

PROJECT DESCRIPTION

THE PROJECT CONSISTS OF THE WIDENING OF RIVERSIDE DRIVE (S.R. 257) TO PROVIDE A NORTHBOUND RIGHT TURN LANE AT THE INTERSECTION OF HARD ROAD. THE EXISTING TRAFFIC SIGNAL WILL BE MODIFIED TO ACCOMMODATE THE NEW RIGHT TURN LANE AND RELOCATE THE PEDESTRIAN SIGNAL POLE IN ACCORDANCE WITH CITY OF DUBLIN REQUIREMENTS.

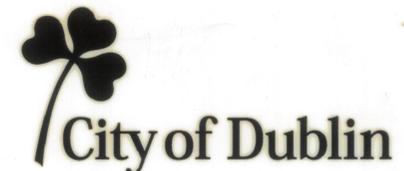
SPECIFICATIONS

CITY OF COLUMBUS CONSTRUCTION AND MATERIALS SPECIFICATIONS CURRENT EDITIONS AND ANY SUPPLEMENTS THERETO, SHALL GOVERN ALL CONSTRUCTION ITEMS UNLESS OTHERWISE NOTED. ITEM NUMBERS LISTED REFER TO THE CITY OF COLUMBUS ITEM NUMBERS UNLESS OTHERWISE NOTED.

CITY OF DUBLIN, OHIO

RIVERSIDE DRIVE/HARD ROAD RIGHT TURN LANE

09-010-CIP



BENCHMARK (BASED ON NAVD 88)

BM1
TOP OF NORTH BOLT ON FIRE HYDRANT ON EAST SIDE OF RIVERSIDE DRIVE, ±700 FEET SOUTH OF INTERSECTION WITH HARD ROAD. THIS IS THE SECOND HYDRANT SOUTH OF THE INTERSECTION, BEING 35.5 FEET RIGHT OF CENTERLINE STATION 65+23.
ELEV: 832.27 (NAVD 88)

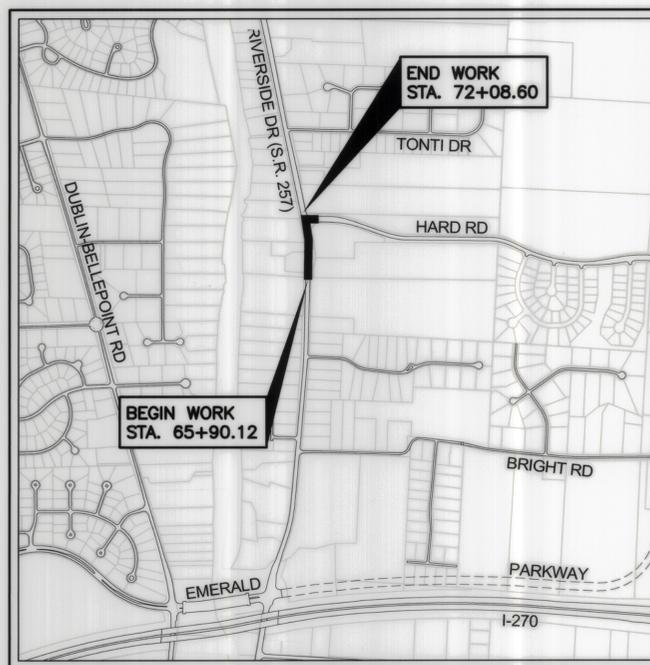
BM2
TOP OF NORTH BOLT ON FIRE HYDRANT ON SOUTH SIDE OF HARD ROAD, ±75 FEET EAST OF INTERSECTION WITH RIVERSIDE DRIVE. THIS IS THE FIRST HYDRANT EAST OF THE INTERSECTION, BEING 35 FEET RIGHT OF CENTERLINE STATION 11+60.
ELEV: 832.75 (NAVD 88)

BM3
SQUARE CUT IN TOP OF NORTHWEST CORNER ON CONCRETE HEADWALL ON EAST SIDE OF RIVERSIDE DRIVE, ±1200 FEET SOUTH OF INTERSECTION WITH HARD ROAD.
ELEV: 830.33 (NAVD 88)

	SPEED	
	DESIGN	POSTED
RIVERSIDE DRIVE	50	50
HARD ROAD	35	35

LEGEND

- PROPOSED STORM SEWER, MANHOLE, CATCH BASIN
- EX. R/W
- EXISTING EASEMENT
- PROPOSED EASEMENT
- WORK LIMITS
- IRON PIN, DRILL HOLE, PK NAIL
- PROPERTY LINE
- BASELINE OR CENTERLINE
- EXISTING EDGE OF PAVEMENT
- EXISTING WATER MAIN, VALVE, AND HYDRANT
- EXISTING SANITARY SEWER, MANHOLE (FORCE MAIN)
- EXISTING GAS MAIN
- EXISTING STORM SEWER, MANHOLE AND INLET
- EXISTING UNDERGROUND TELEPHONE AND PEDESTAL
- EXISTING UNDERGROUND ELECTRIC AND PEDESTAL
- UTILITY POLES
- SIGNAL POLES
- POLE GUY WIRE
- SIGN
- TREE, TREE TO BE REMOVED



LOCATION MAP



PORTIONS TO BE IMPROVED

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

CITY OF DUBLIN		ODOT		CITY OF COLUMBUS	
PD-01	SL-01	BP-3.1	4-20-12	AA-S125A	12-6-13
PD-02	SL-02			AA-S133B	12-6-13
PD-03	SL-03	HL-30.11	1-17-14	AA-S151	7-9-12
PD-04	SL-04	HL-30.22	1-17-14		
	SL-05			L-1003	5-14-13
RD-02		MT-95.31	7-19-13	L-8502	5-16-13
RD-03	ST-04				
RD-05	ST-05	TC-41.20	10-18-13	SS 1100	5-1-14
RD-06		TC-42.20	10-18-13		
	WA-01	TC-52.20	1-17-14		
		TC-71.10	1-17-14		
		TC-82.10	10-18-13		
		TC-83.20	10-18-13		
		TC-85.10	10-18-13		
		TC-85.20	10-18-13		



INDEX OF SHEETS

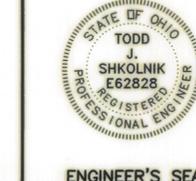
TITLE SHEET	1
SCHEMATIC PLAN	2
TYPICAL SECTION	3
GENERAL NOTES	4-6
MAINTENANCE OF TRAFFIC	7
GENERAL SUMMARY	8
PLAN AND PROFILES	9-10
CROSS SECTIONS	11-13
PAVEMENT DETAILS	14
INTERSECTION DETAIL	15
GRADING PLAN	16
TRAFFIC CONTROL PLAN	17
TRAFFIC SIGNAL PLAN	18-23

PLAN PREPARED BY:

Stantec
Stantec Consulting Services Inc.
1500 Lake Shore Drive, Suite 100
Columbus, Ohio 43204
(614) 486-4383

Donald K. G... 5-21-14
REGISTERED ENGINEER FOR SIGNAL PLAN ONLY DATE

Paul J. H... 05-21-14
REGISTERED ENGINEER DATE



SIGNATURES BELOW SIGNIFY ONLY CONCURRENCE WITH THE GENERAL PURPOSES AND GENERAL LOCATION OF THE PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF THE ENGINEER PREPARING THE PLANS.

APPROVED: *Paul A. Hamerick* 5-22-2014
CITY ENGINEER, CITY OF DUBLIN, OHIO DATE

APPROVAL ON THE PART OF THE CITY OF COLUMBUS IS GIVEN PURSUANT TO THE PROVISIONS OF THE WATER SERVICE AGREEMENT BETWEEN DUBLIN AND THE CITY OF COLUMBUS, OHIO ON APRIL 13, 1993 AND ALL SUBSEQUENT AMENDMENTS THEREOF.

ADMINISTRATOR, DIVISION OF WATER, CITY OF COLUMBUS, OHIO DATE

DIRECTOR, DEPARTMENT OF PUBLIC UTILITIES, CITY OF COLUMBUS, OHIO DATE

FEDERAL PROJECT NO. NONE

PID NO. NONE

CONSTRUCTION PROJECT NO. 09-010-CIP

RAILROAD INVOLVEMENT NONE

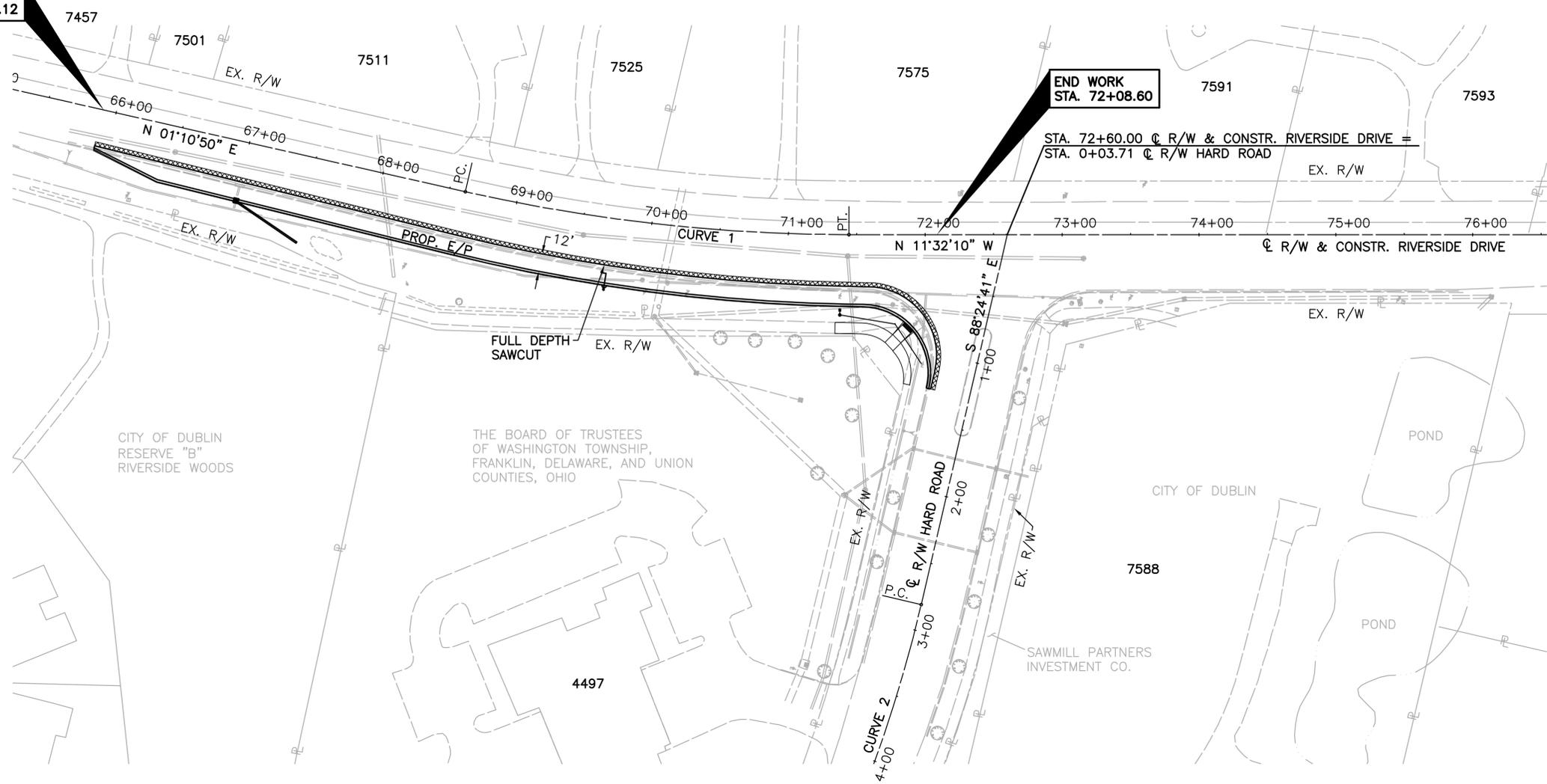
RIVERSIDE DRIVE/HARD ROAD RIGHT TURN LANE

1/23

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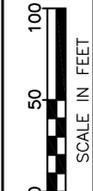
BEGIN WORK
STA. 65+90.12

END WORK
STA. 72+08.60



☉ R/W & CONSTR. RIVERSIDE DRIVE
CURVE DATA 1
 P.I. STA. 70+03.55
 $\Delta = 12'43'00''$ LT.
 $D_c = 04'29'59''$
 $R = 1273.34'$
 $T = 141.89'$
 $L = 282.61'$
 $E = 7.88'$
 PC STA. 68+61.66
 PT STA. 71+44.27

☉ R/W HARD ROAD
CURVE NO. 2
 P.I. STA. 4+36.24
 $\Delta = 17'40'20''$
 $D_c = 05'43'46''$
 $R = 1000.00'$
 $T = 155.45'$
 $L = 308.44'$
 $E = 12.01'$
 P.C. STA. 2+80.79
 P.T. STA. 5+89.23



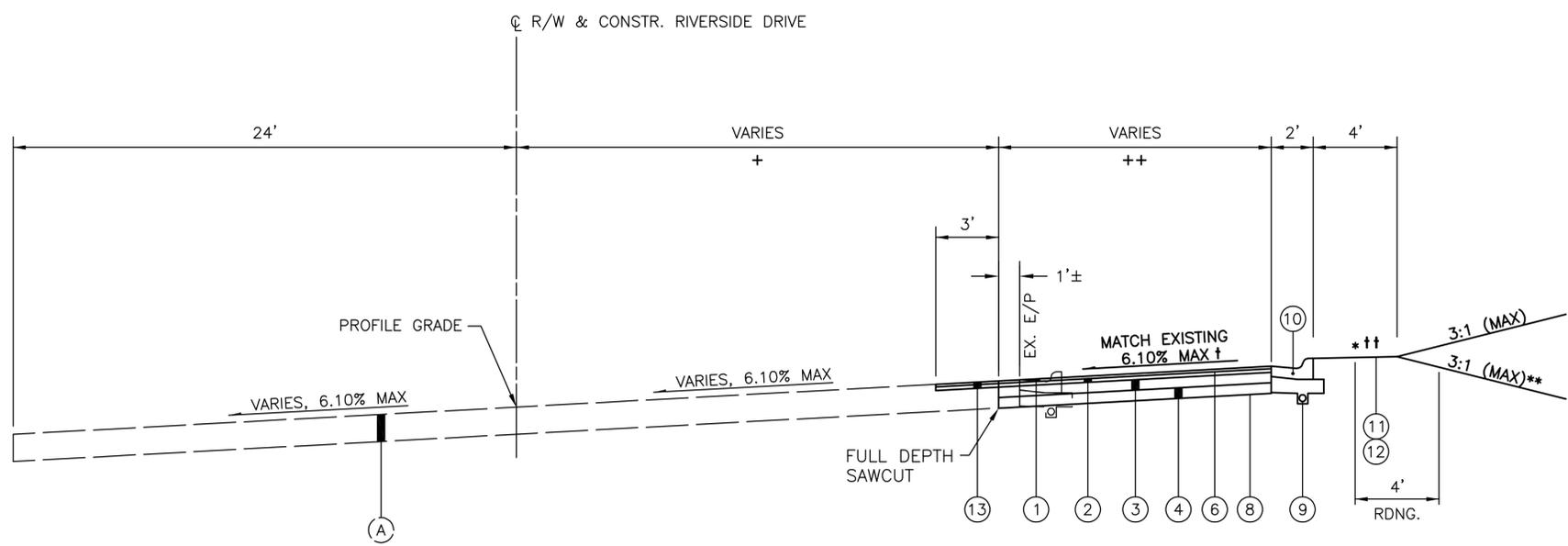
CALCULATED
 JWS
 CHECKED
 TJS

SCHEMATIC PLAN

DESIGN DESIGNATIONS	
RIVERSIDE DRIVE	
CURRENT ADT (2007).....	19,450
DESIGN HOURLY VOLUME (2007).....	1,945
DIRECTIONAL DISTRIBUTION.....	60%
TRUCKS (24 HOUR B&C).....	2%
DESIGN SPEED:.....	55 mph
LEGAL SPEED:.....	50 mph
DESIGN FUNCTIONAL CLASSIFICATION: MAJOR ARTERIAL	

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

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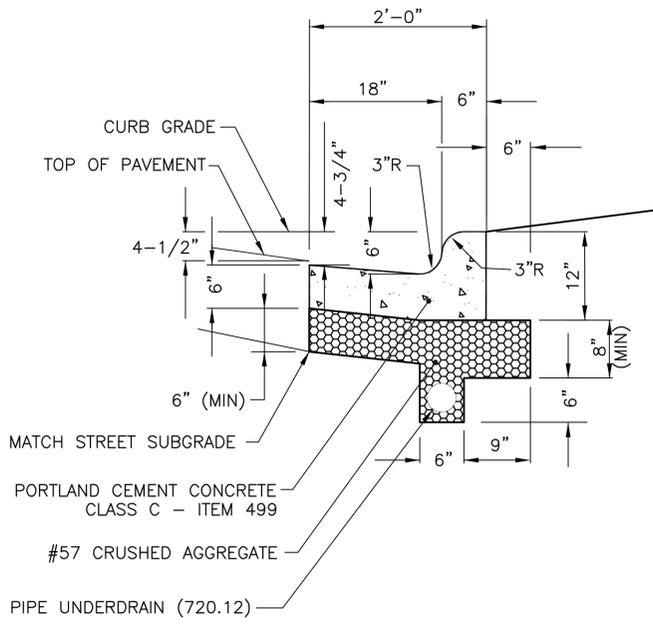
NORMAL SECTION

+ STA. 65+90.12 TO STA. 71+54.96 (VARIES 27' TO 38')
 ++ STA. 65+90.12 TO STA. 66+40.00 (VARIES 1' TO 13')
 STA. 66+40.00 TO STA. 71+54.96 (13')

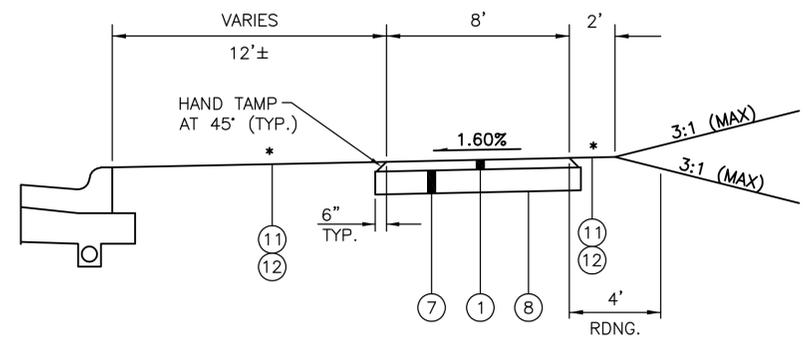
* 2.08%
 ** 2.25:1 MAX STA. 68+00 TO STA. 68+50
 † STA. 70+00.00 TO STA. 71+96.91 VARIES 0.0585 TO 0.016 (OPPOSITE HAND)
 †† STA. 70+75.00 TO STA. 71+34.63 VARIES 4' TO 11.5'

LEGEND

- ① ITEM 448 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, HEAVY TRAFFIC
- ② ITEM 448 - 1-1/2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22, HEAVY TRAFFIC
- ③ ITEM 301 - 6" BITUMINOUS AGGREGATE BASE, PG64-22
- ④ ITEM 304 - 6" AGGREGATE BASE (ROADWAY)
- ⑤ ITEM 304 - 6" AGGREGATE BASE (BIKEPATH)
- ⑥ ITEM 407 - NTSS-1HM TRACKLESS TACK COAT (0.04 GAL./SQ. YD.)
- ⑦ ITEM 301 - 3" BITUMINOUS AGGREGATE BASE, PG64-22, (BIKE PATH)
- ⑧ ITEM 204 - SUBGRADE COMPACTION
- ⑨ ITEM 605 - 4" PIPE UNDERDRAIN
- ⑩ ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN
- ⑪ ITEM 659 - SEEDING AND MULCHING, AS PER PLAN
- ⑫ ITEM 653 - 3" TOPSOIL FURNISHED AND PLACED, AS PER PLAN
- ⑬ ITEM 254 - 3" PAVEMENT PLANING, ASPHALT CONCRETE
- (A) EXISTING PAVEMENT



6" COMBINATION CURB & GUTTER DETAIL
N.T.S.



BIKEPATH SECTION

STA. 71+34.63 TO STA. 71+76.22

TYPICAL SECTION

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

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CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NEITHER ORDER MATERIALS NOR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE CITY ENGINEER" UNLESS AUTHORIZED BY THE CITY ENGINEER.

TEMPORARY EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITY IS TO BE USED AS DIRECTED BY THE CITY ENGINEER FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207 – PERIMETER FILTER FABRIC FENCE 680 LF

ITEM SPECIAL – TREE PROTECTION FENCE

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 FENCING PLACED A MINIMUM OF 15 FEET FROM THE TREE TRUNK. TREES 6 INCHES OR GREATER AT DBH (DIAMETER BREST HEIGHT) MUST BE PROTECTED WITH FENCING PLACED AT THE CRITICAL ROOT ZONE OR 15 FEET, WHICHEVER IS GREATER. WHERE 15 FEET CANNOT BE MAINTAINED, THE FENCING SHALL BE PLACED IN SUCH A WAY AS TO MAXIMIZE PROTECTION OF THE BRANCHES, TRUNK, AND ROOTS. A QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR SAID WORK.

TREES NOT INDICATED ON THE APPROVED CONSTRUCTION DRAWINGS FOR REMOVAL MAY NOT BE REMOVED WITHOUT PRIOR APPROVAL OF THE DIVISION OF ENGINEERING.

ITEM 201 – TREES AND STUMPS REMOVED

ALL TREES AND STUMPS 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 LESS THAN 6 INCHES SHALL BE CONSIDERED BRUSH AND THEIR REMOVAL PAID UNDER ITEM 201 – CLEARING AND GRUBBING UNLESS DESIGNATED IN THE PLAN TO SAVE.

THE CITY OF DUBLIN RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES AND/OR STUMPS OUTSIDE THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES.

TREE TRIMMING WITHIN THE CONSTRUCTION ZONE IS TO BE COMPLETED BY A CERTIFIED ARBORIST. AT THE COMPLETION OF THE PROJECT, THE ARBORIST IS TO RETURN AND TRIM ANY BROKEN BRANCHES AS NEEDED.

STORM SEWER

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN AT ALL TIMES STORM SEWER, DRAIN, AND DITCH FLOWS THROUGH EXISTING FACILITIES TO REMAIN IN PLACE AND THROUGH EXISTING FACILITIES TO BE REPLACED UNTIL NEW FACILITIES ARE COMPLETED AND PUT INTO SERVICE. 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.

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY, REPRESENTATIVES OF THE CITY AND THE CONTRACTOR 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 APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

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 CLEANED CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.

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 CITY ENGINEER.

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

WHERE PLANS CALL FOR 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 FOR BOTH LINE AND GRADE PRIOR TO THE START OF PIPE LAYING.

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

PAYMENT FOR THE DETERMINATION OF LINE AND GRADE OF EXISTING UTILITIES AS REQUIRED SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT CONTRACT ITEMS.

ALL FIELD TILE BROKEN OR ENCOUNTERED DURING EXCAVATION SHALL BE REPLACED OR REPAIRED IN LIKE KIND AND CONNECTED TO THE STORM SEWER SYSTEM 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.

WHERE THE WORK CALLS FOR RELOCATION OF EXISTING DITCHES OR STORM SEWER, THE CONTRACTOR SHALL REESTABLISH THE OUTLETS OF ALL PRIVATE DRAINS ENCOUNTERED; SUCH AS DOWNSPOUTS, FOUNDATION DRAINS, CATCH BASINS, YARD DRAINS, ETC., INTO THE NEAREST NEW DITCH OR STORM SEWER. THE COST FOR REESTABLISHING PRIVATE DRAIN OUTLETS SHALL BE INCLUDED IN THE VARIOUS STORM SEWER ITEMS.

ALL PRECAST CONCRETE PRODUCTS SHALL BE INSPECTED AT THE LOCATION OF MANUFACTURE. APPROVED PRECAST CONCRETE PRODUCTS WILL BE STAMPED OR HAVE SUCH IDENTIFICATION NOTING THAT INSPECTION HAS BEEN PERFORMED BY THE CITY OF COLUMBUS. PRECAST CONCRETE PRODUCTS WITHOUT PROOF OF INSPECTION SHALL NOT BE APPROVED FOR INSTALLATION.

ALL STORM SEWERS SHALL BE REINFORCED CONCRETE PIPE CONFORMING TO ASTM DESIGNATION C76, WALL B, CLASS IV FOR PIPE DIAMETERS 12 INCHES TO 15 INCHES, CLASS III FOR 18 INCHES TO 24 INCH PIPES, AND 27 INCHES AND LARGER PIPE SHALL BE CLASS II, UNLESS OTHERWISE SHOWN ON THE PLANS.

THE CONTRACTOR SHALL PLACE CURB & GUTTER INLETS WITHIN THE CURB LINE IN ACCORDANCE WITH THE STANDARD DRAWING AA-S125.

ALL INLETS, CATCH BASINS, AND MANHOLES SHALL BE CHANNELIZED.

ROADWAY UNDERDRAINS SHALL BE DISCHARGED INTO THE NEAREST STORMWATER STRUCTURE AVAILABLE ALONG THE LINE OF FLOW UNLESS SHOWN OTHERWISE ON THE PLANS. CONTRACTOR SHALL PROVIDE UNDERDRAIN BEYOND LIMITS CALLED FOR, AS REQUIRED, TO MAKE OUTLET CONNECTIONS.

ALL EXISTING AND PROPOSED CASTINGS SHALL BE ADJUSTED TO MATCH THE SURROUNDING FINISH GRADE BY THE CONTRACTOR. TOP OF CASTING ELEVATIONS PROVIDED ON THE PLANS ARE APPROXIMATE. PAYMENT UNDER ITEM 604 – EXISTING MANHOLES ADJUSTED TO GRADE, SHALL ONLY BE FOR CASTING ADJUSTMENTS ON EXISTING MANHOLES THAT REQUIRE NO OTHER WORK. THE COST OF ALL CASTING ADJUSTMENTS SHALL BE INCLUDED IN THE VARIOUS SEWER ITEMS.

WHERE BACKFILLING WITH CONCRETE AROUND A STORM SEWER PIPE IS DETERMINED TO BE NECESSARY, BY EITHER CALL OUT ON THE PLANS, OR AS DIRECTED BY THE ENGINEER, THE WORK SHALL BE IN ACCORDANCE WITH THE CITY OF COLUMBUS STANDARD DRAWING AA-S151, TYPE 1 BEDDING FOR RIGID SEWER PIPE USING CLASS "A" CONCRETE. THE TOTAL LENGTH OF BACKFILL SHALL BE FOR ALL EXPOSED PORTIONS OF PIPE, OR AS DIRECTED BY THE ENGINEER.

ITEM SPECIAL – FLARED END SECTION

HDPE FLARED ENDS CALLED FOR ON THE PLANS SHALL BE ADVANCED DRAINAGE SYSTEMS (ADS) "FLARED END SECTIONS", OR APPROVED EQUAL, WITH PE THREADED RODS AND WING NUTS. N-12 ADAPTER FITTINGS FOR CONNECTION TO CONCRETE PIPE SHALL BE INCLUDED IN THE PER EACH PRICE BID FOR THE FLARED END SECTIONS.

ITEM 604 – MANHOLES, CATCH BASINS AND INLETS, AS PER PLAN

THE CONTRACTOR WILL MAKE ALL FINAL GRADE ADJUSTMENT OF MANHOLE, CATCH BASIN AND INLET COVERS AND FRAME ASSEMBLIES USING INJECTION MOLDED HIGH DENSITY POLYETHYLENE (HDPE) ADJUSTMENT RINGS WHERE PRACTICAL. THESE ADJUSTMENT RINGS SHALL BE MANUFACTURED FROM POLYETHYLENE PLASTIC AS IDENTIFIED IN ASTM DESIGNATION D-1248 (STANDARD SPECIFICATION FOR POLYETHYLENE PLASTIC MOLDING AND EXTRUSION MATERIALS). INSTALLATION SHALL BE PER MANUFACTURE'S RECOMMENDATIONS ONLY. THE ANNULAR SPACE BETWEEN THE RINGS AND CONE BASIN, THE RINGS, AND THE RINGS AND COVER FRAME SHALL BE SEALED UTILIZING AN APPROVED BUTYL SEALANT.

ITEM 604 – INLETS & CATCH BASINS, AS PER PLAN

BICYCLE SAFE GRATES SHALL BE USED FOR ALL PROPOSED CURB AND GUTTER INLETS AND CATCH BASINS. ALL AA-S133 CATCH BASINS ARE TO BE EQUIPPED WITH EAST JORDAN #5110, TYPE M3 GRATES.

ITEM 604 – CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN

THIS ITEM SHALL CONFORM TO COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS SECTION 604.03(B), EXCEPT THAT THE CATCH BASIN SHALL BE CAPPED WITH A SOLID PRECAST LID, AND THE TOP OF CASTING SHALL SIT ONE FOOT BELOW THE PROPOSED SUBGRADE ELEVATION.

ITEM 605 – 4" PIPE UNDERDRAIN

THE CONTRACTOR IS TO ESTABLISH THE DEPTH OF THE EXISTING UNDERDRAIN WHEN THE PROPOSED UNDERDRAIN IS TIED IN. FROM HERE THE CONTRACTOR IS TO ESTABLISH POSITIVE FLOW TO THE DRAINAGE STRUCTURE.

ITEM 609 – 6" CONCRETE COMBINATION CURB AND GUTTER, AS PER PLAN

THE 6" CONCRETE COMBINATION CURB AND GUTTER SHALL BE IN ACCORDANCE WITH CITY OF DUBLIN STANDARD DRAWING RD-02.

WHERE THESE ITEMS ARE TO BE PLACED WITHIN OR ADJACENT TO EXISTING PAVEMENT, THE PAVEMENT SHALL BE SAWCUT, REMOVED, AND REPLACED IN ACCORDANCE WITH THE PLAN LOCATIONS AND DETAILS. THE COST OF ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO SAWCUT, REMOVE AND REPLACE THE AFFECTED EXISTING PAVEMENT AREA SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR THE PERTINENT 609 ITEM.

ITEM 630 – GROUND MOUNTED SUPPORT, NO. 3, TYPE S, AS PER PLAN

ALL SIGN SUPPORTS SHALL BE 2-INCH SQUARE GALVANIZED POSTS WITH DIE CUT KNOCK OUTS (ALLIED QUICK-PUNCH SUPPORTS OR APPROVED EQUAL). A SINGLE BREAKAWAY ANCHOR SHALL BE USED. ALL SIGNS SHALL BE ERECTED WITH A 7-FOOT VERTICAL CLEARANCE BETWEEN THE TOP OF CURB AND THE BOTTOM OF EACH SIGN, UNLESS OTHERWISE DESIGNATED BY THE CITY ENGINEER. HORIZONTAL CLEARANCE FOR BOTH CURB AND DITCH SECTIONS SHALL BE AS PER ODOT STANDARDS. THE ANCHOR POST SHALL BE PAID FOR SEPARATELY. PAYMENT FOR THIS ITEM SHALL BE FOR THE LENGTH ONLY, INCLUDING THE 8" OVERLAP IN THE ANCHOR POST, AND ALL MISCELLANEOUS ATTACHMENT HARDWARE.

ITEM 630 – 2 1/4" SQUARE ANCHOR POST, AS PER PLAN

IN ADDITION TO ITEMS 630 AND 730, THE ANCHOR POST PROVIDED AND INSTALLED WITH THE GROUND MOUNTED SIGN SUPPORT SHALL BE AS PER ODOT SCD TC-41.20, AND SHALL BE 48" IN LENGTH. THE ANCHOR SHALL BE 2 1/4-INCHES SQUARE, 12 GA., WITH A 2 1/2-INCH OVERSLEEVE 18-INCHES LONG OVER TOP OF THE ANCHOR. THIS ITEM SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH.

ITEM 630 – SIGNS, FLAT SHEET

TRAFFIC CONTROL SIGNS, AS SHOWN ON THE DRAWINGS, SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE PROVISIONS OF ODOT ITEM 630, UNLESS OTHERWISE NOTED.

ITEM 630 – REMOVAL OF GROUND MOUNTED SIGN AND STORAGE

ALL EXISTING GROUND MOUNTED SIGNS WITHIN THE PROJECT AREA SHALL BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE CITY AT A LOCATION TO BE DETERMINED WITHIN THE DUBLIN CITY LIMITS. THE CONTRACTOR SHALL COMPENSATE THE CITY IN AN AMOUNT EQUAL TO THE REPLACEMENT COST OF ANY SIGNS DAMAGED AS A RESULT OF THE CONSTRUCTION OPERATIONS. PAYMENT FOR SIGN REMOVAL AND DELIVERY WILL BE MADE AT THE UNIT PRICE BID PER EACH FOR ITEM 630 – REMOVAL OF GROUND MOUNTED SIGN AND STORAGE.

ITEM 653 – TOPSOIL FURNISHED AND PLACED, AS PER PLAN

A MINIMUM OF 3 INCHES OF TOPSOIL SHALL BE PLACED IN ALL AREAS TO BE SEEDED. PRIOR TO PLACING TOPSOIL IN CUT AREAS, THE EARTH SHALL BE EXCAVATED TO A DEPTH SUFFICIENT TO PLACE 3 INCHES OF TOPSOIL. 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. PAYMENT FOR TOPSOIL REMOVAL IS INCLUDED IN ITEM 203 – EXCAVATION.

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.

ITEM 608 – 4" CONCRETE WALK, AS PER PLAN

IN ADDITION TO THE CONCRETE WALK, THE CONTRACTOR SHALL PLACE A 4" BASE OF #57 CRUSHED AGGREGATE THE FULL WIDTH OF THE WALK. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 608 – 4" CONCRETE WALK, AS PER PLAN.

CALCULATED
TUS
CHECKED
BMH

GENERAL NOTES

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

GENERAL NOTES FOR WATER LINES

ALL WATER MAINS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH SECTION 801.14 OF THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, WITH THE FOLLOWING EXCEPTION: 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.

MAINTAIN EIGHTEEN (18) INCHES VERTICAL AND TEN (10) FEET HORIZONTAL SEPARATION BETWEEN ANY SANITARY OR STORM SEWER PIPING AND STRUCTURES AND ALL PROPOSED WATER MAINS. FOR INSTANCES WHERE TEN (10) FEET OF HORIZONTAL SEPARATION CANNOT BE MAINTAINED FROM A SEWER STRUCTURE, THE WATER LINE SHALL BE INSTALLED SUCH THAT THE STRUCTURE IS CENTERED BETWEEN THE PIPE JOINTS ON A FULL LENGTH (18 FOOT MINIMUM) PIECE OF WATER PIPE.

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 AT 614-645-7330. 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.

ITEM 809 – FIRE HYDRANT, RELOCATED, AS PER PLAN

THIS ITEM SHALL MEET ALL OF THE REQUIREMENTS OF ITEM 809 – FIRE HYDRANT, RELOCATED EXCEPT THAT THE CONTRACTOR IS TO PROVIDE A NEW FIRE HYDRANT. THE EXISTING HYDRANT SHALL BE CAREFULLY REMOVED AND CAREFULLY DELIVERED AND UNLOADED AT 6371 SHIER-RINGS ROAD, DUBLIN, OHIO. ANY ITEMS SPECIFICALLY DESIGNATED AS "UNUSABLE" BY THE CITY SHALL BE DISPOSED OF BY THE CONTRACTOR.

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-FOOT 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-6637A), 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.

SURVEY COORDINATES

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 HUNDRETH (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.

ITEM	STA.	AS-BUILT		
		NORTHING	EASTING	C/L ELEV.
VALVE ATG	69+68.71			
6" – 90° HORIZONTAL BEND, ROTATE AS NECESSARY	69+68.76			
6" – 90° HORIZONTAL BEND, ROTATE AS NECESSARY	69+71.66			
FH RELOCATED, A.P.P.	69+71.44			

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. / 1,000 SF WITH A SPREADER OR SEEDING MACHINE. RAKE SEED LIGHTLY INTO TOP 1/8 INCH OF SOIL, ROLL LIGHTLY, AND WATER WITH FINE SPRAY. THOROUGHLY COVER WITH STRAW AND TACK TO PREVENT THE STRAW FROM BEING BLOWN OR WASHED AWAY.

PROTECT SEEDED AREAS WITH SLOPES EXCEEDING 3:1 WITH EROSION CONTROL BLANKETS AS DIRECTED BY THE ENGINEER. COST OF EROSION CONTROL BLANKETS, MATERIAL, AND LABOR SHALL BE PAID FOR BY THE CITY.

HYDRO-SEEDING & HYDRO-MULCHING ARE NOT PERMITTED.

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.

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 1/3 OF GRASS HEIGHT. MOW AREAS TO A HEIGHT OF 2 TO 3 INCHES.

GENERAL NOTES FOR LIGHTING:

THE CONTRACTOR IS TO COORDINATE THE FINAL CONDUIT LOCATIONS WITH OTHER UTILITIES.

ALL ELECTRICAL AND CONTROL WIRING SHALL HAVE 600V INSULATION.

ITEM 625 – LIGHT POLE FOUNDATION, AS PER PLAN

THE EXCAVATION FOR THE LIGHT POLE FOUNDATIONS SHALL BE PER ODOT ITEM 625. ALL EQUIPMENT, MATERIALS AND OTHER INSTALLATION METHODS SHALL BE IN ACCORDANCE WITH THE CITY OF DUBLIN'S STANDARD CONSTRUCTION DRAWING SL-04.

ITEM 625 – DISCONNECT EXISTING CIRCUIT, AS PER PLAN

PRIOR TO DISCONNECTING THE EXISTING CIRCUIT, THE CONTRACTOR IS TO VERIFY THE EXISTING CIRCUITRY. DISCONNECT THE EXISTING CIRCUIT BETWEEN THE POLES LOCATED AT STATION 71+37.91 RIVERSIDE DRIVE AND STATION 1+09.84 HARD ROAD BY REMOVING THE EXISTING CONNECTIONS, PULLING THE WIRE AND ABANDONING THE CONDUIT IN PLACE.

CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK INCLUDING DISPOSAL. PAYMENT FOR ALL WORK WILL BE INCLUDED IN THE LUMP SUM PRICE BID PER ITEM 625 – DISCONNECT EXISTING CIRCUIT, AS PER PLAN.

ITEM 625 – LUMINAIRE REMOVED, AS PER PLAN

THE CONTRACTOR IS TO REMOVE AND REUSE THE EXISTING LUMINAIRES AS INDICATED IN THE PLANS. REMOVE LUMINAIRES PER ODOT ITEM 625. LUMINAIRES TO BE REUSED SHALL BE MOUNTED AS SHOWN IN THE PLANS. ORIENTATION SHALL BE PERPENDICULAR TO THE REFERENCED CENTERLINE. ALL EQUIPMENT AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DUBLIN'S STANDARD CONSTRUCTION DRAWING SL-01.

ITEM 625 – LUMINAIRE SUPPORT REMOVED, AS PER PLAN

THE CONTRACTOR IS TO REMOVE AND REUSE THE EXISTING LIGHT POLES AS INDICATED IN THE PLANS. REMOVE AND REINSTALL LIGHT POLES PER ODOT ITEM 625. ALL EQUIPMENT AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF DUBLIN'S STANDARD CONSTRUCTION DRAWING SL-02.

ITEM 625 – LUMINAIRE SUPPORT FOUNDATION REMOVED, AS PER PLAN

THE CONTRACTOR IS TO REMOVE THE EXISTING LIGHT POLE FOUNDATIONS AS INDICATED IN THE PLANS. THE FOUNDATION REMOVAL SHALL BE IN ACCORDANCE WITH ODOT ITEM 625.

CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT AND MATERIALS NECESSARY TO COMPLETE THE WORK INCLUDING DISPOSAL. PAYMENT FOR ALL WORK WILL BE INCLUDED IN THE PRICE BID PER ITEM 625 – LUMINAIRE SUPPORT FOUNDATION REMOVED, AS PER PLAN.

ITEM 625 – HIGH VOLTAGE TEST WAIVED

THE HIGH VOLTAGE TEST SHALL NOT BE PERFORMED ON THE CIRCUITS CONSTRUCTED BY THIS PROJECT, SINCE THE TEST COULD DAMAGE THE PORTION OF THE COMPLETED CIRCUIT WHICH HAS BEEN IN SERVICE PRIOR TO THIS PROJECT.

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GENERAL NOTES

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

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SEQUENCE OF CONSTRUCTION

1. INSTALL ALL SIGNING, STRIPING AND BARRELS TO FORM TWO 10' LANES ON THE EXISTING PAVEMENT AS SHOWN IN THE MAINTENANCE OF TRAFFIC TYPICAL SECTION. TWO-LANE TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.
2. SAWCUT AND REMOVE EXISTING PAVEMENT AND CURB AND GUTTER TO CONSTRUCT THE NEW PAVEMENT, CURB AND GUTTER, BIKE PATH, GRADING, STORM SEWER, SIGNAL MODIFICATION, AND ALL APPURTENANCES TO COMPLETE CONSTRUCTION.
3. WHEN ALL CONSTRUCTION IS COMPLETE, INSTALL ALL PERMANENT SIGNING AND STRIPING AND OPEN LANES TO TRAFFIC.

ALTERNATE METHODS

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

ITEM 614 - MAINTAINING TRAFFIC

A MINIMUM OF TWO LANES OF SOUTHBOUND TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. A MINIMUM OF TWO LANES OF NORTHBOUND TRAFFIC SHALL BE MAINTAINED BETWEEN THE HOURS OF 3 P.M. AND 9 A.M. NORTHBOUND TRAFFIC MAY BE RESTRICTED TO ONE LANE BETWEEN THE HOURS OF 9 A.M. AND 3 P.M. WITH THE APPROVAL OF THE ENGINEER.

ACCESS TO ALL ADJOINING PROPERTIES AS WELL AS ACCESS FOR MAIL, WATER, SANITARY SERVICE, AND EMERGENCY VEHICLES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

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

- MEMORIAL GOLF TOURNAMENT (MAY 25 - JUNE 1, 2014)
- MEMORIAL DAY
- FOURTH OF JULY
- LABOR DAY

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

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

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 A RATE OF 2.5 TIMES THE ACTUAL COST OF THE 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 2 HOURS FROM THE TIME OF NOTIFICATION BY THE CITY.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITY HAS BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616 - WATER 15 M GAL.

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN

USE OF LAW ENFORCEMENT OFFICES (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED IN THIS NOTE WILL NOT BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE ENGINEER. LEOS SHOULD NOT BE USED WHERE THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) INTENDS FOR FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF 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) SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

- A. 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. 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.
- B. DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE BLOCKAGE OF TRAFFIC IS REQUIRED.
- C. DURING A TRAFFIC MAST ARM AND POLE INSTALLATION.

LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS 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 CONTRACTOR SHALL UTILIZE ANY OF THE FOLLOWING LAW ENFORCEMENT AGENCIES: CITY OF DUBLIN, FRANKLIN COUNTY SHERIFF'S OFFICE, OR OHIO STATE HIGHWAY PATROL.

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

ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN 60 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 AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN.

DROPOFFS IN WORKZONE

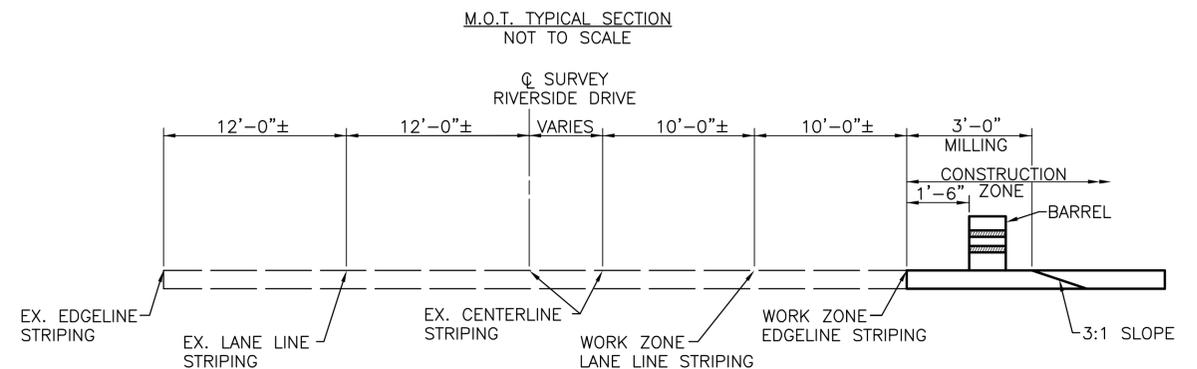
THE DROPOFF ADJACENT TO THE TRAVELED LANE SHALL BE NO GREATER THAN 1 INCH BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. THIS REQUIREMENT MAY BE MET BY TEMPORARILY PLACING SUBBASE AND BASE MATERIAL TO WITHIN 1 INCH OF THE EXISTING GRADE ADJACENT TO THE TRAVELED LANE AND SLOPING THE MATERIAL AT 3:1 OR FLATTER WITHIN THE EXCAVATED AREA. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND EXCAVATION OPERATIONS DURING WORKING HOURS. THESE REQUIREMENTS SHALL BE MET AT NO ADDITIONAL COST.

WORK ZONE PAVEMENT MARKINGS

ALL MATERIALS AND LABOR ASSOCIATED WITH THE INSTALLATION AND REMOVAL OF WORK ZONE PAVEMENT MARKINGS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 - MAINTAINING TRAFFIC.

COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS PROHIBITED.



CALCULATED
TJS
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MAINTENANCE OF TRAFFIC

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

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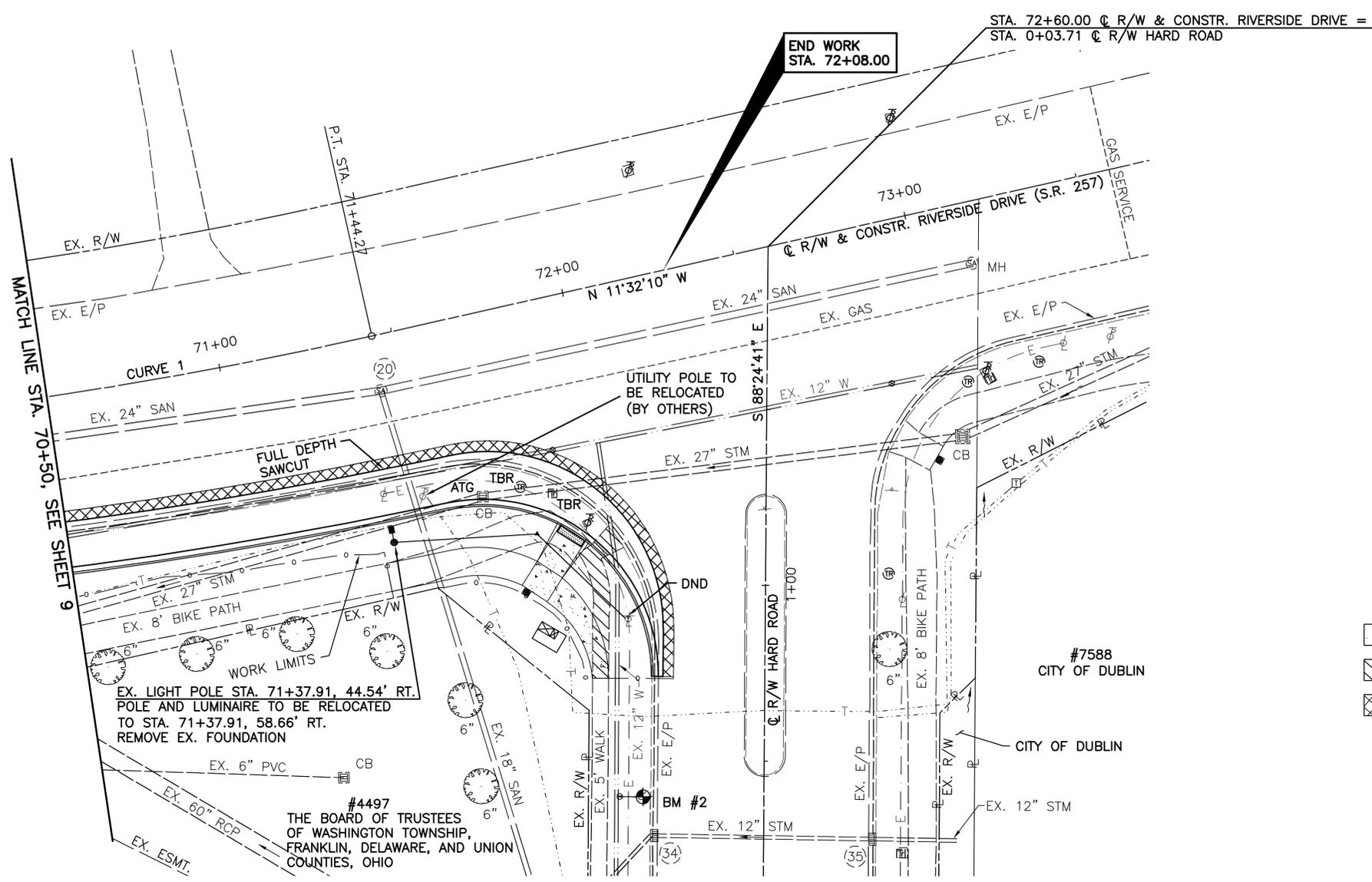
ITEM	DESCRIPTION	TOTAL	UNIT
GENERAL			
614	MAINTAINING TRAFFIC	1	LUMP
623	CONSTRUCTION LAYOUT STAKES	1	LUMP
623	PROOF SURVEY	1	LUMP
624	MOBILIZATION	1	LUMP
ROADWAY			
201	CLEARING & GRUBBING	1	LUMP
202	CATCH BASIN REMOVED AND DISPOSED OF	1	EA
202	PIPE REMOVED AND DISPOSED OF	16	FT
202	CURB AND GUTTER REMOVED AND DISPOSED OF	674	FT
202	CONCRETE WALK REMOVED AND DISPOSED OF	222	SF
203	EXCAVATION	444	CY
203	GRANULAR EMBANKMENT, #2 STONE	100	CY
203	EMBANKMENT	716	CY
204	SUBGRADE COMPACTION	1092	SY
204	PROOF ROLLING	1	HR
608	4" CONCRETE WALK, AS PER PLAN	368	SF
608	CURB RAMPS	1	EA
653	TOPSOIL FURNISHED AND PLACED, AS PER PLAN	102	CY
SPEC	MAILBOX RELOCATED	2	EA
SPEC	DETECTABLE WARNINGS, AS PER PLAN	1	EA
EROSION CONTROL			
207	INLET PROTECTION	7	EA
207	PERIMETER FILTER FABRIC FENCE	680	FT
659	SEEDING AND MULCHING, AS PER PLAN	1217	SY
659	COMMERCIAL FERTILIZER	0.18	TON
659	WATER	7	M GAL
SPEC	TREE PROTECTION FENCE	100	LF
DRAINAGE			
604	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	1	EA
604	INLET, TYPE AA-S125A, AS PER PLAN	1	EA
605	4" SHALLOW PIPE UNDERDRAINS	674	FT
901	12" PIPE, WITH TYPE 1 BEDDING, 706.02	54	LF
SPEC	12" ADS FLARED END SECTION WITH DISSIMILAR COUPLER	1	EA

ITEM	DESCRIPTION	TOTAL	UNIT
PAVEMENT			
254	PAVEMENT PLANING, ASPHALT CONCRETE	228	SY
301	ASPHALT CONCRETE BASE, PG64-22	151	CY
304	AGGREGATE BASE (ROADWAY)	151	CY
304	AGGREGATE BASE (BIKE PATH)	7	CY
407	NTSS-1HM TRACKLESS TACK COAT	37	GAL
448	ASPHALT CONCRETE, INTERMEDIATE COURSE (HEAVY TRAFFIC), PG64-22	47	CY
448	ASPHALT CONCRETE, SURFACE COURSE (HEAVY TRAFFIC), PG64-22	47	CY
448	ASPHALT CONCRETE, SURFACE COURSE (MEDIUM TRAFFIC), PG64-22	3	CY
609	COMBINATION CURB AND GUTTER, AS PER PLAN	674	FT
WATER WORK			
801	6" WATER PIPE AND FITTINGS	14	LF
807	COLUMBUS STANDARD HEAVY DUTY VALVE BOX	1	EA
809	FIRE HYDRANT, RELOCATED, AS PER PLAN	1	EA
SPEC	SURVEY COORDINATES	1	LUMP
LIGHTING*			
625	CONNECTOR KIT, TYPE II	4	EA
625	CONNECTOR KIT, TYPE III	2	EA
625	LIGHT POLE FOUNDATION, 24" X 7' DEEP, AS PER PLAN	1	EA
625	LUMINAIRE REMOVED, AS PER PLAN	1	EA
625	LUMINAIRE SUPPORT REMOVED, AS PER PLAN	1	EA
625	LUMINAIRE SUPPORT FOUNDATION REMOVED, AS PER PLAN	1	EA
625	NO. 4 AWG, 600 VOLT DISTRIBUTION CABLE	288	FT
625	NO. 10 AWG, POLE AND BRACKET CABLE	76	FT
625	CONDUIT, 2", 725.051	76	FT
625	TRENCH	76	FT
625	PULL BOX, 725.06, 18"x11"x18"	1	EA
625	GROUND ROD	1	EA
625	PLASTIC CAUTION TAPE	76	FT
625	DISCONNECT EXISTING CIRCUIT, AS PER PLAN	1	LUMP
625	LIGHTING, MISC.: CADWELD CONNECTION	1	EA
TRAFFIC CONTROL			
630	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	2	EA
630	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE, AS PER PLAN	2	EA
630 †	SIGN, FLAT SHEET, TYPE H	10.0	SF
630 †	GROUND MOUNTED SUPPORT, NO. 3 POST, TYPE S, AS PER PLAN	40.7	FT
630 †	2-1/4" SQUARE ANCHOR POST, AS PER PLAN	4	EA
644*	EDGE LINE, 4"	0.12	MI
644*	CHANNELIZING LINE, 8"	538	FT
644*	CROSSWALK LINE, 12"	189	FT
644*	STOP LINE, 24"	16	FT
644*	LANE ARROW, 72"	4	EA
644*	REMOVAL OF PAVEMENT MARKING	142	FT

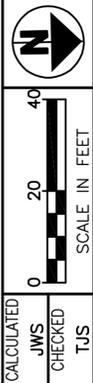
ITEM	DESCRIPTION	TOTAL	UNIT
TRAFFIC SIGNAL			
625	CONDUIT, 2" 725.051	743	FT
625	CONDUIT, 3" 725.051	309	FT
625	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 6", 725.04	214	FT
625	TRENCH	447	FT
625	TRENCH, AS PER PLAN	27	FT
625	PULL BOX, 725.08, 18"	2	EA
625	PULL BOX, 725.08, 24"	1	EA
625	PULL BOX REMOVED AND DISPOSED OF	3	EA
625	GROUND ROD, AS PER PLAN	4	EA
625	PLASTIC CAUTION TAPE, AS PER PLAN	463	FT
632	VEHICULAR SIGNAL HEAD, (LED), 4 SECTION, 12" LENS, 1-WAY, AS PER PLAN	1	EA
632	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, AS PER PLAN	3	EA
632	VEHICULAR SIGNAL HEAD, (LED), 4 SECTION, 12" LENS, 1-WAY, AS PER PLAN	2	EA
632	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, INSTALLATION ONLY, AS PER PLAN	1	EA
632	VEHICULAR SIGNAL HEAD, (LED), 5 SECTION, 12" LENS, 1-WAY, AS PER PLAN	2	EA
632	PEDESTRIAN SIGNAL HEAD, AS PER PLAN	2	EA
632	PEDESTRIAN PUSHBUTTON, AS PER PLAN	2	EA
632	DETECTOR LOOP, AS PER PLAN	4	EA
632	LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 14 AWG	4987	FT
632	SIGNAL CABLE, 3 CONDUCTOR, NO. 14 AWG	1464	FT
632	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG	740	FT
632	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	2725	FT
632	PEDESTAL FOUNDATION, AS PER PLAN	2	EA
632	POWER CABLE, 3 CONDUCTOR, NO. 10 AWG	178	FT
632	CONDUIT RISER, 2" DIAMETER, 725.051	2	EA
632	PEDESTAL, 19", AS PER PLAN	2	EA
632	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	1	EA
633	CONTROLLER UNIT, TS2/A2 WITH CABINET, TYPE TS1, AS PER PLAN	1	EA
633	CABINET FOUNDATION, AS PER PLAN	1	EA
633	CONTROLLER WORK PAD, AS PER PLAN	1	EA
SPEC	IN CABINET SERIAL COMMUNICATION LINK	1	EA
SPEC	LED, "NOTURN ON RED" BLANK OUT SIGN, SINGLE FACED	2	EA
SPEC	EDGE LIT INTERNALLY ILLUMINATED LED STREET NAME SIGN, SINGLE FACED	3	EA
MAINTENANCE OF TRAFFIC			
614	LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN	60	HOURL
616	WATER	15	M GAL
† PERFORMED BY CITY OF DUBLIN			
FOR BIDDING PURPOSES: * DENOTES OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (2008 EDITION). ALL OTHER ITEMS REFERENCE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS.			

GENERAL SUMMARY	RIVERSIDE DRIVE/HARD ROAD RIGHT TURN LANE
CALCULATED TJS CHECKED BMH	

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C R/W RIVERSIDE DRIVE
 CURVE DATA 1
 P.I. STA. 70+03.55
 $\Delta = 12^{\circ}43'00''$ LT.
 $D_c = 04'29'59''$
 $R = 1273.34'$
 $T = 141.89'$
 $L = 282.61'$
 $E = 7.88'$
 PC STA. 68+61.66
 PT STA. 71+44.27



EX. LIGHT POLE STA. 71+37.91, 44.54' RT.
 POLE AND LUMINAIRE TO BE RELOCATED
 TO STA. 71+37.91, 58.66' RT.
 REMOVE EX. FOUNDATION

#4497
 THE BOARD OF TRUSTEES
 OF WASHINGTON TOWNSHIP,
 FRANKLIN, DELAWARE, AND UNION
 COUNTIES, OHIO

- PROP. 4" CONCRETE WALK
- EX. CONCRETE WALK REMOVED
- 3" MILL AND OVERLAY

TBR = TO BE REMOVED
 DND = DO NOT DISTURB
 ATG = ADJUST TO GRADE

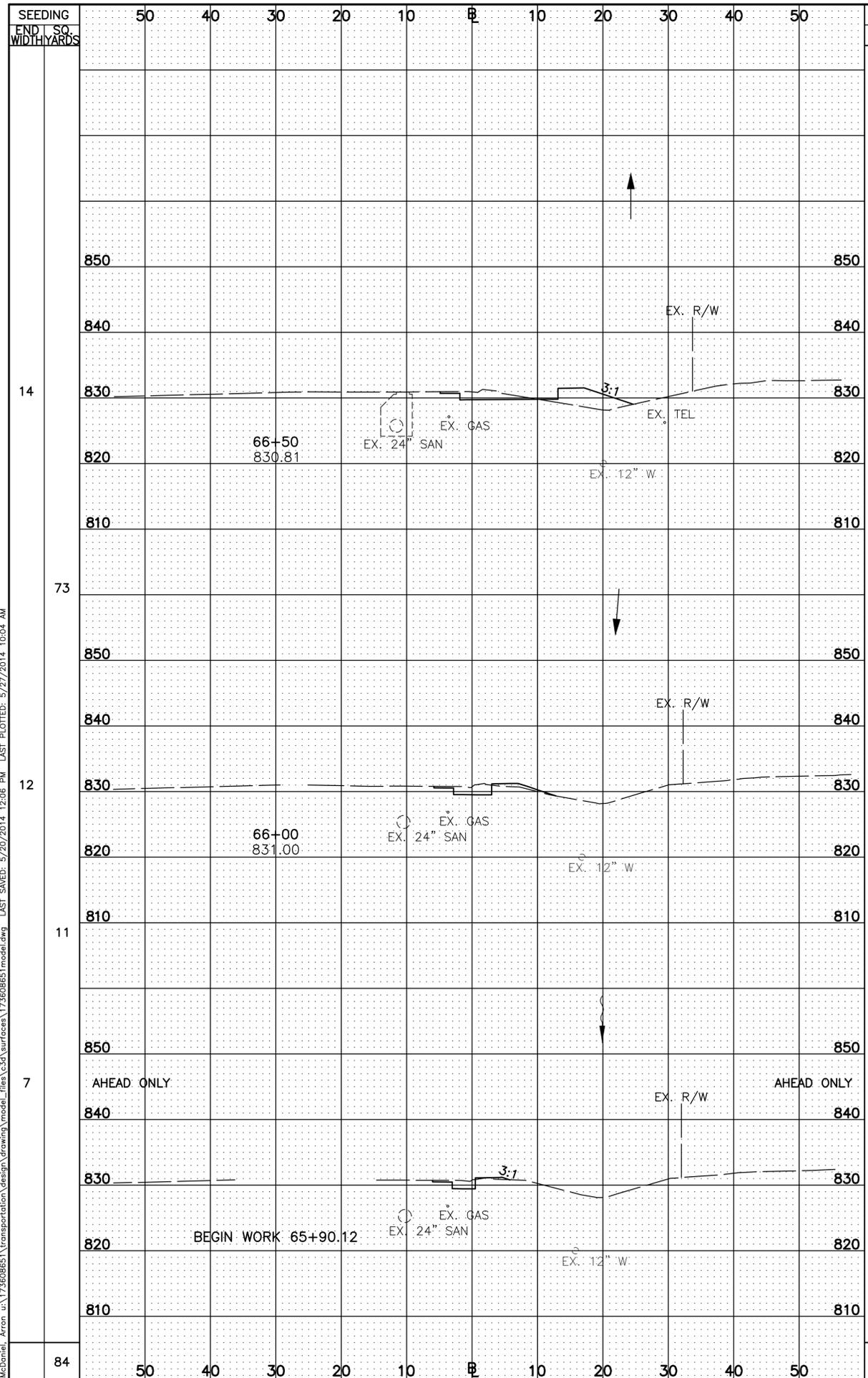
FOR GENERAL SUMMARY, SEE SHEET 8
 FOR CROSS SECTIONS, SEE SHEETS 12-13
 FOR PAVEMENT DETAIL, SEE SHEET 14
 FOR INTERSECTION DETAIL & CURB RAMPS, SEE SHEET 15
 FOR GRADING PLAN, SEE SHEET 16
 FOR TRAFFIC CONTROL PLAN, SEE SHEET 17

840	BM #2 TOP OF NORTH BOLT ON FIRE HYDRANT ON SOUTH SIDE OF HARD ROAD, ±75 FEET EAST OF INTERSECTION WITH RIVERSIDE DRIVE. THIS IS THE FIRST HYDRANT EAST OF THE INTERSECTION, BEING 35 FEET RIGHT OF CENTERLINE STATION ELEV: 832.75 (NAVD 88)															840
835	EX. GRADE															835
830																830
825																825
820																820
815																815
EXISTING GRADE	831.32	831.28	831.23	831.16	831.06	831.01	830.80	830.61	830.47	830.25	830.10					EXISTING GRADE
810																810
	71+00							72+00								

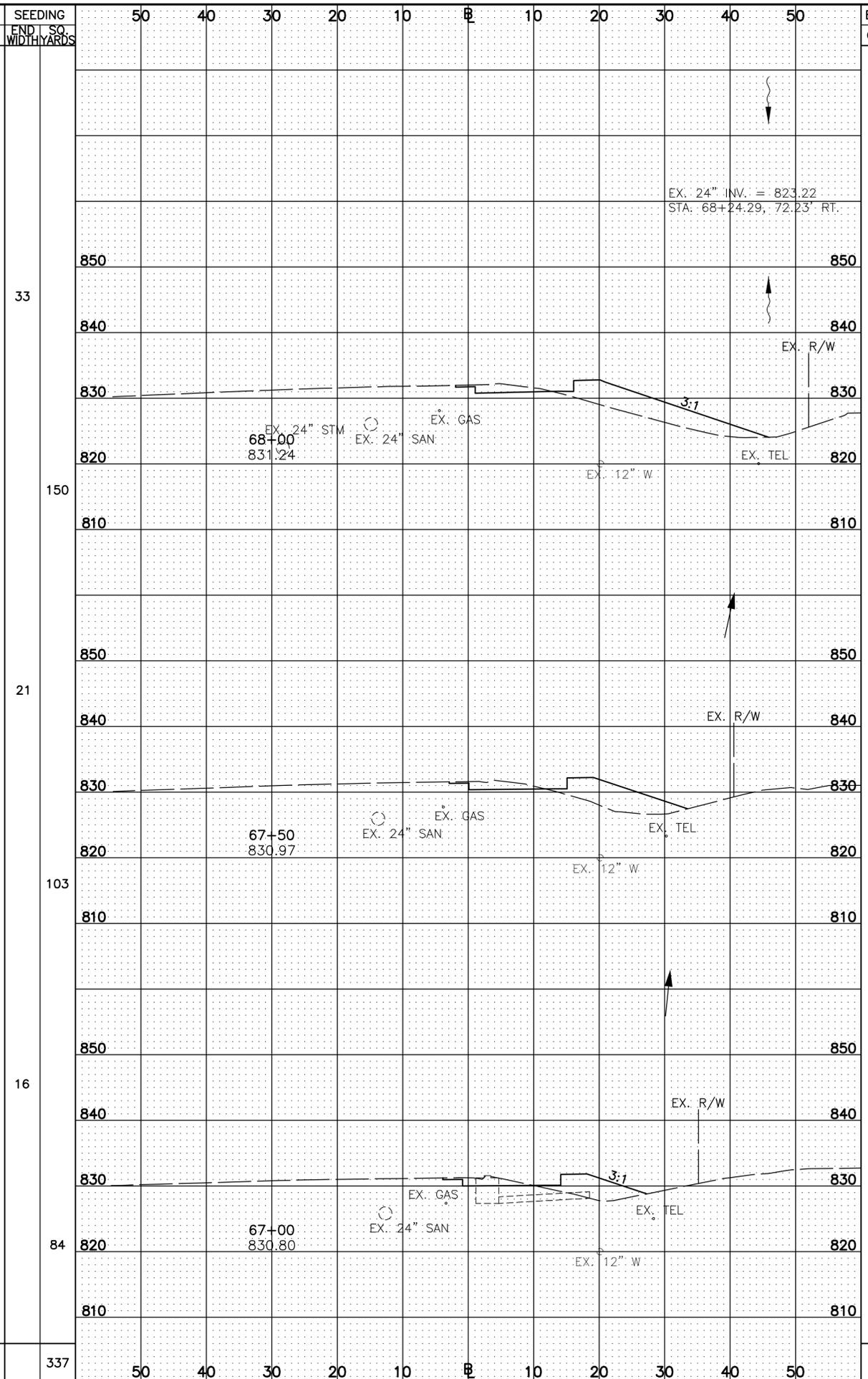
PLAN & PROFILE
 STA. 70+50 TO STA. 73+50

RIVERSIDE DRIVE/HARD ROAD
 RIGHT TURN LANE

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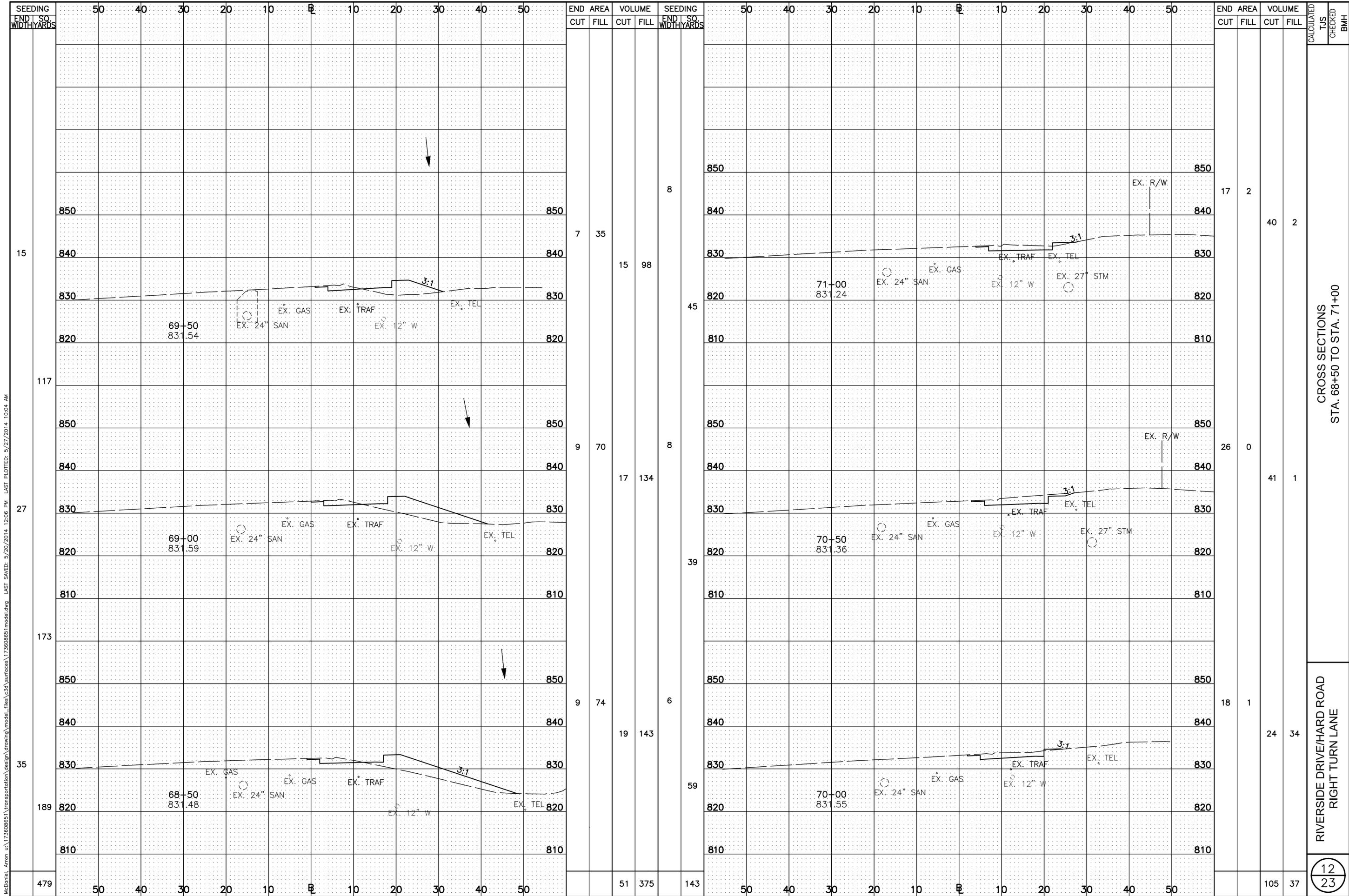


END AREA	VOLUME	SEEDING	SEEDING	
			CUT	FILL
11	25	33		
18	26			
8	3	21		
3	1			
4	1	16		
21	27	337		



END AREA	VOLUME	SEEDING	SEEDING	
			CUT	FILL
11	80			
21	125			
11	54			
20	83			
10	35			
20	56			
61	264			

CALCULATED TJS CHECKED BMH
 CROSS SECTIONS STA. 65+90.12 TO STA. 68+00
 RIVERSIDE DRIVE/HARD ROAD RIGHT TURN LANE
 11 / 23



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CROSS SECTIONS
 STA. 68+50 TO STA. 71+00

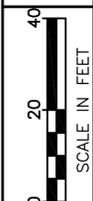
RIVERSIDE DRIVE/HARD ROAD
 RIGHT TURN LANE

12
 23

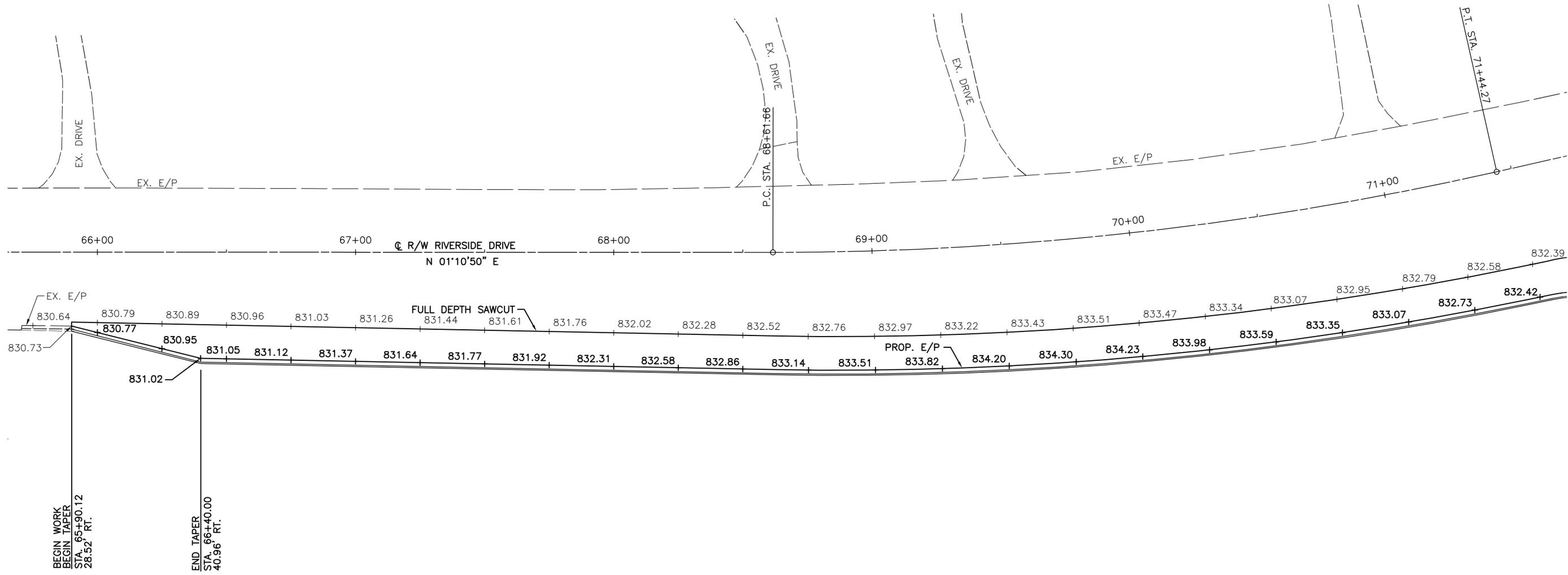
CALCULATED	TJS	CHECKED	BMH
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STATION	END AREA		VOLUME		SEEDING	END SO. WIDTH	SEEDING	END SO. WIDTH	END AREA		VOLUME		CALCULATED	TJS	CHECKED	BMH
	CUT	FILL	CUT	FILL					CUT	FILL						
68+50						50		50								
69+00	35		15	98	8	50		50	17	2	40	2				
69+50	70		17	134	8	50		50	26	0	41	1				
70+00	74		19	143	6	50		50	18	1	24	34				
70+50			51	375	143	50		50	105	37						

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CALCULATED
TJS
CHECKED
BMH

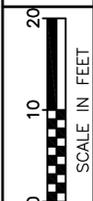


PAVEMENT DETAILS

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

NOTE: ALL ELEVATIONS ARE TOP OF PAVEMENT

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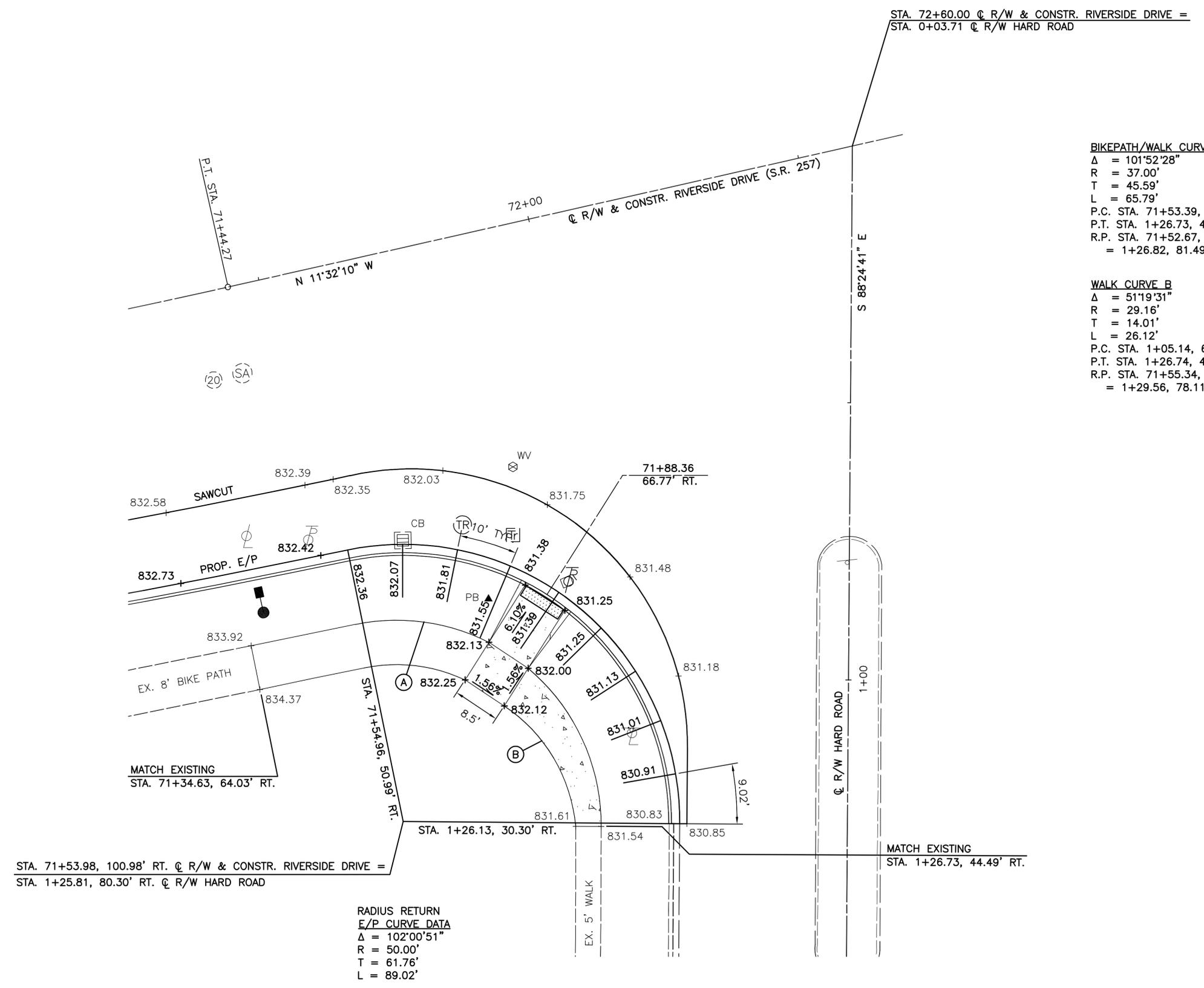


CALCULATED
TJS
CHECKED
BMH

INTERSECTION DETAIL / CURB RAMP

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

15
23



BIKEPATH/WALK CURVE A
 $\Delta = 101'52'28''$
 $R = 37.00'$
 $T = 45.59'$
 $L = 65.79'$
 P.C. STA. 71+53.39, 64.40' RT.
 P.T. STA. 1+26.73, 44.49' RT.
 R.P. STA. 71+52.67, 101.39' RT.
 = 1+26.82, 81.49' RT.

WALK CURVE B
 $\Delta = 51'19'31''$
 $R = 29.16'$
 $T = 14.01'$
 $L = 26.12'$
 P.C. STA. 1+05.14, 62.17' RT.
 P.T. STA. 1+26.74, 49.09' RT.
 R.P. STA. 71+55.34, 104.83' RT.
 = 1+29.56, 78.11' RT.

STA. 71+53.98, 100.98' RT. $\text{C R/W \& CONSTR. RIVERSIDE DRIVE} =$
 STA. 1+25.81, 80.30' RT. C R/W HARD ROAD

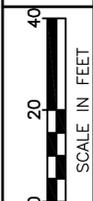
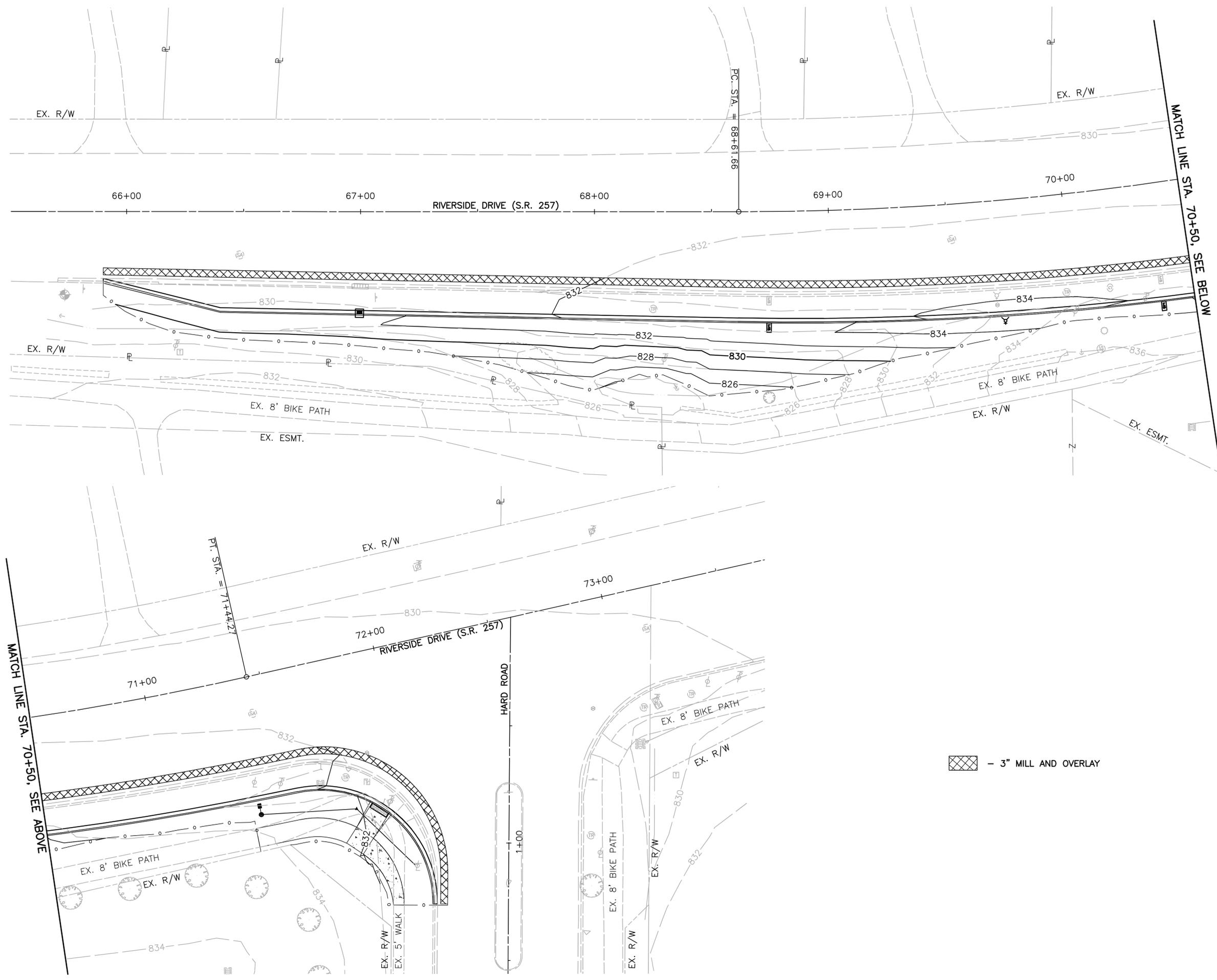
**RADIUS RETURN
E/P CURVE DATA**
 $\Delta = 102'00'51''$
 $R = 50.00'$
 $T = 61.76'$
 $L = 89.02'$

STA. 72+60.00 $\text{C R/W \& CONSTR. RIVERSIDE DRIVE} =$
 STA. 0+03.71 C R/W HARD ROAD

MATCH EXISTING
 STA. 1+26.73, 44.49' RT.

NOTE: ALL ELEVATIONS ARE TOP OF PAVEMENT

\\CDANIEL\ARON\173608651\transportation\design\plan_set\vranscpa\173608651\p01.dwg GRADING PLAN Last Saved: May 20, 2014 5:38 PM Plotted: May 27, 2014 10:02 AM

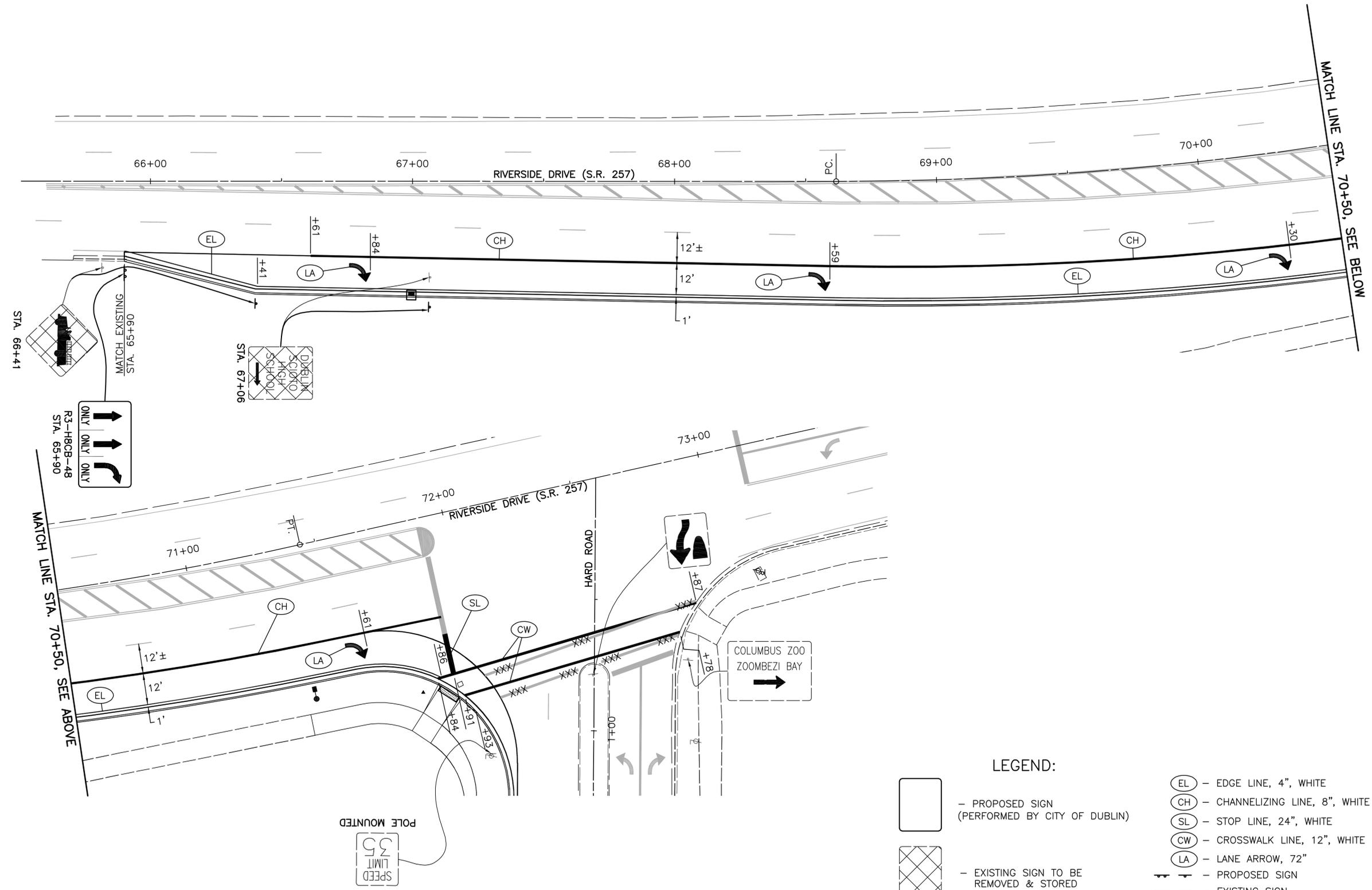


CALCULATED
 JWS
 CHECKED
 TJS

GRADING PLAN

RIVERSIDE DRIVE/HARD ROAD
 RIGHT TURN LANE

MCDANIEL, ABRON, L.A. 173608651\transportation\design\plan_set\signing_marking\173608651t01.dwg TRAFFIC CONTROL PLAN Last Saved: May 22, 2014 3:48 PM Plotted: May 27, 2014 10:02 AM



- LEGEND:**
- PROPOSED SIGN (PERFORMED BY CITY OF DUBLIN)
 - EXISTING SIGN TO BE REMOVED & STORED
 - EXISTING SIGN
 - EDGE LINE, 4", WHITE
 - CHANNELIZING LINE, 8", WHITE
 - STOP LINE, 24", WHITE
 - CROSSWALK LINE, 12", WHITE
 - LANE ARROW, 72"
 - PROPOSED SIGN
 - EXISTING SIGN
 - XXX - EXISTING PAVEMENT MARKING TO BE REMOVED

CALCULATED TJS
CHECKED BMH

SCALE IN FEET

TRAFFIC CONTROL PLAN

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

GENERAL TRAFFIC

THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC SIGNAL EQUIPMENT, IN CONFORMANCE WITH THE CITY OF DUBLIN SPECIFICATIONS, INCLUDING THE SPECIFICATIONS OF THESE PLANS AS WELL AS IN CONFORMANCE WITH THE 2008 STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS AND ALL SUPPLEMENTAL SPECIFICATIONS. HE SHALL INSTALL ALL TRAFFIC SIGNAL EQUIPMENT IN CONFORMANCE TO THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND IN CONFORMANCE TO THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS.

THE SIGNAL MODIFICATIONS SHALL ENTAIL REPLACEMENT OF A PEDESTAL SUPPORT IN THE SOUTHEAST CORNER OF THE INTERSECTION, A NEW PEDESTAL SUPPORT IN THE NORTHEAST CORNER, AND INSTALLATION OF VEHICULAR AND SIGNAL HEADS ON THE PEDESTAL SUPPORT AS WELL AS ON EXISTING SUPPORTS AT THE LOCATIONS IDENTIFIED IN THESE PLANS. ADVANCE LOOP DETECTION SHALL ALSO BE INSTALLED ON THE SOUTH LEG RELATED TO THE NEW RIGHT TURN LANE. THE EXISTING CONTROLLER SHALL BE REUSED, AND REWIRED AND REPROGRAMMED FOR THE SIGNAL PHASINGS AND TIMINGS IDENTIFIED IN THESE PLANS. THE EXISTING PREEMPTION EQUIPMENT AND CONTROLLER PREEMPTION SETTINGS SHALL REMAIN.

EACH BIDDER, WITH HIS BID, SHALL SUBMIT TWO (2) COMPLETE SETS OF CATALOG CUTS, DIAGRAMS, BROCHURES OR OTHER DESCRIPTIVE DATA FOR THE ITEMS HE INTENDS TO FURNISH. EACH BIDDER SHALL ALSO PROVIDE A DETAILED LIST OF ALL VARIANCES FROM ODOT SPECIFICATIONS AND FROM THE SPECIFICATIONS CONTAINED HEREIN FOR EACH ITEM THAT DOES NOT COMPLY 100% WITH THE STATED SPECIFICATIONS. ANY BIDDER THAT DOES NOT COMPLY WITH THIS REQUIREMENT SHALL BE RULED INELIGIBLE AND SHALL NOT BE AWARDED A CONTRACT. UNLESS OTHERWISE STATED BY THE BIDDER, THE PROPOSAL WILL BE CONSIDERED AS BEING IN STRICT ACCORDANCE WITH THE SPECIFICATIONS.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL EQUIPMENT INSTALLED AS PART OF THE CONTRACT SHALL OPERATE SATISFACTORY FOR A PERIOD OF NINETY (90) DAYS FOLLOWING COMPLETION OF THE TEN (10) DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATIONS, THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS FROM THE SAME MANUFACTURER. MATERIAL AND LABOR COSTS INCURRED IN CORRECTING THE UNSATISFACTORY OPERATIONS SHALL BE BORNE BY THE CONTRACTOR. CUSTOMARY MANUFACTURER'S GUARANTEE FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE CITY OR MAINTAINING AGENCY FOLLOWING ACCEPTANCE OF THE EQUIPMENT. THE COST OF GUARANTEEING THE TRAFFIC CONTROL EQUIPMENT SHALL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SIGNAL INSTALLATION.

POWER SUPPLY FOR TRAFFIC SIGNALS

THE CONTRACTOR SHALL REUSE THE EXISTING POWER SERVICE AND DISCONNECT SWITCH WHICH IS LOCATED ON POLE A. IF NECESSARY THE CONTRACTOR SHALL CONTACT ORVAL MINNIEAR, TECHNICIAN SENIOR CUSTOMER DESIGN, AEP, AT (614) 883-6811. POWER CABLE SHALL BE RUN FROM THE EXISTING DISCONNECT SWITCH ON POLE A TO THE PROPOSED CABINET, AS SHOWN IN THE PLANS.

WIRING DIAGRAMS

TWO (2) EACH WIRING DIAGRAMS AND TWO (2) EACH SERVICE/OPERATION MANUALS FOR EACH DIFFERENT PIECE OF EQUIPMENT SHALL BE PROVIDED. A HEAVY CLEAR PLASTIC ENVELOPE ATTACHED TO THE INSIDE OF THE CABINET DOOR SHALL BE PROVIDED FOR STORING WIRING DIAGRAMS (MINIMUM OF 9" BY 12" IN SIZE).

ITEM SPECIAL. IN CABINET SERIAL COMMUNICATION LINK

AN RS-232 SERIAL COMMUNICATIONS LINK IN THE CABINET BETWEEN THE CONTROLLER, EDI CONFLICT MONITOR, AND ALL CANOGA 800 AND/OR 900 SERIES VEHICLE DETECTOR DEVICES SHALL BE PROVIDED TO ALLOW REMOTE CENTRAL OFFICE CONNECTION OF THESE DEVICES.

THE CENTRAL OFFICE USER INTERFACE SHALL BE PART OF THE SOFTWARE USED FOR COMMUNICATING WITH THE CONTROLLER. THE INTERFACE SHALL LAUNCH THE SOFTWARE DEVELOPED BY THE DEVICE MANUFACTURER AND PROVIDE ALL FUNCTIONS OF THAT SOFTWARE FROM THE CENTRAL OFFICE.

ALL HARDWARE REQUIRED TO MAKE THIS CONNECTION SHALL BE SUPPLIED WITH THE CABINET AND BE FULLY FUNCTIONAL.

ITEM 614 MAINTAINING TRAFFIC. AS PER PLAN

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

A) NEW SIGNAL INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED, INCLUDING THE 10 DAY PERFORMANCE TEST.

B) TESTING PROCEDURES SHALL FOLLOW 632.28.

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

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

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

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

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

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

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 7 HOURS AND SHALL NOT INCLUDE THE HOURS OF 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED BY A SPECIAL DUTY UNIFORMED POLICE OFFICER WITH A PATROL CAR, HIRED BY THE CONTRACTOR. PAYMENT FOR A SPECIAL DUTY POLICE OFFICER WITH A PATROL CAR SHALL BE PAID FOR SEPARATELY.

ANY VEHICULAR TRAFFIC SIGNAL HEAD, WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25. ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

ITEM 625. TRENCH. AS PER PLAN

IN ADDITION TO THE ODOT ITEM 625, THE TRENCH SIZE, DEPTH, AND BACKFILL SHALL MEET CITY SPECIFICATIONS, WHICH INCLUDES 3 INCH YELLOW PLASTIC CAUTION TAPE. IT IS ALSO THE INTENT OF THIS ITEM THAT CONDUIT TO BE LOCATED UNDER NEW ASPHALT/CONCRETE SHALL BE INSTALLED PRIOR TO PLACEMENT OF THE ASPHALT/CONCRETE, AND THAT COMPACTED ITEM 304 BACKFILL, OR ITEM 636 TYPE 2 OR 3 SHALL BE USED AT THOSE LOCATIONS (AS PER CITY SPECIFICATIONS). NO CONCRETE ENCASEMENT SHALL BE PROVIDED. THE COST OF THE BACKFILL SHALL BE INCLUDED IN THE UNIT COST BID FOR THIS ITEM. THE COST OF THE PLASTIC CAUTION TAPE SHALL BE PAID AS A SEPARATE ITEM.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID PER LINEAR FOOT.

ITEM 625. GROUND ROD. AS PER PLAN

IN ADDITION TO ITEMS 625 AND 725, THIS ITEM SHALL ALSO INCLUDE A "CAD" WELD WIRE CONNECTION AT THE GROUND ROD (AS PER CITY OF DUBLIN SPECIFICATIONS), THE COST OF WHICH SHALL BE INCLUDED IN THE GROUND ROD INSTALLATION.

IT IS THE INTENT OF THIS ITEM THAT THE NO.4 AWG GROUNDING CONDUCTOR BE INSTALLED IN THE 3/4" CONDUIT BETWEEN THE GROUND ROD AND THE ENCLOSURE GROUND BAR, AS PER CITY OF DUBLIN SPECIFICATIONS.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID PER EACH, COMPLETE AND IN PLACE, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 625. PLASTIC CAUTION TAPE. AS PER PLAN

IN ADDITION TO ITEM 625 AND 725 OF THE ODOT STANDARD SPECIFICATIONS, THE FOLLOWING SHALL ALSO APPLY:

THE TAPE SHALL BE THREE (3") INCH YELLOW PLASTIC CAUTION TAPE. THE TAPE SHALL BE INSTALLED OVER ALL 725.051 CONDUIT, OUTSIDE OF DRIVEWAYS AND ROADWAYS. AS PER CITY SPECIFICATIONS.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID FOR THIS ITEM, COMPLETE AND IN PLACE.

ITEM 625. CONDUIT 6". JACKED OR DRILLED. 725.051. AS PER PLAN

IN ADDITION TO ITEMS 625 AND 725 OF THE ODOT CMS, THE CONDUIT SHALL BE SCHEDULE 80 PVC CONDUIT.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID, COMPLETE AND IN PLACE.

ITEM 632 VEHICULAR SIGNAL HEAD. MISC.: 3-SECTION. AS PER PLAN

IN ADDITION TO ITEM 632 AND 732 OF THE ODOT STANDARD SPECIFICATIONS, THE FOLLOWING SHALL ALSO APPLY:

THE VEHICULAR SIGNAL HEAD SHALL BE A 3-SECTION HEAD MADE OF POLYCARBONATE MATERIAL (YELLOW) WITH YELLOW TUNNEL VISORS AND SUPPLIED BLACK LOUVERED ALUMINUM VEHICULAR SIGNAL HEAD BACK PLATES.

THE THREE SECTIONS SHALL BE CIRCULAR LEDS MODULES AND SHALL BE GE LIGHTING SOLUTIONS BRAND MODEL GTX OR APPROVED EQUAL.

THE SIGNAL HEAD SHALL BE INSTALLED BY POLE-MOUNTED TO THE SIGNAL PEDESTAL POLE, AS PER TC-85.10 OF THE ODOT STANDARD CONSTRUCTION DRAWINGS.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID, COMPLETE AND IN PLACE, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 632 VEHICULAR SIGNAL HEAD. MISC.: 4-SECTION. AS PER PLAN

IN ADDITION TO ITEM 632 AND 732 OF THE ODOT STANDARD SPECIFICATIONS, THE FOLLOWING SHALL ALSO APPLY:

THE VEHICULAR SIGNAL HEAD SHALL BE A 4-SECTION HEAD MADE OF POLYCARBONATE MATERIAL (YELLOW) WITH YELLOW TUNNEL VISORS AND SUPPLIED BLACK LOUVERED ALUMINUM VEHICULAR SIGNAL HEAD BACK PLATES.

THE TOP THREE SECTIONS SHALL BE CIRCULAR LEDS MODULES AND SHALL BE GE LIGHTING SOLUTIONS BRAND MODEL GTX OR APPROVED EQUAL.

THE BOTTOM SECTION SHALL INCORPORATE A BIMODAL SECTION, CAPABLE OF DISPLAYING ALTERNATE INDICATIONS CONSISTING OF EITHER A GREEN RIGHT ARROW OR A YELLOW RIGHT ARROW. THE INDICATION SHALL BE CLEARLY LEGIBLE AND IN ACCORDANCE WITH THE ODOT. THIS BIMODAL SECTION SHALL BE GE LIGHTING SOLUTIONS BRAND MODEL DR6-ECA6-01A OR APPROVED EQUAL.

THE SIGNAL HEAD SHALL BE INSTALLED BY POLE-MOUNTED TO THE SIGNAL PEDESTAL POLE, AS PER TC-85.10 OF THE ODOT STANDARD CONSTRUCTION DRAWINGS.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID, COMPLETE AND IN PLACE, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 632 VEHICULAR SIGNAL HEAD. MISC.: 5-SECTION. AS PER PLAN

IN ADDITION TO ITEM 632 AND 732 OF THE ODOT STANDARD SPECIFICATIONS (JANUARY 1, 2010 EDITION), THE FOLLOWING SHALL ALSO APPLY:

THE VEHICULAR SIGNAL HEAD SHALL BE A 5-SECTION HEAD MADE OF POLYCARBONATE MATERIAL (YELLOW) WITH YELLOW TUNNEL VISORS AND SUPPLIED BLACK LOUVERED ALUMINUM VEHICULAR SIGNAL HEAD BACK PLATES. THE SIGNAL HEAD SHALL BE INSTALLED BY RIGID MOUNT TO THE MAST ARM, AS PER TC-85.20 OF THE ODOT STANDARD CONSTRUCTION DRAWINGS.

LEDS SHALL BE GE LIGHTING SOLUTIONS BRAND MODEL GTX OR APPROVED EQUAL.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID, COMPLETE AND IN PLACE, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 632 - VEHICULAR SIGNAL HEAD (LED) 3 SECTION. 12" LENS. 1 WAY. INSTALL ONLY. AS PER PLAN

THE CONTRACTOR SHALL REMOVE THE EXISTING TRAFFIC SIGNAL HEAD WITH RIGID-MOUNT HARDWARE, AS SPECIFIED IN THE PLAN NOTE "ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN".

THE CONTRACTOR SHALL INSTALL NEW LED VEHICULAR SIGNAL HEAD IN PLACE OF THE SIGNAL HEAD REMOVED. THE HEAD WILL BE SUPPLIED BY THE CITY OF DUBLIN, ASSEMBLED AND READY FOR INSTALLATION. THE VEHICULAR SIGNAL HEAD WILL CONSIST OF THREE 12-INCH LENS SECTIONS WITH YELLOW POLYCARBONATE HOUSING INCLUDING YELLOW CUTAWAY VISOR AND BLACK VENTED BACKPLATES, COMPLETE WITH RIGID MOUNT HARDWARE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PICKING UP THE VEHICULAR SIGNAL HEAD FROM THE CITY OF DUBLIN (5800 SHIER RINGS ROAD, DUBLIN, OHIO 43016.)

ITEM 632 - VEHICULAR SIGNAL HEAD (LED) 5 SECTION. 12" LENS. 1 WAY. INSTALL ONLY. AS PER PLAN

THE CONTRACTOR SHALL REMOVE THE EXISTING TRAFFIC SIGNAL HEAD WITH RIGID-MOUNT HARDWARE, AS SPECIFIED IN THE PLAN NOTE "ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN".

THE CONTRACTOR SHALL INSTALL NEW LED VEHICULAR SIGNAL HEAD IN PLACE OF THE SIGNAL HEAD REMOVED. THE HEAD WILL BE SUPPLIED BY THE CITY OF DUBLIN, ASSEMBLED AND READY FOR INSTALLATION. THE VEHICULAR SIGNAL HEAD WILL CONSIST OF FIVE 12-INCH LENS SECTIONS WITH YELLOW POLYCARBONATE HOUSING INCLUDING YELLOW CUTAWAY VISOR AND BLACK VENTED BACKPLATES, COMPLETE WITH RIGID MOUNT HARDWARE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PICKING UP THE VEHICULAR SIGNAL HEAD FROM THE CITY OF DUBLIN (5800 SHIER RINGS ROAD, DUBLIN, OHIO 43016.)

ITEM 632 PEDESTAL FOUNDATION. AS PER PLAN

THE TOP OF FOUNDATIONS SHALL BE FLUSH WITH THE ADJACENT SIDEWALK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE FOUNDATION ELEVATION PRIOR TO FOUNDATION INSTALLATION.

BEDROCK MAY BE ENCOUNTERED BY THE CONTRACTOR DURING THE COURSE OF INSTALLING THE FOUNDATIONS.

MCDANIEL, ABBON, U:\17360851\transportation\design\plan_sml\signal_plans\6651GN01.dwg TRAFFIC SIGNAL GENERAL NOTES Last Saved: May 23, 2014, 11:48 AM, DILES Plotter: May 27, 2014, 10:02 AM

CALCULATED	DKI	CHECKED	PJM
TRAFFIC SIGNAL GENERAL NOTES			
RIVERSIDE DRIVE/HARD ROAD RIGHT TURN LANE			
18 23			

ITEM 632 PEDESTAL, BY SIZE, AS PER PLAN

THE PEDESTAL SUPPORT SHALL HAVE A TRANSFORMER BASE, AND MANUFACTURED BY VALMONT OR AN APPROVED EQUAL, AND SHALL BE SUPPLIED WITH THE FOLLOWING FEATURES:

1. THE CONTRACTOR SHALL VERIFY THE ANCHOR BOLT CIRCLE, ANCHOR BOLT DIAMETER, AND ORIENTATION PATTERN WITH THE SIGNAL SUPPORT MANUFACTURER.

2. THE POLE AND DESIGN SHALL COMPLY WITH AASHTO DESIGN CRITERIA AND ALL OTHER APPLICABLE ODOT STANDARDS.

3. THE CONTRACTOR AND MANUFACTURER SHALL BE RESPONSIBLE FOR VERIFYING THE POLE DESIGN, AND SHALL PREPARE SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER. THE SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY FOR APPROVAL PRIOR TO SUPPORT FABRICATION.

4. IT IS THE INTENT OF THESE PLANS THAT THE POLES SHALL MATCH THE CITY OF DUBLIN STANDARD PAINT COLOR (DUBLIN BRONZE). PRIOR TO SHIPPING, THE POLES, BASE, AND ALL POLE HARDWARE SHALL BE FACTORY PRIME COATED AND FINISHED. IF DURING TRANSPORTATION, PAINTED SURFACES ARE SCRATCHED OR MARRED IN ANY MANNER, THE CONTRACTOR SHALL BE REQUIRED TO APPLY "TOUCH-UP" PAINT OF THE SAME TYPE AS SPECIFIED ABOVE TO THE AFFECTED AREAS.

5. THIS ITEM SHALL INCLUDE ALL COUPLINGS, FITTINGS, AND ATTACHMENT HARDWARE NECESSARY FOR ATTACHMENT OF THE SIGNAL HEADS AND PUSHBUTTONS.

6. PAINT CHIP SAMPLES AND SHOP DRAWINGS FOR ALL COMPONENTS MUST BE SUBMITTED TO THE CITY ENGINEER AT LEAST 7 DAYS PRIOR TO ORDERING MATERIALS FOR REVIEW AND APPROVAL.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID, COMPLETE AND IN PLACE, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

ALL EXISTING TRAFFIC SIGNAL EQUIPMENT NOT REQUIRED IN THE COMPLETED INSTALLATION SHALL BECOME THE PROPERTY OF THE CITY OF DUBLIN. ALL HOLES AT THE MAST ARM SUPPORTS ASSOCIATED WITH REMOVAL OF EXISTING SIGNAL EQUIPMENT SHALL BE PLUGGED.

ALL ITEMS DESIGNATED FOR REMOVAL SHALL BE CAREFULLY TRANSPORTED BY THE CONTRACTOR TO A LOCATION WITHIN THE CITY OF DUBLIN (5800 SHIER RINGS ROAD, DUBLIN, OHIO 43016), AND CAREFULLY UNLOADED AND STORED AS DIRECTED. ANY ITEMS SPECIFICALLY DESIGNATED AS "UNUSABLE" BY THE CITY SHALL BE DISPOSED OF BY THE CONTRACTOR.

ITEM 632. CABLE AND WIRE

IN ADDITION TO ODOT STANDARD SPECIFICATION 632 AND 725 THE FOLLOWING SHALL ALSO APPLY:

ALL WIRE SPLICES SHALL BE WATERPROOF SPLICES, BUTT SPLICES ARE NOT ACCEPTABLE.

SIGNAL CABLE JACKETS SHALL NOT BE REMOVED OR PULLED BACK LEAVING EXPOSED WIRES OR COLORED JACKETS OUTSIDE OF SIGNAL HEADS. JACKETS ARE TO BE ONLY PULLED BACK ONCE CABLE HAS BEEN PULLED INTO SIGNAL HEAD. THREE FEET OF SLACK IS REQUIRED (DRIP LOOP) IN CABLE BETWEEN SIGNAL HEADS.

A SEPARATE 7 CONDUCTOR SIGNAL WIRE SHALL BE USED FOR ALL 5 SECTION SIGNAL HEADS. SIGNAL WIRE SHALL NOT BE SPLICED FROM A 3 SECTION SIGNAL HEAD TO A 5 SECTION HEAD.

ALL CABLES ENTERING AND EXITING A PULL BOX SHALL BE UNIQUELY COLOR CODED TO TRACE THE WIRE THROUGH THE INTERSECTION; COLORS SHALL BE NOTED ON SIGNAL PLANS IN THE SIGNAL CABINET.

ITEM 632. DETECTOR LOOP, AS PER PLAN

AS DESCRIBED IN THE LAST PARAGRAPH OF 632.11 OF THE 2008 ODOT CMS, ALL PROPOSED DETECTOR LOOPS SHALL BE SAWED AND EMBEDDED WITH SEALANT IN A SUBSURFACE COURSE WITH SUBSEQUENT COVERING BY THE SURFACE COURSE. FOR THE REPLACEMENT OF EXISTING LOOP DETECTORS, ALL ASPHALT MILLING OPERATIONS REMOVING THE WEAR COURSE SHALL BE COMPLETE BEFORE CUTTING NEW DETECTOR LOOPS IN THE INTERMEDIATE COURSE OF EXISTING PAVEMENT. NO LOOP DETECTORS SHALL BE VISIBLE FROM THE ROADWAY SURFACE.

RIGID 1" CONDUIT SHALL BE INSTALLED UNDER CURB BETWEEN THE LOOP LEAD IN CABLE AND PULLBOX FOR LOOP CONNECTION INTO SIGNAL CABINET.

ITEM 632. PEDESTRIAN PUSHBUTTON, AS PER PLAN

ALL PUSHBUTTONS SHALL BE POLARA BRAND 2" ADA PUSHBUTTONS IN YELLOW WITH AN ULTRA-BRIGHT LED AND BEEPER ("BULLDOG" MODEL BDLM-Y WITH A BDPM-Y POLE HOUSING), OR APPROVED EQUAL. LOCATION AND PLACEMENT OF PUSHBUTTONS TO BE FIELD LOCATED BY THE ENGINEER. ONE SIGN PER BUTTON.

THE PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID FOR EACH, COMPLETED AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

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

IN ADDITION TO ODOT ITEMS 632 AND 732 OF THE ODOT CMS, THE FOLLOWING SHALL ALSO APPLY:

THE PEDESTRIAN SIGNAL HEADS SHALL BE MADE OF POLYCARBONATE MATERIAL AND SHALL UTILIZE LED DISPLAYS FOR THE HAND/PERSON AND COUNTDOWN LEGENDS AS NOTED ON THE PLANS (GE LUMINATION TYPE GT1, MODEL NO. PS7-CFF1-26A OR APPROVED EQUAL). LOCATION AND PLACEMENT OF PEDESTRIAN SIGNAL HEADS TO BE FIELD LOCATED BY THE ENGINEER.

THE PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID FOR EACH, COMPLETED AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 633. CONTROLLER WORK PAD, AS PER PLAN

TOP OF CABINET FOUNDATION SHALL BE 4 INCHES ABOVE HIGHEST POINT OF THE FINISHED GRADE. WORK PAD SHALL PROVIDE ACCESS TO BOTH THE CONTROLLER CABINET AND BACKUP POWER SUPPLY.

ITEM 633. CABINET FOUNDATION, AS PER PLAN

THE CONTROLLER CABINET FOUNDATIONS SHALL BE SIZED FOR THE P-58UPS (SIEMENS/EAGLE SIZE P-UPS CABINET CATALOG NUMBER ELS1014) DOUBLE DOOR CABINET. THE SIZE OF THE FOUNDATION SHALL BE VERIFIED WITH THE CITY PRIOR TO INSTALLATION OF THE FOUNDATION. THE ANCHOR BOLTS SHALL BE CONSIDERED INCIDENTAL TO THE COST PAID FOR THIS ITEM. THE COST OF COORDINATION WITH THE CITY SHALL ALSO BE INCIDENTAL TO THE COST PAID FOR THIS ITEM.

PAYMENT SHALL BE MADE AT THE UNIT PRICE BID, COMPLETE AND IN PLACE.

ITEM 633. CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS1, AS PER PLAN

IN ADDITION TO ODOT STANDARD SPECIFICATIONS 633 AND 733, THE FOLLOWING SHALL ALSO APPLY:

1. THE SIGNAL CONTROLLER, CONFLICT MONITORS, TERMINAL FACILITIES, AND LOAD SWITCHES SHALL BE OF THE SAME MANUFACTURER. ALL LOAD SWITCHES AND INTERFACE RELAYS SHALL BE FURNISHED WITH INPUT/OUTPUT SIDE LED'S. THE CONTROLLERS AND CABINETS SUPPLIED SHALL BE CAPABLE OF COMPLETE ACTRA SYSTEM OPERATION.

2. THE CONTROLLER SUPPLIED SHALL BE EAGLE TRAFFIC CONTROL SYSTEMS EPAC300 SERIES MODEL 3808M50 WITH AN INTERNAL FIBER OPTICS COMMUNICATIONS MODEM, OR APPROVED EQUAL AND PROVIDED WITH OTHER EQUIPMENT AS NECESSARY FOR FULL FIBER OPTIC COMMUNICATIONS. THE CABINETS SHALL BE WIRED FOR THE PHASING SHOWN ON THE PLANS AND SHALL BE CAPABLE OF USING ALL PHASES OF THE CONTROLLER WITH THE ADDITION OF LOOP DETECTORS AND FIELD WIRING.

3. THE CONTROLLER CABINET TYPE SHALL BE A P-58UPS (SIEMENS/EAGLE SIZE P-UPS CABINET CATALOG NUMBER ELS1014) DOUBLE DOOR CONTROLLER AND BATTERY BACKUP ENCLOSURE TYPE CABINET OR APPROVED EQUAL. THE CONTROLLER DOOR SHALL BE FURNISHED WITH HINGES ALONG THE LEFT HAND SIDE OF DOOR. THE BATTERY BACKUP DOOR SHALL BE FURNISHED WITH HINGES ALONG THE RIGHT HAND SIDE OF DOOR. THE CABINET SHALL PROVIDE A SINGLE ENCLOSURE TO HOUSE THE CONTROLLER (WITH ALL ACCESSORIES) AND THE COMPLETE BATTERY BACKUP SYSTEM WITH EACH COMPARTMENT ACCESSIBLE BY A SEPARATE DOOR.

4. THE CABINET EXTERIOR SHALL BE A POWDER COAT PAINTED TO MATCH THE CITY OF DUBLIN STANDARD FOR POLE COLOR (DUBLIN BRONZE). POLYESTER PAINT FINISHED TO A GLOSS OF 35% (AT 60 DEG.). PAINT CHIP SAMPLES MUST BE SUBMITTED TO THE CITY ENGINEER FOR REVIEW AND APPROVAL ALONG WITH SHOP DRAWINGS FOR ALL COMPONENTS PRIOR TO ORDERING MATERIALS.

5. THE INTERIOR OF THE CABINET SHALL BE POWDER COATED GLOSS WHITE. A PAINT CHIP SAMPLE SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND APPROVAL PRIOR TO ORDERING MATERIALS.

6. THE CABINET SHALL COME EQUIPPED WITH A CABINET DETECTOR RACK (CDR) AND ENOUGH FOUR CHANNEL DETECTOR CARDS TO OPERATE THE SIGNAL WITH SOFTWARE FOR UP TO SIXTEEN DETECTORS. DETECTORS SHALL BE CANOGA 900 SERIES OR APPROVED EQUAL.

7. A SECOND VENTILATION FAN SHALL ALSO BE INSTALLED (110 CFM). THIS SECONDARY FAN SHALL BE MANUALLY ACTIVATED BY A TOGGLE SWITCH LOCATED ON THE MAINTENANCE PANEL.

8. THE CABINET POWER SURGE SUPPRESSOR/LINE FILTER SHALL BE A PLUG-IN STYLE FOR EASY REPLACEMENT, AND SHALL BE AN EDCO MODEL SHA1250 WITH SHA1250 BASE, OR APPROVED EQUAL.

9. AN AUXILIARY GENERATOR CONNECTION ENCLOSURE SHALL BE MOUNTED ON THE OUTSIDE OF THE UPPER SECTION OF THE CABINET ON THE SAME SIDE AS THE CABINET CIRCUIT BREAKERS. THE DRAWINGS FOR THE REQUIRED ENCLOSURE, COMPONENTS AND WIRING ARE INCLUDED IN THIS PLAN. THE ENCLOSURE SHALL BE PAINTED TO THE SAME SPECIFICATIONS AS THE CABINET.

10. SURGE SUPPRESSORS SHALL BE PROVIDED AT THE FIELD TERMINALS FOR ALL INDUCTIVE LOOPS. THESE SURGE SUPPRESSORS SHALL BE AN EDCO MODEL SRA 16C-I, OR APPROVED EQUAL.

11. THE CONTROLLER CABINET SHALL BE KEYED TO THE STATE MASTER.

12. PRINTED BOARD TYPE BACK PANELS OF THE CONTROLLER CABINET WILL NOT BE ACCEPTABLE. SOLDERED CONNECTIONS WILL BE PERMITTED FOR WIRING ON THE BACK SIDE OF THE BACK PANEL. ALL CONTROLLER MEMORIES SHALL BE INVOLATILE AND SHALL NOT REQUIRE BATTERIES OR OTHER SOURCE OF ENERGY TO RETAIN THE DATA WHILE POWER IS REMOVED FROM THE CONTROLLER.

13. THE DESIGN OF THE CONFLICT MONITOR SHALL BE MICROPROCESSOR ARCHITECTURE AND LIQUID CRYSTAL DISPLAYS. THE MONITOR SHALL INDICATE THE EXACT LOAD SWITCH CHANNEL IN WHICH THE FAILURE OCCURRED. THE CONFLICT MONITOR SHALL HAVE 12 CHANNELS AND AN EVENT LOGGING MEMORY. A MINIMUM OF NINE (9) EVENTS SHALL BE LOGGED. EXAMPLES OF EVENTS INCLUDE: POWER OUTAGES, CONFLICTS, CONTROLLER VOLTAGE MONITOR, ETC. EVENTS SHALL BE DISPLAYED ON THE CONFLICT MONITOR'S LIQUID CRYSTAL DISPLAY WHEN INTERROGATED.

14. A BATTERY BACKUP UNIT SHALL ALSO BE SUPPLIED. THE BACKUP UNIT SHALL MEET CITY OF DUBLIN SPECIFICATIONS AND FIT INSIDE THE BATTERY COMPARTMENT OF THE CONTROLLER CABINET. CONTRACTOR MUST COORDINATE WITH THE CITY TO PROGRAM THE CONTROLLER SETTINGS AND COORDINATION TIMINGS.

PAYMENT FOR ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS1, AS PER PLAN, WILL BE AT THE CONTRACT BID PRICE PER EACH, COMPLETE AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM SPECIAL. EDGE LIT INTERNALLY ILLUMINATED LED STREET NAME SIGN, SINGLE FACED

THE CONTRACTOR SHALL FURNISH AND INSTALL EDGE LIT INTERNALLY ILLUMINATED LED STREET NAME SIGNS ACCORDING TO THE PLANS. THE SIGNS SHALL BE RIGID MOUNTED ON THE TRAFFIC SIGNAL MAST ARMS. ALL THE SIGN ATTACHMENT HARDWARE WITH WIRING CONNECTIONS SHALL BE INCLUDED WITH THIS ITEM.

THE LED STREET NAME SIGN SHALL MEET THE SPECIFICATIONS OF THE LED STREET NAME SIGN AS MANUFACTURED BY THE NATIONAL SIGN AND SIGNAL COMPANY, BATTLE CREEK MI, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE SIGN ASSEMBLY SHALL CONSIST OF AN ALUMINUM HOUSING WITH EDGE LIT INTERNAL LED FIXTURES, COMPLETE. THE SIGN FACE SHALL DISPLAY THE LEGEND BY SHOWING WHITE TRANSLUCENT LETTERS ON A REFLECTORIZED BROWN BACKGROUND (DARK BROWN TO MATCH FEDERAL SPECIFICATION NO. 10075). WHEN MOUNTED, THE SIGN SHALL PROVIDE A 5 DEGREE DOWNWARD ANGLE FOR INCREASED VISIBILITY. THE EXTERIOR OF THE SIGN SHALL BE PAINTED TO MATCH THE CITY OF DUBLIN STANDARD FOR POLE PAINT COLOR (DUBLIN BRONZE). THE CONTRACTOR SHALL VERIFY THE LEGEND OF EACH STREET NAME SIGN WITH THE ENGINEER PRIOR TO ORDERING THE SIGN FROM THE MANUFACTURER. THE PHOTOELECTRIC CONTROL CELL SHALL BE MOUNTED ON TOP OF THE MAST ARM POLE WHICH IS CLOSEST TO THE CONTROLLER CABINET/HOUSING AND SHALL BE PLUG-IN TYPE WITH BASE.

THE SIGN FACE SHALL BE CONSTRUCTED OF A TRANSLUCENT SHATTERPROOF LENS, TO PROVIDE A WHITE LEGEND. THE LETTERS SHALL BE 6 INCH UPPERCASE/LOWERCASE HELVETICA LETTER STYLE. THE SIGN FACE LEGEND BACKGROUND SHALL BE A TRANSLUCENT STANDARD TRAFFIC BROWN FILM OR PAINT (DARK BRONZE TO MATCH FEDERAL SPECIFICATION NO. 10075). A CLEAR COAT MAY BE APPLIED TO ALL SIGN FACES TO PREVENT FADING AND PROTECT THE SURFACE. ALL SIGNS SHALL CARRY THE STANDARD MANUFACTURER'S WARRANTY.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID FOR EACH, COMPLETE AND IN PLACE, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM SPECIAL LED "NO TURN ON RED" BLANK OUT SIGN, SINGLE FACED

THE CONTRACTOR SHALL FURNISH AND INSTALL LED "NO TURN ON RED" BLANK OUT SIGNS ACCORDING TO THE PLANS. THE SIGNS SHALL BE RIGID MOUNTED ON THE TRAFFIC SIGNAL POLE. ALL THE SIGN ATTACHMENT HARDWARE WITH WIRING CONNECTIONS SHALL BE INCLUDED WITH THIS ITEM.

THE SIGNS SHALL MEET THE SPECIFICATIONS OF THE BLANK OUT SIGNS AS MANUFACTURED BY THE NATIONAL SIGN AND SIGNAL COMPANY, BATTLE CREEK MI, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE SIGN ASSEMBLY SHALL CONSIST OF ALUMINUM HOUSING. WHEN MOUNTED, THE SIGN SHALL PROVIDE A 5 DEGREE DOWNWARD ANGLE FOR INCREASED VISIBILITY. THE EXTERIOR OF THE SIGN SHALL BE PAINTED TO MATCH THE CITY OF DUBLIN STANDARD FOR POLE PAINT COLOR (DUBLIN BRONZE).

ALL DISPLAYS SHALL BE CLEARLY LEGIBLE UNDER ANY LIGHTING CONDITIONS. AT FULL INTENSITY, THE SIGN SHALL BE VISIBLE FOR AT LEAST 600 FEET WITHIN AN APPROXIMATE 60-DEGREE CONE CENTERED ABOUT THE OPTICAL AXIS.

THE SIGN SHALL COMPLETELY BLANK OUT WHEN NOT ENERGIZED AND NO PHANTOM WORDS, LEGENDS, OR COLORS SHALL BE VISIBLE UNDER ANY AMBIENT LIGHT CONDITION.

PAYMENT FOR THIS ITEM SHALL BE AT THE UNIT PRICE BID FOR EACH, COMPLETE AND IN PLACE, ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM SPECIAL IN CABINET SERIAL COMMUNICATION LINK

AN RS-232 SERIAL COMMUNICATIONS LINK IN THE CABINET BETWEEN THE CONTROLLER, EDI CONFLICT MONITOR, AND ALL CANOGA 800 AND/OR 900 SERIES VEHICLE DETECTOR DEVICES SHALL BE PROVIDED TO ALLOW REMOTE CENTRAL OFFICE CONNECTION OF THESE DEVICES.

THE CENTRAL OFFICE USER INTERFACE SHALL BE PART OF THE SOFTWARE USED FOR COMMUNICATING WITH THE CONTROLLER. THE INTERFACE SHALL LAUNCH THE SOFTWARE DEVELOPED BY THE DEVICE MANUFACTURER AND PROVIDE ALL FUNCTIONS OF THAT SOFTWARE FROM THE CENTRAL OFFICE.

ALL HARDWARE REQUIRED TO MAKE THIS CONNECTION SHALL BE SUPPLIED WITH THE CABINET AND BE FULLY FUNCTIONAL.

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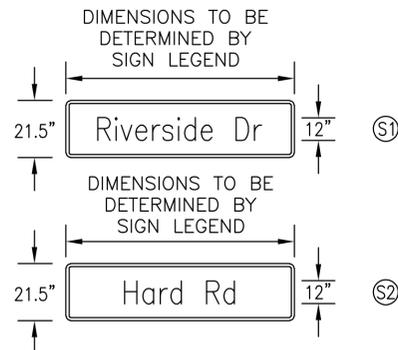
TRAFFIC SIGNAL GENERAL NOTES

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

LEGEND:

- POWER POLE
- TELEPHONE POLE
- LIGHT POLE
- PULL BOX
- SIGNAL SUPPORT
- PEDESTAL SUPPORT
- 3 SECTION SIGNAL HEAD
- 4 SECTION SIGNAL HEAD
- 5 SECTION SIGNAL HEAD, LT
- 5 SECTION SIGNAL HEAD, RT
- PEDESTRIAN SIGNAL HEAD
- MAST ARM
- SIGN
- CONTROLLER
- PROPOSED TRAFFIC CONDUIT SCHEDULE 80
- INTERNALLY ILLUMINATED SIGN
- SIGNAL SUPPLIED BY CITY OF DUBLIN

EDGE LIT INTERNALLY ILLUMINATED LED STREET NAME SIGN

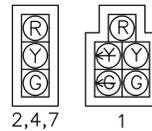


LED. "NO TURN ON RED" BLANK OUT SIGN SINGLE FACED



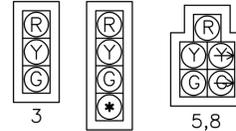
12" LED SIGNAL HEADS

- WITH BACKPLATES -
- SUPPLIED BY CITY OF DUBLIN -



12" LED SIGNAL HEADS

- WITH BACKPLATES -

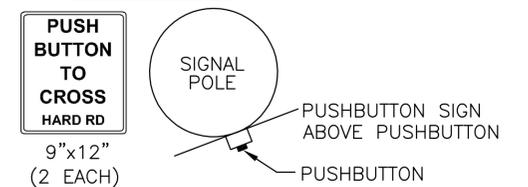


* TO DISPLAY:
↔ OR ↔

REUSE EXISTING PEDESTRIAN SIGNAL HEAD TYPE D-2



TYPICAL PUSHBUTTON INSTALLATION ON PEDESTAL POLES AND SIGN LEGEND



CALCULATED
DKI
CHECKED
PJM

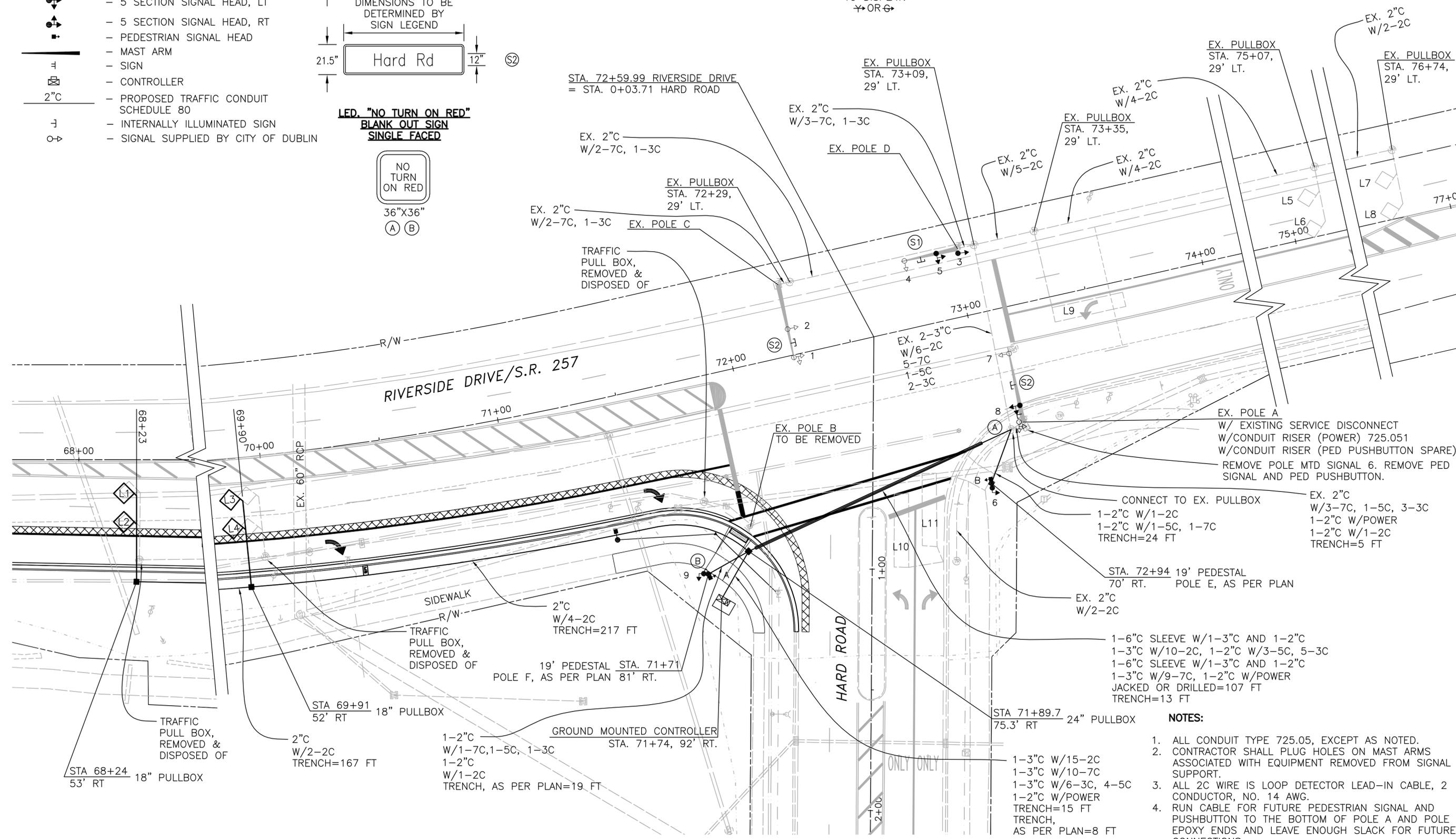
40
20
0
SCALE IN FEET

TRAFFIC SIGNAL PLAN

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

20
23

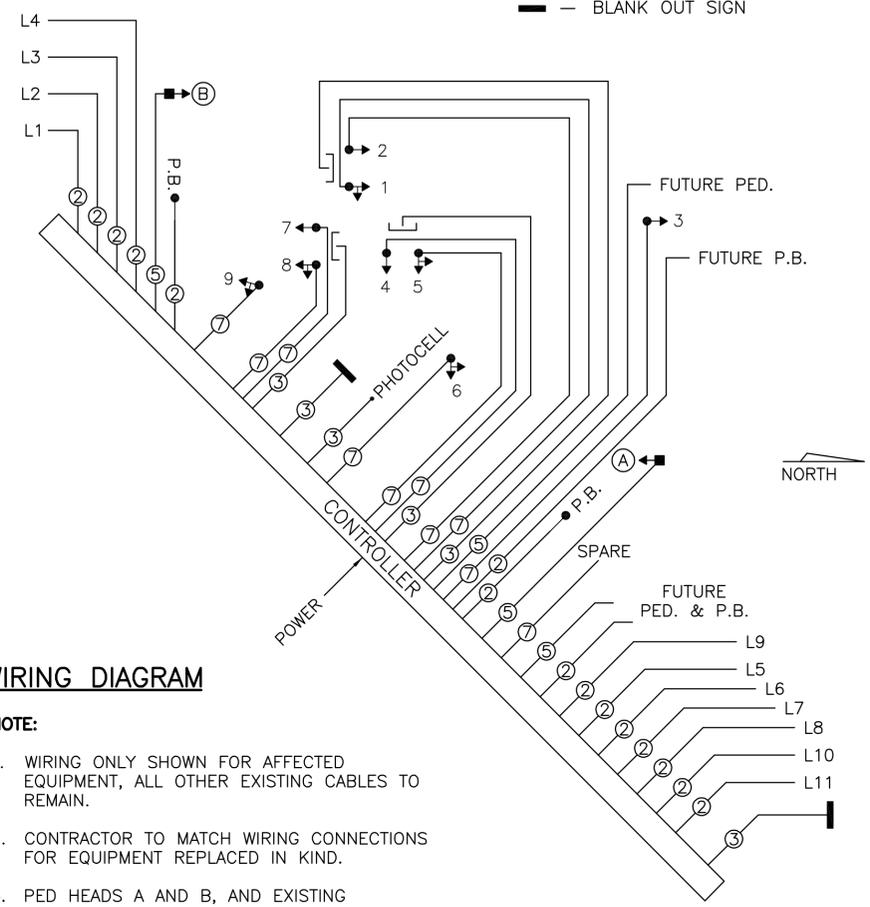
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- NOTES:**
1. ALL CONDUIT TYPE 725.05, EXCEPT AS NOTED.
 2. CONTRACTOR SHALL PLUG HOLES ON MAST ARMS ASSOCIATED WITH EQUIPMENT REMOVED FROM SIGNAL SUPPORT.
 3. ALL 2C WIRE IS LOOP DETECTOR LEAD-IN CABLE, 2 CONDUCTOR, NO. 14 AWG.
 4. RUN CABLE FOR FUTURE PEDESTRIAN SIGNAL AND PUSHBUTTON TO THE BOTTOM OF POLE A AND POLE D EPOXY ENDS AND LEAVE ENOUGH SLACK FOR FUTURE CONNECTIONS.
 5. RUN SPARE 7C TO THE BASE OF POLE A.

LEGEND:

- — STREET LIGHT
- — SIGNAL
- ➡ — PEDESTRIAN SIGNAL
- — PUSH BUTTON
- ⌈ — INTERNALLY ILLUMINATED STREET NAME SIGN
- — BLANK OUT SIGN

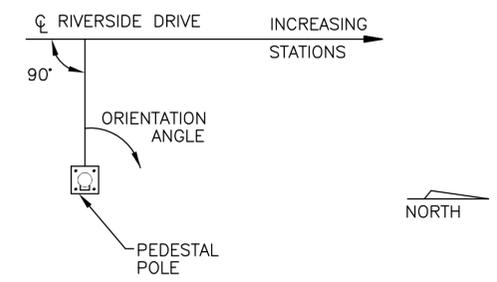


WIRING DIAGRAM

- NOTE:**
1. WIRING ONLY SHOWN FOR AFFECTED EQUIPMENT, ALL OTHER EXISTING CABLES TO REMAIN.
 2. CONTRACTOR TO MATCH WIRING CONNECTIONS FOR EQUIPMENT REPLACED IN KIND.
 3. PED HEADS A AND B, AND EXISTING PUSHBUTTONS TO BE RELOCATED TO NEW PEDESTAL POLES

SIGNAL SUPPORT ORIENTATION

SUPPORT I.D.	SUPPORT DATA				ORIENTATION ANGLES (DEG) FROM MAST ARM				
	POLE (AS PER PLAN)	STATION	OFFSET	POLE HT (FT)	FOUNDATION ELEVATION	PEDESTRIAN SIGNAL	PEDESTRIAN PUSHBUTTON	AUXILIARY SIGNAL	1-1/2" COUPLING SPACING
E	PEDESTAL, W/TRANSFORMER BASE	72+94	70' RT.	19	830.88	5	312	176	-
F	PEDESTAL, W/TRANSFORMER BASE	71+71	81' RT.	19	832.16	168	46	287	-



NOTES:

1. ALL ANGLES MEASURED CLOCKWISE.
2. BASE PLATE IS ORIENTED SQUARE TO MAST ARM

DETECTOR ASSIGNMENTS

DETECTOR NUMBER	STATUS	SIZE	LOCATION	TURNS	MODE	DELAY (SEC.)	EXTENSION (SEC.)	UNIT	CHANNEL	PHASE
L1	PROPOSED	6'X6' DIAMOND	68+23 LEFT LANE	3	PULSE	-	-	1	1	6
L2	PROPOSED	6'X6' DIAMOND	68+23 RIGHT LANE	3	PULSE	-	-	1	2	6
L3	PROPOSED	6'X6' DIAMOND	69+90 LEFT LANE	3	PULSE	-	-	2	1	6
L4	PROPOSED	6'X6' DIAMOND	69+90 RIGHT LANE	3	PULSE	-	-	2	2	6
L5	EXISTING	6'X6' DIAMOND	75+07 LEFT LANE	-	PULSE	-	-	3	1	2
L6	EXISTING	6'X6' DIAMOND	75+07 RIGHT LANE	-	PULSE	-	-	3	2	2
L7	EXISTING	6'X6' DIAMOND	76+74 LEFT LANE	-	PULSE	-	-	4	1	2
L8	EXISTING	6'X6' DIAMOND	76+74 RIGHT LANE	-	PULSE	-	-	5	1	2
L9	EXISTING	6'X30'	73+25 LEFT TURN LANE	-	PRESENCE	-	-	5	2	5
L10	EXISTING	6'X30'	10+69 LEFT LANE	-	PRESENCE	-	-	6	1	4
L11	EXISTING	6'X30'	10+61 RIGHT LANE	-	PRESENCE	7	-	6	2	4

SIGNAL TIMING CHART

PARAMETER/ MOVEMENT	PHASE							
	1	2	3	4	5	6	7	8
MINIMUM GREEN	-	26	10	10	7	26	-	-
PASSAGE	-	3.0	-	3.5	3.0	3.0	-	-
MAX. 1	-	60	-	40	20	60	-	-
MAX. 2	-	60	-	40	20	60	-	-
MAX. 3	-	-	-	-	-	-	-	-
YELLOW	-	4.5	3.6	3.6	3.6	4.5	-	-
ALL RED	-	3.0	2.0	2.0	2.0	3.0	-	-
WALK	-	-	-	-	-	7	-	-
PED. CLEAR.	-	-	-	-	-	19	-	-
PED. RECALL	-	OFF	OFF	OFF	OFF	OFF	-	-
VEHICLE RECALL	-	EXT	OFF	OFF	OFF	EXT	-	-
MEMORY	-	ON	OFF	OFF	OFF	ON	-	-

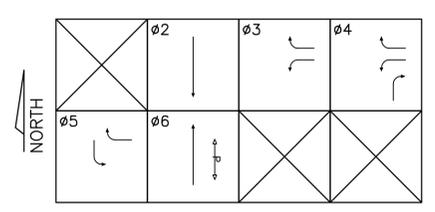
PREEMPTION OPERATION

DESIGNATION	APPROACH OF PREEMPTING VEHICLE BEING SERVED		PHASES
	OPTICOMM	EAGLE/SIEMENS	
A	1	NB	6
B	2	SB	2+5
C	3	WB	3
D	4	-	-

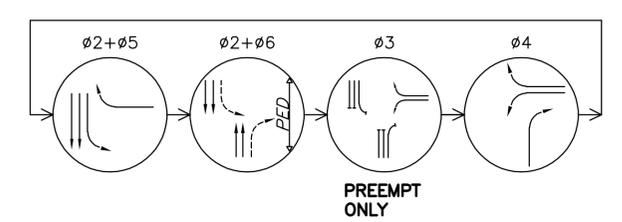
FIELD WIRING HOOK-UP CHART

(FOR NEW SIGNALS ONLY)				(FOR NEW SIGNALS ONLY)			
SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD #	INDICATION	FIELD TERMINAL	FLASH
1 (SBLT)	R	Ø2 R	Y	6 (WBRT)	R	OL 3+4 R	R
	Y	Ø2 Y					
	G	Ø2 G					
	↔	Ø5 Y					
	↔	Ø5 G					
2 (SB)	R	Ø2 R	Y	7 (NB)	R	Ø6 R	Y
	Y	Ø2 Y					
	G	Ø2 G					
3 (SB)	R	Ø2 R	Y	8 (NBRT)	R	Ø6 R	Y
	Y	Ø2 Y					
	G	Ø2 G					
4 (WB)	R	OL 3+4 R	R	9 (NBRT)	Y	Ø1 Y	Y
	Y	OL 3+4 Y					
	G	OL 3+4 G					
	R	OL 3+4 R					
	Y	OL 3+4 Y					
5 (WBRT)	G	OL 3+4 G	R	A	W	Ø6 W	OUT
	↔	OL 3+4+5 Y					
	↔	OL 3+4+5 G					
	↔	OL 3+4+5 G					
6 (WBRT)	R	Ø6 R	Y	B	W	Ø6 W	OUT
	Y	Ø6 Y					
	G	Ø6 G					
	↔	Ø4 Y/Ø4 G					

NEMA PHASING CHART



PHASING DIAGRAM



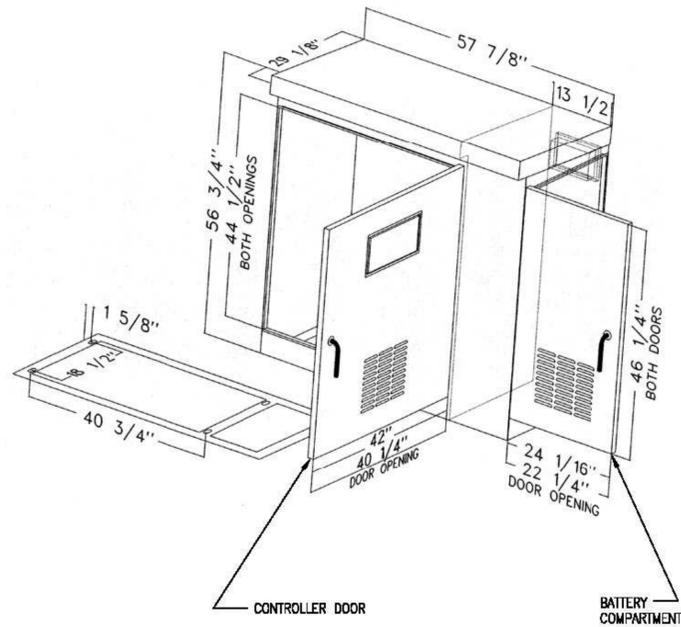
MCDANIEL, ARRON - I:\23608551\transportation\design\plan_set\signal_plans\86515010.dwg - TRAFFIC SIGNAL PLAN DETAIL - Last Saved: May 23, 2014, 11:48 AM, DILES, Plotter: May 27, 2014, 10:02 AM

POLE ORIENTATION NOTES

NOTES:

1. ALL POLES SHALL BE STRUCTURALLY DESIGNED BY THE MANUFACTURER. SHOP DRAWINGS AND COMPUTATIONS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
2. ELEVATION "A" IS SHOWN FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF EACH FOUNDATION SHALL BE IN ACCORDANCE WITH THE DETAIL GIVEN ON THE SIGNAL PLAN SHEETS.
3. PEDESTRIAN SIGNAL HEAD IS ATTACHED WITH TWO-PIECE HINGED BRACKET, AS PER TC-85.10.
4. AUXILIARY SIGNAL HEAD IS ATTACHED WITH 1-1/2" BLIND HALF COUPLINGS, AS PER TC-85.10.

P-58UPS CABINET



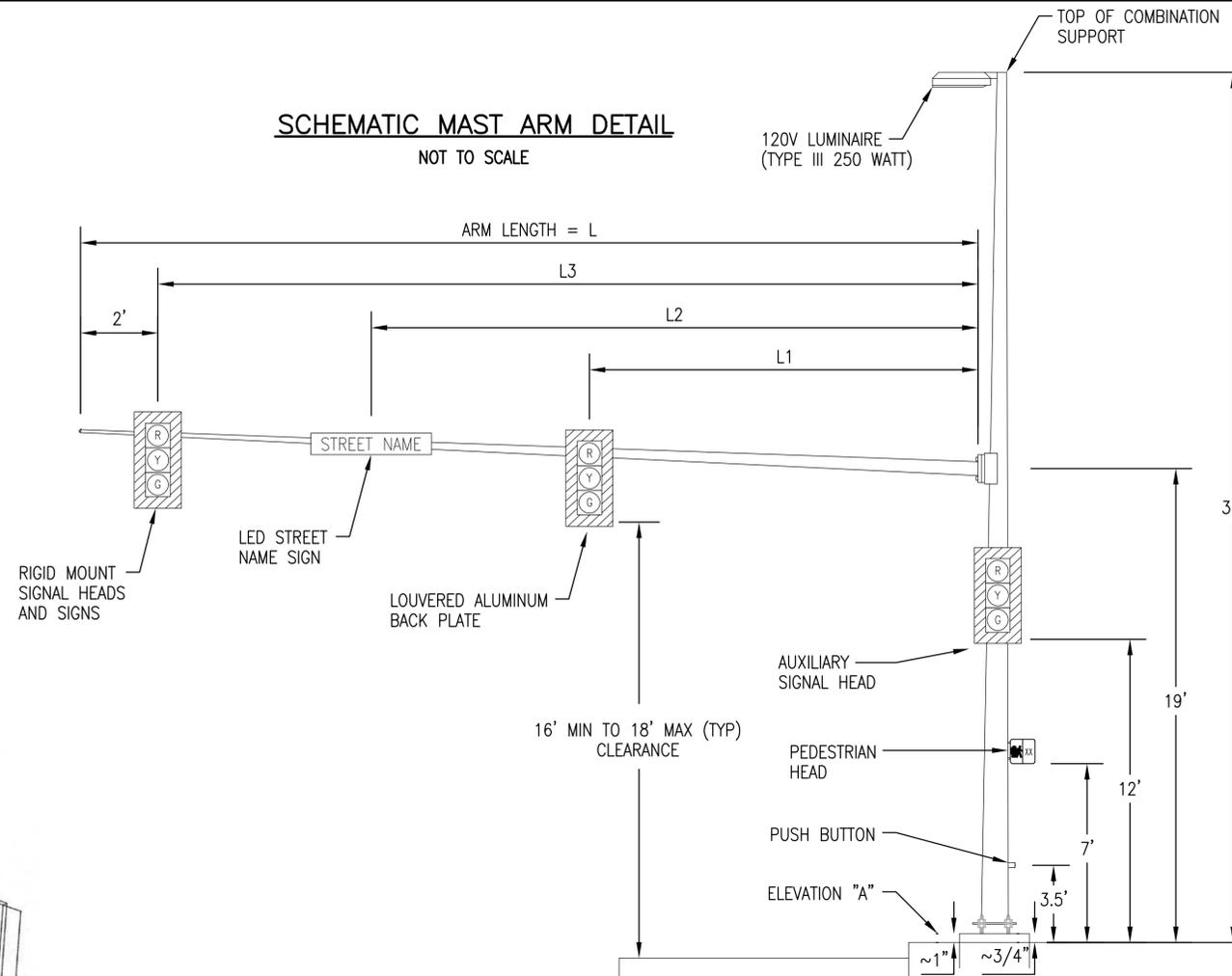
P-58UPS CABINET DETAILS

NOTES:

1. THE CABINET SHALL BE CONSTRUCTED TO INCLUDE ALL THE DESIGN FEATURES OF THE SIEMENS/EAGLE SIZE P-UPS CABINET, CATALOG NUMBER ELS1014, WITH THE FOLLOWING EXCEPTIONS.
 - A. THE CONTROLLER DOOR SHALL HAVE THE HINGES ON THE LEFT SIDE OF THE DOOR OPENING. THE DOOR WILL OPEN TO THE LEFT.
 - B. THE BATTERY COMPARTMENT DOOR SHALL HAVE THE HINGES ON THE RIGHT SIDE OF THE DOOR OPENING. THE DOOR WILL OPEN TO THE RIGHT. ISOMETRIC DRAWING ABOVE DOES NOT SHOW HINGES CORRECTLY.
2. THE CABINET SHALL INCLUDE THE GENERATOR POWER PANEL PER THE DETAILS ON SHEET 28.

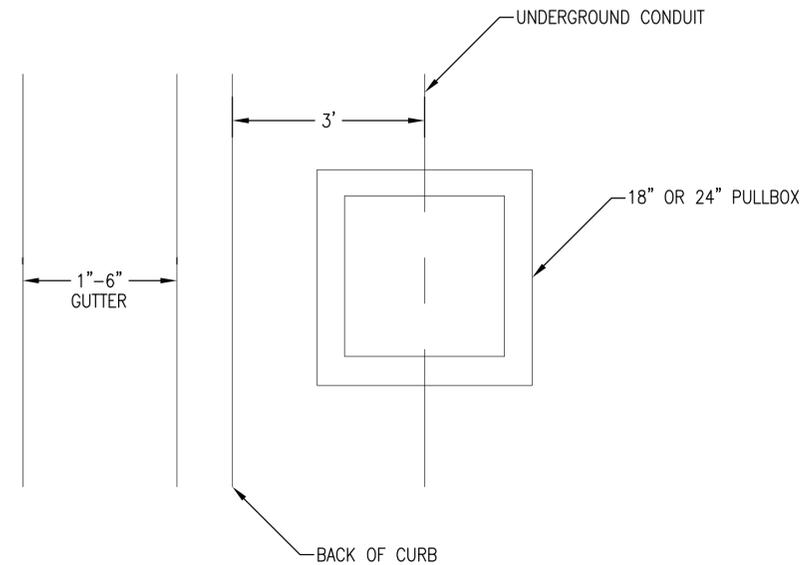
SCHEMATIC MAST ARM DETAIL

NOT TO SCALE



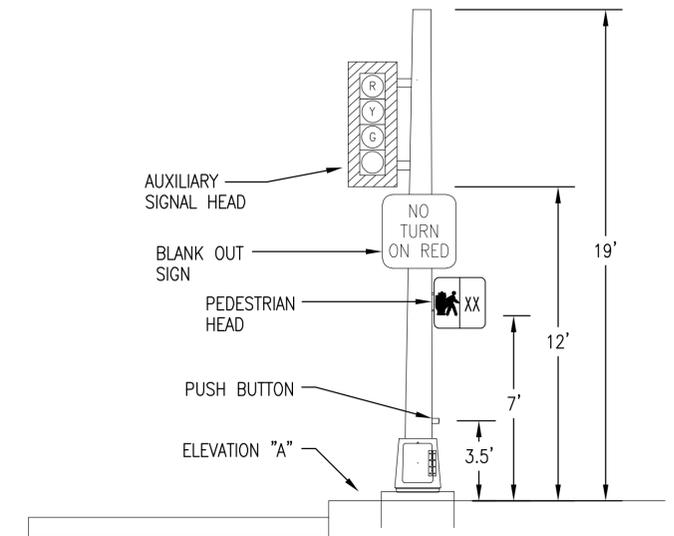
TYPICAL PULLBOX PLACEMENT

NOT TO SCALE



SCHEMATIC POLE DETAIL

NOT TO SCALE



CALCULATED
DKI
CHECKED
PJM

TRAFFIC SIGNAL PLAN DETAIL

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

22
23

MCDANIEL, ARRON U:\173608651\transportation\design\plan_set\signal_plans\86515001B.dwg TRAFFIC SIGNAL PLAN DETAIL Last Saved: May 23, 2014, 11:49 AM, DILES, Plotter: May 27, 2014, 10:03 AM

MATERIAL SPECIFICATIONS FOR GENERATOR / INVERTER POWER PANEL EQUIPMENT

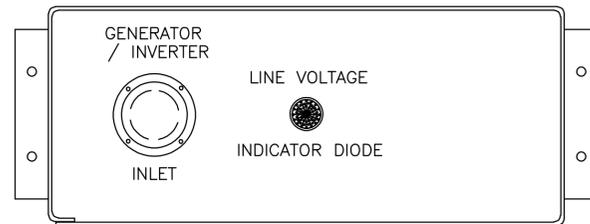
GENERATOR INLET ---- The inlet shall be 30 amp, 125/250V, locking, four (4) wire grounding and meet the NEMA configuration number L14-30-P 30A 125/250V specification. The inlet shall be a Hubbell catalog #2715.

LINE VOLTAGE GENERATOR SWITCH ---- The switch shall be 30 amp, 125/250V AC, two (2) pole, three (3) position (On, Off, On). The switch shall be a Hubbell catalog #1388.

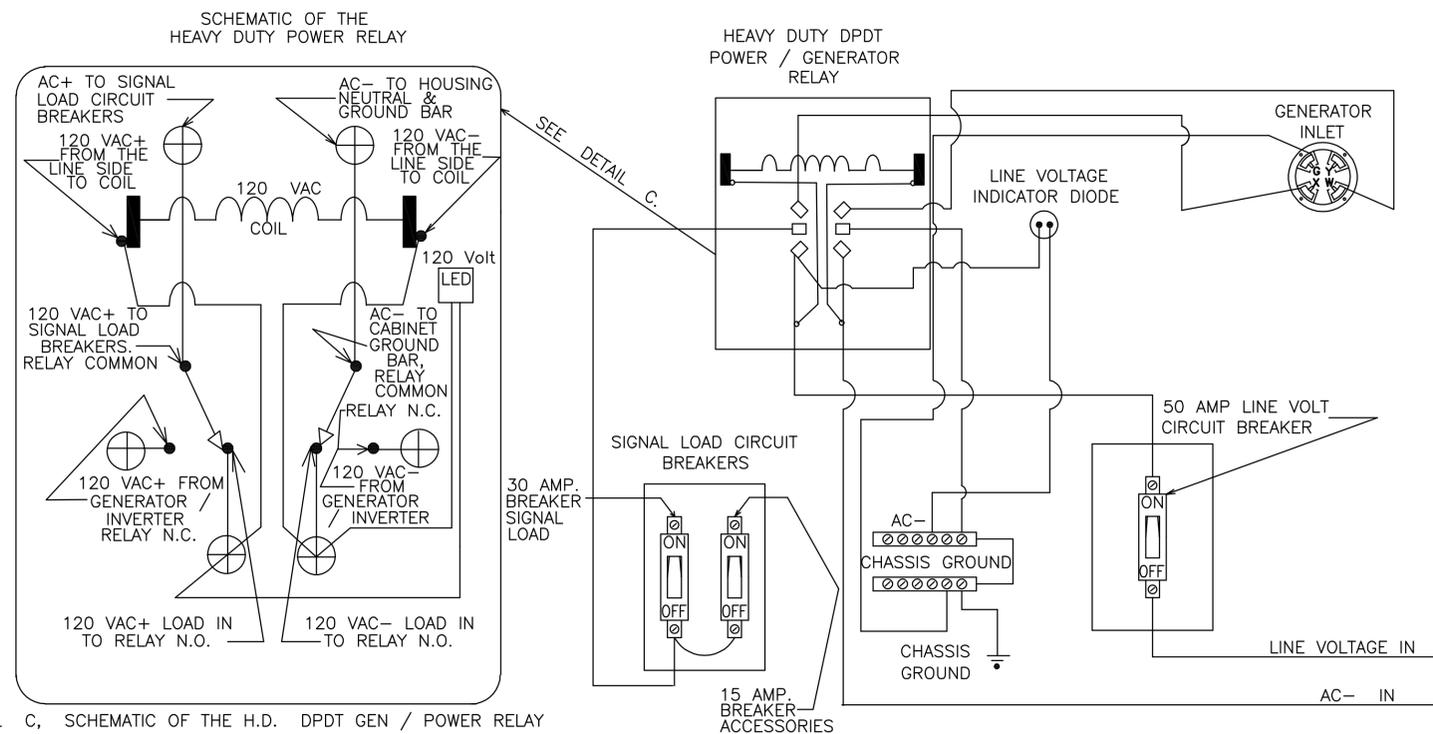
LINE VOLTAGE INDICATOR LIGHT ---- The indicator light shall be a 120V AC light emitting diode with a red lens.

LINE VOLTAGE CIRCUIT BREAKER ---- The circuit breaker shall be single pole single throw and a minimum of 30 amps. The amperage shall be increased to accommodate greater loads, if necessary. The gauge of the power cable shall be of proper size per the N.E.C.

EXTERNAL LINE VOLTAGE INDICATOR LIGHT ---- The indicator light shall be a 1-inch (25mm) waterproof NEMA 4x or IP66 LED lamp with a GREEN lens.



FRONT VIEW OF GENERATOR / INVERTER POWER PANEL

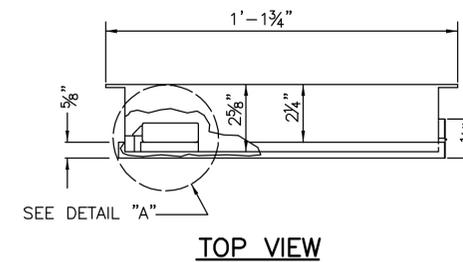


ELECTRICAL HOOKUP DETAIL FOR THE GENERATOR POWER PANEL

GENERATOR POWER PANEL ENCLOSURE

NOTES:

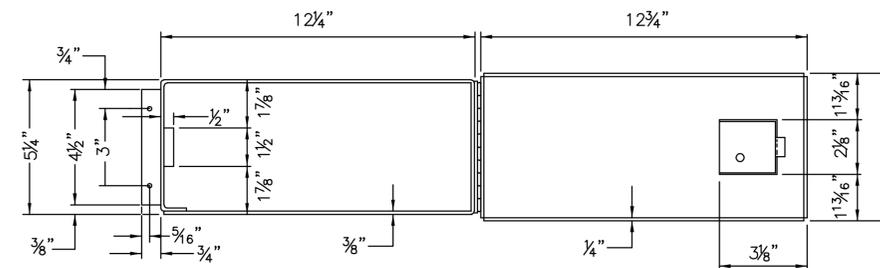
1. The enclosure shall be constructed of 1\8" thick aluminum.
2. The lock shall be the standard police door type, keyed with the standard flasher door skeleton key.
3. The door shall be sealed with a foam rubber gasket to prevent moisture from entering the enclosure.
4. The enclosure shall be mounted onto the outside of the controller cabinet with non-accessible bolts and sealed with a high quality silicon caulk at all surfaces touching the cabinet.
5. The hinge shall be of stainless steel or equivalent corrosive-resistant material.
6. Keyhole shall be covered with a movable circular aluminum or brass cover with top pivot pin.



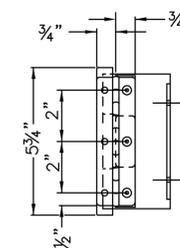
TOP VIEW



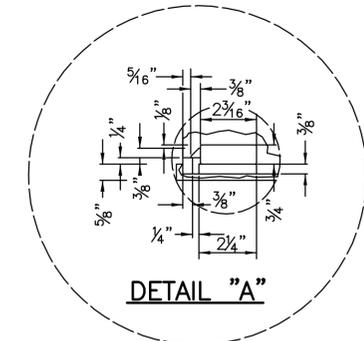
FRONT VIEW CLOSED DOOR



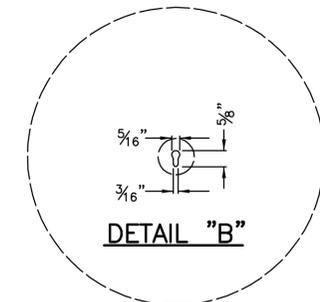
FRONT VIEW OPEN DOOR



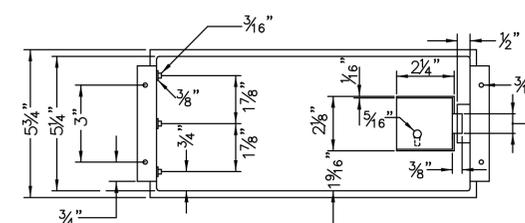
RIGHT SIDE VIEW CLOSED DOOR



DETAIL "A"



DETAIL "B"



BACK VIEW CLOSED DOOR

CALCULATED
DKI
CHECKED
PJM

AUXILIARY POWER PANEL

RIVERSIDE DRIVE/HARD ROAD
RIGHT TURN LANE

23
23