IPIPE
C274	187175.56	1831147.91	219+78.04	59.57	IPIPE
C276	187338.19	1831156.45	221+40.89	59.57	IPIPE
C278	187556.94	1831167.95	223+59.95	59.60	IPIPE
C280	187567.08	1831078.68	223+65.40	-30.07	IPIN
C282	187392.42	1831069.37	221+90.49	-30.22	IPIPE
C284	186853.29	1831041.97	216+50.67	-29.36	IPIPE
C286	186733.72	1831035.55	215+30.93	-29.51	IPIPE
C288	186394.15	1831017.47	211+90.87	-29.79	IPIPE
C322	181122.11	1830759.21	159+12.52	0.00	IPIPE
C328	181878.85	1830800.97	166+70.42	0.00	IPIPE

RECORD SUBDIVISONS:

WYNSTONE SECTION 3 - CAB. 1, SLIDE 748
HESSLAR SUBDIVISION - P.B. 13, PG. 61
WYNSTONE SECTION 1 - CAB. 1, SLIDE 504
OAK CREEK 1 PHASE 6 - CAB. 1, SLIDE 759
GILTZ SUBDIVISION - CAB. 3, SLIDE 343
OAK CREEK 1 PHASE 5 - CAB. 1, SLIDE 663
OAK CREEK 1 PHASE 4 - CAB. 1, SLIDE 592
OAK CREEK EAST SECTION 1 - CAB. 2, SLIDE 79
WILSHIRE SECTION 2A - CAB. 2, SLIDE 126
ABBEY KNOLL SECTION 2 - CAB 2, SLIDE 456
TALL PINE ACRES NO. 3 - P.B .11, PG 125
RETREAT CONDOMINUM - CAB. 3, SLIDE 604
LITTLE BEAR VILLAGE , SECTION 1, PHASE A - CAB. 3, SLIDE 772
LITTLE BEAR VILLAGE , SECTION 1, PHASE B - CAB. 3, SLIDE 787
OSBOURNE SUBDIVISION - P.B. 14, PG. 114
WALKER WOOD SECTION 6 - CAB. 2, SLIDE 148
WILSHIRE SECTION 1 - CAB. 1, SLIDE 688
PHINNEY SUBDIVISION - P.B. 13, PG. 114
VILLAGES OF OAK CREEK PHASE 4 - CAB 1, SLIDE 533
VILLAGES OF OAK CREEK PHASE 3 - CAB. 1, SLODE 643
VILLAGES OF OAK CREEK PHASE 2 - CAB. 1, SLIDE 480

SETTING OF ALL MONUMENTS SHALL BE PERFORMED BY A SURVEYOR REGISTERED IN THE STATE OF OHIO. THE MONUMENT ASSEMBLIES AND REFERENCE MONUMENTS WILL BE INSTALLED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE IRON PIN AND CAP (WHEN REQUIRED) ARE TO BE INSTALLED BY THE CONTRACTOR'S SURVEYOR.

CHANGES OR ALTERATIONS TO THE LOCATION OF ANY MONUMENTS SHOWN IN THIS TABLE, REQUIRE PRIOR APPROVAL FROM THE COUNTY ENGINEER. IN THE EVENT THAT CHANGES OR ALTERATIONS ARE APPROVED, A REVISED CENTERLINE PLAT WITH THE NEW LOCATIONS SHALL BE RECORDED IN DELAWARE COUNTY RECORDS AND THE OHIO DEPARTMENT OF TRANSPORTATION. SPECIFICATIONS FOR MONUMENT ASSEMBLIES, REFERENCE MONUMENTS AND RIGHT OF WAY MONUMENTS ARE SHOWN ON STANDARD CONSTRUCTION DRAWING RM-1.1.

MONUMENT TABLE

℄ OF EXIST. R/W S. OLD STATE RD.		PROJECT COORDINATES SEE SURVEY BELOW		MONUMENTS TO BE SET DURING CONSTRUCTION		R/W MON. EXPECTED TO BE DISTURBED	
STATION	OFFSET	NORTH (Y)	EAST (X)	MON. ASSY.	REF. MON.	R/W MON.	DESCRIPTION
997+00.00	0.00	175180.58	1828944.59	1			POT
1005+00.00	0.00	175946.39	1829175.99	1			POT
110+73.36	0.00	176495.24	1829341.83	1			POT
112+95.17	0.00	176708.11	1829404.16	1			℄ CR 10- ℄ POLARIS PARKWAY
117+58.34	0.00	177152.62	1829534.32	1			PI
130+00.00	0.00	178339.33	1829899.59	1			POT
138+07.38	0.00	179110.99	1830137.11	1			PI
157+21.79	0.00	180939.90	1830702.85	1			PC
159+12.52	0.00	181122.11	1830759.21	1			PI
161+01.34(BK)	0.00	181312.55	1830769.72	1			PT
166+70.42	0.00	181878.85	1830800.97	1			PI
180+00.00	0.00	183206.39	1830874.58	1			POT
188+90.68	0.00	184095.70	1830923.90	1			PI
199+99.94	0.00	185203.29	1830984.86	1			℄ CR 10 - ℄ ORANGE
214+00.00	0.00	186601.43	1831058.16	1			POT
TOTAL CARRIED TO GENERAL SUMMARY SHEET				15			

NOTE: EXISTING COORDINATES SHOWN ARE ENGLISH OHIO STATE PLANE, NORTH ZONE, GRID COORDINATES
HORIZONTION POSITIONING REFERENCE FRAME: NAD83(CORS96)
VERTICAL POSITIONING ORTHOMETRIC HEIGHT DATUM: NAVD88
ELLIPSOID: GRS80
MAP PROJECTION: LAMBERT CONFORMAL
CONVERSION FACTOR: 1 METER = 3.28033333 U.S. SURVEY. FEET
COMBINED SCALE FACTOR: 1.000016272

HORIZONTAL SCALE IN FEET
0

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

CENTERLINE PLAT 2 OF 2

DEL-CR10-0.90

2952-DR.E

4 / 72

RECEIVED _____, 20___
RECORDED _____, 20___
BOOK _____ PAGE _____
COUNTY RECORDER

369
437

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OWNERSHIP NAME AND NUMBER

(11) AUNG THURAIN

(19) NANCY A. STRAUCH

(20) MRES, LLC, AN OHIO LIMITED LIABILITY COMPANY

(21) SMALL BUSINESS PARK PARTNERSHIP, AN OHIO GENERAL PARTNERSHIP

(22) CITY OF COLUMBUS OHIO

(23) CITY OF COLUMBUS OHIO

(24) THOMAS M. RIGGS AND ANITA L. RIGGS

(25) GENUINE PARTS COMPANY, A GEORGIA CORPORATION

(26) LINH V. TRUONG AND TUYETNHUNG NGUYEN TRUONG

(33) STEVE CONGROVE AND RHONDA L. CONGROVE

(34) 801 POLARIS, LLC, AN OHIO LIMITED LIABILITY COMPANY

(35) AMAR REDDY

(36) INVESTMENT LINKS, LLC, AN OHIO LIMITED LIABILITY COMPANY

(37) CLINTONVILLE DEVELOPMENT, LLC, AN OHIO LIMITED LIABILITY COMPANY

(38) CHELSEA R. P. LTD., AN OHIO LIMITED LIABILITY COMPANY

(46) WYNSTONE DEVELOPMENT COMPANY, AN OHIO GENERAL PARTNERSHIP

(47) TATCO POLARIS, LTD., AN OHIO LIMITED LIABILITY COMPANY

(48) NOT USED

(49) LARRY KING FAMILY LIMITED PARTNERSHIP, AN OHIO LIMITED PARTNERSHIP & WINKS FAMILY LIMITED PARTNERSHIP, AN OHIO LIMITED PARTNERSHIP

(50) KLG, LTD, AN OHIO CORPORATION

(51) MAHNEZ SABERI AND BEHROOZ SABERI, TRUSTEES ON BEHALF OF THE SABERI FAMILY TRUST

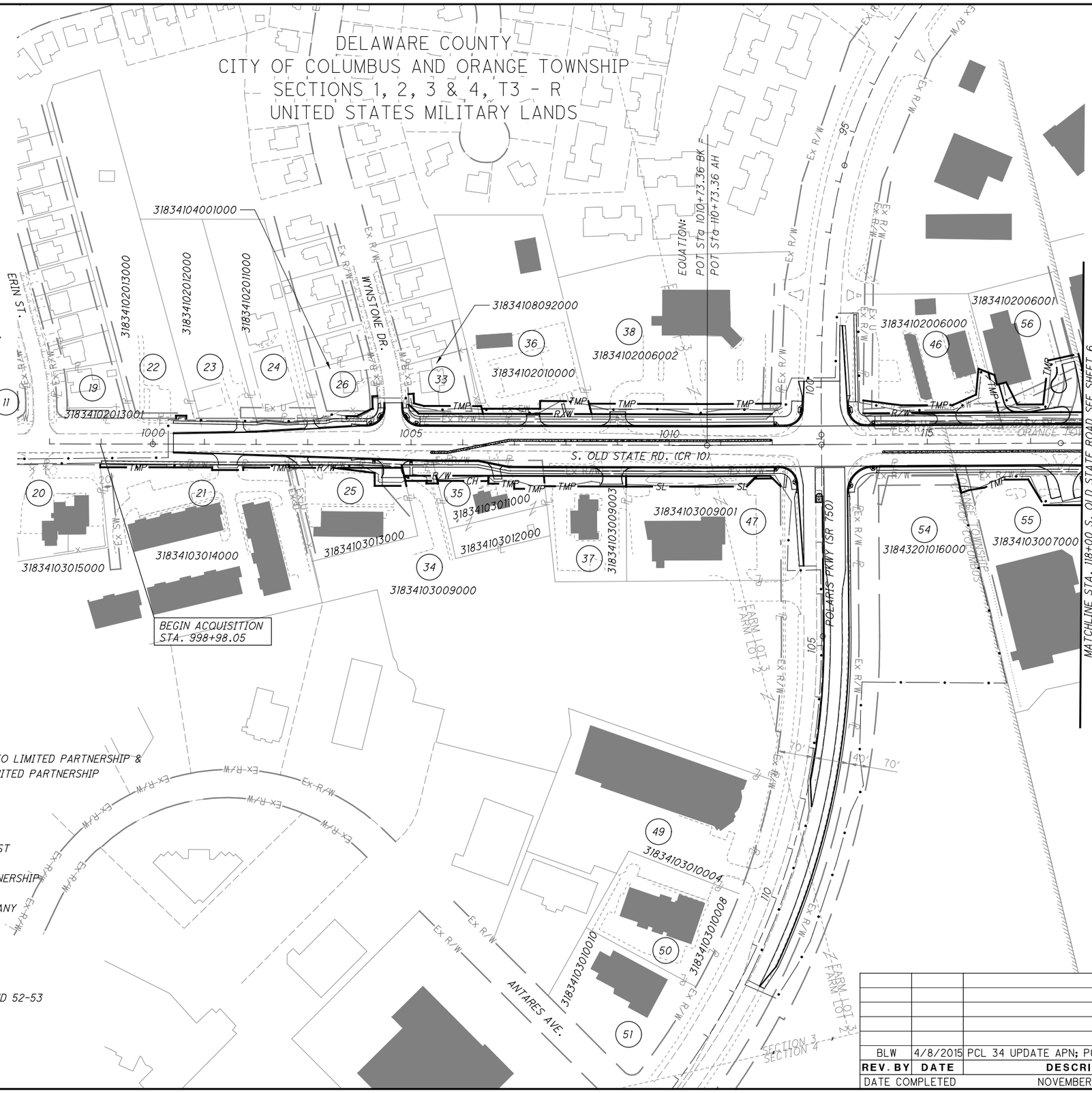
(54) NP LIMITED PARTNERSHIP, AN OHIO LIMITED PARTNERSHIP

(55) DDM POLARIS, LLC OHIO LIMITED LIABILITY COMPANY

(56) BOUDREAU, LTD.

NOTE:

NUMBERS NOT USED: 1-10, 12-18, 27-32, 39-45 AND 52-53



BLW	4/8/2015	PCL 34 UPDATE APN; PCL 35 UPDATE OWNER
REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 50 100 200

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

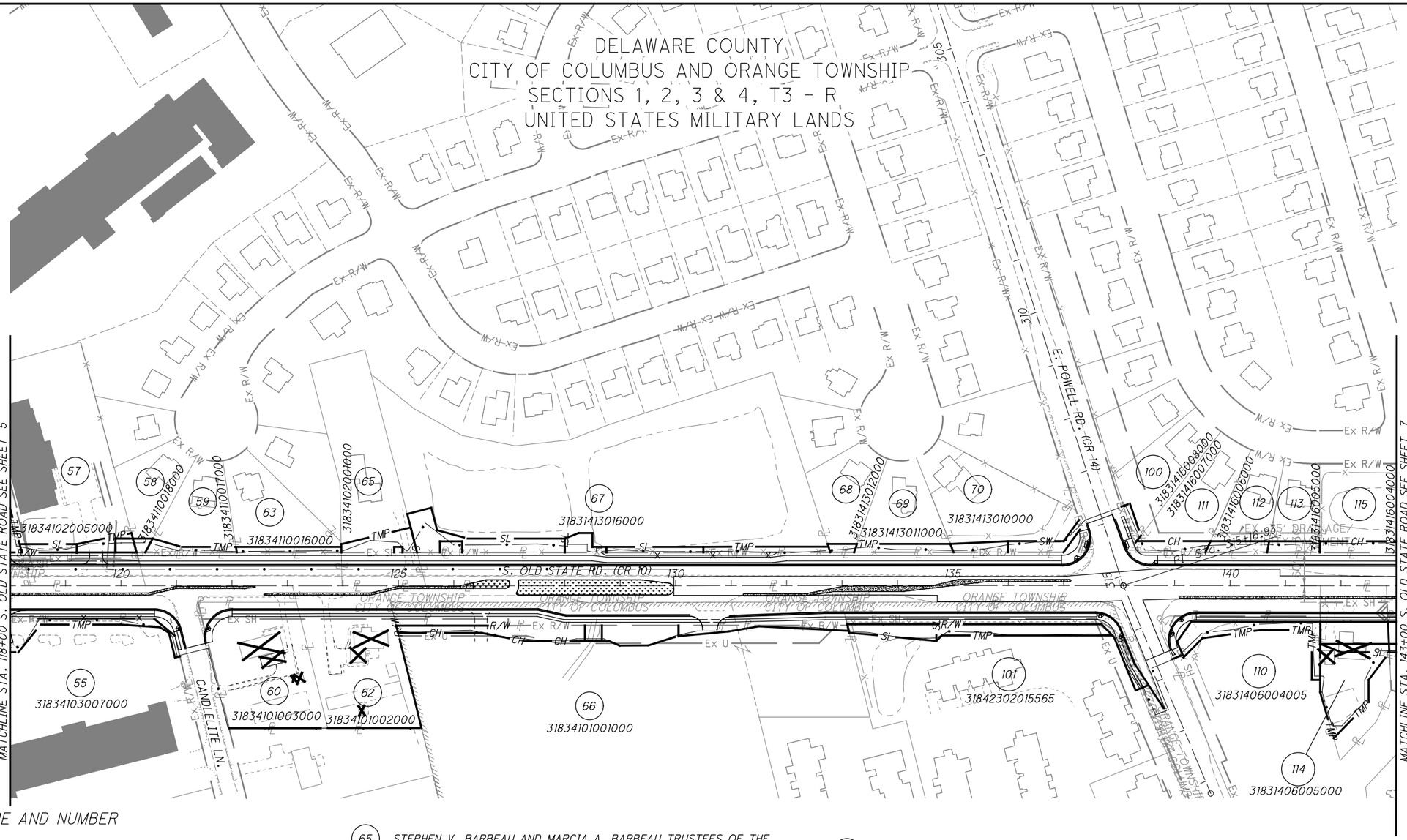
PROPERTY MAP
STA. 998+00 TO STA. 118+00

DEL-CR10-0.90

2952-DR.E

5 / 72

370 / 437



OWNERSHIP NAME AND NUMBER

(55) *DDM POLARIS, LLC OHIO LIMITED LIABILITY COMPANY*

(57) *NAE PROPERTY HOLDINGS, LTD A/K/A NAE PROPERTY HOLDINGS, LTD, AN OHIO LIMITED LIABILITY COMPANY*

(58) *CHRISTOPHER KOPENA*

(59) *DARIN A. HESS AND BARBARA M. HESS AS TRUSTEES OF THE DARIN A. HESS AND BARBARA M. HESS REVOCABLE LIVING TRUST DATED JULY 28, 2010*

(60) *ROBERT M. SANDERS (TOTAL TAKE)*

(62) *GEORGE T. PERRY AND MARGARET PERRY (TOTAL TAKE)*

(63) *MARK I. MANN*

(65) *STEPHEN V. BARBEAU AND MARCIA A. BARBEAU TRUSTEES OF THE STEPHEN V. BARBEAU AND MARCIA A. BARBEAU REVOCABLE FAMILY TRUST AGREEMENT DATED AUGUST 7, 2000*

(66) *POLARIS GRAND, LLC, AN OHIO LIMITED LIABILITY COMPANY*

(67) *OAK CREEK ASSOCIATION, INC., AN OHIO NOT-FOR-PROFIT CORPORATION*

(68) *KIMBERLY SELCHAN*

(69) *WILLIAM J. CALDWELL AND ALYCE F. CALDWELL*

(70) *CHRISTOPHER L. NAUGLE AND MELLISSA C. NAUGLE*

(100) *JULIE A. KRUEGER AND TODD A. KRUEGER*

(101) *THE RETREAT CONDOMINIUM, 1ST AMEND*

(110) *OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC., AN OHIO NONPROFIT CORPORATION*

(111) *HONG DA QIU AND YE CHEN*

(112) *JORDAN K. HEISSNER AND KATHRYN S. HEISSNER*

(113) *DUVAL S. DUNN*

(114) *JAMES D. LINDLER AND DIANE L. LINDLER*

(115) *OAK CREEK ASSOCIATION, INC., AN OHIO NOT-FOR-PROFIT CORPORATION*

NOTE:

NUMBERS NOT USED: 61, 64, 71-99 AND 102-109

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCEL 101 UPDATE APN
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

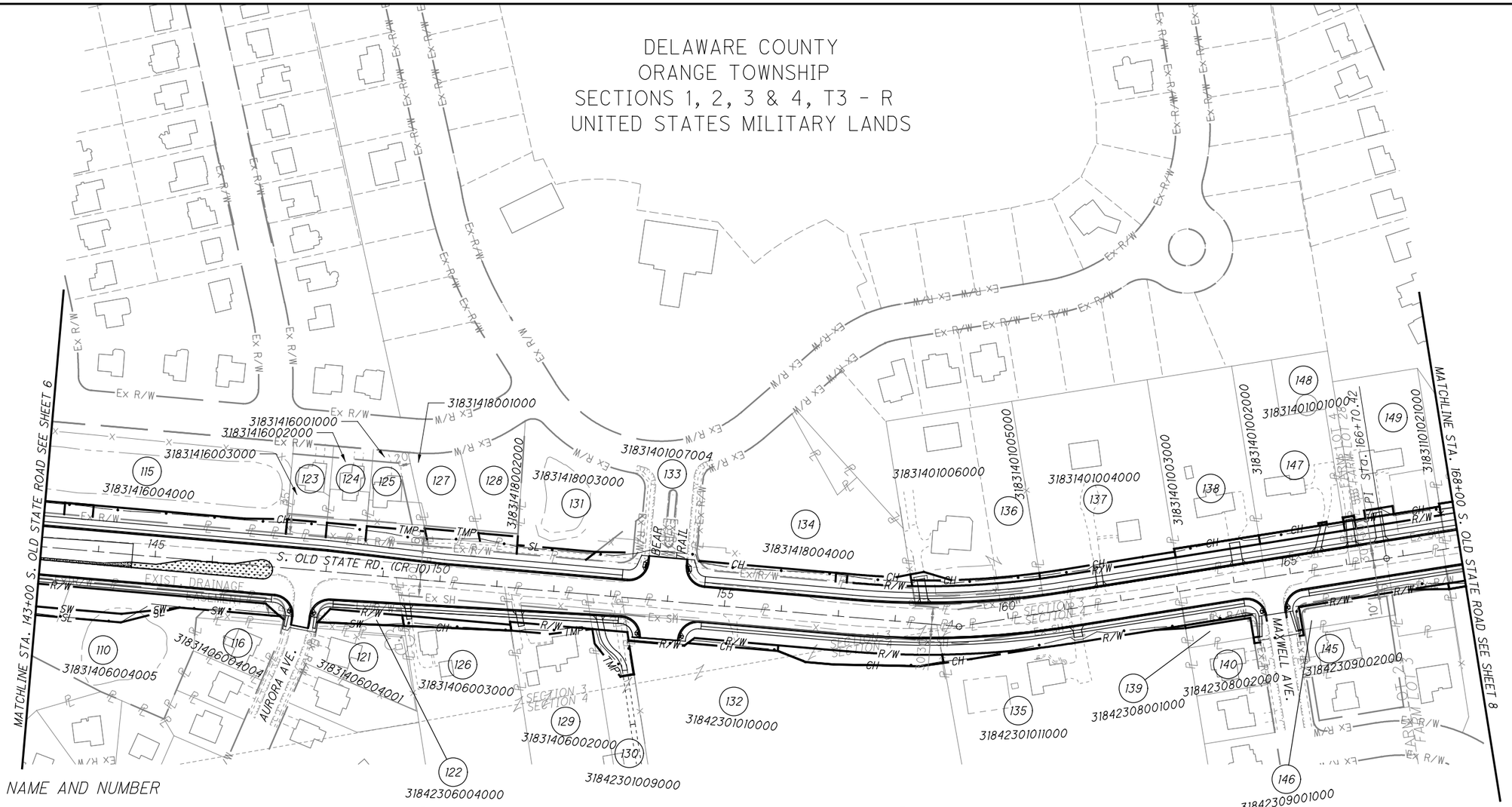
PROPERTY MAP
STA. 118+00 TO STA. 143+00
DEL-CR10-0.90

2952-DR.E

6 / 72

371 / 437

DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1, 2, 3 & 4, T3 - R
UNITED STATES MILITARY LANDS



OWNERSHIP NAME AND NUMBER

(110) *OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC., AN OHIO NONPROFIT CORPORATION*

(115) *OAK CREEK ASSOCIATION, INC., AN OHIO NOT-FOR-PROFIT CORPORATION*

(116) *GIULIANO TURANO AND SIRLEI M. TURANO*

(121) *ANGELA GRAY-EDWARDS*

(122) *OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC., AN OHIO NONPROFIT CORPORATION*

(123) *DAVID GINGERICH AND JANA GINGERICH*

(124) *KRISTIN A. CHERRY AND DAVID A. CHERRY*

(125) *THOMAS D. LATHER AND JULIE A. LATHER*

(126) *SAILENDRA P. PATEL*

(127) *JITENDRA J. GODHA AND SHILPA J. JAIN*

(128) *FISCHER SINGLE FAMILY HOMES II LLC*

(129) *PIERCE ANN ASBURY*

(130) *SANDRA ANN ASBURY*

(131) *LITTLE BEAR VILLAGE HOMEOWNERS ASSOCIATION, INC. AN OHIO NOT FOR PROFIT CORPORATION*

(132) *STRAIT REAL ESTATE LLC I LTD*

(133) *D. W. PETTIT CONSTRUCTION CO., AN OHIO CORPORATION*

(134) *LITTLE BEAR VILLAGE HOMEOWNERS ASSOCIATION, INC. AN OHIO NOT FOR PROFIT CORPORATION*

(135) *IRAJ HAGHNAZARI AND MASTANEH MALEKNIAZI*

(136) *LOUIS M. BANDO*

(137) *ANASTASIIA TIURENKOVA*

(138) *MICHAEL D. HART AND CYNTHIA I. HART*

(139) *WALKER WOOD HOMEOWNERS ASSOCIATION, INC.*

(140) *JUN CHEN*

(145) *ROBIN L. & SCOTT E. WHIPPLE*

(146) *WALKER WOOD HOMEOWNERS ASSOCIATION, INC.*

(147) *CHRISTINE E. MERTZ*

(148) *DEL-CO WATER CO. INC.*

(149) *HAZEL M. BURKHOLDER, TRUSTEE OF THE HAZEL M. BURKHOLDER TRUST DATED SEPTEMBER 11, 2002*

NOTE:

NUMBERS NOT USED: 117-120 AND 141-144

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PCL 110 UPDATE APN; PCLS 126,128,130,132,
		137,145 UPDATE OWNERSHIPS
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

R/W DESIGNER BLW
R/W REVIEWER DS

PID NO. 90243

PROPERTY MAP
STA. 143+00 TO STA. 168+00

DEL-CR10-0.90

2952-DR.E

7 / 72

372 / 437

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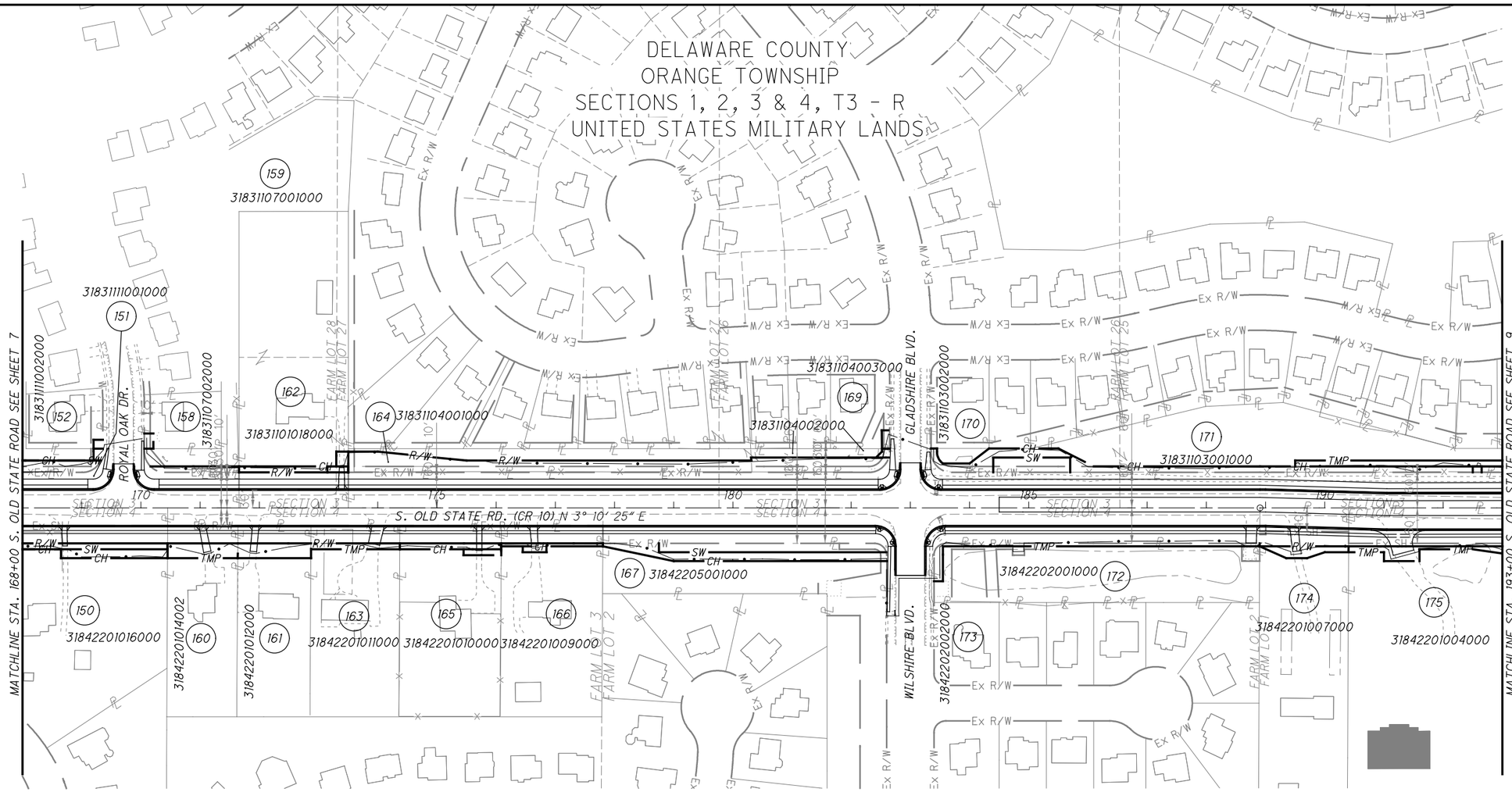
DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1, 2, 3 & 4, T3 - R
UNITED STATES MILITARY LANDS



OWNERSHIP NAME AND NUMBER

(150) THOMAS R. SMITH AND BARBARA SMITH

(151) THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.

(152) SOO H. PARK

(158) BRIAN P. CATALDI AND KATHLEEN R. CATALDI

(159) THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.

(160) CHAD F. PORTER AND MELISSA J. PORTER

(161) DOREEN E. DODSON

(162) JOHN R. DILL AND LYNNE M. DILL

(163) DENNIS W. FOREMAN AND MARILYN R. FOREMAN,
TRUSTEES OF DENNIS W. FOREMAN, JR. &
MARILYN R. FOREMAN LIVING TRUST, DATED NOVEMBER 21, 2005

(164) THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.

(165) DANNY E. CAVOTE

(166) DAVID A. SHIVELY AND JULI SHIVELY

(167) WILSHIRE HOMEOWNERS ASSOCIATION, INC.,
AN OHIO NONPROFIT CORPORATION

(169) DONALD EUGENE GREEN AND DONNA MARIE GREEN

(170) DECLAN A. FEERY SR. AND CYNTHIA A. FEERY

(171) THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.

(172) WILSHIRE HOMEOWNERS ASSOCIATION, INC.,
AN OHIO NONPROFIT CORPORATION

(173) DAVID P. WAGGONER AND FOUZIA K. WAGGONER

(174) JOHN W. HALL AND ADELE L. HALL

(175) ST. ANDREW'S ANGLICAN CHURCH,
AN OHIO NOT-FOR-PROFIT CORPORATION

NOTE:

NUMBERS NOT USED: 153-157, 168

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

R/W DESIGNER BLW
R/W REVIEWER DS

PID NO. 90243

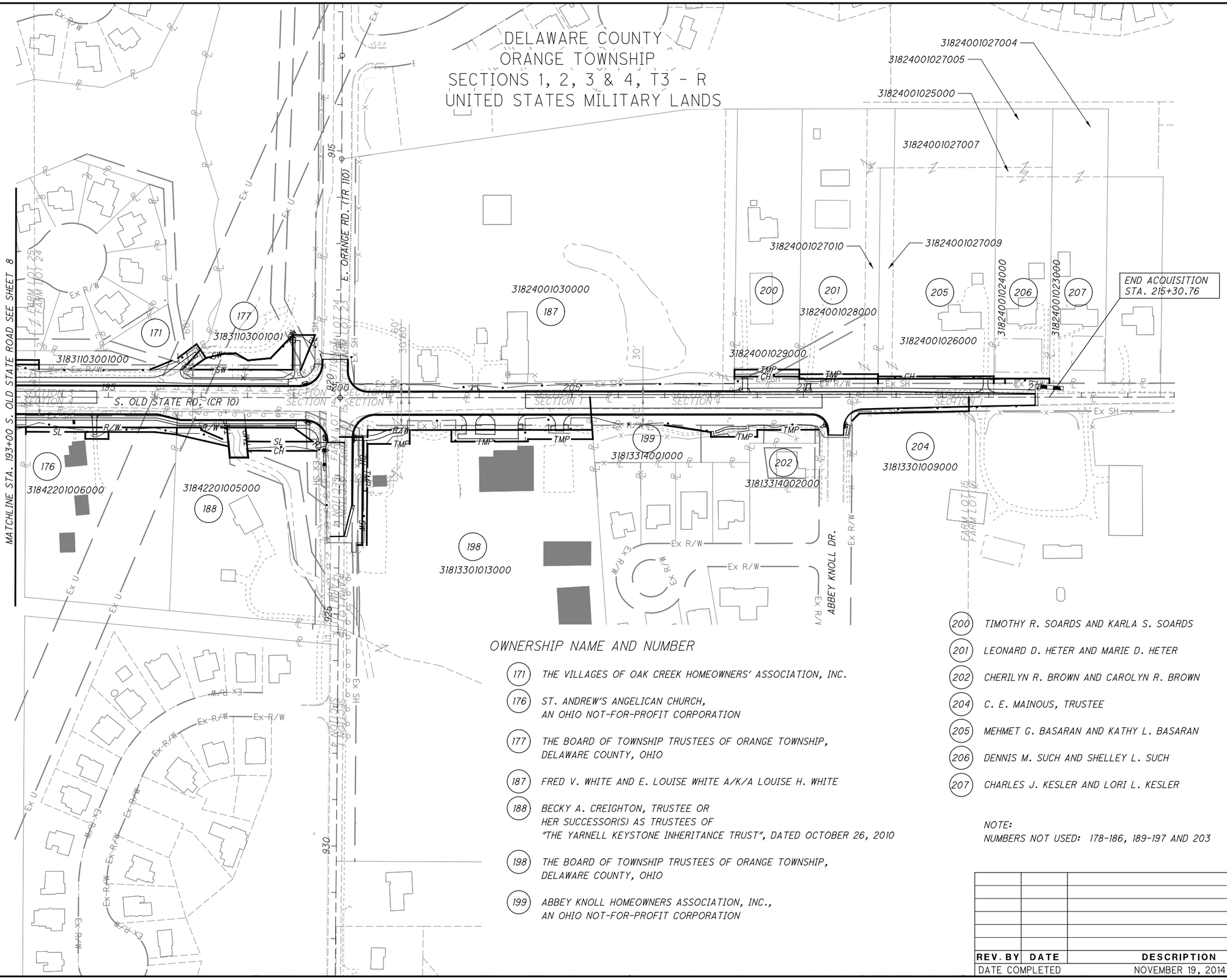
PROPERTY MAP
STA. 168+00 TO STA. 193+00

DEL-CR10-0.90

2952-DR.E

8 / 72

373 / 437



OWNERSHIP NAME AND NUMBER

(171) THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.

(176) ST. ANDREW'S ANGELICAN CHURCH, AN OHIO NOT-FOR-PROFIT CORPORATION

(177) THE BOARD OF TOWNSHIP TRUSTEES OF ORANGE TOWNSHIP, DELAWARE COUNTY, OHIO

(187) FRED V. WHITE AND E. LOUISE WHITE A/K/A LOUISE H. WHITE

(188) BECKY A. CREIGHTON, TRUSTEE OR HER SUCCESSOR(S) AS TRUSTEES OF "THE YARNELL KEYSTONE INHERITANCE TRUST", DATED OCTOBER 26, 2010

(198) THE BOARD OF TOWNSHIP TRUSTEES OF ORANGE TOWNSHIP, DELAWARE COUNTY, OHIO

(199) ABBEY KNOLL HOMEOWNERS ASSOCIATION, INC., AN OHIO NOT-FOR-PROFIT CORPORATION

(200) TIMOTHY R. SOARDS AND KARLA S. SOARDS

(201) LEONARD D. HETER AND MARIE D. HETER

(202) CHERILYN R. BROWN AND CAROLYN R. BROWN

(204) C. E. MAINOUS, TRUSTEE

(205) MEHMET G. BASARAN AND KATHY L. BASARAN

(206) DENNIS M. SUCH AND SHELLEY L. SUCH

(207) CHARLES J. KESLER AND LORI L. KESLER

NOTE:
NUMBERS NOT USED: 178-186, 189-197 AND 203

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

PROPERTY MAP
STA. 193+00 TO STA. 218+00

DEL-CR10-0.90

2952-DR.E

9 / 72

374 / 437

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TOTAL NUMBER OF :

76 OWNERSHIPS
201 PARCELS
2 TOTAL TAKES
3 OWNERSHIPS W/ STRUCTURES INVOLVED

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:

ALL RIGHT OF WAY ACQUIRED IN THE NAME OF DELAWARE COUNTY COMMISSIONERS UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NUMBER	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
1-10	NOT USED																
11	Aung Thurain	19 - 20	OR 649	5	31834102014000	0.306	0.000								NO TAKE		
12-18	NOT USED																
19	Nancy A. Strauch	19 - 20	OR 802 OR 642	1375 838	31834102013001	0.307	0.000								NO TAKE		
20	MRES, LLC, an Ohio Limited Liability Company	19 - 20	OR 742	1	31834103015000	0.809	0.000								NO TAKE		
21-T	Small Business Park Partnership, an Ohio General Partnership	19 - 22	DB 661	779	31834103014000	4.679	0.000	0.049	0.000	0.049					GRADING AND DRIVE CONSTRUCTION		
22-T	The City of Columbus, Ohio	19 - 20	OR 659	665	31834102013000	1.805	0.000	0.002	0.000	0.002					GRADING		
23	City of Columbus Ohio	19 - 22	OR 1132	1136	31834102012000	1.062	0.000								NO TAKE		
24	Thomas M. Riggs and Anita L. Riggs	21 - 22	OR 1045	959	31834102011000	1.805	0.000								NO TAKE		
25-WDV	Genuine Parts Company, a Georgia corporation	21 - 22	OR 781	2260	31834103013000	0.801	0.000	0.025	0.000	0.025			0.776				
25-T		21 - 22			31834103013000			0.055	0.000	0.055					GRADING AND DRIVE CONSTRUCTION		
26-T	Linh V. Truong and Tuyetnhung Nguyen Truong	21 - 22	OR 830	2502	31834104001000	0.293	0.000	0.019	0.000	0.019					GRADING AND SANITARY SEWER CONSTRUCTION		
27-32	NOT USED																
33-WDV	Steve Congrove and Rhonda L. Congrove	21 - 22	OR 375	2642	31834108092000	0.347	0.000	0.035	0.000	0.035		0.312					
33-T		21 - 22						0.052	0.000	0.052					GRADING		
34-WDV	801 POLARIS, LLC, an Ohio limited liability company	21 - 22	OR 1197 OR 1197	2426 2439	31834103009000	6.422	0.000	0.028	0.000	0.028			6.394		TAKE 63 FT OF LANDSCAPING WALL, 3 BEDS		
34-SV		21 - 22			31834103009000			0.014	0.000	0.014							
34-T		21 - 22			31834103009000			0.003	0.000	0.003					GRADING AND STORM SEWER CONSTRUCTION		
35-WDV	Amar Reddy	21 - 24	OR 1330	1131	31834103011000	0.662	0.000	0.145	0.000	0.145	S		0.517		SIGN: "PSYCHIC STUDIO*"		
					31834103012000	0.263	0.000	0.000	0.000	0.000							
35-CHV		21 - 22			31834103011000			0.023	0.000	0.023							
					31834103012000												
35-T		23 - 24			31834103011000			0.051	0.000	0.051					GRADING AND DRIVE CONSTRUCTION		
					31834103012000												
36-WDV	Investment Links, LLC an Ohio Limited Liability company	21 - 24	OR 1055	79	31834102010000	1.909	0.000	0.048	0.000	0.048		1.861					
36-T		21 - 24			31834102010000			0.081	0.000	0.081					GRADING, SIDEWALK AND DRIVE CONSTRUCTION		
37-WDV	Clintonville Development, LLC, an Ohio limited liability company	23 - 24	OR 625	2079	31834103009003	0.736	0.000	0.037	0.000	0.037			0.699				
37-T		23 - 24			31834103009003			0.073	0.000	0.073					GRADING AND DRIVE CONSTRUCTION		

80% FEDERAL / 20% LOCAL

LEGEND
WD = WARRANTY DEED
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
S = SEWER EASEMENT
SL = SLOPE EASEMENT

**V = R/W OR EASEMENTS ACQUIRED IN THE NAME OF "CITY OF COLUMBUS, OHIO"

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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

(c) = CALCULATED AREA

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PCL 34 NEW APN, AC., PCL 35 UPDATE OWN.
BLW	3/4/2015	UPDATED REMARKS, PARCELS 34 AND 35
DATE COMPLETED		NOVEMBER 19, 2014

FEDERAL PROJECT NO. E110272
PID NO. 90243
STATE JOB NO. 466952
R/W DESIGNER BLW
R/W REVIEWER DS

SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 1-37)

DEL-CR10-0.90

2952-DR.E
10 / 72
375 / 437

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NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
DELAWARE COUNTY COMMISSIONERS
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NUMBER	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
38-WDV	Chelsea R. P. LTD., AN OHIO LIMITED LIABILITY COMPANY	23 - 26	OR 212	310	31834102006002	2.891	0.000	0.079	0.000	0.079		2.812		80% FEDERAL / 20% LOCAL			
38-T		23 - 26			31834102006002			0.166	0.000	0.166					GRADING AND DRIVE CONSTRUCTION		
39-45	NOT USED																
46-WDV	Wynstone Development Company, an Ohio General Partnership	25 - 26	DB 567	317	31834102006000	1.234	0.000	0.175	0.000	0.175		1.059			40' BREAK IN "NO VEHICULAR ACCESS"		
46-T		25 - 26			31834102006000			0.154	0.000	0.154					GRADING AND DRIVE CONSTRUCTION		
47-WDV	TATCO Polaris, LTD., an Ohio limited liability company	23 - 26	DB 639	264	31834103009001	1.464	0.000	0.073	0.000	0.073			1.391		TAKE 138' FT HAND RAIL AND 69' OF 4' WALK		
47-SLV		23 - 26			31834103009001			0.112	0.000	0.112							
47-T		25 - 26			31834103009001			0.003	0.000	0.003					GRADING AND DRIVE CONSTRUCTION		
48	NOT USED																
49	LARRY KING FAMILY LIMITED PARTNERSHIP, an Ohio Limited Partnership and WINKS FAMILY LIMITED PARTNERSHIP, an Ohio Limited Partnership	69 - 70	OR 826	1073	31834103010004	2.366	0.000								NO TAKE		
50	KLG, LTD, an Ohio Limited Partnership	69 - 70	OR 1258	591	31834103010008	1.174	0.000								NO TAKE		
51	Mahnez Saberi and Behrooz Saberi, Trustees on Behalf of The Saberi Family Trust	69 - 70	OR 1162	233	31834103010010	1.000	0.000								NO TAKE		
52-53	NOT USED																
54	NP LIMITED PARTNERSHIP, an Ohio limited partnership	67 - 70	OR 268	2248	31843201016000	15.153	0.000								R/W & DETENTION BASIN ESMT - TO BE ACQUIRED BY OTHERS		
55-WD	DDM - POLARIS, LLC, an Ohio limited liability company	27 - 28	OR 1090	2189	31834103007000	4.538	0.000	0.010	0.000	0.010			4.528		PARKING LOT CIRCULATION/IMPACT		
55-T		25 - 28			31834103007000			0.302	0.000	0.302					GRADING AND DRIVE CONSTRUCTION		
56-WDV	Boudreau, Ltd.	25 - 28	OR 992	1148	31834102006001	1.185	0.042	0.126	0.042	0.084		1.059			55' CLOSURE OF EXISTING ACCESS 30' BREAK IN "NO VEHICULAR ACCESS"		
56-T		25 - 28			31834102006001			0.261							GRADING AND DRIVE CONSTRUCTION		
57-WD	NAE PROPERTY HOLDINGS, LTD., AKA NAE PROPERTY HOLDINGS, LTD, AN OHIO LIMITED LIABILITY COMPANY	27 - 28	OR 785	190	31834102005000	1.970	0.190	0.285	0.190	0.095		1.685					
57-CH		27 - 28			31834102005000			0.020	0.000	0.020							
57-S		27 - 28			31834102005000			0.020	0.000	0.020							
57-SL		27 - 28			31834102005000			0.035	0.000	0.035							
57-T		27 - 28			31834102005000			0.041	0.000	0.041					GRADING AND DRIVE CONSTRUCTION		

LEGEND
WD = WARRANTY DEED
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
S = SEWER EASEMENT
SL = SLOPE EASEMENT

***V* = R/W OR EASEMENTS ACQUIRED IN THE NAME OF "CITY OF COLUMBUS, OHIO"

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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

(c) = CALCULATED AREA

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
BLW	3/4/2015	ADDED TAKE HANDRAIL/WALK TO PARCEL 47
DATE COMPLETED		NOVEMBER 19, 2014

FEDERAL PROJECT NO. E110272
PID NO. 90243
STATE JOB NO. 466952
R/W DESIGNER BLW
R/W REVIEWER DS

SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 38-57)

DEL-CR10-0.90

2952-DR.E
11 / 72
376 / 437

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
DELAWARE COUNTY COMMISSIONERS
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NUMBER	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
58-CH	Christopher Kopena	27 - 28	OR 1231	1767	31834110018000	0.367	0.000	0.015	0.000	0.015							
59-T	Darin A. Hess and Barbara M. Hess as Trustees of The Darin A. Hess and Barbara M. Hess Revocable Living Trust dated July 28, 2010	27 - 30	OR 998	1150	31834110017000	0.413	0.000	0.048	0.000	0.048					GRADING		
60-WD	Robert M. Sanders	29 - 30	OR 1031	2744	31834101003000	0.927	0.123	0.927	0.123	0.804	Y (2)		0.000		TOTAL TAKE		
			OR 357	1824											1 STORY BRICK, WOOD STORAGE, REMOVE SEPTIC SYSTEM, GRADING		
			DB 632	540											TO BE AQUIRED FOR POST-CONSTRUCTION BMP MEASURES		
61	NOT USED																
62-WD	George T. Perry and Margaret S. Perry	29 - 30	DB 347	145	31834101002000	0.998 (c)	0.233	0.998	0.233	0.765	Y(2)		0.000		TOTAL TAKE (1.00 Ac - Auditor Record Area)		
			DB 309	248											1 STORY BRICK, WOOD STORAGE SHED, REMOVE SEPTIC SYSTEM, GRADING		
															TO BE AQUIRED FOR POST-CONSTRUCTION BMP MEASURES		
63-T	MARK I. MANN	29 - 30	OR 208	584	31834110016000	0.528	0.000	0.043	0.000	0.043					GRADING		
64	NOT USED																
65-S	Stephen V. Barbeau and Marcia A. Barbeau Trustees of the Stephen V. Barbeau and Marcia A. Barbeau Revocable Family Trust Agreement Dated August 7, 2000	29 - 30	OR 1140	2241	31834102001000	1.100	0.198	0.003	0.000	0.003	*S				2 POST WOOD SIGN ENCROACHMENT TO BE REMOVED		
			OR 1128	2872													
65-T		29 - 30			31834102001000			0.089	0.000	0.089					GRADING AND DRIVE CONSTRUCTION		
66-WD	POLARIS GRAND, LLC, an Ohio limited liability company	29 - 34	OR 1233	2765	31834101001000	14.323		0.056		0.056			14.267		ADJUST CORPORATION LIMITS AFTER ACQUISITION		
66-S		31 - 32			31834101001000			0.020	0.000	0.020							
66-CH		29 - 32			31834101001000			0.271	0.000	0.271	S				2 POST WOOD SIGN "NOW OPEN*GRAND AT POLARIS"		
66-T		31 - 34			31834101001000			0.060	0.000	0.060					GRADING AND DRIVE CONSTRUCTION		
67-SL1	OAK CREEK ASSOCIATION, INC., an Ohio not-for-profit corporation	29 - 32	DB 621	440	31831413016000	4.207	0.000	0.198	0.000	0.198							
67-SL2		31 - 32			31831413016000			0.040	0.000	0.040							
67-S1		29 - 30			31831413016000			0.018	0.000	0.018							
67-S2		31 - 32			31831413016000			0.043	0.000	0.043							
67-T		31 - 34			31831413016000			0.052	0.000	0.052					GRADING		
68-T	Kimberly Selchan	33 - 34	OR 1230	312	31831413012000	0.405	0.000	0.017	0.000	0.017					GRADING		
69-T	WILLIAM J. CALDWELL and ALYCE F. CALDWELL	33 - 34	OR 355	1933	31831413011000	0.448	0.000	0.060	0.000	0.060					GRADING		
70-WD	Christopher L. Naugle and Mellissa C. Naugle	35 - 36	OR 782	897	31831413010000	0.856	0.007	0.024	0.007	0.017		0.832					
70-S		33 - 36			31831413010000			0.059	0.000	0.059							
70-T		33 - 34			31831413010000			0.041	0.000	0.041					GRADING		

TYPE FUND: 80% FEDERAL / 20% LOCAL

LEGEND
WD = WARRANTY DEED
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
S = SEWER EASEMENT
SL = SLOPE EASEMENT

**V = R/W OR EASEMENTS ACQUIRED IN THE NAME OF "CITY OF COLUMBUS, OHIO"

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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

(c) = CALCULATED AREA

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
BLW	3/4/2015	RMVD 60-S,CH,T,62-S1,S2,CH,T ADD 62-WD
DATE COMPLETED		NOVEMBER 19, 2014

FEDERAL PROJECT NO. E110272
PID NO. 90243
STATE JOB NO. 466952
R/W DESIGNER BLW
R/W REVIEWER DS

SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 58-70)

DEL-CR10-0.90

2952-DR.E
12 / 72
377 / 437

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
DELAWARE COUNTY COMMISSIONERS
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NUMBER	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
71-99	NOT USED																
100-T	Julie A. Krueger and Todd A. Krueger	35 - 36	OR 1153	1178	31831416008000	0.447	0.004	0.022	0.000	0.022					GRADING		
101-WD	THE RETREAT CONDOMINIUM 1st Amend	33 - 36	OR 580	1029	31842302015565	7.064	0.390	0.518	0.378	0.140			6.534		ADJUST CORPORATION LIMITS AFTER ACQUISITION		
101-SL		33 - 34			31842302015565			0.082	0.000	0.082							
			OR 634	2663													
101-T		33 - 36			31842302015565			0.142	0.000	0.142					GRADING AND PRIVATE STORM RECONSTRUCTION		
102-109	NOT USED																
110-WD1	OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC., an Ohio Nonprofit Corporation	35 - 36	OR 84	2241	31831406004005	6.839	0.254	0.112	0.035	0.077							
110-WD2		37 - 40						0.111	0.000	0.111							
	TOTAL							0.223	0.035	0.188			6.397				
110-S		37 - 40			31831406004005			0.295	0.000	0.295							
110-T		35 - 36			31831406004005			0.162	0.000	0.162					GRADING AND PAVEMENT REMOVAL		
110-SL		37 - 38			31831406004005			0.073	0.000	0.073							
111-CH	HONG DA QIU and YE CHEN	35 - 36	OR 170	15	31831416007000	0.497	0.002	0.059	0.000	0.059							
111-T		35 - 36			31831416007000			0.001	0.000	0.001					GRADING		
112-CH	Jordan K. Heissner and Kathryn S. Heissner	35 - 36	OR 1280	2316	31831416006000	0.308	0.000	0.050	0.000	0.050							
113-CH	DUVAL S. DUNN	35 - 38	DB 631	560	31831416005000	0.326	0.000	0.043	0.000	0.043							
114-WD	James D. Lindler and Diane L. Lindler	37 - 38	DB 442	650	31831406005000	0.742	0.082	0.180	0.082	0.098			0.562				
114-S		37 - 38			31831406005000			0.113	0.000	0.113							
114-SL		37 - 38			31831406005000			0.036	0.000	0.036							
114-T		37 - 38			31831406005000			0.269	0.000	0.269	Y				1-STORY FRAME, FRAME GARAGE, REMOVE SEPTIC SYSTEM, GRADING		
115-S	OAK CREEK ASSOCIATION, INC., an Ohio Not-For-Profit corporation	37 - 38	DB 621	440	31831416004000	2.057	0.000	0.023	0.000	0.023							
115-CH		37 - 40			31831416004000			0.263	0.000	0.263							
116	Giuliano Turano and Sirlei M. Turano	37 - 40	OR 1269	1231	31831406004004	0.259	0.000								NO TAKE		
117-120	NOT USED																
121	Angela Gray-Edwards	39 - 40	OR 971	1008	31831406004001	0.388	0.000								NO TAKE		
122-WD	OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC., an Ohio Nonprofit Corporation	39 - 40	OR 84	2241	31831406004000	0.152	0.000	0.037	0.000	0.037			0.115				
122-S		39 - 40			31831406004000			0.068	0.000	0.068							
122-CH		39 - 40			31831406004000			0.068	0.000	0.068							

80% FEDERAL / 20% LOCAL

LEGEND
WD = WARRANTY DEED
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
S = SEWER EASEMENT
SL = SLOPE EASEMENT

**V = R/W OR EASEMENTS ACQUIRED IN THE NAME OF "CITY OF COLUMBUS, OHIO"

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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(c) = CALCULATED AREA

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	UPDATE PCLS 101 & 110 APN
DATE COMPLETED		NOVEMBER 19, 2014

FEDERAL PROJECT NO. E110272
PID NO. 90243
STATE JOB NO. 466952
R/W DESIGNER BLW
R/W REVIEWER DS

SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 71-122)

DEL-CR10-0.90

2952-DR.E
13 / 72
378 / 437

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NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
DELAWARE COUNTY COMMISSIONERS
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NUMBER	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
123-T	David Gingerich and Jana Gingerich	39 - 40	OR 1031	407	31831416003000	0.268	0.000	0.040	0.000	0.040					DITCH RECONSTRUCTION IN EXISTING DRAINAGE ESMT, GRADING		
124-T	KRISTIN A. CHERRY AND DAVID A. CHERRY	39 - 40	OR 345	1604	31831416002000	0.256	0.000	0.040	0.000	0.040					DITCH RECONSTRUCTION IN EXISTING DRAINAGE ESMT, GRADING		
125-T	THOMAS D. LATHER and JULIE A. LATHER	39 - 40	OR 1050	721	31831416001000	0.316	0.000	0.061	0.000	0.061					DITCH RECONSTRUCTION IN EXISTING DRAINAGE ESMT, GRADING		
126-WD	Sailendra P. Patel	39 - 40	OR 1310	2781	31831406003000	4.100	0.131	0.284	0.131	0.153			3.816				
126-CH		39 - 40						0.061	0.000	0.061							
126-S		39 - 40						0.061	0.000	0.061							
127-T	Jitendra J Godha and Shilpa J Jain	39 - 40	OR 1277	2739	31831418001000	0.321	0.000	0.033	0.000	0.033					DITCH RECONSTRUCTION IN EXISTING DRAINAGE ESMT, GRADING		
128-T	Fischer Single Family Homes II LLC	39 - 40	OR 1281	1397	31831418002000	0.382	0.000	0.023	0.000	0.023					DITCH RECONSTRUCTION IN EXISTING DRAINAGE EASEMENT		
129-WD	Pierce Ann Asbury	39 - 42	OR 175	277	31831406002000	3.079	0.099	0.199	0.099	0.100			2.881				
			DB 654	334													
			OR 175	281													
			DB 654	332	31831406002000												
129-T		39 - 42						0.037	0.000	0.037					GRADING AND DRIVE CONSTRUCTION		
130-WD	Sandra Ann Asbury	41 - 42	OR 1282	1945	31842301009000	11.781	0.042	0.085	0.042	0.043			11.697				
130-T		41 - 42			31842301009000			0.087	0.000	0.087					GRADING AND DRIVE CONSTRUCTION		
131-SL	Little Bear Village Homeowners Association, Inc. an Ohio Not For Profit Corporation	39 - 42	OR 782	2660	31831418003000	0.980	0.000	0.045	0.000	0.045							
131-T		41 - 42			31831418003000			0.028	0.000	0.028					GRADING		
132-WD	Strait Real Estate LLC 1 LTD	41 - 44	OR 1062	2663	31842301010000	15.749	0.384	0.790	0.381	0.409			14.956				
132-CH		41 - 44			31842301010000			0.173	0.000	0.173							
132-S		41 - 44			31842301010000			0.138	0.000	0.138							
133	D. W. Pettit Construction Co., an Ohio Corporation	41 - 42	OR 700	31	31831401007004	0.027	0.000		0.000						NO TAKE		
134-WD	Little Bear Village Homeowners Association, Inc. an Ohio Not For Profit Corporation	43 - 44	OR782	2660	31831418004000	1.645	0.000	0.003	0.000	0.003		1.642					
134-CH		41 - 44			31831418004000			0.127	0.000	0.127							
134-S		43 - 44			31831418004000			0.007	0.000	0.007							
135-WD	IRAJ HAGHNAZARI AND MASTANEH MALEKNIAZI	43 - 46	OR 874	2297	31842301011000	6.040	0.296	0.566	0.296	0.270			5.474				
135-CH		43 - 44			31842301011000			0.025	0.000	0.025							
135-T		45 - 46			31842301011000			0.003	0.000	0.003					GRADING		
136-WD	Louis M. Bando	43 - 44	DB 520	463	31831401006000	1.160	0.000	0.128	0.000	0.128		1.032					
					31831401005000	0.594	0.000	0.055	0.000	0.055		0.539					
	TOTAL					1.754	0.000	0.183	0.000	0.183		1.571					
136-CH		43 - 44			31831401006000			0.034	0.000	0.034							
					31831401005000			0.017	0.000	0.017							
	TOTAL							0.051	0.000	0.051							
136-T		43 - 44			31831401006000			0.015	0.000	0.015					GRADING AND DRIVE CONSTRUCTION		
					31831401005000												

TYPE FUND: 80% FEDERAL / 20% LOCAL

LEGEND
WD = WARRANTY DEED
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* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PCLS 126,128,130,132 OWNER; PCL 134 AC.
DATE COMPLETED		NOVEMBER 19, 2014

FEDERAL PROJECT NO. E110272
PID NO. 90243
STATE JOB NO. 466952
R/W DESIGNER BLW
R/W REVIEWER DS

SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 123-136)

DEL-CR10-0.90

2952-DR.E

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
DELAWARE COUNTY COMMISSIONERS
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NUMBER	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
137-WD	Anastasiia Tiurenkova	43 - 46	OR 1299	2375	31831401004000	1.900	0.000	0.165	0.000	0.165		1.735					
137-CH		43 - 46			31831401004000			0.055	0.000	0.055							
138-WD	Michael D. Hart and Cynthia I. Hart	45 - 46	DB 476	682	31831401003000	1.190	0.000	0.103	0.000	0.103		1.087					
138-CH		45 - 46			31831401003000			0.052	0.000	0.052							
138-S		45 - 46			31831401003000			0.052	0.000	0.052							
139-WD	Walker Wood Homeowners Association, Inc.	45 - 46	OR 320	2437	31842308001000	0.127	0.000	0.013	0.000	0.013			0.114				
									0.000	0.000							
139-T		45 - 46			31842308001000			0.022	0.000	0.022					GRADING		
140-T	Jun Chen	45 - 46	OR 327	1088	31842308002000	0.245	0.000	0.002	0.000	0.002					GRADING		
141-144	NOT USED																
145-T	Robin L. & Scott E. Whipple	45 - 46	OR 1316	19	31842309002000	0.315	0.000	0.002	0.000	0.002					GRADING		
146-WD	Walker Wood Homeowners Association, Inc.	45 - 48	OR 320	2437	31842309001000	0.366	0.000	0.030	0.000	0.030			0.336				
146-T1		45 - 46			31842309001000			0.006	0.000	0.006					GRADING		
146-T2		47 - 48			31842309001000			0.008	0.000	0.008					GRADING		
147-WD	Christine E. Mertz	45 - 46	OR 1037	2202	31831401002000	1.110	0.103	0.207	0.103	0.104		0.903					
147-CH		45 - 46			31831401002000			0.052	0.000	0.052							
147-S		45 - 46			31831401002000			0.052	0.000	0.052							
147-T		45 - 46			31831401002000			0.002	0.000	0.002					GRADING AND DRIVE CONSTRUCTION		
148-WD	Del-Co Water Company Inc.	45 - 46	DB 367	251	31831401001000	0.360	0.014	0.027	0.014	0.013		0.333					
148-T		45 - 46			31831401001000			0.004	0.000	0.004					GRADING AND DRIVE CONSTRUCTION		
148-S		45 - 46			31831401001000			0.007	0.000	0.007							
149-WD	Hazel M. Burkholder, Trustee of the Hazel M. Burkholder Trust Dated September 11, 2002	45 - 48	OR 240	596	31831101021000	1.100	0.104	0.207	0.104	0.103		0.893					
149-CH		45 - 48			31831101021000			0.052	0.000	0.052							
149-S		45 - 48			31831101021000			0.052	0.000	0.052							
149-T		45 - 48			31831101021000			0.016	0.000	0.016					GRADING AND DRIVE CONSTRUCTION		
150-WD	Thomas R. Smith and Barbara Smith	47 - 48	OR 806	2698	31842201016000	2.186	0.189	0.379	0.189	0.190			1.807				
150-CH		47 - 48			31842201016000			0.125	0.000	0.125							
150-S		47 - 48			31842201016000			0.063	0.000	0.063							
151-CH	The Villages of Oak Creek Homeowners' Association, Inc.	47 - 48	DB 666	313	31831111001000	0.275	0.000	0.068	0.000	0.068							
151-S		47 - 48			31831111001000			0.068	0.000	0.068							
151-T		47 - 48			31831111001000			0.007	0.000	0.007					GRADING		

80% FEDERAL / 20% LOCAL

LEGEND
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(c) = CALCULATED AREA

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PCLS 137 & 145 UPDATED OWNER INFO
DATE COMPLETED		NOVEMBER 19, 2014

FEDERAL PROJECT NO. E110272
PID NO. 90243
STATE JOB NO. 466952
R/W DESIGNER BLW
R/W REVIEWER DS

SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 137-151)

DEL-CR10-0.90

2952-DR.E
15 / 72
380 / 437

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
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PARCEL NO.	OWNER	SHEET NUMBER	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
152-T	Soo H. Park	47 - 48	OR 588	647	31831111002000	0.299		0.006	0.000	0.006					GRADING		
153-157	NOT USED																
158-T	Brian P. Cataldi and Kathleen R. Cataldi	47 - 48	OR 891	1982	31831107002000	0.288	0.000	0.009	0.000	0.009					GRADING		
159-CH	The Villages of Oak Creek Homeowners' Association, Inc.	47 - 50	DB 666	313	31831107001000	1.327	0.000	0.033	0.000	0.033							
160-WD	Chad F. Porter and Melissa J. Porter	47 - 50	OR 1135	1705	31842201014002	0.879	0.000	0.082	0.000	0.082			0.797				
160-T		47 - 50			31842201014002			0.068	0.000	0.068					GRADING AND DRIVE CONSTRUCTION		
161-WD	Doreen E. Dodson	49 - 50	DB 662	579	31842201012000	0.920	0.000	0.085	0.000	0.085			0.835				
			DB 468	582													
161-T		49 - 50						0.071	0.000	0.071					GRADING AND DRIVE CONSTRUCTION		
162-WD	JOHN R. DILL and LYNNE M. DILL	49 - 50	DB 561	188	31831101018000	1.127	0.127	0.255	0.127	0.128		0.872					
162-CH		49 - 50			31831101018000			0.034	0.000	0.034							
162-S		49 - 50			31831101018000			0.008	0.000	0.008							
162-T		49 - 50			31831101018000			0.012	0.000	0.012					GRADING AND DRIVE CONSTRUCTION		
163-WD	Dennis W. Foreman and Marilyn R. Foreman, Trustees of Dennis W. Foreman, Jr. and Marilyn R. Foreman Living Trust, Dated November 21, 2005	49 - 50	OR 690	489	31842201011000	1.110		0.103	0.000	0.103			1.007				
163-T		49 - 50			31842201011000			0.034	0.000	0.034					GRADING AND DRIVE CONSTRUCTION		
164-WD	The Villages of Oak Creek Homeowners' Association, Inc.	49 - 54	DB 662	142	31831104001000	0.679	0.000	0.356	0.000	0.356		0.323					
			DB 662	141	31831104002000	0.209	0.000	0.128	0.000	0.128		0.081					
	TOTAL					0.888	0.000	0.484	0.000	0.484		0.404					
164-T		53 - 54			31831104002000			0.006	0.000	0.006					GRADING		
165-WD	DANNY E. CAVOTE	49 - 50	OR 430	1942	31842201010000	1.270	0.000	0.118	0.000	0.118			1.152				
165-CH		49 - 50			31842201010000			0.039	0.000	0.039							
165-T		49 - 50			31842201010000			0.015	0.000	0.015					GRADING AND DRIVE CONSTRUCTION		
166-WD	David A. Shively and Juli Shively	49 - 52	OR 382	1379	31842201009000	1.270	0.000	0.118	0.000	0.118			1.152				
166-CH		49 - 52			31842201009000			0.020	0.000	0.020							
166-T		49 - 52			31842201009000			0.009	0.000	0.009					GRADING AND DRIVE CONSTRUCTION		
167-CH	WILSHIRE HOMEOWNERS ASSOCIATION, INC., an Ohio nonprofit corporation	51 - 54	OR 340	1430	31842205001000	1.971	0.000	0.163	0.000	0.163							
167-S		51 - 54			31842205001000			0.131	0.000	0.131							
168	NOT USED																
169-T	Donald Eugene Green and Donna Marie Green	53 - 54	OR 5	2512	31831104003000	0.334	0.000	0.009	0.000	0.009					GRADING		
170	Declan A. Feery Sr. and Cynthia A. Feery	53 - 54	DB 668	506	31831103002000	0.334	0.000								NO TAKE		

80% FEDERAL / 20% LOCAL

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(c) = CALCULATED AREA

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

FEDERAL PROJECT NO. E110272
PID NO. 90243
STATE JOB NO. 466952
R/W DESIGNER BLW
R/W REVIEWER DS

SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 152-170)

DEL-CR10-0.90

2952-DR.E

NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
DELAWARE COUNTY COMMISSIONERS
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NUMBER	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
171-S1	The Villages of Oak Creek Homeowners' Association, Inc.	53 - 54	DB 662	141	31831103001000	10.551	0.000	0.075	0.000	0.075							
171-S2		57 - 58			31831103001000			0.003	0.000	0.003							
171-CH		53 - 58			31831103001000			0.357	0.000	0.357							
171-T1		55 - 58			31831103001000			0.092	0.000	0.092					GRADING		
171-T2		57 - 60			31831103001000			0.044	0.000	0.044					GRADING AND PATH RECONSTRUCTION		
172-T	WILSHIRE HOMEOWNERS ASSOCIATION, INC., an Ohio Nonprofit Corporation	53 - 56	OR 340	1430	31842202001000	1.261	0.000	0.082	0.000	0.082					GRADING		
173	David P. Waggoner and Fouzia K. Waggoner	53 - 54	OR 792	287	31842202002000	0.352	0.000								NO TAKE		
174-WD	John W. Hall and Adele L. Hall	55 - 56	DB 594	572	31842201007000	0.500	0.000	0.224	0.138	0.086			0.414				
			DB 559	174		1.500	0.138										
	TOTAL					2.000	0.138										
174-T		55 - 56			31842201007000			0.046	0.000	0.046					GRADING AND DRIVE CONSTRUCTION		
175-WD	ST. ANDREW'S ANGELICAN CHURCH, an Ohio Not-For-Profit Corporation	55 - 58	OR 848	663	31842201004000	13.164	0.388	0.420	0.388	0.032			12.744				
175-T		55 - 58			31842201004000			0.075		0.075					GRADING AND DRIVE CONSTRUCTION		
176-WD	ST. ANDREW'S ANGELICAN CHURCH, an Ohio Not-For-Profit Corporation	57 - 58	OR 1056	2845	31842201006000	3.060	0.075	0.263	0.075	0.188			2.797				
176-SL		57 - 58			31842201006000			0.078	0.000	0.078							
176-T		57 - 58			31842201006000			0.017	0.000	0.017					GRADING AND DRIVE CONSTRUCTION		
177-CH	THE BOARD OF TOWNSHIP TRUSTEES OF ORANGE TOWNSHIP, DELAWARE COUNTY, OHIO	59 - 60	OR 815	281	31831103001001	6.111	0.148	0.154	0.000	0.154							
177-SL		59 - 60			31831103001001			0.026	0.000	0.026							
177-S		59 - 60			31831103001001			0.154	0.000	0.154							
177-T1		59 - 60			31831103001001			0.018	0.000	0.018					GRADING AND PATH RECONSTRUCTION		
177-T2		59 - 60			31831103001001			0.056	0.000	0.056					GRADING AND PATH RECONSTRUCTION		
178-186	NOT USED																
187	Fred V. White and E. Louise White AKA Louise H. White	59 - 64	OR 899	1968	31824001030000	11.248	0.921								NO TAKE		
188-WD	Becky A. Creighton, Trustee or her Successor(s) as Trustees of "The Yarnell Keystone Inheritance Trust", Dated October 26, 2010	57 - 60	OR 1006	1565	31842201005000	3.360	0.428	0.298	0.253	0.045			2.887				
188-CH1		57 - 60			31842201005000			0.047	0.000	0.047							
188-CH2		59 - 60			31842201005000			0.068	0.000	0.068							
188-SL1		59 - 60			31842201005000			0.023	0.000	0.023							
188-SL2		59 - 60			31842201005000			0.085	0.000	0.085							
188-T		59 - 60			31842201005000			0.060	0.000	0.060					CULVERT AND CHANNEL EXTENSION IN EX. DRAINAGE EASEMENT		
189-196	NOT USED																
197	NOT USED																

80% FEDERAL / 20% LOCAL

LEGEND
WD = WARRANTY DEED
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
S = SEWER EASEMENT
SL = SLOPE EASEMENT

**V = R/W OR EASEMENTS ACQUIRED IN THE NAME OF "CITY OF COLUMBUS, OHIO"

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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

(c) = CALCULATED AREA

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

FEDERAL PROJECT NO. E110272
PID NO. 90243
STATE JOB NO. 466952
R/W DESIGNER BLW
R/W REVIEWER DS

SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 171-197)

DEL-CR10-0.90

2952-DR.E
17 / 72
382 / 437

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NET RESIDUE = RECORD AREA - TOTAL PRO - NET TAKE

ALL AREAS IN ACRES

GRANTEE:
ALL RIGHT OF WAY ACQUIRED IN THE NAME OF
DELAWARE COUNTY COMMISSIONERS
UNLESS OTHERWISE SHOWN.

PARCEL NO.	OWNER	SHEET NUMBER	OWNERS RECORD BOOK	OWNERS RECORD PAGE	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUCTURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED BOOK	AS ACQUIRED PAGE
198-WD	The Board of Township Trustees of Orange Township, Delaware County, Ohio	59 - 62	DB 443	28	31813301013000	7.360	0.574	0.671	0.574	0.097			6.689	80% FEDERAL / 20% LOCAL			
			DB 363	443	31813301014000	1.260	0.206	0.221	0.206	0.015			1.039				
			DB 63	536	31813301017001												
			DB 598	224		3.939	0.451	0.000	0.000	0.000			3.488				
	TOTAL					12.559	1.231	0.892	0.780	0.112			11.216				
198-CH		59 - 60			31813301013000			0.053	0.000	0.053							
		71 - 72															
198-S		59 - 60			31813301013000			0.053	0.000	0.053							
		71 - 72															
198-T1		59 - 60			31813301013000			0.116	0.000	0.116					GRADING, GRAVEL PATH RECONSTRUCTION, PORTION OF GRAVEL LOT REMOVED		
		71 - 72															
198-T2		61 - 62			31813301013000			0.159	0.000	0.159					GRADING, ASPHALT PATH RECONSTRUCTION, RECONSTRUCT CONCRETE DRIVES		
199-T	Abbey Knoll Homeowners Association, Inc., an Ohio Not-For-Profit Corporation	63 - 64	OR 1013	279	31813314001000	0.755	0.000	0.104	0.000	0.104					EXTEND THE CULVERT, CONSTRUCT STORM SEWERS, RECONSTRUCT ASPHALT PATH, AND PERFORM GRADING		
200-CH	Timothy R. Soards and Karla S. Soards	63 - 64	OR 193	182	31824001029000	1.940	0.032	0.016	0.000	0.016							
200-T		63 - 64						0.048	0.000	0.048					GRADING AND DRIVE CONSTRUCTION		
201-CH	Leonard D. Heter and Marie D. Heter	63 - 66	DB 502	354	31824001028000	1.940	0.000	0.032	0.000	0.032							
			OR 52	1208	31824001027010	0.340	0.021	0.007	0.000	0.007							
			OR 29	643	31824001027007	0.176	0.000	0.000	0.000	0.000							
	TOTAL					2.456	0.021	0.039	0.000	0.039							
201-S		63 - 66			31824001028000			0.032	0.000	0.032							
					31824001027010			0.007	0.000	0.007							
	TOTAL							0.039	0.000	0.039							
201-T		63 - 66			31824001028000			0.032	0.000	0.032					GRADING AND DRIVE CONSTRUCTION		
					31824001027010			0.007	0.000	0.007							
	TOTAL							0.039	0.000	0.039							
202	Cherilyn R. Brown and Carolyn R. Brown	63 - 64	OR 1004	1691	31813314002000	0.328	0.000								NO TAKE		
203	NOT USED																
204-WD	C. E. MAINOUS, TRUSTEE	63 - 66	OR 246	672	31813301009000	16.443	0.401	0.191	0.173	0.018			16.024				
205-CH	Mehmet G. Basaran and Kathy L. Basaran	65 - 66	DB 610	321	31824001026000	2.520	0.151	0.025	0.000	0.025							
			OR 52	1211	31824001027009	0.340	0.021	0.003	0.000	0.003							
			OR 29	648	31824001027006	0.641	0.000	0.000	0.000	0.000							
	TOTAL					3.501	0.172	0.028	0.000	0.028							
205-S		65 - 66			31824001026000	2.520	0.151	0.051	0.000	0.051							
					31824001027009	0.340	0.021	0.007	0.000	0.007							
	TOTAL					2.860	0.172	0.058	0.000	0.058							
206-CH	Dennis M. Such and Shelley L. Such	65 - 66	DB 432	563	31824001024000	1.230	0.000	0.028	0.000	0.028							
			DB 432	563	31824001025000	0.060	0.000	0.000	0.000	0.000							
			OR 29	653	31824001027005	0.348	0.000	0.000	0.000	0.000							
	TOTAL					1.638	0.000	0.028	0.000	0.028							
206-S		65 - 66			31824001024000			0.006	0.000	0.006							
207	Charles J. Kesler and Lori L. Kesler	65 - 66	OR 1081	1135	31824001023000	1.230	0.000								NO TAKE		
			OR 1211	2171	31824001027004	0.403	0.000										
	TOTAL					1.633	0.403										

LEGEND
WD = WARRANTY DEED
T = TEMPORARY EASEMENT
CH = CHANNEL EASEMENT
S = SEWER EASEMENT
SL = SLOPE EASEMENT

**V = R/W OR EASEMENTS ACQUIRED IN THE NAME OF "CITY OF COLUMBUS, OHIO"

NOTE: ALL TEMPORARY PARCELS TO BE OF 24 MONTH DURATION.

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

(c) = CALCULATED AREA

* DENOTES RIGHT OF WAY ENCROACHMENT

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

FEDERAL PROJECT NO. E110272
PID NO. 90243
STATE JOB NO. 466952
R/W DESIGNER BLW
R/W REVIEWER DS

SUMMARY OF ADDITIONAL RIGHT OF WAY (PARCELS 198-207)

DEL-CR10-0.90

2952-DR.E
18 / 72
383 / 437

DELAWARE COUNTY
CITY OF COLUMBUS
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

ERIN ST.
Ex R/W
PC Sta. 104+63.51
Δ = 15° 17' 43" (RT)
R = 400.00'
105
WYNSTONE SECTION 3
CAB. 1 - SLIDE 748
ASPHALT
RESIDENTIAL
2-STORY FRAME
11
AUNG THURAIN
785 ERIN STREET
31834102014000
LOT 202
(NO TAKE)
PT Sta. 105+70.59
30" RCP STM
UTILITY EASEMENT CAB. 1, SL. 748
12"-2003-25 (COC)
18" RCP STM
12"-997-29 (COC)
1-STORY FRAME
19
NANCY A. STRAUCH
794 ERIN STREET
31834102013001
LOT 267
(NO TAKE)
OPEN SPACE / PARK
22
THE CITY OF COLUMBUS, OHIO
9280 S. OLD STATE ROAD
31834102013000
RESERVE "B"
HESSLER SUBDIVISION
P.B. 13 PG. 61-62
COMMERCIAL
23
CITY OF COLUMBUS OHIO
9270 S. OLD STATE ROAD
31834102012000
LOT 394
(NO TAKE)
LEACH FIELD (APPROX.)
22-T
WOOD SIGN ON 4" X 4"
TMP
CONSTRUCTION LIMITS
CONCRETE
15" RCP STM
15" CPP STM
STA. 997+84.03 EXISTING ℄ R/W S. OLD STATE RD. =
STA. 106+40.54 EXISTING ℄ R/W ERIN ST.
EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD.
N 16° 48' 46" E
POT Sta. 106+40.54
BEGIN WORK
STA. 996+75.00
EXISTING LANDSCAPING WALL, SIGN FENCES (DO NOT DISTURB)
BEGIN ACQUISITION
STA. 998+98.05
42" RCP
12" RCP STM
4" PVC
DO NOT DISTURB (DND)
DND
ASPHALT
WOOD SIGN (DO NOT DISTURB)
21-T
2" (DOM)
6" (FIRE)
PRIVATE SIGN WITH LIGHT ON STONE BASE WITH LANDSCAPING WALL (DO NOT DISTURB)
EXISTING LIGHT (DO NOT DISTURB)
+45.19 ASPH. COM. DRIVE
MATCHLINE STA. 1001+50 S. OLD STATE ROAD SEE SHEET
EX. SAN. EASEMENT O.R. 84, PG. 2059
EX SW
COMMERCIAL
20
MRES, LLC,
AN OHIO LIMITED LIABILITY COMPANY
9331 S. OLD STATE ROAD
31834103015000
(NO TAKE)
1-STORY BRICK
1-STORY FRAME
COMMERCIAL
21
SMALL BUSINESS PARK PARTNERSHIP,
AN OHIO GENERAL PARTNERSHIP
8820 COMMERCE LOOP DRIVE
31834103014000
1-STORY BRICK

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 996+50 TO STA. 1001+50

DEL-CR10-0.90

2952-DR.E

19 / 72

384 / 437

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DELAWARE COUNTY
CITY OF COLUMBUS
SECTION 3 , T3 - R 18
UNITED STATES MILITARY LANDS

ERIN ST.

Ex R/W

℄

PC Sta. 104+63.71

Δ = 15° 17' 43" (RT)
R = 400.00'

105

WYNSTONE SECTION 3
CAB. 1 - SLIDE 748

RESIDENTIAL
(11)
AUNG THURAIN
785 ERIN STREET
31834102014000
LOT 202
(NO TAKE)

15'

PT Sta. 105+70.55

60'

S 73° 10' 58" E

106

UTILITY EASEMENT
CAB. 1, SL. 748

20'

P.O.T.

WYNSTONE SECTION 3
CAB. 1 - SLIDE 748

RESIDENTIAL
(19)
NANCY A. STRAUCH
794 ERIN STREET
31834102013001
LOT 267
(NO TAKE)

10'

UTILITY EASEMENT
CAB. 1, SL. 748

HESSLER SUBDIVISION
P.B. 13 PG. 61-62

OPEN SPACE / PARK
(22)
THE CITY OF COLUMBUS, OHIO
9280 S. OLD STATE ROAD
31834102013000
RESERVE "B"

COMMERCIAL
(23)
CITY OF COLUMBUS OHIO
9270 S. OLD STATE ROAD
31834102012000
LOT 394
(NO TAKE)

20.00'
N 16° 48' 46" E

1000+45.00
55.00' LT

22-T

1000+65.00
55.00' LT

TMP

5.00'
N 73° 11' 14" W

1000+45.00
50.00' LT

20.00'
S 16° 48' 46" W

5.00'
S 73° 11' 14" E

1000+65.00
50.00' LT

STA. 997+84.03 EXISTING ℄ R/W S. OLD STATE RD. =
STA. 106+40.54 EXISTING ℄ R/W ERIN ST.

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD.

997
998
999
1000
1001

997+00.00
PROP. MON.

N 16° 48' 46" E

POT Sta. 106+40.54

50'

40'

MATCHLINE STA. 1001+50 S. OLD STATE ROAD SEE SHEET 22

998+98.05
40.00' RT

5.03'
N 78° 58' 24" W

998+98.56
45.00' RT

365.22'
N 16° 48' 46" E

21-T

216.44'
S 16° 48' 46" W

1001+15.00
45.00' RT

5.00'
N 73° 11' 14" W

1001+15.00
50.00' RT

TMP 60.00'
S 16° 48' 46" W

EX. SAN. EASEMENT
O.R. 84, PG. 2059

Ex SW

COMMERCIAL
(20)
MRES, LLC,
AN OHIO LIMITED LIABILITY COMPANY
9331 S. OLD STATE ROAD
31834103015000
(NO TAKE)

COMMERCIAL
(21)
SMALL BUSINESS PARK PARTNERSHIP,
AN OHIO GENERAL PARTNERSHIP
8820 COMMERCE LOOP DRIVE
31834103014000

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
21T	EXISTING 20' SANITARY EASEMENT	100.51
22T	EXISTING 10' UTILITY EASEMENT	100.00

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 996+50 TO STA. 1001+50

DEL-CR10-0.90

2952-DR.E

20 / 72

385
437

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DELAWARE COUNTY
CITY OF COLUMBUS
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

1 1/2-STORY FRAME
HESSLER SUBDIVISION P.B. 13 PG. 61-62
23
CITY OF COLUMBUS OHIO
9270 S. OLD STATE ROAD
31834102012000
LOT 394
(NO TAKE)
LEACH FIELD (APPROX.)
RESIDENTIAL
24
THOMAS M. RIGGS AND ANITA L. RIGGS
9250 S. OLD STATE ROAD
31834102011000
LOT 393
(NO TAKE)
2-STORY FRAME
ASPHALT
LOT 2
WYNSTONE SECTION 1
CAB. 1, SLIDE 504
RESIDENTIAL
26
LINH V. TRUONG AND TUYETNHUNG NGUYEN TRUONG
795 WYNSTONE DRIVE
WYNSTONE SECTION 1
31834104001000
LOT 1
STONE SIGN (DO NOT DISURB)
LANDSCAPING LIGHTS
3-RAIL PVC FENCE
26-T
Δ= 15° 17' 21" (RT)
R = 400.00'
WYNSTONE DR.
ASPHALT
2-STORY FRAME
LOT 58
WYNSTONE SECTION 1
CAB. 1, SLIDE 504
RESIDENTIAL
33
STEVE CONGROVE AND RHONDA L. CONGROVE
800 WYNSTONE DR
31834108092000
LOT 59
2-STORY FRAME
ASPHALT
36
WHITE PINE
GROUND LIGHT W/POST
STONE WALLS
STONE COLUMN
33-T
33-WDV
39.9'
LANDSCAPING LIGHTS (TYP. 6)
3-RAIL PVC FENCE
SPRINKLER HEADS (TYP.)
EX. SAN. EASEMENT DB 621, PG. 481
EX. SAN. EASEMENT DB 621, PG. 485
ASPH. RES. DRIVE
+69.50
CONSTRUCTION LIMITS
DND
CONC. RES. DRIVE
+16.87
EX. 10' UTIL EASEMENT DB 638, PG. 790
UTILITY & DRAINAGE EASEMENT CAB. 1, SLIDE 504
STONE WALLS
EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD
STA. 1004+65.76 EXISTING ℄ R/W S. OLD STATE RD. = STA. 4+46.11 EXISTING ℄ R/W WYNSTONE DR.
POT Sta. 4+46.11
1005 N 16° 48' 46" E
MATCHLINE STA. 1001+50 S. OLD STATE ROAD SEE SHEET 19
MATCHLINE STA. 1006+50 S. OLD STATE ROAD SEE SHEET 23
+63.88
CONC. COM. DRIVE
+63.71
ASPH. COM. DRIVE
CONSTRUCTION LIMITS
CONCRETE
LANDSCAPING WALL
LANDSCAPING BEDS
EXISTING LIGHT SAVE
21-T
COMMERCIAL
21
ASPHALT
SMALL BUSINESS PARK PARTNERSHIP, AN OHIO GENERAL PARTNERSHIP
8820 COMMERCE LOOP DRIVE
31834103014000
25-WDV
6 EX. TREES SAVE
SIGN SAVE
84.5'
COMMERCIAL
25
ASPHALT
GENUINE PARTS COMPANY, A GEORGIA CORPORATION
9235 S. OLD STATE ROAD
31834103013000
25-T
INGRESS/EGRESS & CROSS ACCESS EASEMENT OR 800, PG 1697
34-SV
34-T
34-WDV
35-CHV
35-WDV
SIGN "PSYCHIC STUDIO..."
COMMERCIAL
35
2-STORY FRAME
COMMERCIAL
34
801 POLARIS, LLC, AN OHIO LIMITED LIABILITY COMPANY
ANTARES AVE (NO ADDRESS)
31834103009000
AMAR REDDY
9181 S OLD STATE RD
31834103011000
3834103012000
3-RAIL PVC FENCE
BLOCK WALL
1-STORY BRICK
COMMERCIAL BRICK
CSPC - OR 836, PG. 14
CSPC - OR 836, PG. 28
EXISTING LIGHT SAVE
6 EX. TREES SAVE

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PCL 34 UPDATE APN; PCL 35 UPDATE OWNER
BLW	3/4/2015	UPDATED TOPO ON PARCELS 34 AND 35
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 1001+50 TO STA. 1006+50

DEL-CR10-0.90

2952-DR.E

21 / 72

386 / 437

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R/W CURVE DATA

CURVE 26-1
R=20.00′
I=89° 57′ 36″
A=31.40′
T=19.99′
L.CH.=28.27′
L.CH.BEAR.=S 28° 10′ 02″ E

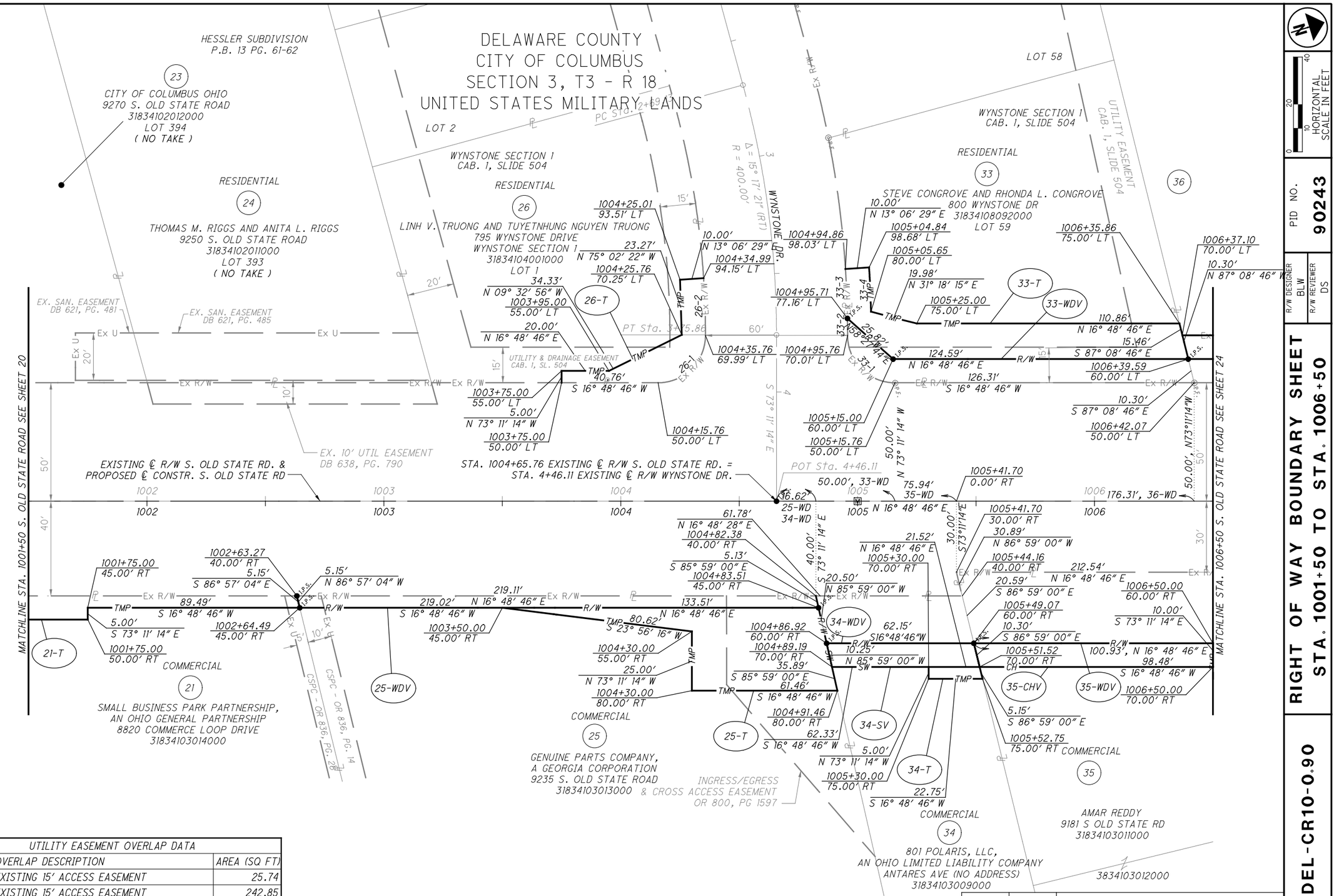
CURVE 26-2
R=370.00′
I=3° 44′ 42″
A=24.18′
T=12.10′
L.CH.=24.18′
L.CH.BEAR.=S 75° 01′ 10″ E

CURVE 33-1
R=20.00′
I=90° 01′ 52″
A=31.43′
T=20.01′
L.CH.=28.29′
L.CH.BEAR.=S 61° 49′ 42″ W

CURVE 33-2
R=430.00′
I=0° 57′ 09″
A=7.15′
T=3.57′
L.CH.=7.15′
L.CH.BEAR.=N 73° 37′ 56″ W

CURVE 33-3
R=430.00′
I=2° 47′ 01″
A=20.89′
T=10.45′
L.CH.=20.89′
L.CH.BEAR.=N 75° 30′ 01″ W

CURVE 33-4
R=440.00′
I=2° 26′ 04″
A=18.70′
T=9.35′
L.CH.=18.69′
L.CH.BEAR.=S 75° 40′ 29″ E



UTILITY EASEMENT OVERLAP DATA

PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
21T	EXISTING 15′ ACCESS EASEMENT	25.74
25WDV	EXISTING 15′ ACCESS EASEMENT	242.85
25T	EXISTING 15′ ACCESS EASEMENT	1495.54
26T	EXISTING 15′ UTILITY AND STORM EASEMENT	833.09
33T	EXISTING 15′ UTILITY AND STORM EASEMENT	838.07
33WDV	EXISTING 15′ UTILITY AND STORM EASEMENT	1488.04

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PCL 34 UPDATE APN; PCL 35 UPDATE OWNER
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 1001+50 TO STA. 1006+50

DEL-CR10-0.90

2952-DR.E

22 / 72

387 / 437

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DELAWARE COUNTY
CITY OF COLUMBUS
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

COMMERCIAL BRICK
COMMERCIAL
ASPHALT
36
INVESTMENT LINKS, LLC,
AN OHIO LIMITED LIABILITY COMPANY
9158 S OLD STATE RD
31834102010000
ASPHALT
COMMERCIAL
38
CHELSEA R. P., LTD.,
AN OHIO LIMITED LIABILITY COMPANY
771 POLARIS PARKWAY
31834102006002
ASPHALT
COMMERCIAL BRICK
FARM LOT 3
FARM LOT 2
EQUATION:
POT STa 1010+73.36 BK =
POT STa 110+73.36 AH
ASPHALT
CONCRETE PAD
PVC FENCE, DUMPSTER
SAVE
36-T
36-WDV
38-WDV
38-T
CONCRETE
WALK
SIGN POST
EXIST. SIGN
SAVE
CONSTRUCTION
LIMITS
CAB. I, SLIDE 451
EX. UTILITY EASEMENT
EXIST. SIGN
W/LIGHTS
SAVE
ASPH. COM. DRIVE
+37.00
+00.00
SAN. EASEMENT
D.O.R. 575, PG. 487
Ex SW
6" GAS
12" RCP STM.
CONCRETE
EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD
MATCHLINE STA. 1006+50 S. OLD STATE ROAD SEE SHEET 21
MATCHLINE STA. 111+50 S. OLD STATE ROAD SEE SHEET 25
1007
1008
1009
1010
1011
N 16° 48' 46" E
N 16° 19' 14" E
1008 EXIST. PRIVATE SIGN
"ENTER"
EXISTING PRIVATE SIGN
"CVS PHARMACY"
EXIST. SIGN
"ONE WAY"
EXIST. DETENTION BASIN
10" RCP STM
24" RCP STM
30" RCP STM
4" PVC
EXIST.
POLE
35-WDV
37-T
37-WDV
47-WDV
47-SLV
35-T
+61.50
COM. DRIVE
29.3'
36.6'
+89.75
ASPH. COM. DRIVE
DND
BLOCK WALL SAVE
CONSTRUCTION LIMITS
SHRUBS
(DO NOT
DISTURB)
9 BUSHES
EXIST. LIGHT
78.5'
PI Sta. 1010+73.36
TAKE 138' FT HAND RAIL AND
69' OF 4' CONCRETE WALK
PERMANENT UNDERGROUND DETENTION
TO REPLACE EXISTING SURFACE
DETENTION AREA. SHOWN FOR COST TO
CURE PURPOSES. SYSTEM TO BE
DESIGNED, CONSTRUCTED AND
MAINTAINED BY THE PROPERTY OWNER.
2-STORY
FRAME
31834103011000
COMMERCIAL
35
AMAR REDDY
9181 S OLD STATE RD
31834103012000
COMMERCIAL
37
CLINTONVILLE DEVELOPMENT, LLC,
AN OHIO LIMITED LIABILITY COMPANY
9175 S OLD STATE RD
31834103009003
COMMERCIAL BRICK
ASPHALT
COMMERCIAL
47
TATCO POLARIS, LTD.,
AN OHIO LIMITED LIABILITY COMPANY
9151 S OLD STATE RD
31834103009001
COMMERCIAL BRICK
ASPHALT

REV. BY	DATE	DESCRIPTION
BLW	3/4/2015	ADDED HANDRAIL/WALK TAKE TO PARCEL 47
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 1006+50 TO STA. 111+50

DEL-CR10-0.90

2952-DR.E

23 / 72

388 / 437

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DELAWARE COUNTY
CITY OF COLUMBUS
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
36WDV	EXISTING 20' UTILITY AND STORM EASEMENT	2100.36
36T	EXISTING 20' UTILITY AND STORM EASEMENT	2100.40
38T	EXISTING 20' UTILITY AND STORM EASEMENT	3559.97
38T	EXISTING 15' GAS EASEMENT	150.12
38T	EXISTING 20' SANITARY EASEMENT	183.83
38WDV	EXISTING 20' UTILITY AND STORM EASEMENT	3425.48

COMMERCIAL (36)
INVESTMENT LINKS, LLC,
AN OHIO LIMITED LIABILITY COMPANY
9158 S OLD STATE RD
31834102010000

COMMERCIAL (38)
CHELSEA R. P., LTD.,
AN OHIO LIMITED LIABILITY COMPANY
771 POLARIS PARKWAY
31834102006002

FARM LOT 3
FARM LOT 2

EQUATION:
POT Sta 1010+73.3 = POT Sta 110+73.36

CAB. I, SLIDE 451
EX. UTILITY EASEMENT

SAN. EASEMENT
O.R. 575, PG. 487

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

MATCHLINE STA. 1006+50 S. OLD STATE ROAD SEE SHEET 22

MATCHLINE STA. 111+50 S. OLD STATE ROAD SEE SHEET 26

1007+50.00, 85.00' LT
15.00, N 73° 11' 14" W
1007+50.00, 70.00' LT
36-T
36-WDV
93.42', N 16° 48' 46" E
1008+43.42, 85.00' LT
25.76', S 87° 07' 41" E
1008+44.66, 80.00' LT
20.61', N 87° 07' 41" W
38-WDV
38-T
228.36', N 16° 48' 46" E
1010+73.02, 80.00' LT
1010+53.85, 80.00' LT
143.06', N 16° 19' 14" E
112.90', N 16° 48' 46" E
210.04', N 16° 48' 46" E
223.48', N 16° 48' 46" E
125.80', N 16° 19' 14" E
210.03', S 16° 48' 46" W
221.04', S 16° 48' 46" W
114.79', S 16° 19' 14" W
1008+49.63, 60.00' LT
10.30', S 87° 07' 41" E
1008+52.11, 50.00' LT
1010+58.72, 60.00' LT
1010+61.16, 50.00' LT
1010+73.10, 60.00' LT
1010+73.15, 50.00' LT
50.00', N 73° 11' 14" W
1007 1008 1009 1010 111
221.25', 38-WD
156.77', 37-WD, 47-WD
221.81', 37-WD, 38-WD, 47-WD
110+73.36, PROP. MON.
1011 N 16° 19' 14" E
1007+54.24, 30.00' RT
1007+56.42, 50.00' RT
30.18', S 79° 23' 37" E
10.06', N 79° 23' 37" W
1006+50.00, 60.00' RT
15.00', N 73° 11' 14" W
1007+57.51, 60.00' RT
160.17', N 16° 48' 46" E
1009+16.59, 50.00' RT
10.00', S 73° 43' 42" E
50.00', S 73° 11' 14" E
156.99', N 16° 48' 46" E
110+85.11, 50.00' RT
110+87.45, 60.00' RT
110+73.36, 50.00' RT
132.02', N 16° 19' 14" E
208.44', S 16° 48' 46" W
107.51', N 16° 48' 46" E
159.18', S 16° 48' 46" W
156.94', S 16° 48' 46" W
121.90', S 16° 19' 14" W
96.90', N 16° 19' 14" E
1009+16.68, 60.00' RT
47-WDV
110+73.36, 60.00' RT
110+92.15, 80.00' RT
35-WDV
37-T
37-WDV
50.00', S 16° 48' 46" W
25.15', S 79° 23' 37" E
157.19', S 16° 48' 46" W
156.49', S 16° 48' 46" W
110+73.36, 80.00' RT
77.33', S 16° 19' 14" W
1006+50.00, 75.00' RT
60.23', S 16° 48' 46" W
20.12', N 79° 23' 37" W
1007+59.68, 80.00' RT
20.00, S 73° 43' 42" E
1009+16.87, 80.00' RT
47-SLV
1007+00.00, 75.00' RT
35-T
1007+60.23, 85.00' RT
111+50.00, 80.00' RT
10.00', N 73° 11' 14" W
1007+00.00, 85.00' RT
PI Sta. 1010+73.36

31834103011000
COMMERCIAL (35)
AMAR REDDY
9181 S OLD STATE RD
31834103012000

COMMERCIAL (37)
CLINTONVILLE DEVELOPMENT, LLC,
AN OHIO LIMITED LIABILITY COMPANY
9175 S OLD STATE RD
31834103009003

COMMERCIAL (47)
TATCO POLARIS, LTD.,
AN OHIO LIMITED LIABILITY COMPANY
9151 S OLD STATE RD
31834103009001

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243
R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 1006+50 TO STA. 111+50

DEL-CR10-0.90

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

2952-DR.E
24 / 72
389 / 437

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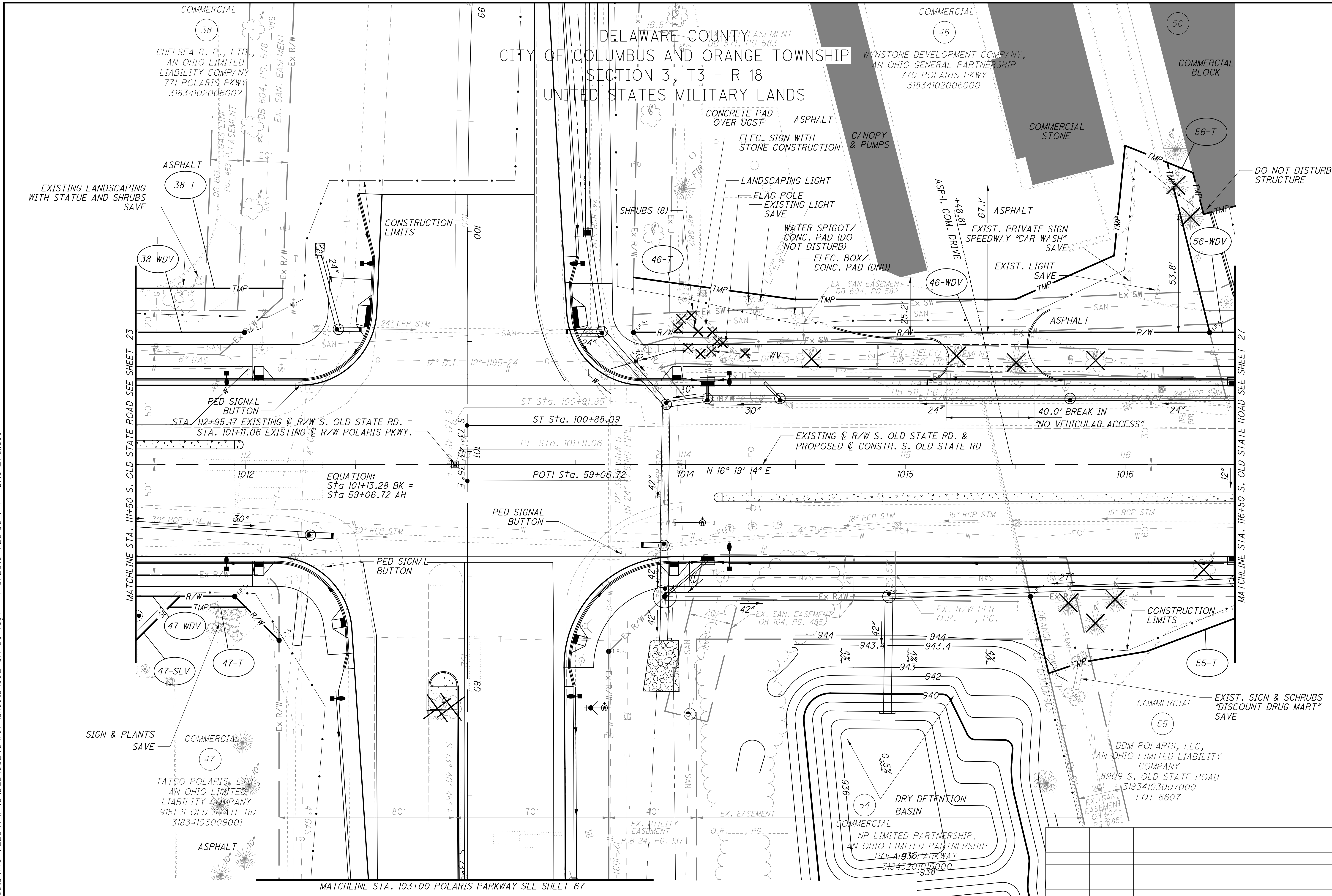

DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS
COMMERCIAL
38
CHELSEA R. P., LTD., AN OHIO LIMITED LIABILITY COMPANY 771 POLARIS PKWY 31834102006002
ASPHALT
38-T
EXISTING LANDSCAPING WITH STATUE AND SHRUBS SAVE
38-WDV
CONSTRUCTION LIMITS
COMMERCIAL
46
WYNSTONE DEVELOPMENT COMPANY, AN OHIO GENERAL PARTNERSHIP 770 POLARIS PKWY 31834102006000
CONCRETE PAD OVER UGST
ASPHALT
CANOPY & PUMPS
ELEC. SIGN WITH STONE CONSTRUCTION
LANDSCAPING LIGHT
FLAG POLE
EXISTING LIGHT SAVE
SHRUBS (8)
WATER SPIGOT/ CONC. PAD (DO NOT DISTURB)
ELEC. BOX/ CONC. PAD (DND)
46-T
46-WDV
COMMERCIAL STONE
56
COMMERCIAL BLOCK
56-T
DO NOT DISTURB STRUCTURE
56-WDV
ASPH. COM. DRIVE
EXIST. PRIVATE SIGN SPEEDWAY "CAR WASH" SAVE
EXIST. LIGHT SAVE
ASPHALT
40.0' BREAK IN "NO VEHICULAR ACCESS"
PED SIGNAL BUTTON
STA. 112+95.17 EXISTING ℄ R/W S. OLD STATE RD. = STA. 101+11.06 EXISTING ℄ R/W POLARIS PKWY.
ST Sta. 100+88.09
PI Sta. 101+11.06
EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD
N 16° 19' 14" E
EQUATION:
Sta 101+13.28 BK = Sta 59+06.72 AH
POT1 Sta. 59+06.72
S 73° 43' 35" E
PED SIGNAL BUTTON
PED SIGNAL BUTTON
MATCHLINE STA. 111+50 S. OLD STATE ROAD SEE SHEET 23
MATCHLINE STA. 116+50 S. OLD STATE ROAD SEE SHEET 27
47-WDV
47-T
47-SLV
SIGN & PLANTS SAVE
COMMERCIAL
47
TATCO POLARIS, LTD., AN OHIO LIMITED LIABILITY COMPANY 9151 S OLD STATE RD 31834103009001
ASPHALT
EX. SAN. EASEMENT OR 104, PG. 485
EX. R/W PER O.R. , PG.
CONSTRUCTION LIMITS
55-T
EXIST. SIGN & SCHRUBS "DISCOUNT DRUG MART" SAVE
COMMERCIAL
55
DDM POLARIS, LLC, AN OHIO LIMITED LIABILITY COMPANY 8909 S. OLD STATE ROAD 31834103007000 LOT 6607
DRY DETENTION BASIN
54
COMMERCIAL
NP LIMITED PARTNERSHIP, AN OHIO LIMITED PARTNERSHIP POLARIS PARKWAY 31843201016000
EX. UTILITY EASEMENT P.B 24, PG. 137
EX. EASEMENT
S 73° 40' 46" E
MATCHLINE STA. 103+00 POLARIS PARKWAY SEE SHEET 67
HORIZONTAL SCALE IN FEET

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 111+50 TO STA.116+50

DEL-CR10-0.90

2952-DR.E

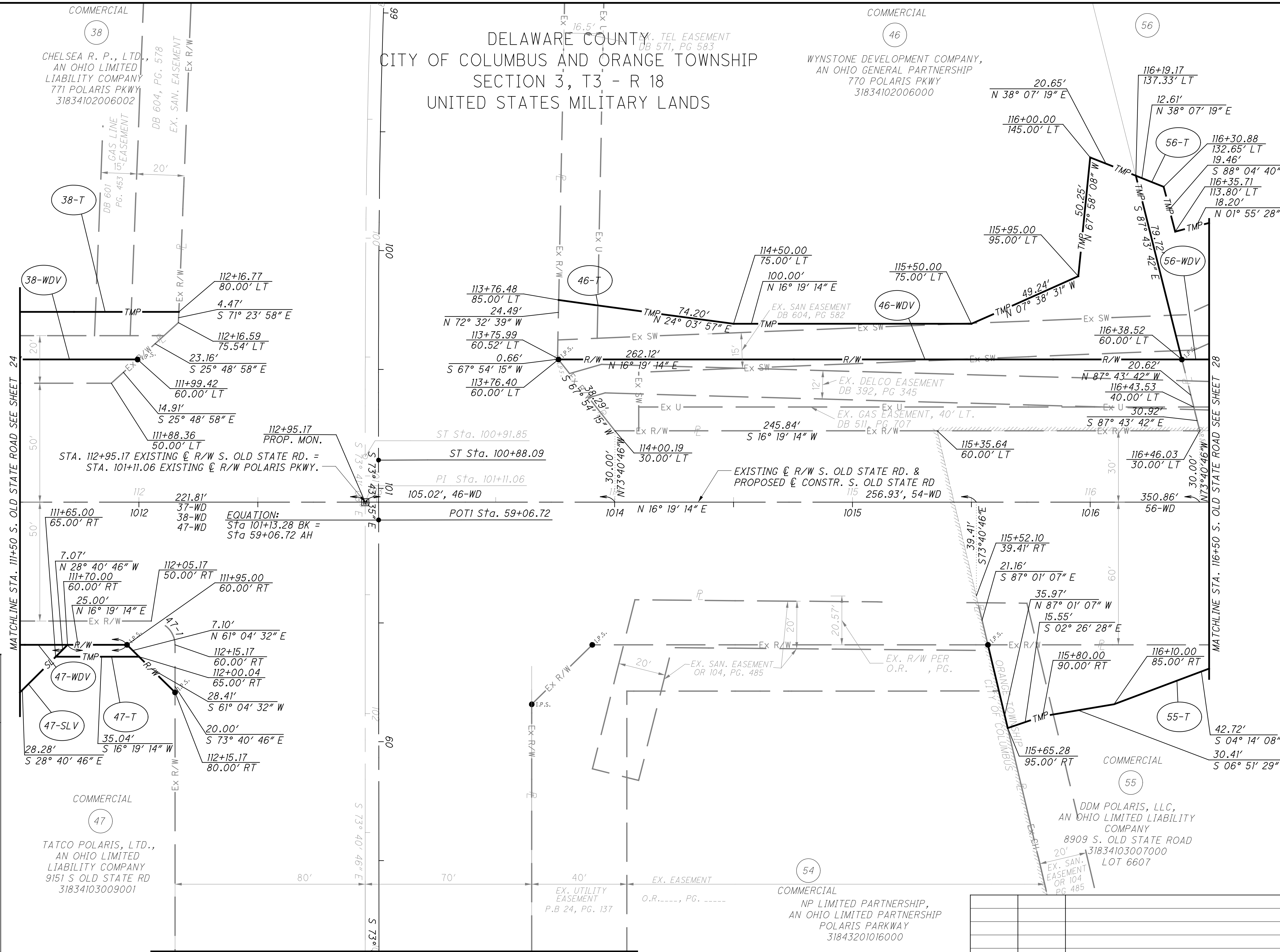
25/72

DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

R/W CURVE DATA

CURVE 47-1
R=10.00'
I=90° 0' 0"
A=15.71'
T=10.00'
L.CH.=14.14'
L.CH.BEAR.=N 61° 19' 14" E

CURVE 54-1
R=20.00'
I=89° 59' 20"
A=31.41'
T=20.00'
L.CH.=28.28'
L.CH.BEAR.=N 28° 41' 06" W



COMMERCIAL
38
CHELSEA R. P., LTD., AN OHIO LIMITED LIABILITY COMPANY 771 POLARIS PKWY 31834102006002
GAS LINE 15' EASEMENT DB 601 PG. 453
DB 604, PG. 578 EX. SAN. EASEMENT
Ex R/W
38-T
38-WDV
TMP
112+16.77 80.00' LT
4.47' S 71° 23' 58" E
112+16.59 75.54' LT
23.16' S 25° 48' 58" E
111+99.42 60.00' LT
14.91' S 25° 48' 58" E
111+88.36 50.00' LT
112+95.17 PROP. MON.
STA. 112+95.17 EXISTING ℄ R/W S. OLD STATE RD. = STA. 101+11.06 EXISTING ℄ R/W POLARIS PKWY.
ST Sta. 100+91.85
ST Sta. 100+88.09
PI Sta. 101+11.06
105.02', 46-WD
221.81' 37-WD 38-WD 47-WD
POT1 Sta. 59+06.72
EQUATION: Sta 101+13.28 BK = Sta 59+06.72 AH
MATCHLINE STA. 111+50 S. OLD STATE ROAD SEE SHEET 24
111+65.00 65.00' RT
7.07' N 28° 40' 46" W
111+70.00 60.00' RT
25.00' N 16° 19' 14" E
112+05.17 50.00' RT
111+95.00 60.00' RT
47-1
7.10' N 61° 04' 32" E
112+15.17 60.00' RT
112+00.04 65.00' RT
28.41' S 61° 04' 32" W
20.00' S 73° 40' 46" E
112+15.17 80.00' RT
47-WDV
47-SLV
47-T
28.28' S 28° 40' 46" E
35.04' S 16° 19' 14" W
COMMERCIAL
47
TATCO POLARIS, LTD., AN OHIO LIMITED LIABILITY COMPANY 9151 S OLD STATE RD 31834103009001
80' 70' 40'
EX. UTILITY EASEMENT P.B 24, PG. 137
EX. EASEMENT O.R.____, PG. _____
S 73° 40' 46" E
MATCHLINE STA. 103+00 POLARIS PARKWAY SEE SHEET 68
16.5' EX. TEL EASEMENT DB 571, PG 583
COMMERCIAL
46
WYNSTONE DEVELOPMENT COMPANY, AN OHIO GENERAL PARTNERSHIP 770 POLARIS PKWY 31834102006000
46-T
46-WDV
113+76.48 85.00' LT
24.49' N 72° 32' 39" W
113+75.99 60.52' LT
0.66' S 67° 54' 15" W
113+76.40 60.00' LT
74.20' N 24° 03' 57" E
114+50.00 75.00' LT
100.00' N 16° 19' 14" E
EX. SAN EASEMENT DB 604, PG 582
115+50.00 75.00' LT
49.24' N 07° 38' 31" W
115+95.00 95.00' LT
262.12' N 16° 19' 14" E
38.29' S 67° 54' 15" W
EX. DELCO EASEMENT DB 392, PG 345
EX. GAS EASEMENT, 40' LT. DB 511, PG 707
245.84' S 16° 19' 14" W
114+00.19 30.00' LT
115+35.64 60.00' LT
30.00' N73°40'46"W
EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD
256.93', 54-WD
N 16° 19' 14" E
1012 1014 1015 1016
350.86' 56-WD
56
116+00.00 145.00' LT
20.65' N 38° 07' 19" E
116+19.17 137.33' LT
12.61' N 38° 07' 19" E
50.25' N 67° 58' 08" W
79.72' S 87° 43' 42" E
56-T
56-WDV
116+30.88 132.65' LT
19.46' S 88° 04' 40" E
116+35.71 113.80' LT
18.20' N 01° 55' 28" E
116+38.52 60.00' LT
20.62' N 87° 43' 42" W
116+43.53 40.00' LT
30.92' S 87° 43' 42" E
116+46.03 30.00' LT
MATCHLINE STA. 116+50 S. OLD STATE ROAD SEE SHEET 28
39.41' S73°40'46"E
115+52.10 39.41' RT
21.16' S 87° 01' 07" E
35.97' N 87° 01' 07" W
15.55' S 02° 26' 28" E
115+80.00 90.00' RT
116+10.00 85.00' RT
55-T
42.72' S 04° 14' 08" E
30.41' S 06° 51' 29" W
115+65.28 95.00' RT
EX. SAN. EASEMENT OR 104, PG. 485
EX. R/W PER O.R. , PG.
ORANGE TOWNSHIP CITY OF COLUMBUS
COMMERCIAL
55
DDM POLARIS, LLC, AN OHIO LIMITED LIABILITY COMPANY 8909 S. OLD STATE ROAD 31834103007000 LOT 6607
54
COMMERCIAL
NP LIMITED PARTNERSHIP, AN OHIO LIMITED PARTNERSHIP POLARIS PARKWAY 31843201016000
I.P.S.

UTILITY EASEMENT OVERLAP DATA

PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
46WDV	EXISTING 10' UTILITY EASEMENT	2344.99
46WDV	EXISTING 15' SANITARY EASEMENT	1016.48
46T	EXISTING 15' SANITARY EASEMENT	3329.98
46T	EXISTING 16.5' TELEPHONE EASEMENT	252.26
55T	EXISTING 20' SANITARY EASEMENT	653.70
56T	EXISTING 15' SANITARY EASEMENT	2098.64
56T	EXISTING GENERAL EASEMENT	3991.00
56WDV	EXISTING STANDARD HIGHWAY EASEMENT	2471.07

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REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 111+50 TO STA. 116+50

DEL-CR10-0.90

2952-DR.E

DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

COMMERCIAL
56
BOUDREAU, LTD.
8990 S. OLD STATE ROAD
31834102006001

COMMERCIAL BLOCK

ASPHALT

56-T

STONE WALL

EX. SAN. EASEMENT DB 621, PG 489

2-STORY FRAME

COMMERCIAL
57
NAE PROPERTY HOLDINGS, LTD., AKA NAE PROPERTY HOLDINGS, LTD,
AN OHIO LIMITED LIABILITY COMPANY
8928 S. OLD STATE ROAD
31834102005000

CONSTRUCTION LIMITS

12' WATER EASE. DB 812 PG 2060

10' ELEC. EASE. DB 827 PG. 041

EXIST. SIGN WITH STONE CONSTRUCTION
"ANIMAL HOSPITAL OF POLARIS"
SAVE

57-SL
57-WD
57-T
57-CH
57-S
56-WDV

+88.18 ASPH. COM. DRIVE

69.4'

52.7'

PI Sta 1017+58.34

+46.92 ASPH. COM. DRIVE

DETENTION BASIN

EXIST. PRIVATE SIGN
"MCB MOTOR SPA"
W LIGHTS & LANDCAPING

EX. DELCO EASEMENT DB 392, PG 345

EX. GAS EASE. 50' LT. DB 565, PG 542

EX. DELCO EASE. DB 5[illegible] PG 704

CITY OF COLUMBUS

ORANGE TOWNSHIP

24" RCP STM

15" RCP STM

12" CPP STM

24" CPP STM

16" PVC

6" GAS

55.0' CLOSE EXIST. ACCESS

30.0' BREAK IN "NO VEHICULAR ACCESS"

EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD

STA. 121+05.43 EXISTING ℄ R/W S. OLD STATE RD. = STA. 200+01.00 EXISTING ℄ R/W CANDLELITE LN.

POT Sta. 200+01.00

N 16° 19' 14" E

N 17° 06' 30" E

1017 1018 1019 1020 1021

MATCHLINE STA. 116+50 S. OLD STATE ROAD SEE SHEET 25

MATCHLINE STA. 121+50 S. OLD STATE ROAD SEE SHEET 29

RESIDENTIAL
58
2-STORY FRAME
CHRISTOPHER KOPENA
8911 SEDONA COURT
31834110018000
LOT 3383

OAK CREEK 1, PHASE 6
CAB. 1, SLIDE 759

RESIDENTIAL
59
2-STORY FRAME
DARIN A. HESS
AND BARBARA M. HESS
AS TRUSTEES OF THE
DARIN A. HESS AND
BARBARA M. HESS
REVOCABLE LIVING TRUST,
DATED JULY 28, 2010
8914 SEDONA COURT
31834110017000
LOT 3382

DECK/ PATIO

58-CH
59-T
SAVE

3-RAIL PVC FENCE

8" PVC
4" PVC
40'-12" CASING
SDR 26

EXIST. CURB SAVE
55-T
EXIST. LIGHT SAVE
EXIST. SIGN WITH LANDSCAPING SAVE
55-WD

CANDLELITE LN.
S 86° 46' 26" E

COMMERCIAL
55
DDM POLARIS, LLC,
AN OHIO LIMITED LIABILITY COMPANY
8909 S. OLD STATE ROAD
31834103007000
LOT 6607

GILTZ SUBDIVISION
CAB. 3, SLIDE 343

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 116+50 TO STA. 121+50

DEL-CR10-0.90

2952-DR.E

27 / 72

392 / 437

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DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

COMMERCIAL (56)
BOUDREAU, LTD.
8990 S. OLD STATE ROAD
31834102006001

COMMERCIAL (57)
NAE PROPERTY HOLDINGS, LTD., AKA NAE PROPERTY HOLDINGS, LTD,
AN OHIO LIMITED LIABILITY COMPANY
8928 S. OLD STATE ROAD
31834102005000

RESIDENTIAL (58)
CHRISTOPHER KOPENA
8911 SEDONA COURT
31834110018000
LOT 3383

OAK CREEK 1, PHASE 6
CAB. 1, SLIDE 759

RESIDENTIAL (59)
DARIN A. HESS
AND BARBARA M. HESS
AS TRUSTEES OF THE
DARIN A. HESS AND
BARBARA M. HESS
REVOCABLE LIVING TRUST,
DATED JULY 28, 2010
8914 SEDONA COURT
31834110017000
LOT 3382

COMMERCIAL (55)
DDM POLARIS, LLC,
AN OHIO LIMITED LIABILITY COMPANY
8909 S. OLD STATE ROAD
31834103007000
LOT 6607

GILTZ SUBDIVISION
CAB. 3, SLIDE 343

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

STA. 121+05.43 EXISTING ℄ R/W S. OLD STATE RD. =
STA. 200+01.00 EXISTING ℄ R/W CANDLELITE LN.

MATCHLINE STA. 116+50 S. OLD STATE ROAD SEE SHEET 26

MATCHLINE STA. 121+50 S. OLD STATE ROAD SEE SHEET 30

CANDLELITE LN.

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
57WD	EXISTING 10' ELECTRIC EASEMENT	206.90
57WD	EXISTING 12' WATER EASEMENT	351.22
57CH	PROPOSED 57S	868.77
57T	EXISTING 10' ELECTRIC EASEMENT	155.17
57T	EXISTING 12' WATER EASEMENT	86.69
57T	EXISTING 12' WATER EASEMENT	336.37

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 116+50 TO STA. 121+50

DEL-CR10-0.90

2952-DR.E

28 / 72

393 / 437

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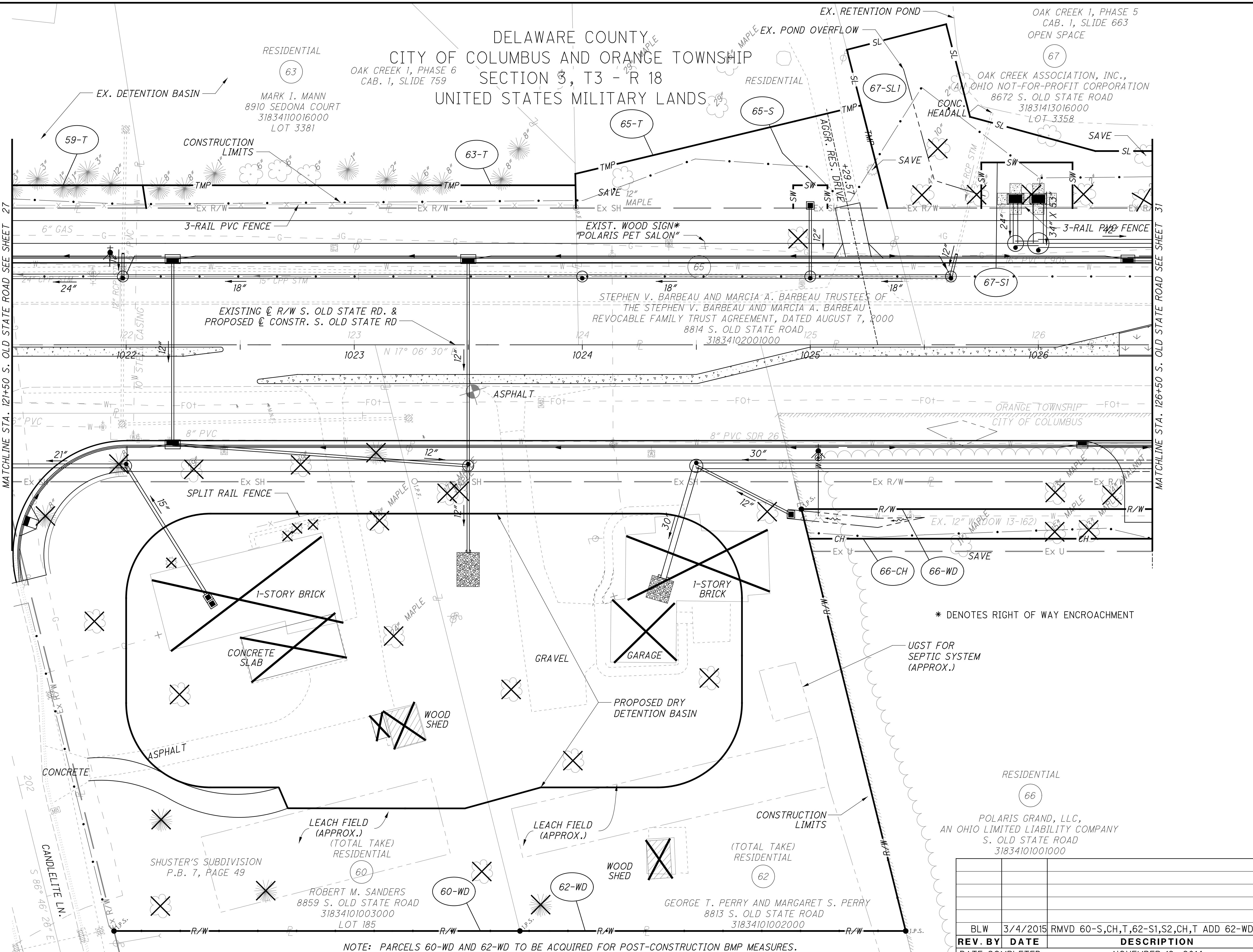
DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS
EX. DETENTION BASIN
RESIDENTIAL
63
MARK I. MANN
8910 SEDONA COURT
31834110016000
LOT 3381
OAK CREEK 1, PHASE 6
CAB. 1, SLIDE 759
CONSTRUCTION LIMITS
59-T
63-T
65-T
65-S
67-SL1
67-S1
EX. RETENTION POND
EX. POND OVERFLOW
OAK CREEK 1, PHASE 5
CAB. 1, SLIDE 663
OPEN SPACE
67
OAK CREEK ASSOCIATION, INC.,
AN OHIO NOT-FOR-PROFIT CORPORATION
8672 S. OLD STATE ROAD
31834113016000
LOT 3358
CONC. HEADALL
SAVE
AGGR. RES. DRIVE
3-RAIL PVC FENCE
6" GAS
EXIST. WOOD SIGN*
"POLARIS PET SALON"
65
STEPHEN V. BARBEAU AND MARCIA A. BARBEAU TRUSTEES OF
THE STEPHEN V. BARBEAU AND MARCIA A. BARBEAU
REVOCABLE FAMILY TRUST AGREEMENT, DATED AUGUST 7, 2000
8814 S. OLD STATE ROAD
31834102001000
EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD
N 17° 06' 30" E
1022
1023
1024
1025
1026
ASPHALT
8" PVC
8" PVC SDR 26
ORANGE TOWNSHIP
CITY OF COLUMBUS
MATCHLINE STA. 121+50 S. OLD STATE ROAD SEE SHEET 27
MATCHLINE STA. 126+50 S. OLD STATE ROAD SEE SHEET 31
SPLIT RAIL FENCE
EX. 12" WILLOW (13-162)
66-CH
66-WD
1-STORY BRICK
CONCRETE SLAB
GRAVEL
GARAGE
WOOD SHED
PROPOSED DRY DETENTION BASIN
UGST FOR SEPTIC SYSTEM (APPROX.)
* DENOTES RIGHT OF WAY ENCROACHMENT
ASPHALT
CONCRETE
CANDLELITE LN.
LEACH FIELD (APPROX.)
SHUSTER'S SUBDIVISION
P.B. 7, PAGE 49
(TOTAL TAKE)
RESIDENTIAL
60
ROBERT M. SANDERS
8859 S. OLD STATE ROAD
31834101003000
LOT 185
60-WD
62-WD
62
GEORGE T. PERRY AND MARGARET S. PERRY
8813 S. OLD STATE ROAD
31834101002000
CONSTRUCTION LIMITS
RESIDENTIAL
66
POLARIS GRAND, LLC,
AN OHIO LIMITED LIABILITY COMPANY
S. OLD STATE ROAD
31834101001000
NOTE: PARCELS 60-WD AND 62-WD TO BE ACQUIRED FOR POST-CONSTRUCTION BMP MEASURES.

REV. BY	DATE	DESCRIPTION
BLW	3/4/2015	RMVD 60-S,CH,T,62-S1,S2,CH,T ADD 62-WD

DATE COMPLETED NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 121+50 TO STA. 126+50

DEL-CR10-0.90

2952-DR.E

DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
63
MARK I. MANN
8910 SEDONA COURT
31834110016000
LOT 3381

OAK CREEK 1, PHASE 6
CAB. 1, SLIDE 759

OAK CREEK 1, PHASE 5
CAB. 1, SLIDE 663
OPEN SPACE
67

OAK CREEK ASSOCIATION, INC.,
AN OHIO NOT-FOR-PROFIT CORPORATION
8672 S. OLD STATE ROAD
31831413016000
LOT 3358

RESIDENTIAL
65

STEPHEN V. BARBEAU AND MARCIA A. BARBEAU TRUSTEES OF
THE STEPHEN V. BARBEAU AND MARCIA A. BARBEAU
REVOCABLE FAMILY TRUST AGREEMENT, DATED AUGUST 7, 2000
8814 S. OLD STATE ROAD
31834102001000

RESIDENTIAL
66
POLARIS GRAND, LLC,
AN OHIO LIMITED LIABILITY COMPANY
S. OLD STATE ROAD
31834101001000

(TOTAL TAKE)
RESIDENTIAL
60
ROBERT M. SANDERS
8859 S. OLD STATE ROAD
31834101003000
LOT 185

(TOTAL TAKE)
RESIDENTIAL
62
GEORGE T. PERRY AND MARGARET S. PERRY
8813 S. OLD STATE ROAD
31834101002000

SHUSTER'S SUBDIVISION
P.B. 7, PAGE 49

ORANGE TOWNSHIP
CITY OF COLUMBUS

MATCHLINE STA. 121+50 S. OLD STATE ROAD SEE SHEET 28

MATCHLINE STA. 126+50 S. OLD STATE ROAD SEE SHEET 32

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

59-T
63-T
65-T
65-S
67-SL1
67-S1
66-CH
66-WD
60-WD
62-WD

122+07.24
70.00' LT
10.12'
N 81° 37' 34" W
122+08.77
60.00' LT
189.81'
N 17° 06' 30" E
188.47'
S 17° 06' 30" W
123+96.96
75.00' LT
123+97.05
70.00' LT
10.00'
S 73° 58' 19" E
123+97.24
60.00' LT
128.87', N 03° 38' 50" E
15.00'
N 73° 58' 19" W
95.26'
S 17° 06' 30" W
15.00'
N 17° 06' 30" E
124+92.50
70.00' LT
10.00'
N 72° 53' 30" W
124+92.50
60.00' LT
10.00'
S 72° 53' 30" E
125+07.50
70.00' LT
26.39'
S17°6'30"W
125+07.50
60.00' LT
15.00'
S 17° 06' 30" W
46.47'
S 87° 20' 34" E
125+16.01
129.39' LT
71.65'
N 87° 20' 34" W
125+22.29
105.00' LT
41.94'
S 87° 20' 34" E
125+59.58
140.61' LT
45.00'
S 02° 39' 26" E
56.96'
N 32° 22' 35" E
125+70.05
100.00' LT
125+75.00
80.00' LT
40.00'
N 17° 06' 30" E
20.00'
N72° 53' 30"W
41.11'
S 17° 06' 30" W
125+33.89
60.00' LT
125+75.00
60.00' LT
40.00'
S 17° 06' 30" W
126+25.00
85.00' LT
126+15.00
80.00' LT
20.00'
S72° 53' 30"E
126+15.00
60.00' LT

203.75'
62-WD
N 17° 06' 30" E
395.14'
66-WD
124+93.15
0.00' LT
124+78.32
0.00' LT
60.00'
S72°53'30"E

123+16.60
30.00' RT
178.00'
N 17° 06' 30" E
30.90'
S 86° 46' 26" E
123+24.01
60.00' RT
123+26.52 R 2, 59.79' RT
1" PIPE
178.00'
N 17° 06' 30" E
169.14'
N 17° 06' 30" E
124+93.15
60.00' RT
12.36'
N 86° 46' 47" W
124+96.12
72.00' RT
13.39'
N 86° 46' 31" W
124+99.33
85.00' RT
204.92'
N 17° 6' 30" E
201.96', S 17° 6' 30" W
508.88, N 17° 6' 30" E
150.67'
S 17° 06' 30" W
126+50.00
85.00' RT

NOTE: PARCEL 60-WD TO BE ACQUIRED FOR
FOR POST-CONSTRUCTION BMP MEASURES.

NOTE: PARCEL 62-WD TO BE ACQUIRED FOR
FOR POST-CONSTRUCTION BMP MEASURES.

233.76'
N 86° 46' 26" W
264.66', N 86° 46' 26" W TO ℄
233.76', S 86° 46' 26" E
264.66', S 86° 46' 31" E

CANDLELITE LN.
S 86° 46' 26" E

121+94.68
256.93' RT
178.00'
S 17° 06' 30" W
123+72.68
256.93' RT
169.15'
S 17° 06' 30" W
125+41.83
256.93' RT
I.P.S.

REV. BY	DATE	DESCRIPTION
BLW	3/4/2015	REVISED 66-CH, 66-WD; EXIST. RW CHANGED
BLW	3/4/2015	RMVD 60-S,CH,T,62-S1,S2,CH,T ADD 62-WD
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 121+50 TO STA. 126+50

DEL-CR10-0.90

2952-DR.E
30 / 72
395 / 437

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DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

OPEN SPACE
67
OAK CREEK ASSOCIATION, INC.,
AN OHIO NOT-FOR-PROFIT CORPORATION
8672 S. OLD STATE ROAD
31831413016000
LOT 3358

OAK CREEK 1, PHASE 5
CAB. 1, SLIDE 663

EX. RETENTION POND
EX. RETENTION POND
EX. POND OUTLET
67-SL1
67-S2
67-SL2
67-T
CONSTRUCTION LIMITS
3-RAIL PVC FENCE
SL
SW
TMP
EX R/W
42"
6" GAS
18"
16" PVC C905
18" RCP STM
38" X 60" RCP STM
12"
15" RCP STM
8" PVC
30"
27"
12" W (DOW 13-162)
I.P.S.
MAP
+50.00 TURF DRIVE
+63.86 ASPH. COM. DRIVE
LOCUS
CH
Ex U
FO
ORANGE TOWNSHIP
CITY OF COLUMBUS
EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD
N 17° 06′ 30″ E
1027
1028
1029
1030
1031
127
128
129
130
131
MATCHLINE STA. 126+50 S. OLD STATE ROAD SEE SHEET 29
MATCHLINE STA. 131+50 S. OLD STATE ROAD SEE SHEET 33
CONSTRUCTION LIMITS
66-S
SIGN "NOW OPEN... GRAND AT POLARIS"
66-CH
SIGN "GRAND AT APOLARIS" (DND)
66-T
8" ES (WSP#4675)
6" DS (WSP#4675)
RESIDENTIAL
66
POLARIS GRAND, LLC,
AN OHIO LIMITED LIABILITY COMPANY
S. OLD STATE ROAD
31834101001000

REV. BY	DATE	DESCRIPTION
		DATE COMPLETED NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 126+50 TO STA. 131+50
DEL-CR10-0.90

2952-DR.E
31 / 72
396 / 437

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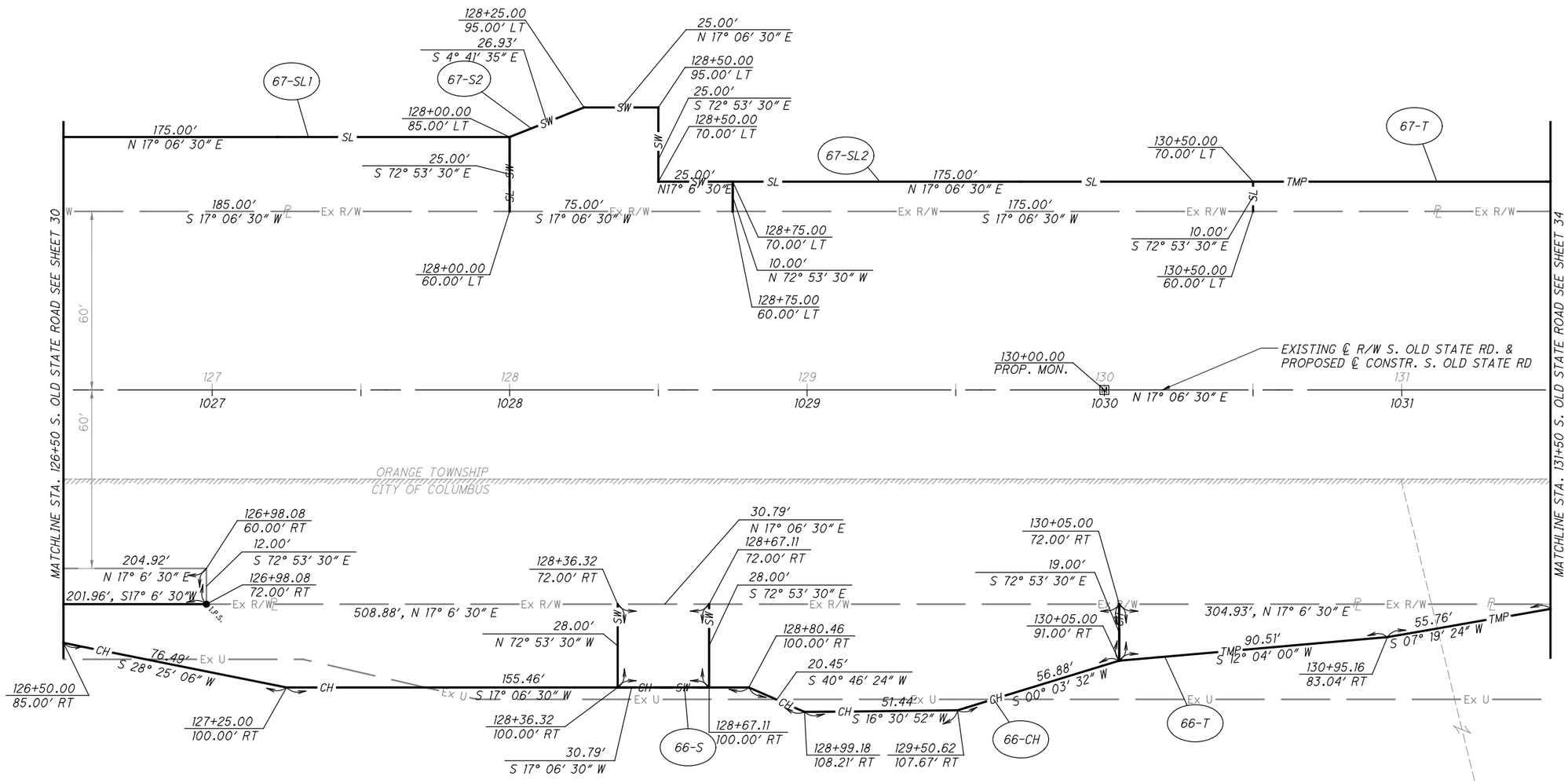
DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

OPEN SPACE
(67)
OAK CREEK ASSOCIATION, INC.,
AN OHIO NOT-FOR-PROFIT CORPORATION
8672 S. OLD STATE ROAD
31831413016000
LOT 3358

OAK CREEK 1, PHASE 5
CAB. 1, SLIDE 663



UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
66CH	EXISTING WATERLINE EASEMENT	11086.66
66S	EXISTING WATERLINE EASEMENT	862.24
66S	PROPOSED 66CH	862.24
66T	EXISTING WATERLINE EASEMENT	2383.11

RESIDENTIAL
(66)
POLARIS GRAND, LLC,
AN OHIO LIMITED LIABILITY COMPANY
S. OLD STATE ROAD
31834101001000

REV. BY	DATE	DESCRIPTION
BLW	3/4/2015	REVISED 66-PARCELS; EXIST. RW CHANGED
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 126+50 TO STA. 131+50

DEL-CR10-0.90

2952-DR.E
32 / 72
397 / 437

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DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
68
KIMBERLY SELCHAN
1579 WINSLOW CT
31831413012000
LOT 3320

2-STORY FRAME

OPEN SPACE
67
OAK CREEK ASSOCIATION, INC.,
AN OHIO NOT-FOR-PROFIT CORPORATION
8672 S. OLD STATE ROAD
31831413016000
LOT 3358

OAK CREEK 1, PHASE 5
CAB. 1, SLIDE 663

RESIDENTIAL
69
WILLIAM J. CALDWELL AND ALYCE F. CALDWELL
1585 WINSLOW COURT
31831413011000
LOT 3319

2-STORY FRAME
POOL
RESIDENTIAL
70
CHRISTOPHER L. NAUGLE AND MELLISSA C. NAUGLE
1584 WINSLOW COURT
31831413010000
LOT 3318

EX. DETENTION BASIN
LANDSCAPING
CONSTRUCTION LIMITS
67-T
68-T
69-T
70-T
70-S
TMP
3-RAIL PVC FENCE
2-RAIL PVC FENCE
SAVE
SW
Ex R/W
FOt
6" GAS
G
16" PVC C905
3" STEEL
EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD
MATCHLINE STA. 131+50 S. OLD STATE ROAD SEE SHEET 31
MATCHLINE STA. 136+50 S. OLD STATE ROAD SEE SHEET 35
132 133 134 135 136
1032 1033 1034 1035 1036
N 17° 06' 30" E
ORANGE TOWNSHIP
CITY OF COLUMBUS
EX. 12" W (DOW 13-162)
8" PVC
3-RAIL PVC FENCE
Ex SH
R/W
SL
66-T
Ex U
CONSTRUCTION LIMITS
101-SL
101-T
101-WD
44.3'
EXISTING SITE DRAINAGE TO BE RELOCATED AND RETURNED TO PROPERTY OWNER UPON COMPLETION OF CONSTRUCTION.
EX. DETENTION BASIN

RESIDENTIAL
66
POLARIS GRAND LLC,
AN OHIO LIMITED LIABILITY COMPANY
S. OLD STATE ROAD
31834101001000

RESIDENTIAL
101
THE RETREAT CONDO 1ST AMEND
LEWIS CENTER, OH 43035
31842302015565
2-STORY FRAME

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCEL 101 UPDATE APN
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 131+50 TO STA. 136+50

DEL-CR10-0.90

2952-DR.E

33 / 72

398 / 437

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DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
68
KIMBERLY SELCHAN
1579 WINSLOW CT
31831413012000
LOT 3320

OPEN SPACE
67
OAK CREEK ASSOCIATION, INC.,
AN OHIO NOT-FOR-PROFIT CORPORATION
8672 S. OLD STATE ROAD
31831413016000
LOT 3358

OAK CREEK II, PHASE 5
CAB. 1, SLIDE 663

RESIDENTIAL
69
WILLIAM J. CALDWELL AND ALYCE F. CALDWELL
1585 WINSLOW COURT
31831413011000
LOT 3319

RESIDENTIAL
70
CHRISTOPHER L. NAUGLE AND MELLISSA C. NAUGLE
1584 WINSLOW COURT
31831413010000
LOT 3318

MATCHLINE STA. 131+50 S. OLD STATE ROAD SEE SHEET 32

MATCHLINE STA. 136+50 S. OLD STATE ROAD SEE SHEET 36

60'

132+74.14
75.00' LT

15.75'
S 89° 21' 8" W

67-T

68-T

133+27.15
75.00' LT

69-T

70-T

134+95.34
75.00' LT

136+00.00
80.00' LT

70-S

TMP
225.74'
N 17° 06' 30" E

228.95'
S 17° 06' 30" W

53.01'
N 17° 06' 30" E

TMP
168.19'
N 17° 06' 30" E

16.12'
N 85° 38' 17" E

104.78'
N 14° 22' 24" E

TMP
20.00'
S 72° 53' 30" E

100.00'
N 17° 06' 30" E

42.89'
S 17° 06' 30" W

179.40'
S 17° 06' 30" W

98.76'
S 17° 06' 30" W

99.68'
S 17° 06' 30" W

Ex R/W

132+75.74
70.00' LT

10.50'
S 89° 21' 8" W

132+78.95
60.00' LT

15.91'
S 53° 23' 16" E

133+21.84
60.00' LT

135+01.24
60.00' LT

136+00.00
60.00' LT

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

132 1032 | 133 1033 | 134 1034 | 135 1035 | 136 1036

N 17° 06' 30" E

132+99.65
30.00' RT

ORANGE TOWNSHIP
CITY OF COLUMBUS

813.91'
N 17° 06' 30" E

41.18'
N 86° 38' 30" W

487.79'
N 17° 06' 30" E

133+06.99
60.00' RT

133+09.44
70.00' RT

133+09.93
72.00' RT

134+70.00
70.00' RT

Ex SH

Ex R/W

R/W

162.41'
S 19° 59' 42" W

304.93', N 17° 6' 30" E

160.56', N 17° 06' 30" E

458.78', S 17° 06' 30" W

298.22', N 17° 06' 30" E

131+50.11
73.56' RT

66-T

15.44'
N 86° 38' 30" W

10.03'
N 86° 38' 30" W

SL

157.61'
S 22° 34' 11" W

101-SL

N72° 53' 30"W
30.00'

134+80.00
90.00' RT

14.14'
S 27° 53' 30" E

134+70.00
100.00' RT

101-T

101-WD

317.14'
S 17° 06' 30" W

133+12.31
81.74' RT

133+13.11
85.00' RT

Ex U

RESIDENTIAL
66
POLARIS GRAND LLC,
AN OHIO LIMITED LIABILITY COMPANY
S. OLD STATE ROAD
31834101001000

RESIDENTIAL
101
THE RETREAT CONDO IST AMEND
LEWIS CENTER, OH 43035
31842302015565

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCEL 101 UPDATE APN
BLW	3/4/2015	REVISED 66-T; EXIST. RW CHANGED
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 131+50 TO STA. 136+50

DEL-CR10-0.90

2952-DR.E

34 / 72

399
437

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DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
CHRISTOPHER L. NAUGLE AND MELLISSA C. NAUGLE
1584 WINSLOW COURT
31831413010000
LOT 3318

JULIE A. KRUEGER AND TODD A. KRUEGER
1640 COTTONWOOD DRIVE
31831416008000
LOT 2819

ASPHALT COURT

OAK CREEK 1, PHASE 4
CAB. 1, SLIDE 592

2-STORY FRAME

2-STORY FRAME

RESIDENTIAL
JORDAN K. HEISSNER AND KATHRYN S. HEISSNER
1662 COTTONWOOD DRIVE
31831416006000
LOT 2821

DUVAL S. DUNN
1670 COTTONWOOD DRIVE
31831416005000
RESIDENTIAL LOT 2882

HONG DA QIU AND YE CHEN
1654 COTTONWOOD DRIVE
31831416007000
LOT 2820

POWELL RD. (CR 14)

LANDSCAPING WITH SHRUBS & RETAINING WALL

STONE SIGN

2-RAIL PVC FENCE

CONSTRUCTION LIMITS

EX. 35' DRAINAGE/ UTILITY EASEMENT

3-RAIL PVC FENCE

EXIST. SIGN W/LIGHT & STONES "OAK CREEK" - SAVE

50'-20" STEEL CASING

30'-24" STEEL CASING

EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD

STA. 138+07.38 EXISTING ℄ R/W S. OLD STATE RD. = STA. 315+16.93 EXISTING ℄ R/W E. POWELL RD.

ORANGE TOWNSHIP
CITY OF COLUMBUS

3-RAIL PVC FENCE

EXISTING SITE DRAINAGE TO BE RELOCATED AND RETURNED TO PROPERTY OWNER UPON COMPLETION OF CONSTRUCTION.

WOOD SIGN TO BE MOVED BY OWNER

RESIDENTIAL
THE RETREAT CONDO 1ST AMEND
LEWIS CENTER, OH 43035
31842302015565

EXIST. SIGN W/ LIGHT, LANSCAPING, WALLS AND EBOX "OAK CREEK EAST" - TO BE REMOVED

SAVE

OPEN SPACE

OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC., AN OHIO NONPROFIT CORPORATION
S. OLD STATE ROAD
31831406004005
LOT 3705

OAK CREEK EAST, SECTION 1
CAB. 2, SLIDE 79

4-RAIL WOOD FENCE

MATCHLINE STA. 136+50 S. OLD STATE ROAD SEE SHEET 33

MATCHLINE STA. 141+50 S. OLD STATE ROAD SEE SHEET 37

BLW	4/8/2015	PCLS 101 & 110 UPDATE APN
REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 136+50 TO STA. 141+50

DEL-CR10-0.90

2952-DR.E
35 / 72
400 / 437

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DELAWARE COUNTY
CITY OF COLUMBUS AND ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
111CH	EXISTING 35' UTILITY EASEMENT	2556.37
111T	EXISTING 35' UTILITY EASEMENT	55.83
112CH	EXISTING 35' UTILITY EASEMENT	2165.65
113CH	EXISTING 35' UTILITY EASEMENT	1862.72

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
101T	EXISTING 31' UTILITY EASEMENT	274.17
101WDV	EXISTING 31' UTILITY EASEMENT	1599.53
100T	EXISTING 35' UTILITY EASEMENT	979.17

RESIDENTIAL
CHRISTOPHER L. NAUGLE AND MELLISSA C. NAUGLE
1584 WINSLOW COURT
31831413010000
LOT 3318

JULIE A. KRUEGER AND TODD A. KRUEGER
1640 COTTONWOOD DRIVE
31831416008000
LOT 2819

OAK CREEK 1, PHASE 4
CAB. 1, SLIDE 592

RESIDENTIAL
JORDAN K. HEISSNER AND KATHRYN S. HEISSNER
1662 COTTONWOOD DRIVE
31831416006000
LOT 2821

DUVAL S. DUNN
1670 COTTONWOOD DRIVE
31831416005000
RESIDENTIAL LOT 2882

HONG DA QIU AND YE CHEN
1654 COTTONWOOD DRIVE
31831416007000
LOT 2820

RESIDENTIAL

POWELL RD. (CR 14)

EX. 35' DRAINAGE/ UTILITY EASEMENT

MATCHLINE STA. 136+50 S. OLD STATE ROAD SEE SHEET 34

MATCHLINE STA. 141+50 S. OLD STATE ROAD SEE SHEET 38

STA. 138+07.38 EXISTING ℄ R/W S. OLD STATE RD. = STA. 315+16.93 EXISTING ℄ R/W E. POWELL RD.

EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD

ORANGE TOWNSHIP
CITY OF COLUMBUS

RESIDENTIAL
THE RETREAT CONDO 1ST AMEND
LEWIS CENTER, OH 43035
31842302015565

OPEN SPACE

OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC., AN OHIO NONPROFIT CORPORATION
S. OLD STATE ROAD
31831406004005
LOT 3705

OAK CREEK EAST, SECTION 1
CAB. 2, SLIDE 79

R/W CURVE DATA

CURVE 110-1
R=20.00'
I=112° 52' 41"
A=39.40'
T=30.15'
L.CH.=33.33'
L.CH.BEAR.=N 39° 15' 02" W

RIGHT OF WAY BOUNDARY SHEET
STA. 136+50 TO STA. 141+50

DEL-CR10-0.90

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

HORIZONTAL SCALE IN FEET

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PCLS 101 & 110 UPDATE APN
DATE COMPLETED		NOVEMBER 19, 2014

2952-DR.E
36/72
401/437

L:\Projects\14577229\TRANS\DEL\90243\row\sheets\90243RB009.dgn - 4/9/2015 1:24:10 PM - brian_wallace

RESIDENTIAL
113
DUVAL S. DUNN
1670 COTTONWOOD DRIVE
31831416005000
LOT 2882

OPEN SPACE
115
OAK CREEK ASSOCIATION, INC.,
AN OHIO NOT-FOR-PROFIT CORPORATION
8408 S. OLD STATE ROAD
31831416004000
LOT 2886

OAK CREEK 1, PHASE 4
CAB. 1, SLIDE 592

EX. POND OUTLET

DELAWARE COUNTY
ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

RETENTION POND

113-CH
115-CH
115-S
7-TREES W/BRUSH SAVE
CONSTRUCTION LIMITS
SAVE
METAL SIGN ON PVC POST
POND OVERFLOW STRUCTURE
EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD
LANSCAPING WALL
MATCHLINE STA. 141+50 S. OLD STATE ROAD SEE SHEET 35
MATCHLINE STA. 146+50 S. OLD STATE ROAD SEE SHEET 39
N 17° 11' 19" E
5' ELEC. EASE., DB 462, PG 1282
114-WD
110-WD2
114-SL
114-S
110-SL
110-S
CONSTRUCTION LIMITS
1-STORY FRAME
GARAGE
RESIDENTIAL
114
JAMES D. LINDLER
AND DIANE L. LINDLER
8469 S. OLD STATE ROAD
31831406005000
LEACH FIELD (APPROX.)
114-T
OPEN SPACE
110
OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC.,
AN OHIO NONPROFIT CORPORATION
S. OLD STATE ROAD
31831406004005
LOT 3705
DETENTION BASIN
OAK CREEK EAST, SECTION 1
CAB. 2, SLIDE 79
EXIST. DRAINAGE EASEMENT
STONE LANDSCAPING WALL
4-RAIL FENCE SAVE
RESIDENTIAL
116
GIULIANO TURANO
AND SIRLEI M. TURANO
1805 AURORA AVENUE
LOT 3703
31831406004004
2-STORY FRAME

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCEL 110 UPDATE APN
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 141+50 TO STA. 146+50

DEL-CR10-0.90

2952-DR.E

37 / 72

402 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

OAK CREEK 1, PHASE 4
CAB. 1, SLIDE 592

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
110WD2	EXISTING DRAINAGE EASEMENT	4818.17
110S	EXISTING DRAINAGE EASEMENT	12846.64
110SL	EXISTING DRAINAGE EASEMENT	3197.09
114WD	EXISTING 5' ELECTRIC EASEMENT	197.51
115S	PROPOSED 115CH	1000.00

RESIDENTIAL
113
DUVAL S. DUNN
1670 COTTONWOOD DRIVE
31831416005000
LOT 2882

OPEN SPACE
115
OAK CREEK ASSOCIATION, INC.,
AN OHIO NOT-FOR-PROFIT CORPORATION
8408 S. OLD STATE ROAD
31831416004000
LOT 2886

MATCHLINE STA. 141+50 S. OLD STATE ROAD SEE SHEET 36

MATCHLINE STA. 146+50 S. OLD STATE ROAD SEE SHEET 40

EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD

10.00' ELEC. EASE., DB 462, PG 1282

RESIDENTIAL
114
JAMES D. LINDLER
AND DIANE L. LINDLER
8469 S. OLD STATE ROAD
31831406005000

OPEN SPACE
110
OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC.,
AN OHIO NONPROFIT CORPORATION
S. OLD STATE ROAD
31831406004005
LOT 3705

OAK CREEK EAST, SECTION 1
CAB. 2, SLIDE 79

RESIDENTIAL
116
GIULIANO TURANO
AND SIRLEI M. TURANO
1805 AURORA AVENUE
LOT 3703
31831406004004

EXIST. DRAINAGE EASEMENT

BLW	4/8/2015	PARCEL 110 UPDATE APN
REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 141+50 TO STA. 146+50

DEL-CR10-0.90

2952-DR.E

38 / 72

403 / 437

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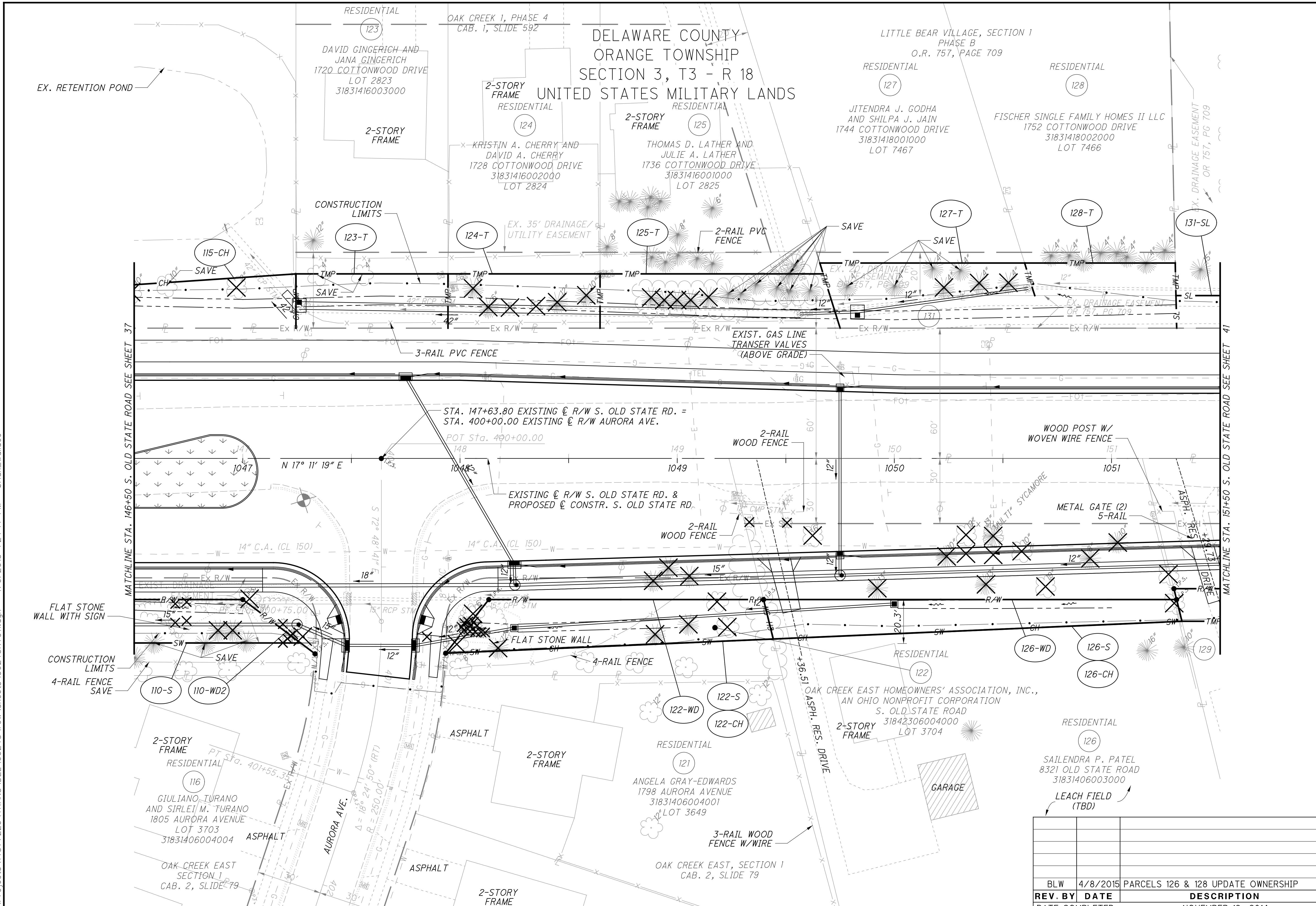


DELAWARE COUNTY
ORANGE TOWNSHIP
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS
RESIDENTIAL
OAK CREEK 1, PHASE 4
CAB. 1, SLIDE 592
DAVID GINGERICH AND
JANA GINGERICH
1720 COTTONWOOD DRIVE
LOT 2823
31831416003000
EX. RETENTION POND
2-STORY FRAME
KRISTIN A. CHERRY AND
DAVID A. CHERRY
1728 COTTONWOOD DRIVE
31831416002000
LOT 2824
THOMAS D. LATHER AND
JULIE A. LATHER
1736 COTTONWOOD DRIVE
31831416001000
LOT 2825
LITTLE BEAR VILLAGE, SECTION 1
PHASE B
O.R. 757, PAGE 709
JITENDRA J. GODHA
AND SHILPA J. JAIN
1744 COTTONWOOD DRIVE
31831418001000
LOT 7467
FISCHER SINGLE FAMILY HOMES II LLC
1752 COTTONWOOD DRIVE
31831418002000
LOT 7466
EX. DRAINAGE EASEMENT OR 757, PG 709
CONSTRUCTION LIMITS
EX. 35' DRAINAGE/ UTILITY EASEMENT
2-RAIL PVC FENCE
SAVE
3-RAIL PVC FENCE
EXIST. GAS LINE
TRANSER VALVES
(ABOVE GRADE)
STA. 147+63.80 EXISTING ℄ R/W S. OLD STATE RD. =
STA. 400+00.00 EXISTING ℄ R/W AURORA AVE.
POT Sta. 400+00.00
N 17° 11' 19" E
EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD.
2-RAIL WOOD FENCE
WOOD POST W/ WOVEN WIRE FENCE
METAL GATE (2)
5-RAIL
MATCHLINE STA. 146+50 S. OLD STATE ROAD SEE SHEET 37
MATCHLINE STA. 151+50 S. OLD STATE ROAD SEE SHEET 41
FLAT STONE WALL WITH SIGN
CONSTRUCTION LIMITS
4-RAIL FENCE SAVE
FLAT STONE WALL
4-RAIL FENCE
115-CH
123-T
124-T
125-T
127-T
128-T
131-SL
110-S
110-WD2
122-WD
122-S
122-CH
126-WD
126-S
126-CH
OAK CREEK EAST HOMEOWNERS' ASSOCIATION, INC.,
AN OHIO NONPROFIT CORPORATION
S. OLD STATE ROAD
31842306004000
LOT 3704
ASPH. RES. DRIVE
ASPHALT
AURORA AVE.
GIULIANO TURANO
AND SIRLEI M. TURANO
1805 AURORA AVENUE
LOT 3703
31831406004004
OAK CREEK EAST
SECTION 1
CAB. 2, SLIDE 79
ANGELA GRAY-EDWARDS
1798 AURORA AVENUE
31831406004001
LOT 3649
3-RAIL WOOD FENCE W/WIRE
OAK CREEK EAST, SECTION 1
CAB. 2, SLIDE 79
SAILENDRA P. PATEL
8321 OLD STATE ROAD
31831406003000
GARAGE
LEACH FIELD (TBD)

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCELS 126 & 128 UPDATE OWNERSHIP

DATE COMPLETED NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 146+50 TO STA. 151+50

DEL-CR10-0.90

2952-DR.E

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
122CH	PROPOSED 122S	2946.94
126CH	PROPOSED 126S	2677.25
123T	EXISTING 35' DRAINAGE EASEMENT	1750.00
124T	EXISTING 35' DRAINAGE EASEMENT	1750.00
125T	EXISTING 35' DRAINAGE EASEMENT	2666.45
127T	EXISTING 35' DRAINAGE EASEMENT	1414.25
128T	EXISTING 20' SANITARY EASEMENT	1007.64

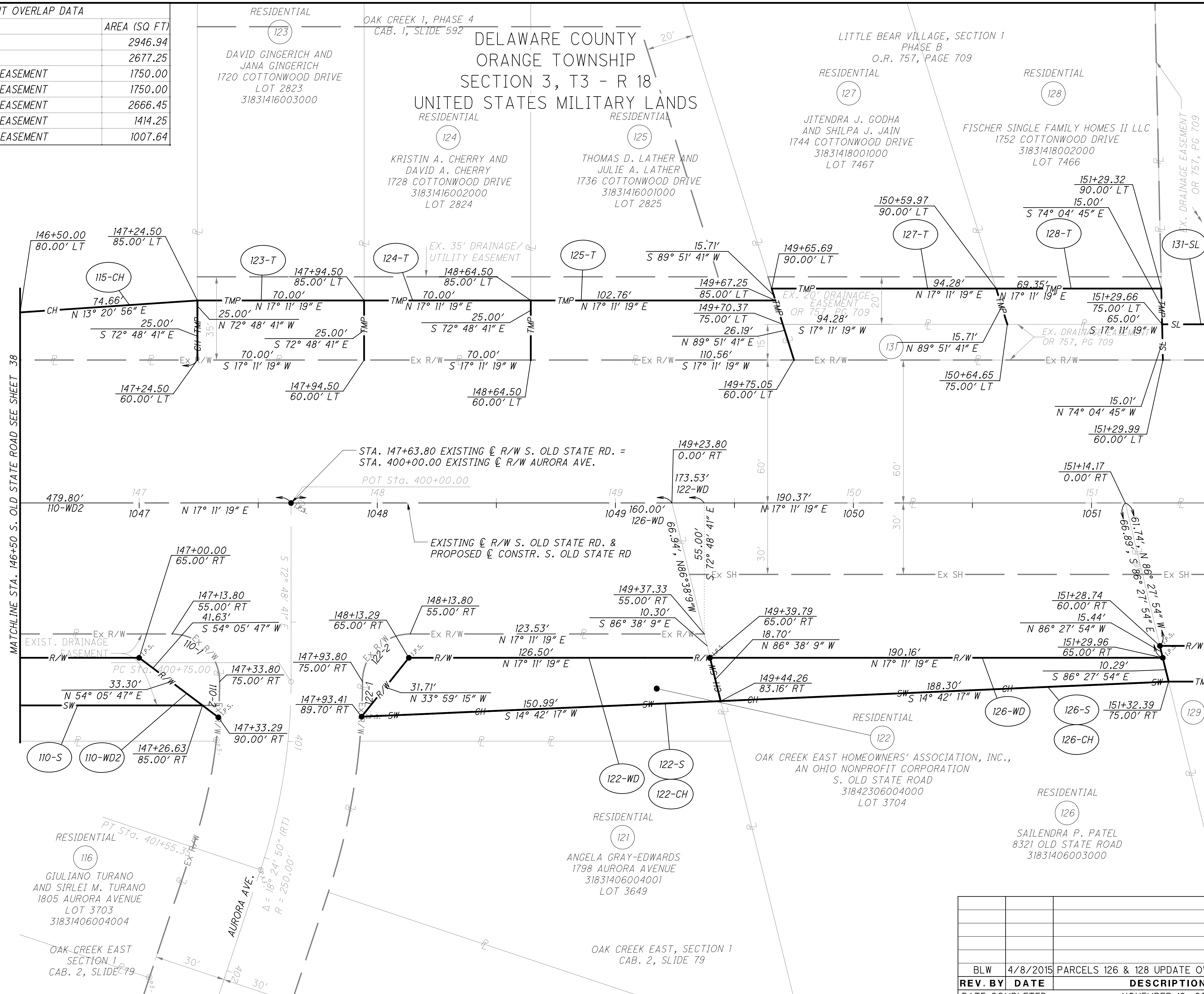
R/W CURVE DATA

CURVE 110-1
R=20.00'
I=90° 0' 0"
A=31.42'
T=20.00'
L.CH.=28.28'
L.CH.BEAR.=N 62° 11' 19" E

CURVE 110-2
R=220.00'
I=3° 54' 34"
A=15.01'
T=7.51'
L.CH.=15.01'
L.CH.BEAR.=S 70° 51' 24" E

CURVE 122-1
R=280.00'
I=3° 0' 37"
A=14.71'
T=7.36'
L.CH.=14.71'
L.CH.BEAR.=N 71° 18' 23" W

CURVE 122-2
R=20.00'
I=90° 0' 0"
A=31.42'
T=20.00'
L.CH.=28.28'
L.CH.BEAR.=N 27° 48' 41" W



REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCELS 126 & 128 UPDATE OWNERSHIP
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 90243

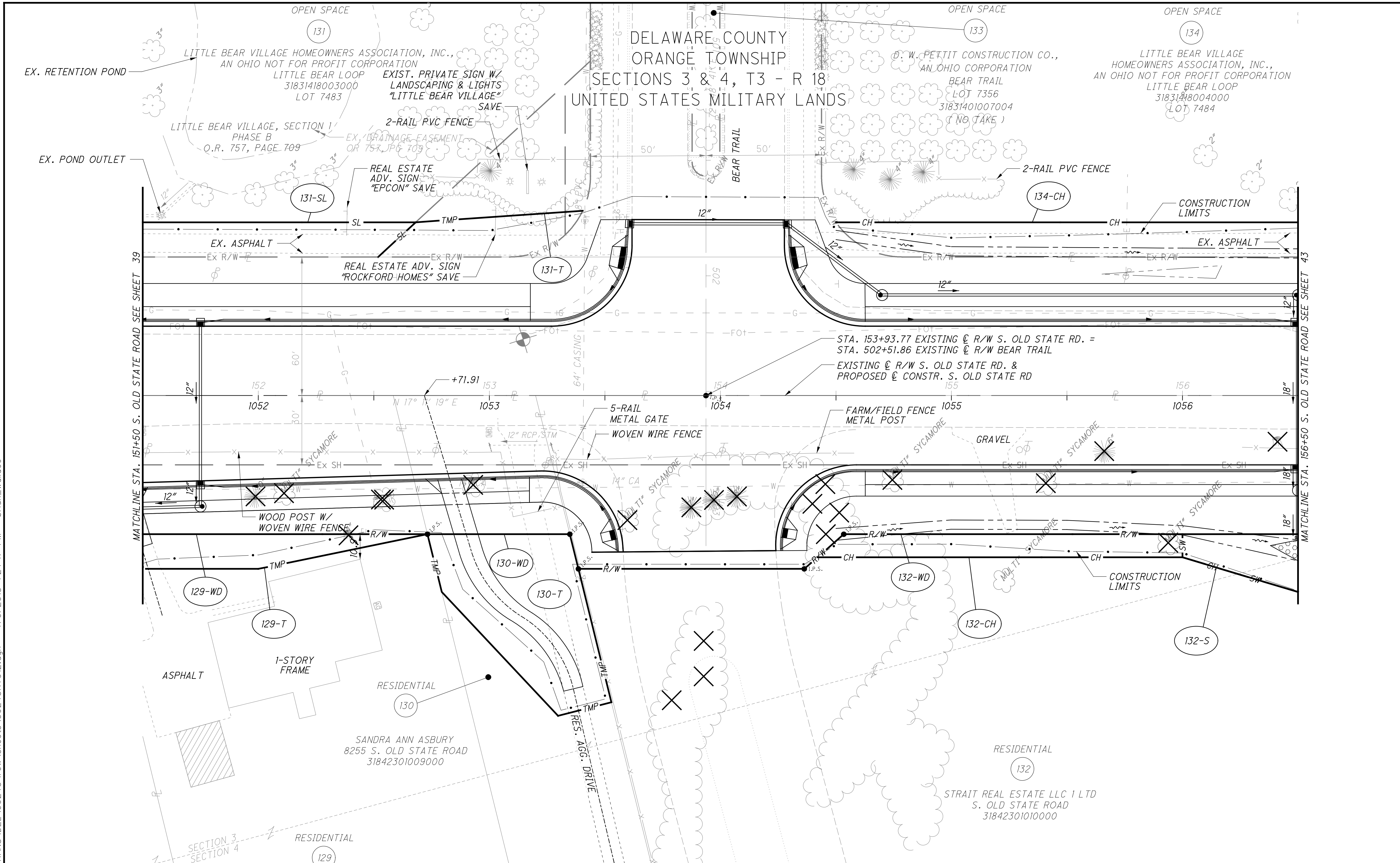
R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 146+50 TO STA. 151+50

DEL-CR10-0.90

2952-DR.E

40/72


DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS
OPEN SPACE
131
LITTLE BEAR VILLAGE HOMEOWNERS ASSOCIATION, INC.,
AN OHIO NOT FOR PROFIT CORPORATION
LITTLE BEAR LOOP
31831418003000
LOT 7483
EX. RETENTION POND
EXIST. PRIVATE SIGN W/
LANDSCAPING & LIGHTS
"LITTLE BEAR VILLAGE"
SAVE
2-RAIL PVC FENCE
LITTLE BEAR VILLAGE, SECTION 1
PHASE B
O.R. 757, PAGE 709
EX. DRAINAGE EASEMENT
OR 757, PG 709
EX. POND OUTLET
REAL ESTATE
ADV. SIGN
"EPCON" SAVE
131-SL
EX. ASPHALT
REAL ESTATE ADV. SIGN
"ROCKFORD HOMES" SAVE
131-T
OPEN SPACE
133
D. W. PETTIT CONSTRUCTION CO.,
AN OHIO CORPORATION
BEAR TRAIL
LOT 7356
31831401007004
(NO TAKE)
BEAR TRAIL
OPEN SPACE
134
LITTLE BEAR VILLAGE
HOMEOWNERS ASSOCIATION, INC.,
AN OHIO NOT FOR PROFIT CORPORATION
LITTLE BEAR LOOP
31831418004000
LOT 7484
2-RAIL PVC FENCE
134-CH
CONSTRUCTION
LIMITS
EX. ASPHALT
STA. 153+93.77 EXISTING ℄ R/W S. OLD STATE RD. =
STA. 502+51.86 EXISTING ℄ R/W BEAR TRAIL
EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD
MATCHLINE STA. 151+50 S. OLD STATE ROAD SEE SHEET 39
MATCHLINE STA. 156+50 S. OLD STATE ROAD SEE SHEET 43
+71.91
1052
1053
1054
1055
1056
5-RAIL
METAL GATE
WOVEN WIRE FENCE
FARM/FIELD FENCE
METAL POST
GRAVEL
WOOD POST W/
WOVEN WIRE FENCE
129-WD
129-T
130-WD
130-T
ASPHALT
1-STORY
FRAME
RESIDENTIAL
130
SANDRA ANN ASBURY
8255 S. OLD STATE ROAD
31842301009000
RES. AGG. DRIVE
132-WD
132-CH
132-S
CONSTRUCTION
LIMITS
RESIDENTIAL
132
STRAIT REAL ESTATE LLC 1 LTD
S. OLD STATE ROAD
31842301010000
SECTION 3
SECTION 4
RESIDENTIAL
129
PIERCE ANN ASBURY
8283 S. OLD STATE ROAD
31831406002000
LEACH FIELD
(TBD)
PROPOSED ACCESS
DRIVE BY OTHERS

BLW	4/8/2015	PARCELS 130 & 132 UPDATE OWNERSHIP
REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 151+50 TO STA. 156+50

DEL-CR10-0.90

2952-DR.E

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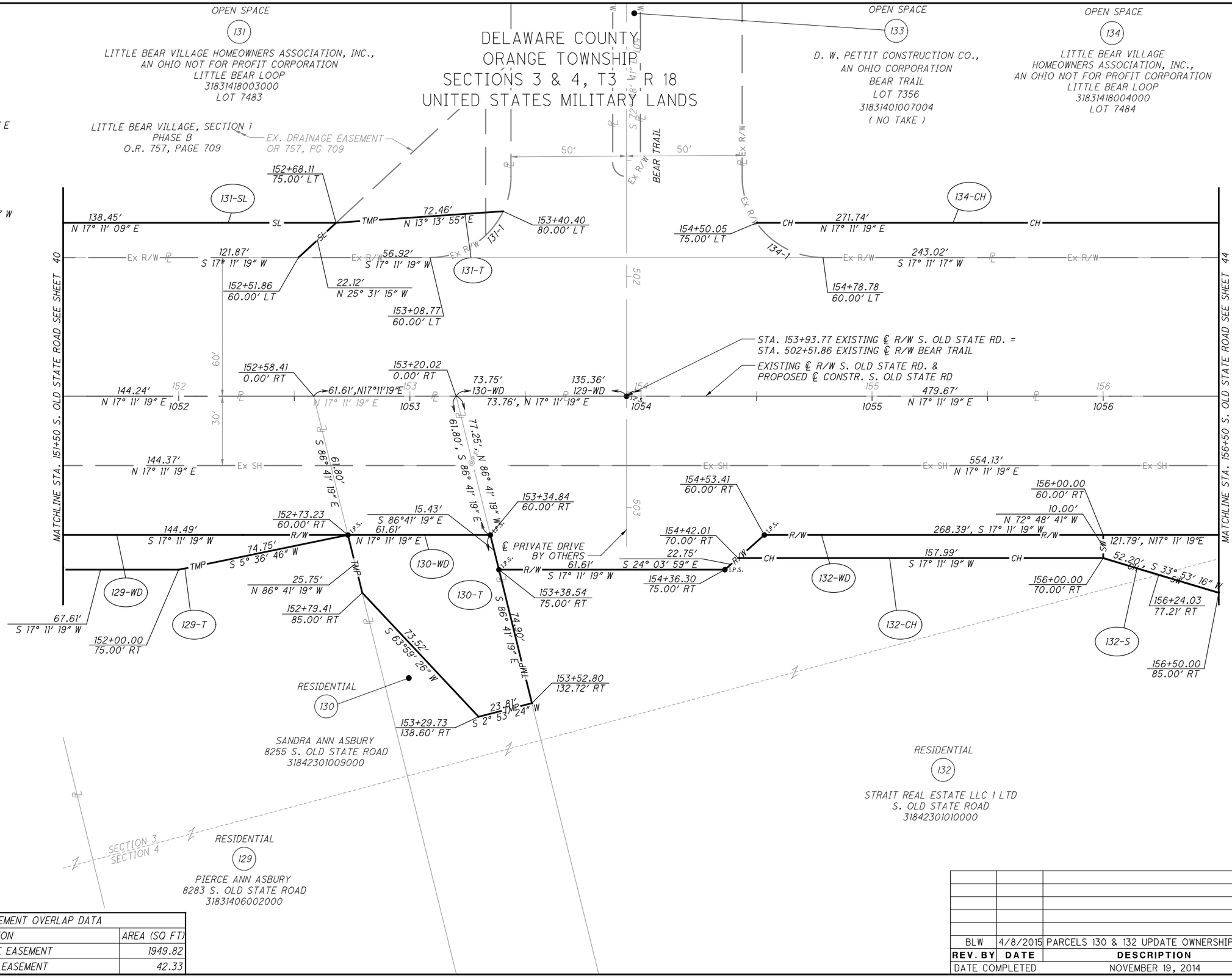
R/W CURVE DATA

CURVE 131-1
R=35.00'
I=64° 37' 37"
A=39.48'
T=22.14'
L.CH.=37.42'
L.CH.BEAR.=S 15° 07' 30" E

CURVE 134-1
R=35.00'
I=55° 09' 17"
A=33.69'
T=18.28'
L.CH.=32.41'
L.CH.BEAR.=S 44° 45' 57" W



UTILITY EASEMENT OVERLAP DATA

PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
131SL	EXISTING DRAINAGE EASEMENT	1949.82
131T	EXISTING GENERAL EASEMENT	42.33

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCELS 130 & 132 UPDATE OWNERSHIP
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 151+50 TO STA. 156+50

DEL-CR10-0.90

2952-DR.E

42 / 72

407 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

OSBOURNE SUBDIVISION
P.B. 14, PAGE 114

OPEN SPACE
134

LITTLE BEAR VILLAGE HOMEOWNERS ASSOCIATION, INC.,
AN OHIO NOT FOR PROFIT CORPORATION
LITTLE BEAR LOOP
31831418004000
LOT 7484

31831401006000
LOT 551

1-STORY
FRAME

RESIDENTIAL
136
LOUIS M. BANDO
8144 S. OLD STATE ROAD
31831401005000
(PART LOT 552)

OSBORNE SUBDIVISION
P.B. 14, PAGE 114

RESIDENTIAL
137
ANASTASIIA TIURENKOVA
8076 S. OLD STATE ROAD
31831401004000
(PART OF LOT 552)

LOT 552
LOT 551

MAPLE DRIVE
57.25' CONC. RES. DRIVE

134-CH
134-S
134-WD
136-T
136-CH
136-WD
137-CH
137-WD
132-WD
132-CH
132-S
135-CH
135-WD

2-RAIL WOOD FENCE
STONE COLUMNS W/
LANDSCAPING & LIGHTS
CONSTRUCTION
LIMITS
LEACH FIELD
(APPROX.)
SAVE
BRICK
COLUMNS
LANDSCAPING ROCKS
2-RAIL
WOOD FENCE
WOVEN WIRE FENCE
CONSTRUCTION
LIMITS
FLAT ROCK LANDSCAPING
WALL (BOTH SIDES)

15' GAS EASE
DV 535, PG 518

MATCHLINE STA. 161+50 S. OLD STATE ROAD SEE SHEET 41
MATCHLINE STA. 156+50 S. OLD STATE ROAD SEE SHEET 45

PROPOSED ℄ CONSTR. S. OLD STATE RD AND
PROPOSED ℄ R/W S. OLD STATE RD
EXISTING ℄ R/W S. OLD STATE RD.

N 17° 11' 19" E
N 3° 09' 31" E

SECTION 3
SECTION 4

PC Sta. 1057+21.79 =
Sta. 157+21.79 EX. ℄ R/W

EQUATION:
Sta. 161+01.34 EX. ℄ R/W =
PT Sta. 1061+01.34
Sta. 1061+01.34 BK =
Sta. 1061+03.25 AH

+17.20

ASPH. RES. DRIVE

2-STORY
FRAME

LEACH FIELD
(APPROX.)

RESIDENTIAL
132
STRAIT REAL ESTATE LLC I LTD
S. OLD STATE ROAD
31842301010000

P.I. Sta. 1059+12.52
Δ = 14° 01' 48" (LT)
Dc = 3° 41' 47"
R = 1,550.00'
T = 190.73'
L = 379.55'
E = 11.69'
C = 378.60'
C.B. = N 10° 10' 25" E

RESIDENTIAL
135
IRAJ HAGHNAZARI AND MASTANEH MALEKNIAZI
8119 S. OLD STATE ROAD
31842301011000

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCEL 137 UPDATE OWNERSHIP
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 156+50 TO STA. 161+50

DEL-CR10-0.90

2952-DR.E

43 / 72

408 / 437

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R/W CURVE DATA

CURVE 132-1
R=1610.00′
I=05° 54′ 09″
A=165.86′
T=83.00′
L.CH.=165.78′
L.CH.BEAR.=S 14° 14′ 15″ W

CURVE 134-2
R=1475.00′
I=02° 53′ 27″
A=74.42′
T=37.22′
L.CH.=74.41′
L.CH.BEAR.=N 15° 44′ 35″ E

CURVE 134-3
R=1490.00′
I=03° 57′ 50″
A=103.09′
T=51.56′
L.CH.=103.07′
L.CH.BEAR.=N 15° 12′ 24″ E

CURVE 135-1
R=1610.00′
I=08° 7′ 39″
A=228.38′
T=114.38′
L.CH.=228.19′
L.CH.BEAR.=S 07° 13′ 21″ W

CURVE 135-2
R=1610.00′
I=06° 13′ 47″
A=175.05′
T=87.61′
L.CH.=174.97′
L.CH.BEAR.=N 08° 10′ 17″ E

CURVE 136-1
R=1490.00′
I=08° 37′ 28″
A=224.29′
T=112.36′
L.CH.=224.07′
L.CH.BEAR.=N 08° 54′ 44″ E

CURVE 136-2
R=1480.00′
I=08° 41′ 01″
A=224.30′
T=112.37′
L.CH.=224.09′
L.CH.BEAR.=N 08° 57′ 06″ E

CURVE 136-3
R=1480.00′
I=02° 41′ 32″
A=69.55′
T=34.78′
L.CH.=69.54′
L.CH.BEAR.=S 11° 56′ 50″ W

CURVE 137-1
R=1490.00′
I=01° 26′ 29″
A=37.48′
T=18.74′
L.CH.=37.48′
L.CH.BEAR.=N 03° 52′ 45″ E

CURVE 137-2
R=1480.00′
I=01° 27′ 05″
A=37.49′
T=18.75′
L.CH.=37.49′
L.CH.BEAR.=S 03° 53′ 03″ W

DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

OSBOURNE SUBDIVISION
P.B. 14, PAGE 114

OPEN SPACE
134

LITTLE BEAR VILLAGE HOMEOWNERS ASSOCIATION, INC.,
AN OHIO NOT FOR PROFIT CORPORATION
LITTLE BEAR LOOP
31831418004000
LOT 7484

31831401006000
LOT 551

RESIDENTIAL
136
LOUIS M. BANDO
8144 S. OLD STATE ROAD
31831401005000
(PART LOT 552)

RESIDENTIAL
137
ANASTASIIA TIURENKOVA
8076 S. OLD STATE ROAD
31831401004000
(PART OF LOT 552)

OSBORNE SUBDIVISION
P.B. 14, PAGE 114

LOT 552
LOT 551

MATCHLINE STA. 156+50 S. OLD STATE ROAD SEE SHEET 42

MATCHLINE STA. 161+50 S. OLD STATE ROAD SEE SHEET 46

157+21.79 75.00′ LT
157+10.00 75.00′ LT
134-CH
134-S
134-WD
20.00′ N 17° 11′ 19″ E
156+90.00 75.00′ LT
CH 15.00′ N 72° 48′ 41″ W
Ex R/W
156+90.00 60.00′ LT
20.00′ S 17° 11′ 19″ W
157+10.00 60.00′ LT
SW
CH
134-2
158+19.80 83.52′ LT
10.42′ N 86° 52′ 08″ W
158+22.33 73.42′ LT
24.53′ N 01° 27′ 59″ E
157+96.18 76.88′ LT
CH 20.58′ S 86° 52′ 08″ E
134-3
I.P.S.
R/W
157+21.79 60.00′ LT
103.90′, S 17° 11′ 23″ W
Ex R/W
15.00′ S 72° 48′ 41″ E
158+24.80 63.56′ LT
3.68′ S 86° 52′ 08″ E
158+25.69 60.00′ LT
158+42.83 90.01′ LT
136-T
136-CH
136-WD
23.93′ TMP. N1°21′59″E
49.81′ N 29° 2′ 58″ E
CH 10.16′ N 86° 52′ 08″ W
158+91.58 79.77′ LT
136-3
136-2
136-1
159+90.76 74.28′ LT
160+65.76 70.47′ LT
10.00′ S 86° 52′ 12″ E
CH
137-2
161+03.25 70.00′ LT
137-CH
137-WD
I.P.S.
R/W
137-1
160+65.77 60.47′ LT
30.47′ S 86° 52′ 12″ E
161+03.25 60.00′ LT
159+90.77 64.25′ LT
160+65.78 30.00′ LT
34.60′ N86°52′18″W
60.00′ N72°48′41″W
30.00′ N72°48′41″W
158+33.20 30.00′ LT
159+08.83 30.00′ LT
75.63′ S 17° 11′ 15″ W
Ex R/W
159+90.78 30.00′ LT
149.57′ S 03° 9′ 31″ W
Ex R/W
15′ GAS EASE. DV 535, PG 518
Sta. 159+12.52
PT
PC
Ex R/W
Ex R/W
Ex R/W
431.92′, 134-WD
N 17° 11′ 19″ E
157
1057
157+21.79 PROP. MON.
439.43′, 136-WD
158
1058
39.08′ N 17° 11′ 19″ E
1059
158+73.44 0.00′ RT
158+76.08 9.75′ RT
S 87° 56′ 34″ E 53.31′
159+12.52 PROP. MON.
390.79′ N 03° 9′ 31″ E
PROPOSED ℄ CONSTR. S. OLD STATE RD AND PROPOSED ℄ R/W S. OLD STATE RD
EXISTING ℄ R/W S. OLD STATE RD.
161+03.25 PROP. MON.
SECTION 3
SECTION 4
160
1060
161
1061
N 3° 09′ 31″ E
30′
Ex SH
Ex SH
Ex SH
Ex SH
SECTION 3
SECTION 4
156+88.33 60.00′ RT
157+21.79 60.00′ RT
156+50.00 85.00′ RT
50.00′ S17° 11′ 19″W
SW
CH
132-WD
157+00.00 85.00′ RT
PC Sta. 1057+21.79 = Sta. 157+21.79 EX. ℄ R/W
132-CH
132-S
150.33′ S 13° 22′ 28″ W
158+50.00 75.00′ RT
132-1
158+87.36 51.46′ RT
14.66′ S 87° 56′ 34″ E
42.24′ S 04° 21′ 11″ W
49.10′ S 04° 21′ 11″ W
158+91.18 65.62′ RT
135-1
135-2
124.93′ S 02° 58′ 42″ W
160+49.93 59.12′ RT
135-CH
135-WD
159+25.00 59.51′ RT
161+03.25 60.00′ RT
EQUATION: Sta. 161+01.34 EX. ℄ R/W = PT Sta. 1061+01.34
Sta. 1061+01.34 BK = Sta. 1061+03.25 AH

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
132S	PROPOSED 132CH	6025.68
136WD	EXISTING GAS EASEMENT	3328.79

P.I. Sta. 1059+12.52
Δ = 14° 01′ 48″ (LT)
Dc = 3° 41′ 47″
R = 1,550.00′
T = 190.73′
L = 379.55′
E = 11.69′
C = 378.60′
C.B. = N 10° 10′ 25″ E

RESIDENTIAL
132
STRAIT REAL ESTATE LLC 1 LTD
S. OLD STATE ROAD
31842301010000

RESIDENTIAL
135
IRAJ HAGHNAZARI AND MASTANEH MALEKNIAZI
8119 S. OLD STATE ROAD
31842301011000

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCEL 137 UPDATE OWNERSHIP
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 156+50 TO STA. 161+50

DEL-CR10-0.90

2952-DR.E

DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL (137)
ANASTASIIA TIURENKOVA
8076 S. OLD STATE ROAD
31831401004000
(PART OF LOT 552)

LEACH FIELD (APPROX.)

OSBORNE SUBDIVISION
P.B. 14, PAGE 114

1 1/2-STORY FRAME

RESIDENTIAL (138)
MICHAEL D. HART AND CYNTHIA I. HART
8040 S. OLD STATE ROAD
31831401003000
(LOT 553)
1 1/2-STORY FRAME

LOT 552
LOT 553

LEACH FIELD (APPROX.)

COMMERCIAL (148)
DEL-CO WATER COMPANY, INC.
S OLD STATE RD
31831401001000

GRAVEL

2-STORY FRAME RESIDENTIAL (147)
CHRISTINE E. MERTZ
8020 S. OLD STATE ROAD
31831401002000

(149)

FARM LOT 4
FARM LOT 28

CONSTRUCTION LIMITS

+68.07 AGGR. RES. DRIVE

137-CH, 137-WD, 40.8'

138-S, 138-CH, 138-WD, 62.5'

+11.89 ASPH. RES. DRIVE

147-S, 147-CH, 147-WD, 75.5'

+39.72 AGGR. RES. DRIVE

+14.69 AGGR. COMM. DRIVE

149-T, 147-T, 148-S, 148-T, 148-WD

MATCHLINE STA. 161+50 S. OLD STATE ROAD SEE SHEET 43

MATCHLINE STA. 166+50 S. OLD STATE ROAD SEE SHEET 47

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

N 3° 09' 31" E

POT Sta. 600+00.00

STA. 164+63.63 EXISTING ℄ R/W S. OLD STATE RD. =
STA. 600+00.00 EXISTING ℄ R/W MAXWELL AVE.

3-RAIL WOOD FENCE

STONE COLUMN W/ LIGHT

EXIST. SIGN W/LIGHT & LANDSCAPING WALL SAVE

135-T, 135-WD

OPEN SPACE (139)

STONE COLUMN

EX. UTILITIY EASEMENT C 2, SL 148

WALKER WOOD HOMEOWNERS ASSOCIATION, INC.
MAXWELL AVENUE
31842308001000
LOT 4040

CONSTRUCTION LIMITS

WOVEN WIRE FENCE

139-T, 139-WD

EXIST. SIGN W/LIGHT & LANDSCAPING WALL SAVE

WALKER WOOD SECTION 6
CAB. 2, SLIDE 148

140-T

RESIDENTIAL 2-STORY FRAME (140)
JUN CHEN
1962 MAXWELL AVENUE
31842308002000
LOT 4041
(NO TAKE)

CONCRETE

MAXWELL AVE.

EX. UTILITIY EASEMENT C 2, SL 148

RESIDENTIAL (135)
IRAJ HAGHNAZARI AND MASTANEH MALEKNIAZI
8119 S. OLD STATE ROAD
31842301011000

LOT 4042
2-STORY FRAME

SAVE

OPEN SPACE (146)
WALKER WOOD HOMEOWNERS ASSOCIATION, INC.
MAXWELL AVENUE
31842309001000
LOT 4031

146-WD, 146-T1

145-T

RESIDENTIAL 1-STORY FRAME (145)
ROBIN L. & SCOTT E. WHIPPLE
1961 MAXWELL AVENUE
31842309002000
LOT 4032

ASPHALT

WALKER WOOD SECTION 6
CAB. 2, SLIDE 148

3-RAIL WOOD FENCE

24" CASING (CL 150)

14" C.A. (CL 150)

15" RCP STM

12" RCP STM

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCEL 145 UPDATE OWNERSHIP
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 161+50 TO STA. 166+50

DEL-CR10-0.90

2952-DR.E

45 / 72

410 / 437

R/W CURVE DATA

CURVE 139-1
R=20.00'
I=41° 22' 36"
A=14.44'
T=7.55'
L.CH.=14.13'
L.CH.BEAR.=N23° 51' 00"E

CURVE 139-2
R=20.00'
I=48° 23' 24"
A=16.89'
T=8.99'
L.CH.=16.39'
L.CH.BEAR.=N68° 44' 00"E

CURVE 146-1
R=20.00'
I=41° 24' 35"
A=14.45'
T=7.56'
L.CH.=14.14'
L.CH.BEAR.=N17° 32' 46"W

CURVE 146-2
R=20.00'
I=48° 49' 14"
A=17.04'
T=9.08'
L.CH.=16.53'
L.CH.BEAR.=N62° 39' 41"W

DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL (137)
ANASTASIIA TIURENKOVA
8076 S. OLD STATE ROAD
31831401004000
(PART OF LOT 552)

OSBORNE SUBDIVISION
P.B. 14, PAGE 114

RESIDENTIAL (138)
MICHAEL D. HART AND CYNTHIA I. HART
8040 S. OLD STATE ROAD
31831401003000
(LOT 553)

RESIDENTIAL (147)
CHRISTINE E. MERTZ
8020 S. OLD STATE ROAD
31831401002000

COMMERCIAL (148)
DEL-CO WATER COMPANY, INC.
S OLD STATE RD
31831401001000

(149)

LOT 552 | LOT 553 | FARM LOT 4 | FARM LOT 28

MATCHLINE STA. 161+50 S. OLD STATE ROAD SEE SHEET 44

MATCHLINE STA. 166+50 S. OLD STATE ROAD SEE SHEET 48

EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD

STA. 164+63.63 EXISTING ℄ R/W S. OLD STATE RD. = STA. 600+00.00 EXISTING ℄ R/W MAXWELL AVE.

POT Sta. 600+00.00

MAXWELL AVE.

OPEN SPACE

WALKER WOOD HOMEOWNERS ASSOCIATION, INC.
MAXWELL AVENUE
31842308001000
LOT 4040

WALKER WOOD SECTION 6
CAB. 2, SLIDE 148

WALKER WOOD HOMEOWNERS ASSOCIATION, INC.
MAXWELL AVENUE
31842309001000
LOT 4031

RESIDENTIAL (140)
JUN CHEN
1962 MAXWELL AVENUE
31842308002000
LOT 4041
(NO TAKE)

RESIDENTIAL (145)
ROBIN L. & SCOTT E. WHIPPLE
1961 MAXWELL AVENUE
31842309002000
LOT 4032

WALKER WOOD SECTION 6
CAB. 2, SLIDE 148

RESIDENTIAL (135)
IRAJ HAGHNAZARI AND MASTANEH MALEKNIAZI
8119 S. OLD STATE ROAD
31842301011000

LOT 4042

EX. UTILITIY EASEMENT C 2, SL 148

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
138S	PROPOSED 138CH	2248.64
139WD	EXISTING UTILITY EASEMENT	570.16
139T	EXISTING UTILITY EASEMENT	944.31
140T	EXISTING UTILITY EASEMENT	101.06
145T	EXISTING UTILITY EASEMENT	70.23
146WD	EXISTING UTILITY EASEMENT	1302.56
146T1	EXISTING UTILITY EASEMENT	246.69
147S	PROPOSED 147CH	2250.00

REV. BY	DATE	DESCRIPTION
BLW	4/8/2015	PARCEL 145 UPDATE OWNERSHIP
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 161+50 TO STA. 166+50

DEL-CR10-0.90

2952-DR.E

46 / 72

411 / 437

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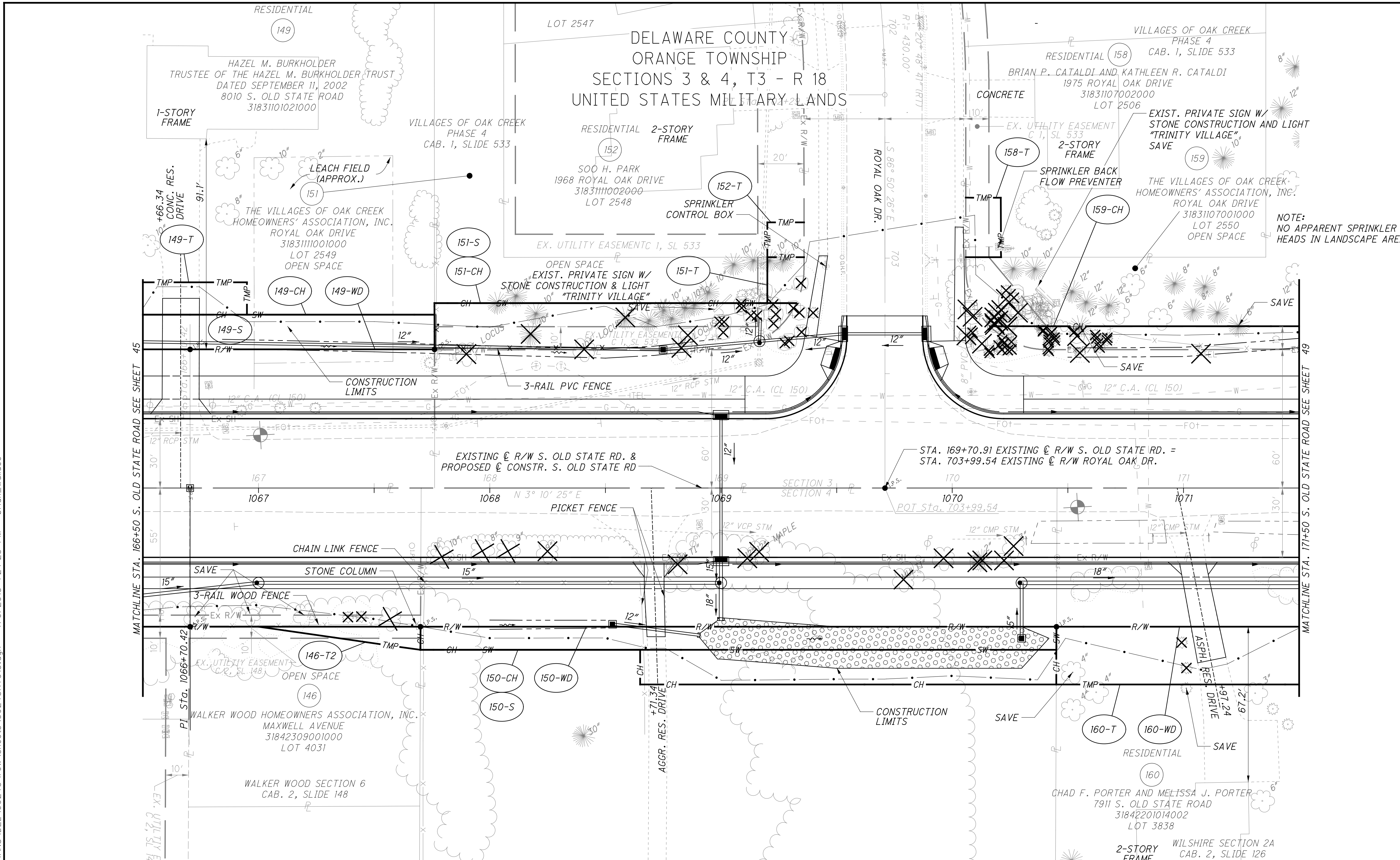
DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS
RESIDENTIAL
149
HAZEL M. BURKHOLDER
TRUSTEE OF THE HAZEL M. BURKHOLDER TRUST
DATED SEPTEMBER 11, 2002
8010 S. OLD STATE ROAD
31831101021000
1-STORY FRAME
LOT 2547
VILLAGES OF OAK CREEK
PHASE 4
CAB. 1, SLIDE 533
LEACH FIELD (APPROX.)
151
THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.
ROYAL OAK DRIVE
31831110001000
LOT 2549
OPEN SPACE
RESIDENTIAL
2-STORY FRAME
152
SOO H. PARK
1968 ROYAL OAK DRIVE
31831111002000
LOT 2548
EX. UTILITY EASEMENT C 1, SL 533
OPEN SPACE
EXIST. PRIVATE SIGN W/ STONE CONSTRUCTION & LIGHT "TRINITY VILLAGE" SAVE
SPRINKLER CONTROL BOX
152-T
151-S
151-CH
151-T
149-T
149-CH
149-WD
149-S
+66.34 CONC. RES. DRIVE
91.1'
ROYAL OAK DR.
S 86° 50' 26" E
703
702
R = 430.00'
VILLAGES OF OAK CREEK
PHASE 4
CAB. 1, SLIDE 533
RESIDENTIAL
158
BRIAN P. CATALDI AND KATHLEEN R. CATALDI
1975 ROYAL OAK DRIVE
31831107002000
LOT 2506
CONCRETE
EX. UTILITY EASEMENT C 1, SL 533
2-STORY FRAME
158-T
SPRINKLER BACK FLOW PREVENTER
EXIST. PRIVATE SIGN W/ STONE CONSTRUCTION AND LIGHT "TRINITY VILLAGE", SAVE
159
THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.
ROYAL OAK DRIVE
31831107001000
LOT 2550
OPEN SPACE
159-CH
NOTE:
NO APPARENT SPRINKLER HEADS IN LANDSCAPE AREAS
SAVE
CONSTRUCTION LIMITS
3-RAIL PVC FENCE
12" C.A. (CL 150)
12" RCP STM
EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD
STA. 169+70.91 EXISTING ℄ R/W S. OLD STATE RD. = STA. 703+99.54 EXISTING ℄ R/W ROYAL OAK DR.
167
168
169
170
171
1067
1068
1069
1070
1071
N 3° 10' 25" E
SECTION 3
SECTION 4
POT Sta. 703+99.54
MATCHLINE STA. 166+50 S. OLD STATE ROAD SEE SHEET 45
MATCHLINE STA. 171+50 S. OLD STATE ROAD SEE SHEET 49
PICKET FENCE
CHAIN LINK FENCE
STONE COLUMN
3-RAIL WOOD FENCE
SAVE
12" VCP STM
12" CMP STM
MAPLE
146-T2
150-CH
150-WD
150-S
PI Sta. 1066+70.42
EX. UTILITY EASEMENT C 2, SL 148
OPEN SPACE
146
WALKER WOOD HOMEOWNERS ASSOCIATION, INC.
MAXWELL AVENUE
31842309001000
LOT 4031
WALKER WOOD SECTION 6
CAB. 2, SLIDE 148
+71.34 AGGR. RES. DRIVE
CONSTRUCTION LIMITS
SAVE
160-T
160-WD
+97.24 ASPH. RES. DRIVE
SAVE
RESIDENTIAL
160
CHAD F. PORTER AND MELISSA J. PORTER
7911 S. OLD STATE ROAD
31842201014002
LOT 3838
2-STORY FRAME
WILSHIRE SECTION 2A
CAB. 2, SLIDE 126
1 1/2-STORY FRAME
RESIDENTIAL
150
THOMAS R. SMITH AND BARBARA SMITH
7959 S. OLD STATE ROAD
31842201016000
1-STORY FRAME
FARM LOT 23
FARM LOT 3
EX. C 2, SL 148 UTILITY EASEMENT

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET 0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 166+50 TO STA. 171+50

DEL-CR10-0.90

2952-DR.E

DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
149
HAZEL M. BURKHOLDER
TRUSTEE OF THE HAZEL M. BURKHOLDER TRUST
DATED SEPTEMBER 11, 2002
8010 S. OLD STATE ROAD
31831101021000

LOT 2547

VILLAGES OF OAK CREEK
PHASE 4
CAB. 1, SLIDE 533

RESIDENTIAL
152
SOO H. PARK
1968 ROYAL OAK DRIVE
31831111002000
LOT 2548

151
THE VILLAGES OF OAK CREEK
HOMEOWNERS' ASSOCIATION, INC.
ROYAL OAK DRIVE
31831111001000
LOT 2549
OPEN SPACE

OPEN SPACE

ROYAL OAK DR.

VILLAGES OF OAK CREEK
PHASE 4
CAB. 1, SLIDE 533

RESIDENTIAL
158
BRIAN P. CATALDI AND KATHLEEN R. CATALDI
1975 ROYAL OAK DRIVE
31831107002000
LOT 2506

159
THE VILLAGES OF OAK CREEK
HOMEOWNERS' ASSOCIATION, INC.
ROYAL OAK DRIVE
31831107001000
LOT 2550
OPEN SPACE

EX. UTILITY EASEMENT C 1, SL 533

R/W CURVE DATA

CURVE 151-1
R=35.00'
I=64° 48' 57"
A=39.59'
T=22.22'
L.CH.=37.52'
L.CH.BEAR.=S 29° 14' 55" E

CURVE 151-2
R=35.00'
I=25° 11' 3"
A=15.38'
T=7.82'
L.CH.=15.26'
L.CH.BEAR.=S 74° 14' 55" E

CURVE 159-1
R=35.00'
I=44° 36' 55"
A=27.25'
T=14.36'
L.CH.=26.57'
L.CH.BEAR.=S 25° 28' 1" W

MATCHLINE STA. 166+50 S. OLD STATE ROAD SEE SHEET 46

MATCHLINE STA. 171+50 S. OLD STATE ROAD SEE SHEET 50

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

STA. 169+70.91 EXISTING ℄ R/W S. OLD STATE RD. =
STA. 703+99.54 EXISTING ℄ R/W ROYAL OAK DR.

POT Sta. 703+99.54
30.00', S 86°49'35" E, 160-WD

PI Sta. 1066+70.42

146
WALKER WOOD HOMEOWNERS ASSOCIATION, INC.
MAXWELL AVENUE
31842309001000
LOT 4031

WALKER WOOD SECTION 6
CAB. 2, SLIDE 148

EX. UTILTIY EASEMENT C 2, SL 148

FARM LOT 23
FARM LOT 3

RESIDENTIAL
150
THOMAS R. SMITH AND BARBARA SMITH
7959 S. OLD STATE ROAD
31842201016000

RESIDENTIAL
160
CHAD F. PORTER AND MELISSA J. PORTER
7911 S. OLD STATE ROAD
31842201014002
LOT 3838

WILSHIRE SECTION 2A
CAB. 2, SLIDE 126

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
146T2	EXISTING 10' UTILITY EASEMENT	262.73
150S	PROPOSED 150CH	2751.04
151CH	EXISTING 10' UTILITY EASEMENT	1544.19
151S	EXISTING 10' UTILITY EASEMENT	1544.19
151T	EXISTING 20' UTILITY EASEMENT	299.93
151S	PROPOSED 151CH	2959.94
152T	EXISTING 20' UTILITY EASEMENT	240.02
158T	EXISTING 10' UTILITY EASEMENT	257.51
159CH	EXISTING 10' UTILITY EASEMENT	1425.55

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 166+50 TO STA. 171+50

DEL-CR10-0.90

2952-DR.E

48 / 72

413 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
162
LEACH FIELD (APPROX.)
JOHN R. DILL AND LYNNE M. DILL
7886 S. OLD STATE ROAD
31831101018000
1-STORY FRAME
159
THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.
ROYAL OAK DRIVE
31831107001000
LOT 2550
OPEN SPACE
FARM LOT 28
FARM LOT 27
VILLAGES OF OAK CREEK PHASE 3
CB. 1, SLIDE 643
2-STORY FRAME
164
LOT 2462
LOT 2460
LOT 2461
THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.
S. OLD STATE ROAD
31831104001000
LOT 2505
EX. UTILITY EASEMENT C 1, SL. 643
AGGR. RES. DRIVE
MATCHLINE STA. 171+50 S. OLD STATE ROAD SEE SHEET 47
MATCHLINE STA. 176+50 S. OLD STATE ROAD SEE SHEET 51
162-CH
162-WD
162-T
162-S
164-WD
81.9'
+39.24
CONSTRUCTION LIMITS
PROP. NOISE BARRIER
SAVE (TYP.) OPEN SPACE
3-RAIL PVC FENCE
EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD
SECTION 3
SECTION 4
N 3° 10' 25" E
160-WD
160-T
161-T
161-WD
163-T
163-WD
165-CH
165-WD
165-T
166-CH
166-WD
+97.54
84.7'
95.1'
+09.35
+71.43
88.7'
SAVE
LEACH FIELD (APPROX.)
ASPHALT
LOIS SUBDIVISION
P.B. 14, PAGE 140
4-RAIL WOOD FENCE
RESIDENTIAL
161
2-STORY FRAME
DOREEN E. DODSON
7905 S. OLD STATE ROAD
31842201012000
LOT 563
LEACH FIELD (APPROX.)
RESIDENTIAL
163
1-STORY BRICK
DENNIS W. FOREMAN AND MARILYN R. FOREMAN, TRUSTEES OF DENNIS W. FOREMAN, JR. AND MARILYN R. FOREMAN LIVING TRUST, DATED NOVEMBER 21, 2005
7871 S. OLD STATE ROAD
31842201011000
LOT 562
RESIDENTIAL
165
DANNY E. CAVOTE
7811 S. OLD STATE ROAD
31842201010000
LOT 561
1-STORY FRAME
ASPHALT
12" CMP STM
12" CPP STM
12" RCP STM
EX SH
SW
TMP
R/W
Ex R/W
CH
FO
W
G
SPRUCE
WHITE_PINE
MAPLE
FIR
MULTI

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

N
HORIZONTAL SCALE IN FEET
0 10 20 40
PID NO. 90243
R/W DESIGNER BLW
R/W REVIEWER DS
RIGHT OF WAY TOPO SHEET
STA. 171+50 TO STA. 176+00
DEL-CR10-0.90
2952-DR.E
49 / 72
414
437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
162
JOHN R. DILL AND LYNNE M. DILL
7886 S. OLD STATE ROAD
31831101018000

159
THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.
ROYAL OAK DRIVE
31831107001000
LOT 2550
OPEN SPACE

FARM LOT 28
FARM LOT 27

VILLAGES OF OAK CREEK
PHASE 3
CB. 1, SLIDE 643

164
LOT 2462
LOT 2461
LOT 2460
THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.
S. OLD STATE ROAD
31831104001000
LOT 2505
OPEN SPACE

EX. UTILITY EASEMENT C 1, SL. 643

10.05' S 86° 50' 26" E
171+65.63 59.95' LT
171+65.63 70.00' LT
10.00' N 86° 52' 34" W
171+65.63 60.00' LT
149.37' N 03° 10' 25" E
149.37', S 03° 10' 25" W
184.84', N 03° 10' 25" E
173+50.47 95.00' LT
20.28' N 03° 10' 25" E
173+30.19 95.00' LT
25.00' N 86° 38' 10" W
20.37' S 03° 10' 25" W
173+30.10 70.00' LT
173+15.00 70.00' LT
10.00' S 86° 49' 35" E
173+15.00 60.00' LT
35.47' N 03° 10' 25" E
173+30.07 60.00' LT
35.47' S 03° 10' 25" W
173+29.87 0.00' LT
49.53', N 03°10'25" E
25.00' S86° 49' 35"E
173+50.47 70.00' LT
35.00' N86° 49' 35"W
10.00' S86°49'35"E
173+50.47 60.00' LT
173+50.47 0.00' LT
174+00.00 95.00' LT
150.75' N 08° 53' 4" E
175+50.00 80.00' LT
879.36' S 03° 10' 26" W 164-WD

162-WD
162-CH
162-T
162-S
164-WD

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

MATCHLINE STA. 171+50 S. OLD STATE ROAD SEE SHEET 48
MATCHLINE STA. 176+50 S. OLD STATE ROAD SEE SHEET 52

60.00', N 86° 50' 26" W
60.00', S 86° 49' 35" E
Ex R/W
Ex SH
SECTION 3
SECTION 4
184.83' S 03° 10' 25" W
316.69' 163-WD
379.56' 164-WD
N 3° 10' 25" E
466.69' 165-WD
638.20' 166-WD
1072
1073
1074
1075
1076

171+65.64 0.00' RT
171+63.94 30.00' RT
123.66' N 03° 10' 24" E
30.00' N 86° 28' 37" W
171+63.76 60.00' RT
25.00' N 86° 28' 37" W
123.66' S 03° 10' 25" W
171+63.60 85.00' RT
172+87.60 30.00' RT
150.00' N 03° 10' 25" E
30.00' S 86° 28' 37" E
172+87.42 60.00' RT
10.00' N 86° 28' 37" W
172+87.36 70.00' RT
25.00' S 86° 28' 37" E
123.66' S 03° 10' 25" W
172+87.26 85.00' RT
174+37.60 30.00' RT
150.00' S 03° 10' 25" W
30.00' S 86° 28' 37" E
174+37.42 60.00' RT
171.50' N 03° 10' 25" E
10.00' S 86° 28' 37" E
174+37.36 70.00' RT
171.50' S 03° 10' 25" W
176+09.11 30.00' RT
30.00' S 86° 28' 37" E
176+08.92 60.00' RT
176+08.89 65.00' RT
10.00' S 86° 28' 37" E
176+08.86 70.00' RT
63.86', N 03° 10' 25" E
63.80', S 03° 10' 25" W
175+45.00 70.00' RT
10.00' N 86° 49' 35" W
175+45.00 80.00' RT
10.00' S 86° 28' 37" E
176+08.80 80.00' RT
176+45.00 65.00' RT
5.00' N86°28'37"W
176+45.00 75.00' RT
10.00' N86°49'35"W

160-WD
160-T
161-T
161-WD
163-T
163-WD
165-CH
165-WD
165-T
166-CH
166-WD

UTILITY EASEMENT OVERLAP DATA	
PARCEL	AREA (SQ FT)
OVERLAP DESCRIPTION	
164WD EXISTING 10' UTILITY EASEMENT	9418.72

LOIS SUBDIVISION
P.B. 14, PAGE 140

RESIDENTIAL
161
DOREEN E. DODSON
7905 S. OLD STATE ROAD
31842201012000
LOT 563

RESIDENTIAL
163
DENNIS W. FOREMAN AND MARILYN R. FOREMAN,
TRUSTEES OF DENNIS W. FOREMAN, JR. AND MARILYN R. FOREMAN
LIVING TRUST, DATED NOVEMBER 21, 2005
7871 S. OLD STATE ROAD
31842201011000
LOT 562

RESIDENTIAL
165
DANNY E. CAVOTE
7811 S. OLD STATE ROAD
31842201010000
LOT 561

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 171+50 TO STA. 176+50

DEL-CR10-0.90

2952-DR.E

50 / 72

415 / 437

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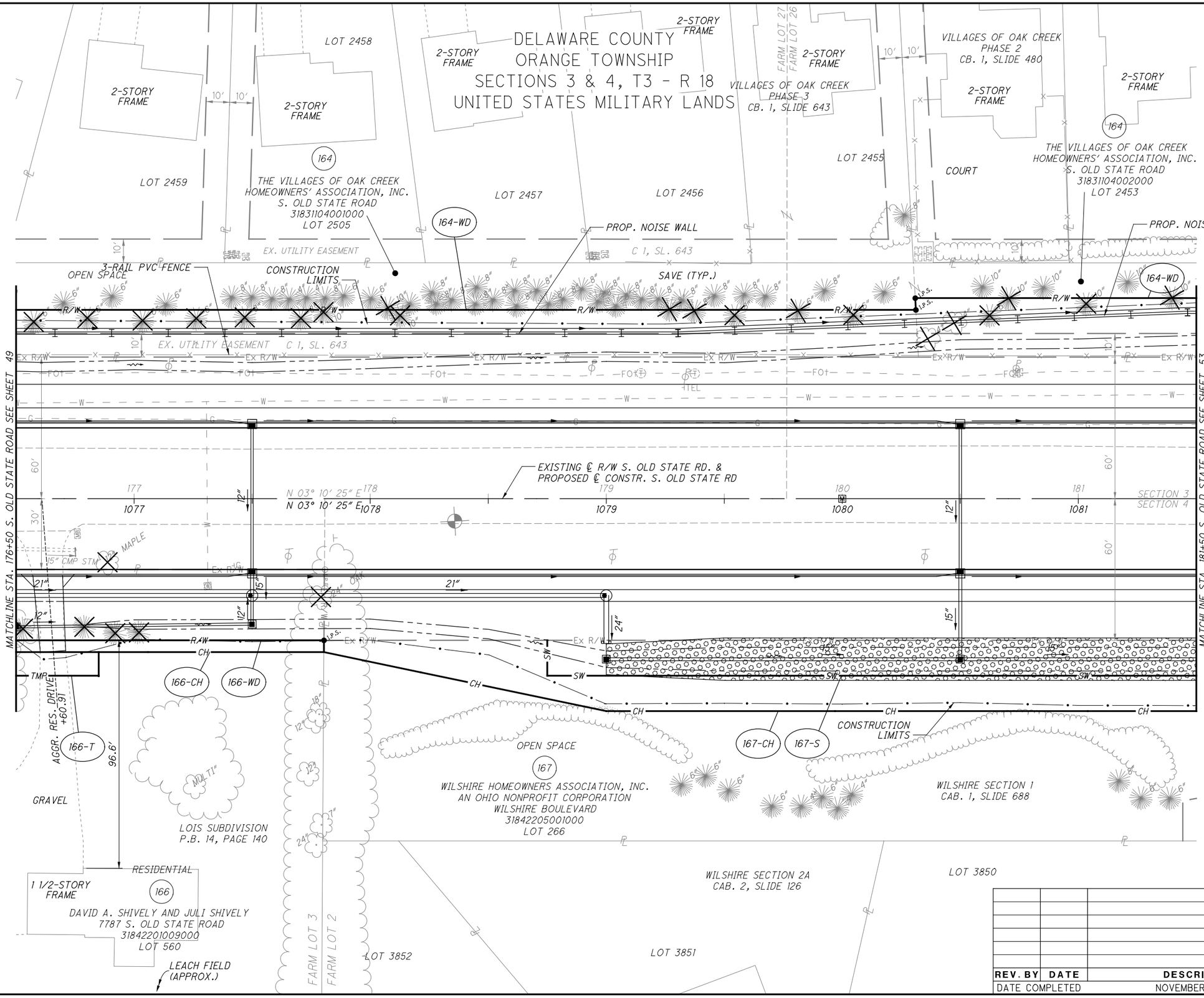
DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS



REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 176+50 TO STA. 181+50

DEL-CR10-0.90

2952-DR.E

51 / 72

416 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

LOT 2458
LOT 2459
LOT 2457
LOT 2456
LOT 2455
FARM LOT 27
FARM LOT 26
VILLAGES OF OAK CREEK PHASE 3 CB. 1, SLIDE 643
VILLAGES OF OAK CREEK PHASE 2 CB. 1, SLIDE 480
10' 10'
164
THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.
S. OLD STATE ROAD
31831104001000
LOT 2505
164-WD
THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC.
S. OLD STATE ROAD
31831104002000
LOT 2453
EX. UTILITY EASEMENT
C 1, SL. 643
OPEN SPACE
179+76.56
80.00' LT
180+30.92
85.00' LT
5.01'
N 89° 56' 12" W
P.O.S.
232.45'
N 03° 10' 25" E
R/W
481.20'
N 03° 10' 25" E
879.36'
S 03° 10' 26" W
Ex R/W
180+31.19
80.00' LT
179+76.54
60.00' LT
MATCHLINE STA. 176+50 S. OLD STATE ROAD SEE SHEET 50
MATCHLINE STA. 181+50 S. OLD STATE ROAD SEE SHEET 54
EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD
177
178
179
180
181
1077
1078
1079
1080
1081
N 03° 10' 25" E
180+00.00
PROP. MON.
SECTION 3
SECTION 4
177+80.61
30.00' RT
30.00'
S 86° 28' 37" E
171.50'
N 03° 10' 25" E
177+80.43
60.00' RT
5.00'
S 86° 28' 37" E
171.50', S 03° 10' 25" W
40.00'
N 03° 10' 25" E
171.50'
S 03° 10' 25" W
CH
TMP
166-CH
166-WD
176+85.00
65.00' RT
10.00'
S 86° 49' 35" E
176+85.00
75.00' RT
177+80.40
65.00' RT
166-T
40.00'
S 03° 10' 25" W
94.57'
N 03° 10' 25" E
178+75.00
60.00' RT
15.00
S 86° 49' 35" E
178+75.00
75.00' RT
SW
384.20'
S 03° 10' 25" W
364.83'
N 03° 10' 25" E
122.19'
S 14° 58' 48" W
179+00.00
90.00' RT
359.83'
S 03° 10' 25" W
167-CH
167-S
OPEN SPACE
167
WILSHIRE HOMEOWNERS ASSOCIATION, INC.
AN OHIO NONPROFIT CORPORATION
WILSHIRE BOULEVARD
31842205001000
LOT 266
WILSHIRE SECTION 1
CAB. 1, SLIDE 688
LOIS SUBDIVISION
P.B. 14, PAGE 140
RESIDENTIAL
166
DAVID A. SHIVELY AND JULI SHIVELY
7787 S. OLD STATE ROAD
31842201009000
LOT 560
WILSHIRE SECTION 2A
CAB. 2, SLIDE 126
LOT 3850
LOT 3852
LOT 3851
FARM LOT 3
FARM LOT 2

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

N
HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 176+50 TO STA. 181+50

DEL-CR10-0.90

2952-DR.E
52 / 72
417 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL (169) — DONALD EUGENE GREEN AND DONNA MARIE GREEN, 7709 ROYAL PARK DRIVE, 31831104003000, LOT 2542 — 2-STORY FRAME
RESIDENTIAL (170) — DECLAN A. FEERY SR. AND CYNTHIA A. FEERY, 7683 CROSSING PLACE, 31831103002000, LOT 2399 — 2-STORY FRAME
RESIDENTIAL (171) — THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC., GLADSHIRE BLVD, 31831103001000, (PART LOT 2454) — 2-STORY FRAME
THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC., S. OLD STATE ROAD, 31831104002000, LOT 2453 (164) — 2-STORY FRAME
VILLAGES OF OAK CREEK PHASE 2, CB. 1, SLIDE 480 — 2-STORY FRAME
LOT 2340
GLADSHIRE BLVD. S 88° 49' 37" E
EX. UTILTITY EASEMENT C 1, SL 480
STONE WALL W/ SIGN "THE VILLAGES OF OAK CREEK" (DO NOT DISURB)
SPRINKLER CONTROL
CONSTRUCTION LIMITS
PROP. NOISE WALL
SAVE (TYP.)
LANDSCAPING WALL SAVE
SPRINKLER HEAD
STONE WALL W/ SIGN "THE VILLAGES OF OAK CREEK" TO BE REMOVED BY OTHERS
STA. 182+99.83 EXISTING ℄ R/W S. OLD STATE RD. = STA. 802+36.15 EXISTING ℄ R/W GLADSHIRE/WILSHIRE BLVD.
POT Sta. 802+36.15 N 3° 10' 25" E
EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD
SECTION 3
SECTION 4
MATCHLINE STA. 181+50 S. OLD STATE ROAD SEE SHEET 51
MATCHLINE STA. 186+50 S. OLD STATE ROAD SEE SHEET 55
WILSHIRE BLVD. S 86° 49' 37" E
12" RCP ST.
24" RCP STM.
EX. RETENTION POND
OPEN SPACE (172) — WILSHIRE HOMEOWNERS ASSOCIATION, INC., AN OHIO NONPROFIT CORPORATION, 7585 S. OLD STATE ROAD, 31842202001000LOT, LOT 2667
WILSHIRE SECTION 1, CAB. 1, SLIDE 688
EX. UTILITY EASEMENT C 1, SL 688
OPEN SPACE (167) — STONE COLUMN WITH SIGN — WILSHIRE HOMEOWNERS ASSOCIATION, INC., AN OHIO NONPROFIT CORPORATION, WILSHIRE BOULEVARD, 31842205001000, LOT 266
LANDSCAPING WALL SAVE
RESIDENTIAL (173) — DAVID P. WAGGONER AND FOUZIA K. WAGGONER, 7646 AFFIRMED COURT, 31842202002000, LOT 2601
LOT 2602
LOT 2603
3-RAIL PVC FENCE
PROP. CURB & GUTTER
WILSHIRE SECTION 1, CAB. 1, SLIDE 688

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40
PID NO. 90243
R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET STA. 181+50 TO STA. 186+50

DEL-CR10-0.90

2952-DR.E
53 / 72
418 / 437

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R/W CURVE DATA

CURVE 164-1
R=35.00'
I=73° 24' 22"
A=44.84'
T=26.09'
L.CH.=41.84'
L.CH.BEAR.=S 33° 31' 42" E

CURVE 164-2
R=35.00'
I=16° 35' 38"
A=10.14'
T=5.10'
L.CH.=10.10'
L.CH.BEAR.=S 78° 31' 42" E

CURVE 167-1
R=20.00'
I=75° 31' 21"
A=26.36'
T=15.49'
L.CH.=24.49'
L.CH.BEAR.=N 40° 56' 06" E

CURVE 167-2
R=20.00'
I=14° 28' 37"
A=5.05'
T=2.54'
L.CH.=5.04'
L.CH.BEAR.=N 85° 56' 05" E

CURVE 171-1
R=35.00'
I=90° 00' 07"
A=54.98'
T=35.00'
L.CH.=49.50'
L.CH.BEAR.=S 48° 10' 26" W

CURVE 171-2
R=25.00'
I=53° 06' 21"
A=23.17'
T=12.49'
L.CH.=22.35'
L.CH.BEAR.=N 66° 37' 19" E

CURVE 173-1
R=20.00'
I=90° 00' 00"
A=31.42'
T=20.00'
L.CH.=28.28'
L.CH.BEAR.=N 41° 49' 37" W

DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL (169) — DONALD EUGENE GREEN AND DONNA MARIE GREEN, 7709 ROYAL PARK DRIVE, 31831104003000, LOT 2542

RESIDENTIAL (170) — DECLAN A. FEERY SR. AND CYNTHIA A. FEERY, 7683 CROSSING PLACE, 31831103002000, LOT 2399

VILLAGES OF OAK CREEK PHASE 2, CB. 1, SLIDE 480

RESIDENTIAL (171) — THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC., GLADSHIRE BLVD, 31831103001000 (PART LOT 2454)

THE VILLAGES OF OAK CREEK HOMEOWNERS' ASSOCIATION, INC., S. OLD STATE ROAD, 31831104002000, LOT 2453 (164)

GLADSHIRE BLVD. S 86° 49' 37" E

MATCHLINE STA. 181+50 S. OLD STATE ROAD SEE SHEET 52

MATCHLINE STA. 186+50 S. OLD STATE ROAD SEE SHEET 56

STA. 182+99.83 EXISTING ℄ R/W S. OLD STATE RD. = STA. 802+36.15 EXISTING ℄ R/W GLADSHIRE/WILSHIRE BLVD.

EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD

POT Sta. 802+36.15

N 3° 10' 25" E

SECTION 3 / SECTION 4

LOT 2340

OPEN SPACE (167) — WILSHIRE HOMEOWNERS ASSOCIATION, INC., AN OHIO NONPROFIT CORPORATION, WILSHIRE BOULEVARD, 31842205001000, LOT 266

OPEN SPACE (172) — WILSHIRE HOMEOWNERS ASSOCIATION, INC., AN OHIO NONPROFIT CORPORATION, 7585 S. OLD STATE ROAD, 31842202001000LOT, LOT 2667

WILSHIRE BL VD.

WILSHIRE SECTION 1, CAB. 1, SLIDE 688

RESIDENTIAL (173) — DAVID P. WAGGONER AND FOUZIA K. WAGGONER, 7646 AFFIRMED COURT, 31842202002000, LOT 2601

LOT 2602

LOT 2603

UTILITY EASEMENT OVERLAP DATA

PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
164T	EXISTING 10' UTILITY EASEMENT	151.97
167SW	EXISTING 10' UTILITY EASEMENT	784.11
167CH	EXISTING 10' UTILITY EASEMENT	151.10
169T	EXISTING 10' UTILITY EASEMENT	311.87
171SI	EXISTING 10' UTILITY EASEMENT	1300.00
171CH	EXISTING 10' UTILITY EASEMENT	10325.05
172T	EXISTING UTILITY EASEMENT	1648.13

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 181+50 TO STA. 186+50

DEL-CR10-0.90

2952-DR.E

54 / 72

419 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

FARM LOT 26
FARM LOT 25
EX. UTILTIY EASEMENT
C 1, SL 480
25'

OPEN SPACE
171
THE VILLAGES OF OAK CREEK
HOMEOWNERS' ASSOCIATION, INC.
GLADSHIRE BLVD
31831103001000
(PART LOT 2454)

VILLAGES OF OAK CREEK
PHASE 2
CB. 1, SLIDE 480

171-CH
171-T1
CONSTRUCTION LIMITS
SAVE
TMP
PI 188+90.68
EX R/W
FOT
W
G
EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD
187
188
189
190
191
1087
1088
1089
1090
1091
N 3° 10' 25" E
N 3° 09' 02" E
SECTION 3
SECTION 4
EX. TELE EASE.
DB 662, PG. 12
CONC. COM. DRIVE
+78.13
+44.62
ASPH. RES. DRIVE
ASPH. COM. DRIVE
12.91
12" CPP STM
Ex SH
HEDGE APPLE
MATCHLINE STA. 186+50 S. OLD STATE ROAD SEE SHEET 53
MATCHLINE STA. 191+50 S. OLD STATE ROAD SEE SHEET 57
172-T
EXIST. UGT BOXES
EX. TELE EASE.
OR. 30, PG. 121
EX. RETENTION BASIN
PI Sta. 1088+90.68
174-WD
174-T
175-WD
175-T

OPEN SPACE
172
WILSHIRE HOMEOWNERS ASSOCIATION, INC.,
AN OHIO NONPROFIT CORPORATION
7585 S. OLD STATE ROAD
31842202001000LOT
LOT 2667

WILSHIRE SECTION 1
CAB. 1, SLIDE 688

3-RAIL
PVC FENCE

LOT 2604
LOT 2605
LOT 2606

COMMERCIAL
175
ST. ANDREW'S ANGLICAN CHURCH
AN OHIO NOT-FOR-PROFIT CORPORATION
7521 S. OLD STATE ROAD
31842201004000

RESIDENTIAL
174
JOHN W. HALL AND ADELE L. HALL
7559 S. OLD STATE ROAD
2.000 ACRES
31842201007000

LEACH FIELD
(APPROX.)

FARM LOT 2
FARM LOT 1

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 186+50 TO STA. 191+50

DEL-CR10-0.90

2952-DR.E
55 / 72
420 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

FARM LOT 26
FARM LOT 25

EX. UTILTIY EASEMENT
C 1, SL 480

25'

OPEN SPACE
171
THE VILLAGES OF OAK CREEK
HOMEOWNERS' ASSOCIATION, INC.
GLADSHIRE BLVD
31831103001000
(PART LOT 2454)

VILLAGES OF OAK CREEK
PHASE 2
CB. 1, SLIDE 480

MATCHLINE STA. 186+50 S. OLD STATE ROAD SEE SHEET 54

186+53.78
70.00' LT
186+53.79
60.00' LT
280.66'
N 03° 10' 25" E
171-CH
520.83'
S 03° 10' 23" W
188+90.66
70.00' LT
188+90.66
60.00' LT
PI Sta. 188+90.68
189+50.00
80.00' LT
10.00'
N 86° 50' 58" W
189+50.00
70.00' LT
400.00'
N 03° 09' 02" E
400.00', S 03° 09' 02" W
459.31', N 03° 09' 02" E
459.31'
S 03° 09' 02" W
171-T1

Ex R/W
CH
TMP
PL
10'
60'

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

187
1087
590.55'
174-WD
590.84'
175-WD
188
1088
N 3° 10' 25" E
590.55'
174-WD
188+90.38
0.00' LT
0.29'
N 03° 10' 25" E
188+90.68
PROP. MON.
189
1089
149.82'
N 03° 09' 02" E
190
1090
N 3° 09' 02" E
190+40.49
0.00' RT
SECTION 3
SECTION 4
191
1091

EX. TELE EASE.
DB 662, PG. 12

65.00'
N 86° 35' 42" W
65.00'
S 86° 34' 43" E
40'

188+90.14
59.98' RT
5.02'
S 86° 35' 42" E
0.57'
N 03° 10' 25" E
188+90.68
65.00' RT
149.52'
S 03° 09' 02" W
190+40.19
65.00' RT
10.00'
S 86° 34' 43" E
Ex SH
Ex R/W
R/W
TMP
P.I.S.

188+90.12
65.00' RT
EX. TELE EASE.
OR. 30, PG. 121
PI Sta. 1088+90.68
49.16'
S 27° 09' 28" W
35.00'
S 03° 09' 02" W
31.63'
S 15° 16' 57" E
40.14'
S 03° 09' 02" W
190+00.00
75.00' RT
189+35.00
85.00' RT
189+70.00
85.00' RT
190+40.14
75.00' RT
191+00.00
75.00' RT
15.00'
N 86° 50' 58" W
60.00'
S 03° 09' 02" W
191+00.00
90.00' RT
59.86'
S 03° 09' 02" W

172-T
174-WD
174-T
175-WD
175-T

OPEN SPACE
172
WILSHIRE HOMEOWNERS ASSOCIATION, INC.,
AN OHIO NONPROFIT CORPORATION
7585 S. OLD STATE ROAD
31842202001000LOT
LOT 2667

WILSHIRE SECTION 1
CAB. 1, SLIDE 688

COMMERCIAL
175
ST. ANDREW'S ANGLICAN CHURCH
AN OHIO NOT-FOR-PROFIT CORPORATION
7521 S. OLD STATE ROAD
31842201004000

RESIDENTIAL
174
JOHN W. HALL AND ADELE L. HALL
7559 S. OLD STATE ROAD
2.000 ACRES
31842201007000

LOT 2604
LOT 2605
LOT 2606
FARM LOT 2
FARM LOT 1

MATCHLINE STA. 191+50 S. OLD STATE ROAD SEE SHEET 58

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
172T	EXISTING TELEPHONE EASEMENT	150.51
174WD	EXISTING TELEPHONE EASEMENT	47.67

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 186+50 TO STA. 191+50

DEL-CR10-0.90

2952-DR.E
56 / 72
421 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

2-STORY FRAME
2-STORY FRAME
1-STORY FRAME
2-STORY FRAME
2-STORY FRAME
FARM LOT 25
FARM LOT 24

VILLAGES OF OAK CREEK
PHASE 2
CB. 1, SLIDE 480

EX. UTILITY EASEMENT
C 1, SL 480

RESIDENTIAL
171
THE VILLAGES OF OAK CREEK
HOMEOWNERS' ASSOCIATION, INC.
GLADSHIRE BLVD.
31831103001000
(PART LOT 2454)

171-CH
171-T1
171-S2
171-T2
SAVE
TMP
CONSTRUCTION LIMITS
3-RAIL PVC FENCE
WHITE PINE
EX. UTILITY EASEMENT
C 1, SL 480
Ex R/W
FOT
W
G
SW
CH
12" RCP STM
8" CPP STM
12" CPP STM
36"
Ex SH
SL
R/W
ELECTRIC SIGN ON BRICK
CONSTRUCTION LIMITS
176-WD
176-SL
175-WD
175-T
176-T
EX. DRY DETENTION BASIN
ASPHALT
2-STORY FRAME
ASPH. RES. DRIVE
HIGH VOLTAGE OVERHEAD TRANSMISSION TOWER
OHIO POWER COMPANY
DB 241, PG. 154
100'
EX U

MATCHLINE STA. 191+50 S. OLD STATE ROAD SEE SHEET 55
MATCHLINE STA. 196+50 S. OLD STATE ROAD SEE SHEET 59

192 1092 | 193 1093 | SECTION 3 / SECTION 4 | 194 1094 | 195 1095 | 196 1096

N 03° 09' 02" E

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

COMMERCIAL
175
ST. ANDREW'S ANGELICAN CHURCH
AN OHIO NOT-FOR-PROFIT CORPORATION
7521 S. OLD STATE ROAD
31842201004000

PHINNEY SUBDIVISON
P.B. 13, PAGE 14

COMMERCIAL
176
ST. ANDREW'S ANGELICAN CHURCH
AN OHIO NOT-FOR-PROFIT CORPORATION
7481 S. OLD STATE ROAD
31842201006000
LOT 400

REV. BY	DATE	DESCRIPTION
		DATE COMPLETED NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 191+50 TO STA. 196+50

DEL-CR10-0.90

2952-DR.E
57 / 72
422 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

FARM LOT 25
FARM LOT 24

VILLAGES OF OAK CREEK
PHASE 2
CB. 1, SLIDE 480

EX. UTILITY EASEMENT
C 1, SL 480

RESIDENTIAL
171
THE VILLAGES OF OAK CREEK
HOMEOWNERS' ASSOCIATION, INC.
GLADSHIRE BLVD.
31831103001000
(PART LOT 2454)

171-CH
171-T1
171-S2
171-T2

400.00'
N 03° 09' 02" E
400.00', S 03° 09' 02" W
459.31', N 03° 09' 02" E
459.31', S 03° 09' 02" W
N 86° 50' 58" W
S 86° 50' 58" E
N 03° 09' 02" E
65.00'
N 19° 28' 10" W
69.35'
S 53° 09' 02" W

192+50.00 70.00' LT
192+65.00 70.00' LT
193+40.99 80.00' LT
193+41.03 70.00' LT
193+50.00 80.00' LT
193+50.00 70.00' LT
196+50.00 85.00' LT
192+50.00 60.00' LT
192+65.00 60.00' LT
193+50.00 60.00' LT
195+90.00 60.00' LT
15.00' S 03° 09' 02" W
10.00' S 86° 50' 58" E

MATCHLINE STA. 191+50 S. OLD STATE ROAD SEE SHEET 56
MATCHLINE STA. 196+50 S. OLD STATE ROAD SEE SHEET 60

193+21.94
0.00' LT
193+21.83
30.00' RT
193+21.69
65.00' RT
193+21.65
75.00' RT
193+21.63
80.00' RT

281.45'
N 03° 09' 02" E
1109.26'
N 03° 09' 02" E
327.39'
N 03° 09' 02" E
326.16'
N 03° 09' 02" E
S 86° 37' 38" E
65.00'

SECTION 3
SECTION 4

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

Ex SH
Ex R/W
Ex U
SH
R/W
SL

35.00' N 86° 37' 38" W
10.00' N 86° 37' 38" W
15.00' S 86° 37' 38" E
281.51' S 03° 09' 02" W
90.00' S 03° 09' 02" W
191+60.00 70.00' RT
191+60.00 90.00' RT
192+50.00 70.00' RT
72.33' S 11° 5' 51" W
20.00' S 86° 50' 58" E
50.00' N 03° 09' 02" E
50.00' S 03° 09' 02" W
194+50.00 75.00' RT
194+50.00 90.00' RT
15.00' N 86° 50' 58" W
195+00.00 75.00' RT
195+00.00 90.00' RT
15.00' S 86° 50' 58" E
278.35' S 03° 09' 02" W
196+00.00 75.00' RT
47.54' S 09° 11' 17" W
15.01' S 84° 37' 30" E
196+47.27 80.00' RT
30.00' S 86° 50' 58" E
196+49.22 30.00' RT
35.03' S 84° 37' 30" E
196+47.86 65.00' RT

175-T
175-WD
176-WD
176-SL
176-T

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
171S2	EXISTING UTILITY 10' UTILITY EASEMENT	150.00
171T2	EXISTING UTILITY EASEMENTS (3)	1273.68
176WD	EXISTING UTILITY EASEMENTS (OHIO POWER)	1861.60
176SL	EXISTING UTILITY EASEMENTS (OHIO POWER)	934.03

COMMERCIAL
175
ST. ANDREW'S ANGELICAN CHURCH
AN OHIO NOT-FOR-PROFIT CORPORATION
7521 S. OLD STATE ROAD
31842201004000

PHINNEY SUBDIVISON
P.B. 13, PAGE 14

COMMERCIAL
176
ST. ANDREW'S ANGELICAN CHURCH
AN OHIO NOT-FOR-PROFIT CORPORATION
7481 S. OLD STATE ROAD
31842201006000
LOT 400

OHIO POWER COMPANY
DB 241, PG. 154
100'

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243
R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 191+50 TO STA. 196+50

DEL-CR10-0.90

2952-DR.E
58 / 72
423 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1, 2, 3 & 4, T3 - R-18
UNITED STATES MILITARY LANDS

VILLAGES OF OAK CREEK PHASE 2 CB. 1, SLIDE 480

EX. RETENTION POND

RETENTION POND

OPEN SPACE

177

THE BOARD OF TOWNSHIP TRUSTEES OF ORANGE TOWNSHIP, DELAWARE COUNTY, OHIO GLADSHIRE BOULEVARD, 31831103001001 (PART LOT 2454)

OHIO POWER COMPANY

100'

177-T2

177-SL

177-S

177-CH

171-T2

177-T1

2-RAIL FENCE

SAVE

TMP

ASPHALT

WOOD SIGN

CONSTRUCTION LIMITS

CONCRETE CHANNEL

RESIDENTIAL

187

FRED V. WHITE AND E. LOUISE WHITE AKA LOUISE H. WHITE 7338 S. OLD STATE ROAD 31824001030000 (NO TAKE)

E. ORANGE RD. (TR 114)

FARM LOT 23

FARM LOT 15

FARM LOT 1

SECTION 3

SECTION 2

SECTION 4

SECTION 1

PI Sta. 920+32.59

PI Sta. 1039+99.94

N 3° 09' 02" E

N 3° 00' 05" E

STA. 199+99.94 EXISTING ℄ R/W S. OLD STATE RD. = STA. 920+32.59 EXISTING ℄ R/W E. ORANGE RD.

EXISTING ℄ R/W S. OLD STATE RD. & PROPOSED ℄ CONSTR. S. OLD STATE RD

MATCHLINE STA. 196+50 S. OLD STATE ROAD SEE SHEET 57

MATCHLINE STA. 201+50 S. OLD STATE ROAD SEE SHEET 61

MATCHLINE STA. 922+00 E. ORANGE ROAD SEE SHEET 71

EXIST. STONE WALL (TO BE REMOVED)

188-SL1

188-SL2

188-WD

188-CH1

188-CH2

188-T

198-WD

198-T1

PHINNEY SUBDIVISON P.B. 13, PAGE 14

EX. SANITARY EASEMENT OR 581, PG 424

EX. WATERLINE EASEMENT DB 581, PG 488

UD OUTLET

4-RAIL WOOD FENCE

OPEN SPACE

198

THE BOARD OF TOWNSHIP TRUSTEES OF ORANGE TOWNSHIP, DELAWARE COUNTY, OHIO S. OLD STATE ROAD

31813301013000

31813301014000

RESIDENTIAL

188

BECKY A. CREIGHTON, TRUSTEE OR HER SUCCESSOR(S) AS TRUSTEES OF "THE YARNELL KEYSTONE INHERITANCE TRUST" DATED OCTOBER 26, 2010 2130 E. ORANGE ROAD 31842201005000 LOT 399

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET

0 10 20 40

R/W DESIGNER BLW
R/W REVIEWER DS

PID NO. 90243

RIGHT OF WAY TOPO SHEET
STA. 196+50 TO STA. 201+50

DEL-CR10-0.90

2952-DR.E

59 / 72

424 / 437

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R/W CURVE DATA

CURVE 177-1
R=30.00'
I=29° 43' 57"
A=15.57'
T=7.96'
L.CH.=15.39'
L.CH.BEAR.=S 11° 42' 57" E

VILLAGES OF OAK CREEK
PHASE 2
CB. 1, SLIDE 480

OPEN SPACE
177
Ex

DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1, 2, 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

30'

100'
OHIO POWER COMPANY
℄

THE BOARD OF TOWNSHIP TRUSTEES
OF ORANGE TOWNSHIP,
DELAWARE COUNTY, OHIO
GLADSHIRE BOULEVARD,
31831103001001
(PART LOT 2454)

177-T2
177-S
177-CH
177-T1
171-T2
177-SL

196+98.11
102.84' LT
14.62'
N 59° 27' 37" E
196+90.00
115.00' LT

197+50.00
95.00' LT
21.44'
N59°27'37"E

197+75.00
95.00' LT

198+00.60
80.00' LT

198+97.50
135.00' LT

199+45.57
135.00' LT

196+50.00
85.00' LT

TMP
N 33° 43' 10" W
50.00'

TMP
S 44° 42' 42" E
57.77'

CH
N 10° 53' 09" W
41.23'

TMP
S32°23'14"E
43.01'

25.00'

N3° 09' 02"E

N33°31'03"E
29.67'

CH
N 02° 37' 45" W
49.65'

CH
N 43° 19' 06" W
68.97'

TMP
N 03° 09' 02" E
48.07'

CH
N 86° 50' 58" W
75.00'

CH SW

SL
N 64° 40' 25" W
80.99'

SL
S 86° 34' 56" E
71.05'

20'
SAN.

℄ Ex R/W SW
℄ Ex R/W SW
℄ Ex R/W

222.50'
S 03° 09' 02" W

EX. UTILITY EASEMENT

C 1, SL 480

197+10.00
85.00' LT

198+97.50
60.00' LT

17.50'
S 03° 09' 02" W

199+15.00
60.00' LT

177-1
199+45.24
63.95' LT

199+30.36
60.00' LT

15.36'
S 03° 09' 02" W

196+75.00
60.00' LT
15.65'
S 03° 09' 02" W
196+59.35
60.00' LT

60'

Ex U

RESIDENTIAL
187

FRED V. WHITE AND E. LOUISE WHITE
AKA LOUISE H. WHITE
7338 S. OLD STATE ROAD
31824001030000
(NO TAKE)

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
177T1	EXISTING EASEMENTS	796.05
177T2	EXISTING EASEMENTS	1656.31
177CH	EXISTING EASEMENTS	2938.94
177CH	EXISTING EASEMENTS	6633.59
177SW	EXISTING EASEMENTS	2938.94
177SL	EXISTING EASEMENTS	783.76
188T	EXISTING EASEMENTS	2609.93
188WD	EXISTING EASEMENTS	2839.18
188SL	EXISTING EASEMENTS	69.59
188CH	EXISTING EASEMENTS	402.59

E. ORANGE RD. (TR 114) 919
Sta. 199+99.94
SECTION 3
SECTION 2
FARM LOT 23
FARM LOT 23
55'
30'
Ex SH

MATCHLINE STA. 196+50 S. OLD STATE ROAD SEE SHEET 58

MATCHLINE STA. 201+50 S. OLD STATE ROAD SEE SHEET 62

350.72'
176-WD

197
1097
198
1098
199
1099
200
1100
201
1101

N 3° 09' 02" E
SECTION 3
SECTION 4
SECTION 2
SECTION 1
PI Sta. 920+32.59
N 3° 00' 05" E

199+99.94
PROP. MON.
30.20'
188-WD
84.99'
N 86° 28' 33" W

STA. 199+99.94 EXISTING ℄ R/W S. OLD STATE RD. =
STA. 920+32.59 EXISTING ℄ R/W E. ORANGE RD.

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

320.53'
N 03° 09' 02" E

EX. WATERLINE
EASEMENT
DB 581, PG 428

199+69.74
30.00' RT

30.00'
S86°50'58"E

85.00'
S 86° 28' 33" E

FARM LOT 1
FARM LOT 15

PI Sta. 1099+99.94

15.05'
S 86° 28' 33" E

200+59.17
85.05' RT
10.00'
N 03° 03' 57" E

200+59.30
70.00' RT

201+23.89
70.00' RT

EX. WATERLINE
EASEMENT
DB 581, PG 421

12'

197+00.00
65.00' RT
5.00'
N 86° 51' 26" W

197+55.93
65.00' RT

Ex SH
R/W
52.14', N 03° 09' 02" E
55.93', N 03° 09' 02" E
N 03° 09' 02" E
40.15'
252.14', S 03° 09' 02" W
103.92', N 03° 09' 02" E
R/W

197+96.08
65.00' RT
30.11'
S 88° 09' 02" W

199+00.00
65.00' RT

85.37'
51.22', N39°00'14"E
R/W
S 39°00'14" W

199+99.39
84.99' RT
199+49.28
100.61' RT
199+69.19
115.00' RT

R/W
60.00'
S 03° 03' 57" W

90.69'
N 03° 00' 05" E

201+50.00
70.00' RT

201+23.61
100.00' RT

90.97'
S 03° 00' 05" W

201+50.00
100.00' RT

200+39.17
85.03' RT
10.00'
N03°03'57"E
200+49.17
85.04' RT

200+59.03
100.00' RT

188-SL1
188-SL2
188-WD
188-CH1
188-CH2
188-T
198-WD
198-T1

63.67'
S 26° 16' 16" W
115.13'
S 16° 03' 29" W

197+00.00
70.00' RT
197+58.55
95.00' RT
10.76'
N 88° 09' 02" E
197+59.49
105.72' RT
197+61.62
130.00' RT

30.11'
S88°09'2"W

40'
DRAINAGE AND SANITARY
EASEMENT - PB 13, PG 114

142.81'
S 03° 09' 02" W
20.08'
S 88° 09' 02" W
198+00.46
115.00' RT
148.73'
S 03° 09' 02" W

65.25', N88°09'2"E

65.25', S88°09'2"W

TMP
40.15'
S 03° 09' 02" W

198+01.77
130.00' RT

199+41.51
95.00' RT
9.59'
N 39° 00' 14" E
14.39'
S 86° 28' 33" E

EX. SANITARY EASEMENT
OR 581, PG 424

199+49.19
115.00' RT

232.74'
N 86° 28' 33" W

217.95'
S 86° 28' 33" E

30.00'
S86°59'55"E
232.82'

TMP
S 86° 28' 33" E

RESIDENTIAL
188

BECKY A. CREIGHTON,
TRUSTEE OR HER SUCCESSOR(S) AS
TRUSTEES OF "THE YARNELL
KEYSTONE INHERITANCE TRUST"
DATED OCTOBER 26, 2010
2130 E. ORANGE ROAD
31842201005000
LOT 399

PHINNEY SUBDIVISON
P.B. 13, PAGE 14

198

THE BOARD OF TOWNSHIP TRUSTEES
OF ORANGE TOWNSHIP,
DELAWARE COUNTY, OHIO
S. OLD STATE ROAD

OPEN SPACE

31813301013000

31813301014000

30'
50'
40'

MATCHLINE STA. 922+00 E. ORANGE ROAD SEE SHEET 72

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 196+50 TO STA. 201+50

DEL-CR10-0.90

2952-DR.E

60 / 72

425 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1 & 2, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
(187)
FRED V. WHITE AND E. LOUISE WHITE
AKA LOUISE H. WHITE
7338 S. OLD STATE ROAD
31824001030000
(NO TAKE)

EX. POND

2-STORY FRAME

2-STORY FRAME BARN

CONSTRUCTION LIMITS

SAVE

+90.74 ASPH. RES. DRIVE

MATCHLINE STA. 201+50 S. OLD STATE ROAD SEE SHEET 59

MATCHLINE STA. 206+50 S. OLD STATE ROAD SEE SHEET 63

Ex SH

12" A.C.

202 1102

203 1103

204 1104

SECTION 2
SECTION 1

205 1105

206 1106

N 03° 00' 05" E

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

WOOD SIGN DND

48" 10" YELLOWMINE CASING

6" YELLOWMINE CASING

+74.14 ASPH. COM. DRIVE

+59.80 CONC. COM. DRIVE

+82.97 CONC. COM. DRIVE

EX. ASPHALT

EX. ASPHALT PATH

FLAG POLE WITH LIGHTS
(TO BE REMOVED BY OTHERS)

12" CPP STM

Ex R/W

R/W

TMP

198-WD

198-T2

CONCRETE

4"

1-STORY FRAME

ASPHALT

COMMERCIAL
(198)
THE BOARD OF TOWNSHIP TRUSTEES OF ORANGE TOWNSHIP,
DELAWARE COUNTY, OHIO
7307 S. OLD STATE ROAD
31813301013000

(199) OPEN SPACE
ABBEY KNOLL HOMEOWNERS ASSOCIATION, INC.
AN OHIO NOT-FOR-PROFIT CORPORATION
7197 S. OLD STATE ROAD
31813314001000
LOT 5096

ABBEY KNOLL SECTION 2
CAB. 2, SLIDE 456

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 201+50 TO STA. 206+50

DEL-CR10-0.90

2952-DR.E

61 / 72

426
437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1 & 2, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
187
FRED V. WHITE AND E. LOUISE WHITE
AKA LOUISE H. WHITE
7338 S. OLD STATE ROAD
31824001030000
(NO TAKE)

MATCHLINE STA. 201+50 S. OLD STATE ROAD SEE SHEET 60

MATCHLINE STA. 206+50 S. OLD STATE ROAD SEE SHEET 64

Ex SH — Ex SH — Ex SH — Ex SH — Ex SH

30′

60′

202 *1102* — *203* *1103* — *539.10′ N 03° 00′ 05″ E* — *N 03° 00′ 05″ E* — *204* *1104* — *SECTION 2 SECTION 1* — *205* *1105* — *206* *1106*

℄ — ℄ — ℄

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

205+39.04
0.00′ LT

R/W

70.18′ N88° 54′ 26″E

205+43.34
60.00′ RT

Ex SH — Ex SH — Ex SH — Ex SH — Ex R/W

R/W — *R/W* — *484.75′, S 03° 00′ 05″ W*
304.05′, N 03° 00′ 05″ E — *R/W* — *R/W*

I.P.S.

TMP

201+50.00
70.00′ RT

202+40.00
70.00′ RT

25.00′
N 86° 59′ 55″ W

202+40.00
95.00′ RT

TMP

TMP — *165.00′ S 03° 00′ 05″ W* — *TMP*

198-WD

198-T2

204+05.00
90.00′ RT

TMP — *140.48′ S 03° 00′ 05″ W* — *TMP*

5.00′ S 86° 59′ 55″ E

204+05.00
95.00′ RT

205+45.48
90.00′ RT

TMP

205+44.05
70.00′ RT

20.05′ N 88° 54′ 26″ E

199
OPEN SPACE
ABBEY KNOLL HOMEOWNERS ASSOCIATION, INC.
AN OHIO NOT-FOR-PROFIT CORPORATION
7197 S. OLD STATE ROAD
31813314001000
LOT 5096

COMMERCIAL
198
THE BOARD OF TOWNSHIP TRUSTEES OF ORANGE TOWNSHIP,
DELAWARE COUNTY, OHIO
7307 S. OLD STATE ROAD
31813301013000

ABBEY KNOLL SECTION 2
CAB. 2, SLIDE 456

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 201+50 TO STA. 206+50

DEL-CR10-0.90

2952-DR.E

62 / 72

427 / 437

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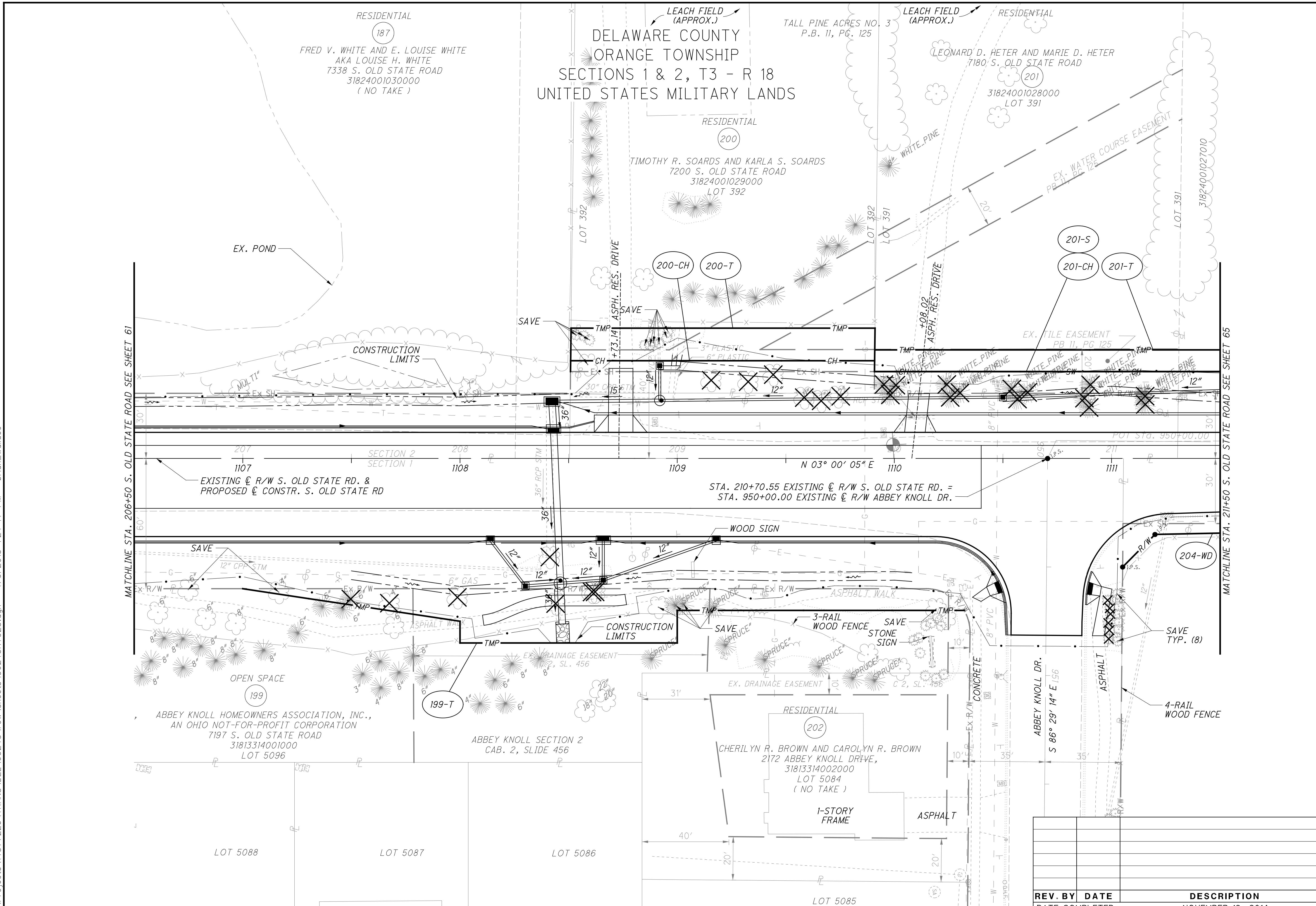

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REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 206+50 TO STA. 211+50

DEL-CR10-0.90

2952-DR.E

63/72

R/W CURVE DATA

CURVE 199-1
R=20.00'
I=60° 00' 0"
A=20.94'
T=11.55'
L.CH.=20.00'
L.CH.BEAR.=N 33° 00' 05" E

UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
199T	EXISTING DRAINAGE EASEMENT	2938.74
199T	EXISTING 10' GENERAL EASEMENT	60.63
200CH	EXISTING UTILITY EASEMENTS	699.92
200T	EXISTING UTILITY EASEMENTS	1127.91
201CH	EXISTING 20' TILE EASEMENT	1400.11
201S	PROPOSED 201CH	1700.13
201S	EXISTING 10' UTILITY EASEMENT	1400.11
201T	EXISTING UTILITY EASEMENT	1400.11

RESIDENTIAL
(187)
FRED V. WHITE AND E. LOUISE WHITE
AKA LOUISE H. WHITE
7338 S. OLD STATE ROAD
31824001030000
(NO TAKE)

DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1 & 2, T3 - R 18
UNITED STATES MILITARY LANDS

TALL PINE ACRES NO. 3
P.B. 11, PG. 125

RESIDENTIAL
LEONARD D. HETER AND MARIE D. HETER
7180 S. OLD STATE ROAD
(201)
31824001028000
LOT 391

RESIDENTIAL
(200)
TIMOTHY R. SOARDS AND KARLA S. SOARDS
7200 S. OLD STATE ROAD
31824001029000
LOT 392

EX. WATER COURSE EASEMENT
PB 11, PG 125
20'
LOT 392
LOT 391
LOT 391
31824001027010

MATCHLINE STA. 206+50 S. OLD STATE ROAD SEE SHEET 62

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

STA. 210+70.55 EXISTING ℄ R/W S. OLD STATE RD. =
STA. 950+00.00 EXISTING ℄ R/W ABBEY KNOLL DR.

MATCHLINE STA. 211+50 S. OLD STATE ROAD SEE SHEET 66

200-CH
200-T
201-S
201-CH
201-T
199-T
204-WD

208+51.14
60.00' LT
15.00'
N 86° 17' 47" W
208+50.96
45.00' LT
5.00'
N 86° 17' 47" W
208+50.89
40.00' LT

139.98'
N 03° 00' 05" E
139.98'
S 03° 00' 05" W

209+91.12
60.00' LT
15.00'
S 86° 17' 47" E
209+91.00
50.00' LT
170.01'
N 03° 00' 05" E
170.01', S 03° 00' 05" W
170.01', N 03° 00' 05" E
170.01'
S 03° 00' 05" W

EX. TILE EASEMENT
PB 11, PG 125

209+90.94
45.00' LT
5.00'
S 86° 17' 47" E
209+90.88
40.00' LT
N 03° 00' 05" E

10.00'
N 86° 17' 47" W
10.00'
N 86° 17' 47" W
209+90.76
30.00' LT

211+30.77
30.00' LT
POT Sta. 950+00.00
35.00'
204-WD
211+05.55
0.00' RT
211+20.00
35.00' RT
50.00'
N 86° 29' 14" W
211+05.11
50.00' RT
21.14'
S 42° 12' 15" E

207+00.00
60.00' RT
101.12'
S 11° 31' 56" W
208+00.00
75.00' RT
10.00'
N 86° 59' 55" W
208+00.00
85.00' RT
100.00'
S 03° 00' 05" W
209+00.00
70.00' RT
15.00'
S 86° 59' 55" E
209+00.00
85.00' RT
EX. DRAINAGE EASEMENT
C 2, SL. 456

210+14.84
60.00' RT
314.84'
N 03° 00' 05" E
132.16'
S 03° 00' 05" W
210+32.16
70.00' RT

EX. DRAINAGE EASEMENT
C 2, SL. 456

OPEN SPACE
(199)
ABBEY KNOLL HOMEOWNERS ASSOCIATION, INC.,
AN OHIO NOT-FOR-PROFIT CORPORATION
7197 S. OLD STATE ROAD
31813314001000
LOT 5096

ABBEY KNOLL SECTION 2
CAB. 2, SLIDE 456

RESIDENTIAL
(202)
CHERILYN R. BROWN AND CAROLYN R. BROWN
2172 ABBEY KNOLL DRIVE,
31813314002000
LOT 5084
(NO TAKE)

ABBEY KNOLL DR.
S 86° 29' 14" E

LOT 5088
LOT 5087
LOT 5086
LOT 5085

SECTION 2
SECTION 1

207 1107 | 208 1108 | 209 1109 | 210 1110 | 211 1111

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243
R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 206+50 TO STA. 211+50

DEL-CR10-0.90

2952-DR.E
64/72
429/437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1 & 2, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
201
LEONARD D. HETER AND
MARIE D. HETER
7180 S. OLD STATE ROAD
31824001028000
LOT 391

31824001027009

RESIDENTIAL
205
MEHMET G. BASARAN AND KATHY L. BASARAN
7130 S OLD STATE RD
31824001026000

1 1/2-STORY
FRAME

1-STORY
FRAME
TALL PINE ACRES
P.B. 9, PG. 199

RESIDENTIAL
206
DENNIS M. SUCH AND SHELLEY L. SUCH
7110 S. OLD STATE ROAD
31824001024000
LOT 373

1-STORY
FRAME
RESIDENTIAL
207
CHARLES J. KESLER
7080 S. OLD STATE ROAD
31824001023000
LOT 372
(NO TAKE)

END ACQUISITION
STA. 215+30.76

END WORK
STA. 215+61

201-T
201-S
201-CH
205-CH
205-S
206-S
206-CH
SAVE
+92.71
AGGR. RES. DRIVE
LEACH FIELD
(APPROX.)
ASPHALT
CONSTRUCTION
LIMITS
MULTI" WHITE PINE
MULTI" MAPLE
WHITE PINE
SPRUCE
OAK
CH
SW
12"
Ex SH
Ex R/W
12" CMP STM
12" RCP STM
30'
R/W
P.O.S.

MATCHLINE STA. 211+50 S. OLD STATE ROAD SEE SHEET 63

212 1112
213 1113
214 1114
215 1115
216 1116
SECTION 2
SECTION 1
N 3° 00' 05" E

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

4-RAIL WOOD FENCE
204-WD
GRAVEL
GATE
36"
123

RESIDENTIAL
204
C. E. MAINOUS, TRUSTEE
7085 S. OLD STATE ROAD
31813301009000

METAL BARN
FARM LOT 15
FARM LOT 16
LEACH FIELD
(APPROX.)

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 211+50 TO STA. 216+50

DEL-CR10-0.90

2952-DR.E
65 / 72
430 / 437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1 & 2, T3 - R 18
UNITED STATES MILITARY LANDS

RESIDENTIAL
(201)
LEONARD D. HETER AND
MARIE D. HETER
7180 S. OLD STATE ROAD

31824001028000
LOT 391

31824001027009

RESIDENTIAL
(205)
MEHMET G. BASARAN AND KATHY L. BASARAN
7130 S OLD STATE RD
31824001026000

TALL PINE ACRES
P.B. 9, PG. 199

RESIDENTIAL
(206)
DENNIS M. SUCH AND SHELLEY L. SUCH
7110 S. OLD STATE ROAD
31824001024000
LOT 373

RESIDENTIAL
(207)
CHARLES J. KESLER
7080 S. OLD STATE ROAD
31824001023000
LOT 372
(NO TAKE)

201-T
201-S
201-CH
205-CH
205-S
206-S
206-CH

211+61.01
50.00' LT
10.00'
S 86° 17' 47" E
211+60.95
45.00' LT
5.00'
N 86° 17' 47" W
211+60.89
40.00' LT
10.00'
N 86° 17' 47" W
211+60.77
30.00' LT

249.80'
N 03° 00' 05" E
249.80'
S 03° 00' 05" W

214+10.75
45.00' LT
5.00'
S 86° 17' 47" E
214+10.69
40.00' LT
10.00'
S 86° 17' 47" E
214+10.57
30.00' LT

15.00'
S 86° 17' 47" E
24.31'
N 03° 00' 05" E
214+35.00
40.00' LT
120.06'
S 03° 00' 05" W
10.00'
S 86° 59' 55" E
214+35.00
30.00' LT
24.43'
S 03° 00' 05" W

120.07'
N 03° 00' 05" E
215+30.76
40.00' LT
10.00'
S 86° 12' 25" E
215+30.62
30.00' LT

MATCHLINE STA. 211+50 S. OLD STATE ROAD SEE SHEET 64

Ex SH
Ex R/W
SECTION 2
SECTION 1

212
1112
213
1113
214
1114
215
1115
216
1116

251.47'
N 03° 00' 05" E
N 3° 00' 05" E

213+57.02
0.00' RT
214+00.00
PROP. MON.

EXISTING ℄ R/W S. OLD STATE RD. &
PROPOSED ℄ CONSTR. S. OLD STATE RD

30'
30'
30.00'
S86° 46' 05"E
R/W

236.95'
S 01° 47' 32" W
R/W

213+56.90
30.00' RT

204-WD

RESIDENTIAL
(204)
C. E. MAINOUS, TRUSTEE
7085 S. OLD STATE ROAD
31813301009000

FARM LOT 15
FARM LOT 16

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 211+50 TO STA. 216+50

DEL-CR10-0.90

2952-DR.E

66 / 72

431 / 437

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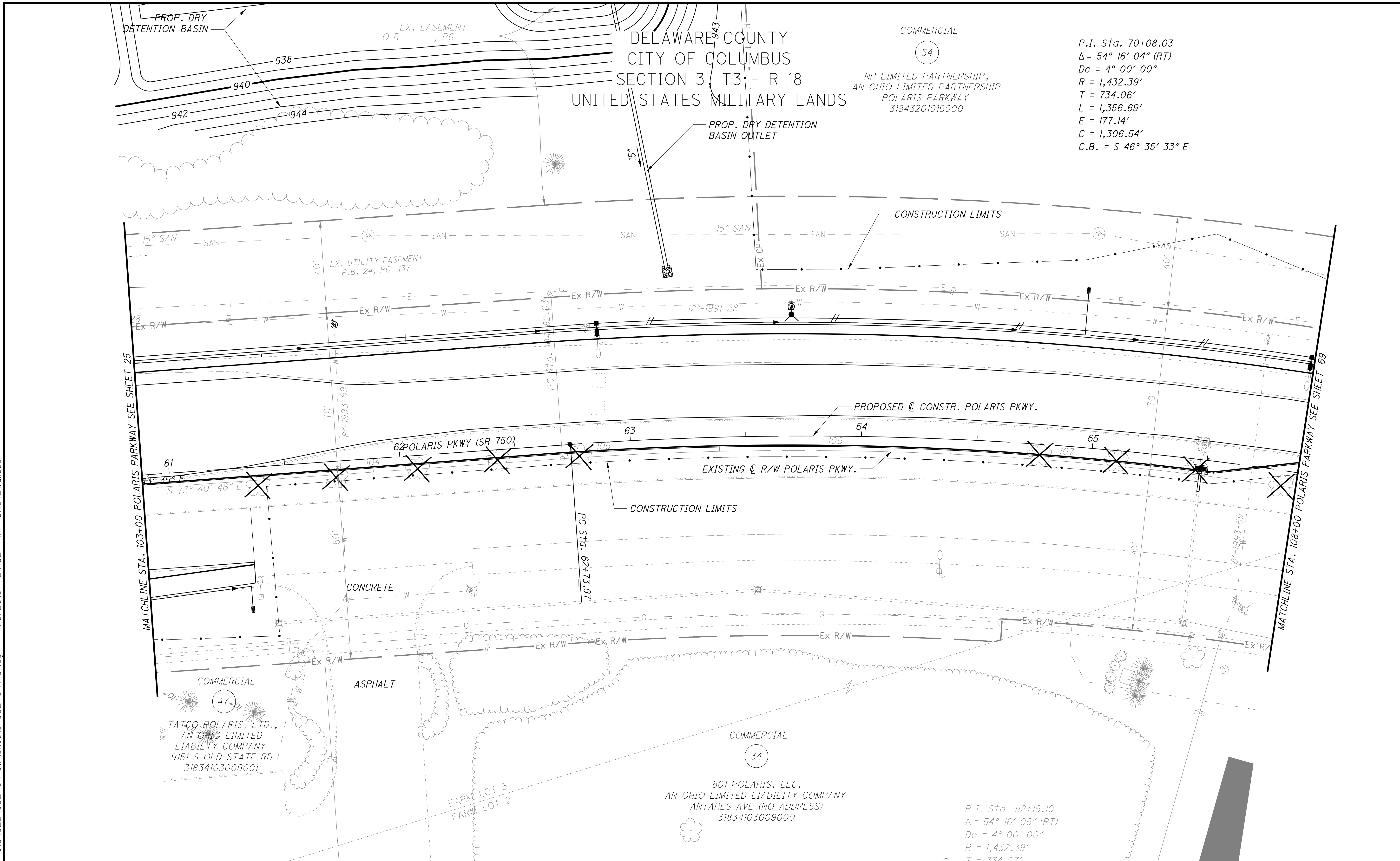
DELAWARE COUNTY
CITY OF COLUMBUS
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS
PROP. DRY DETENTION BASIN
EX. EASEMENT O.R. ____, PG. ____
938
940
942
944
943
PROP. DRY DETENTION BASIN OUTLET
15"
COMMERCIAL
54
NP LIMITED PARTNERSHIP, AN OHIO LIMITED PARTNERSHIP
POLARIS PARKWAY
31843201016000
P.I. Sta. 70+08.03
Δ = 54° 16' 04" (RT)
Dc = 4° 00' 00"
R = 1,432.39'
T = 734.06'
L = 1,356.69'
E = 177.14'
C = 1,306.54'
C.B. = S 46° 35' 33" E
CONSTRUCTION LIMITS
15" SAN
SAN
EX. UTILITY EASEMENT P.B. 24, PG. 137
40'
Ex R/W
12"-1991-28
PC Sta. 114+82.03
PROPOSED ℄ CONSTR. POLARIS PKWY.
61
62
63
64
65
104
105
106
107
POLARIS PKWY (SR 750)
S 73° 40' 46" E
EXISTING ℄ R/W POLARIS PKWY.
CONSTRUCTION LIMITS
PC Sta. 62+73.97
70'
80'
8"-1993-69
MATCHLINE STA. 103+00 POLARIS PARKWAY SEE SHEET 25
MATCHLINE STA. 108+00 POLARIS PARKWAY SEE SHEET 69
CONCRETE
ASPHALT
COMMERCIAL
47
TATCO POLARIS, LTD., AN OHIO LIMITED LIABILITY COMPANY
9151 S OLD STATE RD
31834103009001
COMMERCIAL
34
801 POLARIS, LLC, AN OHIO LIMITED LIABILITY COMPANY
ANTARES AVE (NO ADDRESS)
31834103009000
FARM LOT 3
FARM LOT 2
P.I. Sta. 112+16.10
Δ = 54° 16' 06" (RT)
Dc = 4° 00' 00"
R = 1,432.39'
T = 734.07'
L = 1,356.70'
E = 177.14'
C = 1,306.56'
C.B. = S 46° 32' 43" E

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 103+00 TO STA. 108+00

DEL-CR10-0.90

2952-DR.E

67/72

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DELAWARE COUNTY
CITY OF COLUMBUS
SECTION 3, T3 - R 18
UNITED STATES MILITARY LANDS

EX. EASEMENT
O.R. _____, PG. _____

EX. UTILITY EASEMENT
P.B. 24, PG. 137

Ex CH

Ex R/W

℄

40'

70'

80'

PC Sta. 104+82.03 P.S.

PC Sta. 62+73.97

PROPOSED ℄ CONSTR. POLARIS PKWY.

EXISTING ℄ R/W POLARIS PKWY.

POLARIS PKWY (SR 750)

61 62 63 64 65

104 105 106 107

S 73° 40' 46" E

MATCHLINE STA. 103+00 POLARIS PARKWAY SEE SHEET 26

MATCHLINE STA. 108+00 POLARIS PARKWAY SEE SHEET 70

COMMERCIAL
54
NP LIMITED PARTNERSHIP,
AN OHIO LIMITED PARTNERSHIP
POLARIS PARKWAY
31843201016000

P.I. Sta. 70+08.03
Δ = 54° 16' 04" (RT)
Dc = 4° 00' 00"
R = 1,432.39'
T = 734.06'
L = 1,356.69'
E = 177.14'
C = 1,306.54'
C.B. = S 46° 35' 33" E

COMMERCIAL
47
TATCO POLARIS, LTD.,
AN OHIO LIMITED
LIABILTY COMPANY
9151 S OLD STATE RD
31834103009001

FARM LOT 3
FARM LOT 2

COMMERCIAL
34
801 POLARIS, LLC,
AN OHIO LIMITED LIABILITY COMPANY
ANTARES AVE (NO ADDRESS)
31834103009000

P.I. Sta. 112+16.10
Δ = 54° 16' 06" (RT)
Dc = 4° 00' 00"
R = 1,432.39'
T = 734.07'
L = 1,356.70'
E = 177.14'
C = 1,306.56'
C.B. = S 46° 32' 43" E

UTILITY EASEMENT OVERLAP DATA

PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
54T	EXISTING 40' UTILITY EASEMENT	20,820

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY PLAN
STA. 103+00 TO STA. 108+00

DEL-CR10-0.90

2952-DR.E

68 / 72

433
437

COMMERCIAL
54

DELAWARE COUNTY
CITY OF COLUMBUS
SECTIONS 1, 2, 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

SECTION 3
SECTION 4

P.I. Sta. 70+08.03
Δ = 54° 16′ 04″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 734.06′
L = 1,356.69′
E = 177.14′
C = 1,306.54′
C.B. = S 46° 35′ 33″ E

CONSTRUCTION LIMITS

EX. UTILITY EASEMENT
P.B. 24, PG. 137

15″ SAN

SAN

Ex R/W

12″-1991-28

MATCHLINE STA. 108+00 POLARIS PARKWAY SEE SHEET 67

PROPOSED ℄ CONSTR. POLARIS PKWY.

EXISTING ℄ R/W POLARIS PKWY.

POLARIS PKWY (SR 750)

66 67 68 69 70

109 110 111 112

CONSTRUCTION LIMITS

8″-1993-69

70′

CONCRETE

ASPHALT

P.I. Sta. 112+16.10
Δ = 54° 16′ 06″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 734.07′
L = 1,356.70′
E = 177.14′
C = 1,306.56′
C.B. = S 46° 32′ 43″ E

COMMERCIAL
BRICK

COMMERCIAL
49
LARRY KING FAMILY LIMITED PARTNERSHIP,
AN OHIO LIMITED PARTNERSHIP
AND WINKS FAMILY LIMITED PARTNERSHIP,
AN OHIO LIMITED PARTNERSHIP
901 POLARIS PARKWAY
31834103010004
(NO TAKE)

COMMERCIAL
50
KGL, LTD. AN OHIO
LIMITED PARTNERSHIP
909 POLARIS PARKWAY
31834103010008
(NO TAKE)

COMMERCIAL
FRAME

COMMERCIAL
51
MAHNEZ SABERI AND BEHROOZ SABERI,
TRUSTEES ON BEHALF OF
THE SABERI FAMILY TRUST
921 POLARIS PARKWAY
31834103010010
(NO TAKE)

COMMERCIAL
FRAME

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 108+00 TO STA. 113+00
DEL-CR10-0.90

2952-DR.E

69 / 72

434
437

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DELAWARE COUNTY
CITY OF COLUMBUS
SECTIONS 3 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

COMMERCIAL
54

SECTION 3
SECTION 4

P.I. Sta. 70+08.03
Δ = 54° 16′ 04″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 734.06′
L = 1,356.69′
E = 177.14′
C = 1,306.54′
C.B. = S 46° 35′ 33″ E

EX. UTILITY EASEMENT
P.B. 24, PG. 137

40′

Ex R/W
Ex R/W
Ex R/W
Ex R/W

70′

PROPOSED ℄ CONSTR. POLARIS PKWY.
EXISTING ℄ R/W POLARIS PKWY.

MATCHLINE STA. 108+00 POLARIS PARKWAY SEE SHEET 68

POLARIS PKWY (SR 750)

66 67 68 69 70
108 109 110 111 112

70′

Ex R/W
Ex R/W
Ex R/W
Ex R/W

℄

℄

P.I. Sta. 112+16.10
Δ = 54° 16′ 06″ (RT)
Dc = 4° 00′ 00″
R = 1,432.39′
T = 734.07′
L = 1,356.70′
E = 177.14′
C = 1,306.56′
C.B. = S 46° 32′ 43″ E

COMMERCIAL
49

LARRY KING FAMILY LIMITED PARTNERSHIP,
AN OHIO LIMITED PARTNERSHIP
AND WINKS FAMILY LIMITED PARTNERSHIP,
AN OHIO LIMITED PARTNERSHIP
901 POLARIS PARKWAY
31834103010004
(NO TAKE)

COMMERCIAL
50

KGL, LTD. AN OHIO
LIMITED PARTNERSHIP
909 POLARIS PARKWAY
31834103010008
(NO TAKE)

COMMERCIAL
51

MAHNEZ SABERI AND BEHROOZ SABERI,
TRUSTEES ON BEHALF OF
THE SABERI FAMILY TRUST
921 POLARIS PARKWAY
31834103010010
(NO TAKE)

REV. BY	DATE	DESCRIPTION

DATE COMPLETED NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 108+00 TO STA. 113+00

DEL-CR10-0.90

2952-DR.E

70 / 72

435
437

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DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

OPEN SPACE
198

THE BOARD OF TOWNSHIP TRUSTEES
OF ORANGE TOWNSHIP,
DELAWARE COUNTY, OHIO
S. OLD STATE ROAD
31813301013000

THE BOARD OF TOWNSHIP TRUSTEES
OF ORANGE TOWNSHIP,
DELAWARE COUNTY, OHIO
E. ORANGE ROAD
31813301017001

31813301014000

GRAVEL

1-STORY FRAME

CONC. WALK

BRICK WALK

198-CH

198-T1

198-S

GRAVEL

CONSTRUCTION LIMITS

TMP

CH

SW

ASPHALT

EX. WATERLINE EASEMENT DB 581, PG.421

Ex SH

18"

12"

MATCHLINE STA. 922+00 E. ORANGE ROAD SEE SHEET 59

SECTION 1

SECTION 4

923

924

925

926

FARM LOT 15

FARM LOT 1

E. ORANGE RD. (TR 114)

EXISTING ℄ R/W E. ORANGE RD.

50'

55'

130'

40'

SAN

EX. SANITARY EASEMENT OR 581, PG 424

DRAINAGE AND SANITARY EASEMENT - PB 13, PG 114

PHINNEY SUBDIVISON
P.B. 13, PAGE 14

RESIDENTIAL

188

BECKY A. CREIGHTON,
TRUSTEE OR HER SUCCESSOR(S) AS
TRUSTEES OF "THE YARNELL KEYSTONE INHERITANCE TRUST"
DATED OCTOBER 26, 2010
2130 E. ORANGE ROAD
31842201005000
LOT 399

2-STORY FRAME

1-STORY FRAME

CONCRETE

ASPHALT

2-STORY FRAME

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY TOPO SHEET
STA. 922+00 TO STA. 927+00

DEL-CR10-0.90

2952-DR.E

71 / 72

436
437

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UTILITY EASEMENT OVERLAP DATA		
PARCEL	OVERLAP DESCRIPTION	AREA (SQ FT)
198CH	EXISTING 10' WATERLINE EASEMENT	249.03
198S	EXISTING 10' WATERLINE EASEMENT	249.03
198S	PROPOSED 198S	2327.79

DELAWARE COUNTY
ORANGE TOWNSHIP
SECTIONS 1 & 4, T3 - R 18
UNITED STATES MILITARY LANDS

OPEN SPACE
(198)

THE BOARD OF TOWNSHIP TRUSTEES
OF ORANGE TOWNSHIP,
DELAWARE COUNTY, OHIO
S. OLD STATE ROAD
31813301013000

THE BOARD OF TOWNSHIP TRUSTEES
OF ORANGE TOWNSHIP,
DELAWARE COUNTY, OHIO
E. ORANGE ROAD
31813301017001

31813301014000

198-CH
198-T1
198-S

923+50.00
60.00' LT
10.00'
S 03° 31' 27" W
923+50.00
50.00' LT
10.00'
S 03° 31' 27" W
923+50.00
40.00' LT

217.95'
S 86° 28' 33" E
TMP
CH
232.82'
S 86° 28' 33" E
SW
232.74'
N 86° 28' 33" W

EX. WATERLINE
EASEMENT
DB 581, PG.421

Ex SH
12'
40'
50'
30'
55'

SECTION 1
SECTION 4
923
924
925
926
FARM LOT 15
FARM LOT 1
E. ORANGE RD. (TR 114)
EXISTING ℄ R/W E. ORANGE RD.

MATCHLINE STA. 922+00 E. ORANGE ROAD SEE SHEET 60

EX. SANITARY EASEMENT
OR 581, PG 424

DRAINAGE AND SANITARY
EASEMENT - PB 13, PG 114

PHINNEY SUBDIVISON
P.B. 13, PAGE 14

RESIDENTIAL

(188)

BECKY A. CREIGHTON,
TRUSTEE OR HER SUCCESSOR(S) AS
TRUSTEES OF "THE YARNELL KEYSTONE INHERITANCE TRUST"
DATED OCTOBER 26, 2010
2130 E. ORANGE ROAD
31842201005000
LOT 399

P.F.
I.P.F.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED		NOVEMBER 19, 2014

HORIZONTAL SCALE IN FEET
0 10 20 40

PID NO. 90243

R/W DESIGNER BLW
R/W REVIEWER DS

RIGHT OF WAY BOUNDARY SHEET
STA. 922+00 TO STA. 927+00

DEL-CR10-0.90

2952-DR.E

72 / 72

437 / 437

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