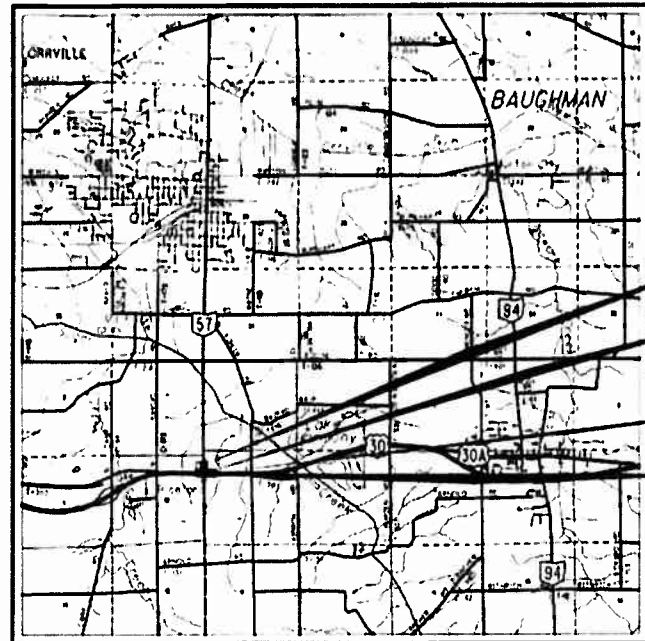


WAY - US 30-20.15
210313 PID - 110876
Dist 3 5/13/2021

Contract Proposal available @
www.contracts.dot.state.oh.us

51-02-03-AYM



LOCATION MAP

LATITUDE: 40°47'48" LONGITUDE: 81°45'55"

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

DESIGN DESIGNATION	US30 (WEST)	US30 (EAST)	SR57
CURRENT ADT (2021)	21,000	23,000	7,600
DESIGN YEAR ADT (2041)	25,000	27,500	7,900
DESIGN HOURLY VOLUME (2041)	2,500	2,500	650
DIRECTIONAL DISTRIBUTION	0.55	0.54	0.50
TRUCKS (24 HOUR B&C)	0.16	0.17	0.20
DESIGN SPEED	55 mph	55 mph	55 mph
LEGAL SPEED	55 mph	55 mph	55 mph
DESIGN FUNCTIONAL CLASSIFICATION:			
US 30: NHS NON-INTERSTATE - HIGHWAY			
SR57: RURAL MINOR ARTERIAL			
NHS PROJECT			

DESIGN EXCEPTIONS

NONE

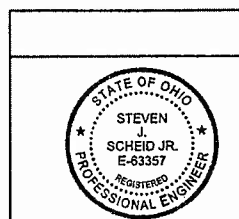
UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

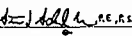

OHIO811.org
Before You Dig

OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)



PLAN PREPARED BY:
MEAD & HUNT
4700 LAKEHURST CT, SUITE 110
COLUMBUS OH, 43016



SIGNED: 
DATE: 12/15/2020

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

WAY-30-20.15

EAST UNION TOWNSHIP

WAYNE COUNTY

END PROJECT SR-57:
4+45.00

BEGIN PROJECT SR-57:
0+43.63

END PROJECT US-30:
1028+40.00

BEGIN PROJECT US-30:
1022+32.78

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STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	01/17/20	MT-95.30	7/19/19	TC-41.30	10/18/13	TC-85.21	4/17/20			800-2020	1/15/21
		MT-95.40	1/17/20	TC-41.41	7/19/19	TC-85.22	1/19/18			804	7/17/20
DM-1.1	7/17/20	MT-95.45	1/17/20	TC-41.50	10/18/13					809	10/16/20
DM-1.2	1/18/13	MT-97.10	4/19/19	TC-42.20	10/18/13	ITS-12.50	1/17/20			821	4/20/12
DM-4.3	1/15/16	MT-97.12	1/20/17	TC-52.10	10/18/13	ITS-15.10	7/17/20			825	1/17/20
DM-4.4	1/15/16	MT-99.20	4/19/19	TC-52.20	7/20/18					832	10/19/18
		MT-101.70	1/17/20	TC-64.10	1/17/20					904	7/17/20
BP-4.1	7/19/13	MT-101.75	1/17/20	TC-65.10	1/17/14					909	10/16/20
BP-9.1	1/18/19	MT-101.90	7/17/20	TC-65.11	7/21/17					921	4/20/12
		MT-105.10	1/17/20	TC-71.10	1/19/18						
RM-4.2	4/17/20			TC-81.11	7/17/20						
		TC-17.11	4/17/20	TC-83.10	1/17/20						
HL-20.21	1/19/18	TC-21.21	7/17/20	TC-83.20	7/21/17						
HL-30.11	7/17/20	TC-22.10	4/17/20	TC-84.20	10/18/13						
HL-30.22	4/17/20	TC-22.20	1/17/14	TC-84.21	10/18/13						
		TC-41.20	10/18/13	TC-85.10	4/17/20						

FEDERAL PROJECT NUMBER

E191083

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

THIS PROJECT INVOLVES EXTENDING THE WESTBOUND RIGHT TURN LANE ON US 30, ADDING A SOUTHBOUND RIGHT TURN LANE ON SR 57 AND WESTBOUND LEFT TURN LANE ON US 30, AND REPLACING THE SIGNAL. TOTAL PROJECT LENGTH IS APPROXIMATELY 0.20 MILES.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	0.94 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.82 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	1.76 ACRES

2019 SPECIFICATIONS

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

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

CONFORMED SET

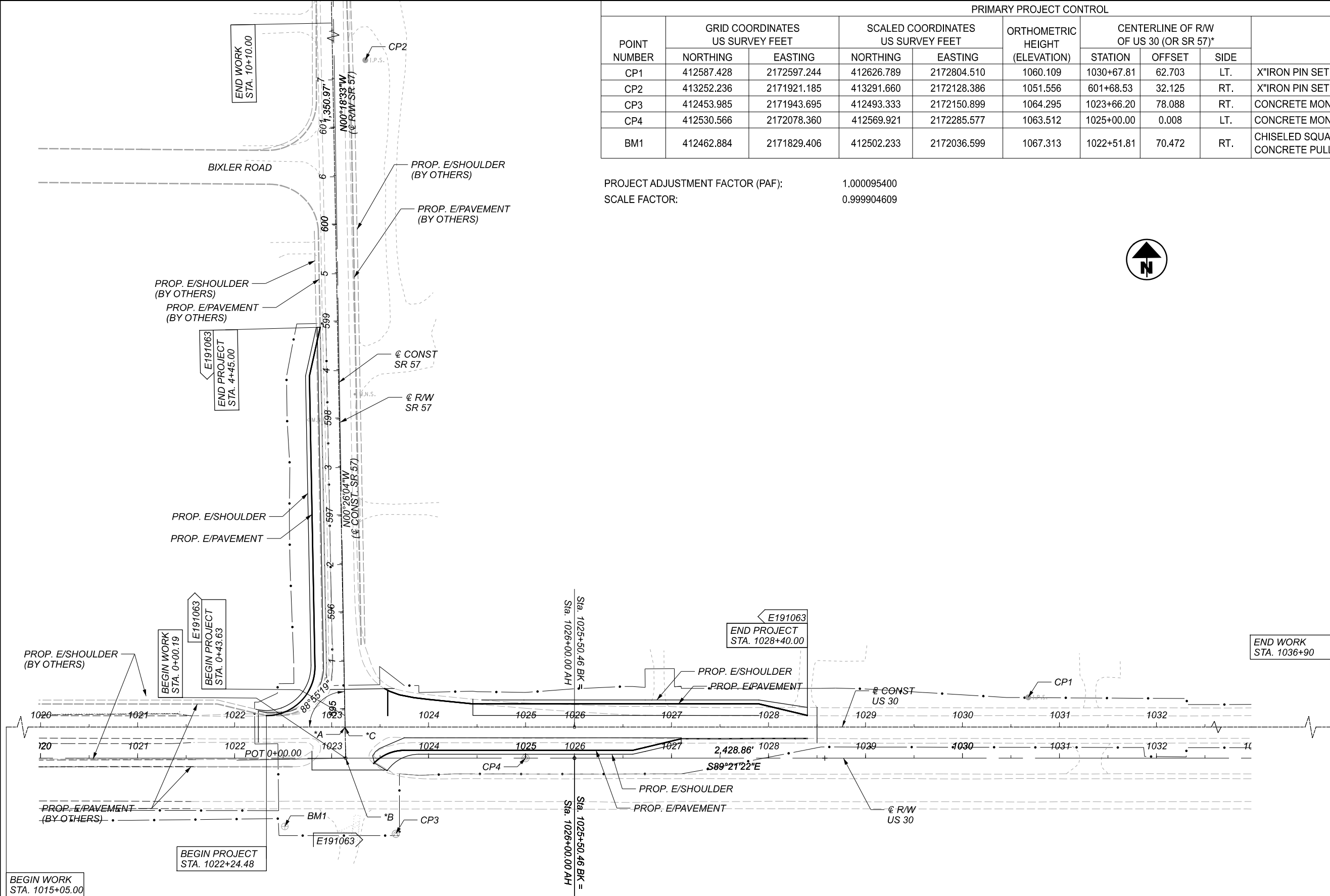
APPROVED

DATE 4/22/2021

APPROVED

DATE 4/6/21

DESIGN AGENCY	Mead & Hunt
CLIENT	
DESIGNER	CJL
REVIEWER	SJS
PROJECT ID	110876
SHEET	P.1
TOTAL	65



*A STA 1023+13.96 @ CONST US 30
= STA 0+32.20 @ CONST SR 57

*B STA 1023+14.56 @ R/W US 30
= STA 0+00.19 @ CONST SR 57
= STA 594+49.03 @ R/W SR 57

*C STA 1023+14.03 @ CONST US 30
= STA 594+81.03 @ R/W SR 57

POINT NUMBER	GRID COORDINATES US SURVEY FEET		SCALED COORDINATES US SURVEY FEET		ORTHOMETRIC HEIGHT (ELEVATION)	CENTERLINE OF R/W OF US 30 (OR SR 57)*			Description
						STATION	OFFSET	SIDE	
	NORTHING	EASTING	NORTHING	EASTING					
CP1	412587.428	2172597.244	412626.789	2172804.510	1060.109	1030+67.81	62.703	LT.	X"IRON PIN SET
CP2	413252.236	2171921.185	413291.660	2172128.386	1051.556	601+68.53	32.125	RT.	X"IRON PIN SET *
CP3	412453.985	2171943.695	412493.333	2172150.899	1064.295	1023+66.20	78.088	RT.	CONCRETE MONUMENT FOUND
CP4	412530.566	2172078.360	412569.921	2172285.577	1063.512	1025+00.00	0.008	LT.	CONCRETE MONUMENT FOUND
BM1	412462.884	2171829.406	412502.233	2172036.599	1067.313	1022+51.81	70.472	RT.	CHISELED SQUARE IN NE CORNER OF CONCRETE PULL BOX

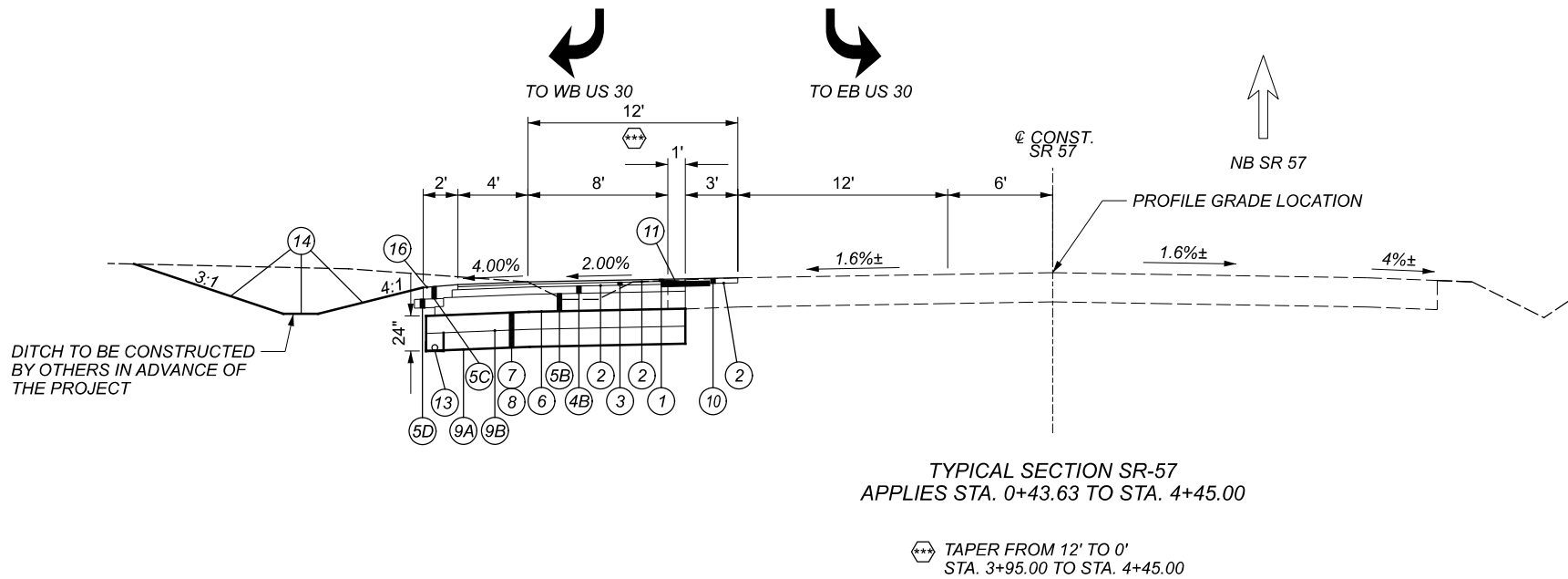
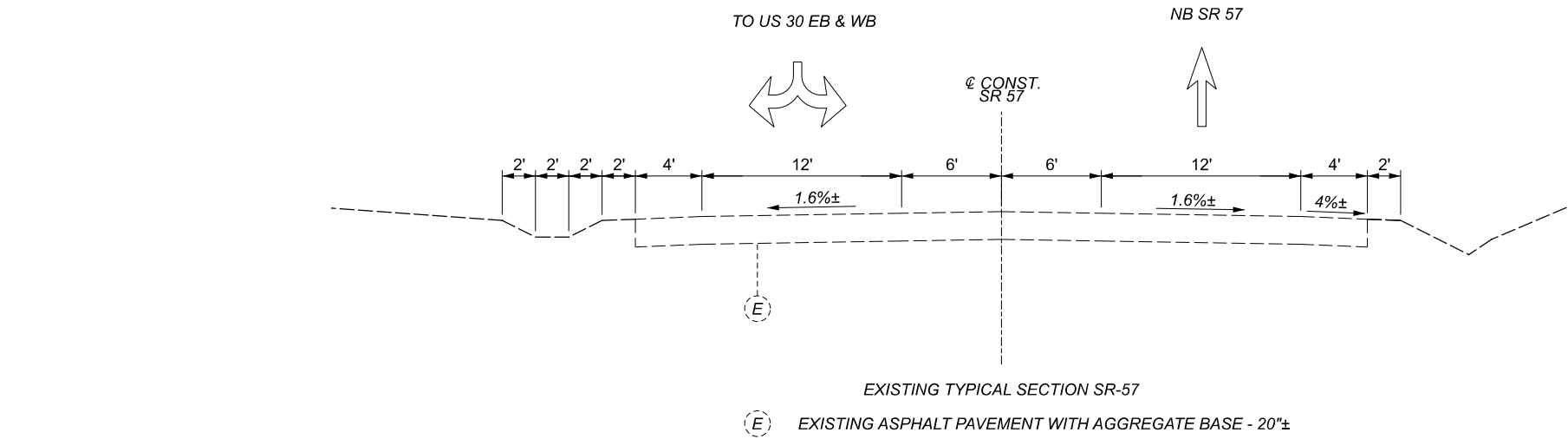
PROJECT ADJUSTMENT FACTOR (PAF): 1.000095400
SCALE FACTOR: 0.999904609

- ITEM 204 SUBGRADE COMPACTION SHALL EXTEND OVER
THE ENTIRE WIDTH OF THE EXCAVATION OF SUBGRADE

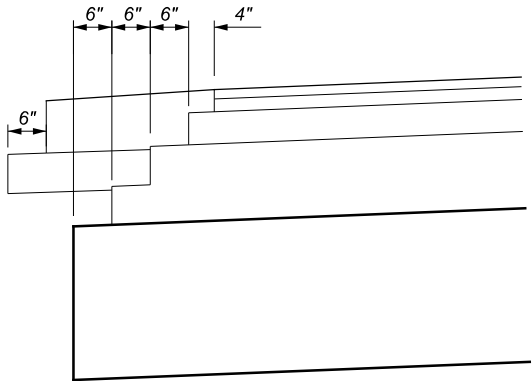
-
- Technical drawing of a stepped block. The top surface has a total length of 26 inches, divided into five segments: four segments of 6 inches each and one segment of 4 inches. The block has three steps of decreasing height from left to right. The front face shows the profile of these steps. The bottom surface is a single horizontal line.

US 30

NOTE: COST OF SAW CUTS IS INCIDENTAL TO ITEM 202,
PAVEMENT REMOVED, PER CMS SECTION 202.05



ITEM 204 SUBGRADE COMPACTION SHALL EXTEND OVER THE ENTIRE WIDTH OF THE EXCAVATION OF SUBGRADE



TYPICAL SECTIONS
SR 57

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

CJL

REVIEWER

SJS 10/09/20

PROJECT ID

110876

SHEET TOTAL

P.4 65

UTILITIES

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

ELECTRIC
AMERICAN ELECTRIC POWER (AEP)
3755 LONG ROAD WOOSTER, OH 44691
PH: (330) 202-3079
CONTACT: ROLAND SHANK

SANITARY SEWER
WAYNE COUNTY ENVIRONMENTAL SERVICES
428 WEST LIBERTY STREET
WOOSTER, OH 44691
PH: (330) 263-5035
CONTACT: STEVE WOLFE

GAS
DOMINION EAST OHIO
320 SPRINGDALE DRIVE, SUITE 320
AKRON, OH 44333
PH: (330) 664-2642
CONTACT: RYAN BOND

TELEPHONE/CABLE
LUMEN
2025 AKRON RD
WOOSTER, OH 44691
PH: (330) 262-1128
CONTACT: JEFF SCHOONOVER

MASSILLON CABLE TELEVISION (MCTV)
444 WEST MILLTOWN ROAD
WOOSTER, OH 44691
PH: (330)465-1569
CONTACT: JEREMY LEHMAN, PLANT SUPERVISOR / ENGINEER

ARMSTRONG UTILITIES
1141 LAFAYETTE RD
MEDINA, OH 44256
PH: (330) 802-5991
CONTACT: MARK LOYER

EVERSTREAM
1228 EUCLID AVENUE, SUITE 250
CLEVELAND, OH 44115
PH: (216) 581-7972
CONTACT: JIM BYRNE

STORM SEWER
WAYNE COUNTY SOIL & WATER CONSERVATION DISTRICT
428 WEST LIBERTY STREET
WOOSTER, OH 44691
PH: (330) 262-2836
CONTACT: ROB KASTNER

WAYNE COUNTY ENVIRONMENTAL SERVICES
428 WEST LIBERTY STREET
WOOSTER, OH 44691
PH: (330) 464-6757
CONTACT: STEVE WOLFE

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

ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING. SEE PLAN SHEET NO. 6 FOR ADDITIONAL INFORMATION.

ITEM 204 - PROOF ROLLING 2 HOUR.

SURVEYING PARAMETERS

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

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

PROJECT CONTROL

POSITIONING METHOD: ODOT VRS
MONUMENT TYPE: TYPE B

VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD 88
GEOID: 12A

HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (2011)
ELLIPSOID: GRS-80
MAP PROJECTION: LAMBERT CONFORMAL CONIC
COORDINATE SYSTEM: OHIO STATE PLANE NORTH ZONE
COMBINED SCALE FACTOR: 0.999904609
ORIGIN OF COORDINATE
SYSTEM: 0,0,0

USE THE POSITIONING METHODS AND MONUMENT TYPE USED IN THE ORIGINAL SURVEY TO RESTORE ALL MONUMENTS RELATED TO PRIMARY PROJECT CONTROL THAT ARE DAMAGED OR DESTROYED BY CONSTRUCTION ACTIVITIES. RESTORE THE DAMAGED OR DESTROYED MONUMENTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 623.

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

ROUNDING

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

EXISTING PLANS

EXISTING PLANS ENTITLED WAY-30-17.03 (1950) AND SPEEDWAY ROADWAY IMPROVEMENT PLANS (2020) MAY BE INSPECTED IN THE ODOT DISTRICT 3 OFFICE IN ASHLAND, OHIO.

WORK LIMITS

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

ROUTINE MAINTENANCE

BETWEEN THE TIME THAT BIDS ARE TAKEN AND THE START OF CONSTRUCTION, THE MAINTAINING AGENCY MAY ENTER UPON THE PROJECT AND PERFORM ROUTINE MAINTENANCE SUCH AS CRACK SEALING, PATCHING, AND BERM AND SHOULDER REPAIR. THE EFFECTS, IF ANY, OF THE PERFORMANCE OF ROUTINE MAINTENANCE SHALL BE CONSIDERED INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLAN AND THE RESULTING CONDITIONS SHALL NOT BE CONSIDERED DIFFERING MATERIALLY FROM THOSE EXISTING AT THE TIME BIDS WERE TAKEN.

CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

PART-WIDTH CONSTRUCTION

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

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

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

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

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

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

ITEM 611- RESIDENTIAL AND COMMERCIAL DRAINAGE CONNECTIONS

EXISTING ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEW CONDUIT REQUIRED TO REPLACE OR EXTEND THE EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35.

PAYMENT FOR ALL LABOR AND MATERIALS WILL BE PERFORMED BY CHANGE ORDER

REVIEW OF DRAINAGE FACILITIES

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

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

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

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEMS.

EXISTING SUBSURFACE DRAINAGE

PROVIDE UNOBSTRUCTED OUTLETS FOR ALL EXISTING UNDERDRAINS OR AGGREGATE DRAINS ENCOUNTERED DURING CONSTRUCTION.

PROVIDE AN OUTLET PER STANDARD CONSTRUCTION DRAWING DM-1.1 FOR ALL UNDERDRAINS THAT OUTLET TO A SLOPE.

UNDERDRAINS THAT CAN BE CONNECTED TO THE NEW OR EXISTING UNDERDRAINS AT THE END OF THE PROJECT LIMITS AS WELL AS ALL NECESSARY BENDS OR BRANCHES REQUIRED FOR CONNECTION ARE INCLUDED IN THE BASIS OF PAYMENT FOR UNCLASSIFIED PIPE UNDERDRAINS.

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

601, TIED CONCRETE BLOCK MAT, TYPE 1 5.4 SQ. YD.
605, AGGREGATE DRAINS 30 FT.
611 4" CONDUIT, TYPE F 30 FT.
611, PRECAST REINFORCED CONCRETE OUTLET 3 EACH
605 4" UNCLASSIFIED PIPE UNDERDRAINS 50 FT.

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

C.JL

REVIEWER

SJS 10/09/20

PROJECT ID

110876

SHEET

P.5

TOTAL

65

TEMPORARY DRAINAGE ITEMS

TEMPORARY DRAINAGE ITEMS LABELED ON THE MAINTENANCE OF TRAFFIC PLAN ARE ITEMIZED ON THE

ITEMS ARE ITEMIZED AND CARRIED TO THE GENERAL SUMMARY.

ITEM SPECIAL - PAVEMENT OVERLAY FABRIC COMPOSITE

DESCRIPTION. THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING PAVEMENT OVERLAY FABRIC COMPOSITE AS SHOWN ON THE PLANS AND AT LOCATIONS DESIGNATED BY THE ENGINEER.

MATERIALS. PAVEMENT OVERLAY FABRIC COMPOSITE SHALL BE GLASGRID CG200 COMPOSITE ASPHALT REINFORCEMENT SOLUTION, TENCATE MIRAfi MPG100 (PGM-G100/100), OR APPROVED EQUAL. COMPOSITE SHALL BE CONSTRUCTED OF LONG CHAIN SYNTHETIC POLYMERS COMPOSED OF AT LEAST 85 PERCENT OF POLYOLEPHINES, POLYESTERS, AND POLYAMIDES BY WEIGHT, SHALL BE RESISTANT TO CHEMICAL ATTACK, MILDEW, ROT, AND ATTACHED TO A FIBERGLASS GRID.

THE COMPOSITE FABRIC SHALL NOT BE EXPOSED TO ULTRAVIOLET RADIATION FOR MORE THAN 7 DAYS. THE FABRIC WIDTH SHALL BE INDICATED ON THE TYPICAL CROSS SECTION AND FURNISHED IN ROLLS.

THE ASPHALT SEALANT SHALL BE PG64-22 MEETING THE REQUIREMENTS OF 702.01.

CERTIFICATION SHALL BE FURNISHED IN ACCORDANCE WITH 101.061 BEFORE THE FABRIC IS PLACED. THE ENGINEER MAY REQUIRE SAMPLING FOR TESTING PURPOSES AS DIRECTED BY THE LABORATORY.

EQUIPMENT. THE CONTRACTOR SHALL PROVIDE EQUIPMENT FOR HEATING AND APPLYING BITUMINOUS MATERIAL. HEATING EQUIPMENT AND DISTRIBUTORS SHALL MEET THE REQUIREMENTS OF 407.

THE MECHANICAL LAYDOWN EQUIPMENT SHALL BE MOUNTED ON A FOUR-WHEELED VEHICLE THAT IS CAPABLE OF DRIVING OVER THE FABRIC WHILE IT IS BEING INSTALLED TO CONTROL THE TENSION ON THE MATERIAL. THE LAYDOWN MACHINE SHALL BE EQUIPPED WITH CLUTCHES TO ADJUST THE ROLL TENSION AND BROOMS TO SMOOTH OUT WRINKLES DURING INSTALLATION. MANUAL LAYDOWN MAY ONLY BE USED IN AREAS INACCESSIBLE TO THE LAYDOWN MACHINE.

CONSTRUCTION DETAILS

1.SURFACE PREPARATION. THE CRACKS AND ENTIRE ROAD SURFACE TO BE TREATED, AND AT LEAST ONE ADDITION FOOT ON EACH SIDE, SHALL BE CLEANED BY SWEEPING, BLOWING, OR OTHER METHODS UNTIL ALL DUST, MUD, CLAY LUMPS, VEGETATION, AND FOREIGN MATERIAL ARE REMOVED ENTIRELY FROM THE PAVEMENT BEFORE THE BITUMINOUS MATERIAL IS APPLIED. CARE SHALL BE EXERCISED TO PREVENT MATERIAL SO REMOVED FROM BECOMING MIXED WITH THE NEW SURFACE. LARGE CRACKS AND POTHOLES SHOULD BE FILLED.

2.APPLICATION OF ASPHALT SEALANT. THE APPLICATION OF THE ASPHALT SEALANT SHALL CONFORM TO THE APPLICABLE PORTIONS OF 407. THE ASPHALT SEALANT SHALL BE UNIFORMLY SPRAYED OVER THE AREA TO BE COVERED BY FABRIC AT A RATE OF 0.25 TO 0.30 GALLON PER SQUARE YARD.

ITEM SPECIAL - PAVEMENT OVERLAY FABRIC COMPOSITE CONTINUED

THE QUANTITY APPLIED WILL VARY WITH THE SURFACE CONDITION OF THE EXISTING PAVEMENT (DEGREE OF POROSITY, FOR EXAMPLE). THE FABRIC ALONE, UNDER HEAT OF THE OVERLAY, WILL ABSORB AT LEAST 0.20 GALLON PER SQUARE YARD. WITHIN INTERSECTIONS OR OTHER ZONES WHERE VEHICLE BRAKING IS COMMON PLACE, THE APPLICATION SHALL BE REDUCED 20 PERCENT. THE SEALANT SHALL BE APPLIED TO AN AREA TWO TO SIX INCHES WIDER THAN THE WIDTHS OF THE FABRIC BEING PLACED, BUT RESTRICTED TO THE AREA OF IMMEDIATE FABRIC LAYDOWN. APPLICATION SHALL BE BY DISTRIBUTOR WITH HAND SPRAYING ALLOWED ONLY WHERE THE DISTRIBUTOR CANNOT BE USED. ASPHALT SPILLS SHALL BE CLEANED FROM THE ROAD SURFACE TO AVOID FLUSHING AND POSSIBLE MOVEMENT AT THESE ASPHALT RICH AREAS.

THE ASPHALT CEMENT USED AS A SEALANT SHALL HAVE DISTRIBUTOR TANK TEMPERATURE BETWEEN 300 DEGREES AND 350 DEGREES F. APPLICATION TEMPERATURE IS NOT CRITICAL AFTER THE ASPHALT IS SPRAYED ON THE PAVEMENT. IF THE FABRIC IS TO BE OVER-SPRAYED, DISTRIBUTOR TANK TEMPERATURES SHOULD NOT EXCEED 350 DEGREES F TO AVOID DAMAGE TO THE FABRIC.

3.COMPOSITE FABRIC PLACEMENT. THE COMPOSITE FABRIC SHALL BE PLACED ON THE ASPHALT SEALANT AS SOON AS PRACTICAL AND BEFORE THE TACKINESS OF THE SEALANT IS LOST. THE COMPOSITE SHALL BE PLACED AS SMOOTHLY AS POSSIBLE TO AVOID WRINKLES. IT SHALL BE UNROLLED SO THAT THE SOFT SIDE IS UNWOUND INTO THE SEALANT AND THE GRID SIDE UP, THUS PROVIDING OPTIMUM BOND BETWEEN FABRIC AND PAVEMENT DURING THE CONSTRUCTION PROCESS. WRINKLES SEVERE ENOUGH TO CAUSE FOLDS SHALL BE SLIT AND LAID FLAT. SMALL WRINKLES, WHICH FLATTEN UNDER COMPACTION ARE NOT DETRIMENTAL TO PERFORMANCE. THE COMPOSITE SHALL BE BROOMED OR SQUEEGEED TO REMOVE AIR BUBBLES AND MAKE COMPLETE CONTACT WITH THE ROAD SURFACE AS RECOMMENDED BY THE FABRIC MANUFACTURER. THE FABRIC SHALL BE LAID STRAIGHT, WITHIN THE SEALANT AREA. MODERATE CURVES CAN BE NEGOTIATED BY STRETCHING THE FABRIC ON THE OUTSIDE OF THE CURVE BY ADJUSTING THE DRAG ON THE BRAKES OF THE LAYDOWN EQUIPMENT. TRANSVERSE JOINTS SHALL BE SHINGLED IN THE DIRECTION OF PAVING.

LONGITUDINAL JOINTS SHALL BE MADE BY OVERLAPPING THE FABRIC ONE TO TWO INCHES. TRANSVERSE JOINTS SHALL BE MADE BY OVERLAPPING THE FABRIC MINIMUM OF FOUR INCHES. ADDITIONAL SEALANT (ABOUT 0.20 GAL. PER SQ. YD.) SHALL BE ADDED TO THE JOINTS AS REQUIRED. THE ADDITIONAL SEALANT FOR TRANSVERSE JOINTS MAY BE APPLIED BY HAND SPRAYING OR WITH MOP AND BUCKET IF EXTREME CARE IS TAKEN TO NOT EXCEED THE SPECIFIED RATE.

TO ENHANCE THE BOND OF THE FABRIC WITH THE EXISTING PAVEMENT AND TO SMOOTH OUT ANY WRINKLES FOR FOLDS IN THE FABRIC, THE CONTRACTOR MAY BE REQUIRED TO PNEUMATICALLY ROLL THE FABRIC AFTER IT IS PLACED.

4.TREATMENT OF THE APPLIED COMPOSITE PRIOR TO THE ASPHALT CONCRETE. IT IS UNNECESSARY TO TACK COAT THE FABRIC PRIOR TO PLACEMENT OF THE OVERLAY UNLESS THERE ARE CIRCUMSTANCES SUCH AS DELAY OF OVERLAY, DUST ACCUMULATION OR UNDER APPLICATION OF SEALANT WHICH WOULD MAKE TACK COATING DESIRABLE. IF A TACK COAT IS REQUIRED, EMULSIFIED ASPHALT SHALL BE APPLIED AT A RATE OF 0.02 TO 0.05 GALLON PER SQUARE YARD RESIDUAL ASPHALT. PLACEMENT OF THE ASPHALT CONCRETE OVERLAY SHALL CLOSELY FOLLOW FABRIC LAYDOWN. IN THE EVENT THAT THE SEALANT BLEEDS THROUGH THE FABRIC BEFORE THE ASPHALT CONCRETE IS PLACED, IT MAY BE NECESSARY TO BLOT THE SEALANT BY SPREADING SAND OR ASPHALT CONCRETE OVER THE AFFECTED AREAS. THIS WILL PREVENT ANY TENDENCY FOR CONSTRUCTION EQUIPMENT TO PICK UP THE FABRIC WHEN DRIVING OVER IT.

ITEM SPECIAL - PAVEMENT OVERLAY FABRIC COMPOSITE CONTINUED

TURNING OF THE PAVER AND OTHER VEHICLES SHALL BE GRADUAL TO AVOID MOVEMENT OR DAMAGE TO THE COMPOSITE. UNESSENTIAL TRAFFIC ON COMPOSITE SHOULD BE ELIMINATED. IF IT IS NECESSARY TO OPEN THE ROAD TO TRAFFIC AFTER FABRIC PLACEMENT, BUT PRIOR TO PAVING, IT IS ADVISABLE TO SPREAD A SMALL AMOUNT OF SAND OVER THE MEMBRANE TO PREVENT TIRES FROM STICKING TO THE SEALANT OR PULLING UP THE COMPOSITE. THIS PRACTICE IS TO BE AVOIDED IF POSSIBLE TO PREVENT DAMAGE TO THE MEMBRANE.

QUICK STOPS AND SHARP TURNS MAY DAMAGE THE MATERIAL.IF RAIN PRIOR TO THE OVERLAY SHOULD CAUSE A BLISTERED APPEARANCE AND SOME BOND LOSS THROUGHOUT THE MEMBRANE, IT SHOULD BE CORRECTED BY PNEUMATIC ROLLING UNTIL ADHESION IS RESTORED.

5.ASPHALT CONCRETE. THE ASPHALT CONCRETE OVERLAY SHALL CONFORM TO 401 SPECIFICATION WITH A MINIMUM THICKNESS OF 1.5.

METHOD OF MEASUREMENT. THE ACCEPTED FABRIC COMPOSITE PLACED IN ACCORDANCE WITH THESE SPECIFICATIONS AND AS DIRECTED WILL BE MEASURED BY THE SQUARE YARD OF ROADWAY, RAMPS, AND TURNOUTS COVERED BY THE COMPOSITE FABRIC. LAPS IN COMPOSITE FABRIC WILL NOT BE MEASURED.

BLOTTING THE SEALANT, SPREADING SAND OR ASPHALT CONCRETE OVER THE MEMBRANE TO PREVENT TIRES FROM STICKING TO THE SEALANT OR PULLING UP THE FABRIC, ROLLING TO RESTORE BOND, OR APPLICATION OF A TACK COAT WILL NOT BE MEASURED FOR DIRECT PAYMENT BUT SHALL BE CONSIDERED A NECESSARY PART OF THE CONSTRUCTION INVOLVED AND THE COST THEREFORE SHALL BE INCLUDED IN OTHER APPROPRIATE CONTRACT UNIT PRICES.

BASIS OF PAYMENT. THE ACCEPTED QUANTITIES OF PAVEMENT OVERLAY FABRIC COMPOSITE WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL LABOR, MATERIALS (INCLUDING ASPHALT SEALANT AND OVERLAP), TOOLS, EQUIPMENT AND INCIDENTALS FOR DOING ALL THE WORK INVOLVED IN FURNISHING AND PLACING THE COMPOSITE COMPLETE IN PLACE AS SHOWN ON THE PLANS OR AS DIRECTED.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

- SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
- EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO 204.05.

IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING CONTINUED

- COMPACT THE SUBGRADE ACCORDING TO 204.03.
- APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO 204.06.

- EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.
- PROOF ROLL THE STABILIZED AREAS ACCORDING TO 204.06 TO VERIFY STABILITY.
- FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

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

SEEDING AND MULCHING

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

- | | |
|----------------------------------|-------------|
| 659, SOIL ANALYSIS TEST | 2 EACH |
| 659, TOPSOIL | 118 CU. YD. |
| 659, REPAIR SEEDING AND MULCHING | 80 SQ. YD. |
| 659, INTER-SEEDING | 80 SQ. YD. |
| 659, COMMERCIAL FERTILIZER | 0.22 TON |
| 659, LIME | 0.33 ACRES |
| 659, WATER | 9 M. GAL. |

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

DESIGN AGENCY	
Mead & Hunt	
CLIENT	
	
DESIGNER	
C.JL	
REVIEWER	
SJS	10/09/20
PROJECT ID	
110876	
SHEET	TOTAL
P.6	65

MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION

THE CONTRACTOR SHALL MAINTAIN A MINIMUM TRAVEL LANE WIDTH OF 12 FEET ON US 30 AND 11 FEET ON SR 57.

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES AT ALL TIMES. IF THE CONTRACTOR NEEDS TO RESTRICT ACCESS TO A PARCEL, THE PROPERTY OWNER OR TENANT, IF DIFFERENT FROM THE PROPERTY OWNER, SHALL BE NOTIFIED 48 HOURS IN ADVANCE. THE CONTRACTOR SHALL NOT RESTRICT ACCESS MORE THAN 1 HOUR IN A 24 HOUR PERIOD.

THE CONTRACTOR SHALL CONSTRUCT THIS PROJECT USING PART WIDTH CONSTRUCTION METHODS.

THE CONTRACTOR WILL NEED TO ORDER THE TRAFFIC SIGNAL EQUIPMENT AS SOON AS POSSIBLE IN ORDER TO BEGIN THE TRAFFIC SIGNAL RELOCATION DURING PHASE 1 CONSTRUCTION.

THE DESIGN SPEED FOR BOTH US 30 AND SR 57 IS 55 MPH.

PHASE 1: THE CONTRACTOR SHALL PLACE ALL REQUIRED WORK ZONE PAVEMENT MARKINGS, PLACE ALL REQUIRED SIGNS, RELOCATE THE TRAFFIC SIGNAL HEADS AND SHIFT WESTBOUND US 30 TRAFFIC ONTO THE EXISTING INSIDE TRAFFIC LANE AND CLOSE THE EXISTING OUTSIDE LANE TO TRAFFIC. THE CONTRACTOR SHALL PLACE ALL PORTABLE BARRIER AND IMPACT ATTENUATORS. THE CONTRACTOR SHALL CONSTRUCT PAVEMENT AND SHOULDER WIDENING FOR THE WESTBOUND US 30 RIGHT TURN LANE UP TO AND INCLUDING THE ASPHALT CONCRETE INTERMEDIATE COURSE ALONG THE OUTSIDE LANE OF US 30. DO NOT PLACE THE ASPHALT CONCRETE SURFACE COURSE. PLACE A 3:1 WEDGE OF ASPHALT TO TRANSITION FROM THE EXISTING PAVEMENT SURFACE TO THE NEWLY CONSTRUCTED ASPHALT CONCRETE INTERMEDIATE COURSE AS REQUIRED. THE CONTRACTOR SHALL INSTALL THE UNDERGROUND SIGNAL ELEMENTS ALONG THE SOUTH SIDE OF US 30 AND IN THE NORTHEST QUADRANT OF THE INTERSECTION. PLACE ALL REQUIRED PHASE 2 WORK ZONE PAVEMENT MARKINGS AND SIGNS.

PHASE 2: AT THE COMPLETION OF ALL PHASE 1 WORK, THE CONTRACTOR SHALL PLACE ANY ADDITIONAL REQUIRED WORK ZONE PAVEMENT MARKINGS, PLACE ANY ADDITIONAL REQUIRED SIGNS, RELOCATE THE TRAFFIC SIGNAL HEADS AND SHIFT WESTBOUND US 30 TRAFFIC ONTO THE EXISTING OUTSIDE TRAFFIC LANE AND CLOSE THE EXISTING INSIDE WESTBOUND US 30 TRAFFIC LANE TO TRAFFIC. THE CONTRACTOR SHALL PLACE ALL PORTABLE BARRIER AND IMPACT ATTENUATORS. THE CONTRACTOR SHALL CONSTRUCT PAVEMENT AND SHOULDER WIDENING FOR THE WESTBOUND US 30 LEFT TURN LANE UP TO AND INCLUDING THE ASPHALT CONCRETE INTERMEDIATE COURSE ALONG THE INSIDE LANE OF US 30. THE SECTION OF WORK PROTECTED BY DRUMS AT THE INTERSECTION IS TO BE COMPLETED AT NIGHT UNDER LEO CONTROL. AT NO TIME WILL A DROP-OFF OF GREATER THAN 12" WITHIN 4' TO 12' FROM THE TRAVELLED WAY BE ALLOWED TO BE LEFT IN PLACE AT NIGHT WHEN PROTECTED BY DRUMS. DO NOT PLACE THE ASPHALT CONCRETE SURFACE COURSE. PLACE A 3:1 WEDGE OF ASPHALT TO TRANSITION FROM THE EXISTING PAVEMENT SURFACE TO THE NEWLY CONSTRUCTED ASPHALT CONCRETE INTERMEDIATE COURSE AS REQUIRED. THE CONTRACTOR SHALL CONTINUE THE TRAFFIC SIGNAL WORK DURING PHASE 2. PLACE ALL REQUIRED PHASE 3 AND PHASE 4 WORK ZONE PAVEMENT MARKINGS AND SIGNS.

PHASE 3: AT THE COMPLETION OF ALL PHASE 2 WORK, THE CONTRACTOR SHALL PLACE THE REQUIRED WORK ZONE PAVEMENT MARKINGS, PLACE ANY REQUIRED SIGNS, AND SHIFT TRAFFIC ONTO THE EASTERN HALF OF THE NEWLY CONSTRUCTED SR 57 PAVEMENT. THE CONTRACTOR SHALL PLACE ALL PORTABLE BARRIER AND IMPACT ATTENUATORS ALONG THE WESTERN EDGE OF THE NEWLY CONSTRUCTED PAVEMENT. THE CONTRACTOR SHALL CONSTRUCT PAVEMENT AND SHOULDER WIDENING FOR THE SOUTHBOUND SR 57 RIGHT TURN LANE UP TO AND INCLUDING THE ASPHALT CONCRETE SURFACE COURSE.

MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION (CONT.)

PHASE 3 (CONT.):THE SECTION OF WORK PROTECTED BY DRUMS AT THE INTERSECTION IS TO BE COMPLETED AT NIGHT UNDER LEO CONTROL. AT NO TIME WILL A DROP-OFF OF GREATER THAN 12" WITHIN 4' TO 12' FROM THE TRAVELLED WAY BE ALLOWED TO BE LEFT IN PLACE AT NIGHT WHEN PROTECTED BY DRUMS. THE CONTRACTOR SHALL INSTALL THE UNDERGROUND SIGNAL ELEMENTS IN THE NORTHWEST QUADRANT OF THE INTERSECTION. PLACE THE REQUIRED PERMANENT PAVEMENT MARKINGS AND SIGNS ON SR 57. COMPLETE ANY REMAINING GRADING AND SEEDING AND MULCHING REQUIRED.

PHASE 4: AT THE COMPLETION OF ALL PHASE 3 WORK, THE CONTRACTOR SHALL USE SCD MT-95.30 OR ANOTHER METHOD APPROVED BY THE ENGINEER TO MAINTAIN ONE LANE WESTBOUND TRAFFIC AND MILL THE EXISTING ASPHALT SURFACE COURSE FROM US 30 ALONG WITH THE 3:1 PAVEMENT WEDGES CONSTRUCTED DURING PREVIOUS CONSTRUCTION PHASES. DO NOT MILL ANY OF THE NEWLY CONSTRUCTED PAVEMENT ON SR 57. PLACE THE ASPHALT CONCRETE SURFACE COURSE ON THE EXISTING PAVEMENT ALONG WITH THE NEWLY CONSTRUCTED PAVEMENT WIDENING AND SHOULDERS ON US 30. THE CONTRACTOR SHALL CONTINUE THE TRAFFIC SIGNAL WORK DURING PHASE 4. PLACE THE REQUIRED PERMANENT PAVEMENT MARKINGS AND SIGNS ON US 30. COMPLETE ANY REMAINING GRADING AND SEEDING AND MULCHING REQUIRED.

PHASE 5: IF THE SIGNAL STRAIN POLES COULD NOT BE FABRICATED AND DELIVERED TO THE PROJECT SITE IN TIME FOR ERECTION DURING PREVIOUS PHASES THE CONTRACTOR SHALL ERECT THE TRAFFIC SIGNAL STRAIN POLES, TRAFFIC SIGNAL HEADS, AND ALL REMAINING TRAFFIC SIGNAL WORK IN PHASE 5.

INTERIM COMPLETION DATE

THIS CONTRACT HAS AN INTERIM COMPLETION DATE OF NOVEMBER 1, 2021. PHASE 1 THRU PHASE 4 SHALL BE PERFORMED PRIOR TO NOVEMBER 1, 2021. LIQUIDATED DAMAGES PER TABLE 108.07-1 OF THE CONSTRUCTION AND MATERIAL SPECIFICATION, 2019 EDITION, SHALL APPLY TO THE INTERIM COMPLETION DATE.

ITEM 614, MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE(S) OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 502 STRUCTURE FOR MAINTAINING TRAFFIC, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, ITEM 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEMS 410 AND 614.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

PER SCD MT-101.90, ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS TO PROVIDE AND SUBSEQUENTLY REMOVE THE PAVEMENT WEDGE SHALL BE INCLUDED AND PAID FOR UNDER THE LUMP SUM BID FOR CMS 614 - MAINTAINING TRAFFIC.

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

TRENCH FOR WIDENING

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

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 12 INCHES BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (25 FEET OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER 3 M. GAL.

ITEM 614, WORK ZONE IMPACT ATTENUATOR FOR 24" WIDE HAZARDS (UNIDIRECTIONAL OR BIDIRECTIONAL)

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

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

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

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

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

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

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

WORK ZONE MARKINGS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE ON THE ASPHALT CONCRETE SURFACE COURSE, PLACED AT THE END OF PHASE 3 AND END OF PHASE 4, PRIOR TO PLACING THE FINAL PAVEMENT MARKINGS. THE PAVEMENT MARKINGS SHALL BE PLACED AT THE LOCATIONS IDENTIFIED BY THE PROJECT ENGINEER AND SHALL MEET THE REQUIREMENTS OF C&MS 614.11.

ITEM 614, WORK ZONE LANE LINE, CLASS III, 6", 642 PAINT	0.11 MILE
ITEM 614, WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT	0.22 MILE
ITEM 614, WORK ZONE CHANNELIZING LINE, CLASS III, 12", 642 PAINT	560 FEET
ITEM 614, WORK ZONE STOP LINE, CLASS III, 642 PAINT	54 FEET
ITEM 614, WORK ZONE ARROW, CLASS III, 642 PAINT	7 EACH

ITEM 614 WORK ZONE PAVEMENT MARKING, MISC.: COVER EXISTING PAVEMENT MARKING

WHERE CALLED FOR, COVER EXISTING PAVEMENT MARKINGS ACCORDING TO CMS 614.11.G.1.b. THE PLANS INCLUDE 2 APPLICATIONS TO ACCOMMODATE A 30 DAY MOT PHASE. IF ADDITIONAL APPLICATIONS ARE REQUIRED, THEY SHALL BE AT THE CONTRACTOR'S EXPENSE. PAYMENT SHALL INCLUDE THE COST OF ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO LAYOUT, APPLY, AND SUBSEQUENTLY REMOVE THE COVERINGS.

PAYMENT SHALL BE MADE AT THE PER FOOT COST FOR: ITEM 614 WORK ZONE PAVEMENT MARKING, MISC.: COVER EXISTING PAVEMENT MARKING

DESIGN AGENCY

Mead & Hunt

CLIENT

DESIGNER

CJL

REVIEWER

EGD 10/09/20

PROJECT ID

110876

SHEET

P.7

TOTAL

65

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, A CHANGEABLE MESSAGE SIGN. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS AVAILABLE ON THE OFFICE OF MATERIALS MANAGEMENT WEB PAGE. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 800 FEET AND 650 FEET, RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. THE PCMS SHALL BE DELINEATED IN ACCORDANCE WITH C&MS 614.03.

THE PROBABLE PCMS LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE SHOWN ON SHEET(S) 15, 22 OF THE PLAN. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED AWAY FROM ALL TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

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

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

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

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

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF C&MS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 10 SIGN MONTH ASSUMING 2 PCMS SIGN(S) FOR 5 MONTH(S)

DELINEATION OF PORTABLE AND PERMANENT BARRIER

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE BARRIER (PB) USED FOR TRAFFIC CONTROL; AND, ON PERMANENT CONCRETE BARRIER (INCLUDING BRIDGE PARAPETS) LOCATED WITHIN 5 FEET OF THE EDGE OF THE ADJACENT TRAVEL LANE.

BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THE SPACING SHALL BE AS PER TRAFFIC SCD MT-101.70. OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614.03 AND SCD MT-101.70. WHEN THE PB CONTAINS GLARE SCREEN, ONE SET OF THREE VERTICAL STRIPES OF SHEETING SHALL BE CONSIDERED EQUIVALENT TO AN OBJECT MARKER, ONE-WAY.

INCREASED BARRIER DELINEATION, AS SPECIFIED HEREIN, SHALL BE INSTALLED ON ALL PB AND PERMANENT CONCRETE BARRIER LOCATED WITHIN 5 FEET OF THE EDGE OF THE TRAVELED LANE UNDER EITHER OF THE FOLLOWING CONDITIONS: ALONG TAPERS AND TRANSITION AREAS; OR ALONG CURVES (OUTSIDE ONLY) WITH DEGREE OF CURVATURE GREATER THAN OR EQUAL TO 3 DEGREES.

THE INCREASED BARRIER DELINEATION SHALL CONSIST OF EITHER DELINEATION PANELS OR THE TRIPLE STACKING OF WORK ZONE BARRIER REFLECTORS.

DELINEATION PANELS SHALL CONSIST OF PANELS OF DELINEATION, APPROXIMATELY 34 INCHES LONG AND 6 INCHES WIDE AND SHALL BE "CRIMPED." PANELS SHALL BE INSTALLED AND SPACED PER TRAFFIC SCD MT-101.70.

TRIPLE-STACKED BARRIER REFLECTORS SHALL CONSIST OF ALIGNING THREE BARRIER REFLECTORS VERTICALLY, AT LOCATIONS WHERE A SINGLE BARRIER REFLECTOR WOULD BE OTHERWISE ATTACHED. THERE SHALL BE NO OPEN SPACE BETWEEN THE ADJACENT BARRIER REFLECTORS. THE TRIPLESTACKED BARRIER REFLECTORS SHALL CONFORM TO C&MS 626, EXCEPT THAT THEY SHALL BE SPACED AND ALIGNED PER TRAFFIC SCD MT-101.70.

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

ITEM 614, BARRIER REFLECTOR, TYPE 1 (ONE-WAY OR BIDIRECTIONAL) 26 EACH

ITEM 614, OBJECT MARKER, 1 -WAY 26 EACH

ITEM 614, INCREASED BARRIER DELINEATION 1158 FEET

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

ALONG RUNS OF INCREASED BARRIER DELINEATION WHERE THIS ITEM IS PROVIDED, THE QUANTITY SHALL BE MEASURED AS THE ENTIRE LENGTH OF THE RUN OF INCREASED BARRIER DELINEATION, INCLUDING THE SPACES BETWEEN THE INDIVIDUAL DELINEATION PANELS OR STACKS OF BARRIER REFLECTORS.

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

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

IN ADDITION TO THE REQUIREMENTS OF C&MS 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:

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

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

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE 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 THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

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

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

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

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

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

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

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. 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 QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 60 HOURS

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

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

NOTIFICATION OF TRAFFIC RESTRICTIONS

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

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

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
------	---------------------	-----------------------------

RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
----------------------	------------	-----------------------------------

> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
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<= 12 HOURS	4 CALENDAR DAYS PRIOR TO CLOSURE
-------------	----------------------------------

LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
------------------------------	------------	-----------------------------------

< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
-----------	----------------------------------

START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION
---	-----	--

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

C.JL

REVIEWER

EGD 10/09/20

PROJECT ID

110876

SHEET

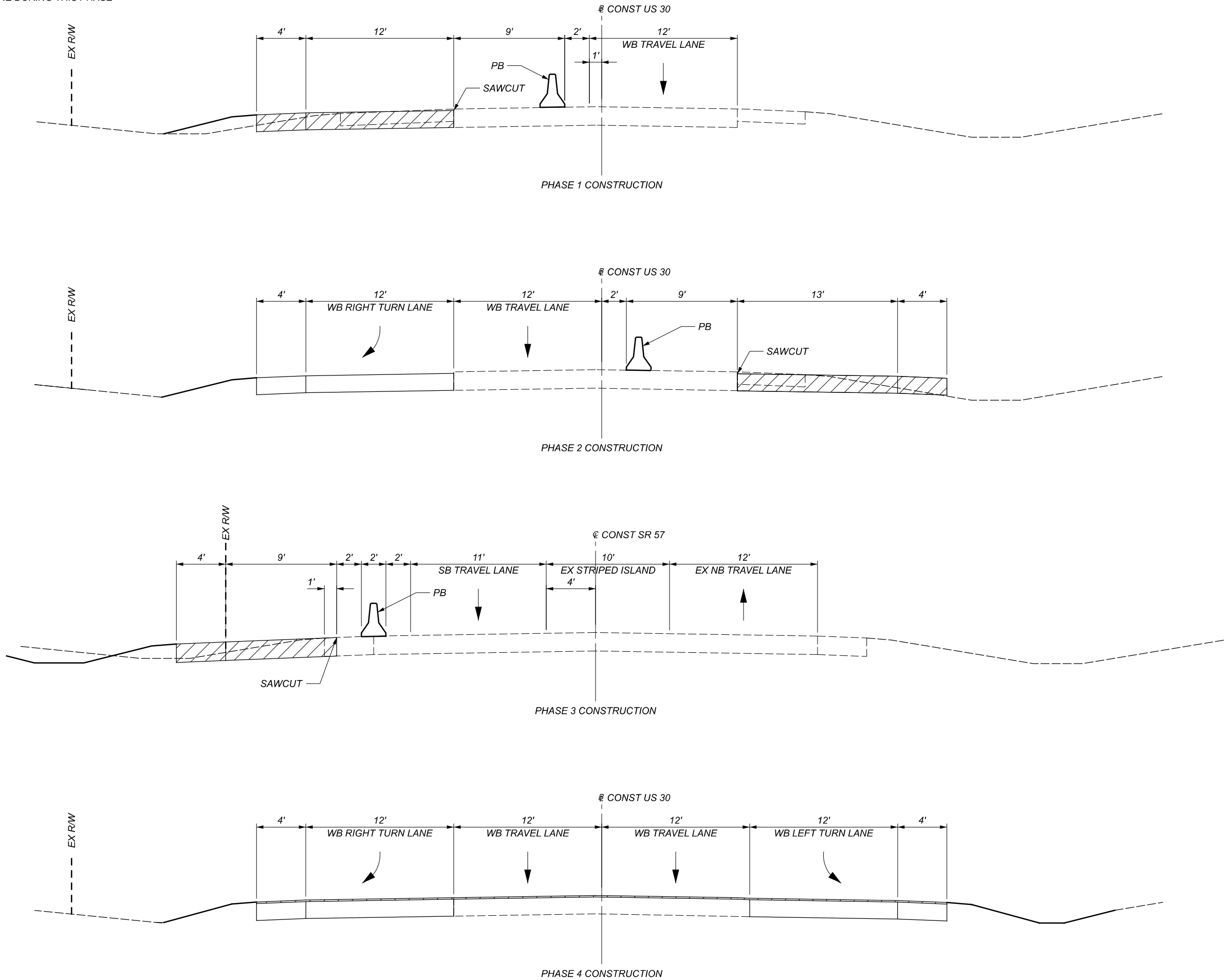
P.9

TOTAL

65

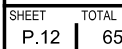
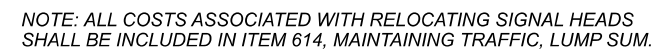
MAINTENANCE OF TRAFFIC - SUB-SUMMARY	
DESIGN AGENCY Mead & Hunt CLIENT 	
DESIGNER CJL	
REVIEWER EGD 10/09/20	
PROJECT ID 110876	
SHEET P.10	TOTAL 65

 WORK TO BE DONE DURING THIS PHASE

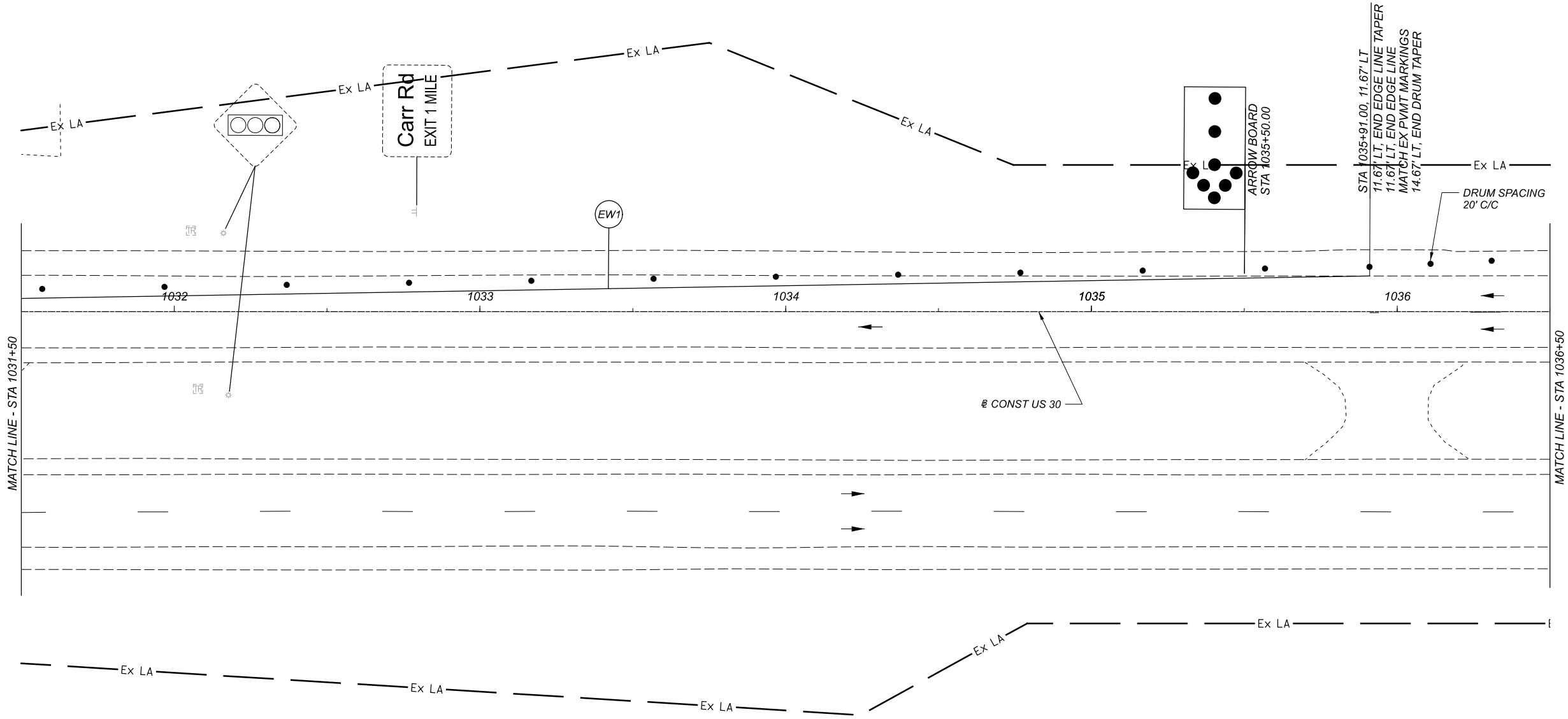


	CENTER LINE, DOUBLE SOLID CLASS II, TYPE I		STOP LINE												
	EDGE LINE, 6" (WHITE)		LANE LINE, 6"												
	EDGE LINE, 6" (YELLOW)														
	CHANNELIZING LINE, 12"														
	LANE ARROW														
	COVER EXISTING PAVEMENT MARKING														
<table border="0"> <tr> <td>PROPOSED</td> <td>EXISTING</td> <td></td> </tr> <tr> <td></td> <td></td> <td>ONE POST SIGN, GROUND MOUNTED</td> </tr> <tr> <td></td> <td></td> <td>TWO POST SIGN, GROUND MOUNTED</td> </tr> <tr> <td></td> <td></td> <td>SINGLE POST SIGN, BACK TO BACK, GROUND MOUNTED</td> </tr> </table>				PROPOSED	EXISTING				ONE POST SIGN, GROUND MOUNTED			TWO POST SIGN, GROUND MOUNTED			SINGLE POST SIGN, BACK TO BACK, GROUND MOUNTED
PROPOSED	EXISTING														
		ONE POST SIGN, GROUND MOUNTED													
		TWO POST SIGN, GROUND MOUNTED													
		SINGLE POST SIGN, BACK TO BACK, GROUND MOUNTED													

ALL WORK ZONE PAVEMENT MARKINGS FOR THE NEW CONSTRUCTION AREAS SHALL BE CLASS 1, 740.02, TYPE 1. ANY PAVEMENT MARKINGS ON THE EXISTING PAVEMENT TO REMAIN OR CONFLICTING PAVEMENT MARKINGS TO BE COVERED SHALL BE 740.06, TYPE 1 TAPE. NO GRINDING OF EXISTING PAVEMENT WILL BE PERMITTED.







MAINTENANCE OF TRAFFIC - US-30 - PHASE 1
STA 1031+50 TO STA 1036+50

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

C.JL

REVIEWER

EGD 10/09/20

PROJECT ID

110876

SHEET

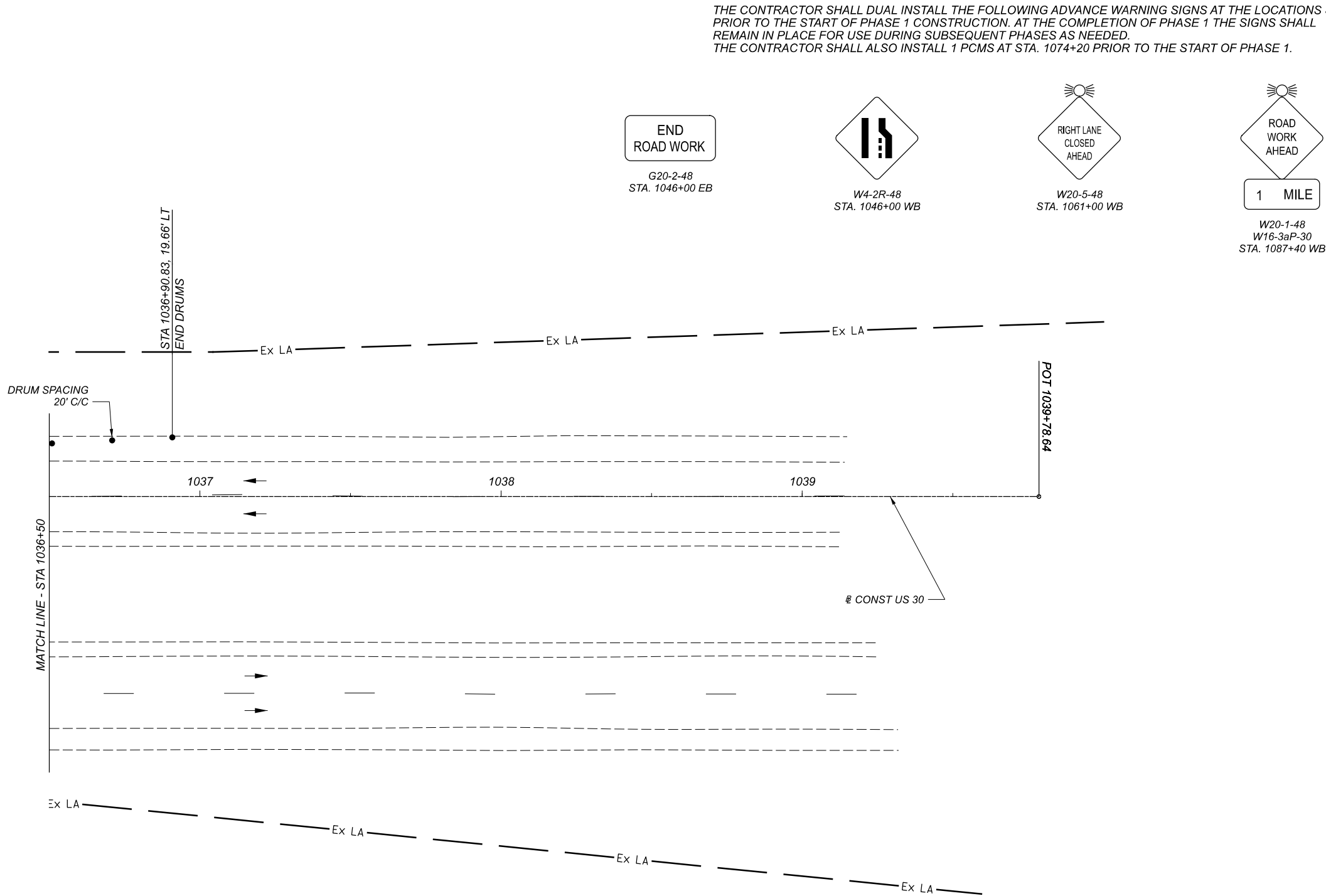
P.14

TOTAL

65

HORIZONTAL
SCALE IN FEET





MAINTENANCE OF TRAFFIC - US-30 - PHASE 1
STA 1036+50 TO STA 1039+78.64

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

CJL

REVIEWER

EGD 10/09/20

PROJECT ID

110876

SHEET

P.15

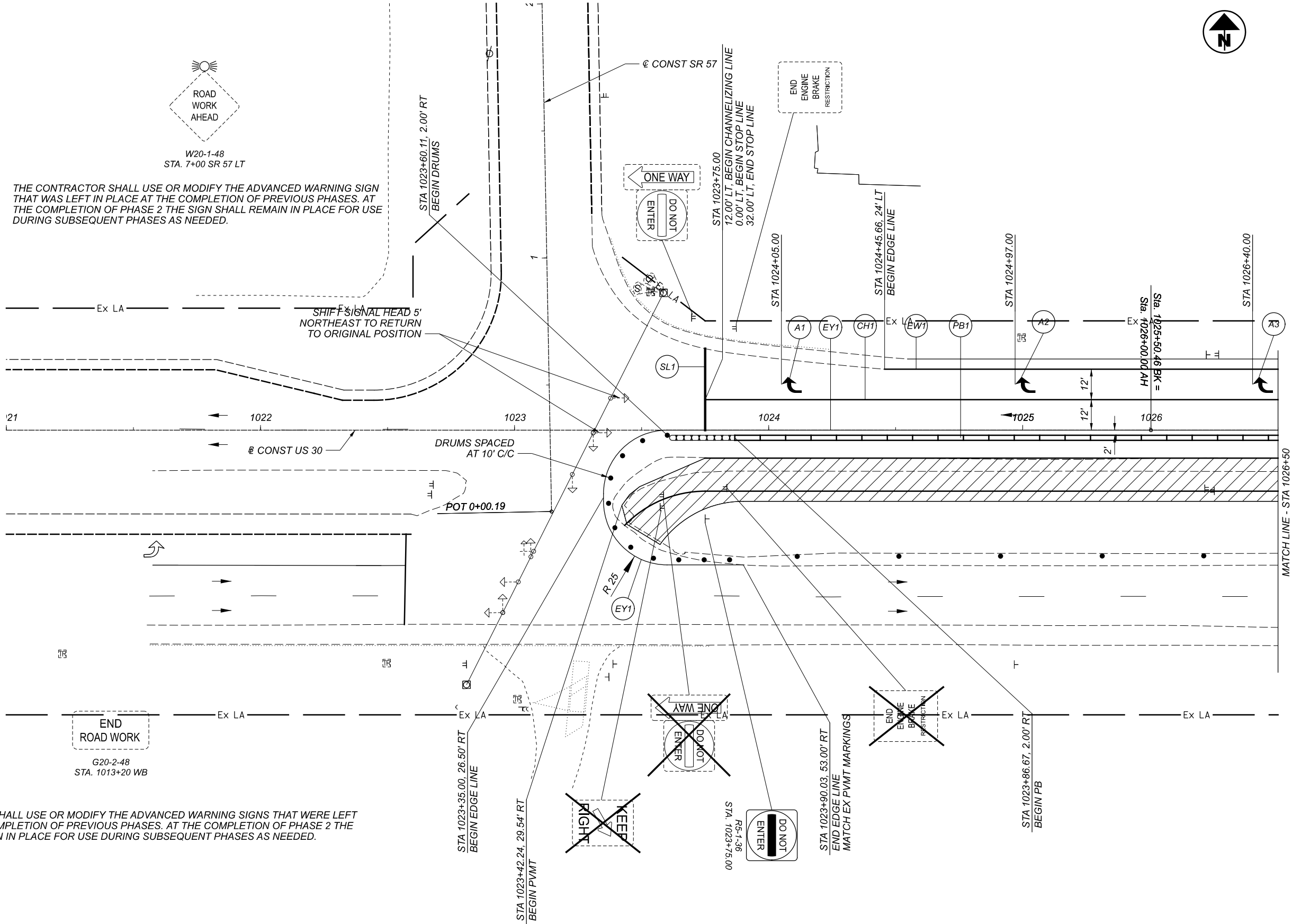
TOTAL

65

THE CONTRACTOR SHALL USE OR MODIFY THE ADVANCED WARNING SIGNS THAT WERE LEFT IN PLACE AT THE COMPLETION OF PREVIOUS PHASES. AT THE COMPLETION OF PHASE 2 THE SIGNS SHALL REMAIN IN PLACE FOR USE DURING SUBSEQUENT PHASES AS NEEDED.



THE CONTRACTOR SHALL USE OR MODIFY THE ADVANCED WARNING SIGN THAT WAS LEFT IN PLACE AT THE COMPLETION OF PREVIOUS PHASES. AT THE COMPLETION OF PHASE 2 THE SIGN SHALL REMAIN IN PLACE FOR USE DURING SUBSEQUENT PHASES AS NEEDED.



NOTE: ALL COSTS ASSOCIATED WITH RELOCATING SIGNAL HEADS SHALL BE INCLUDED IN ITEM 614, MAINTAINING TRAFFIC, LUMP SUM.

MAINTENANCE OF TRAFFIC - US 30 - PHASE 2
STA 1021+00 TO STA 1026+50

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

C.JL

REVIEWER

EGD 10/09/20

PROJECT ID

110876

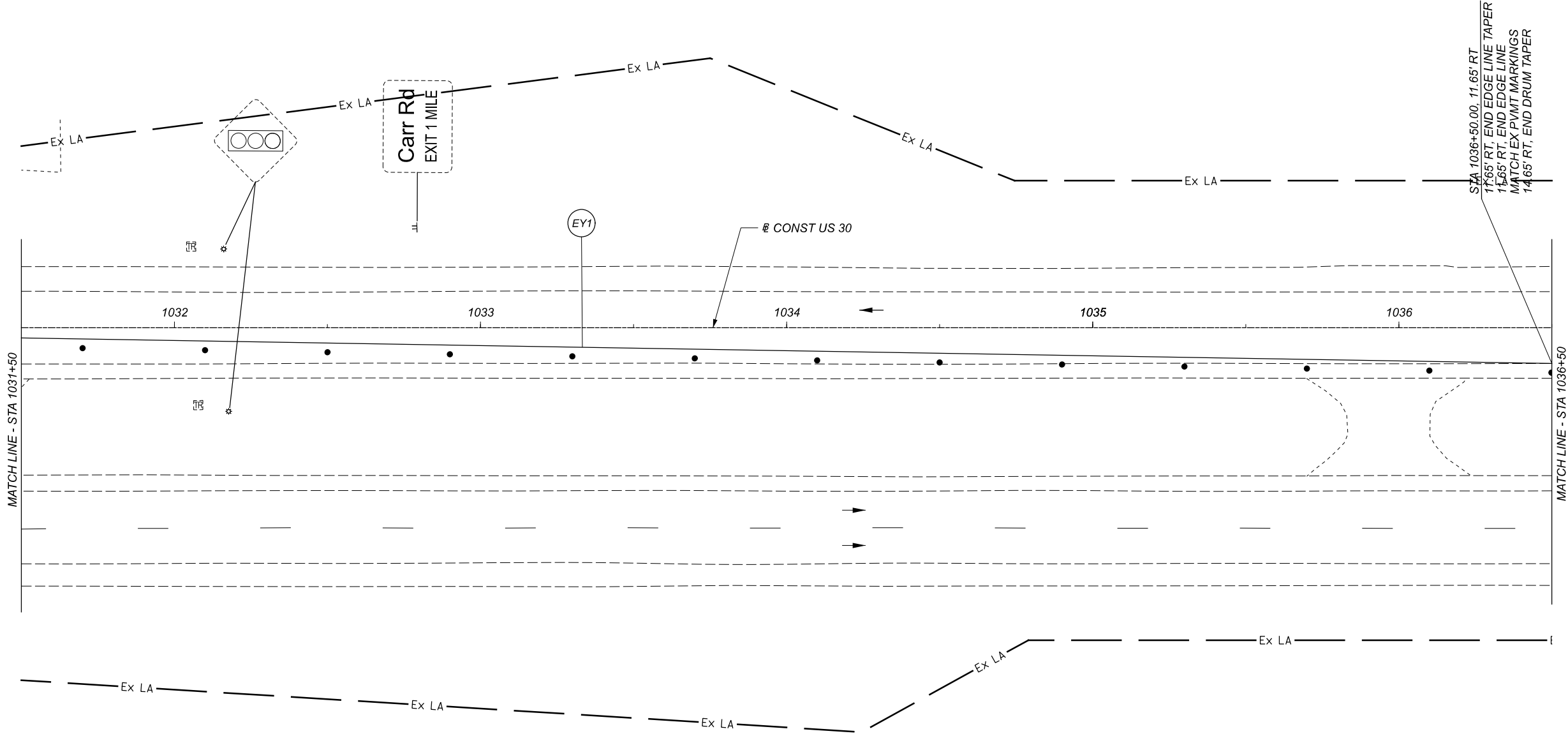
SHEET

P.16

TOTAL

63





MAINTENANCE OF TRAFFIC - US 30 - PHASE 2
STA 1031+50 TO STA 1036+50

DESIGN AGENCY

Mead & Hunt
CLIENT



DESIGNER

C.JL

REVIEWER

EGD 10/09/20

PROJECT ID

110876

SHEET

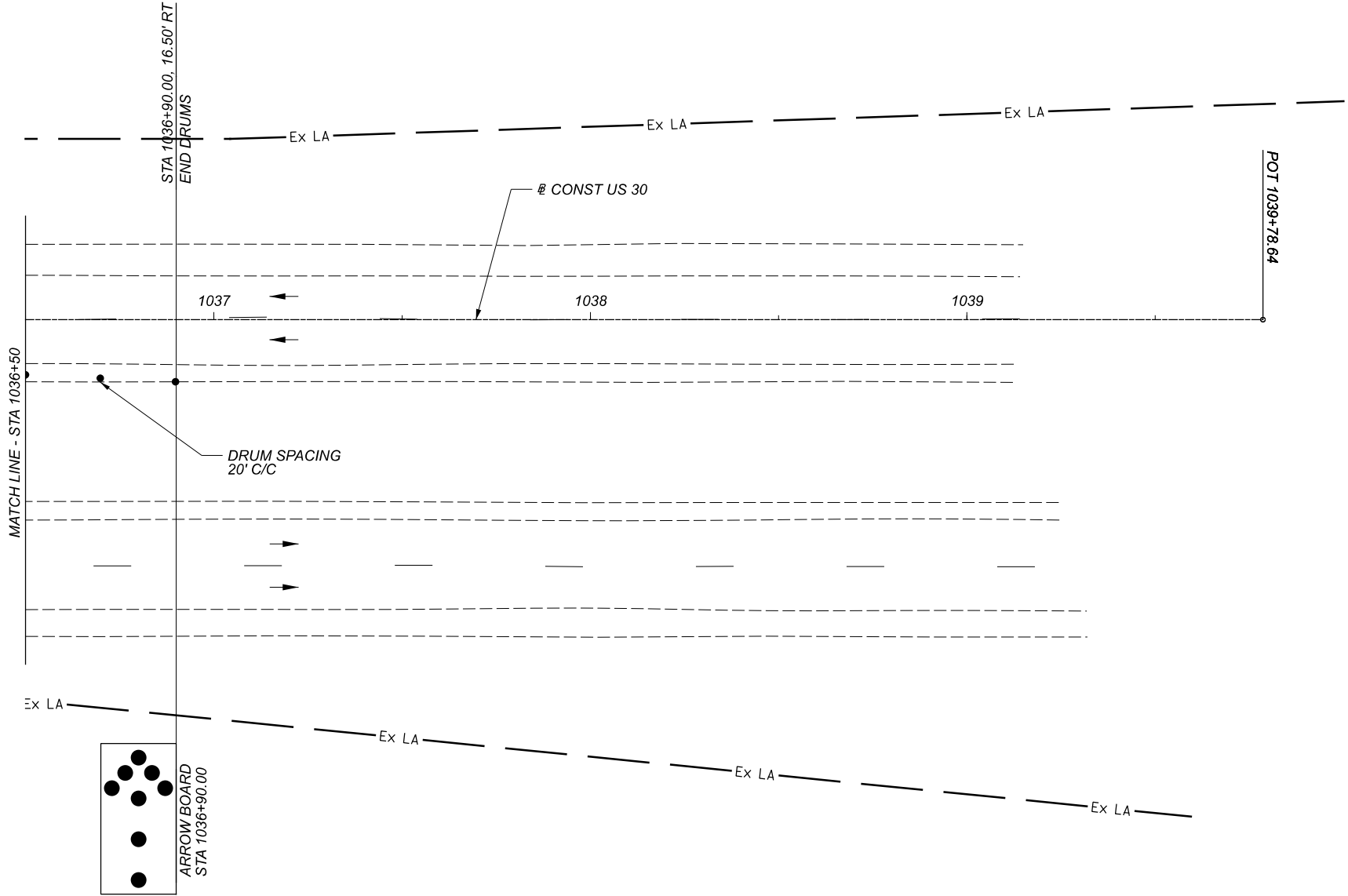
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TOTAL

63

HORIZONTAL
SCALE IN FEET

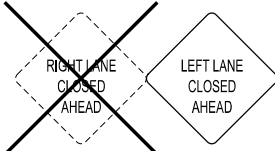
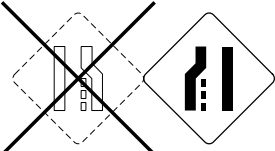




THE CONTRACTOR SHALL REMOVE AND DUAL INSTALL THE FOLLOWING ADVANCED WARNING SIGNS AT THE LOCATIONS SHOWN PRIOR TO THE START OF PHASE 2 CONSTRUCTION. THE CONTRACTOR SHALL USE OR MODIFY THE ADVANCED WARNING SIGNS THAT WERE LEFT IN PLACE AT THE COMPLETION OF PREVIOUS PHASES. AT THE COMPLETION OF PHASE 2 THE SIGNS SHALL REMAIN IN PLACE FOR USE DURING SUBSEQUENT PHASES AT NEEDED.

END
ROAD WORK

G20-2-48
STA. 1046+00 EB



1 MILE

W20-1-48
W16-3aP-30
STA. 1087+40 WB



MAINTENANCE OF TRAFFIC - US 30 - PHASE 2
STA 1036+50 TO STA 1039+78.64

DESIGN AGENCY

Mead
& Hunt

CLIENT



DESIGNER

CJL

REVIEWER

EGD 10/09/20

PROJECT ID

110876

SHEET

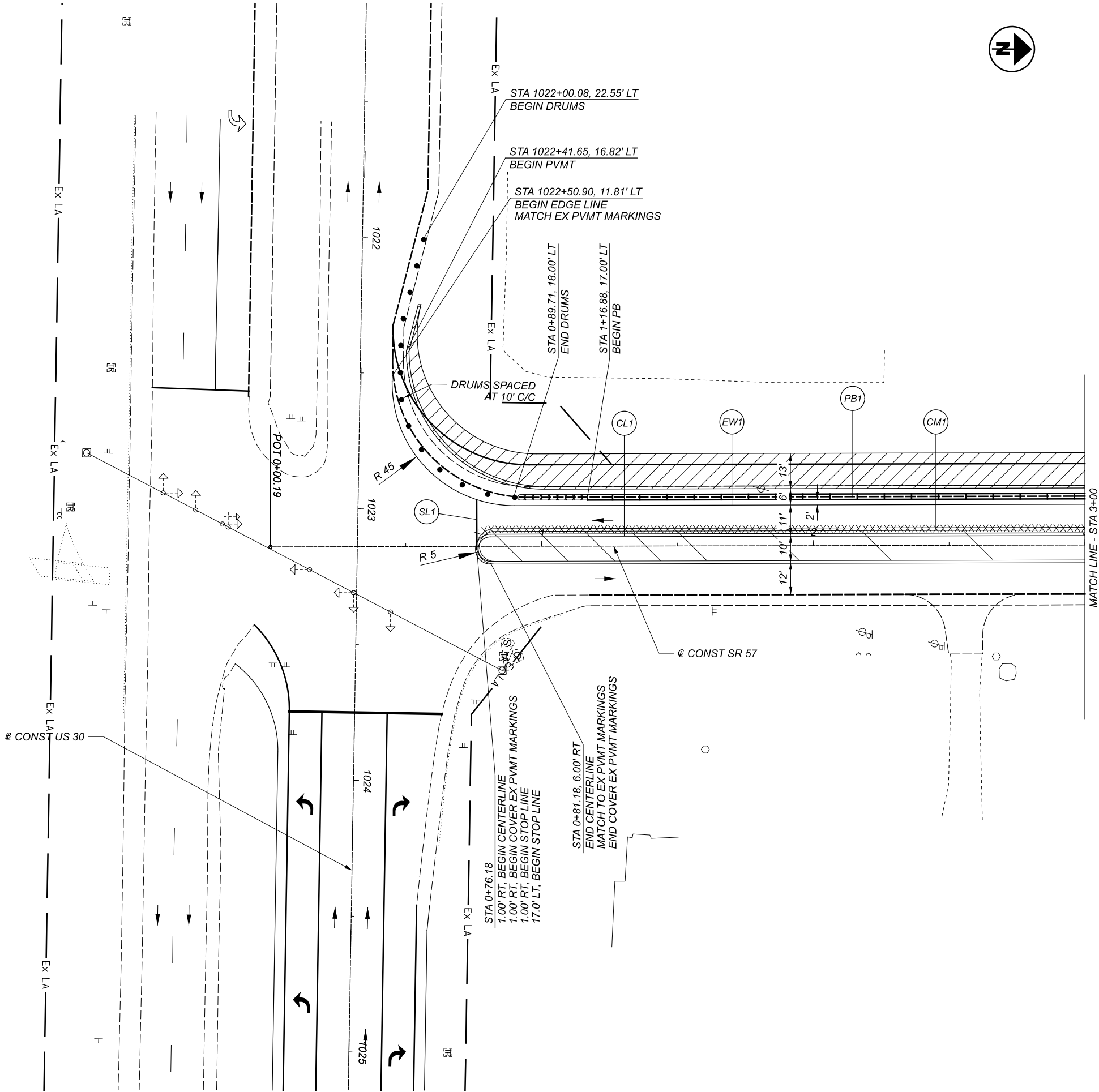
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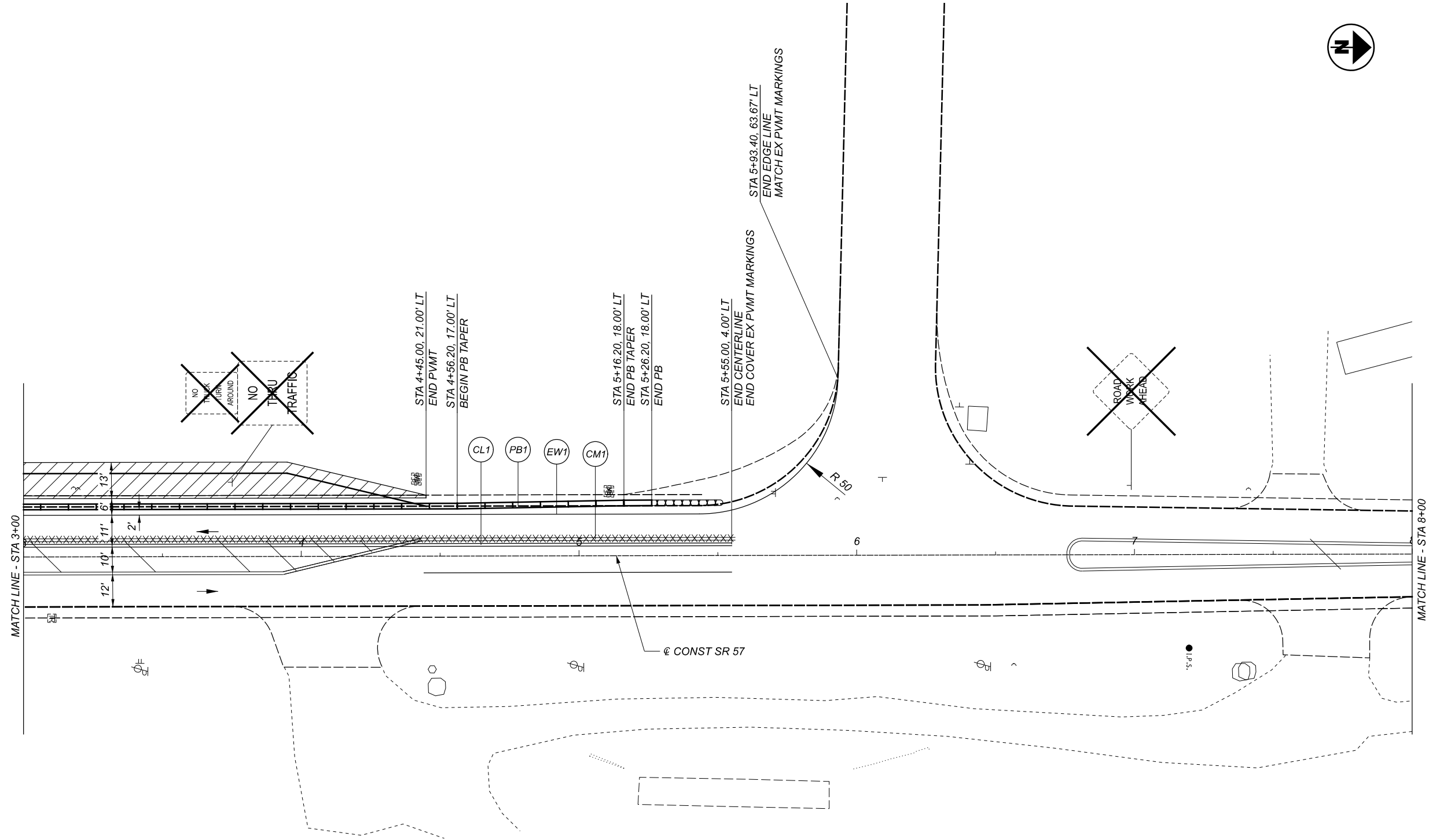
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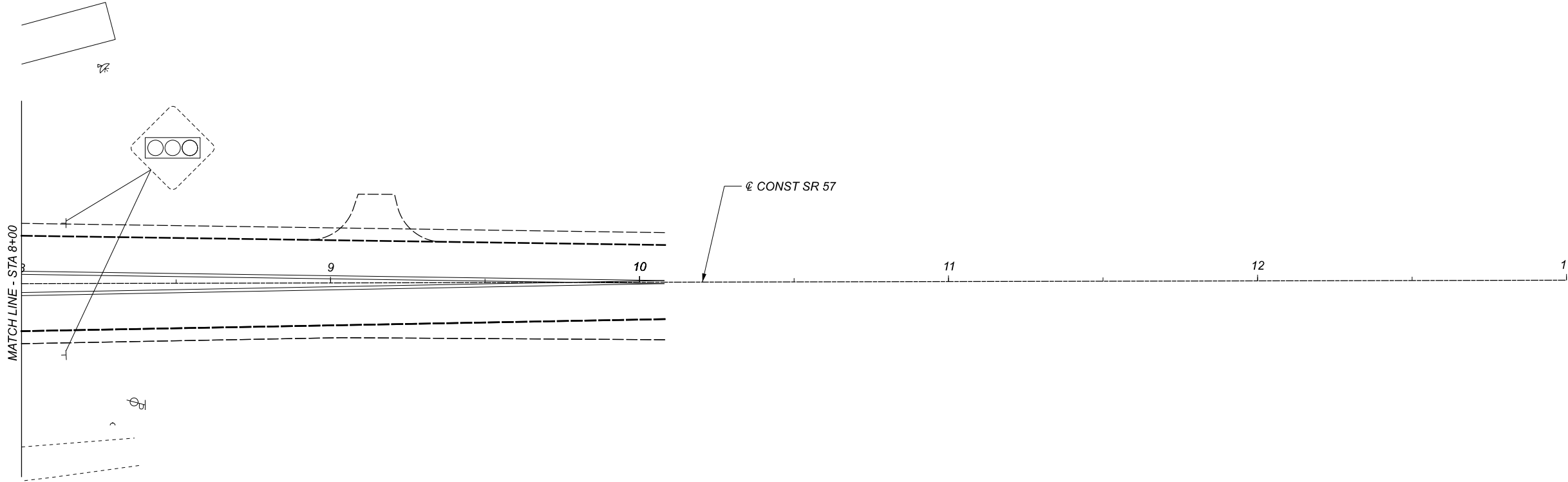
63

HORIZONTAL
SCALE IN FEET









END
ROAD WORK

G20-2-48
STA. 10+50 RT

RIGHT
SHOULDER
CLOSED

NEXT
1/4 MILE

W21-5aR-48
W7-3aP-36
STA. 10+50 LT

RIGHT
SHOULDER
CLOSED

1000 FT

W21-5aR-48
W16-2aP-30
STA. 15+50 LT

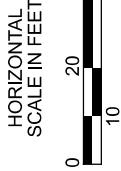
ROAD
WORK
AHEAD

1500 FT

W20-1-48
W16-2aP-30
STA. 20+50 LT



THE CONTRACTOR SHALL INSTALL THE FOLLOWING ADVANCE WARNING SIGNS AT THE LOCATIONS SHOWN PRIOR TO THE START OF PHASE 3 CONSTRUCTION. AT THE COMPLETION OF PHASE 3 THE SIGNS SHALL BE REMOVED.
THE CONTRACTOR SHALL ALSO INSTALL 1 PCMS AT STA. 18+00 PRIOR TO THE START OF PHASE 3.



MAINTENANCE OF TRAFFIC - SR 57 - PHASE 3
STA 8+00 TO STA 13+00

DESIGN AGENCY

Mead
& Hunt

CLIENT



DESIGNER

C.JL

REVIEWER

EGD 10/09/20

PROJECT ID

110876

SHEET

P.22

TOTAL

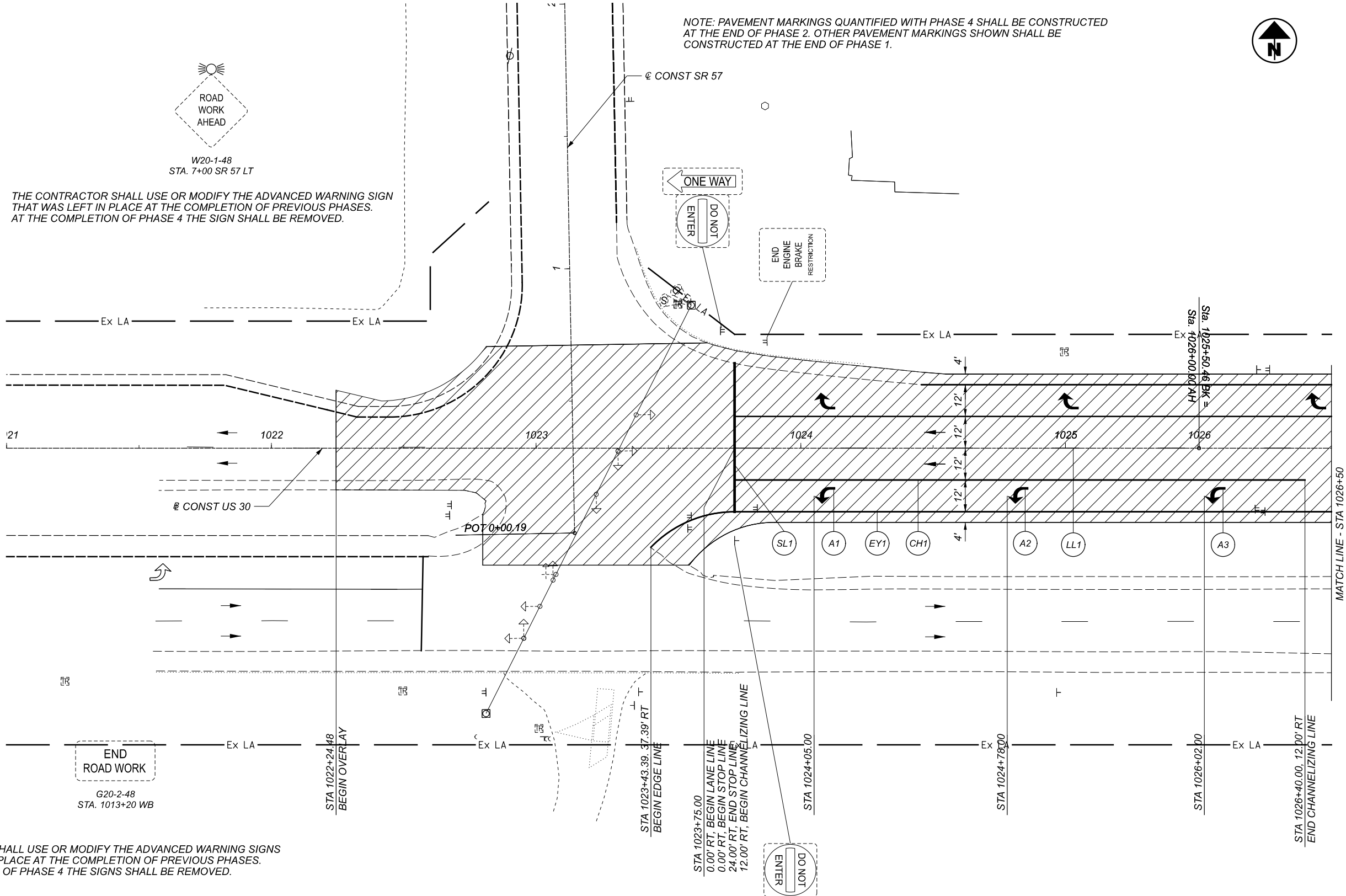
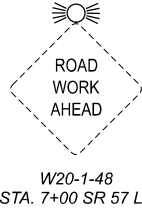
65

THE CONTRACTOR SHALL USE OR MODIFY THE ADVANCED WARNING SIGNS THAT WERE LEFT IN PLACE AT THE COMPLETION OF PREVIOUS PHASES. AT THE COMPLETION OF PHASE 4 THE SIGNS SHALL BE REMOVED.



END
ROAD WORK
G20-2-48
STA. 1013+20 WB

THE CONTRACTOR SHALL USE OR MODIFY THE ADVANCED WARNING SIGN THAT WAS LEFT IN PLACE AT THE COMPLETION OF PREVIOUS PHASES. AT THE COMPLETION OF PHASE 4 THE SIGN SHALL BE REMOVED.



NOTE: PAVEMENT MARKINGS QUANTIFIED WITH PHASE 4 SHALL BE CONSTRUCTED AT THE END OF PHASE 2. OTHER PAVEMENT MARKINGS SHOWN SHALL BE CONSTRUCTED AT THE END OF PHASE 1.



MAINTENANCE OF TRAFFIC - SR 57 - PHASE 4
STA 0+00 TO STA 3+00

DESIGN AGENCY

Mead
& Hunt

CLIENT



DESIGNER

C.J.L.

REVIEWER

EGD 10/09/20

PROJECT ID

110876

SHEET

P.23

TOTAL

65

HORIZONTAL
SCALE IN FEET

0 10 20 40

MODEL: Plan 2 [Sheet] PAPER SIZE: 17x11(in.) DATE: 12/16/2020 TIME: 2:16:07 PM USER: 1458sjs
X: 4012500\191370.0\10202.Safety Design 2019-2 Sub to Carpenter Mart\110876_WAY-30-2

HORIZONTAL
SCALE IN FEET

MAINTENANCE OF TRAFFIC - SR 57 - PHASE 4
STA 3+00 TO STA 8+00

DESIGN AGENCY

**Mead
& Hunt**

CLIENT



DESIGNER

CJL

REVIEWER

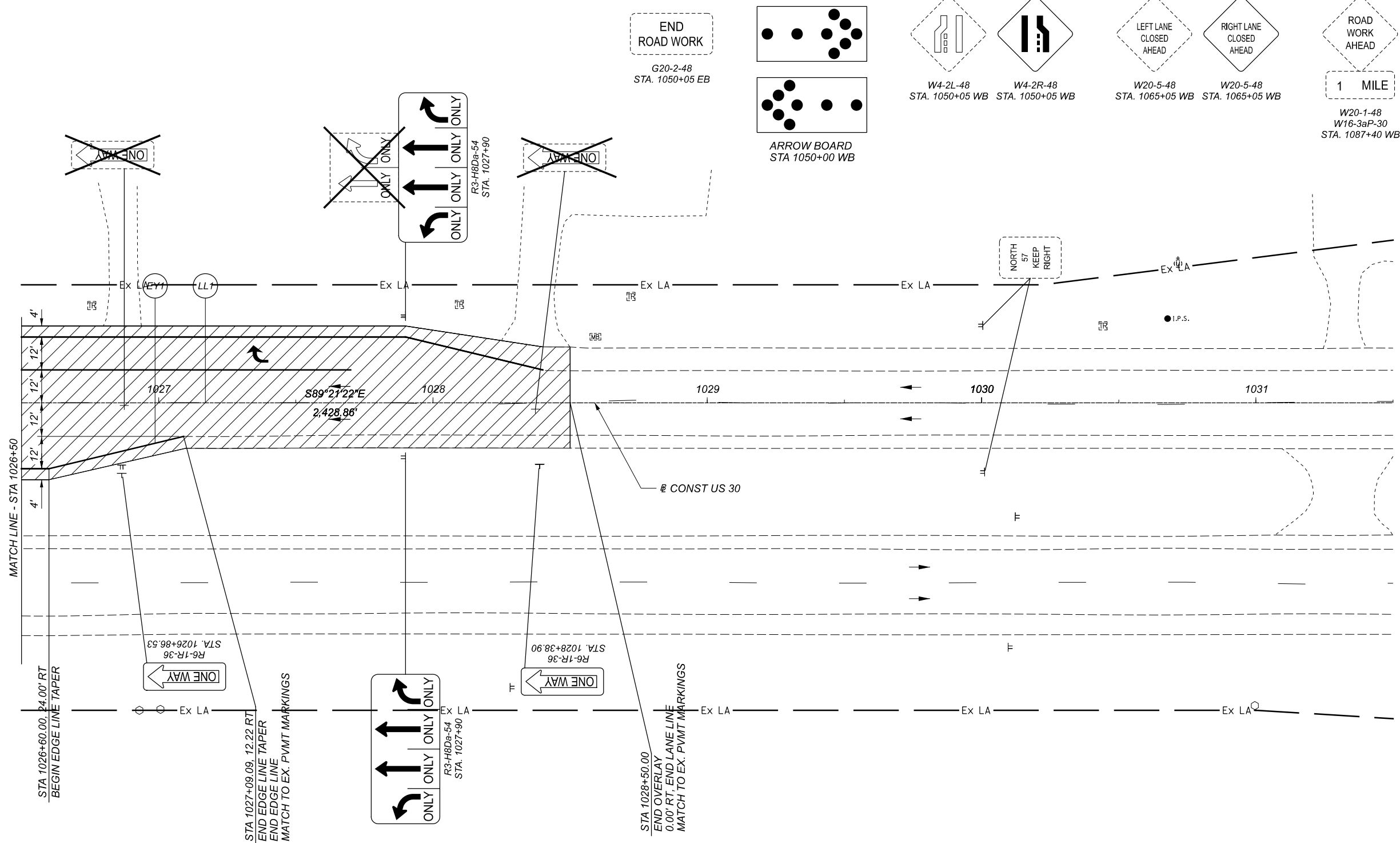
EGD 10/09/20

PROJECT ID

110876

SHEET	TOTAL
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P.24 | 6



SHEET NUM.											PART.			ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
5	6	10	28	29	43	45	46	57	65	CALCS	01/SAF/PAV								
LS											LS			201	11000	2,000		ROADWAY	
					20					647	667			202	23000	667	SY	CLEARING AND GRUBBING	
			1,173								1,173			203	10000	1,173	CY	PAVEMENT REMOVED	
			132								132			203	20000	132	CY	EXCAVATION	
					42					2,025	2,067			204	10000	2,067	SY	EMBANKMENT	
																		SUBGRADE COMPACTION	
										1,350	1,350			204	13000	1,350	CY	EXCAVATION OF SUBGRADE	
										1,350	1,350			204	30010	1,350	CY	GRANULAR MATERIAL, TYPE B	
2											2			204	45000	2	hour	PROOF ROLLING	
										2,025	2,025			204	50000	2,025	SY	GEOTEXTILE FABRIC	
										2,025	2,025			204	51000	2,025	SY	GEOGRID	
									2		2			623	40520	2	EACH	RIGHT-OF-WAY MONUMENT	
																		EROSION CONTROL	
5.4			5.4								10.8			601	21050	10.8	SY	TIED CONCRETE BLOCK MAT WITH TYPE 1 UNDERLAYMENT	
		3									3			616	10000	3	MGAL	WATER	
	2										2			659	00100	2	EACH	SOIL ANALYSIS TEST	
	118										118			659	00300	118	CY	TOPSOIL	
			1,111								1,111			659	10000	1,111	SY	SEEDING AND MULCHING	
	80										80			659	14000	80	SY	REPAIR SEEDING AND MULCHING	
	80										80			659	15000	80	SY	INTER-SEEDING	
	0.22										0.22			659	20000	0.22	TON	COMMERCIAL FERTILIZER	
	0.33										0.33			659	31000	0.33	ACRE	LIME	
	9										9			659	35000	9	MGAL	WATER	
				LS							LS			832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN	
				LS							LS			832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
				LS							LS			832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
				25,000							25,000			832	30000	25,000	EACH	EROSION CONTROL	
50			337								387			605	05200	387	FT	DRAINAGE	
			778								778			605	06000	778	FT	4" UNCLASSIFIED PIPE UNDERDRAINS	
30											30			605	31100	30	FT	4" BASE PIPE UNDERDRAINS	
30											30			611	00406	30	FT	AGGREGATE DRAINS	
			60								60			611	00410	60	FT	4" CONDUIT, TYPE F	
																		4" CONDUIT, TYPE F FOR UNDERDRAIN OUTLET	
3			3								6			611	99710	6	EACH	PRECAST REINFORCED CONCRETE OUTLET	
					23					409	432			254	01000	432	SY	PAVEMENT	
										433	433			301	46000	433	CY	PAVEMENT PLANING, ASPHALT CONCRETE, 3.5"	
					9					709	718			304	20000	718	CY	ASPHALT CONCRETE BASE, PG64-22	
					2						2			407	10000	2	CY	AGGREGATE BASE	
										468	468			407	20000	468	GAL	TACK COAT	
																		NON-TRACKING TACK COAT	
										103	103			408	10000	103	GAL	PRIME COAT	
					3						3			441	50000	3	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22	
										175	175			442	20000	175	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448) (PG76-22M)	
							124			234	234			442	20200	234	CY	ASPHALT CONCRETE SURFACE COURSE, 19 MM, TYPE A (448) (PG76-22M)	
											124			618	40100	124	FT	ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (448) (PG76-22M)	
																		RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)	
								</											

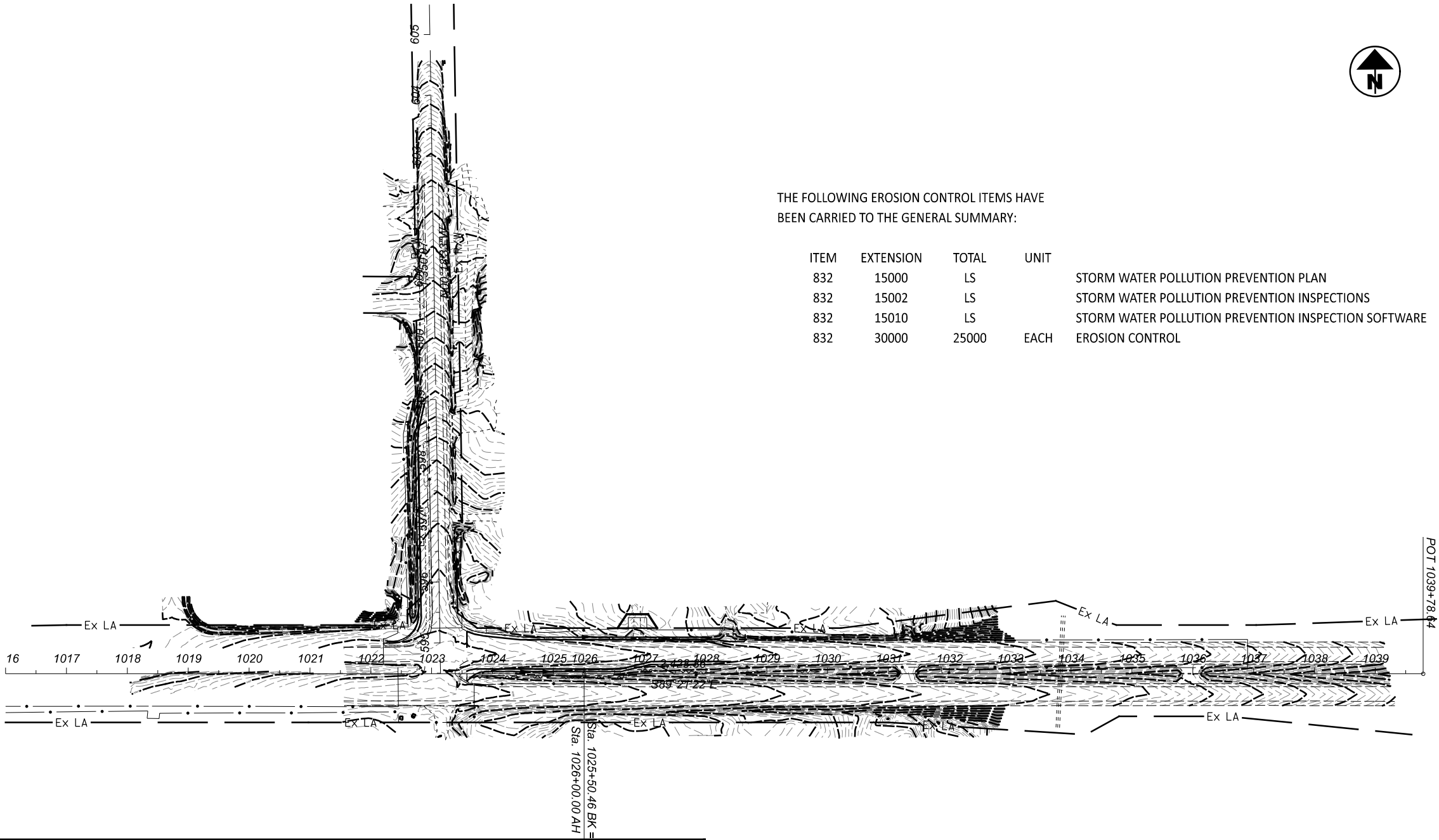
GENERAL SUMMARY SHEET	
DESIGN AGENCY 	
CLIENT 	
DESIGNER ANM	
REVIEWER SJS 10/09/20	
PROJECT ID 110876	
SHEET P.26	TOTAL 65

GENERAL SUMMARY SHEET	
DESIGN AGENCY Mead & Hunt CLIENT 	
DESIGNER	ANM
REVIEWER	SJS 10/09/20
PROJECT ID	110876
SHEET	TOTAL
P.27	65

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SUBSUMMARY

DESIGN AGENCY <b style="font-size: 1.5em;">Mead & Hunt	
CLIENT ANM	
DESIGNER ANM	
REVIEWER SJS 10/09/20	
PROJECT ID 110876	
SHEET P.28	TOTAL 65



THE FOLLOWING EROSION CONTROL ITEMS HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM	EXTENSION	TOTAL	UNIT	
832	15000	LS		STORM WATER POLLUTION PREVENTION PLAN
832	15002	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS
832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE
832	30000	25000	EACH	EROSION CONTROL

PROJECT DATA			
TOTAL AREA (RIGHT-OF-WAY) -----	2.71 ACRES	RUNOFF COEFFICIENT PRE-CONSTRUCTION -----	0.73
PROJECT EARTH DISTURBED AREA -----	0.94 ACRES	RUNOFF COEFFICIENT POST CONSTRUCTION -----	0.76
ESTIMATED CONTRACTOR EARTH DISTURBED AREA ---	0.82 ACRES	POST CONSTRUCTION BMP: NOT REQUIRED	
NOTICE OF INTENT EARTH DISTURBED AREA -----	1.76 ACRES		
IMPERVIOUS (PAVED) AREA PRE-CONSTRUCTION -----	1.53 ACRES	IMMEDIATE RECEIVING WATERS -----	UNNAMED CREEK
IMPERVIOUS (PAVED) AREA POST CONSTRUCTION ---	1.76 ACRES	SUBSEQUENT RECEIVING WATERS -----	SUGAR CREEK
		LAND USE IS A COMBINATION OF RESIDENTIAL, COMERCIAL(GAS STATION), AND RECREATIONAL (GOLF COURSE)	

USGS MAP:	ORRVILLE, OH
LONGITUDE*:	81° 45' 55"
LATITUDE*:	40° 47' 48"

PROJECT DESCRIPTION

THIS PROJECT INVOLVES EXTENDING THE WESTBOUND RIGHT TURN LANE ON US 30, ADDING A SOUTHBOUND RIGHT TURN LANE ON SR 57 AND WESTBOUND LEFT TURN LANE ON US 30, AND REPLACING THE SIGNAL. TOTAL PROJECT LENGTH IS APPROXIMATELY 0.20 MILES.

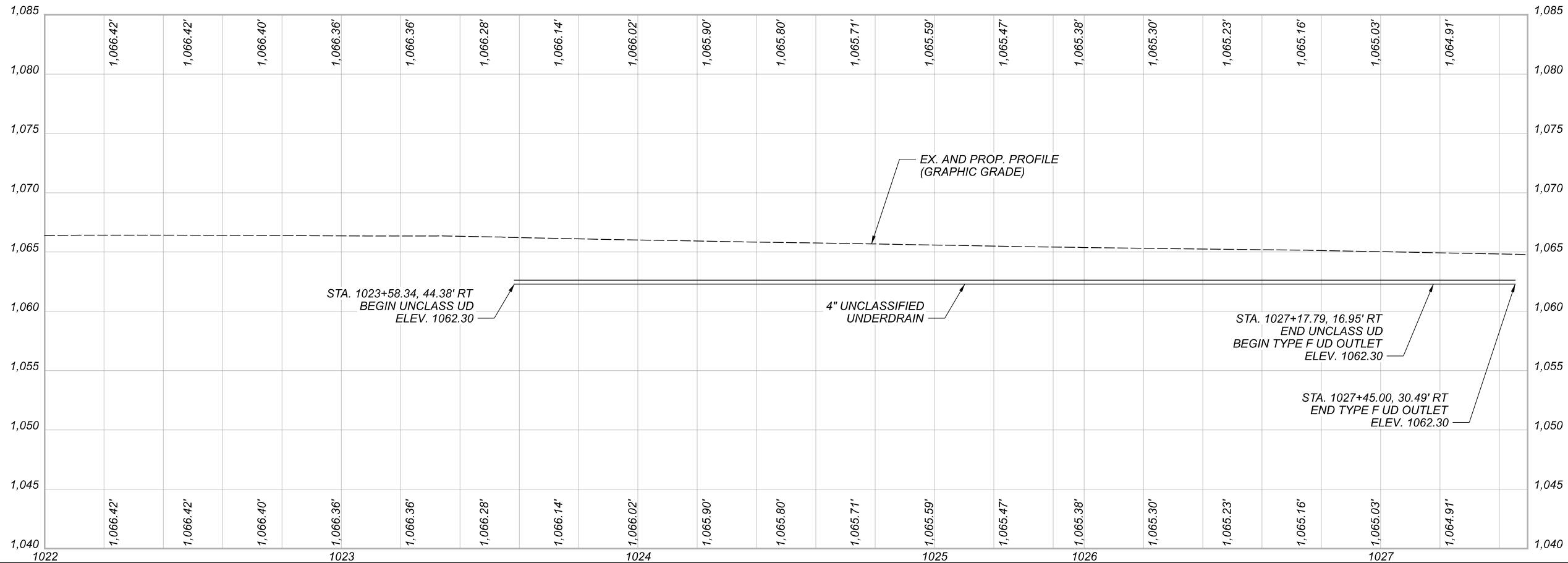
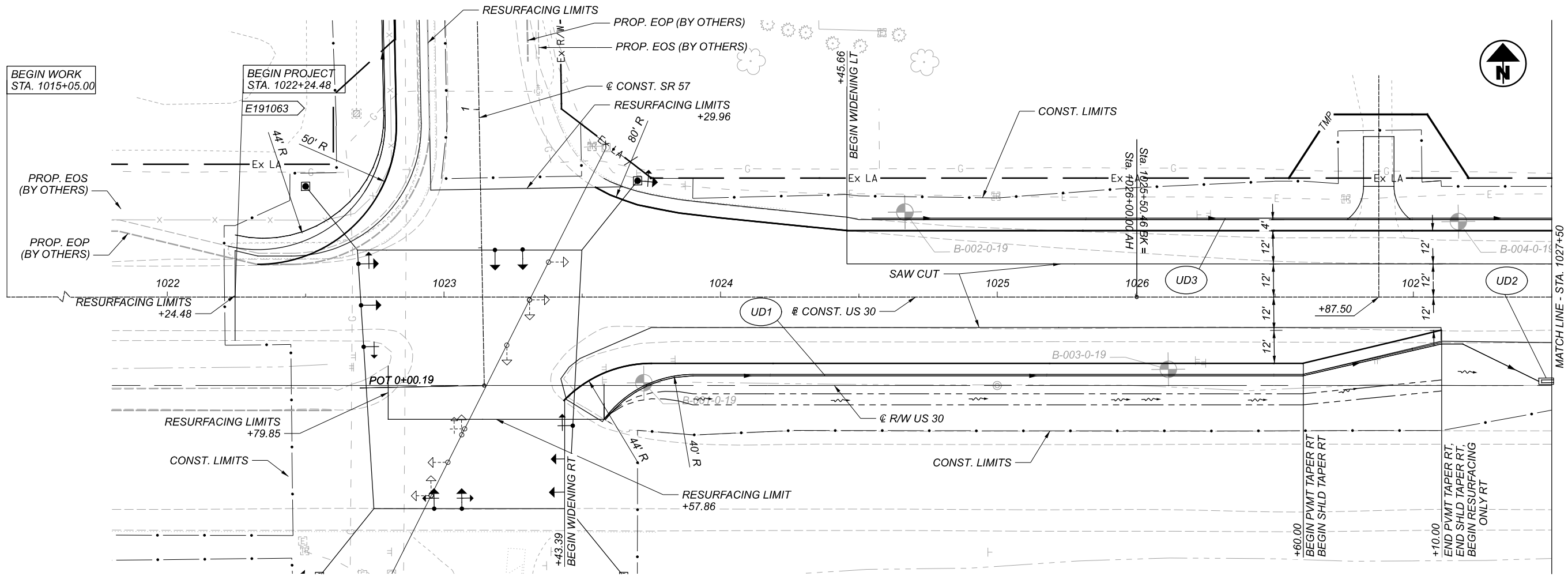
PROJECT SITE PLAN



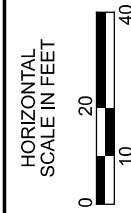
DESIGN AGENCY
Mead & Hunt
CLIENT

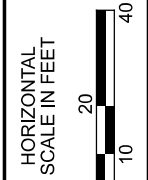
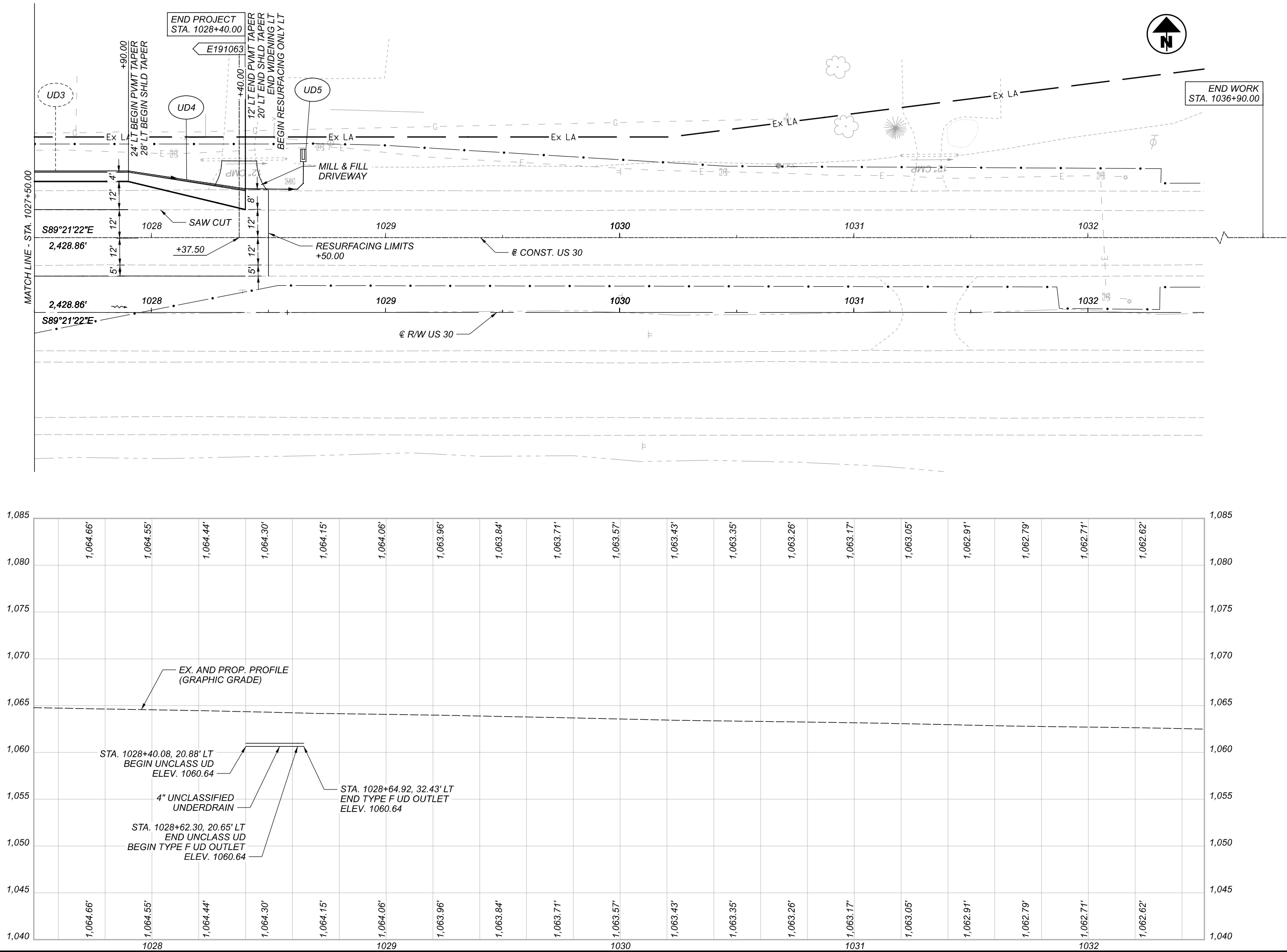


DESIGNER	ANM
REVIEWER	SJS 10/09/20
PROJECT ID	110876
SHEET	P.29
TOTAL	65



PLAN AND PROFILE - US-30
STA 1021+80 TO STA 1027+50





PLAN AND PROFILE - US-30
STA 1027+50 TO STA 1032+50

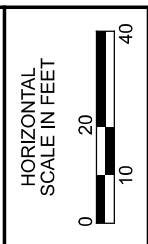
DESIGN AGENCY
Mead & Hunt
CLIENT

DESIGNER
CJL

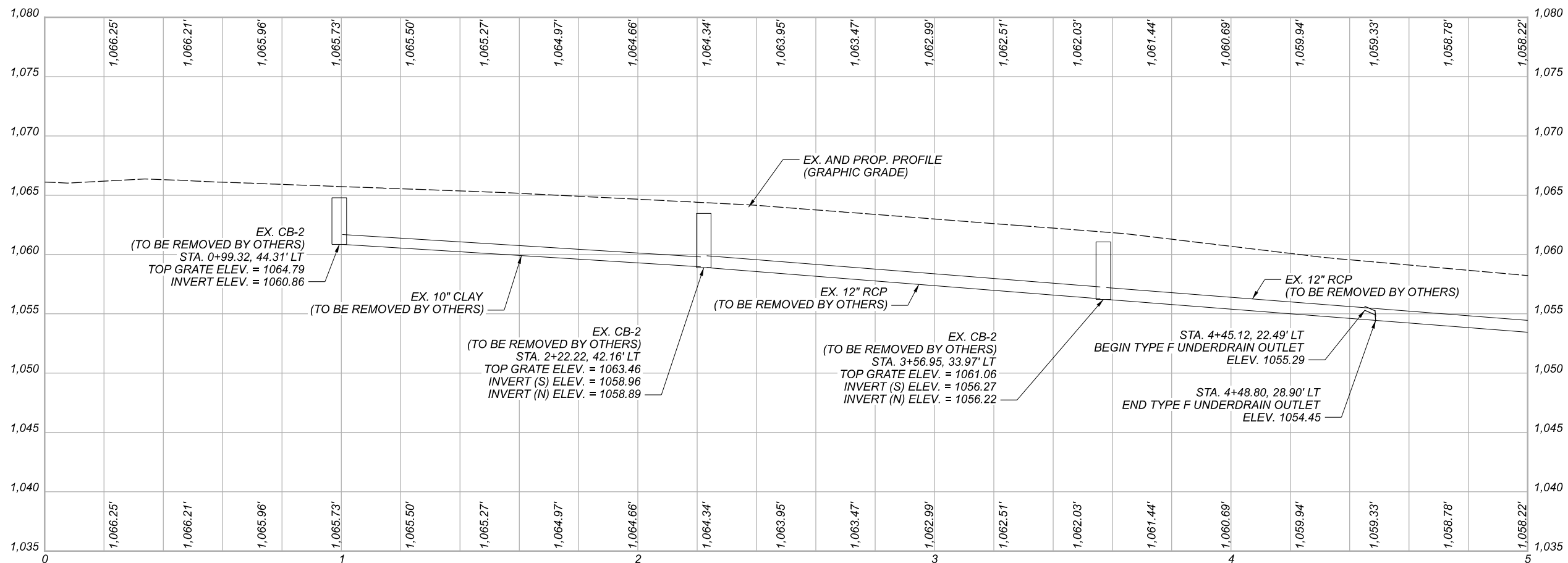
REVIEWER
SJS 10/09/20

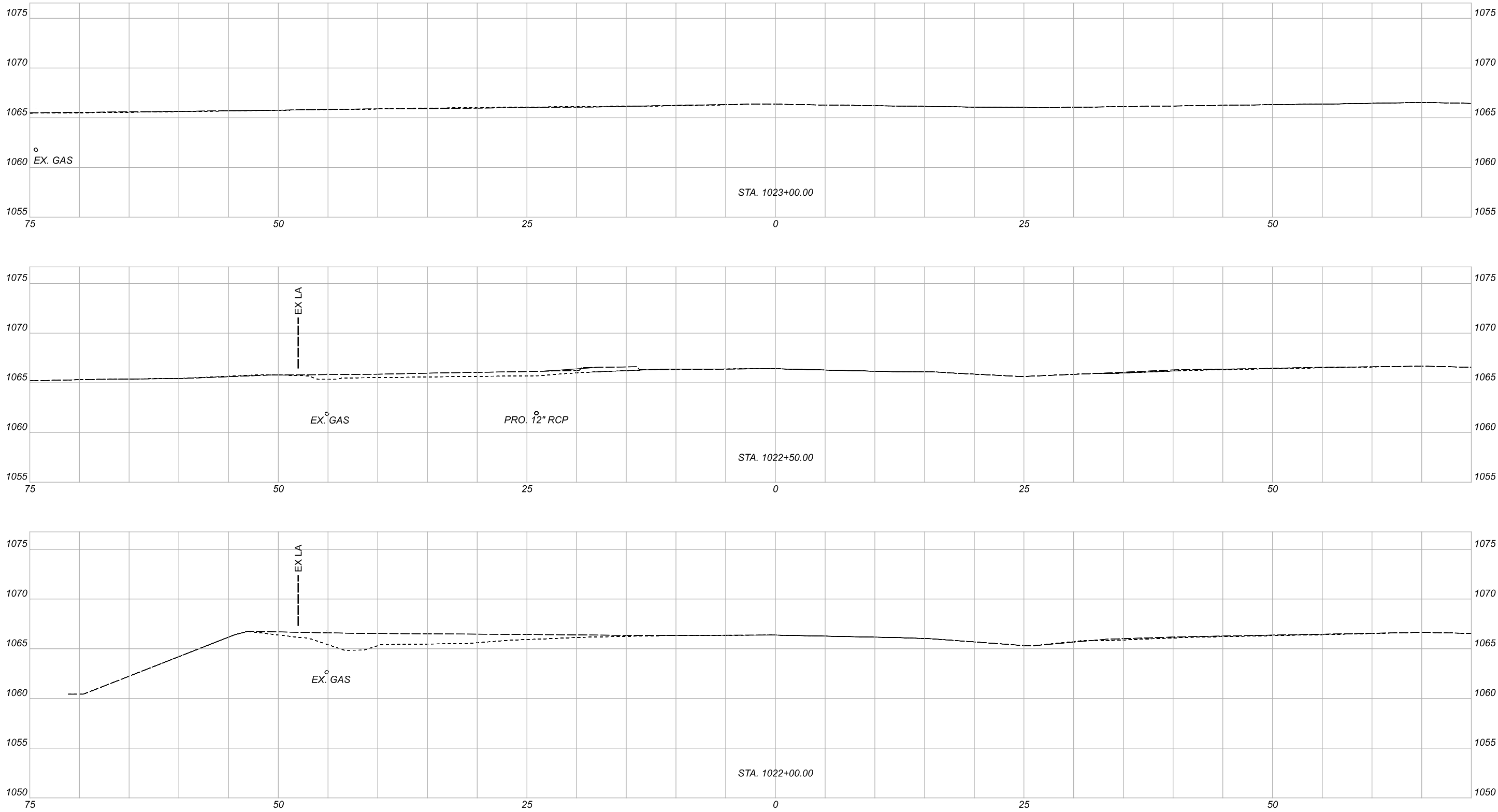
PROJECT ID
110876

SHEET TOTAL
P.31 65



DESIGN AGENCY	
Mead & Hunt	
CLIENT	
DESIGNER	
CJL	
REVIEWER	
SJS	10/09/20
PROJECT ID	
110876	
SHEET	TOTAL
P.32	65





CROSS SECTIONS - US-30
STA. 1022+00 TO STA. 1023+00

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

CJL

REVIEWER

SJS 10/09/20

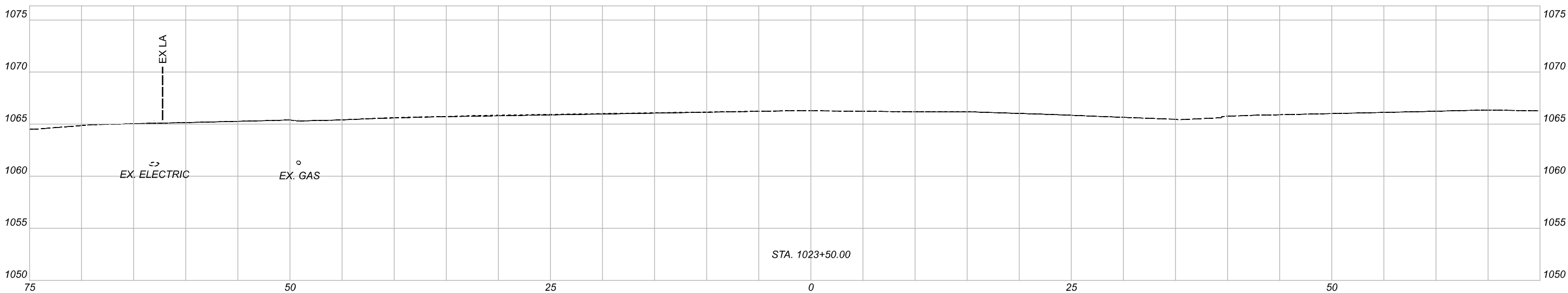
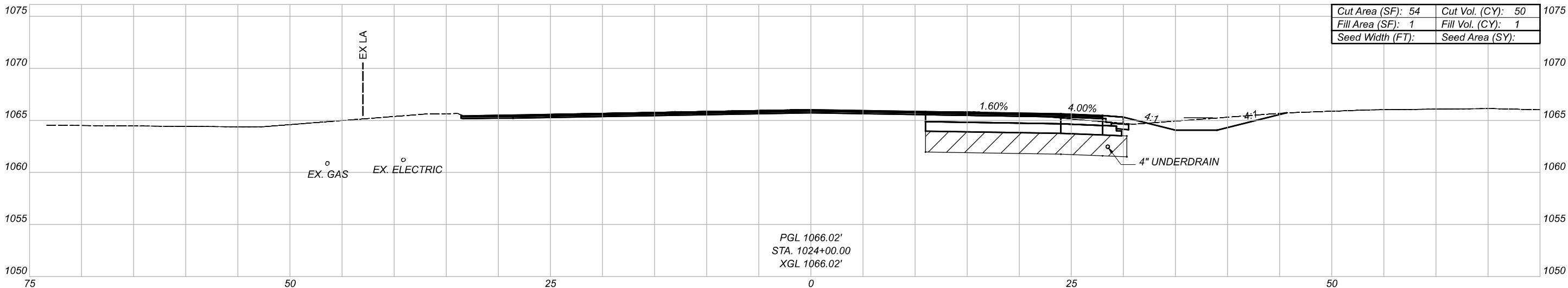
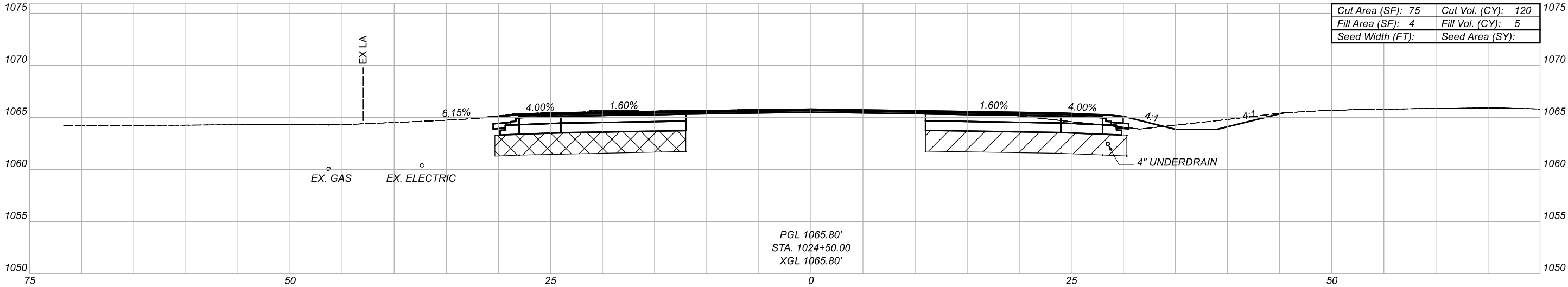
PROJECT ID

110876

Sheet Totals			SHEET	TOTAL
Seeding	Cut	Fill		
0	0	0	P.33	65

UNSTABLE MATERIAL

UNSUITABLE MATERIAL



CROSS SECTIONS - US-30
STA. 1023+50 TO STA. 1024+50

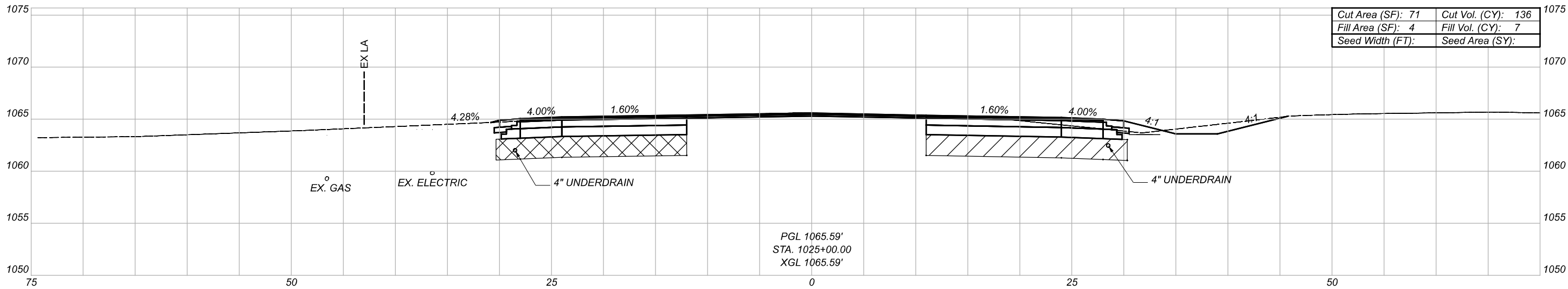
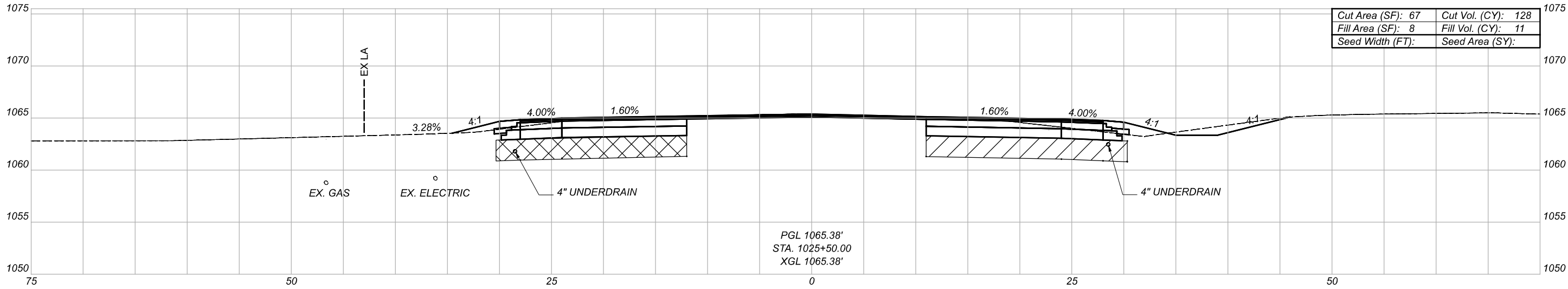
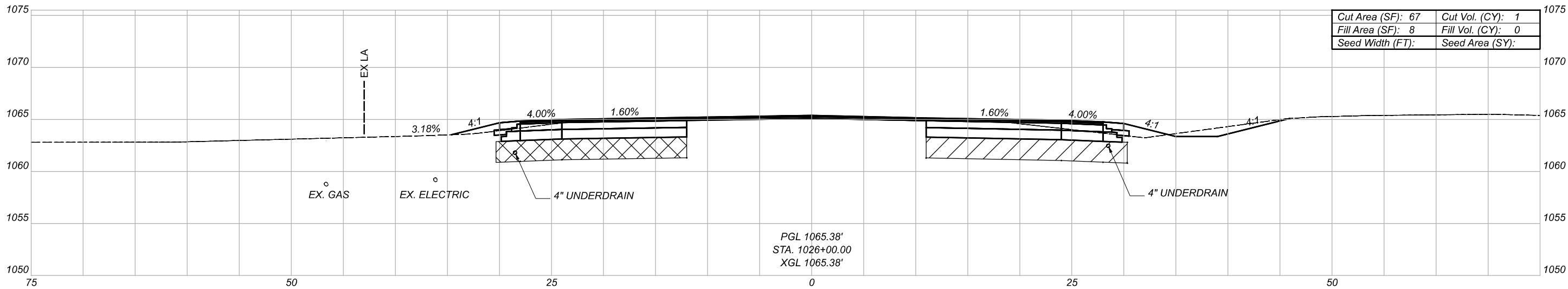
DESIGN AGENCY
Mead & Hunt
CLIENT

DESIGNER
C.J.L.

REVIEWER
SJS 10/09/20

PROJECT ID
110876

Sheet Totals
Seeding 165 Cut 170 Fill 6
SHEET TOTAL
P.34 65



CROSS SECTIONS - US-30
STA. 1025+00 TO STA. A1026+00

DESIGN AGENCY
Mead & Hunt
CLIENT



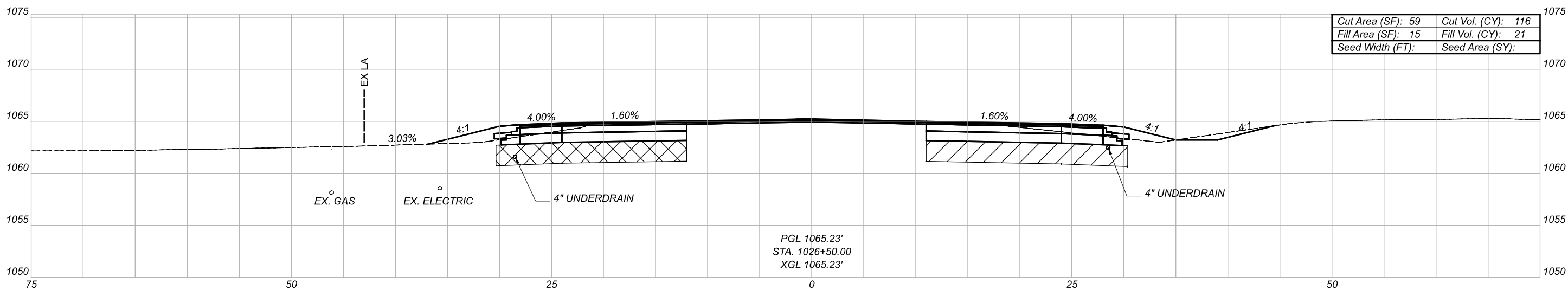
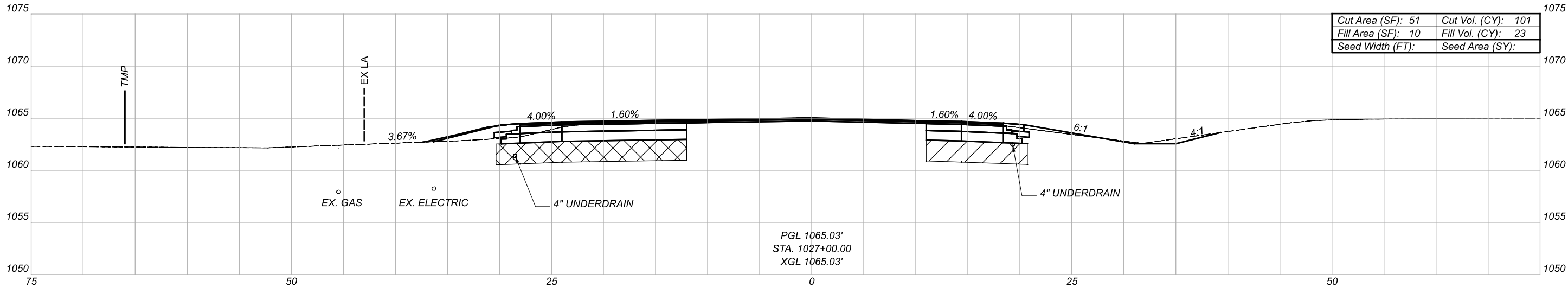
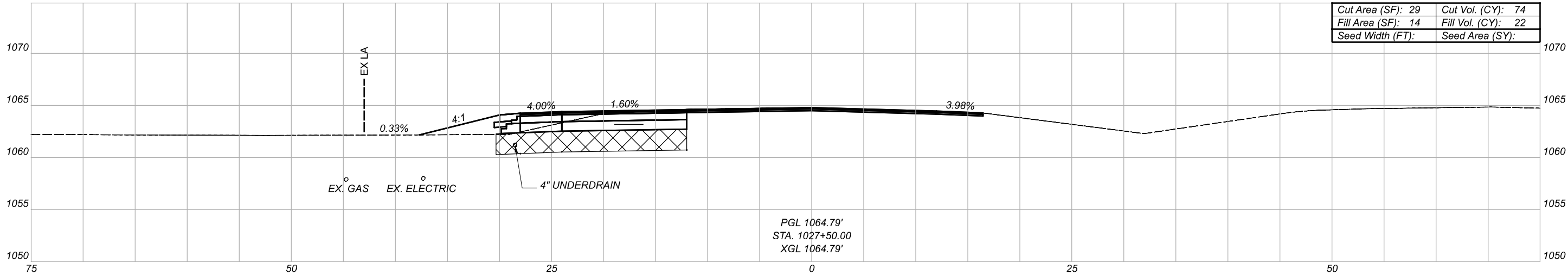
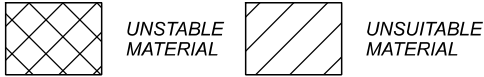
DESIGNER
CJL

REVIEWER
SJS 10/09/20

PROJECT ID
110876

Sheet Totals		
Seeding	Cut	Fill
246	265	18

SHEET	TOTAL
P.35	65



Sheet Totals		
Seeding	Cut	Fill
415	291	66

CROSS SECTIONS - US-30
STA. A1026+50 TO STA. A1027+50

DESIGN AGENCY
Mead & Hunt
CLIENT

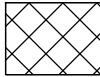


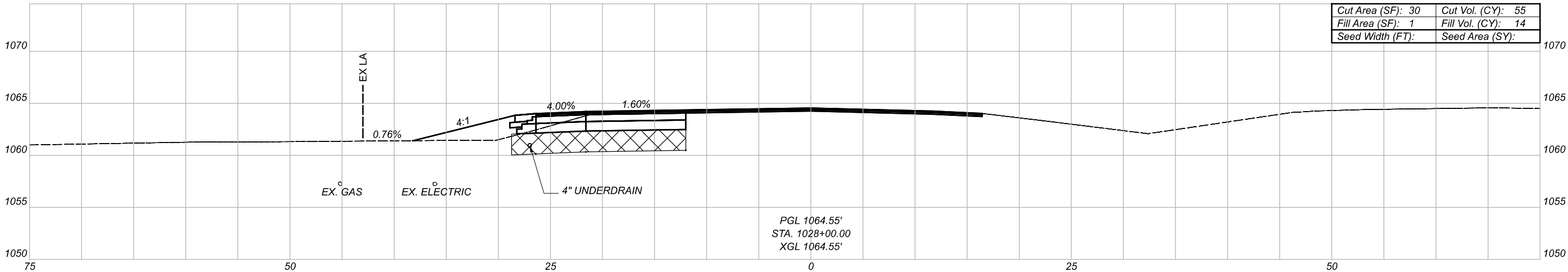
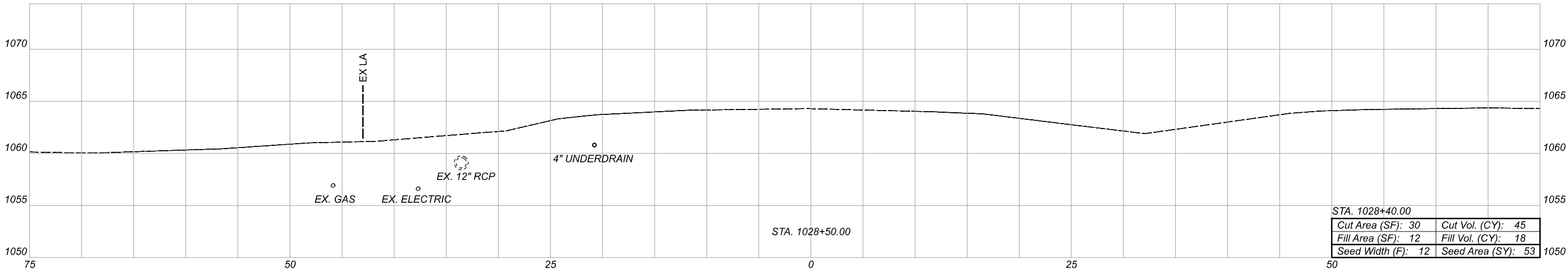
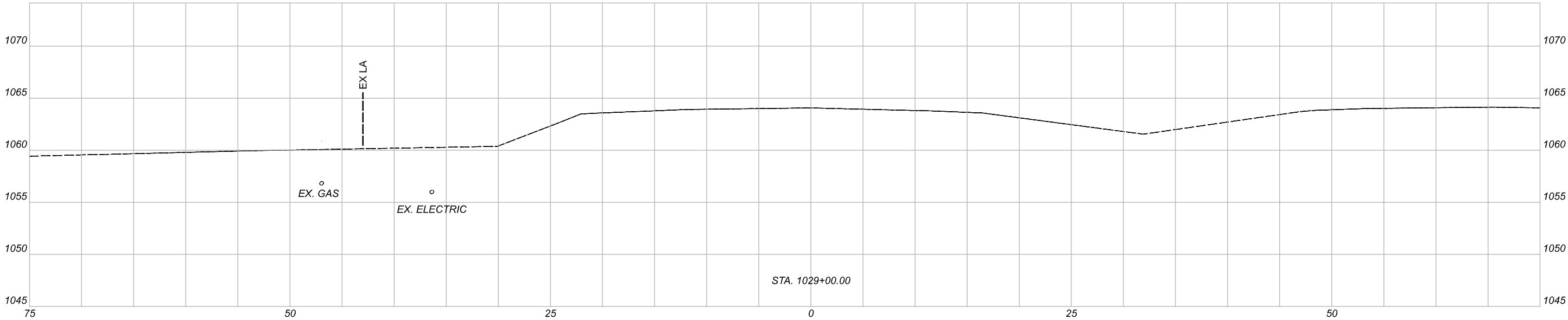
DESIGNER
CJL

REVIEWER
SJS 10/09/20

PROJECT ID
110876

SHEET TOTAL
P.36 65

 UNSTABLE MATERIAL



CROSS SECTIONS - US-30
STA. 1028+00 TO STA. A1029+00

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

CJL

REVIEWER

SJS 10/09/20

PROJECT ID

110876

Sheet Totals

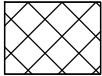
Seeding	Cut	Fill
115	100	42

SHEET	TOTAL
P.37	65

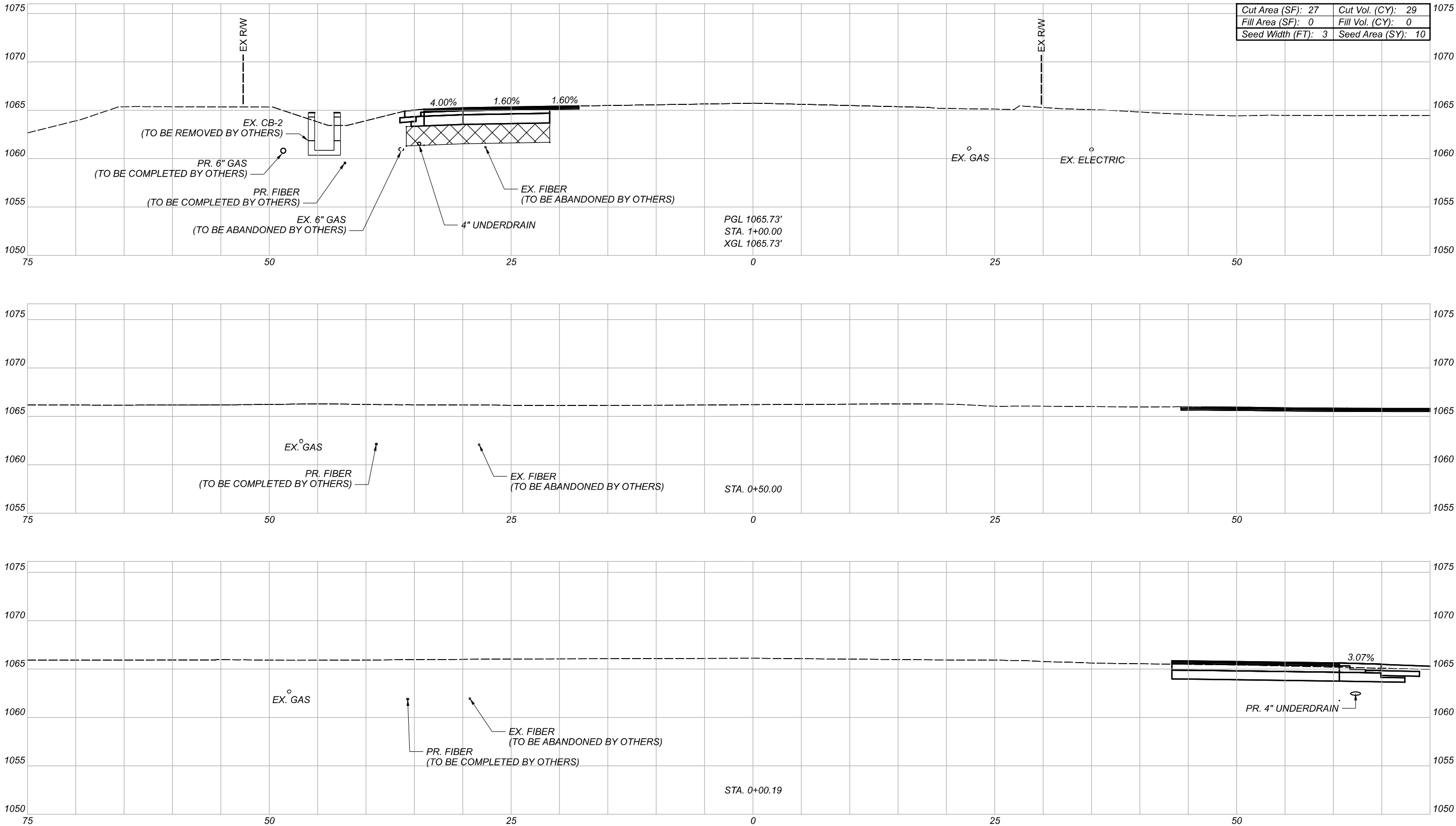
NOTE:

THE EXISTING GROUND DEPICTED ALONG SR 57 IS THAT BEING CONSTRUCTED WITH THE DEVELOPER'S WIDENING OF SR 57. THE INTENT IS THAT THE DEVELOPER'S PROJECT WILL WIDEN THE PAVEMENT TO THREE LANES AND CONSTRUCT THE NECESSARY DITCHES.

THIS CONTRACT (PID 110876) WILL CONSTRUCT THE PAVEMENT FOR THE SOUTHBOUND RIGHT TURN LANE (4TH LANE) AND THE ADJACENT SHOULDER.



UNSTABLE MATERIAL



Cut Area (SF):	27	Cut Vol. (CY):	29
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (FT):	3	Seed Area (SY):	10

CROSS SECTIONS - SR-57
STA. 0+00.19 TO STA 1+00.00

DESIGN AGENCY
Mead & Hunt
CLIENT



DESIGNER
CJL

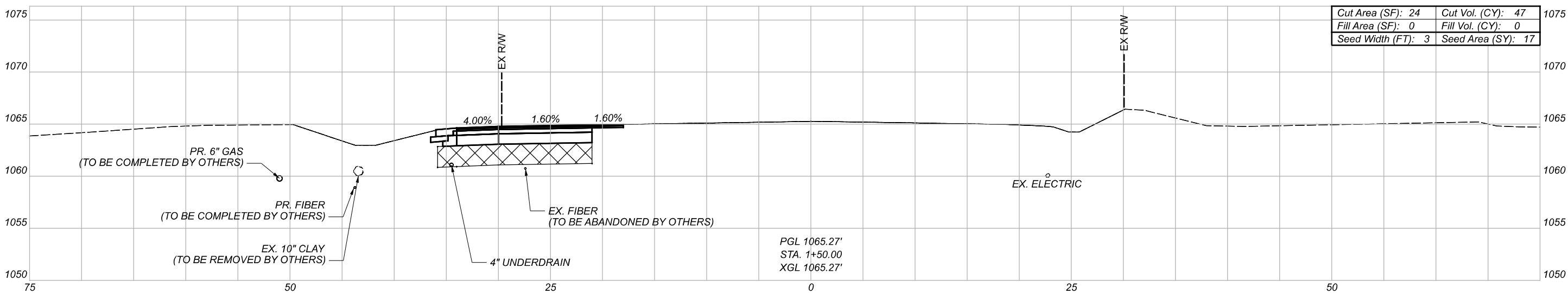
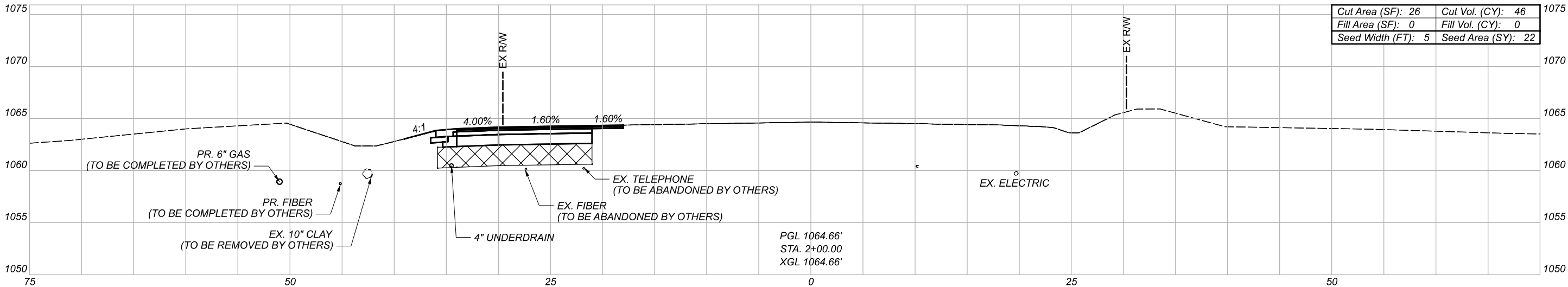
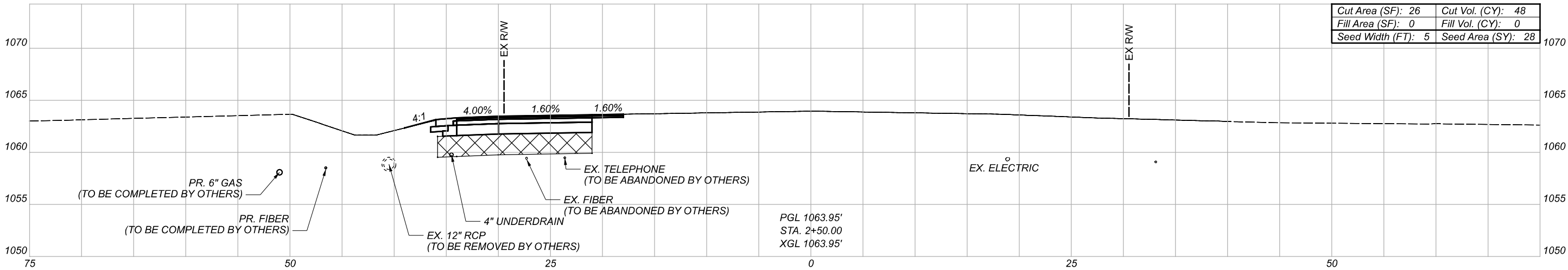
REVIEWER
SJS 10/09/20

PROJECT ID
110876

Sheet Totals

Seeding	Cut	Fill
10	29	0

SHEET	TOTAL
P.38	65



CROSS SECTIONS - SR-57
STA. 1+50 TO STA. 2+50

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

CJL

REVIEWER

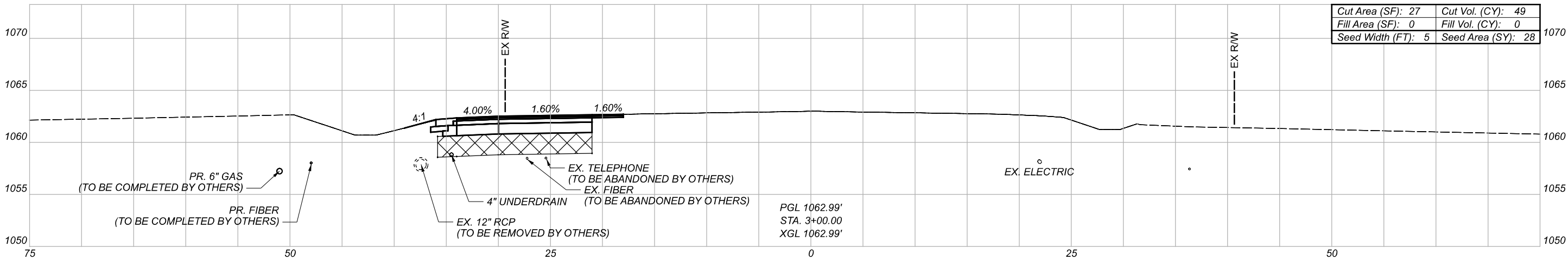
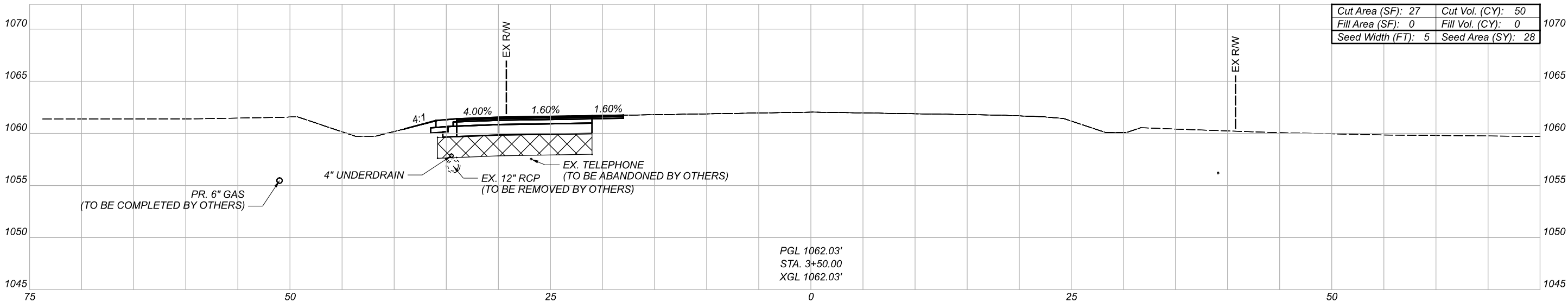
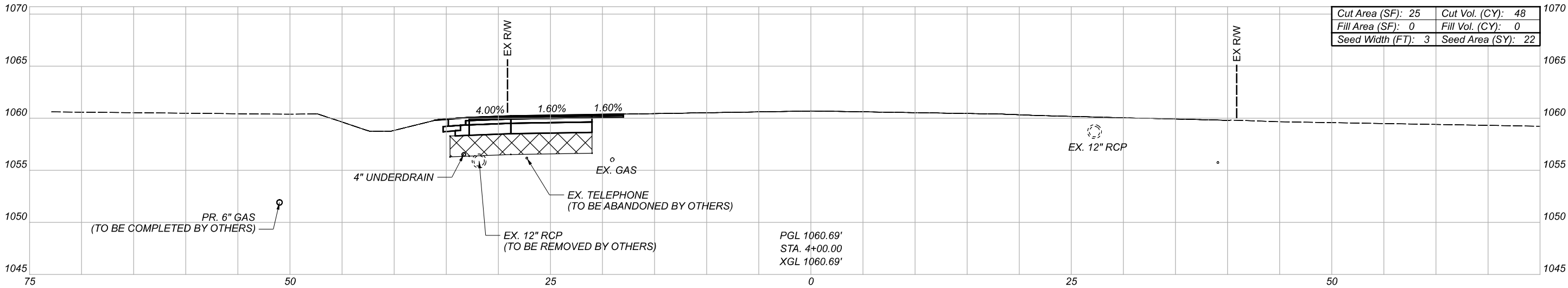
SJS 10/09/20

PROJECT ID

110876

Sheet Totals		
Seeding	Cut	Fill
67	141	0

SHEET	TOTAL
P.39	65



Sheet Totals			SHEET	TOTAL
Seeding	Cut	Fill		
78	147	0	P.40	65

DESIGN AGENCY

Mead & Hunt

CLIENT

DESIGNER

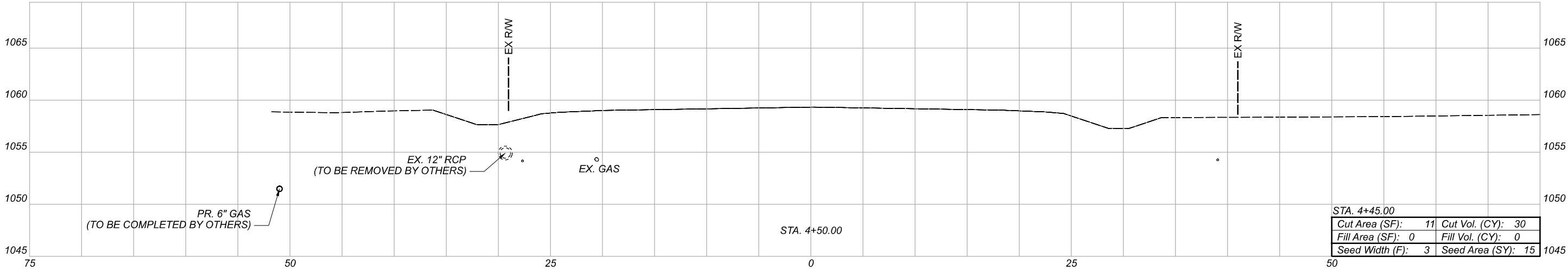
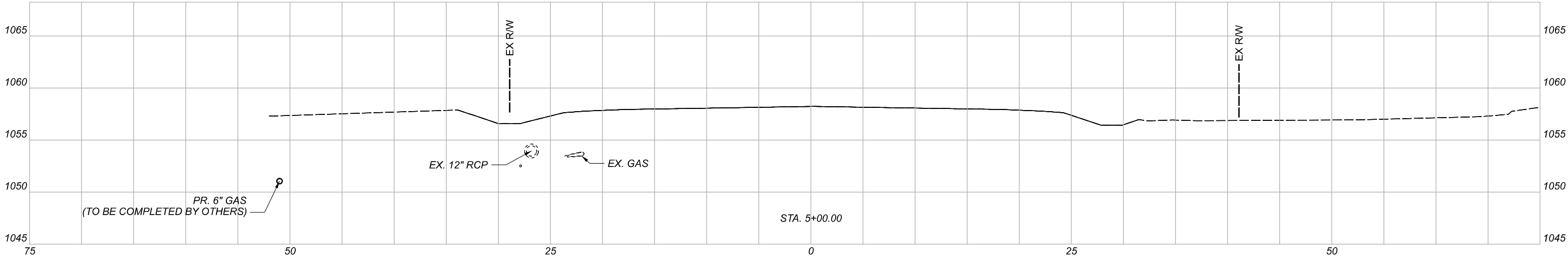
CJL

REVIEWER

SJS 10/09/20

PROJECT ID

110876



STA. 4+45.00			
Cut Area (SF):	11	Cut Vol. (CY):	30
Fill Area (SF):	0	Fill Vol. (CY):	0
Seed Width (F):	3	Seed Area (SY):	15

Sheet Totals			
Seeding	Cut	Fill	TOTAL
15	30	0	

DESIGN AGENCY
Mead & Hunt
CLIENT

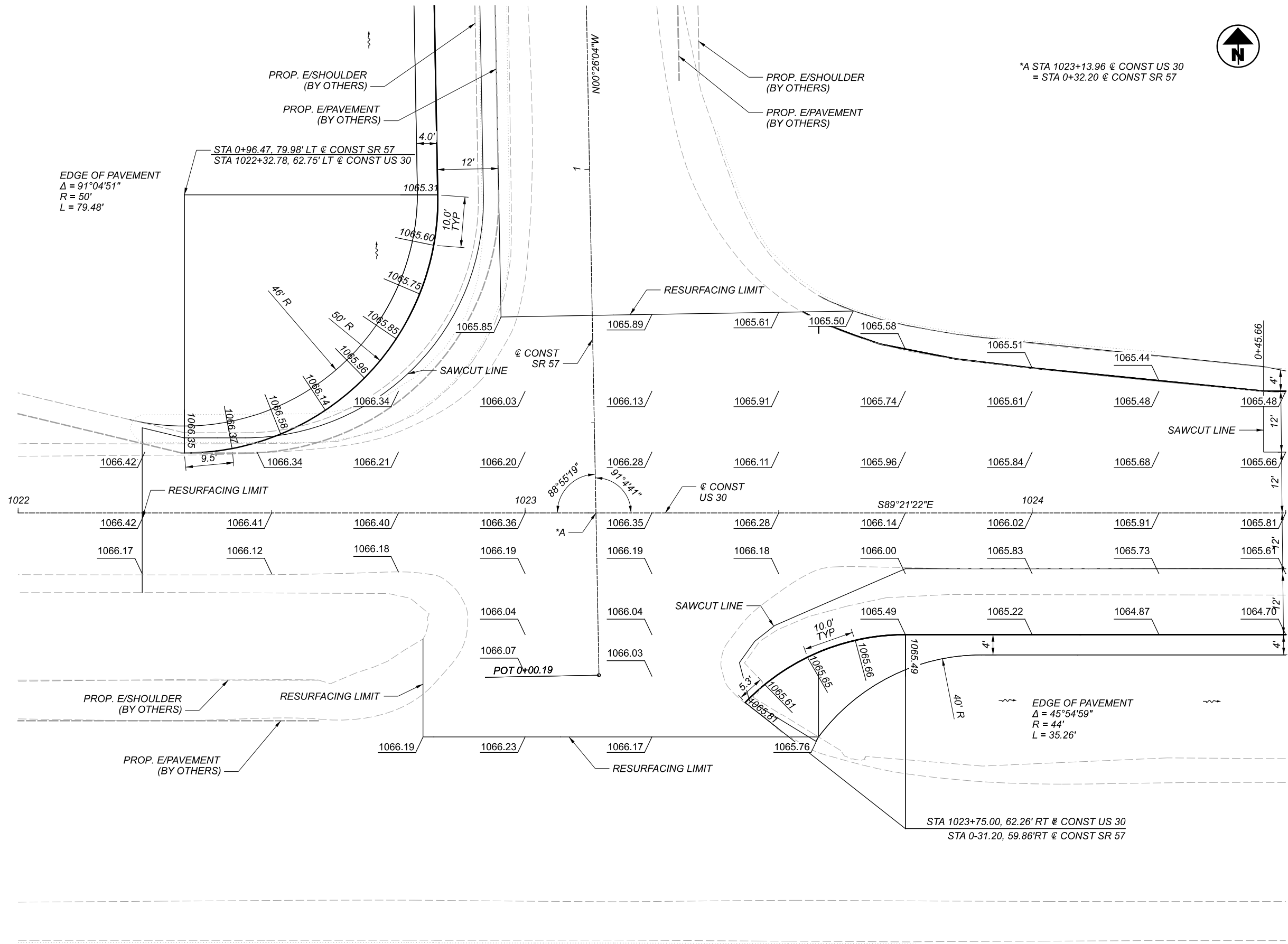
DESIGNER
C.J.L.

REVIEWER
SJS 10/09/20

PROJECT ID
110876

SHEET
P.41

TOTAL
65



ELEVATIONS SHOWN AT STAGE 2

HORIZONTAL
SCALE IN FEET
0 5 10 20INTERSECTION DETAIL
US-30 AND SR-57

DESIGN AGENCY

Mead
& Hunt

CLIENT



DESIGNER

C.J.L.

REVIEWER

SJS 10/09/20

PROJECT ID

110876

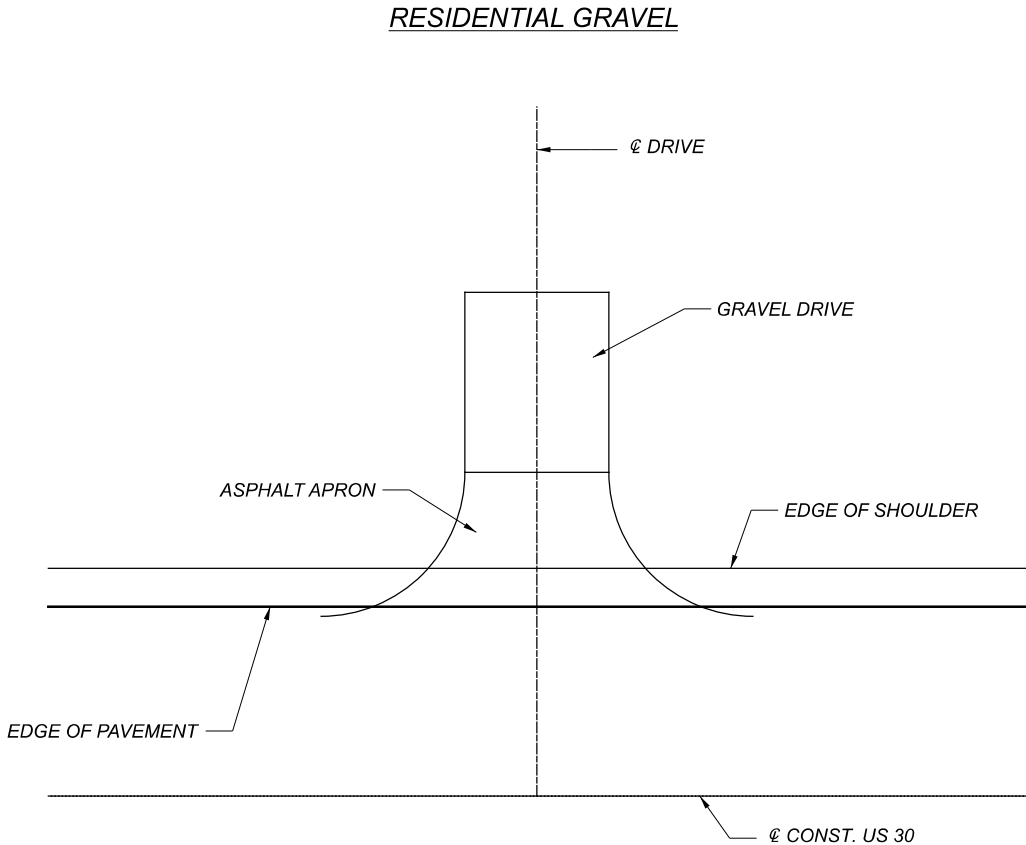
SHEET

P.42

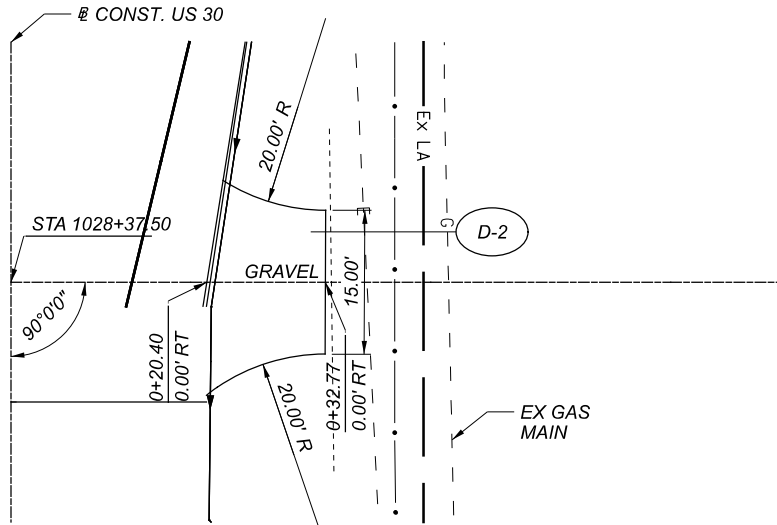
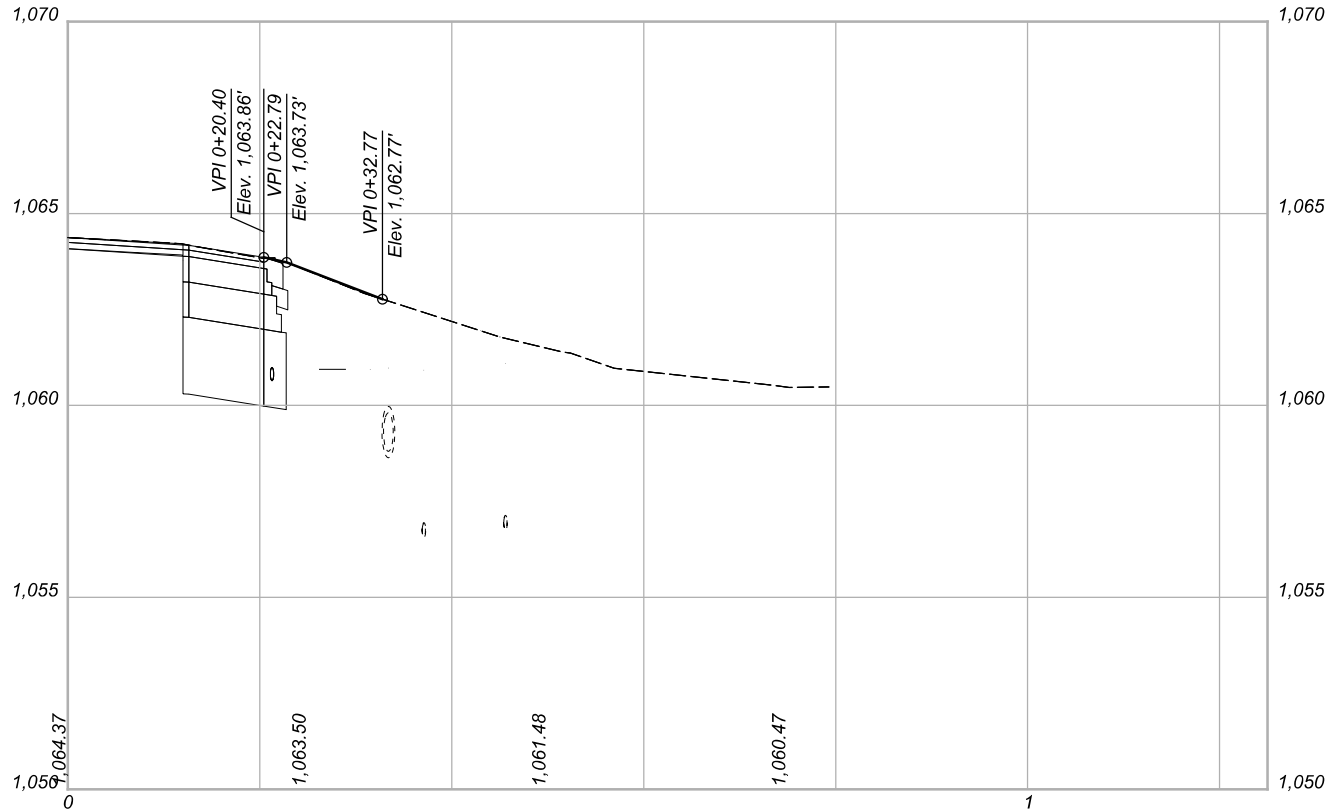
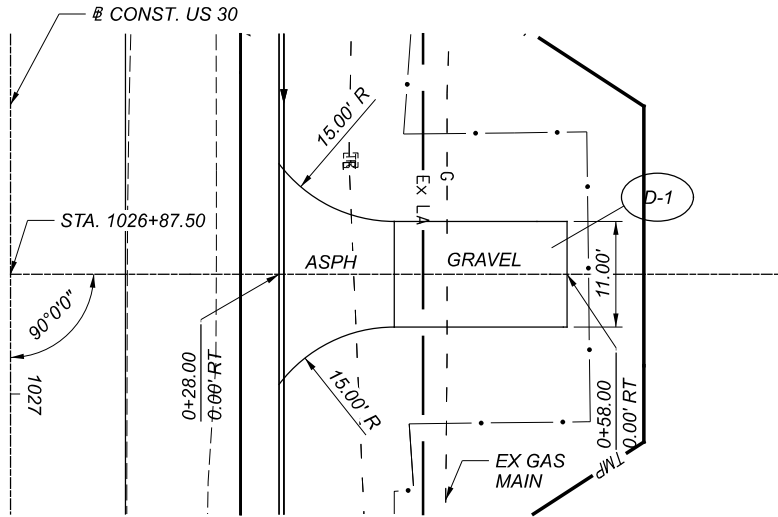
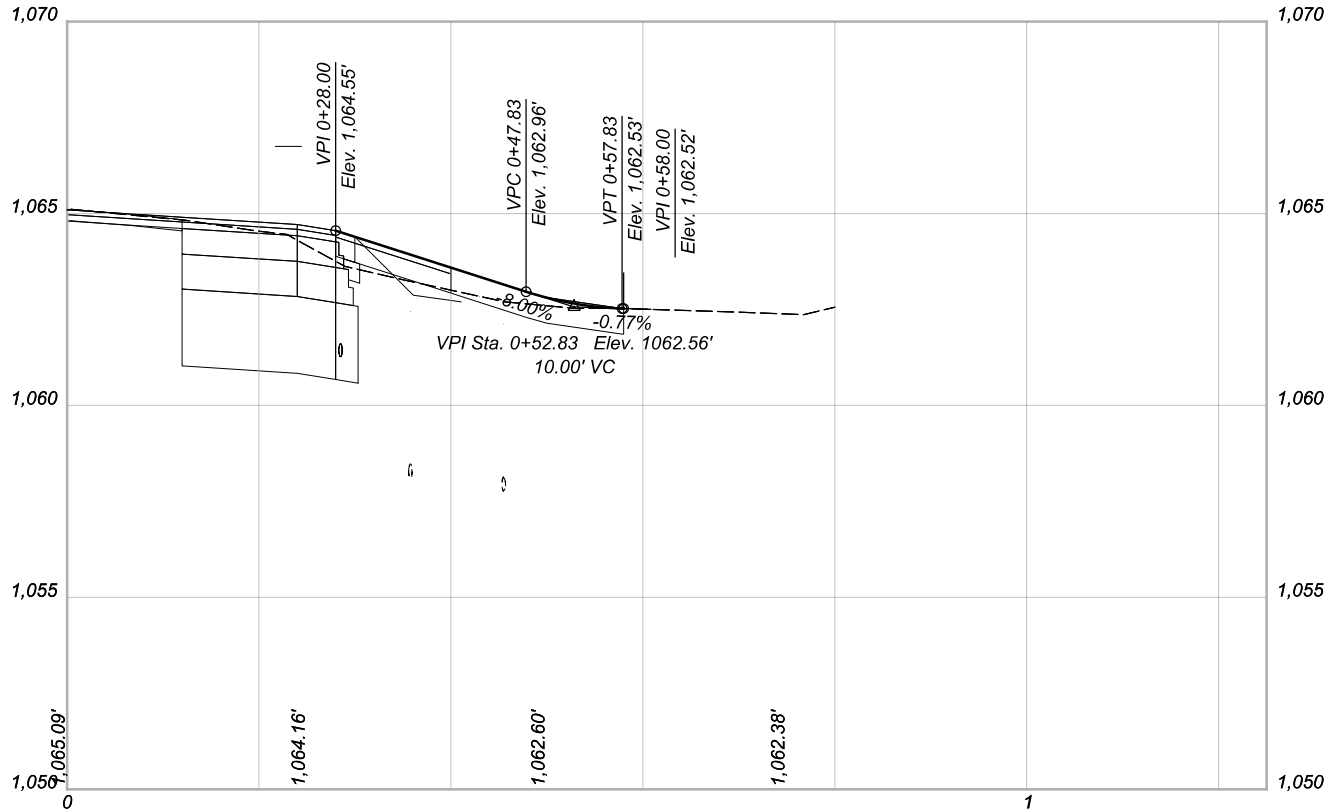
TOTAL

65

REFERENCE	SHEET NO	STATION RANGE	SIDE	TYPE	DISTANCE (D)	APRON AREA	DRIVE AREA		202	204	254	304	304	407	441
					FT	SQ FT	SQ FT		PAVEMENT REMOVED SY	SUBGRADE COMPACTION SY	PAVEMENT PLANING, ASPHALT CONCRETE SY	AGGREGATE BASE CY	AGGREGATE BASE CY	TACK COAT GAL	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22 CY
D-1	44	1026+87.50	LT	RES GRAV		175.36	198.00		19.48	41.48		3.25	4.89		1.08
D-2	44	1028+37.50	LT	RES MILL FILL		205.62					22.85			1.14	1.27
SUBTOTALS									19.48	41.48	22.85	3.25	4.89	1.14	2.36
TOTALS CARRIED TO GENERAL SUMMARY									20	42	23	4	5	2	3



- RESIDENTIAL DRIVES - ASPHALT APRON*
- ITEM 441 - 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
ITEM 304 - 6" AGGREGATE BASE
ITEM 204 - SUBGRADE COMPACTION
- RESIDENTIAL DRIVES - GRAVEL*
- ITEM 204 - SUBGRADE COMPACTION
- RESIDENTIAL DRIVES - MILL AND FILL*
- ITEM 441 - 2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22
ITEM 304 - 6" AGGREGATE BASE
ITEM 204 - SUBGRADE COMPACTION



DRIVE DETAIL
STA 1026+87.50 LT AND STA 1028+37.50 LT

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

CJL

REVIEWER

SJS 10/09/20

PROJECT ID

110876

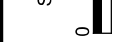
SHEET

P.44

TOTAL

65

HORIZONTAL
SCALE IN FEET



SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (INCHES)	630	630	630	630	630									625	625	625	625		
							GROUND MOUNTED SUPPORT, NO. 3 POST, AS PER PLAN	SIGN POST REFLECTOR	SIGN, FLAT SHEET	SIGN, FLAT SHEET, AS PER PLAN	REMOVAL OF GROUND MOUNTED SIGN AND STORAGE		REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL											CONDUIT CLEANED AND CABLES REMOVED	CONDUIT, MISC.; CABLES REMOVED AND CONDUIT ABANDONED
							FT	EACH	SF	SF	EACH		EACH							FT	FT	EACH	EACH		
48	R1	US 30									1		2												
48	R2	US 30									2		2												
48	R3	US 30									1		2												
49	R4	US 30									1		1												
49	R5	US 30									2		2												
49	R6	US 30									1		2												
49	R7	US 30									2		2												
49	R13	US30									1		2												
47		PB-1EX TO PB-4EX																	400				4		
47		PB-4EX TO PB-6EX																		154					
47	R8																				1				
47	R9																				1				
48	R10																			86	1				
48	R11																			35	1				
48	R12																			132	1				
48	R14																			21	1				
48		PB-1E TO PB-3EX																	250				3		
48		PB-11EX TO PB-13EX																							
49		PB-13EX TO PB-17EX																	150				2		
50		PB-17EX TO PB-19EX																	500				4		
																			207				2		
48	S1	US 30	1023+70	RT	R4-7B-36	36X48	29.0		12.0																
48	S2	US 30	1023+70	RT	R5-1-36	36X36	29.0	2	9.0																
48		US 30		RT	R6-1R-45	45X18			5.6																
48	S3	US 30	1023+90	RT	R20-H2-36	36X48	29.0		12.0																
49	S4	US 30	1027+90	LT	R5-1a-36	36x24	29.0		6.0																
49					D9-2-30	30x30			6.3																
					M6-1-21	21X15			2.2																
49					R3-H8da-54	54x30			11.3																
49	S5	US 30	1027+90	RT	R5-1a-36	36x24	29.0	2	6.0																
49					D9-2-30	30x30			6.3																
					M6-1-21	21X15			2.2																
49					R3-H8da-54	54x30			11.3																
49	S6	US 30	1026+85	RT	R6--1R-54	54x18	24.0		6.8																
52	S7	SR 57	3+90	LT	R3-H8bj-36	36x30	14.0		7.5																
58	S8	US 30	SPAN WIRE		W3-H2b-30	30x30				6.3															
58	S9	US 31	SPAN WIRE		W3-H2b-30	30x30				6.3															
58	S10	US 32	SPAN WIRE		W3-H2b-30	30x30				6.3															
58	S11	US 33	SPAN WIRE		W3-H2b-30	30x30				6.3															
TOTALS CARRIED TO GENERAL SUMMARY							183.0	4	104.6	25.3	11		15				0		0	0		1507	428	6	15

TRAFFIC CONTROL SUBSUMMARY	
DESIGN AGENCY Mead & Hunt CLIENT 	
DESIGNER ANM REVIEWER SJS 10/09/20	
PROJECT ID 110876	
SHEET P.46	TOTAL 65

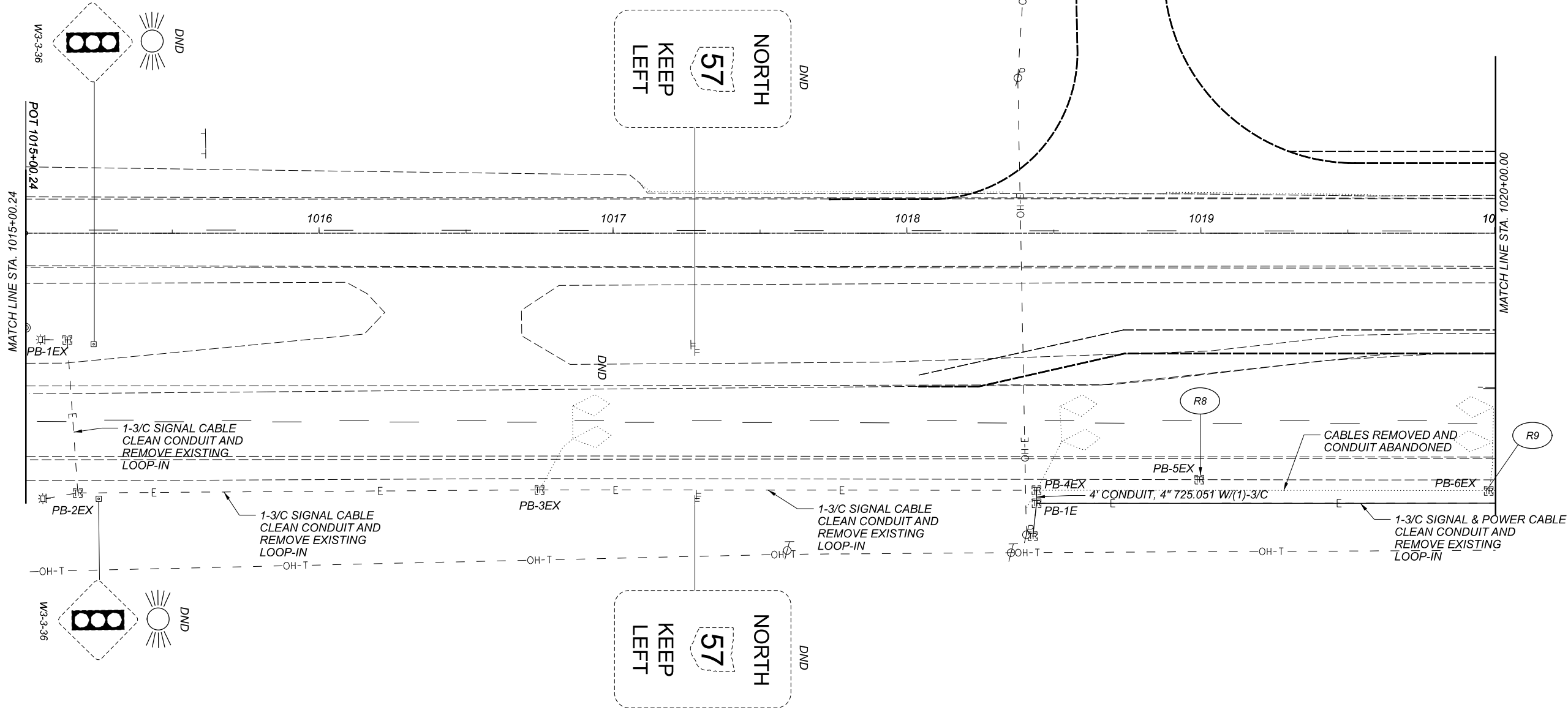
LEGEND					
CL	CENTER LINE, DOUBLE SOLID	R	REMOVALS	RS	RUMBLE STRIP
EL	EDGE LINE, 6"	S	SIGN, PROPOSED	TY	TRANSVERSE LINE, 24" (YELLOW)
CH	CHANNELIZING LINE, 12"	A	LANE ARROW	CW	CHEVRON LINE, 24" (WHITE)
LL	LANE LINE, 6"	SL	STOP LINE		
PROPOSED		EXISTING			
├		├	ONE POST SIGN, GROUND MOUNTED		
├├		├├	TWO POST SIGN, GROUND MOUNTED		
├├├			TWO POST SIGN BACK TO BACK, GROUND MOUNTED		
			DND	DO NOT DISTURB	

NOTES: USE ITEM 644 PAVEMENT MARKINGS FOR ALL ASPHALT CONCRETE PAVEMENT.

SEE TRAFFIC SIGNAL PLANS FOR EXACT LOCATION OF THE SIGNS ATTACHED TO THE MESSENGER WIRE.

FOR PAVEMENT MARKING AND SIGNING SUBSUMMARIES, SEE SHEETS 45 & 46.

FOR TRAFFIC CONTROL NOTES, SEE SHEET 48.



TRAFFIC CONTROL PLAN - US 30
STA. 1015+00.00 TO STA. 1020+00.00



DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

AMG

REVIEWER

DLW 10/09/20

PROJECT ID

110876

SHEET

P.47

TOTAL

65

625, PULL BOX CLEANED

THIS ITEM OF WORK SHALL CONSIST OF CLEANING AN EXISTING PULL BOX BY REMOVING ANY EXISTING CABLES NOT BEING RECONNECTED, AND DEBRIS SO THAT NEW CABLES CAN BE INSTALLED. ANY UNUSED OPENINGS SHALL BE CLOSED. DISTURBED AREAS NEAR THE PULL BOX SHALL BE CLEARED OF WEEDS OR DEBRIS AND SHALL BE FULLY RESTORED. MATERIAL REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROPERLY DISPOSED OF OFF OF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER C&MS ITEM 625, "PULL BOX CLEANED" FOR EACH PULL BOX CLEANED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 CONDUIT MISC.; CABLES REMOVED AND CONDUIT ABANDONED

THE CONTRACTOR SHALL REMOVE THE EXISTING CABLES WITHIN THE CONDUIT AS SHOWN IN THE PLANS. THE EXISTING CONDUIT SHALL BE ABANDONED IN PLACE.

PAYMENT FOR CABLE REMOVALS WILL BE MADE AT THE UNIT BID PRICE PER LINEAR FOOT FOR ITEM 625 CONDUIT MISC.; CABLES REMOVED AND CONDUIT ABANDONED.

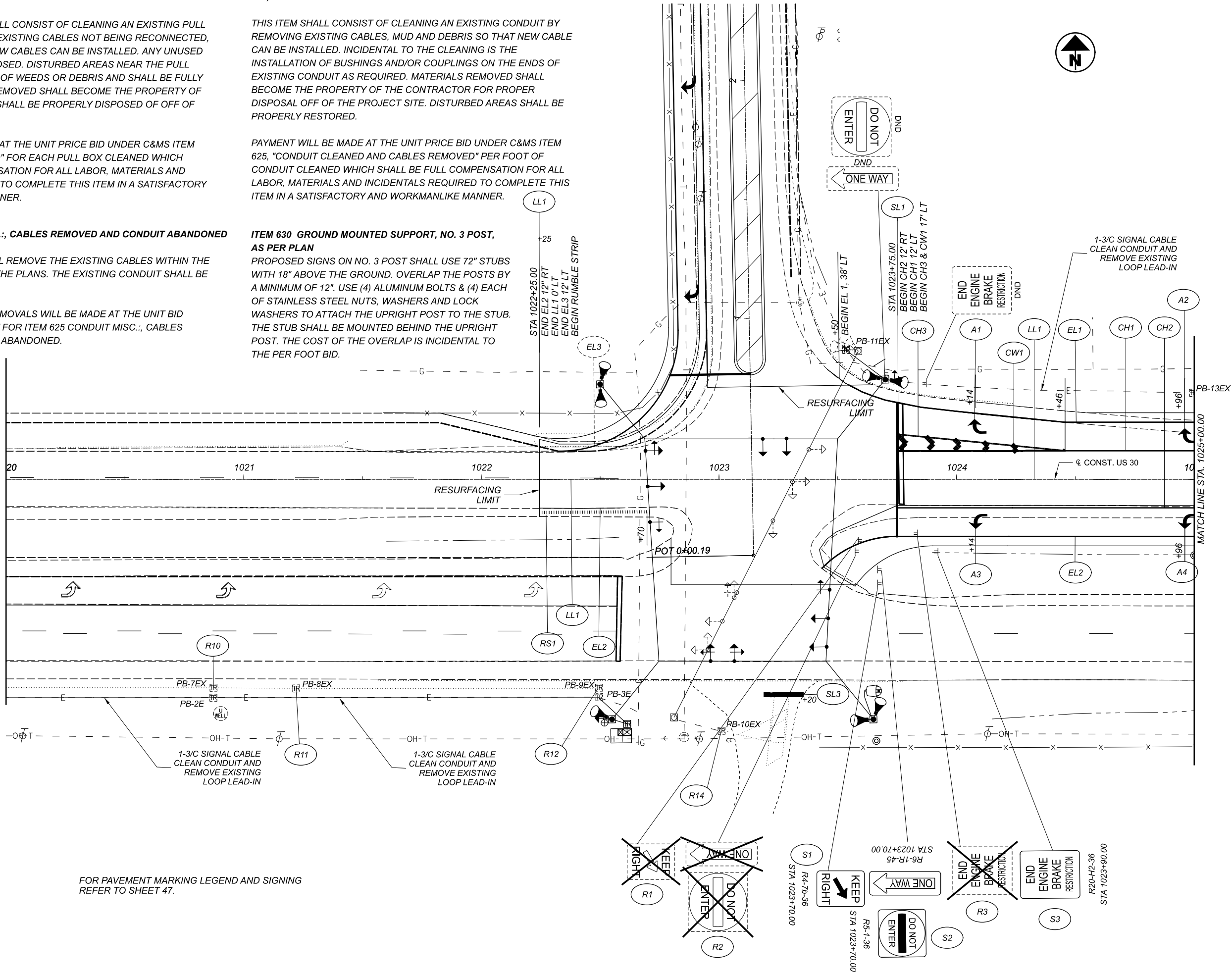
625, CONDUIT CLEANED AND CABLES REMOVED

THIS ITEM SHALL CONSIST OF CLEANING AN EXISTING CONDUIT BY REMOVING EXISTING CABLES, MUD AND DEBRIS SO THAT NEW CABLES CAN BE INSTALLED. INCIDENTAL TO THE CLEANING IS THE INSTALLATION OF BUSHINGS AND/OR COUPLINGS ON THE ENDS OF EXISTING CONDUIT AS REQUIRED. MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR PROPER DISPOSAL OFF OF THE PROJECT SITE. DISTURBED AREAS SHALL BE PROPERLY RESTORED.

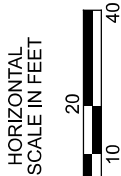
PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER C&MS ITEM 625, "CONDUIT CLEANED AND CABLES REMOVED" PER FOOT OF CONDUIT CLEANED WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

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

PROPOSED SIGNS ON NO. 3 POST SHALL USE 72" STUBS WITH 18" ABOVE THE GROUND. OVERLAP THE POSTS BY A MINIMUM OF 12". USE (4) ALUMINUM BOLTS & (4) EACH OF STAINLESS STEEL NUTS, WASHERS AND LOCK WASHERS TO ATTACH THE UPRIGHT POST TO THE STUB. THE STUB SHALL BE MOUNTED BEHIND THE UPRIGHT POST. THE COST OF THE OVERLAP IS INCIDENTAL TO THE PER FOOT BID.



FOR PAVEMENT MARKING LEGEND AND SIGNING
REFER TO SHEET 47.



TRAFFIC CONTROL PLAN - US 30
STA. 1020+00.24 TO STA. 1025+00.00

DESIGN AGENCY

Mead & Hunt

CLIENT



DESIGNER

AMG

REVIEWER

DLW 10/09/20

PROJECT ID

110876

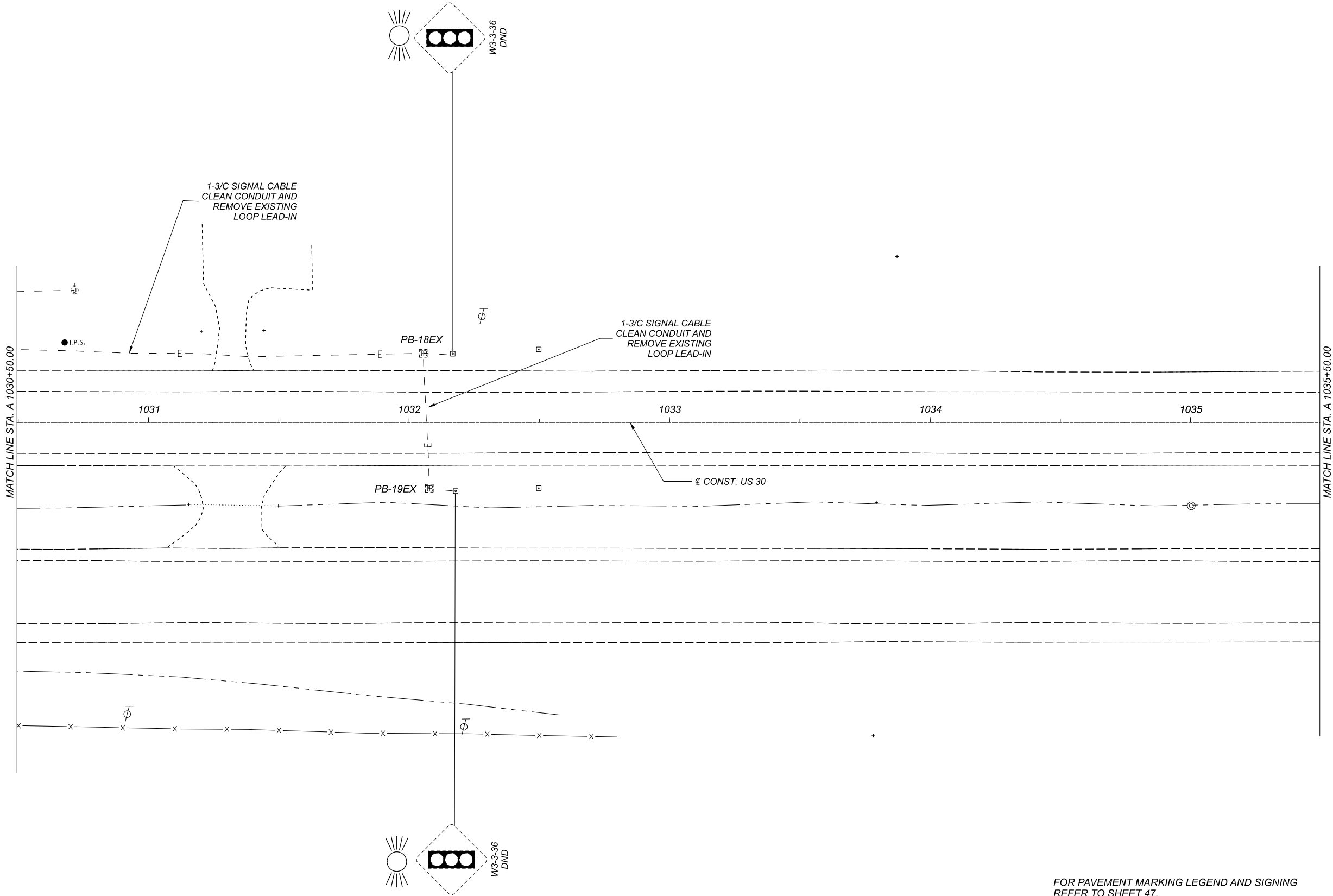
SHEET

P.48

TOTAL

65



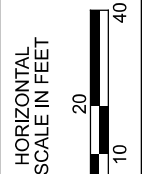


FOR PAVEMENT MARKING LEGEND AND SIGNING
REFER TO SHEET 47.

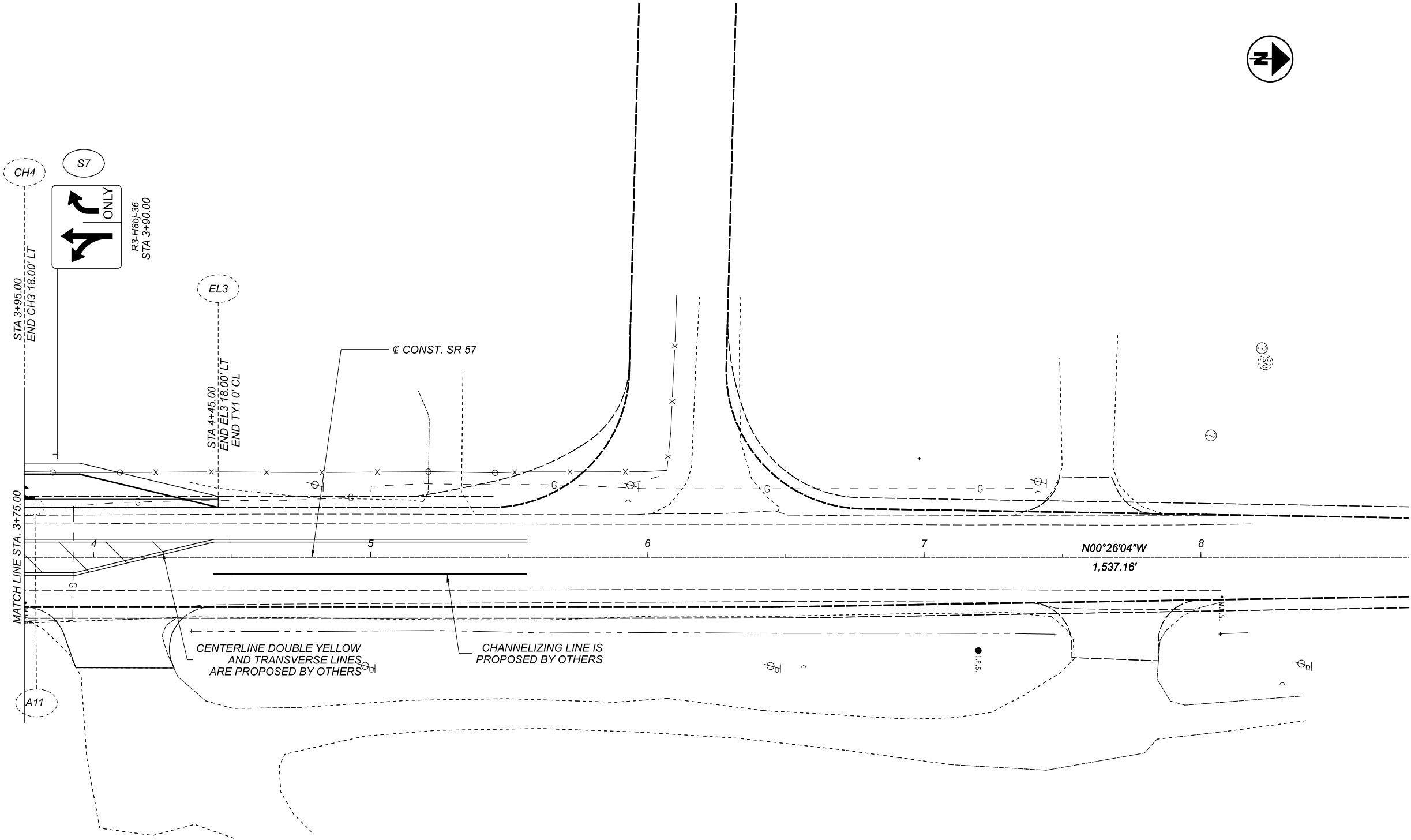


TRAFFIC CONTROL PLAN - US 30
STA. 1030+50 TO STA. 1035+50

DESIGN AGENCY	
Mead & Hunt	
CLIENT	
DESIGNER	
AMG	
REVIEWER	
DLW 10/09/20	
PROJECT ID	
110876	
SHEET	TOTAL
P.50	65







FOR PAVEMENT MARKING LEGEND AND SIGNING
REFER TO SHEET 47.

TRAFFIC CONTROL PLAN - SR 57
STA. 3+75.00 TO STA. 8+65.00

DESIGN AGENCY

**Mead
& Hunt**

CLIENT



DESIGNER

AMG

REVIEWER

DLW 10/09/20

PROJECT ID

110876

SHEET

P.52

TOTAL

65

HORIZONTAL
SCALE IN FEET

0 10 20 40

POWER SUPPLY FOR TRAFFIC SIGNALS

ELECTRIC POWER SHALL BE OBTAINED FROM AMERICAN ELECTRIC POWER (AEP) EXISTING METER LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 / 240 VOLTS.

NEW DISCONNECT SWITCHES SHALL BE LOCATED AT THE METER AND ON THE SIGNAL CABINET.

A NEW POWER CABLE WILL RUN FROM THE NEW SIGNAL CABINET THROUGH THE EXISTING CONDUIT AND PULL BOXES TO THE EXISTING METER.

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLES, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH C&MS 632.26 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE STORED ON THE PROJECT FOR SALVAGE BY ODOT DISTRICT 3 IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

ITEMS TO BE STORED:
SIGNAL CABINET AND CONTROLLER, DISCONNECT SWITCHES, UPS, CONFLICT MONITOR, RADAR DETECTORS COMMUNICATIONS, MODEM & ANTENNA

REMOVED ITEMS SHALL BE DELIVERED TO THE NEAREST ODOT FACILITY WHOSE ADDRESS IS LISTED BELOW:

ODOT DISTRICT 3,
ATTN: CHARLIE LAUGHREY
PHONE: 419-207-7162
906 CLARK AVENUE
ASHLAND, OHIO 44805

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

THE EXISTING PULL BOXES AND CABLES SHALL BE REMOVED FOR THE EXISTING SIGNAL AHEAD SIGNS. THE EXISTING CONDUIT SHALL REMAIN IN PLACE. THE REMOVAL OF THE PULL BOXES AND CABLE SHALL BE INCLUDED IN PAYMENT WITH THE REMOVAL OF THE TRAFFIC SIGNAL INSTALLATION.

WORK INSPECTION

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

LOCATE AND MAINTAIN LAYOUT OF ELECTRICAL CIRCUITS

WHEN THE PROJECT BEGINS AND THE CONTRACTOR HAS TAKEN OVER THE MAINTENANCE OF THE EXISTING SYSTEM, THEY SHALL PROVIDE ALL REQUIRED LAYOUTS AND LOCATIONS OF THE EXISTING AND PROPOSED ELECTRICAL CIRCUITS WITHIN THE PROJECT LIMITS.

632 VEHICULAR SIGNAL HEAD, (LED), (BY TYPE), AS PER PLAN

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

1. THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04. THE LAMPS SHALL BE LIFE LONG MODULES WITH A MINIMUM 15-YEAR WARRANTY.
2. VEHICULAR SIGNAL HEADS SHALL BE BLACK POLYCARBONATE WITH CUTAWAY VISORS.

PAYMENT FOR ITEM 632 VEHICULAR SIGNAL HEAD, LED, (BY TYPE), AS PER PLAN SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

ITEM 625 ARC FLASH CALCULATIONS AND LABEL, POWER SUPPLY & TRAFFIC SIGNAL CONTROLLER CABINET

THE SPECIFICATIONS AND REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 825 SHALL APPLY TO THE POWER SUPPLY AND THE TRAFFIC SIGNAL CONTROLLER CABINET.

ITEM 632 - SIGNAL SUPPORT FOUNDATION

PRIOR TO ORDERING THE SIGNAL SUPPORTS, THE CONTRACTOR SHALL CONTACT Ohio811 TO HAVE ALL THE UTILITIES LOCATED IN THE FIELD THEN MEET WITH THE PROJECT ENGINEER TO LOCATE THE PROPOSED SUPPORT LOCATIONS TO INSURE THERE ARE NO CONFLICTS WITH UTILITIES. IF THERE ARE ISSUES, THE PROJECT ENGINEER SHALL PROVIDE GUIDANCE AS TO THE RELOCATION OF THE SUPPORT POLES.

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

ITEM 630 - SIGN, FLAT SHEET, AS PER PLAN

CONCURRENT WITH THE SIGNAL ACTIVATION, THE CONTRACTOR SHALL INSTALL FOUR (4) W23-H2B-30 SIGNS AND SIGN HANGER ASSEMBLIES ON THE PROPOSED SPAN WIRE (ONE PER APPROACH). THE SIGNS SHALL BE DISPLAYED FOR A MINIMUM OF FOURTEEN DAYS TO A MAXIMUM OF THIRTY DAYS.

UPON APPROVAL BY THE CONSTRUCTION ENGINEER, THE CONTRACTOR SHALL REMOVE THE SIGNS AND SIGN HANGER ASSEMBLIES FROM THE SPAN WIRE.

IF THE CONTRACTOR INSTALLS THE SIGNS IN ADVANCE OF THE SIGNAL ACTIVATION, THEN THE SIGNS SHALL BE COVERED AT NO ADDITIONAL COST AS OUTLINED IN CMS 630.10.

THE MEASUREMENT OF THIS ITEM SHALL BE BY THE NUMBER OF SQUARE FEET OF THE SIGN. PAYMENT FOR ITEM 630, SIGN, FLAT SHEET, AS PER PLAN SHALL INCLUDE THE SIGNS, SIGN HANGER ASSEMBLY, INSTALLATION AND SUBSEQUENT REMOVAL.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 90 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY.

EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLER, CABINET, UNINTERRUPTIBLE POWER SUPPLY, VEHICLE DETECTION EQUIPMENT, LED LAMP UNITS, NETWORK AND COMMUNICATION/INTERCONNECT EQUIPMENT.

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

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

STRAIN POLE AND PEDESTAL FOUNDATION ELEVATIONS

ELEVATIONS SHOWN IN THE PLANS FOR STRAIN POLE AND PEDESTAL FOUNDATIONS ARE FOR COMPUTATIONAL PURPOSES ONLY. THE ACTUAL ELEVATION OF THE FOUNDATION SHALL BE IN ACCORDANCE WITH TRAFFIC SCD TC-21.21 PROVIDED THE EXISTING SLOPE IS LESS THAN 6:1.

AT LOCATIONS WHERE THE EXISTING SLOPE IS 6:1 OR GREATER, THE BURIED DEPTH OF FOUNDATION, AS SHOWN IN SCD TC-21.21 SHALL APPLY TO THE LOW SIDE OF THE SLOPE. THE TOP OF THE FOUNDATION SHALL BE SET 2 INCHES ABOVE THE EXISTING SURFACE ON THE HIGH SIDE OF THE SLOPE. THE ADDITIONAL DEPTH OF FOUNDATION NECESSARY TO MEET THESE REQUIREMENTS SHALL BE ADDED TO THE FORMED TOP.

ITEM 633 - CONTROLLER ITEM MISC.; REMOVAL AND INSTALLATION OF SIGNAL FLASHER ASSEMBLY CONTROLLER

THE CONTRACTOR SHALL REMOVE THE EXISTING SIGNAL FLASHER ASSEMBLY CONTROLLER AND INSTALL INTO THE NEW SIGNAL CABINET. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID OF ITEM 633, CONTROLLER ITEM MISC.; REMOVAL AND INSTALLATION OF SIGNAL FLASHER ASSEMBLY CONTROLLER.

809 ATC V6.24 CONTROLLER, AS PER PLAN

THE CONTROLLER UNIT SHALL BE FURNISHED AND INSTALLED PER SS 809 AND BE LISTED ON THE TRAFFIC AUTHORIZED PRODUCTS (TAP) LIST.

THE CONTROLLER SHALL BE AN ECONOLITE COBALT AND COMPATIBLE WITH THE CABINET TYPE BEING INSTALLED.

809 ADVANCE RADAR DETECTION, AS PER PLAN

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

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

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

UNDERDRAINS FOR PULLBOXES

REFERENCE TRAFFIC SCD HL-30.11 FOR DETAILS ABOUT DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED 20 FEET. THE FOLLOWING ESTIMATED QUANTITY IS CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 611 4" CONDUIT, TYPE E 10 FT.

GROUNDING AND BONDING

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

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
- A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.

B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.

C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.

D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.

E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.

F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.
2. CONDUITS.

A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.

B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.

C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
3. WIRE FOR GROUNDING AND BONDING.

A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:

I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.

GROUNDING AND BONDING (CONTINUED)

- II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
- B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.
4. GROUND ROD.

A. A 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.
5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:
- | COND. NO. | COLOR | VEHICLE
SIGNAL | PEDESTRIAN
SIGNAL |
|-----------|--------------------|-------------------|----------------------|
| 1 | BLACK | GREEN BALL | #1 WALK |
| 2 | WHITE | AC NEUTRAL | AC NEUTRAL |
| 3 | RED | RED BALL | #1 DW/FDW |
| 4 | GREEN | EQUIPMENT GROUND | EQUIPMENT GROUND |
| 5 | ORANGE | YELLOW BALL | #2 DW/FDW |
| 6 | BLUE | GREEN ARROW | #2 WALK |
| 7 | WHITE/BLACK STRIPE | YELLOW ARROW | NOT USED |
6. POWER SERVICE AND DISCONNECT SWITCH.

A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.

B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.

I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.

GROUNDING AND BONDING (CONTINUED)

- II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

7. PAYMENT - ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT.
- ITEM 633 COMMUNICATIONS, AS PER PLAN
- FURNISH A CELLULAR MODEM, ONE 3-ANTENNA ASSEMBLY (PART#6001136), AND A 10' ETHERNET CABLE FOR REMOTE WIRELESS CELLULAR COMMUNICATION.
- FOR NETWORK CONSISTENCY CELLULAR MODEMS SHALL BE THE SIERRA WIRELESS AND 3-IN 1 SHARKFIN ANTENNA:

MODEM, AIRLINK MP70 ETHERNET WITH AC TO DC POWER CABLE- MODEL 1102709KIT
- THIS ITEM SHALL INCLUDE THE FURNISHING A MOUNTING BRACKET FOR THE ANTENNA WITH ALL NECESSARY HARDWARE INCLUDING BUT NOT LIMITED TO SPRING NUTS, WASHERS, AND BOLTS THAT INSTALLS TO THE MOUNTING CHANNEL ON THE SIDE OF THE SIGNAL CABINET.
- THE CELLULAR MODEM EQUIPMENT SHALL BE DELIVERED TO ODOT DISTRICT 3 TRAFFIC FOR PROGRAMMING AND INSTALLATION.

ODOT DISTRICT 3 TRAFFIC
ATTN: STEVE FRANKS
906 CLARK AVENUE
ASHLAND, OHIO 44805
- THE CONTRACTOR SHALL PROVIDE THE MODEM SERIAL NUMBERS AND NECESSARY ESN NUMBERS FOR ODOT TO ESTABLISH WIRELESS SERVICE.
- THE DEPARTMENT WILL MEASURE "COMMUNICATIONS, AS PER PLAN" BY THE NUMBER OF COMPLETE UNITS FURNISHED, RECEIVED, AND ACCEPTED BY ODOT DISTRICT 3 TRAFFIC.
- NOTE THAT SEPARATE COMMUNICATIONS ARE REQUIRED FOR THE SIGNAL AND CCTV.
- 633 CABINET, TYPE TS-2, AS PER PLAN
- THE CABINET SHALL BE FURNISHED AND INSTALLED ACCORDING TO CMS 633 AND 733 AND BE LISTED ON THE TRAFFIC AUTHORIZED PRODUCTS LIST (TAP).
- THE GROUND-MOUNTED CABINET SHALL BE A NEMA TS-2, TYPE 1, CABINET SIZE 7 WITH 16 LOAD SWITCH BAYS, LED UNDER-SHELF LIGHTING, POWER HARNESES FOR BOTH TS2 TYPE 1 AND TYPE 2 CONTROLLERS AND SHALL HAVE A MINIMUM OF THREE SHELVES.
- EACH CABINET SHALL COME EQUIPPED WITH TWO 16-CHANNEL CABINET DETECTOR RACKS (CDR) INCLUDING BUS INTERFACE UNITS (BIU). THE LOOP DETECTOR TERMINATION PANEL FOR THE SECOND DETECTOR RACK SHALL BE OMITTED. A RACK FOR THE CAMERA EQUIPMENT SHALL BE INCLUDED.
- THE CABINET SHALL BE FURNISHED WITH AN EDI MMU MODEL MMU2-16LE.
- PAYMENT FOR ITEM 633 CABINET, TYPE TS-2, AS PER PLAN WILL BE AT THE CONTRACT BID PRICE PER EACH COMPLETE AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

809 STOP-LINE RADAR DETECTION, AS PER PLAN

- THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A WAVETRONIX SMARTSENSOR MATRIX DETECTION UNIT. THE DETECTION UNIT SHALL INCLUDE THE FOLLOWING:
1. POWER SHALL BE PROVIDED FROM THE TRAFFIC CABINET.
2. ALL REQUIRED INPUTS CARDS SHALL BE INCLUDED IN THE TRAFFIC CABINET AND SHALL BE COMPATIBLE WITH CALTRANS, NEMA TS1 AND NEMA TS2 DETECTOR RACKS. THE CARDS SHALL PROVIDE TRUE PRESENCE DETECTOR CALLS OR CONTACT CLOSURE TO THE TRAFFIC CONTROLLER.
3. THE UNIT SHALL BE MOUNTED DIRECTLY TO A POLE OR MAST ARM, AS RECOMMENDED BY THE MANUFACTURER. CABLE(S) SHALL BE PROVIDED AS REQUIRED AND RECOMMENDED BY THE MANUFACTURER.
4. SURGE PROTECTION DEVICES, AS RECOMMENDED BY THE MANUFACTURER SHALL BE INCLUDED BOTH AT THE POLE WHERE THE UNIT IS LOCATED TO PROTECT THE UNIT AND IN THE TRAFFIC CABINET TO PROTECT THE CABINET ELECTRONICS.
5. THE MANUFACTURER'S REPRESENTATIVE SHALL BE ON SITE DURING INSTALLATION AND TESTING AND SHALL PROVIDE ONSITE TRAINING ON THE SETUP, OPERATION AND MAINTENANCE OF THE UNIT.
6. A SERIAL TO ETHERNET COMMUNICATIONS MODULE AND ETHERNET CABLE (MINIMUM 7 FEET).
7. THE POWER SUPPLY AND COMMUNICATION MODULES SHALL BE SECURED TO A SINGLE PANEL THAT CAN BE MOUNTED INTERIOR TO THE TRAFFIC CABINET. THE PANEL SHALL INCLUDE MODULAR-PLUG STYLE CONNECTIONS FOR UP TO FOUR (4) SENSOR CABLES. ADDITIONAL SENSORS MAY BE HARD-WIRED TO THE COMMUNICATION MODULES, AS NECESSARY.
8. THE CONTRACTOR SHALL INSTALL THE RADAR DETECTION PRIOR TO MILLING/DISABLING EXISTING LOOPS.
9. THE INSTALLATION SHALL INCLUDE ALL CONTROLLER PROGRAMMING FOR COMPLETE INSTALLATION, WHICH INCLUDES MODIFICATIONS FOR REMOVAL OF EXISTING DETECTION.
- PAYMENT FOR ITEM 809 STOP-LINE RADAR DETECTION, AS PER PLAN SHALL BE MADE AT THE CONTRACT UNIT PRICE FOR EACH UNIT, COMPLETE AND IN PLACE INCLUDING ALL REQUIRED CABINET HARDWARE, MOUNTING BRACKETS, CABLES, CONDUIT AND CONNECTIONS TESTED AND ACCEPTED.
- CCTV INSTALLATIONS
- THE CONTRACTOR SHALL FURNISH AND INSTALL THIS ITEM ACCORDING TO ODOT SUPPLEMENTAL SPECIFICATION 809, AS WELL AS ANY STANDARD CONSTRUCTION DRAWINGS NOTED ON THE PLANS.
- THE CCTV-IP CAMERA SYSTEM SHALL BE A QUAD MULTI-VIEW FIXED WITH PTZ CAMERA. THE CAMERA WILL REQUIRE (2) TWO CELL MODEMS SEPARATE FROM THE SIGNAL CELL MODEM. THE PTZ CAMERA SHALL BE MOUNTED ON THE SIGNAL STRAIN POLE AS SHOWN IN THE PLANS AND AS PER SCD ITS-12.50.

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:
- EXISTING SIGNAL INSTALLATIONS WHICH THE PLANS REQU IRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION AT US 30 AND SR 57 FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.
 - 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.

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

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

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

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

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

MAINTENANCE OF TRAFFIC SIGNAL INSTALLATION (CONTINUED)

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

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

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 8 HOURS AND SHALL NOT INCLUDE THE HOURS OF 7:00 AM 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 OFF-DUTY STATE POLICE, HIRED BY THE CONTRACTOR:

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25. THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

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

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

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

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

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

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

THE CABINET SHALL HAVE A DOOR STOP MECHANISM AND THERMOSTATICALLY CONTROLLED FAN.

THE CABINET SHALL INCLUDE A BATTERY BALANCING DEVICE THAT REGULATES THE BATTERIES AND OPTIMIZES PERFORMANCE.

AFTER FOUR (4) HOURS OF BATTERY RUNTIME, THE SYSTEM SHALL BE PROGRAMMED TO SWITCH THE INTERSECTION FROM FULL OPERATION TO CONTROLLER AUTOMATIC FLASH OPERATION THROUGH THE MONITOR. THE CONTROLLER SHALL BE PROGRAMMED SO THAT FLASH OPERATION SHALL BEGIN ONCE THE INTERSECTION RUNS MINOR STREET GREEN (TYP. PH. 4 &8), ALL-RED CLEARANCE, AND THEN FLASH OPERATION.

THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL OR THROUGH THE CONTROLLER WITH A C11 TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER.

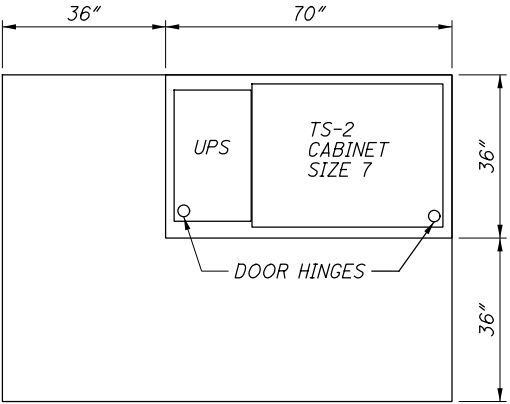
THIS ITEM SHALL INCLUDE A RED LED STATUS INDICATOR LAMP TO ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. THE LED HOUSING SHALL BE NEMA 4X, IP65 OR IP66, RATED FOR OUTDOOR USE AND BE TAMPER/ SHATTER RESISTANT. IT SHALL BE A DOMED ENCLOSURE CONTAINING A RED LENS WITH LED THAT IS VISIBLE FROM 100 FOOT MINIMUM. THE ENCLOSURE AND LED MODULE SHOULD BE PLACED ON THE SIDE OF THE UPS CABINET FACING TOWARDS THE MAINLINE ROADWAY AND SEALED FROM WATER INTRUSION. IT SHOULD BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY," WITH WIRE POLARITY INDICATED. THE RED LED SHALL ONLY ILLUMINATE TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THESE STATUS DISPLAYS WILL BE SOLID 100% DUTY CYCLE (NOT FLASHING) DISPLAYS. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC UNLESS OTHERWISE INDICATED.

633 CONTROLLER WORK PAD, AS PER PLAN
633 CABINET FOUNDATION, AS PER PLAN

THE CONTROLLER WORK PAD AND CABINET FOUNDATION WILL BE AS SHOWN IN THE DETAILS BELOW.

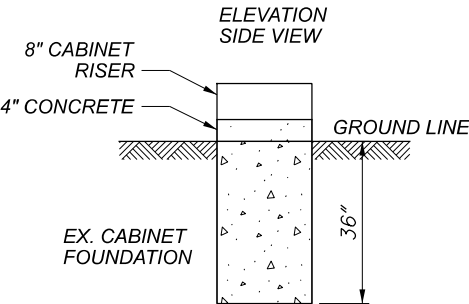
TS-2 SIZE 7 CABINET DETAIL

CABINET & WORK PAD DETAIL



PLAN VIEW

CABINET FOUNDATION DETAIL



NOTES:

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

SEPARATE BID ITEMS:

633 CONTROLLER WORK PAD, AS PER PLAN
633 CABINET FOUNDATION, AS PER PLAN
633 UNINTERRUPTIBLE POWER SUPPLY (UPS)

633 CABINET, TYPE TS-2, AS PER PLAN
809 ATC V6.24 CONTROLLER, AS PER PLAN
633 COMMUNICATIONS, AS PER PLAN



SIGNAL ACTIVATION

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

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

DETECTION MAINTENANCE

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

IF THE LOSS OF VEHICLE DETECTION IS KNOWN PRIOR TO THE START OF CONSTRUCTION, IT SHALL BE DISCUSSED AT THE PRECONSTRUCTION MEETING. AT SUCH TIME, THE DISTRICT TRAFFIC ENGINEER SHALL ADVISE THE PROJECT ENGINEER AND CONTRACTOR ON THE APPROPRIATE ACTION TO RECTIFY ANY LOSS OF VEHICLE DETECTION. THIS MAY INCLUDE PLACING THE TRAFFIC SIGNAL ON MINIMUM OR MAXIMUM RECALL, MODIFYING THE MINIMUM GREEN TIMES, AND REMOVING THE MALFUNCTIONING DETECTION FROM SERVICE. WHERE NON-INTRUSIVE DETECTION (I.E. VIDEO, RADAR) ALREADY EXISTS, THE CONTRACTOR SHALL INSURE THAT DETECTION IS OPERATING AND MAINTAINED BY RECONFIGURING THE DETECTION UNITS ACCORDINGLY DURING ALL CONSTRUCTION PHASES. THIS IS TO AVOID THE SIGNAL FROM MAXING OUT THE EFFECTED SIGNAL PHASE AND CREATING UNNECESSARY DELAYS.

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

COUNT INFORMATION

MONTH/YEAR	October	2018	DAY OF WEEK:
TIME PERIOD(S):	AM PEAK	-	PM PEAK
TOTAL NUMBER OF HOURS:		2	
METHOD OF OBTAINING COUNTS:			CEC
TYPE OF COUNT:			AM/PM Peak Hour Counts

VEHICULAR/PED PEAK HOURLY VOLUME								
PHASE	1	2	3	4	5	6	7	8
DIRECTION	WB LT	EB	SB LT	NB	EB LT	WB	NB LT	SB
PLAN NO./C/S/O	WAY-30-20.15							
2018 COUNTS BY CEC								
AM PEAK	7	749	134	8	149	1203	9	114
PM PEAK	13	1108	264	7	145	1077	1	170
2039 PROJECTED COUNTS WITH DEVELOPMENT (SPEEDWAY) BY CEC								
AM PEAK	7	838	217	8	235	1430	9	138
PM PEAK	13	1266	347	7	231	1274	1	186

SHEET NO.	LOCATION	DISTANCE	625	625	625	625	625	625	632	632	632	632	632	632	632	632	632	632	632	632	632	632	633	633	633	633	633	633	809	809	809	809	809
			CONDUIT, 4", 725.051	TRENCH	PULL BOX, 725.08, 24"	GROUND ROD	UNDERGROUND WARNING/MARKING TAPE	ARC FLASH CALCULATIONS AND LABEL -POWER SUPPLY AND SIGNAL CABINET	VEHICULAR SIGNAL HEAD, (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	VEHICULAR SIGNAL HEAD, (LED), 5-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN	COVERING OF VEHICULAR SIGNAL HEAD	MESSENGER WIRE, 7 STRAND, 1/2" DIAMETER WITH ACCESSORIES	TETHER WIRE, WITH ACCESSORIES	SIGNAL CABLE, 3 CONDUCTOR, NO. 12 AWG	SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG	STRAIN POLE FOUNDATION	POWER CABLE, 2 CONDUCTOR, NO. 4 AWG	SERVICE CABLE, 3 CONDUCTOR, NO. 4 AWG	POWER SERVICE	CONDUIT RISER, 2" DIAMETER	STRAIN POLE, TYPE TC-81.11, DESIGN 12	REMOVAL OF TRAFFIC SIGNAL INSTALLATION	CABINET, TYPE TS-2, AS PER PLAN	CABINET FOUNDATION, AS PER PLAN	CONTROLLER WORK PAD, AS PER PLAN	COMMUNICATIONS, AS PER PLAN	UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN	CONTROLLER ITEM, MISC.;; REMOVAL AND INSTALLATION OF SIGNAL FLASHER ASSEMBLY CONTROLLER	CCTV IP-CAMERA SYSTEM, QUAD MULTI-VIEW FIXED WITH PTZ	ETHERNET CABLE, OUTDOOR-RATED	ADVANCE RADAR DETECTION, AS PER PLAN	STOP LINE RADAR DETECTION, AS PER PLAN	ATC V6.24 CONTROLLER, AS PER PLAN
			FT	FT	EACH	EACH	FT	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH		EACH	FT	EACH	EACH	EACH
58	SIGNAL SUPPORT SP-4				1									1					1								1	186		1			
58	SIGNAL HEAD 4A & 4B							2		2			266																				
58	SIGNAL SUPPORT SP-3				1									1					1											1	2		
58	SIGNAL HEADS 6A, & 6B								1	1	2		191																				
58	SIGNAL HEAD 6C									1	1		128																				
58	SIGNAL HEADS 1A								1		1		156																				
58	SIGNAL HEADS 2C								1		1		51																				
58	SIGNAL SUPPORT SP-2				1									1					1											1	1		
58	SIGNAL HEADS 2A & 2B								2		2		186																				
58	SIGNAL HEADS 5A								1		1		183																				
58	SIGNAL SUPPORT SP-1				1									1					1											1			
58	SIGNAL HEAD 8A									2	2		119																				
	SIGNAL HEAD 8B												109																				
58	SIGNAL SUPPORT SP-1 TO CONTROLLER	11	26	11		11																											
58	MESSENGER WIRE & TETHER WIRE	464									464	464																					
58	CABINET			1	1		1															1	1	1	3	1	LS					1	
58	POWER	30	30	30		30								500	10	1	1																
58	EXISTING SIGNAL HEADS									9									1														
58	SIGN FLASHERS	25	25	25		25							2024																				
TOTALS CARRIED TO GENERAL SUMMARY			81	66	1	5	66	1	8	4	21	464	464	2024	1389	4	500	10	1	1	4	1	1	1	1	3	1	LS	1	186	3	4	1

**SIGNAL
OPERATION
CHANGED**

W23-H2b-30
 S8, S9, S10, S11
 (REFER TO NOTE ON
 SHEET 53, ITEM 630-SIGN,
 FLAT SHEET, AS PER PLAN)



SP-1
 SIGNAL SUPPORT TYPE TC-81.11, DESIGN 12
 W/ STOP LINE & DILEMMA ZONE DETECTORS
 STA. 1022+50, 40.0' LT.

RDZ8A DILEMMA ZONE DETECTION BEGINS AT 200'
 AND EXTENDS TO 400' FROM THE STOP LINE.
 THE DETECTION ZONE SHALL COVER ALL
 APPROACH LANES

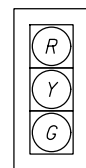
CONST. SR 57

REMOVE EXISTING RADAR
 DETECTORS FOR STORAGE

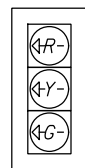
21' CONDUIT, 4", 725.051
 W/1-3/C SIGNAL CABLE

SP-3
 SIGNAL SUPPORT TYPE TC-81.11, DESIGN 12
 W/ STOP LINE & DILEMMA ZONE DETECTORS
 W/ SUPPLEMENTAL SIGNAL HEAD
 STA. 1023+70, 42.0' LT.

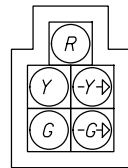
RDZ6A DILEMMA ZONE DETECTION BEGINS AT 200'
 AND EXTENDS TO 800' FROM THE STOP LINE.
 THE DETECTION ZONE SHALL COVER ALL THROUGH
 APPROACH LANES



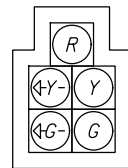
2A, 2B, 2C
 4A, 4B
 6A



1A
 5A



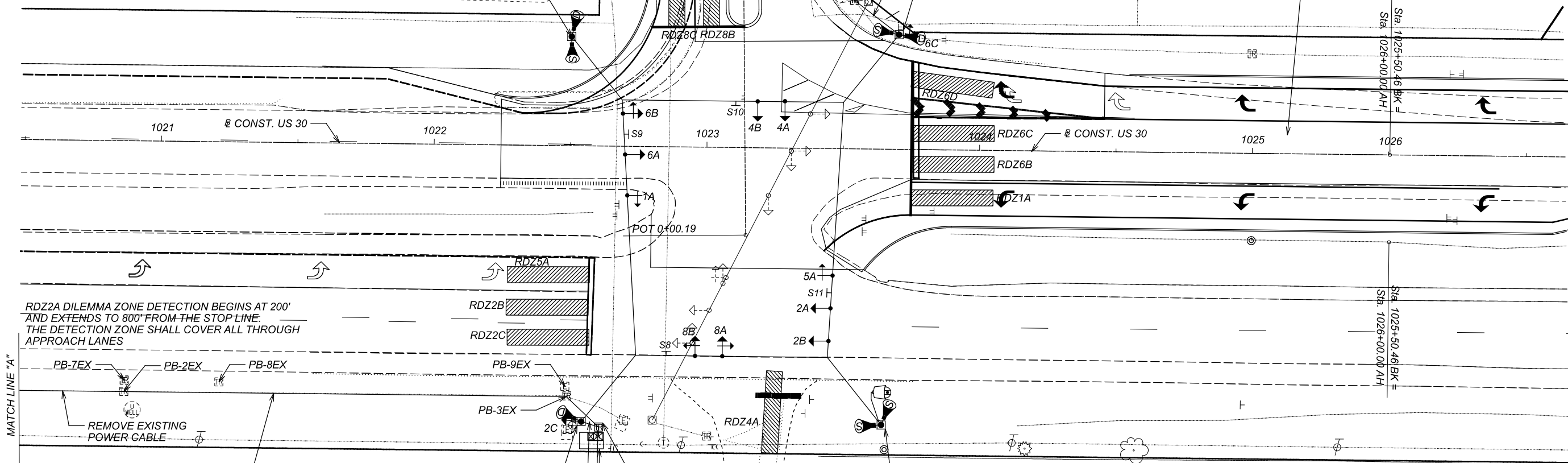
6B, 6C
 8B



8A

HORIZONTAL
 SCALE IN FEET
 0 20 40

SIGNAL PLAN
US 30 & SR 57



RDZ2A DILEMMA ZONE DETECTION BEGINS AT 200'
 AND EXTENDS TO 800' FROM THE STOP LINE.
 THE DETECTION ZONE SHALL COVER ALL THROUGH
 APPROACH LANES

PB-7EX PB-2EX PB-8EX

REMOVE EXISTING
 POWER CABLE

INSTALL NEW POWER CABLE FROM
 PROPOSED CONTROLLER IN EXISTING
 CONDUIT TO EXISTING POWER SUPPLY
 INCLUDE 1-3/C FOR SIGNAL FLASHER

SP-2
 SIGNAL SUPPORT TYPE TC-81.11, DESIGN 12
 W/ DILEMMA ZONE DETECTOR, SUPPLEMENTAL
 SIGNAL HEAD AND ANTENNA
 STA. 1022+55, 101.0' RT.

7' CONDUIT, (2)-4", 725.051
 W/ (1)- 4" (7) RADAR DETECTOR, 3/C,
 OUTDOOR ETHERNET CABLE, &
 ANTENNA CABLE
 W/ (1)- 4" (8) 7/C

4' CONDUIT, (3)-4", 725.051
 W/ (1)- 4" POWER CABLE & 3/C
 W/ (1)- 4" (7) RADAR DETECTOR CABLE
 OUTDOOR ETHERNET CABLE, 3/C &
 ANTENNA CABLE
 W/ (1)- 4" (8) 7/C

CONTROLLER
 W/ UPS
 STA. 1022+61, 107' RT.

SP-4
 SIGNAL SUPPORT TYPE TC-81.11, DESIGN 12
 W/ STOP LINE DETECTORS
 W/ QUAD MULTI-VIEW FIXED WITH PTZ CAMERA
 STA. 1023+65, 101.0' RT.

NOTES: ALL STATION CALLOUTS REFERENCE THE CENTERLINE OF
 CONSTRUCTION OF US 30.

EXISTING PULL BOXES AND CABLEING SHALL BE REMOVED
 THESE REMOVALS ARE SHOWN FOR AND PAID UNDER THE
 PAVEMENT MARKING AND SIGNING PLANS SHEETS 47-52

FOR PAVEMENT MARKING AND SIGNING SEE SHEETS 45-52.

FOR SIGNAL QUANTITIES SEE SUB SUMMARY SHEET 57.

FOR SIGNAL LEGEND REFER TO SHEET 61.

THE EXISTING SIGN FLASHER CONTROLLER SHALL BE
 REMOVED FROM THE EXISTING SIGNAL CABINET AND
 INSTALLED IN THE PROPOSED SIGNAL CABINET.
 PAYMENT FOR THIS WORK SHALL BE INCLUDED UNDER
 ITEM 633 SIGNAL CONTROLLER MISC.; REMOVAL AND
 INSTALLATION OF SIGNAL FLASHER ASSEMBLY CONTROLLER.

PULL BOX #	STATION	SIDE	OFFSET	SIZE (IN.)
PB-1	1022+61	RIGHT	103'	24

DESIGN AGENCY
**Mead
& Hunt**
 CLIENT



DESIGNER
 DLW
 REVIEWER
 SJS 10/09/20
 PROJECT ID
 110876
 SHEET TOTAL
 P.58 65

SIGNAL TIMING CHART

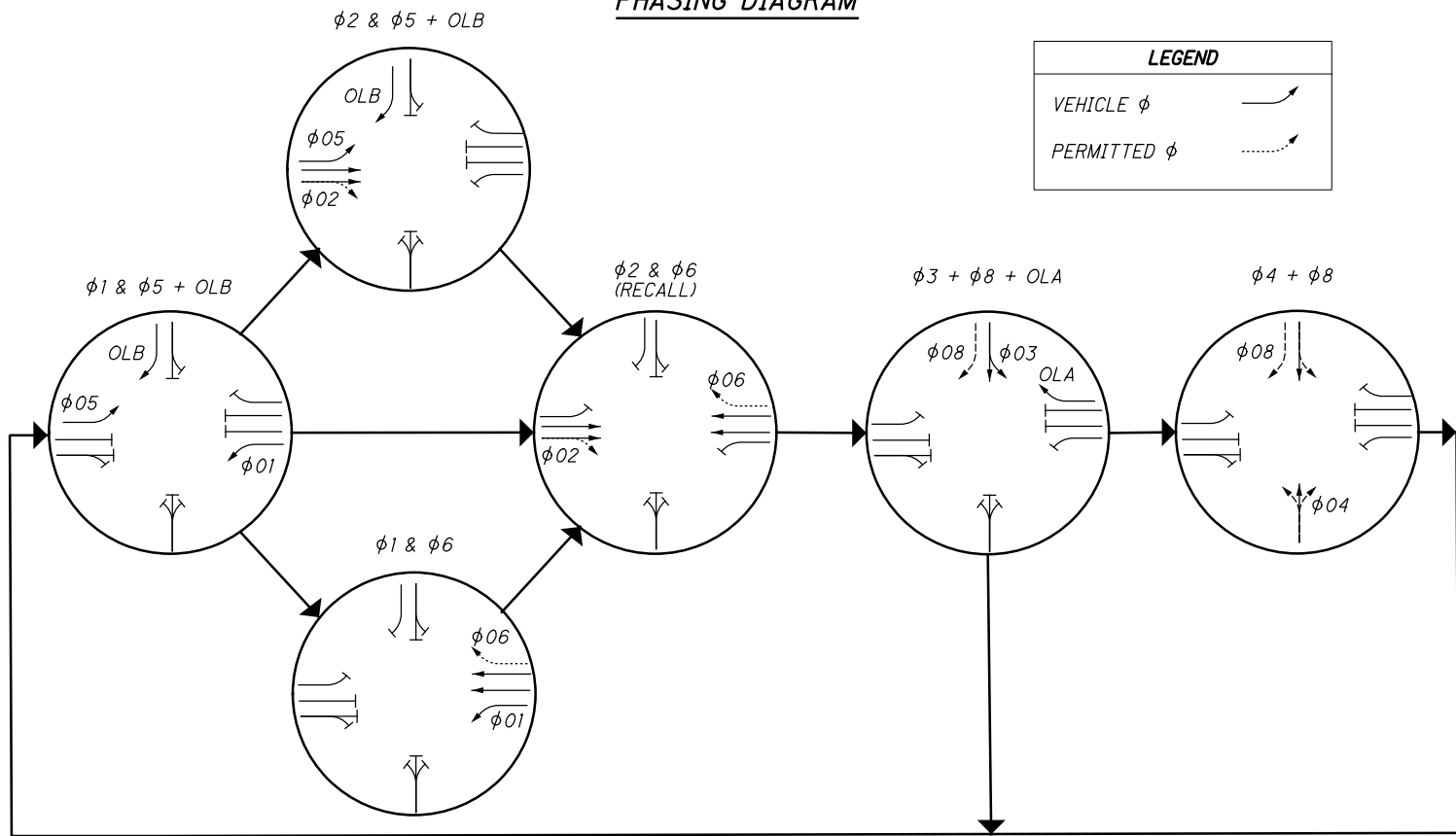
INTERSECTION: US 30 & SR 57										
MAINTAINING AGENCY: ODOT DISTRICT 3										
START UP START IN: ALL RED TIME FOR FLASH, ALL RED: 9,6 sec. FIRST PHASE(S): 2+6 COLOR DISPLAYED: GREEN			DUAL ENTRY: YES		PHASES: 2+6					
			REST IN RED:		RING 1		RING 2			
			OVERLAP				A	B	C	D
			PHASES				3	5	-	-
INTERVAL OR FEATURE			CONTROLLER MOVEMENT NO.							
INTERSECTION MOVEMENT (PHASE)			1	2	3	4	5	6	7	8
DIRECTION			WB LT	EB	SB LT	NB	EB LT	WB	-	SB
MINIMUM GREEN (INITIAL) (SEC.)			7	20	7	10	7	20	-	10
ADDED INITIAL *(SEC./ACTUATION)			-	-	-	-	-	-	-	-
MAXIMUM INITIAL (SEC.)			-	-	-	-	-	-	-	-
PASSAGE TIME (PRESET GAP) (SEC.)			2	2	2	2	2	2	-	2
TIME BEFORE REDUCTION *(SEC.)			-	-	-	-	-	-	-	-
MINIMUM GAP *(SEC.)			-	-	-	-	-	-	-	-
TIME TO REDUCE *(SEC.)			-	-	-	-	-	-	-	-
MAXIMUM GREEN I (SEC.)			15	26	13	26	15	26	-	26
MAXIMUM GREEN II (SEC.)			18	55	7	34	18	55	-	34
YELLOW CHANGE (SEC.)			5	6	6	6	5	6	-	6
ALL RED CLEARANCE (SEC.)			2.5	1.5	3	3	2.5	1.5	-	3
WALK (SEC.)			-	-	-	-	-	-	-	-
PEDESTRIAN CLEARANCE (SEC.)			-	-	-	-	-	-	-	-
RECALL	MAXIMUM (ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	-	OFF	
	MINIMUM (ON/OFF)	OFF	ON	OFF	OFF	OFF	ON	-	OFF	
	PEDESTRIAN (ON/OFF)	OFF	OFF	OFF	OFF	OFF	OFF	-	OFF	
MEMORY (ON/OFF)			OFF	OFF	OFF	OFF	OFF	OFF	-	OFF

*VOLUME DENSITY CONTROLS

MAX GREEN II SHALL BE SET FOR 3:00 PM TO 7:00 PM, MONDAY THRU FRIDAY

NOTES:

- ALL MOVEMENTS SHALL BE ACTUATED. THE PRIMARY THRU MOVEMENT SHOULD HAVE MIN RECALL ACTIVE TO REST IN GREEN
- FOR PROTECTED/PERMISSIVE PHASES, IMPLEMENT CALL OMITS TO AVOID YELLOW BALL TRAP.
- ENABLE $\phi 1$, $\phi 3$, & $\phi 5$ DETECTOR SWITCHING TO ALLOW $\phi 1$, & $\phi 5$ TO EXTEND $\phi 2$ & $\phi 6$ OR $\phi 3$ TO EXTEND $\phi 8$, RESPECTIVELY, WHEN ALLOCATED GREEN TIMES FOR LEFT TURN PHASES ARE EXHAUSTED.
- RADAR DETECTION UNITS FOR DILEMMA ZONE DETECTION SHALL PLACE A CONSTANT CALL TO THE CONTROLLER WHEN VEHICLES TRAVEL TIMES TO THE STOP BAR ARE BETWEEN 2.5 AND 6 SECONDS. SPEED TRIGGER SHALL BE SET FOR VEHICLES TRAVELING 35 MPH AND GREATER.
- RADAR SHALL HAVE QUEUE DETECTION CONFIGURED AND A ZONE PLACED AT 100-200 FEET FROM STOP BAR FOR SLOW MOVING VEHICLE EXTENSIONS. SPEED TRIGGER SHALL BE SET AT 1-35 MPH.
- ALL DETECTOR DELAYS SHALL BE PLACED IN THE CONTROLLER.
- FOR ENTRY TO FLASHING OPERATION, PROGRAMMING SHALL RUN MINOR STREET GREEN, PHASE 4 & PHASE 8, ALL-RED CLEARANCE, AND THEN FLASHING OPERATION.

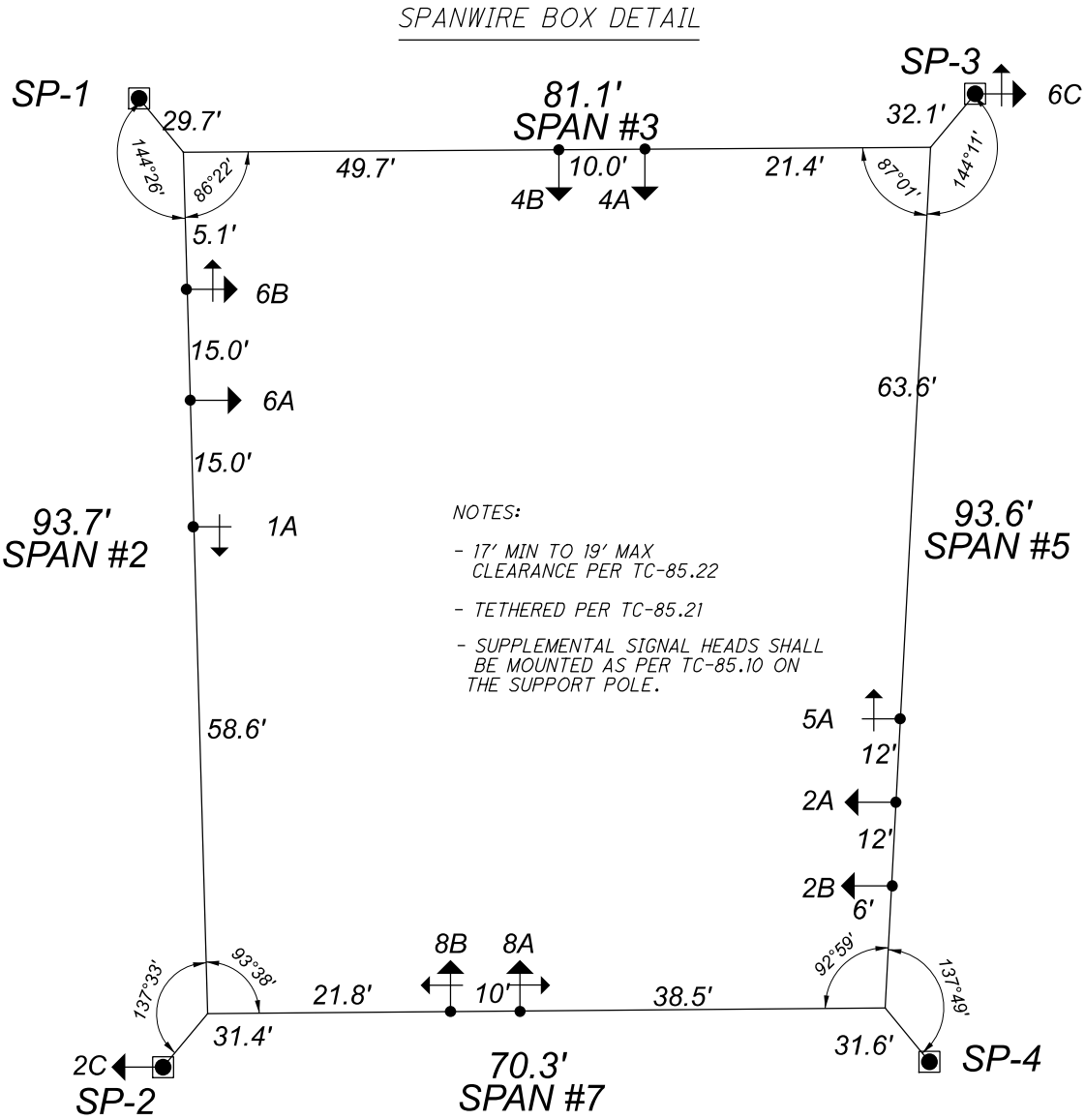
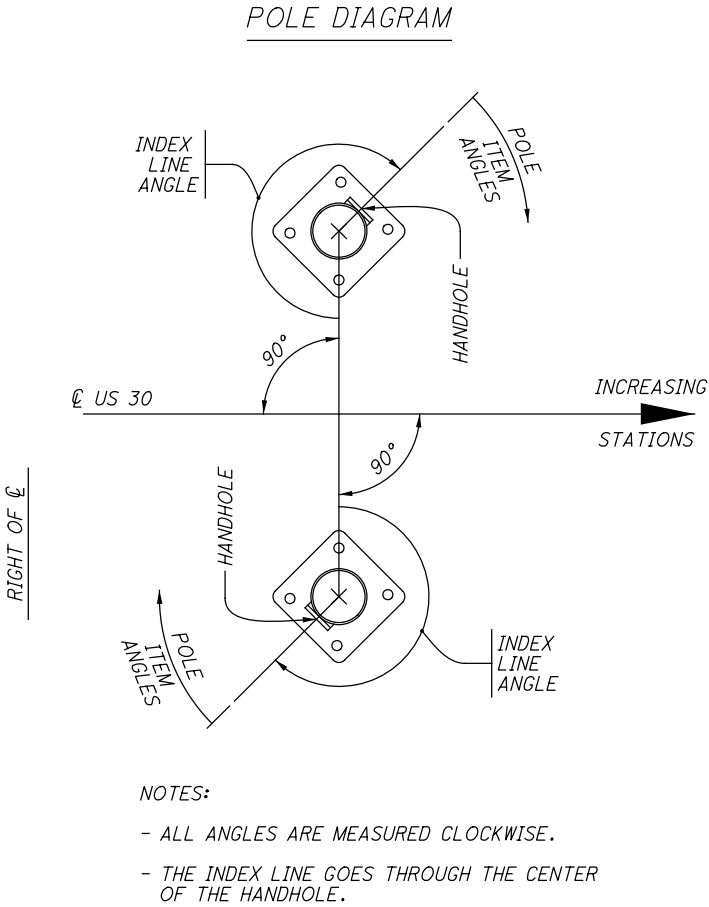
PHASING DIAGRAMRADAR DETECTION CHART

DETECTION ZONE	MOVEMENT	WIDTH	ASSOCIATED PHASE	DELAY PROGRAMMED IN CONTROLLER (SEC.)	EXTENSION PROGRAMMED IN CONTROLLER (SEC.)	DETECTOR NUMBER	PURPOSE	DETECTION ZONE LENGTH (FT.)
RDZ1A	WB LT	8	1			5	STOP LINE	30
RDZ2A	EB	20	2		2	4	ADVANCE	600
RDZ2B	EB	8	2			1	STOP LINE	30
RDZ2C	EB TH/RT	8	2			2	STOP LINE	30
RDZ4A	NB	8	4			11	STOP LINE	30
RDZ5A	EB LT	8	5			3	STOP LINE	30
RDZ6A	WB	20	6		2	9	ADVANCE	600
RDZ6B	WB	8	6			6	STOP LINE	30
RDZ6C	WB	8	6			7	STOP LINE	30
RDZ6D	WB RT	8	6	10		8	STOP LINE	30
RDZ8A	SB	8	8		2	15	ADVANCE	200
RDZ8B	SB TH/LT	8	8			13	STOP LINE	30
RDZ8C	SB RT	8	8	10		14	STOP LINE	30



STRAIN POLES DETAILS

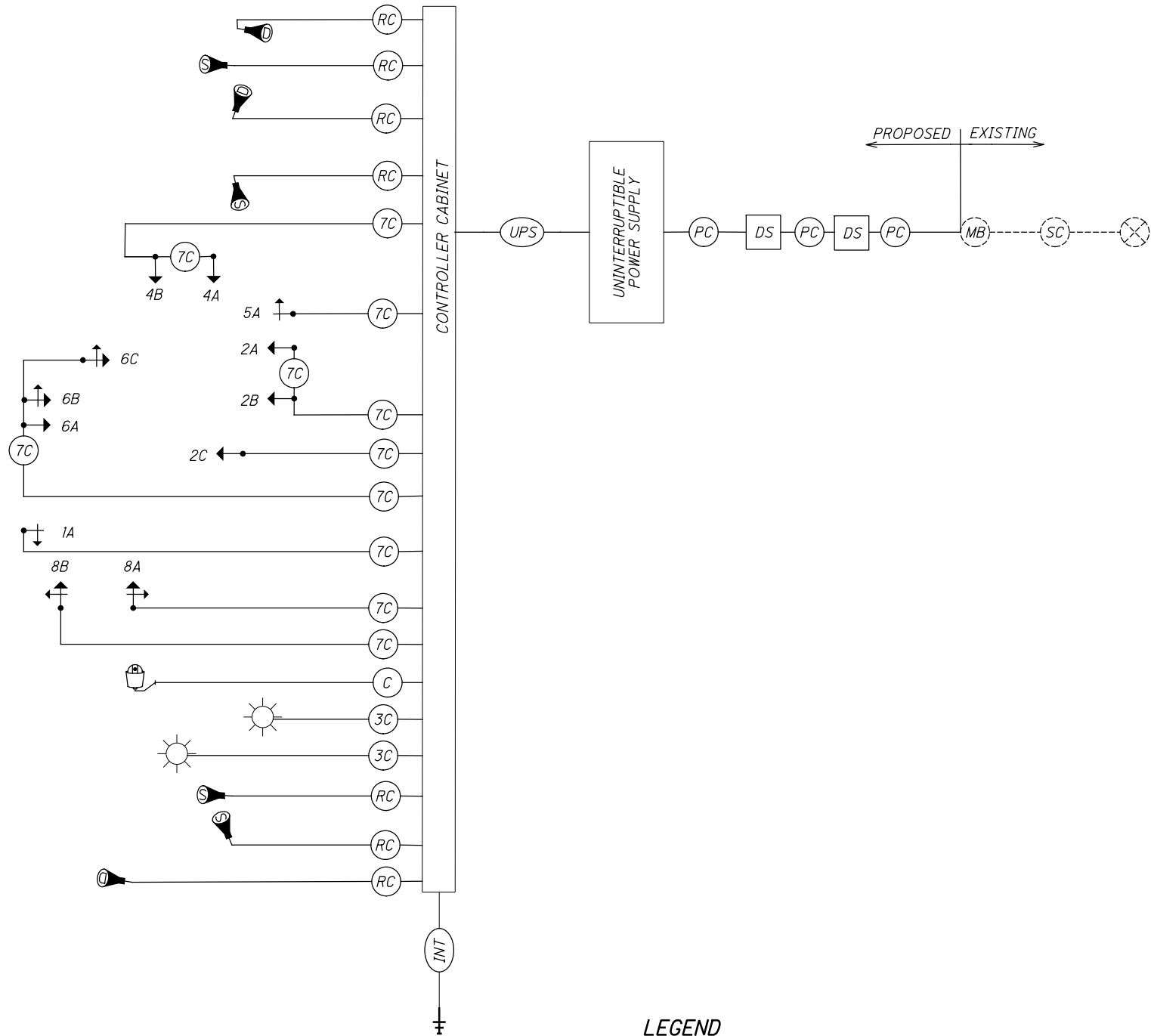
REFERENCE SHEET NO.*	STATION & OFFSET*	POLE NO.	DESIGN NO.	POLE HEIGHT (FT.)	FOUNDATION ELEV.*	SPAN WIRE ATTACHED HEIGHT*	CABLE ENTRANCE DISTANCE FROM TOP (IN.)	INDEX LINE ANGLE (DEG.)	ANGLES (DEG.) FROM INDEX LINE											
									PEDESTRIAN SIGNALS	PEDESTRIAN PUSH BUTTONS	SIGNAL CABINET	POWER SERVICE	CABLE ENTRANCE	BRACKET ARM	INTERCONNECT POLE SPLICE BOX	CABLE ENTRANCE 12" FROM TOP	POLE MOUNTED SUPPLEMENTAL SIGNAL HEAD	PTZ CAMERA	STOP BAR (S) OR RADAR DETECTOR (R)	2" CAPPED
58	1022+50, 40.0' LT.	SP-1	12	32	1066.4	28.5	12	180	-	-	-	-	180	-	-	140			29 (S)	-
58	1022+55, 101.0' RT.	SP-2	12	32	1066.4	28.5	12	180	-	-	-	-	-	-	-	220	94		115(D), 163(S)	-
58	1023+70, 42.0' LT.	SP-3	12	32	1066.2	28.5	12	180	-	-	-	-	-	-	-	220	94		98(D), 148(S), 266(S)	-
58	1023+65, 101.1' RT.	SP-4	12	42	1065.2	30.5	120	180	-	-	-	-	-	-	-	141		180	86(S)	-



NOTE:

- TOP OF SIGNAL SUPPORT FOUNDATIONS SHALL BE 2" (± 1") ABOVE GRADE PER TC-21.21

WIRING DIAGRAM



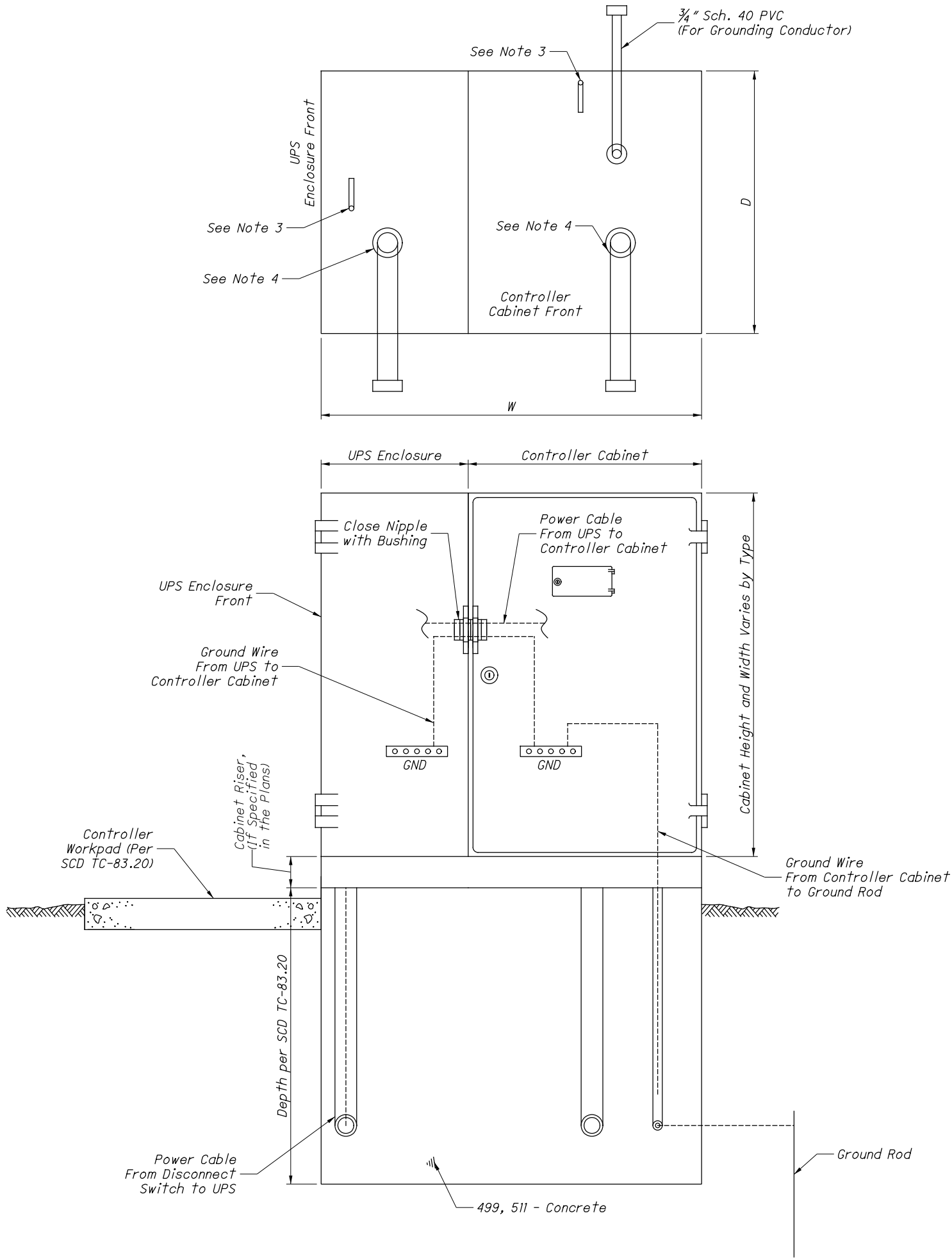
LEGEND

	TRAFFIC SIGNAL, 4 OR 5 UNIT HEAD, 12"		SIGNAL CABLE, 3 CONDUCTOR, NO. 12 AWG		EX. METER BASE
	TRAFFIC SIGNAL, 2 UNIT, 3 UNIT, OR PHB HEAD 12"		SIGNAL CABLE, 7 CONDUCTOR, NO. 14 AWG		DUAL LIGHTING/SIGNAL DISCONNECT SWITCH
	TRAFFIC SIGNAL, 3 UNIT HEAD, 12" WITH ARROWS		RADAR DETECTION CABLE		UNINTERRUPTIBLE POWER SUPPLY CABLE
	DILEMMA ZONE RADAR DETECTION UNIT		EX. POWER SOURCE		OUTDOOR ETHERNET CABLE FOR CCTV IP-CAMERA SYSTEM
	STOP LINE RADAR DETECTION UNIT		EX. SERVICE CABLE, 3 CONDUCTOR, NO. 4 AWG		INTERCONNECT CABLE
	FUTURE TRAFFIC SIGNAL, 4 OR 5 UNIT HEAD, 12"		POWER CABLE, 2 CONDUCTOR, NO. 4 AWG		MODEM ANTENNA
	FUTURE TRAFFIC SIGNAL, 2 UNIT, 3 UNIT, OR PHB HEAD 12"		QUAD CAMERA		EX SIGN FLASHING BEACON

FIELD WIRING HOOK-UP CHART

SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH	SIGNAL HEAD	INDICATION	FIELD TERMINAL	FLASH
1A (WB LT)	<--R---	Ø1 R	R	8A (SB)	R	Ø8 R	R
	<--Y---	Ø1 Y			Y	Ø8 Y	
	<--G---	Ø1 G			G	Ø8 G	
	-	-			<-Y---	Ø3 Y	
	-	-			<--G--	Ø3 G	
2A, 2B, 2C (EB)	R	Ø2 R	R	8B (SB RT)	R	Ø8 R	R
	Y	Ø2 Y			Y	Ø8 Y	
	G	Ø2 G			G	Ø8 G	
	-	-			--Y-->	Ø5 Y / LS 11 Y	
	-	-			--G-->	Ø5 G / LS 11 G	
5A (EB LT)	<--R---	Ø5 R	R	PEDESTRIAN MOVEMENTS			
	<--Y---	Ø5 Y		-	-	-	-
	<--Y---	Ø5 G		-	-	-	-
	-	-		-	-	-	-
	-	-		-	-	-	-
6A (WB)	R	Ø6 R	R	-	-	-	-
	Y	Ø6 Y		-	-	-	-
	G	Ø6 G		-	-	-	-
6B, 6C (WB RT)	R	Ø6 R	R	-	-	-	-
	Y	Ø6 Y		-	-	-	-
	G	Ø6 G		-	-	-	-
	--Y-->	Ø3 Y / LS 10 Y		-	-	-	-
	--G-->	Ø3 G / LS 10 G		-	-	-	-
4A, 4B (NB)	R	Ø4 R	-	OLA	--Y-->	Ø3 Y / LS 10 Y	OUT
	Y	Ø4 Y			--G-->	Ø3 G / LS 10 G	
	G	Ø4 G		OLB	--Y-->	Ø5 Y / LS 11 Y	OUT
LS = LOAD SWITCH			--G-->		Ø5 G / LS 11 G		

OVERLAPS SHALL BE WIRED TO THE APPROPRIATE LOAD SWITCHES
AS PER THE FIELD HOOKUP CHART AND CONFIGURED IN THE CONTROLLER
SOFTWARE PER THE SIGNAL TIMING CHART.



NOTES:

1. The Uninterruptible Power Supply (UPS) enclosure shall be mounted flush up against the traffic signal cabinet and sealed with silicone. The Contractor shall be responsible for providing the necessary power cable between the UPS unit and signal cabinet.
2. The UPS should be placed on the opposite side of the pull box on a 332/336 cabinet (per Standard Construction Drawing (SCD) TC-83.20). The UPS placement for a NEMA cabinet varies, placement should provide adequate access with respect to slope, guardrail spacing, etc.
3. The size, number, and location of anchor bolts shall be in accordance with the manufacturer's recommendations.
4. The size, number, and orientation of conduit ells shall be as shown in the plan, except that a 3/4" schedule 40 PVC shall be installed in each foundation.
5. 1/2" preformed joint filler as per CMS 705.03 shall be used between foundations and adjacent paved areas.
6. See SCD TC-83.20 for further details.
7. Payment for the controller and UPS work pad as shown on this sheet will be included under item 633, Controller work pad, as per plan.

TYPE	W (IN.)	D (IN.)	FOUNDATION CONCRETE (CU. YD.)
TS-1	60	24	1.23
TS-2	70	36	2.16
2070/170	50	36	1.54

THIS DRAWING REPLACES PIS 208320 DATED 04-20-2012.

PLAN INSERT SHEET
UNINTERRUPTIBLE POWER SUPPLY (UPS) AND
SCONTROLLER CABINET FOUNDATION

DESIGN AGENCY
Mead & Hunt
CLIENT

DESIGNER
DLW

REVIEWER
SJS 07-17-20

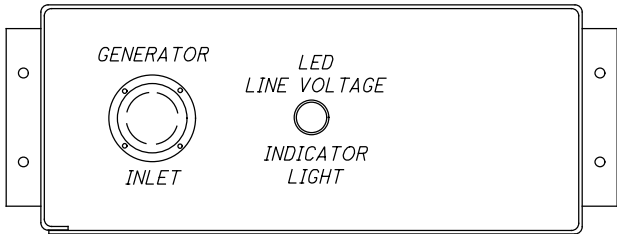
PROJECT ID
110876

SHEET
P.62

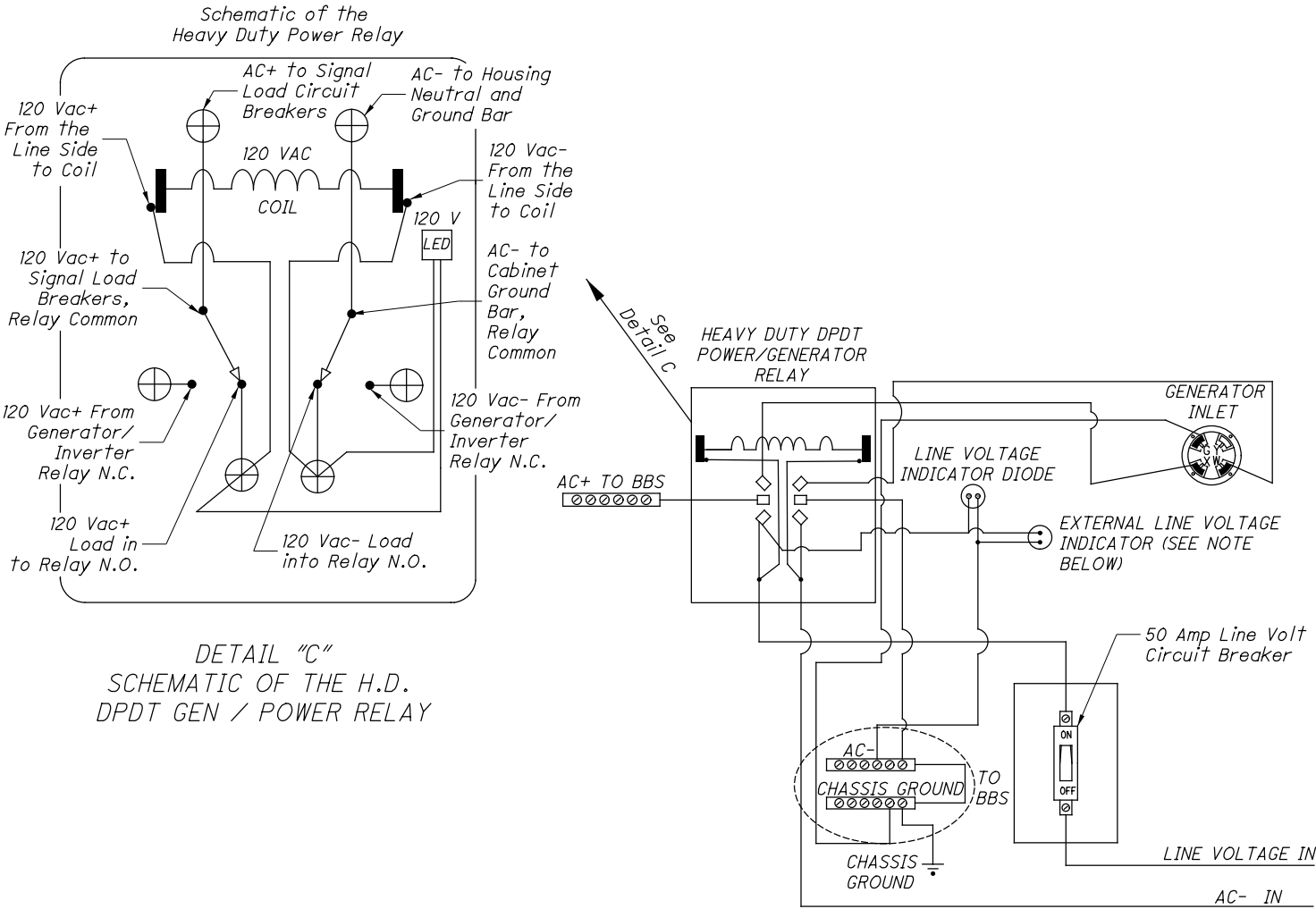
TOTAL
65

MATERIAL SPECIFICATIONS FOR BBS GENERATOR 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 125V 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 accomodate greater loads, if necessary. The gauge of the power cable shall be of proper size per N.E.C.
- EXTERNAL LINE VOLTAGE INDICATOR LIGHT - The indicator light shall be a 1" waterproof NEMA 4X or IP66 LED lamp with a green lens.



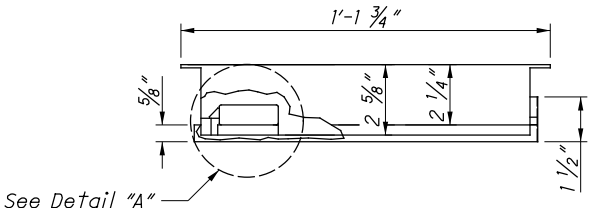
FRONT VIEW OF GENERATOR POWER PANEL



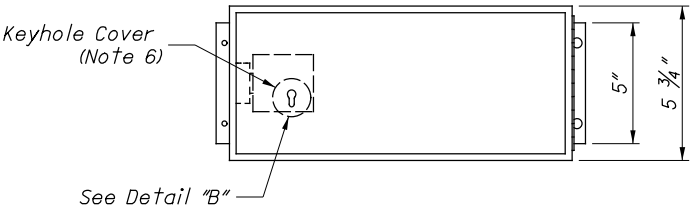
ELECTRICAL HOOKUP DETAIL FOR THE BBS GENERATOR POWER PANEL

NOTE: EXTERNAL LINE VOLTAGE INDICATOR LIGHT required when called for in the plans.
EXTERNAL LINE VOLTAGE INDICATOR LIGHT shall be located on the enclosure exterior for visibility from the adjacent roadway when all cabinet, and generator panel doors are closed.

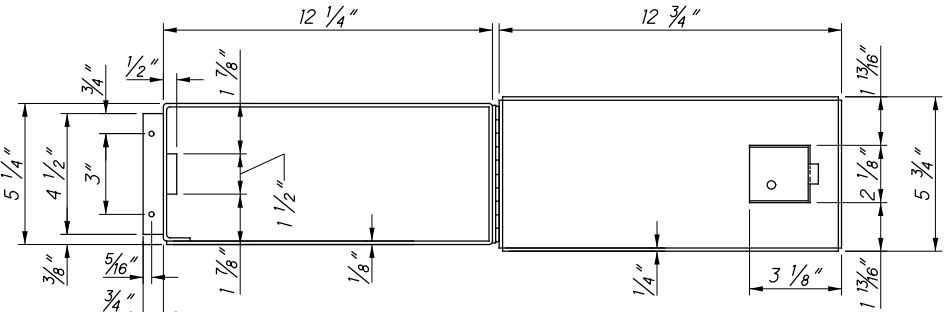
GENERATOR POWER PANEL ENCLOSURE



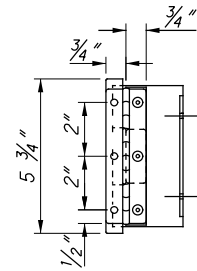
TOP VIEW



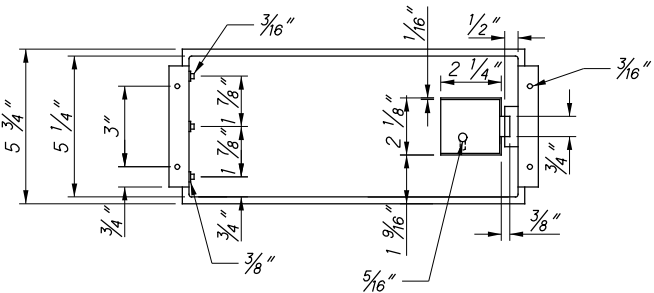
FRONT VIEW CLOSED DOOR



FRONT VIEW OPEN DOOR



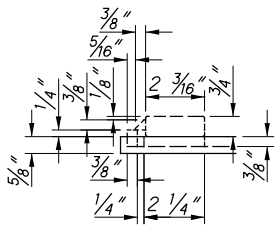
RIGHT SIDE VIEW
CLOSED DOOR



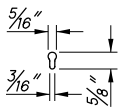
BACK VIEW CLOSED DOOR

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.



DETAIL "A"



DETAIL "B"

THIS DRAWING REPLACES PIS 203012 DATED 04-20-2012.

BATTERY BACKUP SYSTEM (BBS)
GENERATOR POWER PANEL

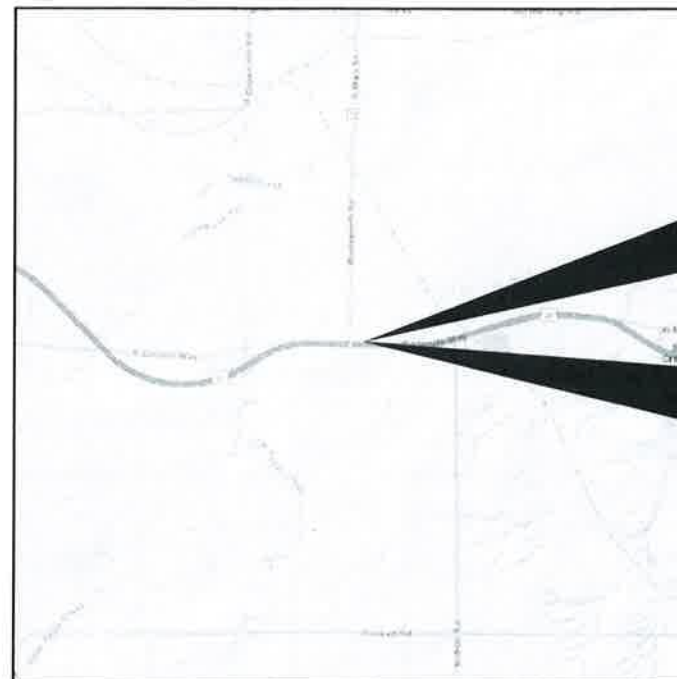
*SUGAR CREEK TOWNSHIP, WAYNE COUNTY
SECTION 7 NW, TWP. 16, RNG. 11
CONGRESS LANDS, NORTH OF OLD SEVEN RANGES
STATE OF OHIO*

FIRM NAME : 2LMN, INC.
R/W DESIGNER: CRAIG S. WOLFF
R/W REVIEWER: RICH F. MATHIAS
FIELD REVIEWER: JOEL MAGALSKI
PRELIMINARY FIELD REVIEW DATE: 06/24/2020
TRACINGS FIELD REVIEW DATE: 08/17/2020
OWNERSHIP UPDATED BY: CRAIG S. WOLFF
DATE COMPLETED: 08/26/2020
PLAN COMPLETION DATE: 09/15/2020

A circular professional seal for Richard F. Mathias, a Registered Professional Surveyor in the State of Ohio. The seal features the text "STATE OF OHIO" at the top, "RICHARD F. MATHIAS" in the center, "S-7798" below the name, and "REGISTERED PROFESSIONAL SURVEYOR" at the bottom. Two small stars are positioned on the left and right sides of the seal. The entire seal is enclosed within a double-lined circular border.

			CWSW
			REVIEWER
			RFM 8-25-20
			PROJECT ID
			110876
		SUBSET	TOTAL
		1	2
REV. BY	DATE	DESCRIPTION	
DATE COMPLETED		SEPTEMBER 17, 2020	
		SHEET	TOTAL
		64	65

RIGHT OF WAY LEGEND SHEET



END ACQUISITION US-30
STA. 1027+20.00
S.L.M 20.23

CONVENTIONAL SYMBOLS	
County Line	Edge of Shoulder (Ex)
Township Line	Edge of Shoulder (Pr)
Section Line	Ditch / Creek (Ex)
Corporation Line	Ditch / Creek (Pr)
Fence Line (Ex)	Tree Line (Ex)
Center Line	Ownership Hook Symbol  , Example 
Right of Way (Ex)	Property Line Symbol  , Example 
Standard Highway Ease.(Ex)	Break Line Symbol  , Example 
Temporary Right of Way	Tree (Pr)  , Tree (Ex)  , Shrub (Ex) 
Utility Ease. (Ex)	Tree (Remove)  , Shrub (Remove) 
Railroad	Evergreen (Ex)  , Stump 
Guardrail (Ex)	Evergreen (Remove)  , Stump (Remove) 
Construction Limits	
Edge of Pavement (Ex)	Post (Ex)  , Mailbox (Ex)  , Mailbox (Pr) 
Edge of Pavement (Pr)	Light (Ex)  , Telephone Marker (Ex)+TEL 
	Fire Hydrant (Ex)  , Water Meter (Ex) 
	Water Valve (Ex)  , Utility Valve Unknown (Ex) 
	Telephone Pole (Ex)  , Power Pole (Ex) 
	Light Pole (Ex)

WAY-30-20.15

Model: Sheet - PAPER SIZE: 11x17 in. DATE: 12/7/2020 TIME: 2:07:09 PM USER: Craig Wolfe
V:\Projects\CVTR\10876 WAY 30 20\15\400-Engineering\RW\Sheets\10876_2020.dgn

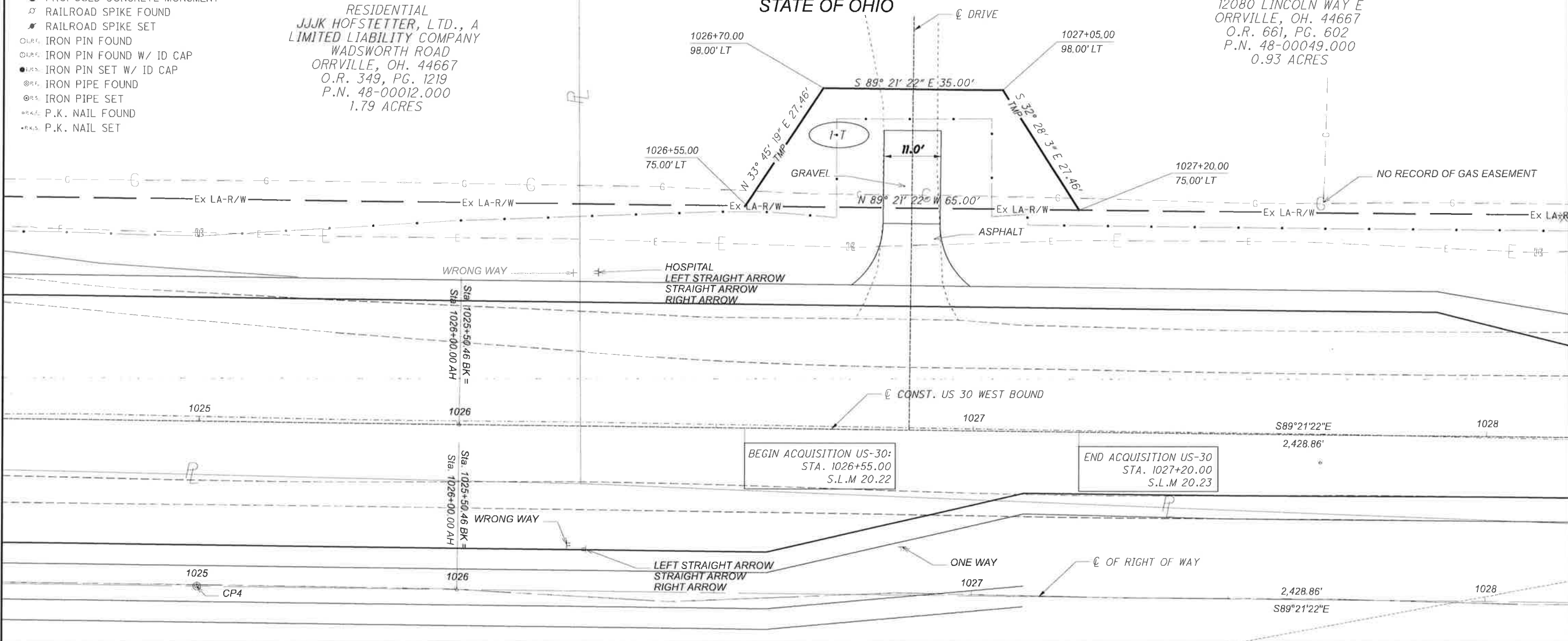
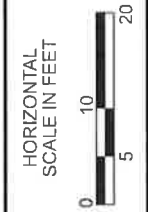
MONUMENT LEGEND

- EXISTING R/W MONUMENT BOX
- PROPOSED R/W MONUMENT BOX
- EXISTING CONCRETE MONUMENT
- PROPOSED CONCRETE MONUMENT
- RAILROAD SPIKE FOUND
- RAILROAD SPIKE SET
- IRON PIN FOUND
- IRON PIN FOUND W/ ID CAP
- IRON PIN SET W/ ID CAP
- IRON PIPE FOUND
- IRON PIPE SET
- P.K. NAIL FOUND
- P.K. NAIL SET

RESIDENTIAL
JJJK HOFSTETTER, LTD., A
LIMITED LIABILITY COMPANY
WADSWORTH ROAD
ORRVILLE, OH. 44667
O.R. 349, PG. 1219
P.N. 48-00012.000
1.79 ACRES

WAY - 30 - 20.15
SUGAR CREEK TOWNSHIP, WAYNE COUNTY
SECTION 7 NW, TWP. 16, RNG. 11
CONGRESS LANDS, NORTH OF OLD SEVEN RANGES
STATE OF OHIO

RESIDENTIAL
CHRISTOPHER J.S MCCONNELL AND
ANDI LYN MCCONNELL, HUSBAND AND WIFE,
FOR THEIR JOINT LIVES,
REMAINDER TO THE SURVIVOR OF THEM
12080 LINCOLN WAY E
ORRVILLE, OH. 44667
O.R. 661, PG. 602
P.N. 48-00049.000
0.93 ACRES



TOTAL NUMBER OF :
1 OWNERSHIPS 0 TOTAL TAKES
1 PARCELS 0 OWNERSHIPS W/ STRUCTURES INVOLVED

RECORD AREA - TOTAL PRO - NET TAKE = NET RESIDUE

NOTE: ALL TEMPORARY PARCELS TO
BE OF 12 MONTH DURATION.

LEGEND:
T= TEMPORARY EASEMENT

ALL AREAS IN ACRES

PARCEL NO.	OWNER	SHEET NO.	OWNERS RECORD	AUDITOR'S PARCEL	RECORD AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	STRUC-TURE	NET RESIDUE LEFT	NET RESIDUE RIGHT	TYPE FUND	REMARKS	AS ACQUIRED INSTR. NUMBER
I-T	CHRISTOPHER J.S MCCONNELL AND ANDI LYN MCCONNELL, HUSBAND AND WIFE, FOR THEIR JOINT LIVES, REMAINDER TO THE SURVIVOR OF THEM	2	OR. 661 , PG. 602	48-00049.000	0.93	0.2755(c)	0.026	0.000	0.026	NO			STATE	TO CONSTRUCT A DRIVE WITH GRADING AND SEEDING	

* DENOTES RIGHT OF WAY ENCROACHMENT

PROJECT GROUND COORDINATES - US SURVEY FEET

C/L OF CONSTRUCTION U.S 30							
NAME	STATION	OFFSET (ft)	RT/LT	NORTH (ft)	EAST (ft)	ELEVATION (ft)	DESCRIPTION
CP1	1030+67.81	62.703	LT	412626.789	2172804.510	1060.109	3/4" IPS, ODOT CAP TYPE B
CP2	601+68.53	32.125	RT	413291.660	2172128.386	1051.556	3/4" IPS, ODOT CAP TYPE B
CP3	1023+66.20	78.088	RT	412493.333	2172150.899	1064.295	CONCRETE MONUMENT FOUND
CP4	1025+00.00	0.008	LT	412569.921	2172285.577	1063.512	CONCRETE MONUMENT FOUND
BM1	1022+51.81	70.472	RT	412502.233	2172036.599	1067.313	CHISELED SQUARE IN CORNER OF CONCRETE PULL BOX

GRANTEE:
ALL RIGHT OF WAY ACQUIRED
IN THE NAME OF
THE STATE OF OHIO
DEPARTMENT OF
TRANSPORTATION
UNLESS OTHERWISE SHOWN.

REV. BY	DATE	DESCRIPTION
DATE COMPLETED :		SEPTEMBER 17, 2020

ROW
DETAIL
SHEET
U.S
30

DESIGN AGENCY	
DESIGNER	
CSW	
REVIEWER	
RFM 8-25-20	
PROJECT ID	
110876	
SUBSET	TOTAL
2	2
SHEET	TOTAL
65	65