

GUARDRAIL IMPROVEMENTS - PHASE I

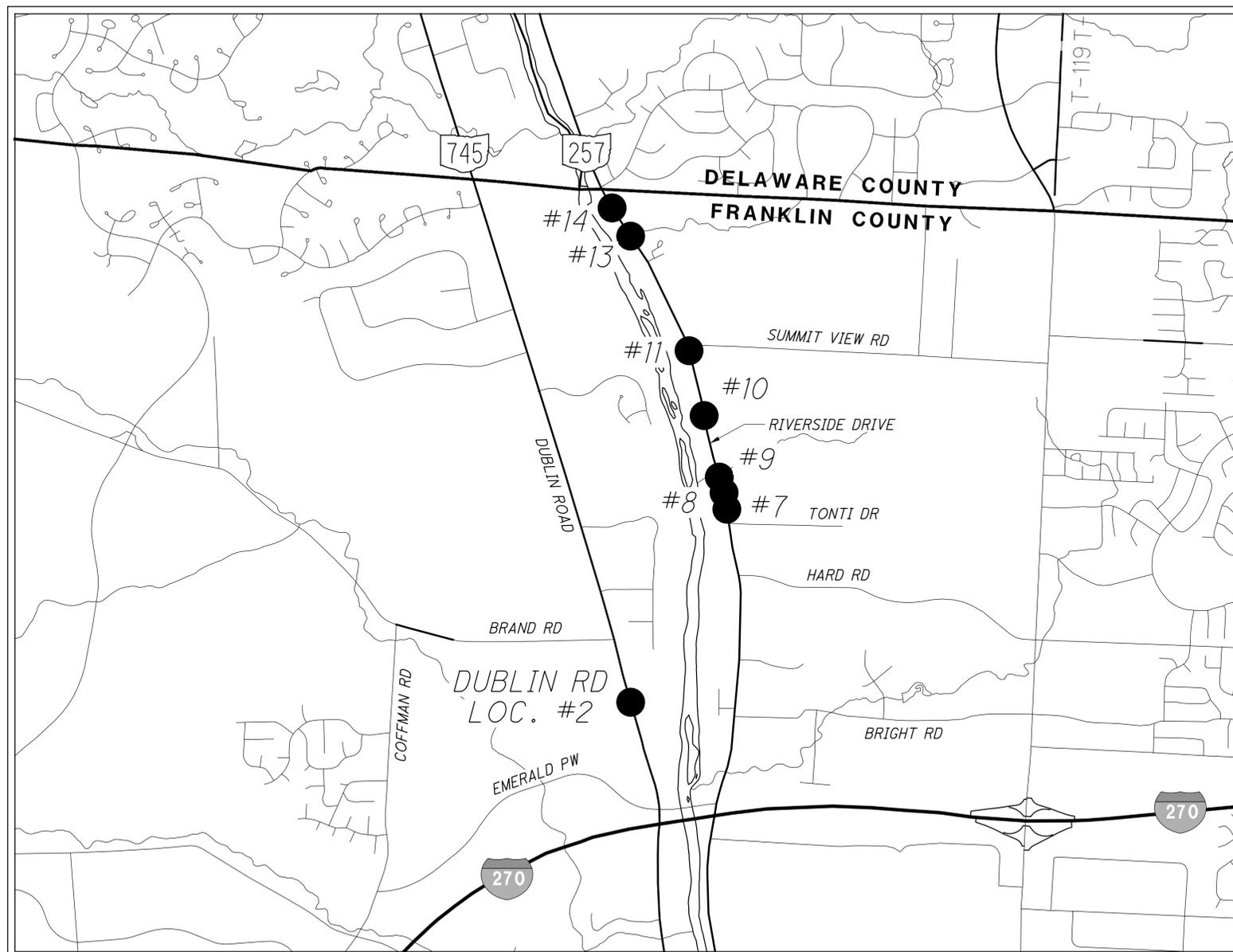
RIVERSIDE DRIVE AND DUBLIN ROAD



SIGNATURES BELOW SIGNIFY ONLY CONCURRENCE WITH THE GENERAL PURPOSES AND GENERAL LOCATION OF THE PROJECT AND DOES NOT CONSTITUTE ASSURANCE TO OPERATE AS INTENDED. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE PROFESSIONAL CIVIL ENGINEER PREPARING THE PLANS.

APPROVED:

CITY ENGINEER, CITY OF DUBLIN, OHIO DATE



● - DENOTES LOCATION OF PROJECT

VICINITY MAP
N.T.S.

INDEX OF SHEETS

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1-800-362-2764
CALL TWO WORKING DAYS BEFORE YOU DIG
(NON MEMBERS MUST BE CALLED DIRECTLY)

PLAN PREPARED BY:

E. P. FERRIS
AND ASSOCIATES
INC.

CONSULTING CIVIL ENGINEERS AND SURVEYORS
880 KING AVENUE
COLUMBUS, OHIO 43212
(614) 299-2999 Fax (614) 299-2992

ENGINEERS SEAL:	STANDARD CONSTRUCTION DRAWINGS				CITY OF COLUMBUS	SPECIAL PROVISIONS	SUPPLEMENTAL SPECIFICATIONS
 SIGNED: _____ DATE: _____	DM-1.1	1-18-13	RM-4.2	6-4-14			800 10-16-15
	HW-2.2	7-17-15	TC-41.20	10-18-13			
	MGS-1.1	7-19-13	TC-42.20	10-18-13			
	MGS-2.1	7-19-13	TC-61.30	7-18-14			
	MGS-4.2	7-19-13					
	MT-95.31	7-18-14					
	MT-95.50	10-16-15					
	MT-97.10	7-18-14					

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT

NONE

GUARDRAIL IMPROVEMENT - PH. I

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27

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FUTURE WORK		PROJECT LOCATIONS						ITEM	PROJECT TOTAL	UNIT	DESCRIPTION	SHEET NO.
#7	#8	#9	#10	#11	#13	#14	DUBLIN RD					
LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	201	LUMP		CLEARING AND GRUBBING	7
	1							15		EACH	TREE REMOVED, 18" SIZE	7
138	110	335	103	200	97	1125		502	2362	FT	GUARDRAIL REMOVED	
								12	203	12	EXCAVATION	
		5	5		5			279	203	294	EMBANKMENT	
5	5	18	4	11	5	42		15	411	95	STABILIZED CRUSHED AGGREGATE	8
		3						2	601	5	ROCK CHANNEL PROTECTION, TYPE D WITH FABRIC FILTER	
								1	602	1	PRECAST CONCRETE FLARED END SECTION	
87.5	62.5	325	75	175	87.5	1025		606	1687.5	FT	GUARDRAIL, TYPE MGS WITH LONG POSTS, AS PER PLAN	8
						50		606	50	FT	GUARDRAIL, TYPE MGS QUARTER POST SPACING WITH LONG POSTS, AS PER PLAN	8
1	1			2		1		606	5	EACH	ANCHOR ASSEMBLY, MGS TYPE E, AS PER PLAN	8
1	1	6	2	2	4	1		606	15	EACH	ANCHOR ASSEMBLY, MGS TYPE T, AS PER PLAN	8
								340	SPECIAL	340	STEEL-BACKED TIMBER GUARDRAIL, TYPE A	9
								2	SPECIAL	2	STEEL-BACKED TIMBER GUARDRAIL TERMINAL SECTION TYPE SBT-FAT	9
		14						611	14	FT	12" CONDUIT, TYPE D (REINFORCED CONCRETE PIPE)	
								14	611	14	24" CONDUIT, TYPE C (REINFORCED CONCRETE PIPE)	
LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	614	LUMP		MAINTAINING TRAFFIC	10
4	4	16	4	8	4	8	120	614	160	HRS	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	10
LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	623	LUMP		CONSTRUCTION LAYOUT STAKES	
LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	624	LUMP		MOBILIZATION	
6	5	30	13	11	15	42	63	653	174	CU YD	TOPSOIL FURNISHED AND PLACED, AS PER PLAN	8
67	56	357	158	133	176	506	759	659	2089	SQ YD	SEEDING AND MULCHING, AS PER PLAN	8
0.32	0.27	1.71	0.76	0.64	0.84	2.42	3.63	659	10	MGAL	WATER	8
								297	SPECIAL	297	EXCELSTOR EROSION CONTROL MAT (GREEN, ASPEN)	8
		3		1	2			SPECIAL	6	EACH	MAILBOX SUPPORT SYSTEM, SINGLE	8

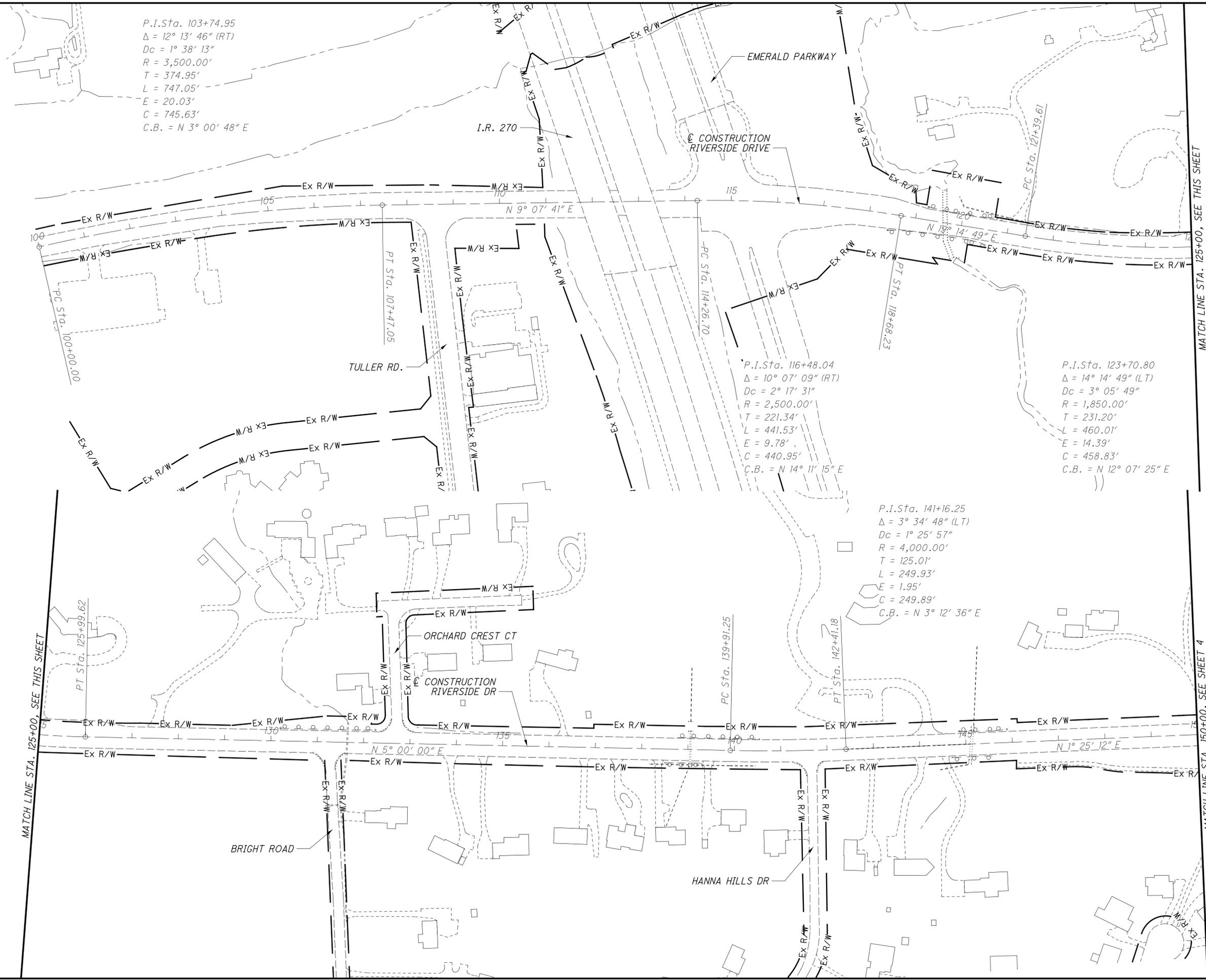
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LEGEND SHEET & GENERAL SUMMARY

GUARDRAIL IMPROVEMENT - PH.1

Channel Ease. (Pr) CH	County Line	Ditch / Creek (Ex)	Wetland (Pr) , Grass (Pr) , Aerial Target
Utility Ease. (Ex) Ex U	Township Line	Ditch / Creek (Pr)	Post (Ex) , Mailbox (Ex) , Mailbox (Pr)
Railroad or	Section Line	Tree Line (Ex)	Light (Ex) , Telephone Marker (Ex) TEL
Guardrail (Ex) (Pr)	Corporation Line or	Ownership Hook Symbol , Example	Fire Hydrant (Ex) , Water Meter (Ex)
Construction Limits	Fence Line (Ex) (Pr)	Property Line Symbol , Example	Water Valve (Ex) , Utility Valve Unknown (Ex.)
Edge of Pavement (Ex)	Center Line	Break Line Symbol , Example	Telephone Pole (Ex) , Power Pole (Ex)
Edge of Pavement (Pr)	Right of Way (Ex) Ex R/W	Tree (Pr) , Tree (Ex) , Shrub (Ex)	Light Pole (Ex)
Edge of Shoulder (Ex)	Right of Way (Pr) R/W	Tree (Remove) , Shrub (Remove)	
Edge of Shoulder (Pr)	Standard Highway Ease.(Ex) Ex SH	Evergreen (Ex) , Stump	
	Temporary Right of Way TMP	Evergreen (Remove) , Stump (Remove)	

LEGEND



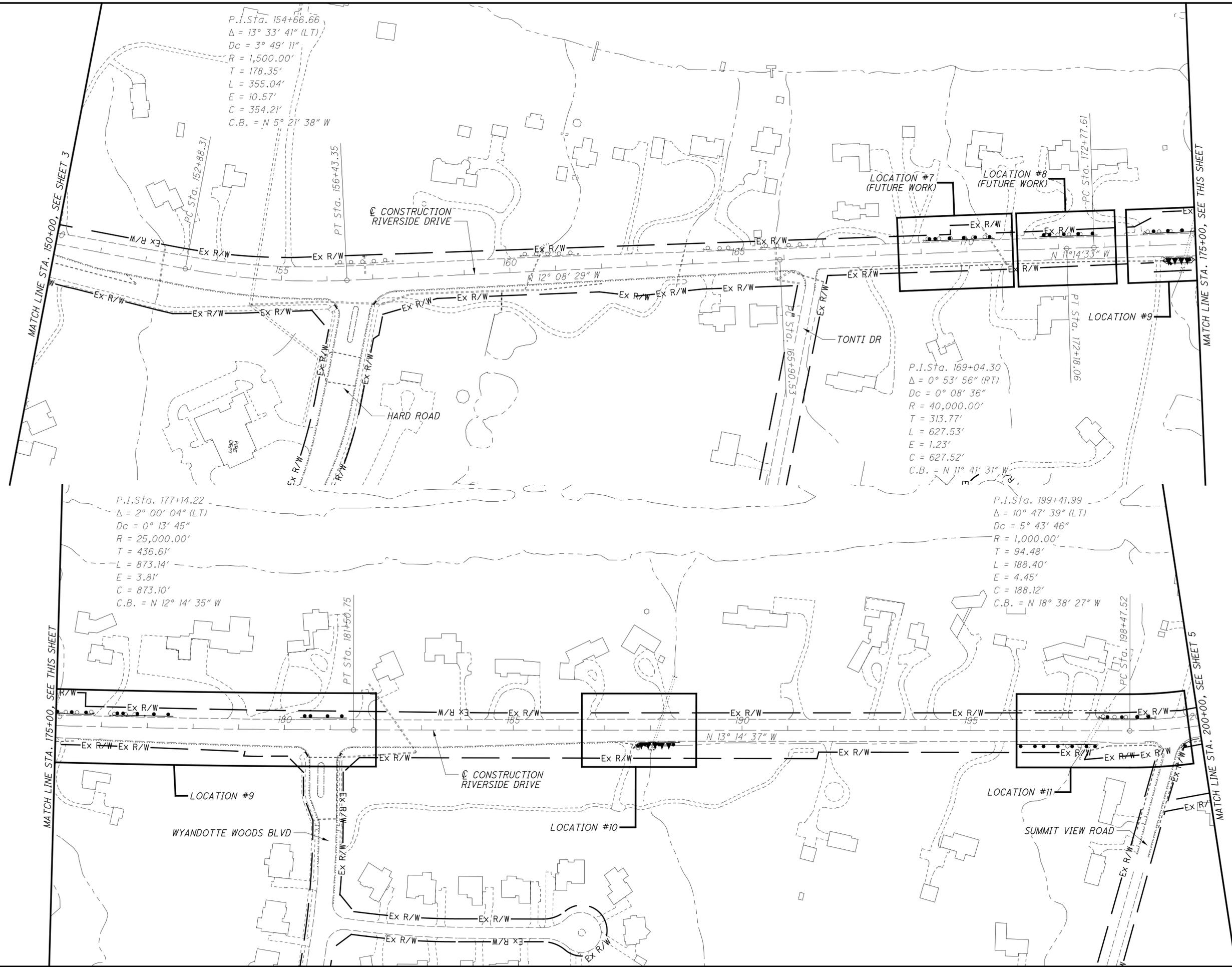
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**SCHEMATIC PLAN - RIVERSIDE DRIVE
STA. 100+00 TO STA. 150+00**

**GUARDRAIL
IMPROVEMENT - PH. I**

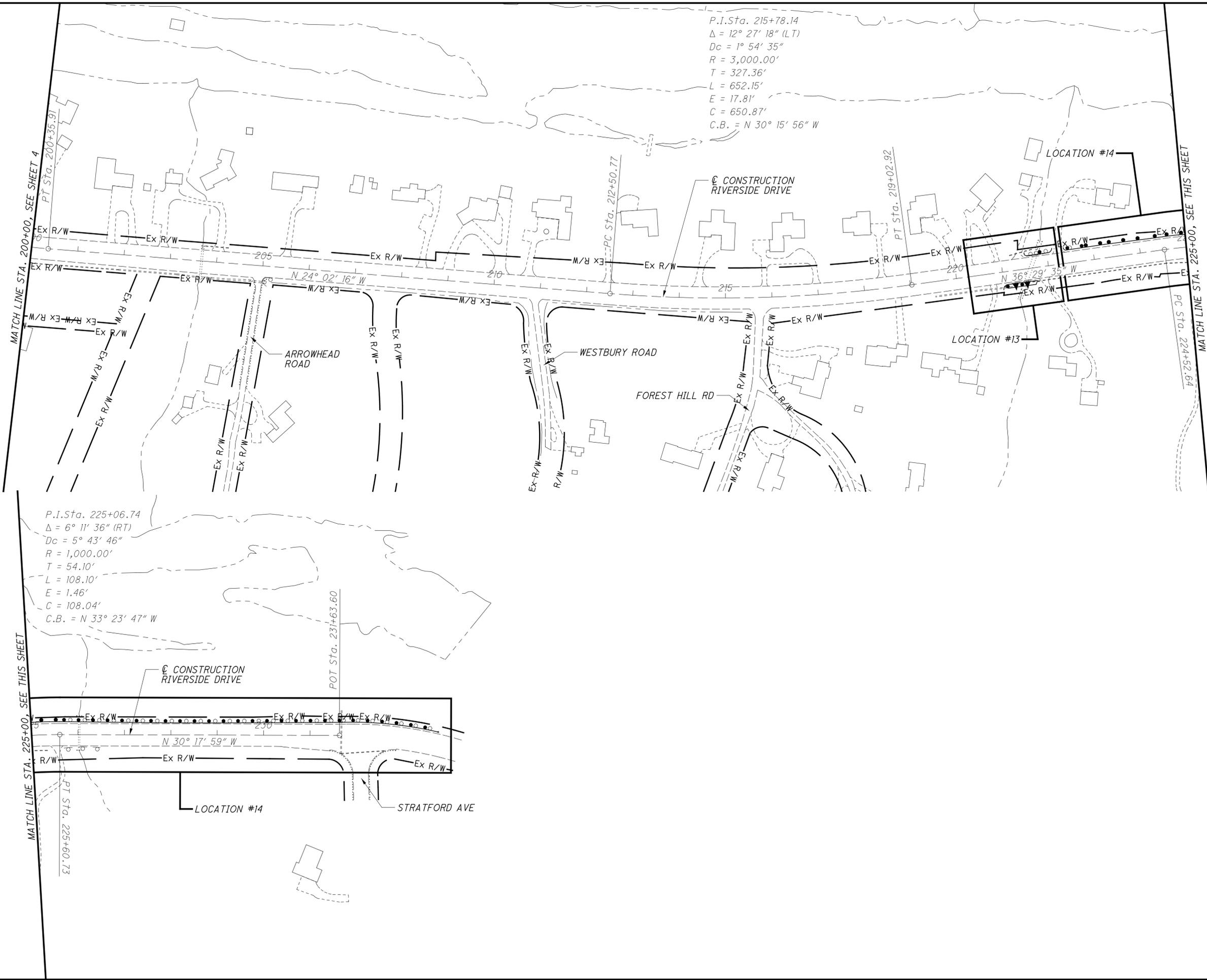
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**SCHEMATIC PLAN - RIVERSIDE DRIVE
 STA. 150+00 TO STA. 200+00**

**GUARDRAIL
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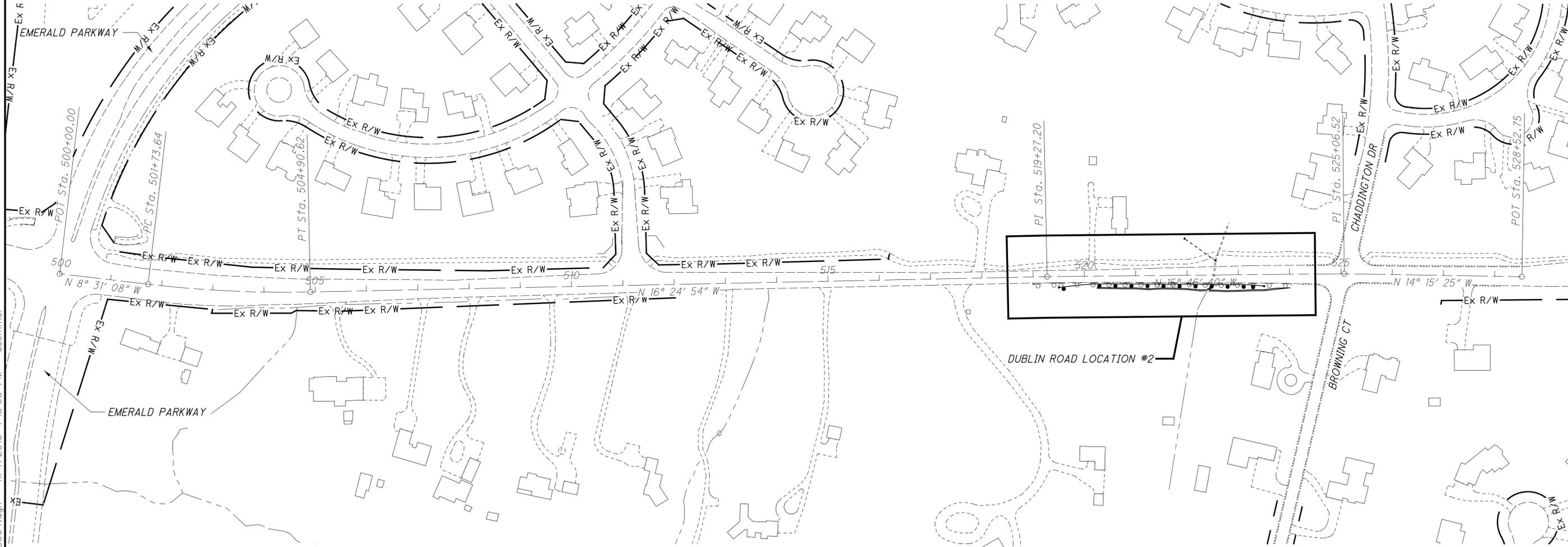
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SCHEMATIC PLAN - RIVERSIDE DRIVE
STA. 200+00 TO STA. 232+00

GUARDRAIL
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**SCHEMATIC PLAN - DUBLIN ROAD
STA. 500+00 TO STA. 528+53**

**GUARDRAIL
IMPROVEMENT - PH. I**

GENERAL

OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS EXCEPT SECTION 100 GENERAL PROVISIONS, CURRENT AND ANY SUPPLEMENTS THERETO (HEREAFTER REFERRED TO AS STANDARD SPECIFICATIONS), SHALL GOVERN ALL CONSTRUCTION ITEMS UNLESS OTHERWISE NOTED. REFER TO THE CITY OF DUBLIN GENERAL CONDITIONS DIVISION 100 FOUND IN THE PROPOSAL AND CONTRACT DOCUMENTS.

THE CONTRACTOR INTENDING TO SUBMIT A BID FOR CITY OF DUBLIN CAPITAL IMPROVEMENT CONTRACTS SHALL BE PREQUALIFIED WITH THE OHIO DEPARTMENT OF TRANSPORTATION IN ACCORDANCE WITH SECTION 102 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS, AND CHAPTER 5525 OF THE OHIO REVISED CODE CONCERNING CONSTRUCTION CONTRACTS.

ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR WITH THE COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS RELATED ITEMS.

IT IS THE INTENTION OF THE CONTRACT DOCUMENTS TO PROVIDE AND REQUIRE A COMPLETED PROJECT READY FOR OPERATION. ANY WORK ITEMS OMITTED FROM THE CONTRACT DOCUMENTS WHICH ARE CLEARLY NECESSARY FOR COMPLETION OF THE WORK AND ITS APPURTENANCES SHALL BE CONSIDERED A PART OF SUCH WORK, THOUGH NOT DIRECTLY SPECIFIED OR CALLED FOR IN THE CONTRACT DOCUMENTS. THIS INCLUDES, BUT IS NOT LIMITED TO, SUCH INCIDENTAL ITEMS AS RELOCATION OF MAIL BOXES, SAW CUTTING, AND REMOVAL AND/OR RELOCATION OF SIGNS, SPRINKLERS, OR OTHER MISCELLANEOUS ITEMS.

THE CITY ENGINEER IS NOT RESPONSIBLE FOR MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF CONSTRUCTION THAT ARE NOT SPECIFIED HEREIN. THE CITY ENGINEER IS NOT RESPONSIBLE FOR SAFETY ON THE WORK SITE, OR FOR FAILURE BY THE CONTRACTOR TO PERFORM WORK ACCORDING TO THE CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL NOTIFY THE CITY OF DUBLIN DIVISION OF ENGINEERING AT LEAST 3 WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.

THE CITY IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970. THE CONTRACTOR SHALL EXERCISE CAUTION ALWAYS FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT SHALL ALSO BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN, AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING THE REQUIREMENTS FOR CONFINED SPACES PER 29 CFR 1910.146.

ANY MODIFICATION TO THE WORK AS SHOWN ON THESE APPROVED PLANS SHALL HAVE PRIOR WRITTEN APPROVAL OF THE CITY ENGINEER.

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE CITY ENGINEER.

THE CONTRACTOR SHALL RESTRICT CONSTRUCTION ACTIVITY TO PUBLIC RIGHT-OF-WAY, AREAS DEFINED AS PERMANENT AND/OR TEMPORARY CONSTRUCTION EASEMENTS, AND/OR THE LIMITS OF DISTURBANCE SHOWN.

TEMPORARY EASEMENTS ARE INTENDED FOR USE BY THE CONTRACTOR FOR CONSTRUCTION AND GRADING PURPOSES ONLY. THE CONTRACTOR SHALL NOT USE TEMPORARY EASEMENTS FOR STORAGE OF EQUIPMENT OR MATERIALS UNLESS HE HAS OBTAINED WRITTEN APPROVAL FROM THE CITY. COMPLIANCE WITH THIS REQUIREMENT ALONG WITH ADDITIONAL PROVISIONS OF THE CONTRACT SPECIFICATIONS SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS LEGAL RESPONSIBILITIES OR LIABILITIES FOR THE SAFETY OF THE PUBLIC. THE CONTRACTOR SHALL INFORM THE CITY OF ANY PLAN FOR ON-SITE STORAGE OF EQUIPMENT AND MATERIALS AT THE PRECONSTRUCTION MEETING.

PROPERTY BOUNDARIES, INCLUDING PROPERTY LINES AND ROAD RIGHT-OF-WAY, ARE SHOWN FROM THE BEST INFORMATION AVAILABLE AND ARE NOT NECESSARILY COMPLETE OR CORRECT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE FINISHED WORK CONFORM TO THE LINES, GRADES, ELEVATIONS, AND DIMENSIONS CALLED FOR ON THE DRAWINGS AND TYPICAL SECTIONS. PAYMENT FOR CONSTRUCTION LAYOUT SHALL BE MADE AT THE LUMP SUM PRICE BID FOR ITEM 623 - CONSTRUCTION LAYOUT STAKES.

GENERAL (CONTINUED)

THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCH MARKS, PROPERTY CORNERS, REFERENCE POINTS, STAKES, AND OTHER SURVEY REFERENCE MONUMENTS OR MARKERS. IN CASES OF DESTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATIONS. RESETTling OF MARKERS SHALL BE PERFORMED BY AN OHIO PROFESSIONAL SURVEYOR AS APPROVED BY THE CITY ENGINEER AT THE CONTRACTOR'S EXPENSE.

SUBSURFACE INVESTIGATIONS WERE NOT PERFORMED FOR DESIGN AND ESTIMATING PURPOSES AND ARE NOT PROVIDED IN THE BIDDING DOCUMENTS. LOGS AND TEST DATA ARE NOT WARRANTED TO SHOW THE ACTUAL SUBSURFACE CONDITIONS. THE CONTRACTOR SHALL EXAMINE THIS INFORMATION AND OBTAIN ADDITIONAL INFORMATION AT HIS OWN EXPENSE, IF NECESSARY, IN HIS JUDGMENT.

THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EQUAL OR BETTER CONDITION THAN EXISTED BEFORE CONSTRUCTION. DRAINAGE DITCHES OR WATER COURSES THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO THE GRADES AND CROSS-SECTIONS THAT EXISTED BEFORE CONSTRUCTION.

ALL SIGNS AND ASSOCIATED LIGHTING, FENCES, LANDSCAPING, STRUCTURES, OR OTHER APPURTENANCES DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER. THE COST OF THIS WORK SHALL BE PAID FOR BY THE CONTRACTOR.

WHERE THE WORK REQUIRES REMOVAL OF BUSINESS SIGNS OR PRIVATE LANDSCAPING SUCH AS DECORATIVE ROCKS, CROSSTIES, FENCES, OR OTHER SALVAGEABLE AND REUSABLE ITEMS, THE CONTRACTOR SHALL COORDINATE SUCH REMOVAL WITH THE PROPERTY OWNER PRIOR TO THE START OF WORK. IF THESE ITEMS CANNOT BE REPLACED TO THEIR ORIGINAL LOCATION FOLLOWING COMPLETION OF THE WORK, THE CONTRACTOR SHALL BE OBLIGATED TO RELOCATE THESE ITEMS TO A STORAGE FACILITY OF THE OWNER'S CHOICE LOCATED ON THE SAME PROPERTY. IF THE PROPERTY OWNER DOES NOT WISH TO SALVAGE THESE ITEMS, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER REMOVAL AND DISPOSAL. PUBLIC PROPERTY TO BE SALVAGED MUST BE DELIVERED BY THE CONTRACTOR TO THE MAINTENANCE FACILITY ON SHIER RINGS ROAD. THE COST FOR THIS WORK SHALL BE INCLUDED IN THE VARIOUS RELATED ITEMS OF THE CONTRACT.

SOME LAWN AREAS FRONTING THE WORK MY HAVE EXISTING IN-GROUND SPRINKLER SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING SPRINKLER SYSTEMS PRIOR TO THE START OF WORK. RESTORING THEM TO THEIR PREVIOUS CONDITION AND FUNCTION WHERE AFFECTED, INCLUDING PIPING, SPRINKLER HEADS, AND OTHER APPURTENANCES, SHALL BE APPROVED BY THE ENGINEER. THE COST OF RESTORATION OF SPRINKLER SYSTEMS SHALL BE PAID BY THE CITY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT U.S. MAIL DELIVERY WITHIN THE PROJECT LIMITS IS NOT DISRUPTED BY CONSTRUCTION OPERATIONS. THIS RESPONSIBILITY IS LIMITED TO RELOCATION OF MAILBOXES TO A TEMPORARY LOCATION THAT WILL ALLOW THE COMPLETION OF THE WORK AND SHALL ALSO INCLUDE THE RESTORATION OF MAILBOXES TO THEIR ORIGINAL LOCATION OR APPROVED NEW LOCATION. ANY RELOCATION OF MAILBOX SERVICES MUST FIRST BE COORDINATED WITH THE U.S. POSTAL SERVICE AND AFFECTED PROPERTY OWNERS. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS OF THE CONTRACT.

BEFORE RELOCATING ANY MAILBOXES, THE CONTRACTOR SHALL CONTACT THE U.S. POSTAL SERVICE AND RELOCATE MAILBOXES ACCORDING TO POSTAL SERVICE REQUIREMENTS.

NON-RUBBER TIRED VEHICLES SHALL NOT BE MOVED ON OR ACROSS PUBLIC STREETS OR HIGHWAYS WITHOUT WRITTEN PERMISSION FROM THE CITY ENGINEER.

TRACKING OR SPILLING MUD, DIRT, OR DEBRIS UPON STREETS, RESIDENTIAL OR COMMERCIAL DRIVES, SIDEWALKS, OR BIKE PATHS IS PROHIBITED AND ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE CONTRACTOR FAILS TO REMOVE THE MUD, DIRT, DEBRIS, OR SPILLAGE, THE CITY OF DUBLIN RESERVES THE RIGHT TO REMOVE THESE MATERIALS AND CLEAN AFFECTED AREAS, THE COST OF WHICH SHALL BE WITHHELD FROM MONIES THAT ARE DUE OR MAY BECOME DUE TO THE CONTRACTOR.

EXCESS EXCAVATED MATERIAL FROM THE PROJECT SHALL BE HAULED OFFSITE BY THE CONTRACTOR AND COMPENSATION FOR HAULING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 - EXCAVATION.

THE COST OF FULL DEPTH CONCRETE PAVEMENT REMOVAL FOR STREETS OR DRIVEWAYS WILL BE PAID AT THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 202 - CONCRETE PAVEMENT REMOVED AND DISPOSED OF. PAVEMENTS SHALL BE SAWCUT IN NEAT, STRAIGHT LINES TO THE FULL DEPTH OF THE EXISTING PAVEMENT. REMOVAL OF ASPHALT DRIVEWAY AND BIKE PATH PAVEMENTS WILL BE PAID PER CUBIC YARD UNDER ITEM 203 - EXCAVATION.

GENERAL (CONTINUED)

THE COST FOR REMOVAL AND DISPOSAL OF CONCRETE CURB AND CONCRETE CURB AND GUTTER WILL BE PAID AT THE UNIT PRICE BID PER LINEAL FOOT UNDER THE APPROPRIATE 202 ITEM. REMOVAL AND DISPOSAL OF CONCRETE SIDEWALK WILL BE PAID AT THE UNIT PRICE BID PER SQUARE FOOT FOR ITEM 202 - CONCRETE WALK REMOVED AND DISPOSED OF.

TRENCH EXCAVATION SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. THE LENGTH OF THE TRENCH OPEN AT ANY ONE TIME SHALL BE HELD TO A MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.

ALL TRENCHES WITHIN PAVEMENT, BERM, AND SHOULDER LIMITS SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS. TRENCHES OUTSIDE THESE AREAS SHALL BE BACKFILLED OR SHALL BE PROTECTED BY APPROVED TEMPORARY FENCING OR BARRICADES DURING NON-WORKING HOURS. CLEAN UP SHALL FOLLOW CLOSELY BEHIND THE TRENCHING OPERATION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONDITION OF ALL TRENCHES FOR ONE-YEAR FROM THE TIME OF FINAL ACCEPTANCE OF THE WORK, AND SHALL MAKE ANY NECESSARY REPAIRS AT NO COST TO THE CITY.

THE CONTRACTOR'S CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED SO AS TO ELIMINATE ALL UNNECESSARY NOISE, DUST, AND ODORS. THE USE OF OIL OR OTHER MATERIAL FOR DUST CONTROL, WHICH MAY CAUSE TRACKING, IS NOT PERMITTED. DUST CONTROL OPERATIONS SHALL BE PERFORMED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER. USE OF CALCIUM CHLORIDE WILL NOT BE PERMITTED

IN THE EVENT THAT IT BECOMES NECESSARY FOR THE CITY TO PERFORM WORK OF AN IMMEDIATE NATURE (SUCH AS THE PLACEMENT OF BARRICADES OR REPLACEMENT OF SIGNS AND OTHER WARNING OR PROTECTIVE DEVICES) BECAUSE OF FAILURE OR REFUSAL OF THE CONTRACTOR TO PERFORM SUCH WORK AS REQUIRED BY THE CONTRACT, THE CONTRACTOR SHALL REIMBURSE THE CITY AT THE RATE OF 2.5 TIMES THE ACTUAL COST OF LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM SUCH WORK. THE CITY SHALL BE REQUIRED TO NOTIFY OR ATTEMPT TO NOTIFY THE DESIGNATED REPRESENTATIVE OF THE CONTRACTOR OF THE NECESSITY TO PERFORM SUCH WORK. IF THE CONTRACTOR REFUSES OR FAILS WITHIN A REASONABLE TIME TO PERFORM OR CAUSE THE PERFORMANCE OF SUCH WORK, THE CITY SHALL BE REIMBURSED BY THE CONTRACTOR IN THE AMOUNT PROVIDED HEREIN BY WAY OF A DEDUCTION FROM THE CONTRACTOR'S NEXT PAYMENT UNDER THE CONTRACT. REASONABLE TIME FOR ALL STREETS INVOLVED ON THIS CONTRACT IS 1 HOUR FROM THE TIME OF NOTIFICATION BY THE CITY.

UTILITIES

UTILITIES KNOWN TO BE LOCATED WITHIN THE LIMITS OF THIS PROJECT ARE LISTED BELOW WITH CONTACT INFORMATION.

COLUMBIA GAS OF OHIO
MATT MYERS-FIELD ENGINEER
MMEYERS@NISOURCE.COM
PHONE: 614-315-3770
JOHNNY APPLESEED CT.
COLUMBUS, OHIO 43212

AT&T OF OHIO
ROGER MIKESSELL-MANAGER OSPE
T27315@ATT.COM
PHONE: 614-223-7162
111 NORTH 4TH STREET
COLUMBUS, OHIO 43215

AMERICAN ELECTRIC POWER
ROBERTA PYLE
DISTRIBUTION NETWORK
RHPYLE@AEP.COM
PHONE: 614-883-6901
850 TECH CENTER DRIVE
GAHANNA, OHIO 43230

COLUMBUS DIVISION OF WATER
TIM HUFFMAN
TEHUFFMAN@COLUMBUS.GOV
PHONE: 614-645-7677
910 DUBLIN ROAD
COLUMBUS, OHIO 43215

DUBLINK PROFESSIONAL SERVICES GROUP
JOE TEPPER
PHONE: 614-921-8620
1366 DUBLIN ROAD
COLUMBUS, OHIO 43215

TW TELECOM
RON LEFFLER - PLANT ENGINEER
RON.LEFFLER@TWTELECOM.COM
PHONE: 614-255-2126
250 W. OLD WILSON BRIDGE RD.
SUITE 130
WORTHINGTON, OHIO 43081

XO COMMUNICATIONS
BILL MARTIN
PHONE: 614-416-1703
10 WEST BROAD STREET
COLUMBUS, OHIO 43215

TIME WARNER CABLE
RAY MAURER - CONST. SUPERVISOR
RAY.MAURER@TWCABLE.COM
PHONE: 614-481-5262
3760 INTERCHANGE ROAD
COLUMBUS, OHIO 43204

SANITARY
CITY OF COLUMBUS
DIVISION OF SEWERAGE AND DRAINAGE
1250 FAIRWOOD AVE. ROOM 6J
COLUMBUS, OHIO 43206
ATTN: JOHN NEWSOME

AT&T TRANSCONTINENTAL CABLE
PHONE: 513-376-3311

UTILITIES (CONTINUED)

THE CONTRACTOR SHALL GIVE NOTICE OF INTENT TO CONSTRUCT TO OHIO UTILITIES PROTECTION SERVICE (TELEPHONE NUMBER: 800-362-2764) AND TO OWNERS OF UNDERGROUND UTILITIES THAT ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE. NOTICE SHALL BE GIVEN AT LEAST 2 WORKING DAYS BEFORE START OF CONSTRUCTION.

THE IDENTITY AND LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREAS HAVE BEEN SHOWN ON THE PLANS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY. THE CITY OF DUBLIN AND THE CITY ENGINEER ASSUME NO RESPONSIBILITY FOR THE ACCURACY OR DEPTHS OF UNDERGROUND FACILITIES SHOWN ON THE PLANS. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF THE SAME. LOCATION, SUPPORT, PROTECTION, AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES, SHOWN OR NOT SHOWN ON THE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING COORDINATION WITH THE AFFECTED UTILITY OWNER.

THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS OF THE CONTRACT.

WHEN UNKOWN OR INCORRECTLY LOCATED UNDERGROUND UTILITIES ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER AND THE CITY ENGINEER.

TREES

ALL TREES WITHIN THE CONSTRUCTION AREA NOT DESIGNATED FOR REMOVAL, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE PRESERVED WITHOUT DAMAGE. TREES TO BE PRESERVED SHALL BE PROTECTED WITH HIGH VISIBILITY TREE PROTECTION FENCING AS INDICATED ON THE PLANS PRIOR TO THE START OF ANY CONSTRUCTION. THE CITY RESERVES THE RIGHT TO DIRECT THE CONTRACTOR TO INSTALL ADDITIONAL FENCING IN AREAS WHERE TREES COULD BE DAMAGED DURING CONSTRUCTION. SEE THE TREE PRESERVATION NOTES FOR COMPLETE SPECIFICATIONS AND DETAILS.

ALL TREES AND STUMP SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER ITEM 201 - TREES OR STUMPS REMOVED. TREES WITH TRUNK DIAMETERS 12 INCHES AND LESS SHALL BE CONSIDERED BRUSH AND THEIR REMOVAL PAID UNDER ITEM 201 - CLEARING AND GRUBBING. THE FOLLOWING IS AN ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZE	NO. OF TREES
12" TO 24" (18" SIZE)	15
24" TO 36" (30" SIZE)	0

THE ABOVE TREE REMOVAL QUANTITIES ARE APPROXIMATE AND THE CITY OF DUBLIN RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES AND/OR STUMPS WITHIN THE LIMITS OF CONSTRUCTION.

DRAINAGE

THE FLOW OF ALL STORM SEWERS, DRAINS, AND OTHER WATER COURSES ENCOUNTERED AND DISTURBED OR DESTROYED DURING THE PROSECUTION OF THE WORK SHALL BE RESTORED BY THE CONTRACTOR TO A CONDITION SATISFACTORY TO THE CITY ENGINEER. PAYMENT FOR THIS SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS OF THE CONTRACT.

ALL FIELD TILE BROKEN OR ENCOUNTERED DURING EXCAVATION SHALL BE REPLACED OR REPAIRED IN LIKE KIND AND CONNECTED TO THE NEAREST STORM SEWER OR OPEN CHANNEL OUTLET, RESTORING NORMAL FUNCTION TO THE TILE, AS DIRECTED BY THE CITY ENGINEER. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS OF THE CONTRACT.

ALL 4-INCH PIPE UNDERDRAIN DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED IN-KIND IN ACCORDANCE WITH ITEM 605. THE COST OF THE UNDERDRAIN REPLACEMENT SHALL BE INCLUDED IN THE COST OF CONCRETE CURB AND GUTTER, AND WILL NOT BE PAID SEPARATELY.

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GENERAL NOTES

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BACKFILL

BACKFILL WITHIN A 1:1 INFLUENCE LINE OF EXISTING STRUCTURES (PAVEMENTS, SIDEWALKS, CURBS, ETC.) SHALL BE ITEM 912 - COMPACTED GRANULAR MATERIAL, OR ITEM 636, TYPE 2.

TRENCHES WITHIN 2 FEET OF PROPOSED PAVEMENT, CURB AND GUTTER, BERM, SHOULDERS, SIDEWALK, BIKE PATH, OR WHERE SPECIFICALLY CALLED FOR ON THE PLANS, SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIAL ACCORDING TO ITEM 912 OF THE STANDARD SPECIFICATIONS.

GRANULAR BACKFILL SHALL BE COMPACTED GRANULAR MATERIAL ACCORDING TO ITEM 912 OF THE STANDARD SPECIFICATIONS OR CONTROLLED DENSITY BACKFILL ACCORDING TO ITEM 636, TYPE 2, OF THE STANDARD SPECIFICATIONS AS DIRECTED BY THE CITY ENGINEER. ITEM 912 MATERIAL SHALL CONSIST OF NATURAL, BROKEN, OR CRUSHED ROCK. SYNTHETIC OR MANMADE MATERIALS ARE UNACCEPTABLE.

ALL NON-GRANULAR BACKFILL SHALL BE FURNISHED AND PLACED IN ACCORDANCE WITH ITEM 911. THE COST OF ITEM 911 AND 912 BACKFILL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS TRENCH TYPES, MANHOLES, ETC.

ALL TRENCHES WITHIN PAVEMENT, BERM, AND SHOULDER LIMITS SHALL BE BACKFILLED OR SECURELY PLATED DURING NON-WORKING HOURS. TRENCHES OUTSIDE THESE AREAS SHALL BE BACKFILLED OR SHALL BE PROTECTED BY APPROVED TEMPORARY FENCING OR BARRICADES DURING NON-WORKING HOURS. CLEAN UP SHALL FOLLOW CLOSELY BEHIND THE TRENCHING OPERATION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONDITION OF THE TRENCHES FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE OF THE WORK, AND SHALL MAKE ANY NECESSARY REPAIRS AT NO COST TO THE CITY.

ITEM 653 - TOPSOIL FURNISHED AND PLACED, AS PER PLAN

A MINIMUM 3 INCHES OF TOPSOIL SHALL BE PRESENT IN ALL AREAS TO BE SEEDED. WHERE TOPSOIL MUST BE ADDED TO PROVIDE THE MINIMUM, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH SUFFICIENT TO PLACE THE REQUIRED TOPSOIL THICKNESS. THE COST OF EXCAVATION AND DISPOSAL OF SURPLUS MATERIALS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE VARIOUS CONTRACT ITEMS.

TOPSOIL SHALL BE REMOVED AND WASTED OR UTILIZED IN NON-LOAD BEARING FILLS IN ACCORDANCE WITH THE SPECIFICATIONS. NO EXTRA COMPENSATION SHALL BE PAID FOR THE REMOVAL OF EXCESS TOPSOIL AS REQUIRED TO OBTAIN A SUITABLE SUBGRADE.

ALL TOPSOIL MATERIALS AND FINAL AREA OF SUBGRADE PREPARATION SHALL BE FREE FROM ROCK AND OTHER FOREIGN MATERIAL OF 1/2" OR GREATER IN ANY DIMENSION FOR ITEM 653 - TOPSOIL FURNISHED AND PLACED, AS PER PLAN, IF SUITABLE AS APPROVED BY THE ENGINEER.

ITEM 611 NOTES

THE CONTRACTOR WILL NOT BE REQUIRED TO FOLLOW SPECIFICATION 611.04B, 611.04C, 611.04D, 611.06, 611.12, 611.13, AND 611.14. ANY REFERENCE TO "INSTALLATION PLAN", "INSPECTION FORMS", "PERFORMANCE REPORT", "PERFORMANCE INSPECTION", AND "CONDUIT EVALUATION" SHALL BE IGNORED. THE CITY WILL PROVIDE ALL INSPECTION, COMPACTION TESTING, ETC. THE CONTRACTOR SHALL PROVIDE TESTING AS SPECIFIED IN THE FOLLOWING NOTES:

A. ALL PLASTIC STORM SEWER LINES SHALL BE DEFLECTION TESTED AFTER INSTALLATION IN CONFORMANCE WITH THE REQUIREMENTS OF THE CITY OF COLUMBUS, CMS, CURRENT VERSION, ITEM 901.21.

B. ALL PRE-CAST CONCRETE PRODUCTS SHALL BE INSPECTED AT THE LOCATION OF MANUFACTURE. APPROVED PRE-CAST CONCRETE PRODUCTS MUST BE STAMPED OR HAVE SUCH IDENTIFICATION NOTING THAT INSPECTION HAS BEEN PERFORMED BY THE CITY. PRE-CAST CONCRETE PRODUCTS WITHOUT PROOF OF INSPECTION SHALL NOT BE APPROVED FOR INSTALLATION. THE CONTRACTOR SHALL SUBMIT A COPY OF THE PLANS AND A LIST OF PROPOSED PRE-CAST CONCRETE PRODUCT MANUFACTURERS TO THE CITY BEFORE COMMENCING CONSTRUCTION.

ITEM 659 - SEEDING AND MULCHING, AS PER PLAN

SEED:

CERTIFICATION OF GRASS SEED SHALL BE PROVIDED BY SEED VENDOR FOR EACH GRASS-SEED MIXTURE STATING THE BOTANICAL AND COMMON NAME, PERCENTAGE BY WEIGHT OF EACH SPECIES AND VARIETY, AND PERCENTAGE OF PURITY, GERMINATION, AND WEED SEED. INCLUDE THE YEAR OF PRODUCTION AND DATE OF PACKAGING. FURNISH NATIONAL TURFGRASS EVALUATION PROGRAM (NTEP) DATA FOR EACH SPECIES TO BE USED.

GRASS SEED MUST BE FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH THE A.O.S.A. "JOURNAL OF SEED TECHNOLOGY" RULES FOR TESTING SEEDS FOR PURITY AND GERMINATION TOLERANCES.

SEED SPECIES SHALL BE AS FOLLOWS, WITH NOT LESS THAN 90 PERCENT GERMINATION, NOT LESS THAN 98 PERCENT PURE SEED, AND NOT MORE THAN 0.5 PERCENT WEED SEED.

TURFGRASS SEED MIX PROPORTIONED BY WEIGHT:

A. 80 PERCENT TALL FESCUE (FESTUCA ARUNDINACEA), WITH A MINIMUM OF 3 IMPROVED TURF-TYPE VARIETIES. KENTUCKY-31 AND ALTA VARIETIES ARE NOT APPROVED.

B. 20 PERCENT PERENNIAL RYEGRASS (LOLIUM PERENNE).

SEEDING:

SOW SEED AT A TOTAL RATE OF 7-9 LB / 1000 SQ FT WITH A SPREADER OR SEEDING MACHINE. RAKE SEED LIGHTLY INTO TOP 1/8 INCH OF SOIL, ROLL LIGHTLY, AND WATER WITH FINE SPRAY.

FOR DUBLIN ROAD, EXCELSIOR EROSION CONTROL MATS WILL BE USED AT SLOPES EXCEEDING 3:1 TO PROTECT SEEDED AREAS FROM EROSION. PAYMENT SHALL BE AT THE SQUARE YARD UNIT PRICE FOR ITEM SPECIAL - EXCELSIOR EROSION CONTROL MAT (GREEN, ASPEN)

HYDRO-SEEDING: PERMITTED.

HYDRO-MULCHING:

APPLY SLURRY AT A RATE SO THAT MULCH COMPONENT IS DEPOSITED AT NOT LESS THAN 1500 LB / ACRE DRY WEIGHT.

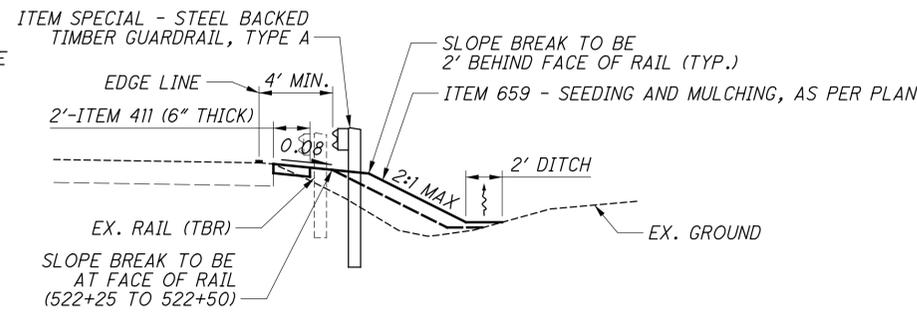
FOR DUBLIN ROAD AREAS OUTSIDE OF THE EXCELSIOR MAT, THOROUGHLY COVER AREAS WITH STRAW. STRAW TO BE TACKED.

TURF MAINTENANCE:

MAINTAIN AND ESTABLISH TURF BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, AND REPLANTING TO ESTABLISH HEALTHY, VIABLE TURF. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH TO PRODUCE A UNIFORMLY SMOOTH TURF. PROVIDE THE SAME MATERIALS AND INSTALLATION AS THOSE USED IN THE ORIGINAL INSTALLATION. WATER TURF WITH FINE SPRAY AT A MINIMUM RATE OF 1 INCH PER WEEK UNLESS RAINFALL PRECIPITATION IS ADEQUATE.

ITEM 659 - WATER 10 MGAL

MOW TURFGRASS SEED MIX AREAS AS SOON AS TOP GROWTH IS TALL ENOUGH TO CUT. REPEAT MOWING TO MAINTAIN SPECIFIED HEIGHT WITHOUT CUTTING MORE THAN ONE THIRD OF GRASS HEIGHT. MOW AREAS TO A HEIGHT OF 2 TO 3 INCHES.



**DUBLIN ROAD
TYPICAL CROSS SECTION**

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 ODOT CMS 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 ODOT CMS 606.03, AND SHALL IN NO INSTANCE BE ENCASED IN CONCRETE.

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

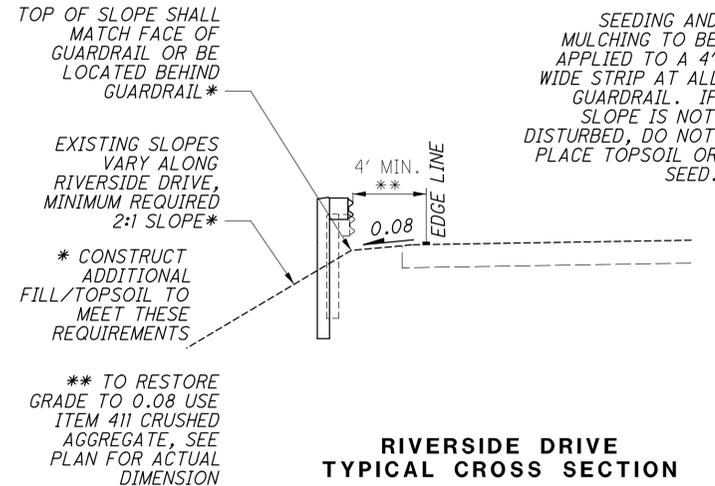
THE MAILBOX SHALL BE SECURELY AND NEATLY ATTACHED BY THE CONTRACTOR TO THE NEW SUPPORT. THE CONTRACTOR SHALL FURNISH ALL NECESSARY ATTACHMENT HARDWARE (NUTS, BOLTS, PLATES, SPACERS, AND WASHERS) AS NECESSARY TO ACCOMMODATE THE COMPLETE INSTALLATION.

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 ODOT CMS 107.10. HOWEVER, THE SAME MATERIAL AND SIZE LIMITATIONS AS FOR PERMANENT INSTALLATIONS SHALL APPLY.

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



**RIVERSIDE DRIVE
TYPICAL CROSS SECTION**

ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ODOT ROADWAY ENGINEER'S WEB PAGE UNDER ROAD 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 ODOT CMS 730.19.

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

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

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

**ITEM 606 - GUARDRAIL, TYPE MGS (ALL TYPES), AS PER PLAN
ITEM 606 - ANCHOR ASSEMBLY, MGS (ALL TYPES), AS PER PLAN**

PAINTING:

ALL STEEL GUARDRAIL SURFACES AND STEEL HARDWARE SHALL BE PAINTED WOLF GREY AS SUPPLIED BY SHERWIN-WILLIAMS PAINT - KING AVENUE COMMERCIAL STORE 299-2116. FIRST, USE PRIMER PAINT COAT PRO-CRYL BY SHERWIN-WILLIAMS ON ALL GALVANIZED SURFACES. PAINT ALL METAL SURFACES WITH THE PRO-CRYL PRIMER IN A UNIFORM, CONSISTENT, AND EVEN APPLICATION. AFTER PRIMER, APPLY TWO COATS OF SHER-CRYL PAINT BY SHERWIN-WILLIAMS ON THE STEEL GUARDRAIL AND STEEL HARDWARE. EACH COAT TO BE APPLIED IN A UNIFORM, CONSISTENT, AND EVEN APPLICATION ON THE SURFACE. SHER-CRYL PAINT SHALL BE APPLIED IN TWO COATS, EACH WITH A MINIMUM 2.0 MILL DRY FILM THICKNESS FOR EACH COAT. PAINT SHALL BE HIGH QUALITY, ALL WEATHER PAINT SUITABLE FOR USE ON GALVANIZED METAL. THE WOOD POSTS SHALL NOT BE PAINTED.

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**ITEM SPECIAL - STEEL-BACKED TIMBER GUARDRAIL, TYPE A
ITEM SPECIAL - STEEL-BACKED TIMBER GUARDRAIL TERMINAL
SECTION TYPE SBT-FAT**

THIS WORK CONSISTS OF CONSTRUCTING STEEL-BACKED TIMBER GUARDRAIL AND RELATED GUARDRAIL POSTS, TERMINAL SECTIONS, AND RELATED APPURTENANCES. THE WORK SHALL INCLUDE THE FURNISHING, ASSEMBLING, AND ERECTING OF ALL COMPONENT PARTS, MATERIALS, AND INCIDENTALS, COMPLETE AND IN PLACE, IN ACCORDANCE WITH THE STANDARD DRAWINGS AND AT THE LOCATIONS SHOWN IN THE PLANS, OR AS DIRECTED BY THE CITY ENGINEER, AND ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATIONS, WHERE APPLICABLE.

MATERIALS:

THE CONTRACTOR SHALL FURNISH MATERIALS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:

TIMBER RAIL, POSTS AND BLOCKOUTS: FURNISH TIMBER CONFORMING TO AASHTO M 168. FABRICATE THE TIMBER RAIL, BLOCKOUTS, AND POSTS FROM DRY, WELL SEASONED, AND DRESSED ROUGH SAWN DOUGLAS FIR, SOUTHERN PINE, OR OTHER SPECIES HAVING A STRESS GRADE OF AT LEAST 1500 POUNDS PER SQUARE INCH. TREAT THE TIMBER RAIL, BLOCKOUT ELEMENTS, AND POSTS ACCORDING TO AASHTO M 133.

STEEL BACKING HARDWARE: FABRICATE THE STEEL BACKING ELEMENTS FROM 3/8-INCH STRUCTURAL STEEL THAT CONFORMS TO THE HIGH-STRENGTH, LOW-ALLOY REQUIREMENTS OF ASTM A 242. THE STEEL BACKING ELEMENTS AND FASTENER HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ODOT 711.02.

CONCRETE ANCHORS AND CURBING: SHALL BE CLASS C CONFORMING TO ODOT 499, ODOT 511, AND ODOT 609.

REINFORCING STEEL: SHALL CONFORM TO ODOT 509, 709.01 (ASTM A 615)

DOWEL BARS: SHALL CONFORM TO ODOT 709.13.

PAINTING: TIMBER GUARDRAIL SHALL BE "CURED" FROM THE PRESSURE TREATMENT PROCESS AT LEAST 4 MONTHS PRIOR TO PAINTING. BLOCKOUTS AND THE EXPOSED POSTS LENGTHS AND HARDWARE SHALL BE PAINTED WOLF GREY AS SUPPLIED BY SHERWIN-WILLIAMS PAINT-KING AVENUE COMMERCIAL STORE 299-2116. FIRST, USE PRIMER PAINT COAT PRO-CRYL BY SHERWIN-WILLIAMS ON ALL GALVANIZED SURFACES. PAINT BOLT HEADS ON THE FACE SIDE OF THE GUARDRAIL AS WELL AS ALL STEEL BOLTS, NUTS, WASHERS AND THE STEEL PLATE ON THE BACK SIDE WITH PRO-CRYL. APPLY TWO COATS OF WOODSCAPES PAINT BY SHERWIN-WILLIAMS ON THE TREATED TIMBER AS WELL AS OVER THE PRO-CRYL PRIMER. EACH COAT TO BE APPLIED IN A UNIFORM, CONSISTENT, AND EVEN APPLICATION ON THE SURFACE. WOODSCAPES PAINT SHALL BE APPLIED IN TWO COATS, EACH WITH A MINIMUM OF 2.0 MILL DRY FILM THICKNESS FOR EACH COAT. PAINT SHALL BE HIGH QUALITY, ALL WEATHER PAINT SUITABLE FOR USE ON GALVANIZED METAL, TIMBER RAIL, AND WOOD POSTS.

CONSTRUCTION REQUIREMENTS:

THE FOLLOWING REQUIREMENTS SHALL SUPPLEMENT, AND IN CASES OF PERCEIVED CONFLICT, REPLACE THE REQUIREMENTS OF ODOT 606.

POSTS:

- ALL POSTS SHALL BE DRIVEN TO GRADE. AUGERING AND/OR EXCAVATION OF POST HOLE BEFORE PLACING POST IS NOT AN APPROVED METHOD OF INSTALLATION.
- TREAT FIELD CUTS FOR WOOD POSTS WITH TWO COATS OF PRESERVATIVE APPLIED WITH A BRUSH OR A SPRAYER. DO NOT PLACE FIELD CUTS IN CONTACT WITH THE GROUND.
- WHERE THE PAVEMENT SURFACE IS WITHIN 3 FEET OF THE GUARDRAIL FACE, INSTALL POSTS BEFORE PLACING THE PAVEMENT SURFACE.
- PUNCH OR DRILL PILOT HOLES NO MORE THAN 1/2 INCHES LARGER THAN THE POST DIMENSIONS. DRIVE THE POSTS INTO THE PILOT HOLES AND SET THE POSTS PLUMB. BACKFILL AND COMPACT AROUND THE POSTS WITH ACCEPTABLE MATERIAL.
- WHERE IT IS NOT POSSIBLE TO MAINTAIN A 24-INCH MINIMUM DISTANCE BETWEEN THE BACK OF THE GUARDRAIL POSTS AND THE TOP OF A 1V:2H OR STEEPER SLOPE, INCREASE THE STANDARD POST LENGTH BY 12 INCHES AS DIRECTED BY THE ENGINEER.
- WHERE AN IMPENETRABLE OBJECT IS ENCOUNTERED, USE A SHORT POST WITH A CONCRETE ANCHOR, DECREASE THE POST SPACING, OR NEST TWO RAIL ELEMENTS AS APPROVED BY THE ENGINEER. DO NOT CHANGE THE POST LENGTHS AND SPACINGS IN TERMINAL SECTIONS.

ITEM SPECIAL - STEEL-BACKED TIMBER GUARDRAIL (CONTINUED)

RAIL ELEMENTS:

- DO NOT MODIFY SPECIFIED HOLE DIAMETERS OR SLOT DIMENSIONS.
- ERECT RAIL ELEMENTS IN A SMOOTH, CONTINUOUS LINE WITH THE LAPS IN THE DIRECTION OF TRAFFIC FLOW. USE BOLTS THAT EXTEND AT LEAST 1/4 INCH BUT NOT MORE THAN 1 INCH BEYOND THE NUTS. TIGHTEN ALL BOLTS.
- PAINT ALL SCRAPES ON GALVANIZED SURFACES THAT ARE THROUGH TO THE BASE METAL WITH 2 COATS OF ZINC-OXIDE PAINT.
- EQUALLY SPACE BOLTS ALONG THE FRONT FACE OF THE TIMBER RAIL TO MATCH THE HOLES IN THE STEEL BACKING. ALIGN TIMBER GUARDRAIL ALONG THE TOP AND FRONT OF THE TIMBER RAIL.
- FIELD CUT TIMBER RAILS TO PRODUCE A CLOSE FIT AT JOINTS. TREAT FIELD CUTS WITH 2 COATS OF CHROMATED COPPER ARSENATE.
- WHEN REQUIRED, FIELD DRILL HOLES IN THE STEEL BACKING ON CURVED SECTIONS TO CORRESPOND TO THE FIELD CUT WOOD RAILS AT THE JOINTS. DO NOT USE A TORCH TO CUT HOLES.

TERMINAL SECTIONS:

- CONSTRUCT TERMINAL SECTIONS AT THE LOCATIONS SHOWN IN THE PLANS. TERMINAL SECTIONS CONSIST OF POSTS, RAILING, HARDWARE, AND ANCHORAGE ASSEMBLY NECESSARY TO CONSTRUCT THE TYPE OF TERMINAL SECTION SPECIFIED.
- WHERE CONCRETE ANCHORS ARE INSTALLED, CONSTRUCT EITHER CAST-IN-PLACE OR PRECAST UNITS. DO NOT CONNECT THE GUARDRAIL TO CAST-IN-PLACE ANCHORS UNTIL THE CONCRETE HAS CURED 7 DAYS. INSTALL END ANCHOR CABLES TIGHTLY WITHOUT SLACK.

GUARDRAIL REFLECTION TABS:

- INSTALL IN ACCORDANCE WITH THE REQUIREMENTS OF ODOT 626 PERTINENT TO TYPE A, ONE-WAY GUARDRAIL BLOCKOUT REFLECTORS.

MEASUREMENT:

STEEL-BACKED TIMBER RAIL OF THE TYPE AND POST LENGTH SPECIFIED IN THE PLANS WILL BE MEASURED BY THE NUMBER OF FEET FROM CENTER-TO-CENTER OF END POSTS FURNISHED AND ERECTED COMPLETE, EXCLUDING TERMINAL SECTIONS AS SHOWN IN THE STANDARD DRAWINGS. TERMINAL SECTIONS OF THE TYPE SPECIFIED SHALL BE MEASURED BY THE NUMBER OF EACH FURNISHED AND ERECTED COMPLETE.

PAYMENT:

ALL COST ASSOCIATED WITH FURNISHING AND INSTALLING GUARDRAIL POSTS, PROVIDING REDUCTIONS TO THE STANDARD POST SPACING (AS NEEDED), AND PAINTING THE GUARDRAIL SYSTEM ARE CONSIDERED INCIDENTAL TO THE CONTRACT UNIT PRICE OF THE RESPECTIVE STEEL-BACKED TIMBER GUARDRAIL AND TERMINAL SECTION. ACCEPTED QUANTITIES WILL BE PAID AT THE CONTRACT PRICE PER UNIT AS FOLLOWS:

- ITEM SPECIAL - STEEL-BACKED TIMBER GUARDRAIL (FT)
- ITEM SPECIAL - STEEL-BACKED TIMBER GUARDRAIL TERMINAL SECTION TYPE SBT-FAT (EACH)

PAYMENT WILL BE FULL COMPENSATION FOR THE WORK PRESCRIBED IN THIS SECTION.

ITEM 614 - MAINTAINING TRAFFIC

RIVERSIDE DRIVE - DURING WORK HOURS, A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON RIVERSIDE DRIVE AT ALL TIMES BY USE OF EXISTING PAVEMENT.

DUBLIN ROAD - DURING WORK HOURS, THE NORTH BOUND LANE MAY BE CLOSED TO TRAFFIC AT THE PROJECT AREA AND ONE LANE (THE SOUTH BOUND LANE) TO REMAIN OPEN WITH TRAFFIC CONTROLLED BY FLAGGERS TO MAINTAIN TWO-WAY TRAFFIC ON ONE LANE.

NO COMPLETE ROAD CLOSURES SHALL BE PERMITTED ON EITHER RIVERSIDE DRIVE OR DUBLIN ROAD.

ACCESS TO ALL DRIVEWAYS WITHIN THE PROJECT AREA SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL COORDINATE WITH THE PROPERTY OWNERS ON ACCESS DETAILS FOR THE DRIVEWAYS ON DUBLIN ROAD AND RIVERSIDE DRIVE THAT WILL BE DIRECTLY AFFECTED BY THE CONSTRUCTION WORK. ANY DRIVE SHALL AT LEAST BE MAINTAINED PART-WIDTH UNLESS THE PROPERTY OWNERS AGREE TO AN ALTERNATIVE METHOD IN WRITING.

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

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE CITY OF DUBLIN AT LEAST 14 DAYS IN ADVANCE OF ANY PLANNED LANE CLOSURES OR OTHER DISRUPTION OF TRAFFIC.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH ITEM 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.

CONSTRUCTION INITIATION

THE CONTRACTOR WILL NOTIFY THE ENGINEER AND THE CITY OF DUBLIN 14 DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL IMMEDIATELY INFORM THE ENGINEER AND THE CITY OF DUBLIN OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION PROJECT.

ALTERNATIVE METHODS

THE CONTRACTOR MAY SUBMIT ALTERNATIVE METHODS FOR THE MAINTENANCE OF TRAFFIC PROVIDED THE INTENT OF THE ABOVE PROVISIONS IS FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELLING PUBLIC RESULTS FROM THE CHANGE. NO ALTERNATIVE PLANS SHALL BE PLACED IN EFFECT UNTIL APPROVAL HAS BEEN RECEIVED FROM THE ENGINEER IN WRITING.

MAINTENANCE OF TRAFFIC SIGNALS

THE CONTRACTOR SHALL NOT MAKE ANY CHANGES TO THE EXISTING TRAFFIC SIGNALS. IF THE SIGNAL TIMINGS NEED TO BE ADJUSTED DURING CONSTRUCTION DUE TO LANE CLOSURES, THE CONTRACTOR SHALL CONTACT THE CITY OF DUBLIN.

THE CONTRACTOR WILL REPLACE ANY SIGNAL EQUIPMENT DAMAGED DUE TO THE CONSTRUCTION OF THIS PROJECT. COORDINATE WITH THE CITY OF DUBLIN ON THE TIMING OF ANY TRAFFIC SIGNAL REPLACEMENT OR REPAIRS.

PAYMENT FOR ALL LABOR, EQUIPMENT, OR MATERIALS USED BY THE CONTRACTOR FOR THIS WORK SHALL BE COVERED IN THE LUMP SUM CONTRACTOR PRICE BID FOR ITEM 614 - MAINTAINING TRAFFIC.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE

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

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

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

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

C. FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT, OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

D. WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

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

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

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

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

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 160 HOURS

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

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

MAINTENANCE OF TRAFFIC DETAILS

THE GUARDRAIL WORK ALONG RIVERSIDE DRIVE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING MT-95.31 AND ANY APPLICABLE SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THIS WORK SHALL BE PERFORMED ONE LOCATION AT A TIME.

THE GUARDRAIL WORK ALONG DUBLIN ROAD SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING MT-97.10.

PEDESTRIAN TRAFFIC MUST BE DETOURED PER OHIO DEPARTMENT OF TRANSPORTATION STANDARD DRAWING MT-110.10 ANY TIME A PEDESTRIAN CURB RAMP, SIDEWALK, OR LEISURE PATH IS NOT ACCESSIBLE OR UNUSABLE.

SEQUENCING OF WORK

DUBLIN ROAD:

EXISTING GUARDRAIL SHALL REMAIN IN PLACE DURING CLEARING AND GRUBBING; TREE REMOVAL; GRADING; EXCAVATION; STORM SEWER EXTENSION; AND EMBANKMENT WORK UP TO FINAL SHOULDER GRADE (EXISTING ASPHALT GRADE) AND ADJACENT TO EXISTING GUARDRAIL.

NEW STEEL-BACKED TIMBER GUARDRAIL SHALL BE FIRST INSTALLED ON THE NORTH END OF THE PROJECT. INSTALLATION OF GUARDRAIL SHALL MOVE SOUTH AS WORK ALLOWS CONTRACTOR TO REMOVE A SECTION OF THE EXISTING GUARDRAIL; THEN CLEAR AND GRUB; THEN PERFORM EMBANKMENT WORK; THEN INSTALL STEEL-BACKED TIMBER GUARDRAIL BEFORE THE NORTH BOUND LANE IS OPEN TO TRAFFIC AFTER 3:30 PM. AT THE END OF EACH WORK DAY, THERE SHALL BE EITHER EXISTING GUARDRAIL ADJACENT TO DUBLIN ROAD OR FINAL SHOULDER GRADE WITH NEWLY INSTALLED STEEL-BACKED TIMBER GUARDRAIL.

WORKING HOURS

RIVERSIDE DRIVE:

THE CONTRACTOR IS PERMITTED TO WORK BETWEEN 8:30 AM AND 5:00 PM ON THE WEST SIDE OF RIVERSIDE DRIVE, MONDAY THROUGH SATURDAY AND IS PERMITTED TO WORK BETWEEN 7:30 AM TO 3:30 PM ON THE EAST SIDE OF RIVERSIDE DRIVE, MONDAY THROUGH SATURDAY. PERMISSION TO WORK ON SUNDAY AND HOLIDAYS MUST BE REQUESTED IN WRITING AND APPROVED BY THE CITY ENGINEER.

DUBLIN ROAD:

THE CONTRACTOR IS PERMITTED TO WORK BETWEEN 8:00 AM AND 3:30 PM, MONDAY THROUGH FRIDAY AND IS PERMITTED TO WORK BETWEEN 7:30 AM AND 5:00 PM ON SATURDAY. PERMISSION TO WORK ON SUNDAY AND HOLIDAYS MUST BE REQUESTED IN WRITING AND APPROVED BY THE CITY ENGINEER.

CALCULATED
DMS
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MAINTENANCE OF TRAFFIC NOTES

GUARDRAIL
IMPROVEMENT - PH.1

EROSION AND SEDIMENT CONTROL NOTES

1. THE DESIGN OF EROSION CONTROL SYSTEMS SHALL FOLLOW THE REQUIREMENTS OF OHIO EPA, ITEM 207 OF THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD SPECIFICATIONS AND THE CITY ENGINEER. THE CONTRACTOR SHALL BE CONSIDERED THE DEVELOPER OF THE STORMWATER DISCHARGE.

2. THE CONTRACTOR SHALL PROVIDE SEDIMENT CONTROL AT ALL POINTS WHERE WATER LEAVES THE PROJECT, INCLUDING WATERWAYS, OVERLAND SHEET FLOW, AND STORM SEWERS, WHETHER SPECIFICALLY SHOWN ON THE PLANS OR NOT.

3. ACCEPTED METHODS OF PROVIDING EROSION/SEDIMENT CONTROL INCLUDE BUT ARE NOT LIMITED TO: SEDIMENT FILTERS, SILT FILTER FENCE, ROCK CHECK DAMS, AND TEMPORARY GROUND COVER.

4. THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE OF THE WORK AREA AT ALL TIMES CONSISTENT WITH EROSION CONTROL PRACTICES.

5. DISTURBED AREAS THAT WILL REMAIN UNWORKED FOR 45 DAYS OR MORE SHALL BE SEEDED WITHIN 7 CALENDAR DAYS OF THE DISTURBANCE. OTHER SEDIMENT CONTROLS THAT ARE INSTALLED SHALL BE MAINTAINED UNTIL VEGETATIVE GROWTH HAS BEEN ESTABLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY SEDIMENT DEVICES AT THE CONCLUSION OF CONSTRUCTION BUT NOT BEFORE GROWTH OF PERMANENT GROUND COVER.

6. ALL DENUDED AREAS, INCLUDING STOCKPILED TOPSOIL AND EXCAVATED MATERIAL, ARE TO BE PROTECTED THROUGH THE USE OF TEMPORARY SEEDING, OR COVERED WITH ANCHORED STRAW MULCH.

7. FINAL GRADING WILL BE CONSISTENT WITH PRECONSTRUCTION TOPOGRAPHY TO MAINTAIN DRAINAGE AND AESTHETICS.

8. REMOVE ONLY THE TREES, SHRUBS, AND GRASSES THAT MUST BE REMOVED TO PERMIT ACTUAL CONSTRUCTION. PROTECT THE REMAINING TO PRESERVE THEIR AESTHETIC AND EROSION CONTROL VALUE.

9. BACKFILL TRENCHES IMMEDIATELY AFTER USE. SEED AND MULCH TRENCH AREA WITHIN 1 WEEK AFTER AREA OR SECTION HAS BEEN OPENED.

10. SETTLING FACILITIES, SEDIMENT FILTERS, PERIMETER CONTROLS, AND OTHER PRACTICES INTENDED TO TRAP SEDIMENT SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING OR CONSTRUCTION AND WITHIN 7 DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE UPSLOPE DEVELOPMENT AREA IS RESTABILIZED.

11. STORM SEWER INLET PROTECTION. ALL STORM SEWER INLETS WHICH ACCEPT WATER RUNOFF FROM THE PROJECT AREA SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER WILL NOT ENTER THE STORM SEWER SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT, UNLESS THE STORM SEWER SYSTEM DRAINS TO A SETTLING FACILITY. THESE CONTROLS SHALL BE SELECTED AND LOCATED AS INDICATED IN THE PLANS AND AS DIRECTED BY THE CITY ENGINEER.

12. WORKING IN OR CROSSING STREAMS. STREAMS, INCLUDING BED AND BANKS, SHALL BE RESTABILIZED IMMEDIATELY AFTER IN-CHANNEL WORK IS COMPLETED, INTERRUPTED, OR STOPPED. TO THE EXTENT PRACTICABLE, CONSTRUCTION VEHICLES SHALL BE KEPT OUT OF STREAMS. WHERE IN-CHANNEL WORK IS NECESSARY, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION. WHERE A STREAM MUST BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION, A TEMPORARY CULVERT SHALL BE PROVIDED.

13. CONSTRUCTION ACCESS ROUTES. MEASURES SHALL BE TAKEN TO PREVENT SOIL TRANSPORT ONTO SURFACES WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, OR ONTO PUBLIC ROADS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT OFF-SITE TRACKING OF SEDIMENTS BY VEHICLES AND EQUIPMENT IS ELIMINATED.

14. SLOUGHING AND DUMPING. NO SOIL, ROCK, DEBRIS, OR ANY OTHER MATERIAL SHALL BE DUMPED OR PLACED INTO A WATER RESOURCE OR INTO SUCH A PROXIMITY THAT IT MAY READILY SLOUGH, SLIP, OR ERODE INTO A WATER RESOURCE. UNSTABLE SOILS PRONE TO SLIPPING OR LANDSLIDING SHALL NOT BE GRADED, EXCAVATED, FILLED, OR HAVE LOADS IMPOSED UPON THEM UNLESS THE WORK IS DONE IN ACCORDANCE WITH A QUALIFIED PROFESSIONAL ENGINEER'S RECOMMENDATIONS TO CORRECT, ELIMINATE, OR ADEQUATELY ADDRESS THE PROBLEMS.

EROSION AND SEDIMENT CONTROL NOTES (CONTINUED)

15. MAINTENANCE AND INSPECTION. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE DESIGNED AND CONSTRUCTED TO MINIMIZE MAINTENANCE REQUIREMENTS. THEY SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND INSPECTION OF ALL EROSION/SEDIMENT CONTROL DEVICES REQUIRED BY THE CITY ENGINEER SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF THE CITY ENGINEER, ONCE EVERY 7 CALENDAR DAYS AND/OR WITHIN 24 HOURS AFTER A RAIN EVENT OF GREATER THAN 0.5 INCHES IN A 24-HOUR PERIOD. THESE INSPECTIONS SHALL IDENTIFY AREAS CONTRIBUTING TO STORMWATER DISCHARGES ASSOCIATED WITH THE PROJECT; EVALUATE THE ADEQUACY, IMPLEMENTATION, AND MAINTENANCE OF EXISTING AND PROPOSED EROSION/SEDIMENTATION MEASURES; AND DETERMINE WHETHER ADDITIONAL MEASURES ARE REQUIRED. ACCEPTABLE INSPECTION REPORTS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ENGINEER WITHIN 48 HOURS OF INSPECTION COMPLETION. THE REPORT SHALL CONTAIN THE RESULTS OF THE INSPECTION, NAMES AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE TEMPORARY EROSION AND SEDIMENT CONTROL PLAN, A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE PLAN, AND IDENTIFYING ANY INCIDENTS OF NONCOMPLIANCE.

16. OUTFLOWS FROM DEWATERING OPERATIONS. ALL WATER PRODUCED FROM CLEANING AND DEWATERING OPERATIONS, WHETHER SPECIFICALLY FROM TRENCH DEWATERING OPERATIONS OR FROM MORE EXTENSIVE DEWATERING OPERATIONS, SHALL BE DISCHARGED IN SUCH A MANNER AS TO ELIMINATE EROSION FROM SUCH DISCHARGE.

17. ADDITIONAL CONTROLS. THE CONTRACTOR SHALL ENSURE THAT NO SEDIMENTS ARE TRACKED OFF-SITE BY CONSTRUCTION EQUIPMENT, VEHICLES, AND WORKERS. THE CONTRACTOR SHALL ALSO ENSURE THAT NO SOLID OR LIQUID WASTE IS DISCHARGED INTO ANY STORMWATER FLOW.

18. TEMPORARY EROSION AND SEDIMENT CONTROL PLAN AVAILABILITY AND UPDATES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO ENSURE THE IMMEDIATE AVAILABILITY OF THE TEMPORARY EROSION AND SEDIMENT CONTROL PLAN ON-SITE. THE CONTRACTOR SHALL ALSO BE SOLELY RESPONSIBLE TO PERFORM ALL UPDATES AND ADJUSTMENTS TO THE TEMPORARY EROSION AND SEDIMENT CONTROL PLAN.

PROHIBITED CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL NOT USE CONSTRUCTION PROCEDURES, ACTIVITIES, OR OPERATIONS THAT MAY UNNECESSARILY IMPACT THE NATURAL ENVIRONMENT OR THE PUBLIC HEALTH AND SAFETY. PROHIBITED CONSTRUCTION PROCEDURES, ACTIVITIES, OR OPERATIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOOD PLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.

2. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR OUTSIDE THE EASEMENT LIMITS.

3. PUMPING OF SEDIMENT LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, ANY WETLANDS, OR STORM DRAINS.

4. DISCHARGING POLLUTANTS SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE, AND/OR ANY OTHER HARMFUL WASTE, INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS, OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.

5. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOWLINE OF A STREAM.

6. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.

7. DISPOSAL OF TREES, BRUSH, AND OTHER DEBRIS IN ANY STREAM CORRIDORS, WETLANDS, OR SURFACE WATERS.

8. OPEN BURNING OF PROJECT DEBRIS WITHOUT A PERMIT.

9. STORING CONSTRUCTION EQUIPMENT AND VEHICLES AND/OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY (PUBLIC OR PRIVATE) NOT PREVIOUSLY SPECIFIED BY THE CITY ENGINEER FOR SAID PURPOSES.

ITEM SPECIAL - STREAM CROSSING

1. WHEN SITE CONDITIONS ALLOW, ONE OF THE FOLLOWING SHALL BE USED TO DIVERT STREAM FLOW OR KEEP THE FLOW AWAY FROM CONSTRUCTION ACTIVITY:

- CONSTRUCT A COFFERDAM OR BARRICADE OF SAND BAGS, OR A TURBIDITY CURTAIN TO KEEP FLOW FROM MOVING THROUGH THE DISTURBED AREA. TURBIDITY CURTAINS SHALL BE A PRE-ASSEMBLED SYSTEM AND USED ONLY PARALLEL TO FLOW.
- STAGE CONSTRUCTION BY FIRST CONFINING ONE-HALF OF THE CHANNEL UNTIL WORK THERE IS COMPLETED AND STABILIZED, THEN MOVE TO THE OTHER SIDE TO COMPLETE THE CROSSING.
- ROUTE THE STREAM FLOW AROUND THE WORK AREA BY BRIDGING THE TRENCH WITH A RIGID CULVERT, PUMPING, OR CONSTRUCTING A TEMPORARY CHANNEL. TEMPORARY CHANNELS SHALL BE STABILIZED BY ROCK OR A GEOTEXTILE COMPLETELY LINING THE CHANNEL BOTTOM AND SIDE SLOPES.

2. CROSSING WIDTH. THE WIDTH OF CLEARING SHALL BE MINIMIZED THROUGH THE RIPARIAN AREA. THE LIMITS OF DISTURBANCE SHALL BE AS NARROW AS POSSIBLE INCLUDING NOT ONLY CONSTRUCTION OPERATIONS WITHIN THE CHANNEL ITSELF BUT ALSO CLEARING DONE THROUGH THE VEGETATION GROWING ON THE STREAMBANKS.

3. CLEARING SHALL BE DONE BY CUTTING NOT GRUBBING. THE ROOTS AND STUMPS SHALL BE LEFT IN PLACE TO HELP STABILIZE THE BANKS AND ACCELERATE RE-VEGETATION.

4. MATERIAL EXCAVATED FROM THE TRENCH SHALL BE PLACED AT LEAST 20 FEET FROM THE STREAMBANKS.

5. TO THE EXTENT OTHER CONSTRAINTS ALLOW, STREAM SHALL BE CROSSED DURING PERIODS OF LOW FLOW.

6. DURATION OF CONSTRUCTION. THE TIME BETWEEN INITIAL DISTURBANCE OF THE STREAM AND FINAL STABILIZATION SHALL BE KEPT TO A MINIMUM. CONSTRUCTION SHALL NOT BEGIN ON THE CROSSING UNTIL THE UTILITY LINE IS IN PLACE TO WITHIN 10 FEET OF THE STREAMBANK.

7. FILL PLACED WITHIN THE CHANNEL. THE ONLY FILL PERMITTED IN THE CHANNEL SHOULD BE CLEAN AGGREGATE OR STONE. NO SOIL OR OTHER FINE ERODIBLE MATERIAL SHALL BE PLACED IN THE CHANNEL. THIS RESTRICTION INCLUDES ALL FILL FOR TEMPORARY CROSSINGS, DIVERSIONS, AND TRENCH BACKFILL WHEN PLACED IN FLOWING WATER. IF THE STREAM FLOW IS DIVERTED AWAY FROM CONSTRUCTION ACTIVITY, THE MATERIAL ORIGINALLY EXCAVATED FROM THE TRENCH MAY BE USED TO BACKFILL THE TRENCH.

8. STREAMBANK RESTORATIONS. STREAMBANKS SHALL BE RESTORED TO THEIR ORIGINAL LINE AND GRADE AND STABILIZED WITH RIPRAP OR VEGETATIVE BANK STABILIZATION.

9. RUNOFF CONTROL ALONG THE RIGHT-OF-WAY. TO PREVENT SEDIMENT-LADEN RUNOFF FROM FLOWING TO THE STREAM, RUNOFF SHALL BE DIVERTED WITH WATER BAR OR SWALES TO A SEDIMENT TRAPPING PRACTICE A MINIMUM OF 50 FEET FROM THE STREAM.

10. SEDIMENT LADEN WATER FROM PUMPING OR DEWATERING SHALL NOT BE DISCHARGED DIRECTLY TO A STREAM. FLOW SHALL BE ROUTED THROUGH A SETTLING POND. DEWATERING SUMP OR A FLAT, WELL-VEGETATED AREA ADEQUATE FOR REMOVING SEDIMENT BEFORE THE PUMPED WATER REACHES THE STREAM.

11. DEWATERING OPERATIONS SHALL NOT CAUSE SIGNIFICANT REDUCTIONS IN STREAM TEMPERATURES. IF GROUNDWATER IS TO BE DISCHARGED IN HIGH VOLUMES DURING SUMMER MONTHS, IT SHALL FIRST BE ROUTED THROUGH A SETTLING POND OR OVERLAND THROUGH A FLAT WELL-VEGETATED AREA.

12. THE CONTRACTOR SHALL SUBMIT A STREAM CROSSING PROCEDURE, IN WRITING, TO THE CITY PRIOR TO THE START OF CONSTRUCTION, DETAILING HIS PROPOSED METHOD FOR CROSSING THE STREAM IN ACCORDANCE WITH THE ABOVE REQUIREMENTS. THE SUBMITTAL SHALL DESCRIBE IN DETAIL THE CONTRACTOR'S METHODS FOR EXCAVATION, SOIL STOCKPILING, FLOW DIVERSION, EROSION AND SEDIMENT CONTROL, BACKFILL, AND STREAM RESTORATION.

13. PAYMENT FOR STREAM CROSSING, IF APPLICABLE, WILL BE MADE AT THE LUMP SUM PRICE BID AND SHALL INCLUDE ALL COSTS, INCLUDING ROCK EXCAVATION, INCURRED IN THE STREAM CROSSING PROCESS.

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SEDIMENT AND EROSION CONTROL NOTES

GUARDRAIL IMPROVEMENT-PH.1

TEMPORARY ROCK CHECK DAM

TEMPORARY ROCK CHECK DAMS SHALL CONSIST OF NO. 2 STONE WITHOUT FILTER, PER ITEM 601.08, AND PLACED TO THE DIMENSIONS SHOWN ON THE DETAIL.

MAINTENANCE

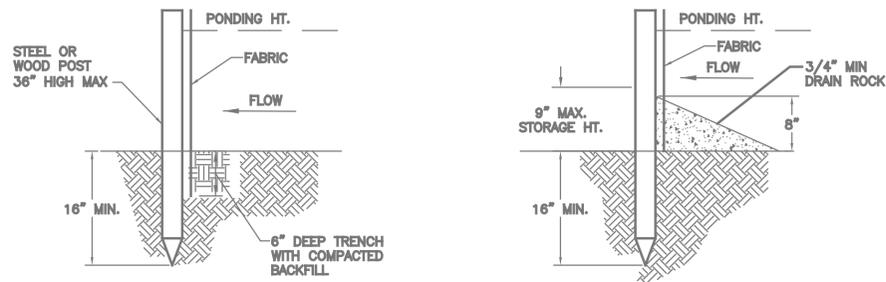
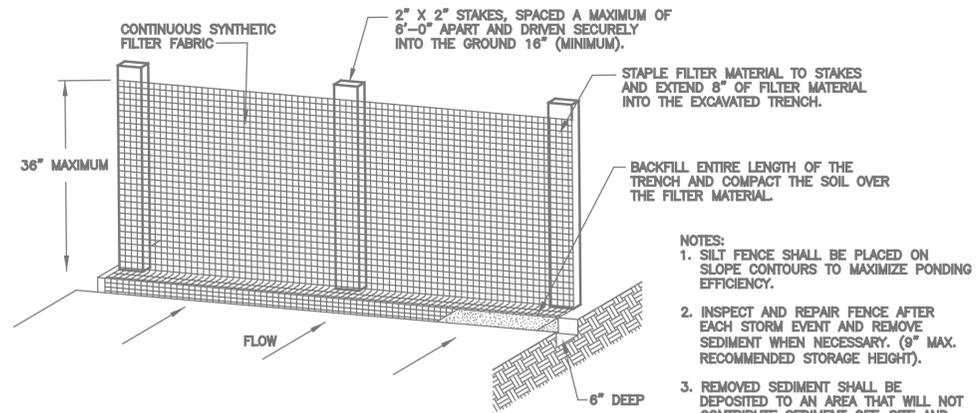
THE DAM SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED AND THE DAM RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DAM DESIGN HEIGHT. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA NOT SUBJECT TO EROSION.

DAMS SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID FOR ITEM SPECIAL - TEMPORARY ROCK CHECK DAM; INCLUDING MATERIAL, PLACEMENT, MAINTENANCE, AND REMOVAL.

INLET SEDIMENT FILTER

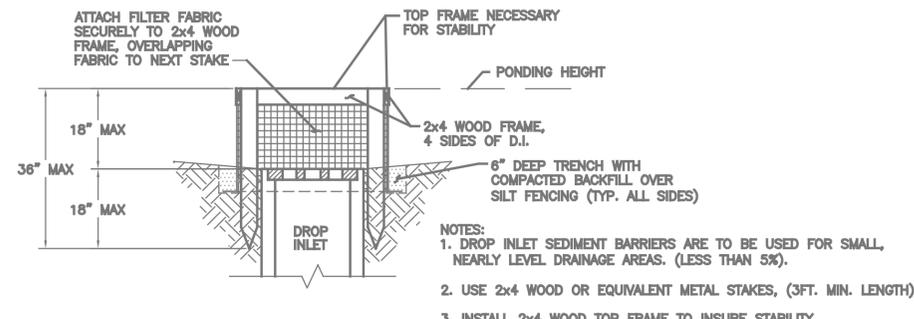
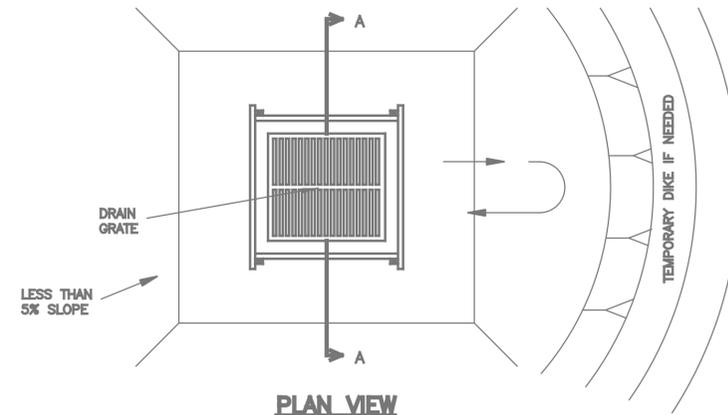
INSTALLATION AND MAINTENANCE OF INLET SEDIMENT FILTERS SHALL BE IN ACCORDANCE WITH THE DETAILS AND THE MANUFACTURER'S RECOMMENDATIONS. PAYMENT WILL BE PER EACH FOR ITEM 207 - INLET PROTECTION.



TRENCH DETAIL

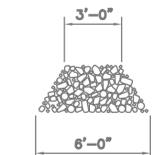
INSTALLATION WITHOUT TRENCHING

FILTER FABRIC FENCE

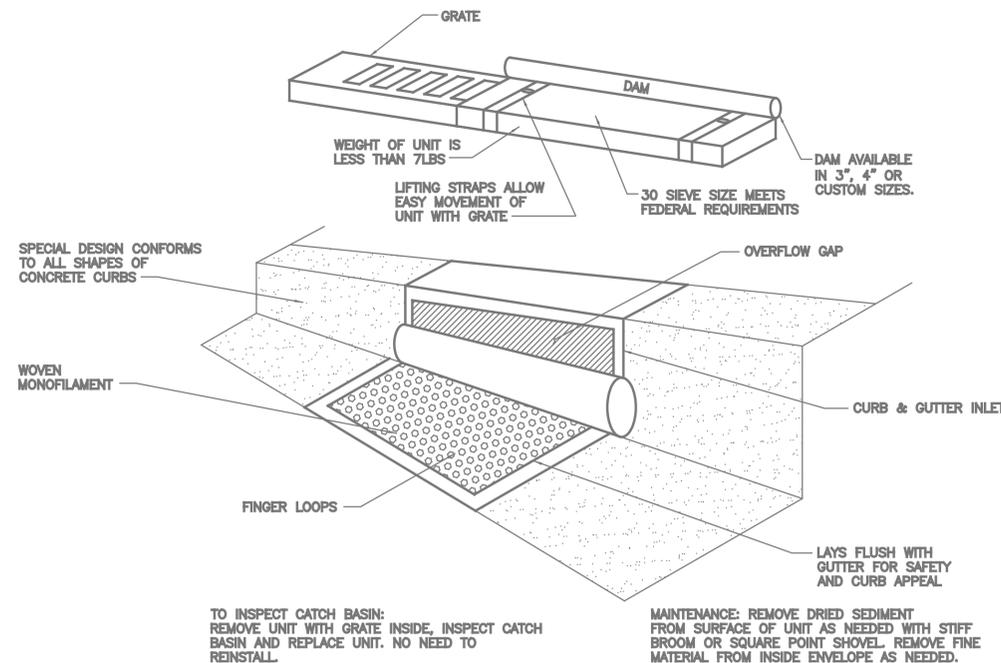


SECTION A-A

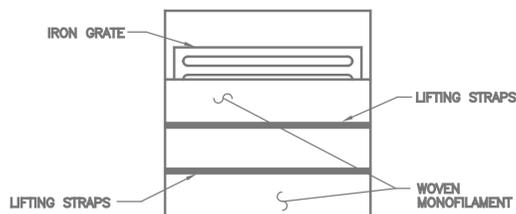
SILT FENCE DROP INLET SEDIMENT BARRIER



SECTION B-B



CURB INLET SEDIMENT BARRIER/FILTER

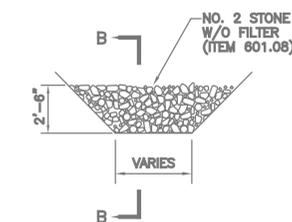


INLET SEDIMENT FILTER

MAINTENANCE: REMOVE DRIED SEDIMENT FROM SURFACE OF UNIT WITH A STIFF BRISTLE BRUSH OR SQUARE POINT SHOVEL. REMOVE FINE MATERIAL FROM INSIDE ENVELOPE AS NEEDED.

TO INSPECT CATCH BASIN: REMOVE UNIT WITH GRATE INSIDE, INSPECT CATCH BASIN AND REPLACE UNIT.

DANDY PRODUCTS INC.
2011 R HARRISBURG PIKE, GROVE CITY, OH 43123
(800) 591-2284 (614) 875-2284 FAX (614) 875-6305



TEMPORARY ROCK CHECK DAM DETAIL

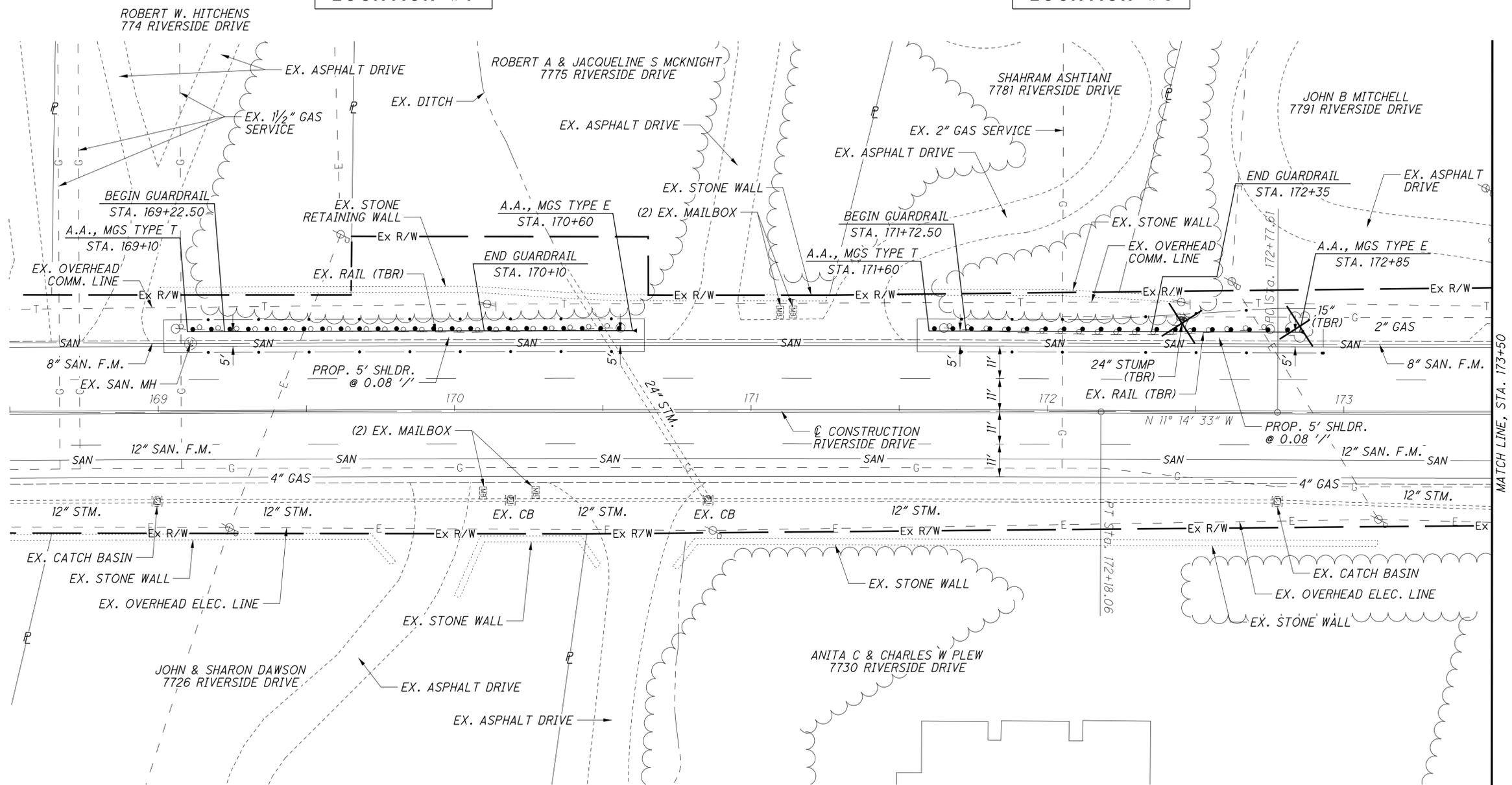
P.I. Sta. 169+04.30
 $\Delta = 0^\circ 53' 56''$ (RT)
 $D_c = 0^\circ 08' 36''$
 $R = 40,000.00'$
 $T = 313.77'$
 $L = 627.53'$
 $E = 1.23'$
 $C = 627.52'$
 $C.B. = N 11^\circ 41' 31'' W$

P.I. Sta. 177+14.22
 $\Delta = 2^\circ 00' 04''$ (LT)
 $D_c = 0^\circ 13' 45''$
 $R = 25,000.00'$
 $T = 436.61'$
 $L = 873.14'$
 $E = 3.81'$
 $C = 873.10'$
 $C.B. = N 12^\circ 14' 35'' W$



LOCATION #7

LOCATION #8



LOCATION #7
 LOCATION #8

**PLAN VIEW - RIVERSIDE DRIVE
 STA. 168+50 TO STA. 173+50**

NOTE:
 DIMENSIONS TO PROPOSED GUARDRAIL ARE FROM EDGE LINE TO FACE OF GUARDRAIL. DIMENSIONS FOR PROPOSED SHOULDER ARE FROM EDGE LINE TO TOP OF SLOPE.

**FUTURE WORK
 NOT TO BE CONSTRUCTED**

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**GUARDRAIL
 IMPROVEMENT - PH.1**



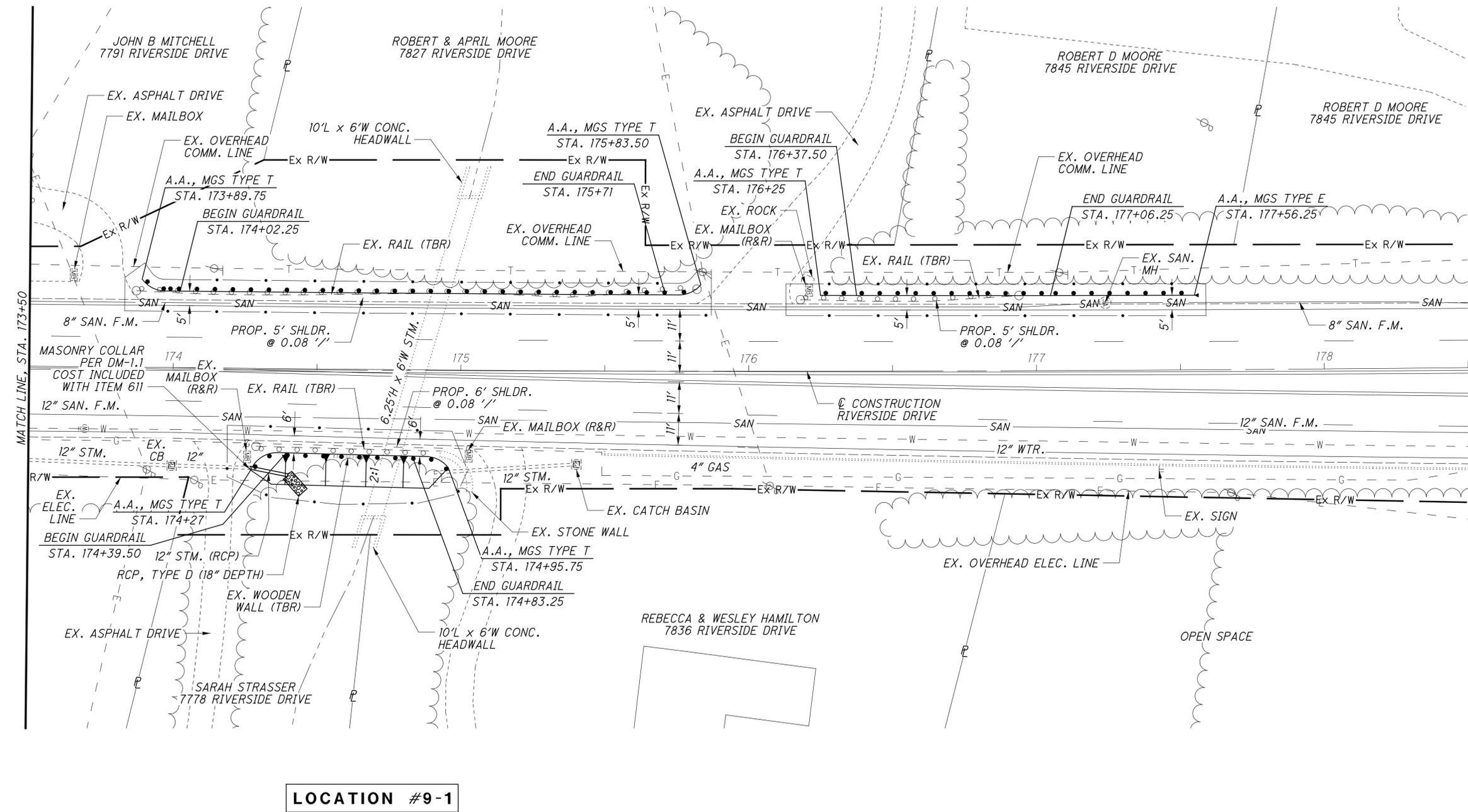
0 20 40
 HORIZONTAL SCALE IN FEET

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P.I. Sta. 177+14.22
 $\Delta = 2^\circ 00' 04''$ (LT)
 $D_c = 0^\circ 13' 45''$
 $R = 25,000.00'$
 $T = 436.61'$
 $L = 873.14'$
 $E = 3.81'$
 $C = 873.10'$
 C.B. = N $12^\circ 14' 35''$ W

LOCATION #9-2

LOCATION #9-3



LOCATION #9-1

LOCATION #9-1
LOCATION #9-2
LOCATION #9-3

PLAN VIEW - RIVERSIDE DRIVE
STA. 173+50 TO STA. 178+50

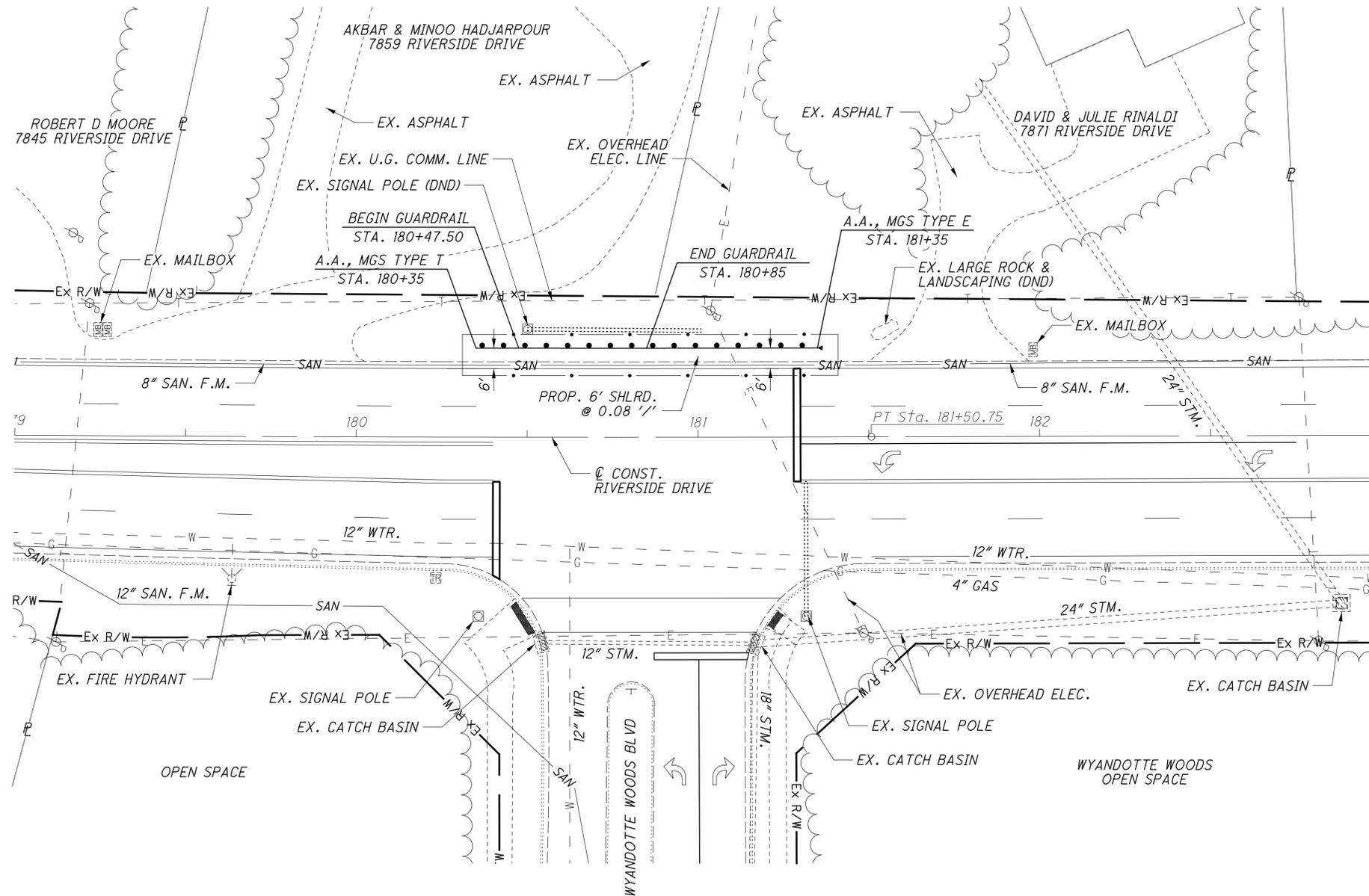
GUARDRAIL IMPROVEMENT - PH.1

NOTE:
 DIMENSIONS TO PROPOSED GUARDRAIL ARE FROM EDGE LINE TO FACE OF GUARDRAIL. DIMENSIONS FOR PROPOSED SHOULDER ARE FROM EDGE LINE TO TOP OF SLOPE.

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P.I. Sta. 177+14.22
 $\Delta = 2^\circ 00' 04''$ (LT)
 $D_c = 0^\circ 13' 45''$
 $R = 25,000.00'$
 $T = 436.61'$
 $L = 873.14'$
 $E = 3.81'$
 $C = 873.10'$
 $C.B. = N 12^\circ 14' 35'' W$

LOCATION #9-4



NOTE:

DIMENSIONS TO PROPOSED GUARDRAIL ARE FROM EDGE LINE TO FACE OF GUARDRAIL. DIMENSIONS FOR PROPOSED SHOULDER ARE FROM EDGE LINE TO TOP OF SLOPE.



CALCULATED	DMS
CHECKED	MLS

LOCATION #9-4

**PLAN VIEW - RIVERSIDE DRIVE
 STA. 179+00 TO STA. 183+00**

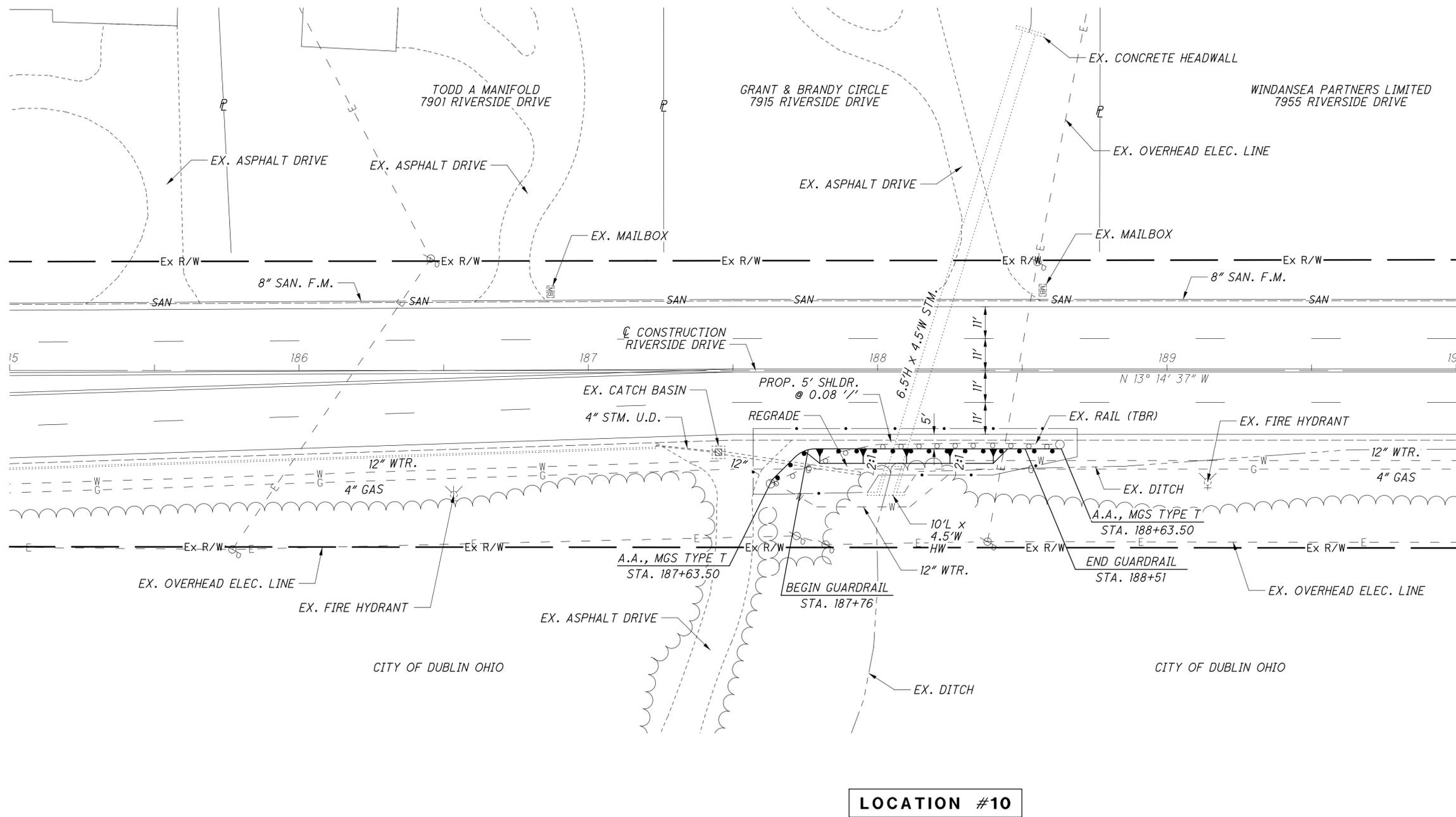
**GUARDRAIL
 IMPROVEMENT - PH. I**

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 HORIZONTAL
 SCALE IN FEET



LOCATION #10

NOTE:

DIMENSIONS TO PROPOSED GUARDRAIL ARE FROM EDGE LINE TO FACE OF GUARDRAIL. DIMENSIONS FOR PROPOSED SHOULDER ARE FROM EDGE LINE TO TOP OF SLOPE.

LOCATION #10

PLAN VIEW - RIVERSIDE DRIVE

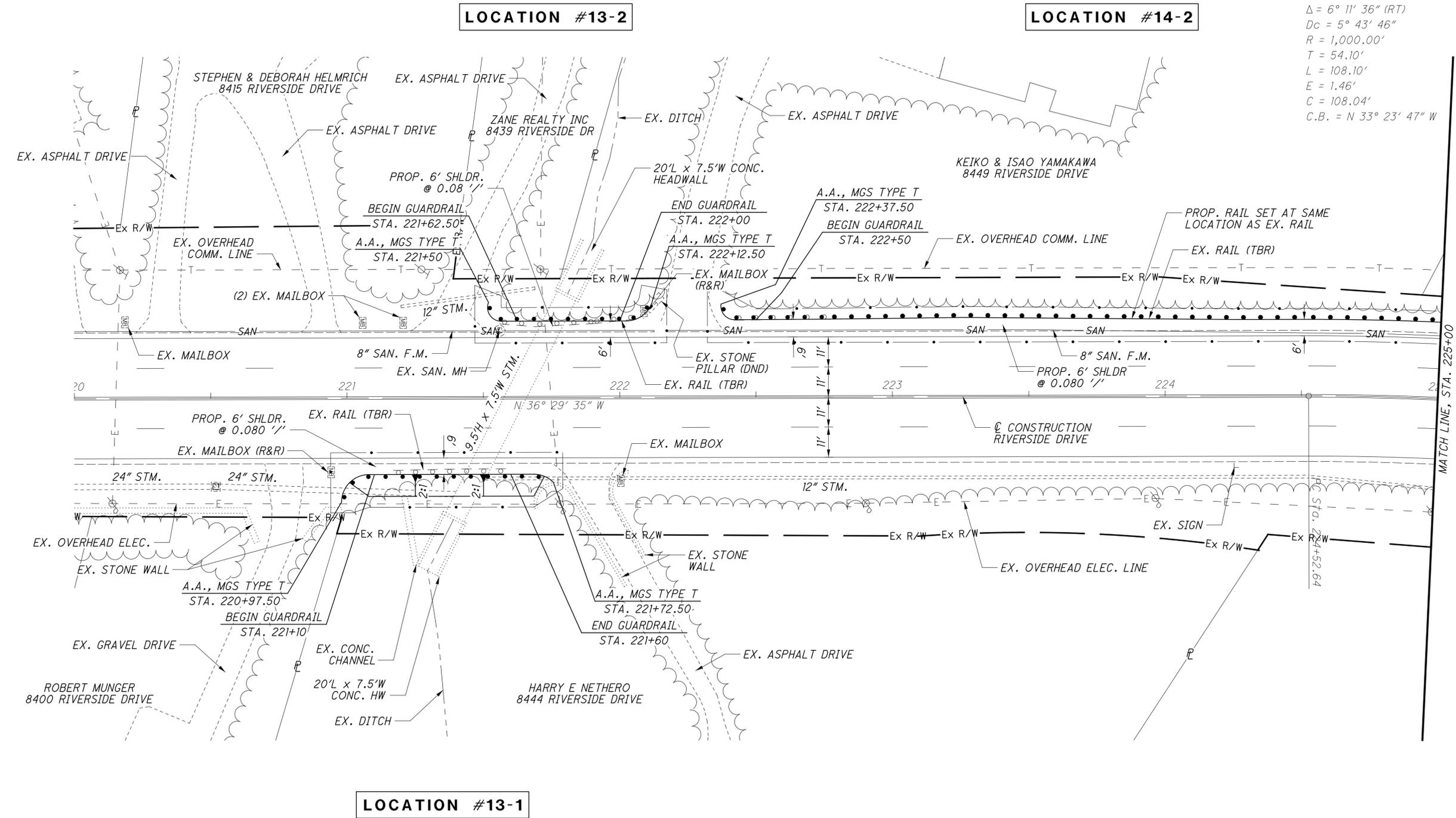
STA. 185+00 TO STA. 190+00

GUARDRAIL IMPROVEMENT - PH. I



CALCULATED	DMS	CHECKED	MLS
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P.I. Sta. 225+06.74
 $\Delta = 6^\circ 11' 36''$ (RT)
 $D_c = 5^\circ 43' 46''$
 $R = 1,000.00'$
 $T = 54.10'$
 $L = 108.10'$
 $E = 1.46'$
 $C = 108.04'$
 $C.B. = N 33^\circ 23' 47'' W$



LOCATION #13-2

LOCATION #14-2

LOCATION #13-1

LOCATION #13-1
LOCATION #13-2
LOCATION #14-2

PLAN VIEW - RIVERSIDE DRIVE
STA. 220+00 TO STA. 225+00

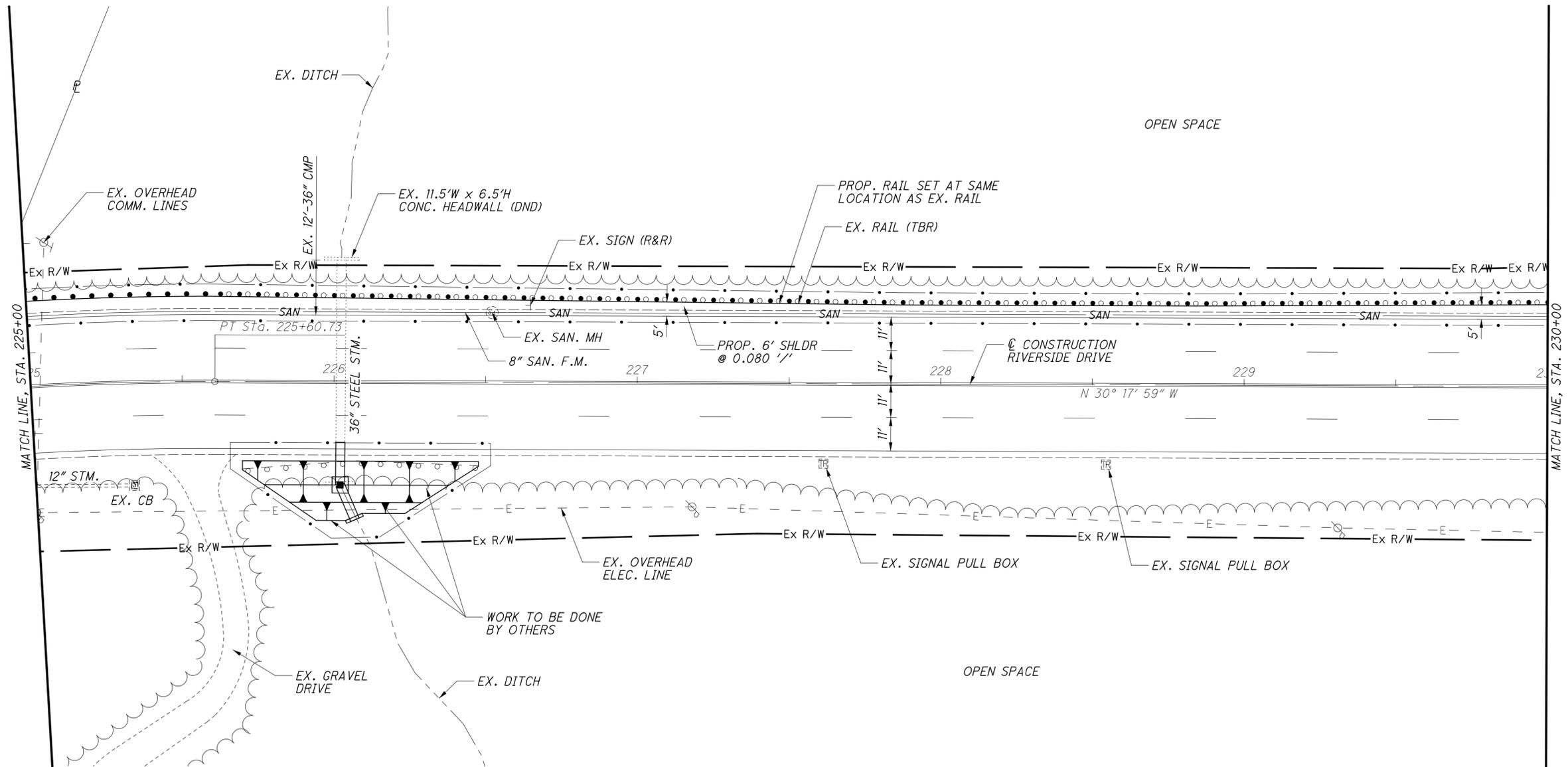
GUARDRAIL
IMPROVEMENT-PH.1

NOTE:
 DIMENSIONS TO PROPOSED GUARDRAIL ARE FROM EDGE LINE TO FACE OF GUARDRAIL. DIMENSIONS FOR PROPOSED SHOULDER ARE FROM EDGE LINE TO TOP OF SLOPE.

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P.I. Sta. 225+06.74
 $\Delta = 6^\circ 11' 36''$ (RT)
 $D_c = 5^\circ 43' 46''$
 $R = 1,000.00'$
 $T = 54.10'$
 $L = 108.10'$
 $E = 1.46'$
 $C = 108.04'$
 C.B. = N 33° 23' 47" W

LOCATION #14-2



NOTE:

DIMENSIONS TO PROPOSED GUARDRAIL ARE FROM EDGE LINE TO FACE OF GUARDRAIL. DIMENSIONS FOR PROPOSED SHOULDER ARE FROM EDGE LINE TO TOP OF SLOPE.



CALCULATED
 DMS
 CHECKED
 MLS

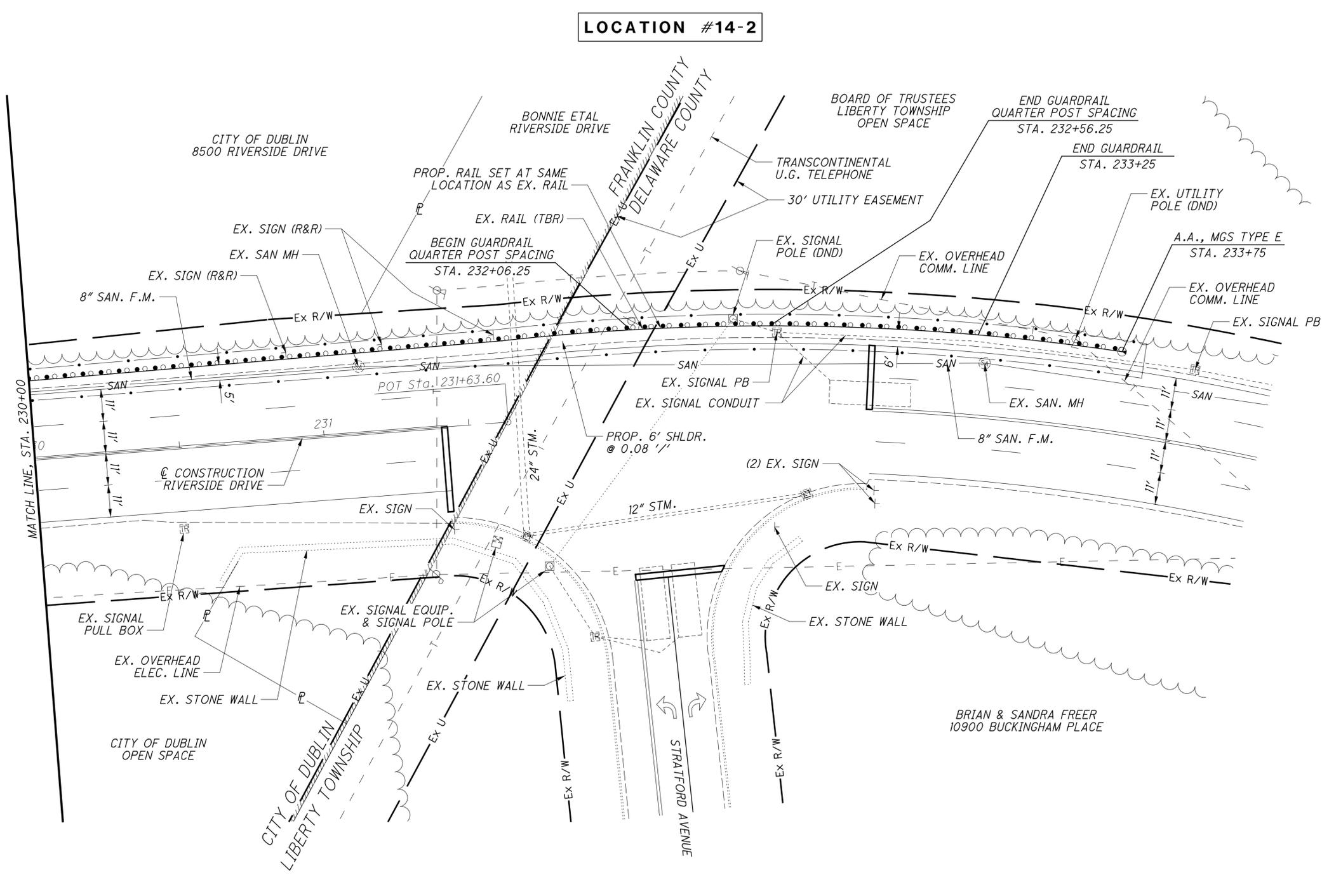
LOCATION #14-2

**PLAN VIEW - RIVERSIDE DRIVE
 STA. 225+00 TO STA. 230+00**

**GUARDRAIL
 IMPROVEMENT - PH. I**

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NOTE:
 DIMENSIONS TO PROPOSED GUARDRAIL ARE FROM EDGE LINE TO FACE OF GUARDRAIL. DIMENSIONS FOR PROPOSED SHOULDER ARE FROM EDGE LINE TO TOP OF SLOPE.



LOCATION #14-2

**PLAN VIEW - RIVERSIDE DRIVE
STA. 230+00 TO 231+64**

GUARDRAIL IMPROVEMENT - PH. I

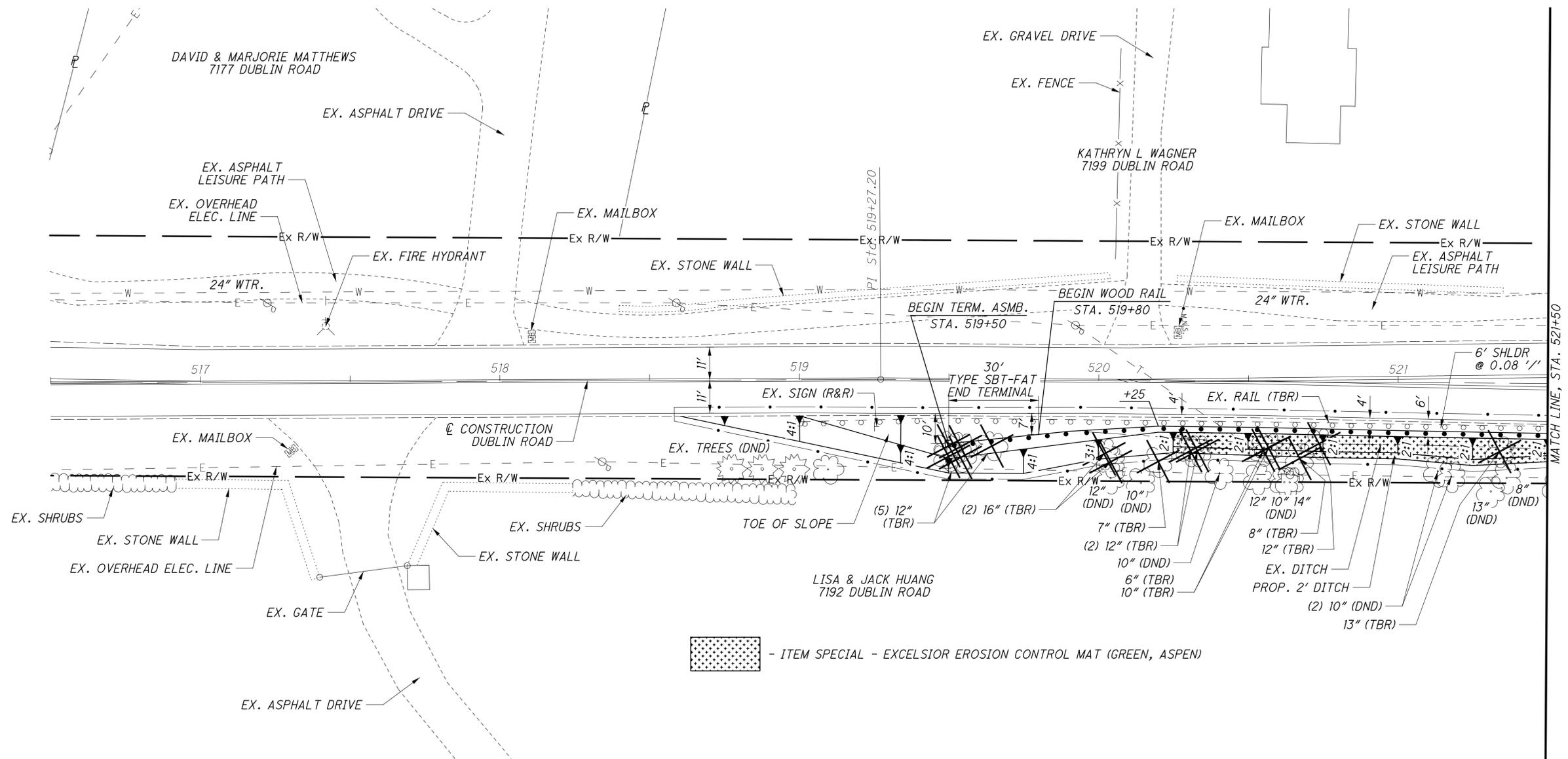
**20
27**

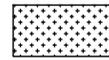


CALCULATED
DMS
CHECKED
MLS

DUBLIN ROAD LOCATION #2
PLAN VIEW - DUBLIN ROAD
STA. 516+50 TO STA. 521+50

GUARDRAIL
IMPROVEMENT - PH. I



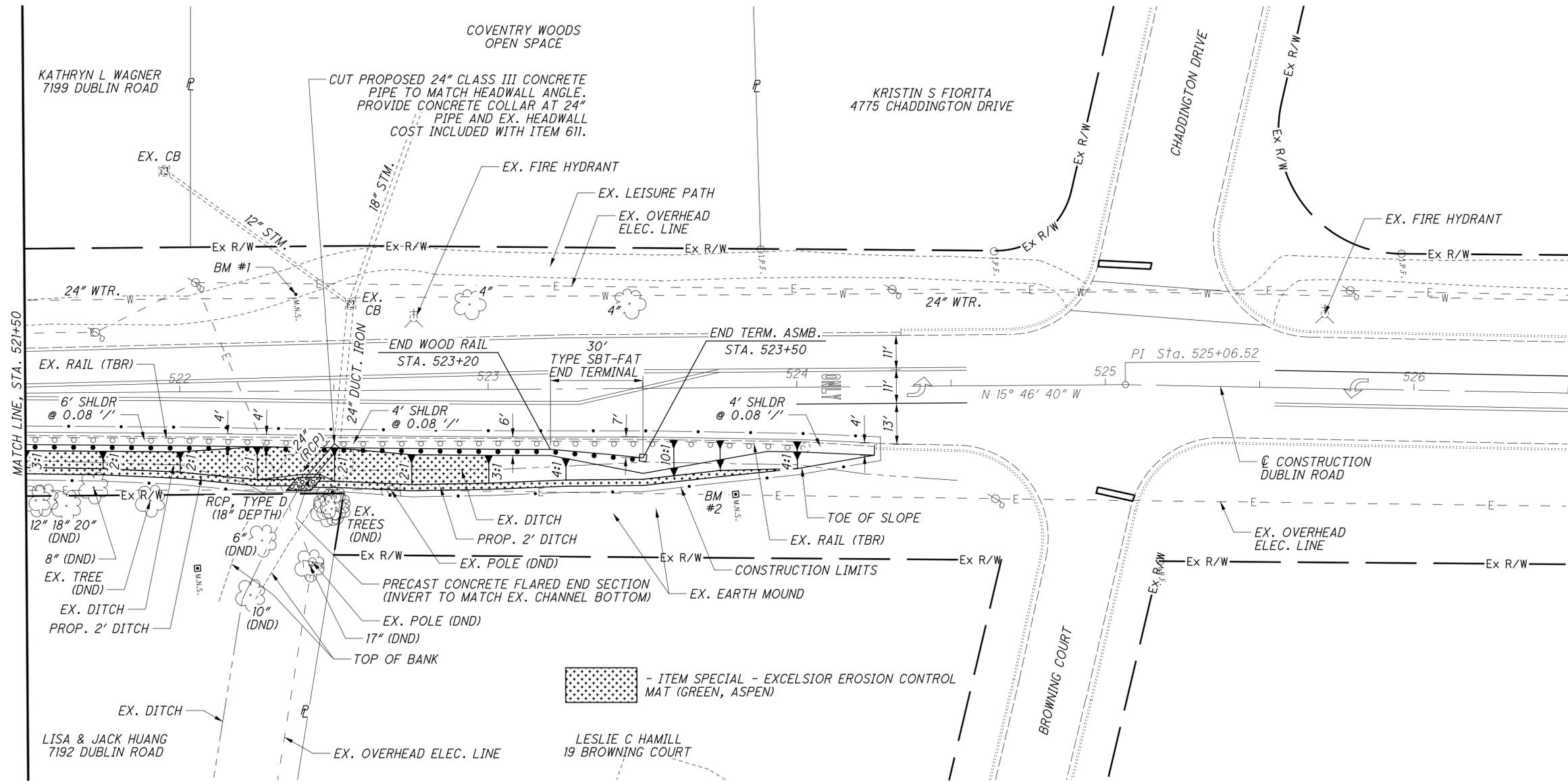
 - ITEM SPECIAL - EXCELSIOR EROSION CONTROL MAT (GREEN, ASPEN)

DUBLIN ROAD LOCATION #2

NOTE:
DIMENSIONS TO PROPOSED GUARDRAIL ARE FROM EDGE LINE TO FACE OF GUARDRAIL. DIMENSIONS FOR PROPOSED SHOULDER ARE FROM EDGE LINE TO TOP OF SLOPE.

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DUBLIN ROAD LOCATION #2

NOTE:

DIMENSIONS TO PROPOSED GUARDRAIL ARE FROM EDGE LINE TO FACE OF GUARDRAIL. DIMENSIONS FOR PROPOSED SHOULDER ARE FROM EDGE LINE TO TOP OF SLOPE.

* REDUCE SHOULDER WIDTH FROM 6' TO 4' IN 25 FEET.

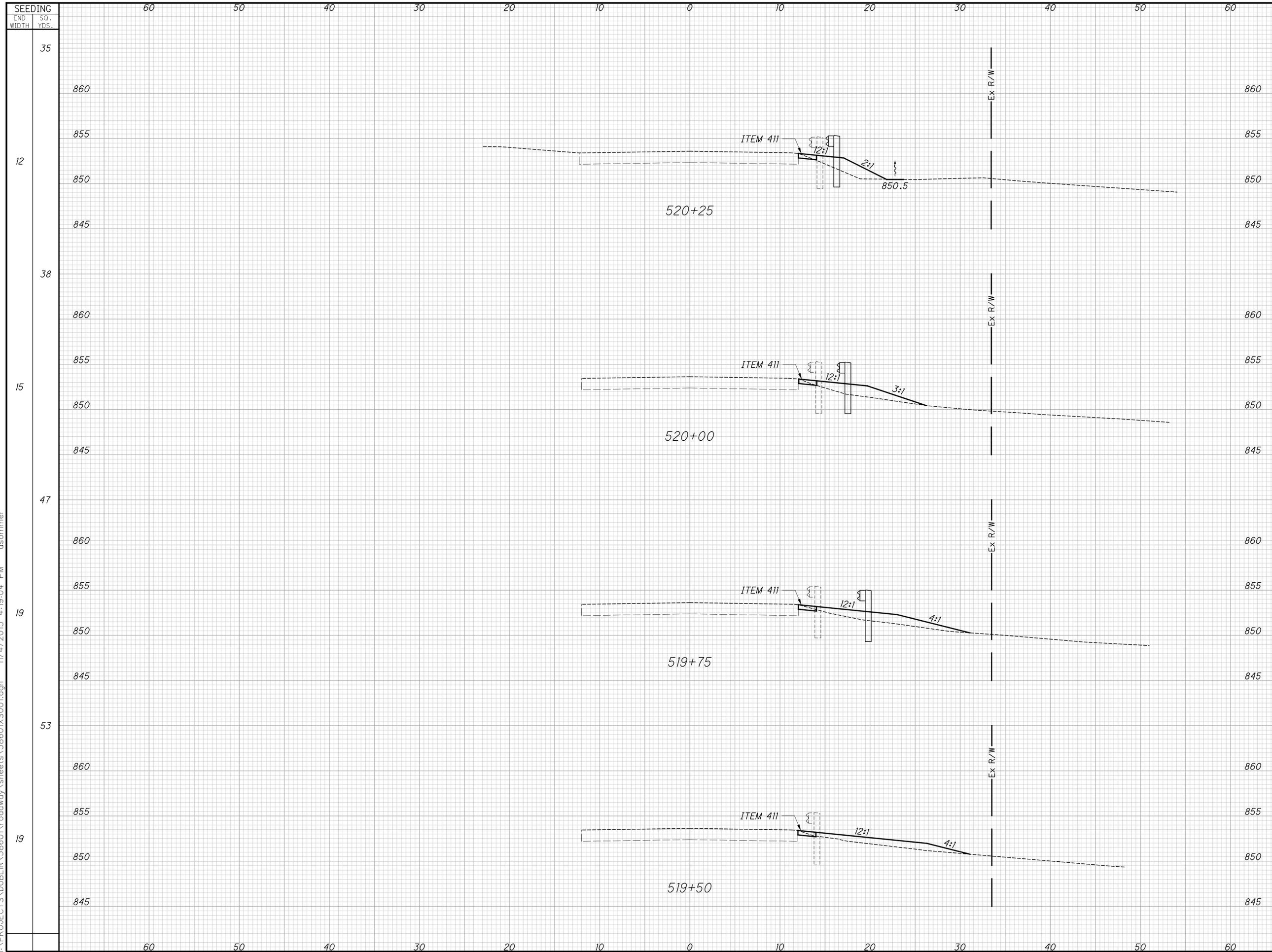
CALCULATED
DMS
CHECKED
MLS

0 10 20 40
HORIZONTAL
SCALE IN FEET

DUBLIN ROAD LOCATION #2
PLAN VIEW - DUBLIN ROAD
STA. 521+50 TO STA. 526+50

GUARDRAIL
IMPROVEMENT-PH.1

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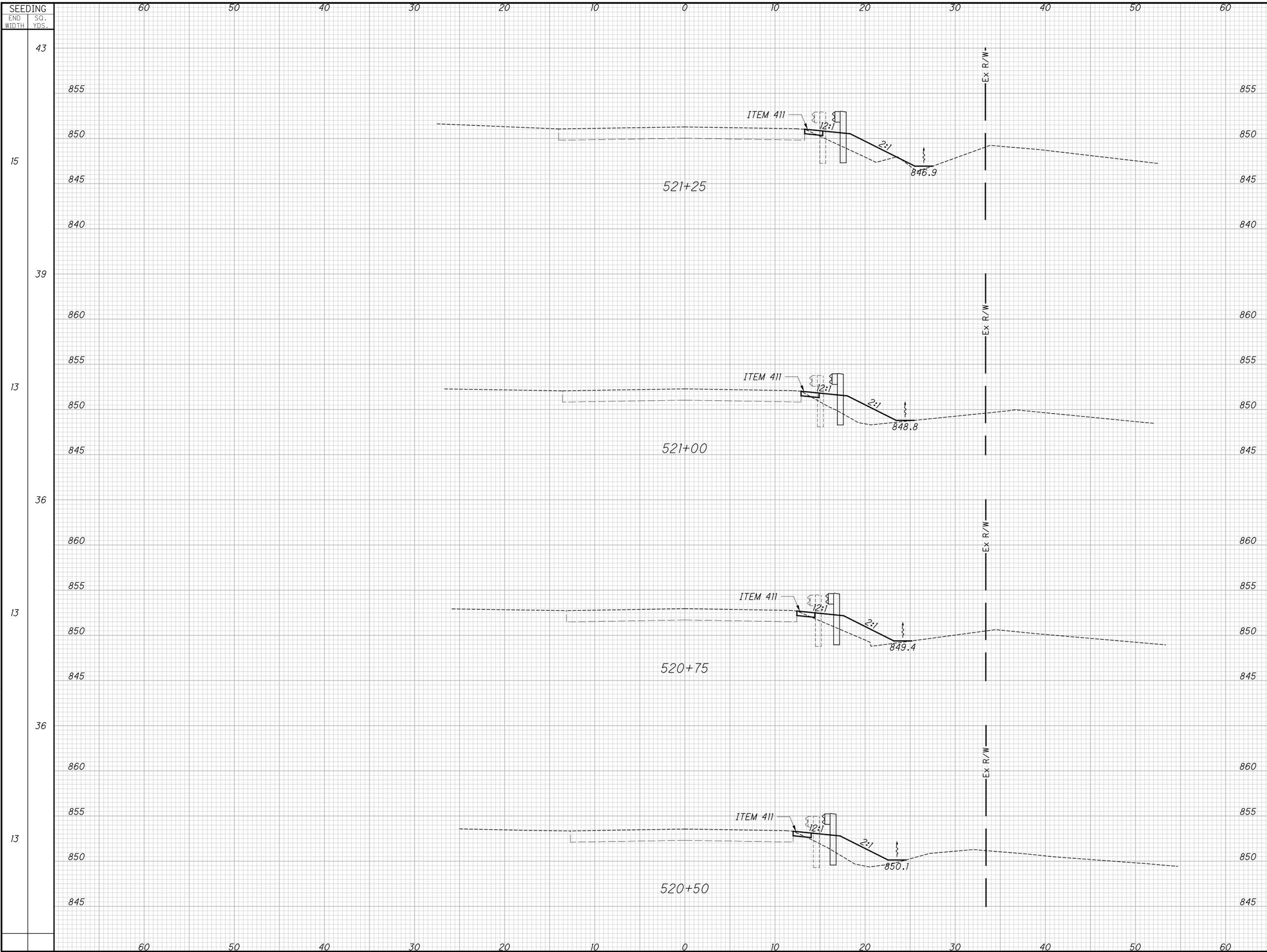


END WIDTH	SO. YDS.	END AREA		VOLUME		CALCULATED DMS	CHECKED MLS
		CUT	FILL	CUT	FILL		
35							
12		1	8				
38				1	8		
15		0	10				
47				0	10		
19		0	12				
53				0	10		
19		0	10				

**CROSS SECTIONS - DUBLIN ROAD LOCATION #2
STA. 519+50 TO STA. 520+25**

GUARDRAIL IMPROVEMENT - PH.1

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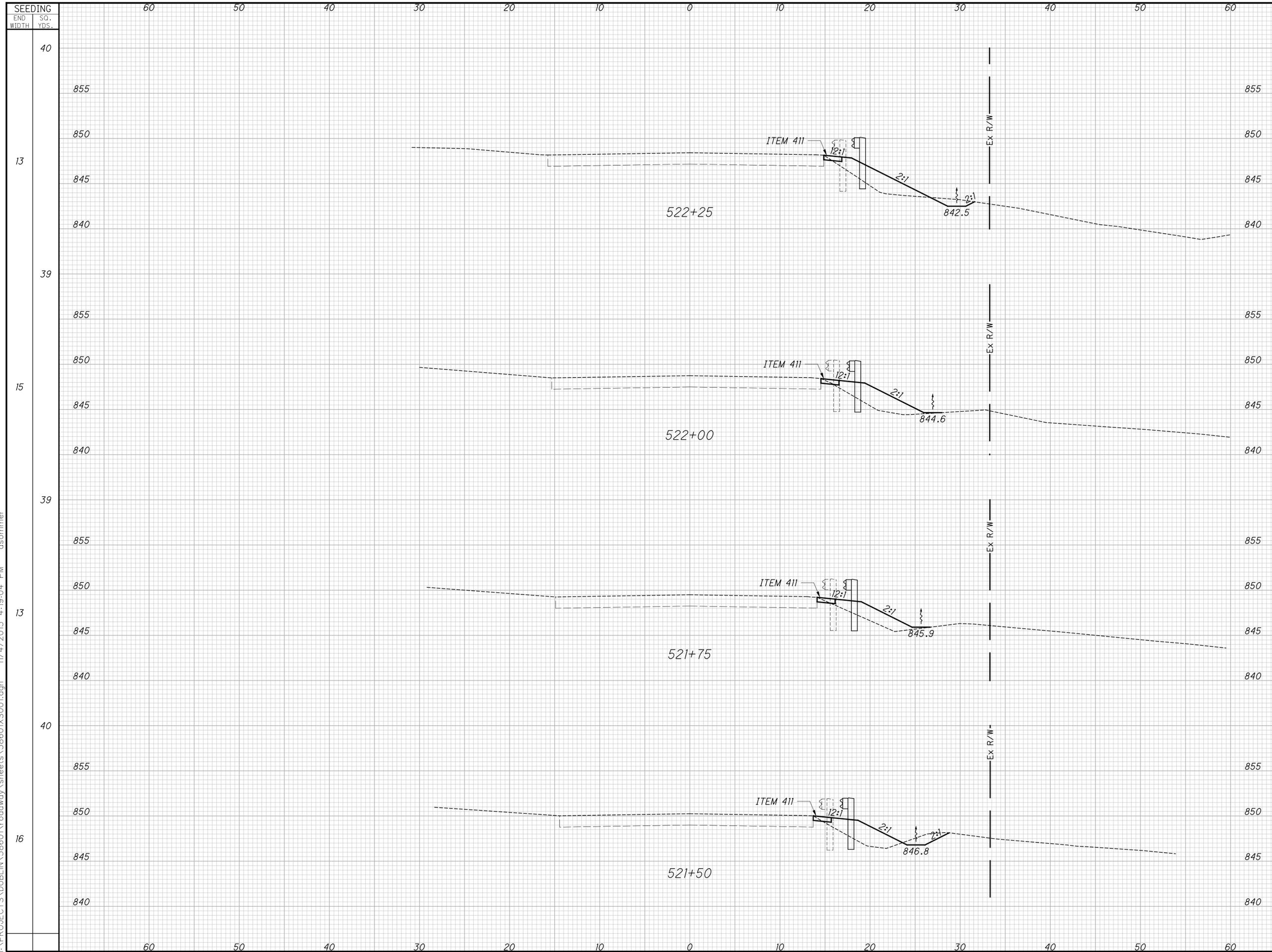
SEEDING	END AREA		VOLUME		CALCULATED DMS	CHECKED MLS
	CUT	FILL	CUT	FILL		
43						
15	1	13				
39			1	13		
13	0	15				
36			0	13		
13	0	12				
36			0	13		
13	0	15				

**CROSS SECTIONS - DUBLIN ROAD LOCATION #2
STA. 520+50 TO STA. 521+25**

**GUARDRAIL
IMPROVEMENT-PH.I**

24
27

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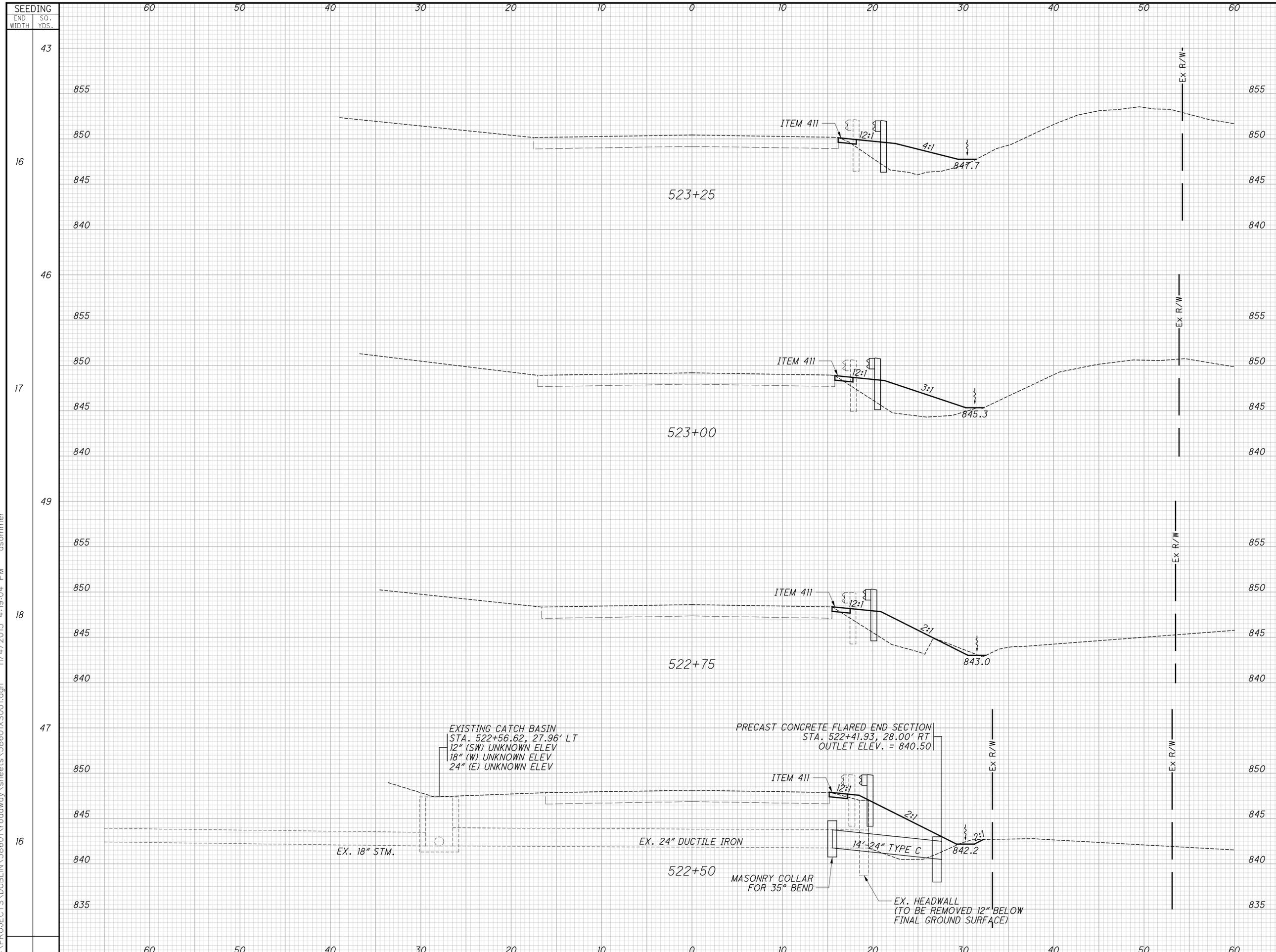


SEEDING	END AREA		VOLUME		CALCULATED	DMS	CHECKED	MLS
	CUT	FILL	CUT	FILL				
40								
13	3	15	2	24				
39			1	14				
15	0	15						
39			0	13				
13	0	12						
40			1	12				
16	3	14						

**CROSS SECTIONS - DUBLIN ROAD LOCATION #2
STA. 521+50 TO STA. 522+25**

**GUARDRAIL
IMPROVEMENT - PH. I**

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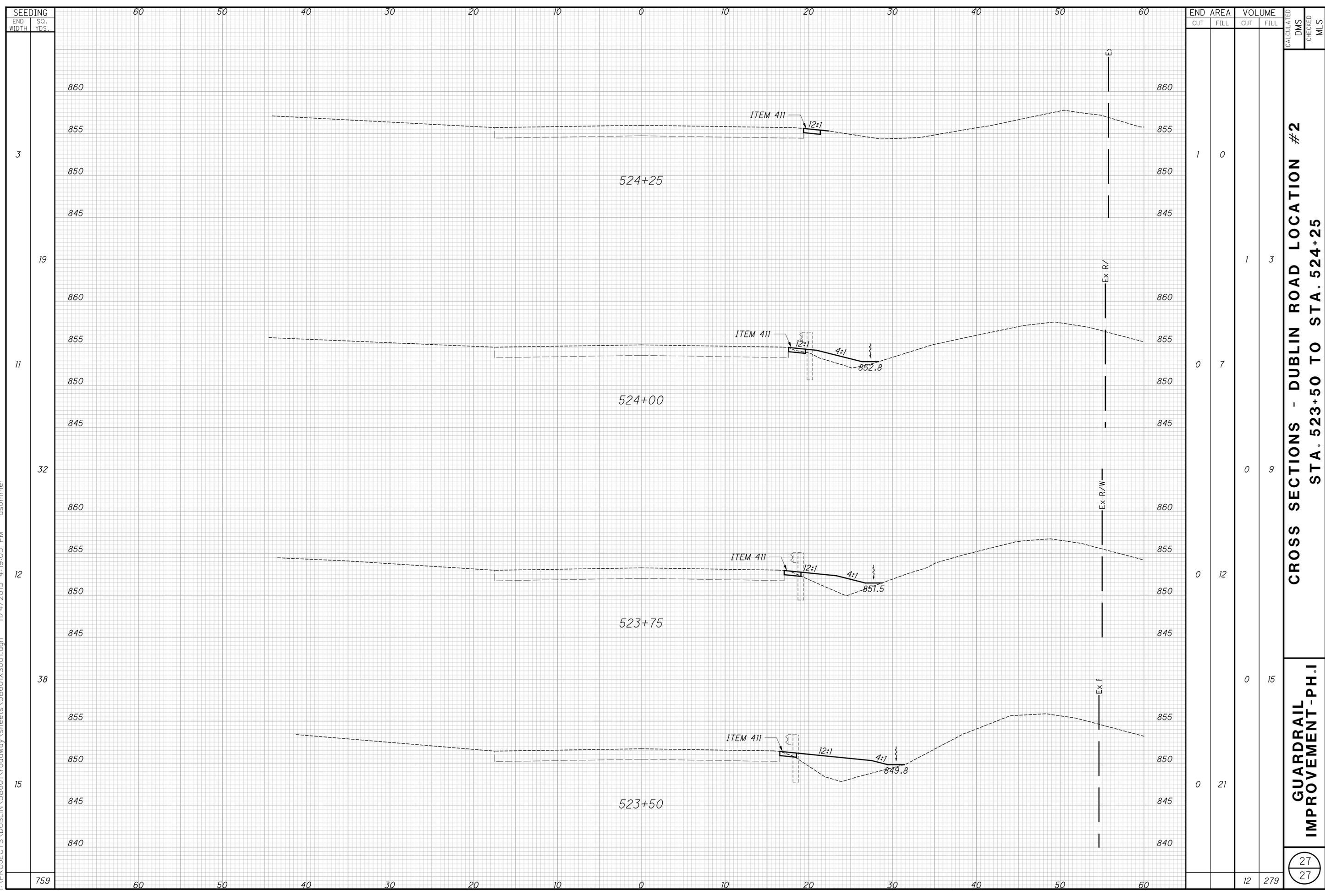


**CROSS SECTIONS - DUBLIN ROAD LOCATION #2
STA. 522+50 TO STA. 523+25**

**GUARDRAIL
IMPROVEMENT - PH. I**

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27

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**CROSS SECTIONS - DUBLIN ROAD LOCATION #2
STA. 523+50 TO STA. 524+25**

**GUARDRAIL
IMPROVEMENT - PH. I**

27
27