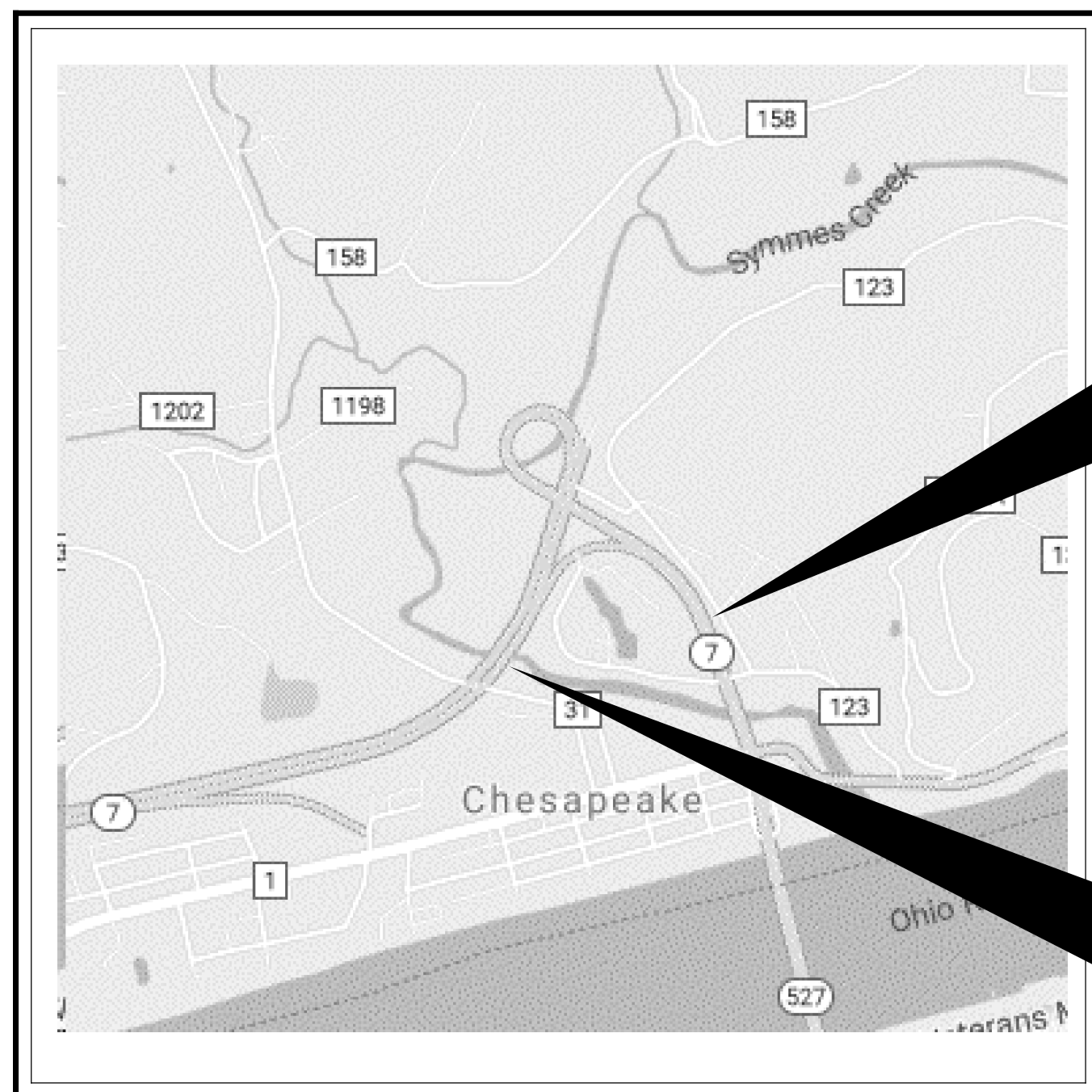


STATE OF OHIO DEPARTMENT OF TRANSPORTATION



END PROJECT
STA 1426+23.9

BEGIN PROJECT
STA 1401+63.4

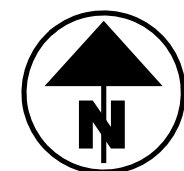
LAW-7-2.00 PART 1

LAWRENCE COUNTY

FOR PART 2, SEE LAW-7-2.00 PART 2

LOCATION MAP

LATITUDE: 38°26'2.62" LONGITUDE: 82°27'27.46"



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

DESIGN DESIGNATION

CURRENT ADT (2020)	-----	12,320
DESIGN YEAR ADT (2040)	-----	17,250
DESIGN HOURLY VOLUME (2040)	-----	1,725
DIRECTIONAL DISTRIBUTION	-----	50%
TRUCKS (24 HOUR B&C)	-----	12%
DESIGN SPEED	-----	55 MPH
LEGAL SPEED	-----	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION:		
FREEWAY & EXPRESSWAY	-----	
NHS PROJECT	-----	NO

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

UNDERGROUND UTILITIES

Contact Two Working Days
Before You Dig



OHIO811.org
Before You Dig

OHIO 811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
TEC Engineering, Inc.
7288 Central Parke Blvd
Mason, OH 45040

INDEX OF SHEETS:

TITLE SHEET	1
SCHEMATIC PLAN	2
GENERAL NOTES	3-5
GENERAL SUMMARY	6
LIGHTING SUB-SUMMARY	7-8
LIGHTING PLAN	9-12
LIGHTING CIRCUIT DETAILS	13
LIGHTING DETAILS	14
PHOTOMETRIC ANALYSIS	15

FEDERAL PROJECT NUMBER

E191477

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

THE PROJECT INCLUDES AN OVERHAUL OF THE EXISTING LIGHTING INFRASTRUCTURE AT THE SR 7 & SR 527 INTERCHANGE. ALL EXISTING LIGHTING EQUIPMENT WILL BE REMOVED AND REPLACED WITH UPGRADED VERSIONS.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	N/A
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	N/A
NOTICE OF INTENT EARTH DISTURBED AREA:	N/A

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

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.

TRAFFIC NOT REROUTED

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.

STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
HL-10.11	01/15/21	MT-95.30	07/19/19	ITS-10.10	01/15/21	SS800	07/16/21
HL-10.12	01/20/17	MT-95.45	01/17/20	ITS-10.11	01/15/21	SS809	07/16/21
HL-10.13	04/17/20	MT-95.50	07/21/17	ITS-12.10	07/19/19	SS813	10/19/18
HL-20.11	01/15/21	MT-98.11	01/17/20	ITS-14.11	01/15/21	SS913	04/16/21
HL-20.13	04/17/20	MT-98.20	04/19/19	ITS-15.10	01/15/21		
HL-20.14	04/17/20	MT-101.90	07/17/20	ITS-18.00	07/16/21		
HL-30.11	01/15/21	MT-105.10	01/17/20	ITS-50.11	01/15/21		
HL-30.21	04/17/20						
HL-30.22	01/15/21						
HL-40.20	07/17/20						
HL-50.21	01/15/21						
HL-60.31	01/17/20						

ENGINEER'S SEAL:



SIGNED: *Michael Hafner*
DATE: 03/15/2021

APPROVED *Michael Hafner*
DATE 05-27-2021 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

DESIGN AGENCY

TEC

TEC Engineering, Inc.
P.O. Box 1000
7288 Central Parke Blvd.
Mason, OH 45040

DESIGNER: JMD

REVIEWER: MJH 03-15-21

PROJECT ID: 111129

SHEET TOTAL: P.1 | 15

LAW-7-2.00

MODEL: G:\001 PAPER\SIZE: 34x22 (in.) DATE: 5/27/2021 TIME: 9:42:31 AM USER: mike
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LAW-7-2.00

GROUNDING AND BONDING

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

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
 - A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
 - B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
 - C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
 - D. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
 - E. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
 - F. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.
2. CONDUITS.
 - A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
 - B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
 - C. BOTH ENDS OF THE 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. WIRING 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, CONTROLLERS OR FLASHER CABINETS.
 - II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
 - III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
 - IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

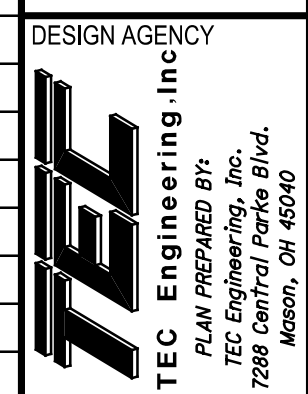
GROUNDING AND BONDING (CONT'D)

- B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.
4. GROUND ROD.
 - A. 3/4 INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
 - B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.
5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

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

SHEET NUMBER										PART.		ITEM	ITEM EXTENSION	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
GN	7	8								01/S<2/OT	02/S<2/OT						
LIGHTING																	
	16	4								20		625	00450	20	EACH	CONNECTION, FUSED PULL APART	
	32	8								40		625	00460	40	EACH	CONNECTION, UNFUSED PULL APART	
		3								3		625	00480	3	EACH	CONNECTION, UNFUSED PERMANENT	
	15	4								19		625	10490	19	EACH	LIGHT POLE, CONVENTIONAL, AT20B36	
	1									1		625	10491	1	EACH	LIGHT POLE, CONVENTIONAL, AT20B33, AS PER PLAN	4
	15	4								19		625	14000	19	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP	
	15177	2948								18125		625	23000	18125	FT	NO. 4 AWG 600 VOLT DISTRIBUTION CABLE	
	3360	840								4200		625	23400	4200	FT	NO. 10 AWG POLE AND BRACKET CABLE	
	3904	766								4670		625	25408	4670	FT	CONDUIT, 2", 725.051	
	70	102								172		625	25900	172	FT	CONDUIT, JACKED OR DRILLED, 725.04, 4"	
	9									9		625	26253	9	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), 480V, 14500-16500 LUMENS, TYPE II, AS PER PLAN	4
	7	4								11		625	26253	11	EACH	LUMINAIRE, CONVENTIONAL, SOLID STATE (LED), 480V, 14500-16500 LUMENS, TYPE III, AS PER PLAN	4
	3824	741								4565		625	29002	4565	FT	TRENCH, 24" DEEP	
	1	2								3		625	30700	3	EACH	PULL BOX, 725.08, 18"	
		1								1		625	31510	1	EACH	PULL BOX REMOVED	
		3								3		625	31600	3	EACH	PULL BOX, MISC.: MODIFY EXISTING PULL BOX	4
	16	5								21		625	32000	21	EACH	GROUND ROD	
		1								1		625	34001	1	EACH	POWER SERVICE, AS PER PLAN	4
	3824	741								4565		625	36010	4565	FT	UNDERGROUND WARNING/MARKING TAPE	
	17	5								22		625	75505	22	EACH	LUMINAIRE REMOVED FOR STORAGE, AS PER PLAN	4
		1								1		625	75511	1	EACH	POWER SERVICE REMOVED, AS PER PLAN	4
	17	5								22		625	75521	22	EACH	LUMINAIRE SUPPORT REMOVED, AS PER PLAN	4
	16	5								21		625	75522	21	EACH	LUMINAIRE SUPPORT FOUNDATION REMOVED	
		6602								6602		625	75551	6602	FT	DISTRIBUTION CABLE REMOVED, AS PER PLAN	4
EROSION CONTROL																	
	338									338		659	00300	338	CY	TOPSOIL	3
	3040									3040		659	00500	3040	SY	SEEDING AND MULCHING	3
	152									152		659	14000	152	SY	REPAIR SEEDING AND MULCHING	3
	0.4									0.4		659	20000	0.4	TON	COMMERCIAL FERTILIER	3
	0.62									0.62		659	31000	0.62	ACRE	LIME	3
	20									20		659	35000	20	MGAL	WATER	3
INCIDENTALS																	
	1									1		614	11001	1	LS	MAINTAINING TRAFFIC, AS PER PLAN	3
	80									80		614	11111	80	HOURL	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE, AS PER PLAN	4
	1									1		623	10000	1	LS	CONSTRUCTION LAYOUT STAKES AND SURVERYING	
	1									1		624	10000	1	LS	MOBILIZATION	

GENERAL SUMMARY
LAW-7-2.00




DESIGNER	JMD
REVIEWER	MJH 03-15-21
PROJECT ID	111129
SHEET	TOTAL
P.6	15

SEE PART 1 FOR ADDITIONAL NOTES

LAW-7-2.00

MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 8/16/2021 TIME: 9:17:56 AM USER: rfw
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DESIGN AGENCY	
	
DESIGNER	JPT
REVIEWER	HRB 07/23/21
PROJECT ID	111129
SHEET	TOTAL
P.2	5

GENERAL NOTES

SHEET NUM.

PART.

ITEM

ITEM
EXT

GRAND
TOTAL

UNIT

DESCRIPTION

SEE
SHEET
NO.

P.4

P.5

02/S</OT

ROADWAY

LS

LS

201

11000

LS

CLEARING AND GRUBBING

EROSTON CONTROL

583

583

659

00510

583

SEEDING AND MULCHING, CLASS 2

0.13

0.13

659

20000

0.13

COMMERCIAL FERTILIZER

3

3

659

35000

3

MGAL

WATER

TRAFFIC SURVEILLANCE

3,759

3,759

625

23100

3,759

NO. 2 AWG 600 VOLT DISTRIBUTION CABLE

757

757

625

25408

757

CONDUIT, 2", 725.051

366

366

625

25908

366

CONDUIT, JACKED OR DRILLED, 725.052, 2"

757

757

625

29010

757

TRENCH, 30" DEEP

7

7

625

30700

7

PULL BOX, 725.08, 18"

1

1

625

30710

1

PULL BOX, 725.08, 32"

P.4

10

10

625

32001

10

GROUND ROD, AS PER PLAN

757

757

625

36000

757

PLASTIC CAUTION TAPE

P.4

1

1

625

98000

1

LIGHTING, MISC.: STEP-DOWN TRANSFORMER AND SUPPORT

1

1

632

70001

1

POWER SERVICE, AS PER PLAN

P.4

1

1

633

67101

1

CABINET FOUNDATION, AS PER PLAN

P.4

1

1

633

67201

1

CONTROLLER WORK PAD, AS PER PLAN

P.4

1

1

809

60000

1

CCTV IP-CAMERA SYSTEM, DOME-TYPE

P.4

1

1

809

61000

1

CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET

P.4

1

1

809

65000

1

ITS CABINET - GROUND MOUNTED

P.4

INCIDENTALS

LS

LS

614

11000

LS

MAINTAINING TRAFFIC

LS

LS

623

10000

LS

CONSTRUCTION LAYOUT STAKES AND SURVEYING

LS

LS

624

10000

LS

MOBILIZATION

LAW-7-2.00

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DESIGN AGENCY



DESIGNER

RJI

REVIEWER

JDS 08/11/21

PROJECT ID

111129

SHEET

P.3

TOTAL

5

GENERAL SUMMARY

GENERAL

THE CONTRACTOR SHALL INSTALL TRAFFIC SURVEILLANCE CAMERAS AT THE LOCATION SPECIFIED IN THE PLANS UNLESS CHANGES ARE APPROVED BY THE PROJECT ENGINEER.

NOTIFICATION OR CONSTRUCTION AND ROAD CLOSURE OR RESTRICTION

THE CONTRACTOR WILL ADVISE THE PROJECT ENGINEER A MINIMUM OF TWENTY ONE (21) DAYS PRIOR TO THE FOLLOWING: THE START OF CONSTRUCTION ACTIVITIES, LANE RESTRICTIONS, LANE CLOSURES, AND OR ROAD CLOSURES. THE CONTRACTOR SHALL ALSO NOTIFY THE PROJECT ENGINEER WHEN WORK IS COMPLETED. THE PROJECT ENGINEER WILL FORWARD THIS INFORMATION TO THE FOLLOWING:

DISTRICT 9
DISTRICT PUBLIC INFORMATION OFFICER (PIO) BY FAX AT (740) 775-4889 OR EMAIL AT D09.PIO@DOT.STATE.OH.US

STATEWIDE TRAFFIC MANAGEMENT CENTER:
STATEWIDE TRAFFIC MANAGEMENT CENTER BY PHONE AT (614) 387-2438 OR EMAIL AT STATEWIDETMC@DOT.OHIO.GOV

CENTRAL OFFICE SPECIAL HAULING PERMITS SECTION BY FAX AT (614) 728-4099 OR EMAIL AT HAULING.PERMITS@DOT.STATE.OH.US

THE PIO WILL, IN TURN, NOTIFY THE PUBLIC, THE LOCAL EMERGENCY SERVICES, AFFECTED SCHOOLS AND BUSINESSES.

ITEM 625 GROUND ROD, AS PER PLAN

THE CONTRACTOR SHALL INSTALL GROUND RODS PER STANDARD CONSTRUCTION DRAWING ITS-50.10. IN ADDITION, A GROUND ROD SHALL BE INSTALLED AT EACH ELECTRIC PULL BOX INSTALLED ON THIS PROJECT AND CONNECTED TO THE PULL BOX FRAME. AT EACH PULL BOX LOCATION, THE GROUND ROD SHALL ALSO BE TIED INTO THE DISTRIBUTION CABLE USED AS THE GROUND WIRE TO SERVICE THE CAMERA CABINET, IN ORDER TO PROVIDE A COMPLETE GROUNDING SYSTEM.

ELECTRICAL NOTE

A MINIMUM OF 10 FEET SLACK CABLE SHALL BE COILED IN EACH ELECTRICAL PULL BOX. THE CABLE QUANTITIES ACCOUNT FOR THREE DISTRIBUTION CABLES FROM POWER SERVICE TO CCTV GROUND MOUNTED ITS CABINET, 10 FEET OF CABLE AT ALL SERVICE TERMINATIONS, 10 FEET OF CABLE FOR EACH PULL BOX, AND 15 FEET OF CABLE BETWEEN ODOT CABINETS AND NEAREST PULL BOX HAS BEEN ACCOUNTED FOR IN THE CABLE QUANTITIES.

ITEM 632 POWER SERVICE, AS PER PLAN

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS NECESSARY FOR A POWER SERVICE PER ODOT CONSTRUCTION AND MATERIAL SPECIFICATION SECTION 625.15.

THE POWER SERVICE SHALL BE A 480 VOLT SERVICE, GROUND MOUNTED, WITH AERIAL POWER COMPANY FEED PER ODOT STANDARD CONSTRUCTION DRAWING ITS-15.10. THE CONTRACTOR SHALL COORDINATE WITH THE POWER COMPANY TO DETERMINE IF THEY HAVE ANY SPECIAL REQUIREMENTS FOR A METERED 480 VOLT SERVICE DROP, SUCH AS BUT NOT LIMITED TO, AN ADDITIONAL ENCLOSURE OR DISCONNECT AHEAD OF THE METER, CURRENT TRANSFORMERS, OR CONDUIT BOXES. IF SO, THE CONTRACTOR SHALL MODIFY THE POLE MOUNTED POWER SERVICE PER ITS-15.10 AS NEEDED, AS APPROVED BY THE ENGINEER. IN ADDITION TO THE POWER SERVICE REQUIREMENTS OF ITS-15.10, THE CONTRACTOR SHALL FURNISH AND INSTALL A CURRENT TRANSFORMER IN CONFORMANCE WITH HL-40.20 UNDER THIS ITEM OF WORK.

THE DISCONNECT SHALL BE CAPABLE OF BEING PADLOCKED IN BOTH THE ON AND OFF POSITIONS AND SHALL ALSO BE CAPABLE OF SEPARATELY LOCKING THE DOOR SHUT. ONE PADLOCK SHALL BE USED TO LOCK THE DISCONNECT SWITCH IN THE APPROPRIATE POSITION AND ONE SHALL BE USED TO LOCK THE DOOR SHUT. PADLOCKS FURNISHED SHALL BE BRASS, EQUAL TO WILSON BOHANNAN 660A, AND SHALL BE KEYPED IN ACCORDANCE WITH CMS 631.06 OR ODOT TYPE A.

THE CCTV RELATED POWER SERVICES SHALL BE MARKED WITH "ITS". DISCONNECT SWITCHES SHALL BE FUSIBLE, RATED FOR 60 AMPS WITH NEMA 4X ENCLOSURE, AND SHALL BE FUSED AT 30 AMPS. THIS SERVICE SHALL PROVIDE 480 VOLTS TO EACH RELATED SITE, WHERE IT WILL THEN BE STEPPED DOWN TO 120 VOLT VIA SEPARATE PAY ITEM.

THE CONTRACTOR SHALL COORDINATE WITH POWER COMPANY AND PROVIDE APPROPRIATE INSPECTIONS AND/OR SELF INSPECTION FORMS TO POWER COMPANY IN ORDER TO ENERGIZE SERVICE.

ITEM 625 LIGHTING, MISC.: STEP-DOWN TRANSFORMER AND SUPPORT

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS NECESSARY FOR A POWER SERVICE PER ODOT CONSTRUCTION AND MATERIAL SPECIFICATION SECTION 625.15.

A 3.0 KVA, 480 VOLT TO 120/240 VOLT SINGLE PHASE TRANSFORMER AND DISCONNECT SWITCHES SHALL BE INCIDENTAL TO THIS PAY ITEM. AN EQUIPMENT STAND SHALL ALSO BE INCLUDED AND SHALL HAVE THE TRANSFORMER AND DISCONNECTS MOUNTED UPON IT. THIS ITEM SHALL BE INSTALLED PER STANDARD CONSTRUCTION DRAWING ITS-50.11. THIS ITEM SHALL ALSO INCLUDE ALL CONDUIT AND MATERIALS NECESSARY TO RUN POWER WIRING OUT/IN THE NEAREST 18 INCH ELECTRIC PULL BOX, IN ORDER TO PROVIDE 120 VOLT POWER TO THE ITS CABINET AND A COMPLETE AND FUNCTIONAL POWER SERVICE.

THE CCTV RELATED POWER SERVICES SHALL BE MARKED WITH "ITS". SEPARATE DISCONNECT SWITCHES SHALL BE FUSIBLE, RATED FOR 60 AMPS WITH NEMA 4X ENCLOSURE, AND SHALL BE FUSED AT 30 AMPS. THIS SERVICE SHALL PROVIDE 120 VOLTS TO EACH RELATED SITE.

ITEM 633 CABINET FOUNDATION, AS PER PLAN
ITEM 633 CONTROLLER WORK PAD, AS PER PLAN
THE CONTRACTOR SHALL INSTALL A CABINET FOUNDATION FOR EACH ITS GROUND MOUNTED CABINET. SEE SUPPLEMENTAL SPECIFICATION 809 FOR CONDUIT REQUIREMENTS ENTERING THE ITS GROUND MOUNTED CABINET.

THE CONTRACTOR SHALL INSTALL A WORKPAD AT THE CAMERA POLE PER THE DETAILS IN ODOT STANDARD CONSTRUCTION DRAWING ITS-10.11, AND PER THE SLOPE REQUIREMENTS OF ITS-50.12.

THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS TO THE PROJECT ENGINEER FOR APPROVAL. THE DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER FROM THE MANUFACTURER. THE ITEM SHALL NOT BE RELEASED FOR CONSTRUCTION UNTIL APPROVED BY THE OFFICE OF TRAFFIC OPERATIONS.

PAYMENT FOR ALL OF THE ABOVE WORK SHALL BE INCIDENTAL TO THE UNIT BID PRICE FOR ITEM 633, CONTROLLER WORK PAD, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT THE ITEM.

GENERAL CCTV SITE LAYOUT

THE CONTRACTOR SHALL INSTALL THE CCTV 70 FOOT CONCRETE POLE, GROUND MOUNTED ITS CABINET, PULL BOXES, AND CONDUIT ACCORDING TO STANDARD CONSTRUCTION DRAWING ITS-10.11. THE LAYOUT MAY BE SHIFTED ACCORDING TO SITE SPECIFIC NEEDS BUT SHOULD TYPICALLY FOLLOW SCD ITS-10.11 AND/OR ITS-50.11 WHEN A STEP-DOWN TRANSFORMER IS REQUIRED. EXAMPLE, A SITE MAY HAVE THE PULL BOXES REVERSED OR ON THE OPPOSITE SIDE OF THE WORK PAD BUT SHOULD STILL BE NEAREST THE CABINET. THE CCTV LOWERING UNIT ARM MAY ALSO BE ORIENTED SLIGHTLY DIFFERENT (AS DESCRIBED ON EACH PLAN SHEET BUT IT SHALL NOT BE POSSIBLE TO BE LOWERED ON TOP OF THE CABINET OR TECHNICIAN OPERATING THE LOWERING DEVICE. THE HANDHOLE FOR THE WINCH SHALL BE AS FAR AS POSSIBLE FROM THE CAMERA ARM AND MINIMUM 90 DEGREE IN EITHER DIRECTION. UNLESS OTHERWISE SPECIFIED, SITES WILL BE AT LEAST 30 FT FROM THE EDGE OF PAVEMENT, AND OUTSIDE THE CLEAR ZONE.

ITEM 809 CCTV IP-CAMERA SYSTEM, DOME-TYPE

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.

ITEM 809 ITS CABINET - GROUND MOUNTED

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.

ITEM 809 CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET

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. IN ADDITION, THE CONTRACTOR SHALL INCLUDE A 1/2" ISOLATION JOINT MATERIAL BETWEEN THE CONCRETE POLE AND CONCRETE WORK PAD. THE CONTRACTOR SHALL PROVIDE THREE (3) COMPLETE LOWERING UNIT TOOL ASSEMBLIES FOR LOWERING CAMERAS PER SUPPLEMENTAL SPECIFICATION 809 TO ODOT AT THE END OF THE PROJECT.

ODOT AND THE OFFICE OF GEOTECHNICAL ENGINEERING HAVE OBTAINED AND ANALYZED THE SOIL BORING DATA FOR THE SITE. THE POLE HEIGHT SHALL REMAIN SEVENTY (70) FEET ABOVE GROUND AND THE EMBEDMENT DEPTH SHALL BE AS FURNISHED BY THE OHIO DEPARTMENT OF TRANSPORTATION. THE CONTRACTOR SHALL FURNISH/INSTALL THE POLE WITH THE CORRECT LENGTH/EMBEDMENT AND ALL COUPLINGS, HANDHOLES, ETC., IN THE APPROPRIATE LOCATION ABOVE GROUND ACCORDING TO SCD ITS- 12.10. THE CONTRACTOR MAY FURNISH/INSTALL LONGER OVERALL LENGTH POLES AT A DEEPER EMBEDMENT DEPTH IF MORE BENEFICIAL FOR MANUFACTURING, SHIPPING, ETC., AS LONG AS ALL ABOVE

GROUND COMPONENTS MAINTAIN APPROPRIATE HEIGHT LEVEL. IF NEEDED DUE TO UNFORESEEN CIRCUMSTANCES ARISING WITH BEDROCK, ETC., AND WITH APPROVAL FROM THE ODOT PROJECT ENGINEER, THE CONTRACTOR MAY FIELD CUT AN APPROPRIATE AMOUNT FROM THE BASE OF CONCRETE POLES WHICH WOULD REQUIRE LESS EMBEDMENT DEPTH IN ORDER TO MAINTAIN APPROPRIATE LEVELS ABOVE GROUND. IF A POLE IS CUT, THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO NOT DAMAGE THE INTEGRITY OF THE POLE PER MANUFACTURER RECOMMENDATIONS AND ANY EXPOSED STEEL STRANDS SHALL BE COATED WITH EPOXY.

THE CONTRACTOR SHALL SUBMIT ALL POLE MANUFACTURER FABRICATION DRAWING SUBMITTALS, AS WELL AS INSTALLATION PROCEDURES AND BACKFILL MATERIAL, TO THE ODOT PROJECT ENGINEER FOR ACCEPTANCE BEFORE ORDERING.

PAYMENT FOR EACH POLE COMPLETE, INSTALLED, AND ACCEPTED CONCRETE POLE WITH LOWERING UNIT, SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 809, CCTV CONCRETE POLE WITH LOWERING UNIT, 70 FEET.

CLEARING AND GRUBBING

THE CONTRACTOR SHALL CLEAR AND GRUB IN ANY AREAS WHERE TREES/SHRUBS ARE IN THE WAY OF CONSTRUCTION ACTIVITIES AND SHALL PROVIDE AT LEAST 10 FEET CLEAR DISTANCE FROM ANY DEVICE, POLE, STRUCTURE, PULL BOX, OR CONDUIT PATH ON THIS PROJECT.

PAYMENT FOR ALL CLEARING AND GRUBBING SHALL BE INCLUDED IN THE LUMP SUM BID ITEM FOR THE PAY ITEM, ITEM 201E11000 CLEARING AND GRUBBING.

SEEDING AND MULCHING

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

659, SEEDING AND MULCHING, CLASS 2: 538 SQ. YD.
659, COMMERCIAL FERTILIZER: 0.13 TON
659, WATER: 3 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. QUANTITIES CARRIED TO THE GENERAL SUMMARY.

GPS COORDINATES/AS-BUILT PLANS

PRIOR TO THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL PROVIDE AS-BUILT PLANS OF THE ENTIRE ITS PORTION OF THE PROJECT TO THE ODOT ITS ENGINEER IN THE FOLLOWING FORMATS: DGN FILE, PDF FILE, AND ONE (1) HALF-SIZE PLAN HARD COPIES. ALL HARD COPIES SHALL BE SUBMITTED IN SEPARATE 3-RING BINDERS, NOTING THE CONTENTS ON THE OUTSIDE OF THE BINDER.

INCLUDED WITH THE PDF AND HARD COPY VERSIONS OF THIS DOCUMENTATION, THE CONTRACTOR SHALL PROVIDE ACTUAL FIELD DATA OF ALL SITES. THIS DATA SHALL INCLUDE THE FOLLOWING:

- GPS COORDINATES OF ALL PULL BOXES, POLES, CABINETS AND POWER SERVICES WITH COORDINATING DEVICE I NUMBER. (DEVICE ID # SHALL BE PROVIDED BY THE ODOT ITS ENGINEER PRIOR TO THE COLLECTION OF THE DATA).

- METER NUMBERS AND UTILITY OF ALL POWER SERVICES WITH THEIR SERVICE LOCATIONS

THE COST OF PROVIDING THESE AS-BUILT DRAWINGS SHALL BE INCLUDED IN THE BID PRICE FOR THE ITEMS INSTALLED.

UTILITIES

THE CONTRACTOR SHALL GIVE NOTICE OF INTENT TO CONSTRUCT TO THE OHIO UTILITIES PROTECTION SERVICE (OUPS), AND ANY NON-MEMBERS OF A REGISTERED PROTECTION SERVICE AT LEAST TWO WORKING DAYS BEFORE CONSTRUCTION AND IN ACCORDANCE WITH SECTION 153.64 OF THE OHIO REVISED CODE.

THE ODOT CONTRACTOR WILL TAKE ALL UTILITY MARKINGS INTO CONSIDERATION PRIOR TO INSTALLING ANY NEW EQUIPMENT TO AVOID ANY CONFLICTS. IT IS ODOT'S EXPECTATION THAT A MODIFICATION OF PLACEMENT OF NEW EQUIPMENT BE MADE TO ACCOMMODATE EXISTING UTILITIES SO THEY ARE NOT IMPACTED, IF POSSIBLE. IF THERE IS A CONFLICT THAT CANNOT BE AVOIDED, THE ODOT CONTRACTOR IS REQUIRED TO CONTACT THE IMPACTED UTILITY PRIOR TO INSTALLING THE EQUIPMENT AND FURTHER REVIEW OPTIONS WITH THE IMPACTED UTILITY OWNER FOR RESOLUTION.

IT IS REQUIRED OF THE ODOT CONTRACTOR TO SCHEDULE A FIELD REVIEW A MINIMUM OF 2 WEEKS PRIOR TO EQUIPMENT INSTALLATION TO INSURE ALL UTILITIES ARE CLEAR AND ALL CURRENT LOCATIONS ARE KNOWN. IF ANY UTILITY ISSUES ARISE IT IS THE RESPONSIBILITY OF THE ODOT CONTRACTOR TO WORK OUT AN ACCEPTABLE SOLUTION WITH THE UTILITY AND ODOT TO KEEP THE PROJECT MOVING FORWARD.

OHIO UTILITY PROTECTION SERVICE: 1-800-362-2764
NON-MEMBERS MUST BE CALLED DIRECTLY, INCLUDING ODOT DISTRICTS WHO CAN BE CONTACTED THROUGH THE PROJECT ENGINEER.

LISTED BELOW IS THE ODOT DISTRICT UTILITY COORDINATOR AND OTHER ODOT DISTRICT UTILITY OWNERS. THE CONTRACTOR SHALL CONTACT THE APPROPRIATE DISTRICT UTILITY COORDINATOR IF CONTACT INFORMATION IS NEEDED FOR ANY UTILITY COMPANIES WITH THE WORK AREA.

DISTRICT 9 UTILITY COORDINATOR ATTN/ STEVE PENNINGTON PH: 740-774-9075 650 EASTERN AVE CHILLICOTHE, OH 45601 STEVEN.PENNINGTON@DOT.OHIO.GOV	DISTRICT 9 ATTN: ERIC M. BEERY, P.E. 650 EASTERN AVE CHILLICOTHE, OH 45601 PH: (740) 774-9045 ERIC.BEERY@DOT.OHIO.GOV
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CENTRAL OFFICE UTILITIES MANAGER
ATTN: WENDI SNYDER
PH: 614-728-8062
1980 W BROAD ST
COLUMBUS, OH 43223
614-728-8062
WENDI.SNYDER@DOT.OHIO.GOV

UTILITIES, NEW POWER SERVICES

THE CONTRACTOR SHALL COORDINATE EVERYTHING WITH THE POWER COMPANY FOR INSTALLATION AND HOOKUP. THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP.

THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND PAYING ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE POWER SERVICE AND SITE IS ACCEPTED BY ODOT. THE CONTRACTOR SHALL THEN SEND ALL POWER SERVICE INFORMATION (ADDRESS, ACCOUNT #, METER #, LOCATION, ETC. TO THE PROJECT ENGINEER SO IT CAN BE SENT TO THE APPROPRIATE OFFICE TO TRANSFER THE SERVICE INTO ODOT'S NAME.

THE CONTRACTOR SHALL CONTACT THE FOLLOWING ELECTRIC COMPANY AT LEAST 30 DAYS PRIOR TO WORK NEEDING TO BE PERFORMED.

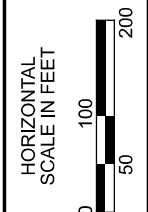
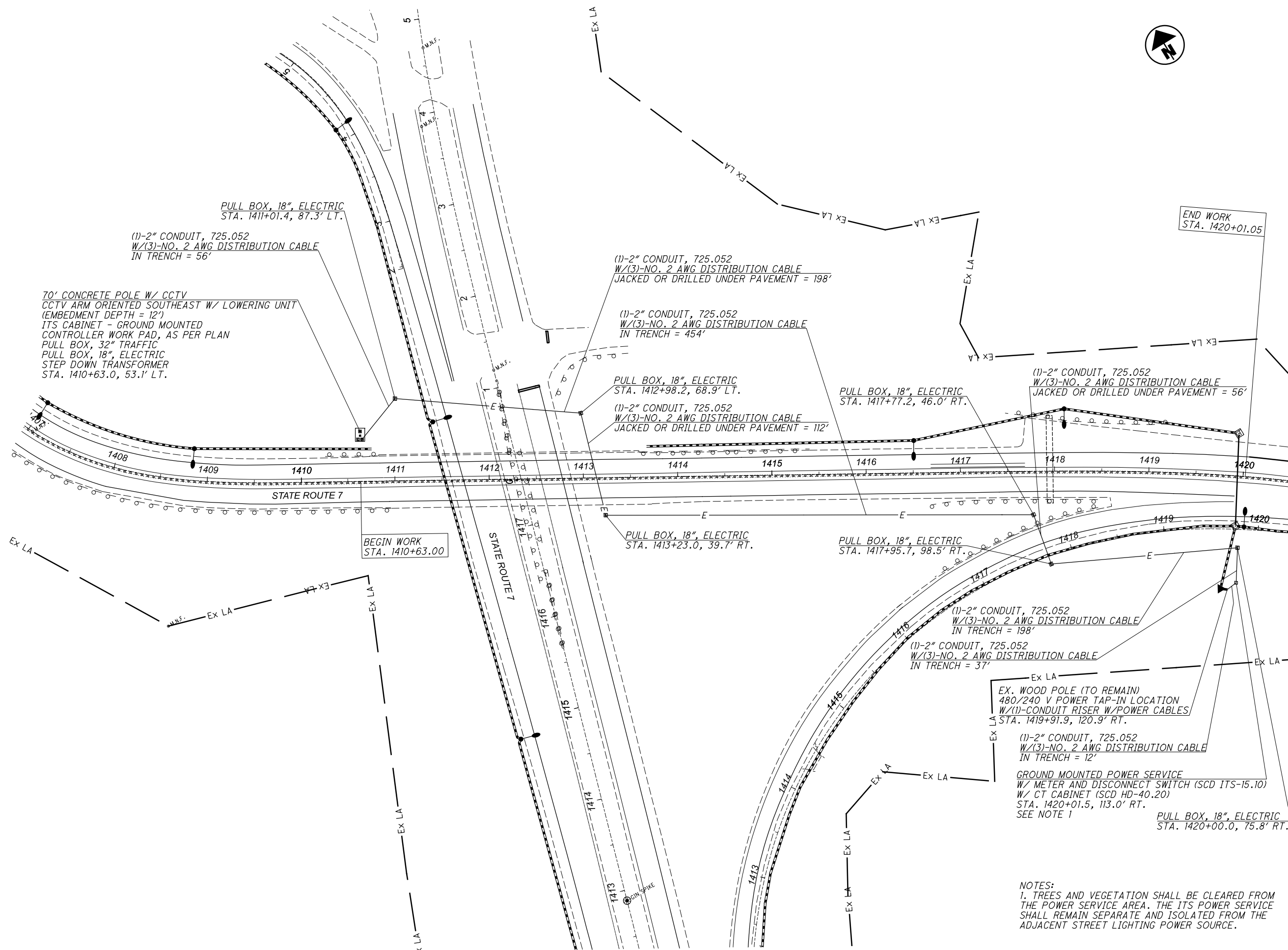
AMERICAN ELECTRIC POWER
AEP OHIO SERVICE CENTER
409 TECHNOLOGY AVE
SOUTH POINT, OH 45680
ATTN: JOE MEYERS
TELEPHONE: 740-377-3262

ODOT CENTRAL OFFICE CONTACT INFORMATION
ODOT ITS LAB
1606 W. BROAD ST.
COLUMBUS, OH 43223
MAIN LINE: (614) 387-4113
CEN.ITS.LAB@DOT.OHIO.GOV

BRYAN COMER, P.E.
OFFICE OF TRAFFIC OPERATIONS
1606 W. BROAD ST.
COLUMBUS, OH 43223
(614) 387-1253
BRYAN.COMER@DOT.OHIO.GOV

OFFICE OF ENVIRONMENTAL SERVICES
1980 W. BROAD ST., MAIL STOP 4170
COLUMBUS, OH 43223
614-466-7100

ITEM 614 - MAINTAINING TRAFFIC
SEE PART 1 FOR MAINTENANCE OF TRAFFIC REQUIREMENTS



ITS PLAN

- NOTES:
 1. TREES AND VEGETATION SHALL BE CLEARED FROM THE POWER SERVICE AREA. THE ITS POWER SERVICE SHALL REMAIN SEPARATE AND ISOLATED FROM THE ADJACENT STREET LIGHTING POWER SOURCE.

DESIGN AGENCY	
EMHT	
DESIGNER	RJI
REVIEWER	JDS 08/11/21
PROJECT ID	111129
SHEET	TOTAL
P.5	5