



City of Columbus
Division of Power

Street Lighting Design Guide



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1. Introduction

The purpose of this Street Lighting Design Guide is to assist in the design of street lighting projects for Columbus Water and Power (CWP) by documenting illumination standards, describing certain design considerations, and offering insights from the Division of Power (DOP). This design guide is intended to be used in conjunction with the latest version of the following documents:

- The Division of Power Material and Installation Specifications (MIS)
- The City of Columbus Construction and Material Specification (CMS)
- The Illuminating Engineering Society Recommended Practice No. 8 (IES RP-8)
- The National Electric Safety Code (NESC)

This design guide does not attempt to cover all scenarios that will be encountered during the design process. The Engineer sealing the plans is responsible for all project details and should use good engineering judgment consistent with local practices throughout the entire design.

A handwritten signature in blue ink, appearing to read 'K. Fenner', followed by a long horizontal line extending to the right.

Kristian Fenner; MBA
Administrator; Division of Power
Columbus Water and Power

2. Illumination Requirements

2.1 Recommended Illumination

The street lighting system shall be designed to provide the average maintained horizontal illumination values as provided in the table below. Any deviation from these recommended values due to unique circumstances must be approved by the Division of Power. The horizontal illumination shall be measured at the roadway and sidewalk surfaces and be provided in foot-candles (fc). The intent of the sidewalk illumination is for sidewalks immediately adjacent to the roadway.

Roadway Classification	Pedestrian Area Classification	Roadway Illumination (fc)	Uniformity Ratio (Avg/Min)	Sidewalk Illumination (fc)	Uniformity Ratio (Avg/Min)
Arterial/Downtown/Major*	High	1.7	3:1	1	4:1
	Medium	1.3	3:1	0.5	4:1
	Low	0.9	3:1	0.4	4:1
Collector	High	1.2	4:1	1	4:1
	Medium	0.9	4:1	0.5	4:1
	Low	0.6	4:1	0.3	6:1
Local	High	0.9	6:1	1	4:1
	Medium	0.7	6:1	0.5	4:1
	Low	0.4	6:1	0.3	6:1

* Downtown roads designated as an "alley" by DOP shall be designed with a 5000 lumen LED luminaire.

2.2 Roadway Classification

The Department of Public Service's Thoroughfare Plan is the primary resource for roadway classifications, and shall be the basis of the street lighting design. The Mid-Ohio Regional Planning Commission may also be used as a secondary resource to determine road classification.

2.3 Pedestrian Area Classification

The pedestrian area classifications are generally described in IES RP-8. General guidelines are as follows:

High	Over 100 pedestrians per hour within the first hour after sunset.
Medium	From 10 to 100 pedestrians per hour within the first hour after sunset.
Low	Fewer than 10 pedestrians per hour within the first hour after sunset.

The pedestrian volumes represent the total number of pedestrians walking in both directions in a typical block within the project area during the first hour of darkness. The pedestrian classifications will be decided on a project specific basis by the Designer, in consultation with the Division of Power, by approximating pedestrian volumes based on land use.

2.4 Photometric Analysis

A Photometric analysis shall be completed using Visual lighting design software, or AGI lighting design software. The Designer shall select the luminaire that provides the best lighting performance for the project in accordance with Division of Power specifications, and provide a design using this luminaire. The contractor may elect to use a different luminaire for construction than the luminaire shown in the plans. However, they will be required to provide photometrics that show the alternate luminaire meets the performance of the design luminaire, and the design of the plan without modifying proposed pole locations. Any luminaire chosen by either the Designer or the contractor shall meet the current Division of Power MIS specifications.

2.5 Distribution Pattern

IES Type II and Type III distributions are the preferred lighting distribution patterns for DOP projects. Type II is to be used for general roadway design. Type III is to be used for installations of Post Top lighting poles in either general roadway design, or in residential areas. Other types may be used where warranted to achieve desired illumination standards with prior approval from Division of Power.

2.6 Intersection Illumination

Intersections shall be lit proportionally to the sum of the illumination values for each intersecting roadway classification. For example, it is recommended that the intersection of two arterial roadways with high pedestrian area classifications be lit to 3.4 foot-candles, given that each roadway has an average illumination of 1.7 foot-candles.

When developing the calculation zones for intersections inside the photometric analysis, the intersection limits are typically stop bar to stop bar. When there is no stop bar present, the limits are typically curb return to curb return. The photometric calculation zone for the intersection shall be separate from the calculation zone of the intersecting roadways. The luminaire optical package used for the intersection shall be the same throughout the calculation zone. Mixing different optical packages to light an intersection is not permitted.

Intersections are to be fully illuminated to their full limits as noted above. The entire intersection is to be illuminated to the combined average foot-candle levels of the two intersecting roadways. Lighting an intersection using only a single luminaire is not permitted. Smaller intersections MAY require an exception to this directive. However, written permission from the Division of Power allowing this type of intersection lighting must be obtained during the project design process.

2.7 Roundabout Illumination

Roundabouts shall be lit in the same manner as an intersection, where the appropriate foot-candle level is determined by the average of the foot-candle levels for the intersecting / adjacent roadways. The calculation zone for a roundabout is a separate calculation zone from the adjacent roadways. The photometric calculation zone shall begin at the splitter island taper on all sides of the roundabout, and all approaches. The luminaire optical package used for the roundabout shall be the same throughout the calculation zone. Mixing different optical packages to light a roundabout is not permitted.

2.8 General Roadway Illumination

For roadways not located inside an intersection or roundabout, the photometric calculation zone shall be a separate calculation zone from an adjacent intersection or roundabout. The luminaire optical package used for general roadway illumination design shall be the same throughout the calculation zone. Mixing different optical packages to light the roadway is not permitted.

2.9 Shared Use Path (SUP) Illumination

Shared Use Path lighting shall only be considered a part of the street lighting for the project if the SUP is located such that the path can be lit using the same luminaires intended for the roadway lighting and utilizing luminaires with a Type II or Type III IES distribution. If the calculation zone from the roadway luminaires encompasses both the roadway and SUP areas, use the sidewalk target illumination values noted in this document for the SUP. The luminaire optical package used for this application shall be the same throughout the calculation zone. Mixing different optical packages is not permitted.

Shared Use Paths that are not located immediately adjacent to the roadway or that are not able to be illuminated with the proposed roadway luminaires are treated independently of the roadway lighting. These shared use paths shall be illuminated separately from the roadway using independent poles and luminaires specifically for that purpose. **This lighting shall not be owned or maintained by DOP.** This lighting is not permitted to be included in the same photometric calculation zone as the roadway.

3. Design Considerations

Following are various specific design considerations that should be reviewed by the Designer to ensure that the design of the project adheres to Division of Power standards and specifications. The design and construction of all DOP street light systems shall be governed by both the Division of Power MIS specifications, and the NESC. The lighting design shall follow the Illumination Engineering Society RP-8 Recommended Practices for roadway lighting, and this design guide.

3.1 System Voltage

The standard system voltage for Division of Power street lighting circuits is 480 volts. For safety and maintenance purposes, 480-volt underground street lighting circuits shall not be installed in combination with any other power source in any pole, pull box, controller, or conduit. It is permissible to install 480-volt overhead street lighting circuits on poles shared with power distribution facilities, subject to NESC clearance requirements.

3.1.1 Underground: When designing a new underground street lighting circuit for the Division of Power, the circuit should be 480-volt, single phase, 3- wire (Hot, Neutral, Ground) as per the MIS specifications, unless otherwise directed by the Division of Power. Connecting a new 3-wire system to an EXISTING 2-wire circuit is **NOT PERMITTED**. New lighting being connected to an existing circuit must be the same electrical configuration as the existing circuit that it is being connected to.

3.1.2 Overhead: When designing a new overhead street lighting circuit for the Division of Power, the circuit shall be 480-volt, single phase, 2-wire open wire construction as per the MIS specifications unless otherwise directed by the Division of Power. 2-wire open wire construction is the preferred method of construction. 3-wire open wire and 4-wire open wire construction methods are permitted if the design requirements warrant the use of these methods, and with prior approval from the Division of Power. Street Lighting construction using 2-wire bundled overhead Duplex cable is permitted if the design requirements warrant the use of this method with prior approval from the Division of Power.

3.2 General Power Service Requirements

3.2.1 DOP Power Service: The Division of Power shall be the service provider for the street lighting circuit whenever DOP service is available in the immediate vicinity. DOP may also elect to extend power distribution facilities to serve street lighting circuits where there are future service plans, or available opportunities.

3.2.1.1 General Design: The Designer will be required to work directly with DOP determine the most appropriate location for both the transformer and the controller for the new power service. This location will be primarily based on existing DOP facility location. However, DOP may determine that the project warrants extending existing facilities to a new location for the power service and subsequent street lighting circuit.

3.2.1.2 DOP Transformer: The transformer for a street lighting circuit energized by DOP will be provided by DOP. The Designer is to work with the DOP Project Manager to specify the correct size transformer for the proposed load on the new street lighting circuit. Appropriate notes along with a complete installation detail of the transformer will need to be placed in the plans for the contractor to reference.

3.2.2 AEP / SCP Power Service: Any circuit not powered by DOP will require the Designer to meet with a field technician from the appropriate service provider (AEP / SCP) to determine the necessary requirements and details for the power service to the street lighting controller. The consultant shall provide the following information in the plan set.

3.2.2.1 Technician Contact Information: The Designer shall provide the power service provider technician name, telephone number, and email address in the plans so that the contractor can contact them for power service during construction.

3.2.2.2 Power Service Provider Project Details: The Designer shall provide the work order and drawing number assigned to the project by the service provider technician in the plans. This will be used by the contractor when establishing the new power service for a new street lighting circuit.

The Designer shall also provide the estimated Customer Aid In Construction (CAIC) charge that will be required to be paid by the contractor at the time they establish the power service for the project. These costs will be bid by the contractor under the "Power Service Pay Item." An estimated timeline for construction of the power service by the service provider shall also be included in the plans.

3.2.2.3 Power Service Pay Item: A pay item will be required in the estimate of quantities / general summary for the contractor to be able to accurately bid the cost of the CAIC charge that the service provider will charge the contractor to construct the power service to the street lighting controller.

For new AEP power services, the estimate of quantities / general summary will need to include MIS-60: "AEP Power Service for Street Lighting" as the pay item for each power service. This is a specific MIS-specification for establishing a power service for a City street lighting circuit with AEP.

For new street lighting circuits powered by South Central Power (SCP), the Designer shall provide a pay item in the estimate of quantities / general summary titled "Power Service SCP-As Per Plan" for each power service. The appropriate "As Per Plan (-APP)" notes shall be included in the plan. These notes will specify that the contractor is responsible for all costs related to establishing the new power service, along with any energy charges accumulated during construction of the project up to the date the project is accepted by the Division of Power.

- 3.2.3. Certified Address:** The Certified Address of the power service / street lighting controller shall be provided in the plan set. This applies to both street lighting circuits powered by DOP, and those powered by other agencies. The Designer shall obtain the certified address by completing and submitting the Certified Address Request Form to the City of Columbus Department of Building and Zoning Services. The Designer is responsible for all fees associated with this process. The Certified Address Request form can be obtained at the following location:

<https://www.columbus.gov/files/sharedassets/city/v/2/building-and-zoning/document-library/certified-address-request-form.pdf>

- 3.2.4 Estimated Energy Usage Calculation:** The Designer is required to provide in the plans the estimated monthly energy usage for the new street lighting circuit. The contractor will be required to pay the appropriate service provider for the energy used by the new street lighting controller. The energy charges will be paid by the contractor from the day the controller is energized by the service provider until the day the project is accepted by the Division of Power. The calculation that shall be used to determine the estimated monthly energy usage is as follows. The final number shall be noted in the Power Service Information table shown in section 3.2.4 of this document and expressed as KWH.

$$\text{Watts} / 1000 \times 330$$

Watts = The total combined wattage of all luminaires on the new street lighting circuit.
1000 = The total watts per hour used to calculate the total Kilowatt Hours used (KWH).
330 = The total amount of luminaire operating hours per month.

- 3.2.5 Power Service Information Table:** The Designer shall provide the following table in the plan set. All information is to be provided by the Designer for each new circuit powered by either AEP or SCP. Each new power service shall have its own table. The Designer is not permitted to combine tables for multiple new circuits. All information entered in the table shall be **typed** for clarity. No information entered in the table shall be hand written. The table shall be clearly displayed in the plan set.

POWER SERVICE INFORMATION TABLE

D.O.P CIRCUIT NUMBER:	
LIGHTING CONTROLLER CERTIFIED ADDRESS:	
SERVICE PROVIDER (AEP / SCP):	
PROVIDER WORK ORDER #:	
ESTIMATED CAIC CHARGE:	
ESTIMATED MONTHLY KWH USAGE:	
TECHNICIAN NAME:	
TECHNICIAN TELEPHONE NUMBER:	
TECHNICIAN EMAIL ADDRESS:	

3.2.6 Power Service Detail: The Designer will be required to provide a complete exploded detail of the power service in the plans. This exploded detail will need to show the specific locations of the transformer, controller, CT Cabinet (AEP /SCP powered circuits only), pull boxes, and conduit / cable paths as required. This detail shall clearly show the (3) individual conduits required between the controller and the first pull box, specifically noting the appropriate circuit leg (A, B, C or Empty) for each conduit. Reference Appendix C: Sample Plan Sheets of this document for additional information.

3.3 Circuit Loading

When designing the plan, the Designer should use all branches of the circuit originating from the controller. These circuit branches are typically referred to as circuit “legs”. The circuit legs should be labelled “Leg A,” “Leg B,” and Leg C” as appropriate in the plan set. The loading of the circuit should be balanced across all legs as evenly as practical. The total load should not exceed the controller’s capacity. Appropriate fusing values of each leg for the circuit for the controller are located in the appropriate controller MIS specification. A circuit loading chart is required to be provided in the plans for each circuit impacted or created by the project. Reference Appendix C: Sample Plan Sheets of this document for additional information regarding chart requirements.

3.4 Voltage Drop Calculations

The voltage drop shall be calculated for each street light circuit impacted or created by the project. The maximum allowable drop per circuit is 5% from the nominal voltage. Voltage drop calculations for each impacted or created circuit shall be included in the final plan set.

3.5 System Isolation

The street lighting system shall be isolated from all other electrical systems. No other electrical systems shall be installed in street lighting controllers.

3.6 Facility Placement and Installation

All new or replaced Division of Power owned and maintained infrastructure shall be located within the right-of-way with consideration given to aerial components. Any facilities placed outside the right-of-way will require approval from the Division of Power. If this approval is granted, an Ohio Registered Professional Surveyor will be required to prepare all legal descriptions and documents necessary to acquire easements or right-of-way for facility placement.

All City of Columbus Street Lighting material is to be installed per the City of Columbus Street Lighting MIS (Material & Installation Specifications). These are located on the internet at the following location.

<https://www.columbus.gov/Services/Columbus-Water-Power/About-Columbus-Water-Power/Columbus-Water-Power-FAQs/Power-Specifications-Street-Lighting-MIS-Specifications>

Appendix C of this document also details the allowable configurations for each pole style, luminaire, mounting arm and foundation. Following is additional guidance regarding the placement and installation of street lighting facilities.

- 3.6.1 Transformer:** The street light circuit may be served by a pole mounted or pad mounted transformer. The Designer shall determine the best application and location in consultation with the service provider, and with final approval by Division of Power. The transformer shall be specifically for providing power to the street lighting circuit. No other services such as service drops for businesses or private residences shall be connected to the transformer. Each street lighting circuit should have its own independent transformer. A single transformer should not power more than (1) street lighting circuit. This is to minimize downstream impact should there be an issue with operation of the transformer.
- 3.6.2. Street Lighting Controller:** Street lighting controllers can be pad mount, pole mount, or pedestal mount as per the MIS specifications. Any controller that is fed by DOP is to have a meter installed on the controller as per MIS-57. Any 480-volt controller fed by AEP / SCP will require the installation of a CT cabinet, as well as a meter as per MIS-59.
- 3.6.2.1 Pole Mount:** Pole mount controllers shall only be installed on DOP owned wood poles only. Installation on aluminum or fiberglass poles is NOT permitted. Pole mount controllers are primarily used for overhead street lighting design. However, they can be used for underground design if the project presents limitations that prevent a pad mount or pedestal mount controller from being installed.
- 3.6.2.2 Pad Mount:** Pad Mounted controllers shall be located within 5 feet of the transformer, wood power pole containing the transformer, or as directed by DOP. Any underground conduit for service cables from the transformer to the controller is to be concrete encased as per MIS-700. Pad mount controllers shall NOT be installed between the sidewalk and the curb.
- 3.6.2.3 Pedestal Mount:** Pedestal Mount controllers are designated for use ONLY in the DOWNTOWN area of the City of Columbus. These shall not be installed in private development subdivisions or general roadway lighting applications outside the downtown area. Any underground conduit for service cables from the transformer to the controller is to be concrete encased as per MIS-700.
- 3.6.3 Photo-Electric Control:** Each street light circuit will be controlled by (1) photo-electric control, which shall be located on the first pole after the controller. If the circuit that is being designed or modified will be attached to the City of Columbus SMART LIGHTING system, the photo-electric control will not be the primary means of circuit operation. However, it is still required to be installed as noted. Contact the Division of Power Project Manager for additional SMART LIGHTING requirements for this particular type of design.
- 3.6.4 Pole Placement:** Determination of street lighting pole placement shall be based on the following design considerations.

3.6.4.1 Photometric Requirements: Project photometrics shall be the primary factor in street lighting pole placement. Pole spacing is not to exceed 200'. Reference Appendix D: Street Lighting Pole and Luminaire Installation Matrix for additional pole spacing and placement requirements.

3.6.4.2 Preferred Placement: Poles should be installed 3' from the back of curb or edge of pavement to the center of the foundation or pole whenever possible. Poles may need to be set back further than 3' from the back of curb to accommodate underground utilities, obstacles, or other items. In the event that a pole must be installed further back than 3' back of curb, longer bracket arms may be used to accommodate this. See section 3.6.5 of this document for additional information and requirements.

3.6.4.3 Placement in Residential Areas: Poles should be placed at or near property lines wherever possible in residential areas.

3.6.4.4 Sidewalk Placement: Poles may be placed in sidewalks provided that the proper Americans with Disabilities Act (ADA) accessible route clearances are maintained. The accessible route clearance should be clearly shown and dimensioned on the plan. Modified or flush foundations for underground poles may be required with prior approval from DOP.

3.6.4.5 Placement in Roadway Curves: Poles should be placed on the inside of roadway curves where possible. Pole spacing may need to be closer than typical on curves to provide desired illumination levels.

3.6.4.6 Breakaway Base / Transformer Base Pole Placement: Poles without a crash tested breakaway base (A.K.A. Transformer Base) shall be located in accordance with Section 600.2 (Clear Zone) of the Ohio Department of Transportation Location and Design Manual, Volume 1. Offsets shall be measured from the edge of the pole. See the attached link for additional information.

<https://www.transportation.ohio.gov/working/engineering/roadway/manuals-standards/location-design-vol-1/0600/0600>

3.6.4.7 Ground Elevation: The ground elevation at the base of the pole should be taken into consideration during design. Elevation differences between the roadway and pole base can affect the luminaire mounting height once the pole is installed. For underground poles, extended or modified foundations may be used with prior approval from DOP in this type of scenario.

3.6.4.8 Driveway Placement: Poles shall be placed a minimum of 5' from the point of tangent of a driveway or property entrance. Poles should not be placed in the middle island of a right-in-right out driveway.

3.6.4.9 Intersection Placement: For installations in a conventional intersection, the preferred setback of the pole is 3' from back of curb to the center of the pole foundation, with the center of the luminaire positioned over the first lane of traffic. See section 3.6.5 of this document for additional guidance on extended pole setback.

For photometric calculation purposes, the calculation zone for the intersection is to be from stop bar to stop bar. If no stop bar exists, the calculation zone for the intersection shall be from curb return to curb return. The calculation zone for the intersection is to be independent of the (2) adjacent roadways. These roadways are to have their own photometric calculation zones.

3.6.4.10 Roundabout Placement: For installations in a roundabout, the preferred setback of the pole is 3' from back of curb to the center of the pole foundation with the center of the luminaire positioned over the first lane of traffic. See section 3.6.5 for additional guidance on extended pole setback. When poles are permitted to be installed more than 3' back of curb at intersections or roundabouts, the pole shall be placed in such a manner as to be outside of the swept path of large vehicles.

3.6.5 Bracket Arm Length / Orientation: The bracket arm length shall be selected based on pole location and photometric requirements. Bracket arms should be positioned perpendicular to the street centerline. Placing brackets at any angle other than perpendicular to the roadway is NOT PERMITTED. The length of the bracket arm shall be long enough to place the center of the luminaire over the center of the first lane of traffic. The MIS specifications for each pole configuration note the available arm lengths for use with a specific pole. Additional criteria regarding luminaire bracket arms are as follows.

3.6.5.1 30' Aluminum Pole Brackets: For 30' aluminum underground pole installations, the maximum allowable bracket arm length is 15'.

3.6.5.2 40' Aluminum Pole Brackets: For 40' aluminum underground pole installations, the maximum allowable bracket arm length is 20'.

3.6.5.3 35' Class 5 Wood Pole Brackets: For overhead wood pole installations utilizing a 35' class 5 wood pole, the maximum allowable bracket arm length is 15'.

3.6.5.4 20' Wood Pole Brackets: 20' long wood pole bracket arms are only permitted in special circumstances with prior approval from the Division of Power. 20' mounting arms are NOT PERMITTED to be installed on a wood street lighting pole that is less than a 40' class 3 pole.

3.6.6 Pull Boxes: Pull boxes should be located in order to facilitate construction or maintenance activities. They should be unobstructed by surrounding objects and provide easy access. Pull boxes shall not be installed under other objects such as benches, shelters or other locations that prevent direct access to the box itself. Additional design constraints are noted below.

3.6.6.1 Roadway Crossings: Pull boxes shall be installed on both sides of a street crossing as per MIS-702.

3.6.6.2 Roadway Placement: Pull boxes shall not be placed directly in the roadway in front of the curb or edge of pavement. All pull boxes are required to be installed behind the back of curb or edge of pavement.

3.6.6.3 ADA Requirements: Pull boxes shall be located fully outside ADA ramp flares, and shall be placed in accordance with applicable ADA requirements.

3.6.6.4 Existing Pull Boxes: Existing pull boxes are not to be relocated to a different location. If it is necessary to remove an existing pull box, it shall be removed, and a new pull box installed in the proposed location.

3.6.6.5 4-Way Splices: 4-way splices (circuitry going in (4) different directions) are not permitted in pull boxes. The maximum amount permitted is a 3-way splice. A 3-way splice will require a 17" x 30"x 24" pull box per MIS-61 when working with a 3-wire system. A standard pull box per MIS-54 shall be used for all other applications.

3.6.6.6 Permitted Circuit Quantity: Only (1) street lighting circuit is to be installed into a single pull box. The installation of multiple circuits into a single pull box is NOT PERMITTED. Multiple "legs" of a single circuit are permitted inside a pull box provided that each leg is clearly tagged with leg A, leg B, or leg C as appropriate to identify the particular circuit leg. In this scenario, the Designer is required to place notes in the plan instructing the contractor to clearly tag each circuit leg.

3.6.7 Conduit Path and Placement: Street lighting conduit is to be located in such a manner as to avoid conflict with all other utilities and structures.

3.6.7.1 Conduit Placement: The conduit is to remain behind the curb or edge of roadway, and is not to be "swept" from behind the curb into the roadway. The only time conduit should be placed in the roadway is when installing a roadway crossing as per MIS-702. Sweeping conduit in and out of the roadway is not permitted.

Underground conduits and circuitry shall be located fully inside the ROW. The proposed alignment shall maintain a consistent distance from the ROW line, or centerline of the roadway for the entire span as much as possible. Alignment variations shall require prior approval from the Division of Power prior to design implementation.

3.6.7.2 Maximum Distance: The maximum distance for a conduit / cable run is 200'. Conduit runs over 200' must install a pull box close to mid-point of the run as possible to aid in cable installation and maintenance.

3.6.7.3 Road Crossings: The Designer shall design the placement and routing of underground conduit and circuitry with the intent to minimize the number of crossings under any public roadway. The preferred method for designing a road crossing for conduit is installation per MIS-702 (3" steel conduit with 2" PVC insert). This method of installation shall be used when crossing public roadways. It should not be used when crossing private residential driveways. In any installation, MIS-702 requires the installation of pull boxes on each side of the crossing. The 3" Steel conduit is **NOT PERMITTED** to attach directly to a pole foundation. The steel conduit must terminate at a pull box.

3.6.7.4 Maximum Bend Radius: 90-degree bends in street lighting conduit are not permitted. This will result in cable becoming damaged during installation. The maximum bend in street lighting conduit that is permitted is 22.5 degrees. This is to facilitate smooth installation and removal of the circuit cable.

3.6.7.5 Conduit For Underpass / Bridge Lighting: When designing lighting for either a roadway underpass or bridge application, the conduit to be used shall be Schedule 80 PVC conduit. The use of galvanized steel conduit is not permitted. Flexible "Seal-Tite" style conduit is permitted to be used for wiring between luminaires when designing lighting for a roadway underpass application. All other vertical conduit must be Schedule 80 PVC. Contact the Division of Power for additional design details for these applications.

3.7 Overhead Circuit Placement

Overhead circuits shall be located fully inside the ROW. The proposed alignment shall maintain a consistent distance from the ROW line, or centerline of the roadway for the entire span. The Designer shall design the placement and routing of overhead circuits with the intent to minimize the number of crossings over any public roadway, or other adjacent utility. Alignment variations shall require prior approval from the Division of Power prior to design implementation.

3.8 Clearance Requirements

3.8.1 Underground Clearance: All underground street lighting facilities shall be located a minimum of 3 feet horizontally and 18 inches vertically clear from all other utilities. Clearances are measured outside diameter to outside diameter. Facilities may be located closer with both DOP and other utility owner approval. Underground electric conduit/cable should be installed on the opposite side of the street from the water line when practical. It is the responsibility of the Designer to coordinate with other utilities during design of the project for compliance to these clearance requirements.

3.8.2 Overhead Clearance: The Designer is responsible for designing the project so that all applicable clearances to adjacent overhead utilities and objects are maintained as per the NESC.

3.9 Driveway Design

When designing large commercial RI-RO (Right-In-Right-Out) driveways, full access commercial driveways, and high-volume multi-family residential driveways where increased traffic volumes are expected, MIS-702 should be used as the method of installation. A pull box should be installed in the center island of a Right-In-Right-Out access drive directly in line with the conduit path.

3.10 Combination Street Lighting/Traffic Signal Supports

Combination lighting and signal supports shall only be used in the downtown business district or at the direction of the City of Columbus, City Engineer, or appointed designee.

When used, luminaires mounted on traffic signal supports shall be powered by the same power source used for the traffic signal installation. The luminaires shall be controlled by a 120 volt photocell. All traffic signal/combination lighting shall be routed through traffic signal conduits back to the traffic signal controller cabinet. Combination lighting and power cable shall not enter any adjacent street lighting conduit system. In addition, no adjacent street lighting circuits shall be installed in the traffic signal support, signal conduit system, or the traffic signal cabinet. Adjacent street lighting systems and all combination lighting/signal circuits shall remain separate at all times. When replacing existing combination street lighting/traffic signal supports that are powered by an adjacent street lighting circuit and current sensor, the demolition plan for these facilities must remove the existing current sensor from the pull box on the adjacent street lighting circuit. The proposed combination supports shall be energized as noted above. Luminaires installed on combination street lighting/traffic signal supports shall be 120 volt unless otherwise directed by the Division of Power.

3.11 Adjacent Lighting

The Designer should consider lighting from adjacent roadways when calculating the illumination levels of the roadway being designed. Only adjacent lighting owned and maintained by DOP shall be considered. Privately owned lighting or private area lighting shall not be included. Adjacent lighting owned and maintained by DOP that impacts the project is required to be included in the photometric design and layout for the project.

3.12 Circuit Continuity

The Designer shall design the project so that no adjacent street lighting facilities are left disconnected from the circuit as a result of the design. The Designer is responsible to address impacts to lighting that may or may not be inside the project boundaries in order to maintain continuity of the circuit. If the project boundaries stop in the middle of a circuit and there are additional poles / street lighting facilities beyond the project boundary, the project must address the additional lighting in order for all lighting to remain connected to the circuit

While maintaining circuit continuity, the Designer is not permitted to create a “loop”, or continuous connection on any leg of the circuit. All circuit legs shall contain a “dead end”, or point where the circuit terminates in a pole or pull box, and does not continue on. No single circuit leg is to be connected to another circuit leg to obtain continuity.

3.13 Addressing Existing High-Pressure Sodium (HPS) luminaires

During the design process, all existing lighting within the project boundaries is required to be addressed by the project. Any existing HPS luminaires that exist within the project boundaries are to be converted to LED. This will create more effective and even lighting for the project.

When it is necessary to convert existing HPS luminaires to LED. The chart below provides the LED equivalent lumen range that should be utilized to determine the appropriate LED equivalent luminaire that will replace the existing HPS luminaire. An existing 55 watt Low Pressure Sodium luminaire shall be replaced with a 100 watt High Pressure Sodium equivalent LED luminaire.

**Existing High-Pressure Sodium (HPS)
To
Light Emitting Diode (LED)
Lumen Equivalency Chart**

HPS WATTAGE	HPS LUMEN RANGE	LED EQUIVALENT LUMEN RANGE
100	9,500 - 10,000	4,750 - 5,000
150	13,000 - 16,000	6,500 - 8,000
200	20,000 - 22,000	10,000 - 11,000
250	26,000 - 29,000	13,000 - 14,500
310	34,000 - 37,000	17,000 - 18,500
400	48,000 - 50,000	24,000 - 25000

4. Plan Set and Technical Submittal Requirements

Following are specific items that are required to be included in each plan set submitted for Division of Power funded projects. Appendix A and Appendix B in this document contain the DOP Plan Review Checklist and sample plan sheets. Refer to the checklist for a list of details that are required to be included in the plans. The sample plan sheets can be referenced for an illustrative example of the features required in each plan set. Additionally, this section also notes requirements for technical submittal documents required to be submitted to DOP by the Designer for the project.

4.1 Plan Set

4.1.1 Professional Engineer Requirement: All plans shall be prepared under the direct supervision of an Ohio Registered Professional Engineer. All plans shall be stamped by a Professional Engineer registered in the state of Ohio.

4.1.2 Multi Stage Review: The Designer should prepare the plan in such a manner as to accommodate a multi-stage review process by the City. The requirements for each of those stages are noted below.

4.1.2.1 Capital Plans:

Stage 1 / 30%: Basic lighting design with general details that shows the intent and potential pole locations . Initial photometric layout with proposed luminaires based on preliminary pole locations. Basic circuit single line diagram developed with proposed circuit path. Basic plan legend with appropriate symbology for street lighting as per the sample plans and details. Utility notifications shall be sent to all utilities impacted by the design at this plan review stage.

Stage 2 / 60%: General, specific, and As Per Plan notes and details shall be added to the plan. General Summary / Estimate of Quantity shall be reasonably complete. Complete photometric layout shall be developed. Complete single line diagram shall be included. Majority of the design details shall be developed and included in the plan. A complete legend shall be included.

Stage 3 / 90%: Major projects issues shall be addressed and resolved. All notes and quantities shall be 99% complete and accurate. Layout and location of poles and other proposed lighting facilities shall be basically finalized. Final photometrics shall be completed. Final legend(s) shall be provided in the plan set. At this stage, the plan set shall be basically complete, with finalized details outside of any comments from other City departments.

The 90% submittal shall be circulated to all City departments and / or divisions for review and comment. From a FULL City review perspective, this is the FIRST review. Subsequent reviews will follow based on the Designer's ability to resolve each City department or division's comments appropriately. Second, third, or fourth reviews may result. It is the responsibility of the Designer to make every effort to adequately address and resolve each comment on the plan set to the satisfaction of each City reviewer, and the Division of Power within a reasonable time frame as not to delay the progress of the design.

Signatures / 100%: All city comments shall be fully addressed. Final notes, details, and photometrics shall be included resulting in a fully complete set of plans.

4.1.2.2 Private Development Plans : Unlike the staged review process used for Capital plans, Private Development plans do not utilize a "staged" review process through the City. All Private Development plans are to be submitted in what would be considered to be at the 100% stage noted above. Private Development plans shall be circulated to reviewers from all City departments or divisions for comment. Any comments provided by these reviewers shall be addressed and resolved by the Designer, and the plan re-submitted for additional review. Subsequent comments will require additional reviews by the City. It is the responsibility of the Designer to make every effort to adequately address and resolve each comment on the plan set to the satisfaction of each City reviewer, and the Division of Power within a reasonable time frame as not to delay the progress of the design.

4.1.3 Line Types and Line Weights: Proposed street lighting work shall be shown clearly using heavier line weights in a manner such that DOP facilities are the most prominent features on the lighting plan sheets. Plans that are produced in color shall show proposed street lighting material in bright red. Existing street lighting facilities shall be shown in dark red. All other facilities shall follow the color standards for plans established by the City of Columbus Department of Design and Construction.

4.1.4 OUPS Requirement: The Designer shall notify the Ohio Utilities Protection Service (OUPS / Ohio 811) of the project. All marked utilities shall be field surveyed and shown on the plans. Proposed street lighting facilities shall be designed in a manner to avoid marked locations of adjacent utilities. OUPS contact information is as follows:

www.oups.org (Internet Address)
1-800-362-7264 (Toll Free Phone Number)
811 (Direct Dial Phone Number)

4.1.5 State Plane Coordinate Design: All DOP poles, pull boxes, and other structures shall be labelled with State Plane coordinates and baseline stationing. State Plane coordinates should utilize the latest USGS datum and reference at least two Franklin County Engineers monuments. The baseline must be clearly shown on the plans.

- 4.1.6 Plan Legends:** The Designer shall provide a legend clearly depicting all symbols and line types used on the project. The appropriate symbols and line types are shown in the sample plans located in “Appendix B” of this document.
- 4.1.7 Plan Scale:** The minimum plan scale shall be 1” = 40’. Other larger scales may be used to show greater detail in areas with higher existing utility density with prior DOP approval.
- 4.1.8 North Arrow:** All applicable plan sheets shall have a north arrow clearly shown. The north arrow orientation should be the same for all applicable plan sheets. The allowable orientations for the north arrow are either true north, north east, or true east. No other orientations are permitted.
- 4.1.9 MIS Specifications:** The plan set shall include a list of all applicable MIS specifications for the project, including non-payment items.
- 4.1.10 Pay Items:** The plan set shall include a list of pay items for the project including the MIS number, pay item description, and estimated quantities.
- 4.1.11 Single Line Diagram:** The Designer shall include a single line diagram that provides the circuit routing details for the project. Single line diagrams shall include both proposed street lighting as well as modifications made to the existing lighting system. A Demolition single line may also be required. Following are a list of additional requirements for the single line diagram.
- 4.1.11.1 Existing Pole Numbers:** Existing pole numbers are to be included on the single line diagram, as well as the plan sheets for any existing Division of Power owned poles impacted by the project.
- 4.1.11.2 Existing Circuit Numbers:** Existing circuit numbers are to be clearly indication on the single line, as well as the plan sheets for each appropriate circuit. New circuit numbers for which a circuit number has not been assigned shall use alphabetic 3-letter indicators for the new circuit number callout such as “XXX, YYY, or ZZZ”. “XXX” should be used in cases of a single new circuit number.
- 4.1.11.3 Transformer / Controller Requirements:** The single line diagram must clearly indicate the location of the transformer and controller, as well as the path of each leg of circuit from the controller. There are a total of (3) legs on each circuit. Those legs are to be indicated alphabetically using the letters **A, B, & C** only.
- 4.1.12 Photometric Sheets:** The plan set shall include photometric sheets showing the illumination levels throughout the project utilizing both iso-candela curves and numerical illumination values. All ISO foot-candle diagrams shall show at least two iso-lines. The first line shall depict target foot-candles. The second line shows half target foot-candles. These lines should be in color. This sheet(s) shall also contain a summary schedule depicting the average illumination on each street with the corresponding uniformity ratio. The target illumination value shall be noted in the summary schedule

as well. Each roadway and intersection require separate lines on the summary schedule. Calculation zones shall be separate for intersections, roundabouts, and adjacent roadways.

- 4.1.13 Demolition Plan:** The plan set shall include a “Demolition Plan” as detailed in Appendix B of this document. This plan will detail the removal of existing Street Lighting facilities within the project area. This “Demolition Plan” is to be a separate set of sheets in the plan set independent from any sheets showing proposed work. All existing DOP facility identification numbers (such as pole numbers or circuit numbers) are to be clearly indicated on these sheets for each item inside the project area regardless of impact by the Demolition Plan or not. DOP facilities to be removed shall be shown with an “X” overlay for clarity in the demolition plan sheets.
- 4.1.13 As Per Plan Notes:** The Designer shall provide any specialty construction details or As Per Plan notes for construction details that are not covered by existing MIS specifications.
- 4.1.14 Non-DOP Funded Plan Sets:** When street lighting facilities are proposed on a non-DOP funded project plan set such as the Department of Public Service Drawer E plans, or Building and Zoning Services private development plans, DOP requires that the street lighting facilities be shown on separate, dedicated street lighting sheets for clarity. The street light facilities should be shown in the darkest line weight on these sheets, with other plan elements shown in the background with lighter line weights and gray scaled. If the plan set is in color, all proposed street lighting items are to be shown in **red**. No other color is to be used. Existing street lighting facilities are to be shown in dark red. All other items are to follow the standards for plans in color set by the City of Columbus Department of Design and Construction. Items such as right-of-way, edge of pavement, and sidewalks must be clearly shown clearly in relation to the street light facilities.
- 4.1.15 Utility Coordination and Conflict Resolution:** The Designer is responsible for utility coordination and conflict resolution with other utilities during design. This includes submitting copies of plans to other utilities within the project footprint at the designated plan review stage during design. Utility conflicts should be noted with special construction requirements such as potholing or hand excavation as required. “Expose” callouts shall be clearly noted in the plans in any case where street lighting facilities cross another utility.
- 4.1.16 Temporary Lighting:** In some cases, the project may require the installation of “Temporary Lighting” by the contractor to provide lighting to the project between the removal of existing lighting, and the installation of new lighting. Temporary light levels shall meet or exceed the existing light levels for the roadway, or be as directed by DOP.

Appendix F of this document provides verbiage that shall be used in the development of As Per Plan notes for this item. As Per Plan notes for this item are required to be included in the plan set just as any other special construction process that is not covered by the Street Lighting MIS specifications. DOP may also require a dedicated plan sheet with details of the proposed temporary lighting design.

4.2 Technical Submittals

4.2.1 Photometric Analysis Files: Photometric output files from either Visual or AGI lighting design software shall be provided for the project in .pdf format. No large plot rolls will be accepted. The scale of the output files shall be set so that all information is clearly viewable in 48" x 36" (E size) drawing format. Photometric output files shall NOT have the orthographic (ortho) layer turned on or displayed in the final .pdf file. Photometric output files contained inside the project plan set shall follow the format shown in the sample plan sheets.

4.2.2 Structural Calculations: Any structural calculations completed for poles within the project shall be provided in .pdf format. All poles must pass structural integrity analysis for the proposed load placed on them.

4.2.3 Preliminary / Draft / Final Project Reports

All preliminary / draft and final project reports are to be submitted in .pdf format.

4.2.4 Final Project File Deliverables: Upon completion of the project, the Designer shall submit to the Division of Power the following documents. The Designer is required to provide any additional Technical Submittals as required by the project scope.

4.2.4.1 AutoCAD File: AutoCAD / .DWG file of the final plan set.

4.2.4.2 Photometric Analysis: Final photometric analysis files from Visual or AGI lighting design software in their original program format, as well as .pdf format.

4.2.4.3 Engineering Cost Estimate: Final Engineering Cost estimate in both Microsoft Excel and .PDF formats. The Excel template for this cost estimate can be obtained from the Division of Power Project Manager.

Appendix A: Plan Review Checklist

The plan review checklist details the items that City reviewers are looking for when reviewing a plan set for the Division of Power. This document is by no means all-inclusive for every possible plan design. However, it does contain the vast majority of typical items that the Designer should include in their plan set. The Designer should utilize the plan review checklist to aide in providing the most complete plan set possible to the Division of Power.

A	Plan Number:	Check One (v)			Date:
	Title Sheet	Yes	No	N/A	Comments
	MIS/TDMIS-Standard Specification numbers shown within drawing index				
	Project description with Design Designation Data including roadway classification (also incl. in Photometrics)				
B		Check One (v)			
	General Notes	Yes	No	N/A	Comments
	Current DOP General Note/s shown				
	Current version of CMSC noted				
	Special Notes as applicable (Distribution, Temp Lighting, contingency, etc)				
C		Check One (v)			
	Estimate of Quantities	Yes	No	N/A	Comments
	Estimated DOP quantities by CMSC number shown and correctly matching proposed work				
	DOP MIS# with matching description shown and units correct				
	(Sub-schedule of quantities included on lighting sheet if applicable)				
	Proposed circuit-feet correct				
	System removal specs shown, as needed				
	TDMIS specs number shown and correct				
D		Check One (v)			
	Plan View (or Lighting Plan Sheet)	Yes	No	N/A	Comments
	DOP Service to site shown correctly				
	All work area DOP circuits and poles distinctly labeled from non-DOP (with DOP circuit and pole id numbers, 2-wire, 3-wire)				
	Legend with distinct DOP linetypes and lineweights with matching MIS numbers				
	Linework matches legend				
	Single-line circuit diagram (matching legend, pole id#s, st names, controller symbol and location if applicable)				
	Show and label DOP circuits located on non-DOP poles				
	Proper stationing 100 ft with 50 ft dash				
	Proposed begin and end stations & offsets for DOP work labeled, dead end poles to annotate conduit stubbed/capped out thereof				
	Proposed poles and luminaires mounting compatibility and meet MIS# of approved materials and manufacturer specs				
	Acceptable layout and geometry of proposed conduits and pole connections (3 ft BOC labeled etc.)				
	Typical pole spacing expectations				
	Potential conflicts to be addressed (avoid pole locations in street radius/curves)				

	Sidewalk shown not conflicting and circuit layout 3' behind curb, avoid ADA ramp crossings adjust accordingly pull boxes may be required				
	Coordination notes for DOP affected work properly defined (lighting or distribution)				
	Proposed street trees dimensioned and label to comply with MIS-58				
	Streetlight pole mounting height shown and noted w/ pole symbol legend				
	Ex streetlight underground/overhead circuits shown and circuit #s correct				
	Proposed DOP easements needed and labeled and recorded by City Atty				
	Existing DOP easement info labeled				
	Existing and proposed r/w labeled				
	All pull boxes correctly located shown and labeled with station, splicing prohibited in poles				
	Upstream and downstream poles, id#, stations correctly shown for a pole relocation				
	New DOP Relocation Work Shown Correctly, adequately within right-of-way and not compromising photometry				
	Address for each affected property shown				
	Existing and distribution manholes, poles, equipment and vault numbers shown				
	Proposed and Ex streetlight luminaire and pole shown with light type, circuit number, wattage, and station & offset				
	Are potential grade change conflicts avoided with pole embedment, vaults and manholes				
	All existing utilities shown correctly				
E		Check One (v)			
	Photometrics Plan	Yes	No	N/A	Comments
	Photometric layout legible with full ISO curve shown and spot FC locations legible with primary layers being lighting, pavement/right-of-way limits, street names				
	Legend linework and symbols correct				
	Street Names Shown effectively				
	All Road Classifications shown and approved source document referenced				
	Photometric summary schedule (expectations, road class, luminaire breakdown by street, request sample plan if needed)				
	Existing area street lights shown incorporated into calculations and ISO curves				

	Ex street light luminaire type and wattage specified when applicable				
	Lighting Controller Schedule (controller, circuit legs, prop luminaires, load wattage/amp, future load, ckt fuse, cable size)				
	Target values meet design standards				
	Uniformity ratio meets design standards				
F		Check One (v)			
	Other	Yes	No	N/A	Comments
	Profile view DOP shown with ex or appropriate depths and no conflicts, meeting required clearances from other utilities				
	Cross sections DOP shownas not conflicting and properly labeled & dimensioned				
	Detail views with appropriate scales, linework, dimensions, stations, etc as applicable to proposed work (controller location, special work, conduit transitions, when potential for conflicts, etc)				

Appendix B: Symbols and Line Types

Appendix B: Symbols and Line Types contains (4) sheets that detail the symbols and line types for street lighting related material that are to be used in the plan set. These are the preferred symbols that should be used by the Designer in Street Lighting plans for the Division of Power. This is not an all-inclusive list. There may be special design instances where the standard symbols and line types may need to be modified by the Designer, or a new symbol or line type created for a specific application. Special symbols and line types will require approval by the Division of Power prior to being used in the plan set.

Sheet (1) details the appropriate symbols and line types for UNDERGROUND street lighting construction. This sheet includes both existing and proposed material.

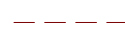
Sheet (2) includes the symbols and line types for REMOVAL of underground street lighting material.

Sheet (3) details the appropriate symbols and line types for OVERHEAD street lighting construction. This sheet includes both existing and proposed material.

Sheet (4) includes the symbols and line types for REMOVAL of overhead street lighting material.

UNDERGROUND

EXISTING SYMBOLS

-  ALUMINUM LIGHT POLE W/ BRACKET ARM (MIS-300) BRACKET ARM
X = ARM LENGTH, W/ LED COBRAHEAD LUMINAIRE (MIS-800).
-  ALUMINUM LIGHT POLE W/ 6' TEARDROP BRACKET ARM (MIS-305)
BLACK /GREEN, W/ LED TEARDROP LUMINAIRE (MIS-801).
-  LIGHT POLE SHEPHERD'S HOOK (MIS-306) W/ LOW MAST LED LUMINAIRE (MIS-806)
-  POST TOP LIGHTING POLE (MIS-307) W/ LED LUMINAIRE (MIS-802/803).
-  480V PAD / PEDESTAL MOUNTED CONTROLLER (MIS-601/602/603/604)
XXX = CIRCUIT NUMBER
-  CT CABINET (MIS-59)
-  2" PVC CONDUIT (MIS-700) W/ 2-WIRE UNDERGROUND
LIGHTING CIRCUIT (MIS-403)
-  2" PVC CONDUIT (MIS-700) W/ 3-WIRE UNDERGROUND
LIGHTING CIRCUIT (MIS-404)
-  2" PVC CONDUIT (MIS-700), EMPTY
-  3" STEEL CONDUIT W/ 2" PVC INSERT (MIS-702)
-  2" PVC CONDUIT STUBBED & CAPPED (MIS-700)
-  PULL BOX (MIS-54 / MIS-61)
-  UNDERPASS LED LUMINAIRE (MIS-804)
-  ELECTRIC MANHOLE / VAULT
-  UNDERGROUND PRIMARY / SECONDARY ELECTRIC

NOTE: ALL LIGHTING SYMBOLS AND LINE TYPES SHALL BE IN
COLOR

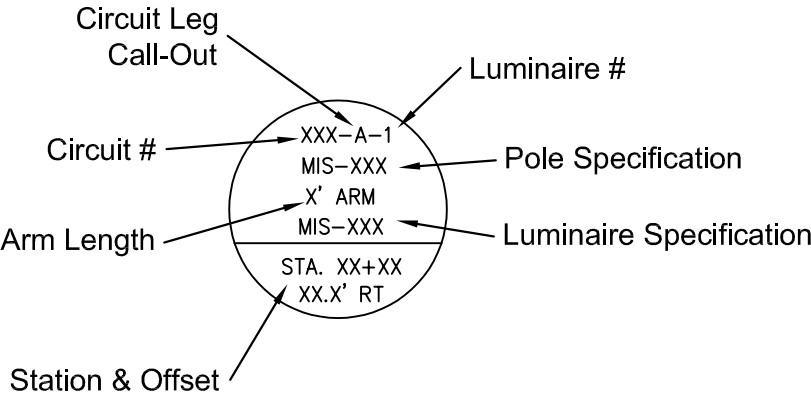
EXISTING SYMBOLS SHALL BE DARK RED
(AUTOCAD COLOR #122)

PROPOSED SYMBOLS AND LINE TYPES SHALL BE TRUE RED
(AUTOCAD COLOR #255)

PROPOSED SYMBOLS

-  ALUMINUM LIGHT POLE W/ BRACKET ARM (MIS-300) BRACKET ARM
X = ARM LENGTH, W/ LED COBRAHEAD LUMINAIRE (MIS-800).
-  ALUMINUM LIGHT POLE W/ 6' TEARDROP BRACKET ARM (MIS-305)
BLACK / GREEN, W/ LED TEARDROP LUMINAIRE (MIS-801).
-  LIGHT POLE SHEPHERD'S HOOK (MIS-306) W/LOW MAST LED LUMINAIRE (MIS-806).
-  POST TOP LIGHTING POLE (MIS-307) W/ LED LUMINAIRE (MIS-802/803).
-  480V PAD / PEDESTAL MOUNTED CONTROLLER (MIS-601/602/603/604)
XXX = CIRCUIT NUMBER
-  CT CABINET (MIS-59)
-  2" PVC CONDUIT (MIS-700) W/ 2-WIRE UNDERGROUND
LIGHTING CIRCUIT (MIS-403)
-  2" PVC CONDUIT (MIS-700) W/ 3-WIRE UNDERGROUND
LIGHTING CIRCUIT (MIS-404)
-  2" PVC CONDUIT (MIS-700), EMPTY
-  3" STEEL CONDUIT W/ 2" PVC INSERT (MIS-702)
-  2" PVC CONDUIT STUBBED & CAPPED (5') (MIS-700)
-  PULL BOX (MIS-54 / MIS-61)
-  UNDERPASS LED LUMINAIRE (MIS-804)

PROPOSED CALL-OUT BUBBLE STRUCTURE



CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
STREET LIGHTING DESIGN SYMBOLS		
DRAWN BY:	DATE:	
APPROVED:		
SCALE:	SHEET:	DWG NO.

UNDERGROUND

REMOVAL SYMBOLS

- 

ALUMINUM LIGHT POLE W/ BRACKET ARM (MIS-300) BRACKET ARM X
= ARM LENGTH, W/ LED COBRAHEAD LUMINAIRE (MIS-800) (TBR)
- 

ALUMINUM LIGHT POLE W/ 6' TEARDROP BRACKET ARM (MIS-305)
BLACK /GREEN, W/ LED TEARDROP LUMINAIRE (MIS-801) (TBR)
- 

LIGHT POLE SHEPHERD'S HOOK (MIS-306) W/ LOW MAST LED LUMINAIRE (MIS-806) (TBR)
- 

POST TOP LIGHTING POLE (MIS-307) W/ LED LUMINAIRE (MIS-802/803) (TBR)
- 

480V PAD / PEDESTAL MOUNTED CONTROLLER (MIS-601/602/603/604) (TBR)
XXX = CIRCUIT NUMBER
- 

CT CABINET (MIS-59) (TBR)
- 

2" PVC CONDUIT (MIS-700) W/ 2-WIRE UNDERGROUND
LIGHTING CIRCUIT (MIS-403) (TBR)
- 

2" PVC CONDUIT (MIS-700) W/ 3-WIRE UNDERGROUND
LIGHTING CIRCUIT (MIS-404) (TBR)
- 

2" PVC CONDUIT (MIS-700), EMPTY (TBR)
- 

3" STEEL CONDUIT W/ 2" PVC INSERT (MIS-702) (TBR)
- 

2" PVC CONDUIT STUBBED & CAPPED (MIS-700) (TBR)
- 

PULL BOX (MIS-54 / MIS-61) (TBR)
- 

UNDERPASS LED LUMINAIRE (MIS-804) (TBR)

NOTE: EXISTING SYMBOLS SHALL BE DARK RED (AUTOCAD COLOR #122)
THE REMOVAL INDICATION IS A BLACK "X" THROUGH THE EXISTING SYMBOL
WITH (TBR) INCLUDED IN THE CALLOUT

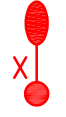
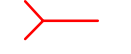
CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
STREET LIGHTING DESIGN SYMBOLS		
DRAWN BY:	DATE:	
APPROVED:		
SCALE:	SHEET:	DWG NO.

EXISTING SYMBOLS

OVERHEAD

PROPOSED SYMBOLS

-  EXISTING DOP WOOD POLE (STREET LIGHTING)(MIS-310)
-  EXISTING LED LUMINAIRE (MIS-800) ON WOOD POLE (MIS-310) AND BRACKET ARM (MIS-100) X = ARM LENGTH
-  EXISTING LUMINAIRE WITH BRACKET ARM FOR WOOD POLE.
-  EXISTING WOOD POLE, POWER.
-  EXISTING WOOD POLE, POWER AND LIGHTING.
-  199' EXISTING OVERHEAD OPEN WIRE LIGHTING CONDUCTOR (MIS-400) NUMBER DENOTES SPAN DISTANCE. 2 TICK MARKS = 2-WIRE
-  3 TICK MARKS = 3-WIRE
-  4 TICK MARKS = 4-WIRE
-  EXISTING #2 AWG DUPLEX LIGHTING CONDUCTOR (MIS-401)
-  EXISTING #6 AWG DUPLEX LIGHTING CONDUCTOR (MIS-402)
-  EXISTING OVERHEAD PRIMARY / SECONDARY ELECTRIC
-  EXISTING LIGHTING PULL BOX (MIS-54 / MIS-61)
-  EXISTING POLE MOUNTED CONTROL CENTER (MIS-600), XXX=CIRCUIT NUMBER
-  EXISTING DOWN GUY AND ANCHOR (MIS-51)
-  EXISTING OVERHEAD CIRCUIT GROUND (MIS-55)
-  EXISTING CIRCUIT RISER WITH PULL BOX (MIS-56)

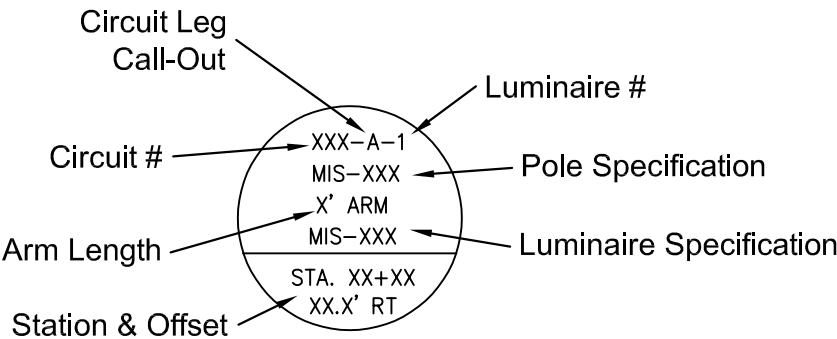
-  PROPOSED DOP WOOD POLE (STREET LIGHTING)(MIS-310)
-  PROPOSED LED LUMINAIRE (MIS-800) WITH WOOD POLE (MIS-310) AND BRACKET ARM (MIS-100) X = ARM LENGTH.
-  PROPOSED LUMINAIRE FOR WOOD POLE.
-  PROPOSED LUMINAIRE WITH BRACKET ARM FOR WOOD POLE.
-  199' PROPOSED OVERHEAD OPEN WIRE LIGHTING CONDUCTOR (MIS-400). NUMBER DENOTES SPAN DISTANCE. 2 TICK MARKS = 2-WIRE,
-  3 TICK MARKS = 3-WIRE,
-  4 TICK MARKS = 4-WIRE.
-  PROPOSED #2 AWG DUPLEX LIGHTING CONDUCTOR (MIS-401)
-  PROPOSED #6 AWG DUPLEX LIGHTING CONDUCTOR (MIS-402)
-  PROPOSED POLE MOUNTED CONTROL CENTER (MIS-600), XXX= CIRCUIT NUMBER
-  PROPOSED DOWN GUY AND ANCHOR (MIS-51)
-  PROPOSED OVERHEAD CIRCUIT GROUND (MIS-55).
-  PROPOSED CIRCUIT RISER WITH PULL BOX (MIS-56).
-  PROPOSED POLE KEY ANCHOR ASSEMBLY (MIS-52).
-  PROPOSED LIGHTING PULL BOX (MIS-54 / MIS- 61)

NOTE: ALL LIGHTING SYMBOLS AND LINE TYPES SHALL BE IN COLOR

EXISTING SYMBOLS SHALL BE DARK RED
(AUTOCAD COLOR #122)

PROPOSED SYMBOLS AND LINE TYPES SHALL BE TRUE RED
(AUTOCAD COLOR #255)

PROPOSED CALL-OUT BUBBLE STRUCTURE



CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
STREET LIGHTING DESIGN SYMBOLS		
DRAWN BY:	DATE:	
APPROVED:		
SCALE:	SHEET:	DWG NO.

OVERHEAD

REMOVAL SYMBOLS

-  EXISTING DOP WOOD POLE (STREET LIGHTING)(MIS-310)(TBR)
-  EXISTING LED LUMINAIRE (MIS-800) ON WOOD POLE (MIS-310) AND BRACKET ARM (MIS-100) X = ARM LENGTH (TBR)
-  EXISTING LUMINAIRE WITH BRACKET ARM FOR WOOD POLE (TBR)
-  EXISTING OVERHEAD OPEN WIRE LIGHTING CONDUCTOR (MIS-400) NUMBER DENOTES SPAN DISTANCE. 2 TICK MARKS = 2-WIRE (TBR)
-  3 TICK MARKS = 3-WIRE (TBR)
-  4 TICK MARKS = 4-WIRE (TBR)
-  EXISTING #2 AWG DUPLEX LIGHTING CONDUCTOR (MIS-401) (TBR)
-  EXISTING #6 AWG DUPLEX LIGHTING CONDUCTOR (MIS-402) (TBR)
-  EXISTING LIGHTING PULL BOX (MIS-54 / MIS-61) (TBR)
-  EXISTING POLE MOUNTED CONTROL CENTER (MIS-600) (TBR) XXX=CIRCUIT NUMBER
-  EXISTING DOWN GUY AND ANCHOR (MIS-51) (TBR)
-  EXISTING OVERHEAD CIRCUIT GROUND (MIS-55) (TBR)
-  EXISTING CIRCUIT RISER WITH PULL BOX (MIS-56) (TBR)

NOTE: EXISTING LIGHTING SYMBOLS SHALL BE DARK RED (AUTOCAD COLOR #122)
THE REMOVAL INDICATION IS A BLACK "X" THROUGH THE EXISTING SYMBOL
WITH (TBR) INCLUDED IN THE CALLOUT

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
STREET LIGHTING DESIGN SYMBOLS		
DRAWN BY:		DATE:
APPROVED:		
SCALE:	SHEET:	DWG NO.

Appendix C: Sample Plan Sheets

The sample plan sheets included with this design guide provide a general representation of design intent and format required for street lighting plans for the Division of Power. The first sample plan sheet is intended to show general layout and format of the title sheet of the plan. The second set of sample sheets depict a typical underground street lighting design, with the details focused on an underground style installation. The third set of sample sheets reflect a typical overhead lighting installation.

The sample plans should be used by the Designer to detail and format the street lighting design and plans. The Designer will also need to reference both Appendix B: Symbols and Line Types of this document, and the City of Columbus CAD standards for the most updated symbols and line types to be used in street lighting plans for the Division of Power. The City of Columbus CAD standards can be found at the following internet location.

<https://www.columbus.gov/Services/Columbus-Water-Power/Information-for-Customers/Public-Utility-Contractors/CAD-Digital-Submission-Standards>

These sample plans do not attempt to cover all scenarios that will be encountered during the design process. The Engineer sealing the plans is responsible for all plan details, and should use good engineering judgment consistent with local practices throughout the design. The Designer shall contact the Division of Power in order to determine if current line types, symbols and / or CAD standards supersede this document.

INDEX OF SHEETS

TITLE SHEET	1
SCHEMATIC PLAN	2
GENERAL NOTES	3-5
LIGHTING DETAILS	6-7
GENERAL SUMMARY	8
LIGHTING CIRCUIT SCHEMATICS	9-10
LIGHTING REMOVAL PLAN	11-22
PROPOSED LIGHTING PLAN	23-34
PHOTOMETRIC PLAN	35-46

CITY OF COLUMBUS, OHIO

DEPARTMENT OF PUBLIC UTILITIES

DIVISION OF POWER

STREET LIGHTING IMPROVEMENTS

FOR

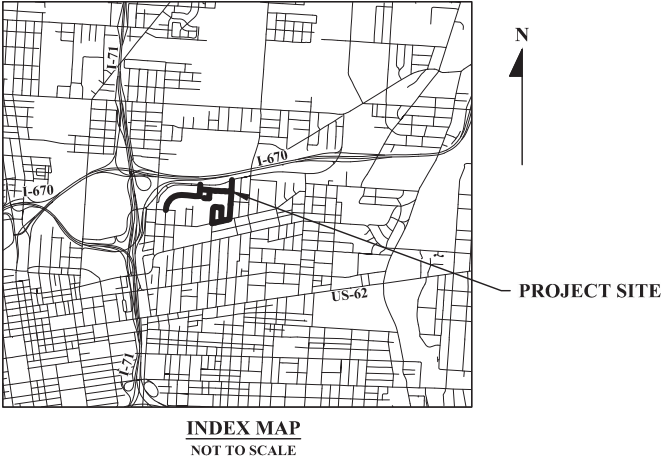
CIRCUIT #79

CIP# 670897-100000

UNDERGROUND

DESIGN

EXAMPLE



PROJECT DESCRIPTION

The purpose of this plan is to remove the existing underground 2-wire lighting system associated with existing City of Columbus owned Circuit #79 and install a new LED, 3-wire underground street lighting system within the limits of the project area. Additionally, the existing cobra head style luminaires within the limits of the project area on existing City of Columbus owned Circuit #226 shall be replaced with proposed LED fixtures.

BASIS OF BEARINGS

Bearings shown in this plan are based on the Ohio State Plane Coordinate System, South Zone, NAD 83 (2011). Said bearings are based upon positional solutions derived from RTK GPS observations using the Ohio Department of Transportation Virtual Reference System equipment and software during June of 2019.

BENCH MARKS

See Schematic Plan for Benchmark Data.

2018 SPECIFICATIONS

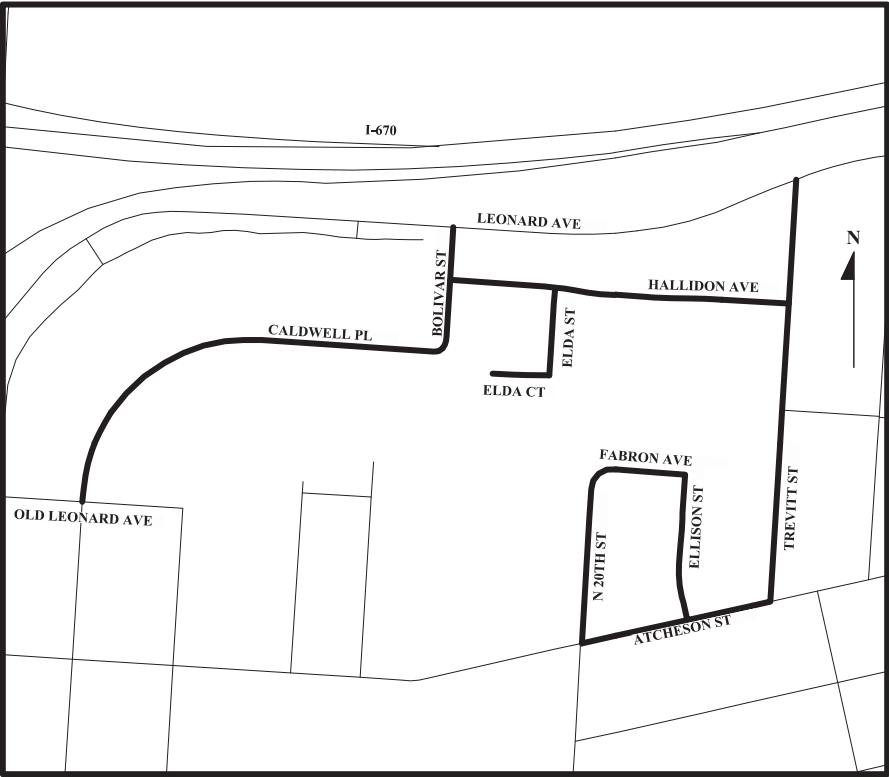
The City of Columbus Construction and Material Specifications (CMSC), 2018 Edition, including all revisions and supplements in effect at the time of signature by the Director of Public Utilities shall govern all construction items that are part of this plan unless noted otherwise.

EARTH DISTURBED AREA

Total EDA: 0.008 acres
Pre-Impervious Area: 4.846 acres
Post-Impervious Area: 4.846 acres

FEMA NOTE

According to the Federal Emergency Management Agency's Flood Insurance Rate Map (dated June 17, 2008), the subject parcel shown hereon lies within Zone "X", Community Panel No. 39049C0326K. This project is not located within the 100-year floodplain and no fill will be added within the 100-year floodplain.



LOCATION MAP
NOT TO SCALE

ODOT STANDARD CONSTRUCTION DRAWINGS		COLUMBUS STANDARD CONSTRUCTION DRAWINGS		COLUMBUS STANDARD MIS DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
MT-105.10	1/17/20	1500	9/15/15	MIS-1	MIS-404			1630	11/13/09
MT-110.10	7/19/13	1510	9/15/15	MIS-2	MIS-501				
		1702	10/1/24	MIS-3	MIS-600				
		1703	11/1/24	MIS-4	MIS-603				
		2185	7/1/23	MIS-50	MIS-700				
		2300	7/1/23	MIS-54	MIS-702				
				MIS-57	MIS-711				
				MIS-58	MIS-800				
				MIS-61	MIS-802				
				MIS-62	MIS-900				
				MIS-200	MIS-901				
				MIS-307	MIS-902				

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE



CITY OF COLUMBUS, OHIO

DEPARTMENT OF PUBLIC UTILITIES

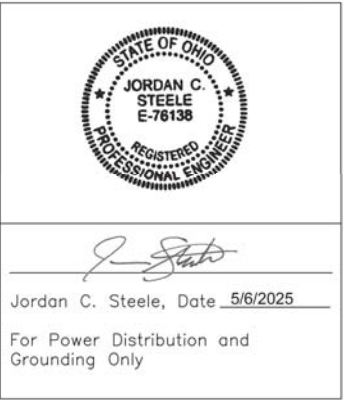
DIVISION OF POWER

Street Lighting Improvements for

CIRCUIT 79

TITLE SHEET

DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: NONE	SHEET: 1 OF 46	DWG NO.: 13E0241



Jordan C. Steele, Date 5/6/2025

For Power Distribution and Grounding Only



Dylan R. McCann

Registered Engineer No. 82923

ENGINEER

EMH&T
5500 New Albany Road,
Columbus, OH 43054
Dylan McCann
614.775.4500
dmccann@emht.com

5-6-25

Date

J:\20240420\Drawings\20240420-08001.dwg, Last Saved By: cvoindreck, 2/13/2025 1:01 PM Last Printed By: McCom, Dylan, 5/6/2025 9:01 AM
J:\20240420\Drawings\20240420-08001.dwg, Last Saved By: cvoindreck, 2/13/2025 1:01 PM Last Printed By: McCom, Dylan, 5/6/2025 9:01 AM

Bench Mark	Elevation	Description
BM#1	804.26	Railroad spike in the south side of a wooden utility pole located on the north side of Old Leonard Avenue, being the first utility pole (100 feet) west of the intersection with Caldwell Place.
BM#2	813.12	Chiseled "X" on the south flange bolt of a fire hydrant located on the north side of Caldwell Place, being on the west side of a driveway leading to a garage located west of the Columbus Metro building (#940) and east of Sawyer Manor Apartment #924.
BM#3	826.78	Railroad spike in the east side of a wooden utility pole located at the southwest corner of the intersection of Leonard Avenue with Trevitt Street.
BM#4	824.75	Railroad spike in the east side of a wooden utility pole located on the west side of Trevitt Street, being the first utility pole (40 feet) south of the northernmost driveway to Beatty Park Elementary School (#519).
BM#5	821.19	Chiseled "X" on the south flange bolt of a fire hydrant located at the northwest corner of the intersection of Trevitt Street with Atcheson Street.
BM#6	818.73	Chiseled "X" on the east flange bolt of a fire hydrant located at the northwest corner of the intersection of Atcheson Street with North 20th Street.

Vertical Datum

The elevations shown on this map are based on the North American Vertical Datum of 1988. Said elevations are based upon positional solutions derived from RTK GNSS observations using the Ohio Department of Transportation's Ohio Real time Network equipment and software and the National Geodetic Survey's GEOID18 model at traverse control points numbered 201, 202, 203, 204, 205 and 206. Elevations from said traverse control points were then transferred by conventional leveling procedures to the permanent benchmarks listed hereon.

U.S. Survey Foot				
Points	Northing (Ground)	Easting (Ground)	Elevation	Description
7	720328.793	1834814.871	815.51	1165 #7 MAGS
8	720290.549	1835400.219	817.70	1165 #8 MAGS
9	720200.318	1835640.453	821.48	1157 #9 IRSw/cap
10	720565.615	1835727.813	822.08	1165 #10 MAGS
11	720518.622	1836239.909	824.03	1165 #11 MAGS
12	719915.627	1836584.321	822.16	1165 TOPO MAGS
13	719437.852	1836215.413	818.79	1165 #13 MAGS
14	719918.350	1835948.526	820.19	1157 #14 IRSw/cap
15	719903.924	1836233.351	820.70	1165 #15 MAGS
201	719825.602	1834124.950	803.92	1165 #201 MAGS
202	720323.386	1834452.619	811.04	1165 #202 MAGS
203	720944.387	1836645.528	827.22	1165 RTN MAGS
204	720445.544	1836570.029	824.10	1165 RTN MAGS
205	719492.462	1836554.265	818.75	1165 RTN MAGS
206	719330.787	1835861.064	815.98	1165 #206 MAGS
401	719821	1834071	804.26	1185 BM#1 BMS
402	720326	1834506	813.12	1185 BM#2 BMS
403	720847	1836597	826.78	1185 BM#3 BMS
404	720307	1836566	824.75	1185 BM#4 BMS
405	719470	1836509	821.19	1185 BM#5 BMS
406	719342	1835869	818.73	1185 BM#6 BMS

Horizontal Datum

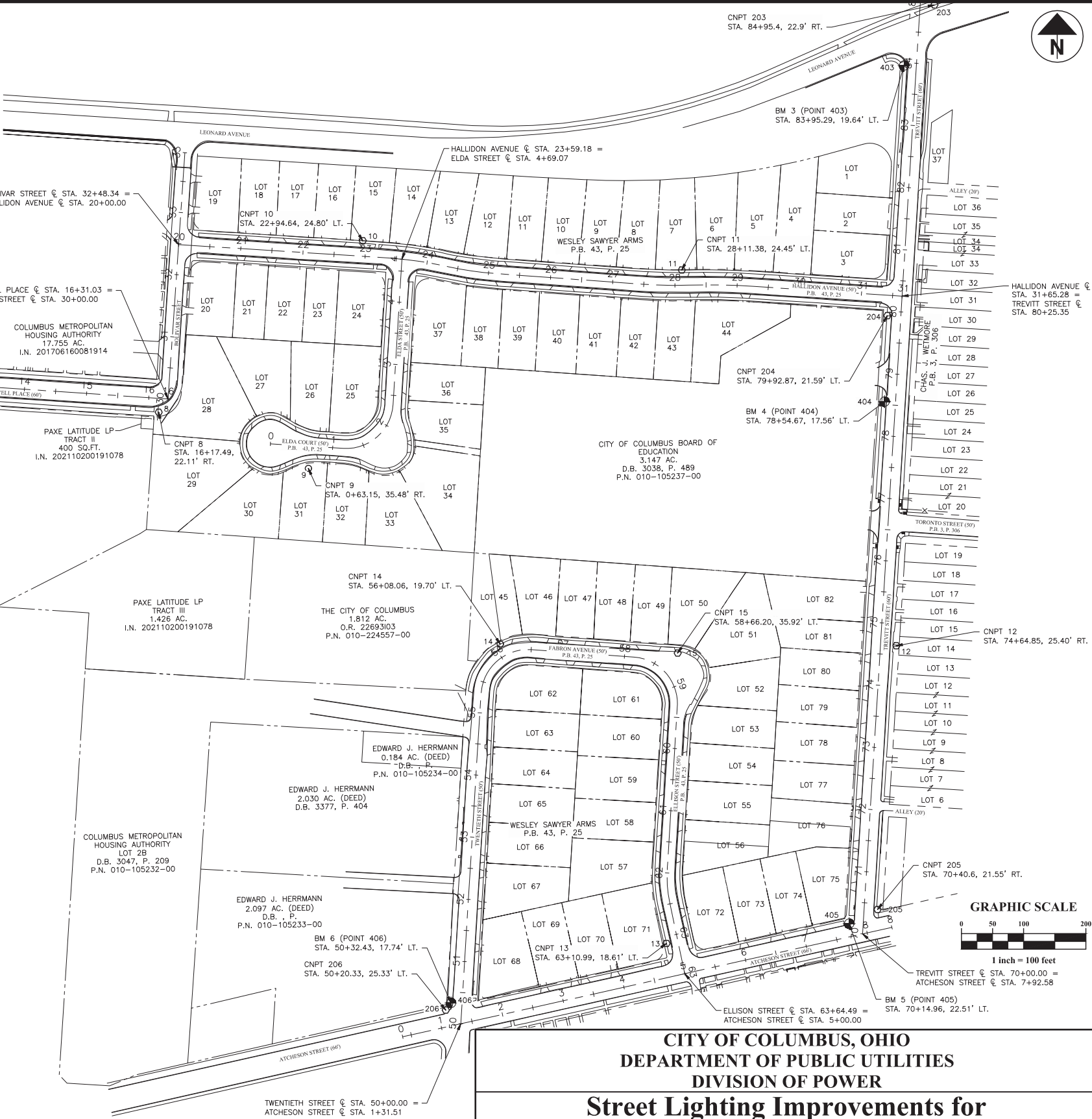
The coordinates shown on this map are based on the Ohio State Plane Coordinate System, South Zone, NAD 83 (2011). Said coordinates are based upon positional solutions derived from RTK GNSS observations using the Ohio Department of Transportation Ohio's Real Time Network equipment and software at traverse control points numbered 201, 202, 203, 204, 205 and 206. The grid to ground combined scale factor (1.00004472719538) was applied at the location of point number 204 (N:720445.544, E: 1836570.029)

BASIS OF STATIONING

Assumed stationing for centerline of right of way for Caldwell Place, Bolivar Street, Hallidon Avenue, Elda Street, Trevitt Street, Atcheson Street, Ellison Street, Fabron Avenue and Twentieth Street.

BASIS OF BEARINGS

The bearings shown hereon are based on the Ohio State Plane Coordinate System, South Zone, NAD 83 (2011). Said bearings are based on positional solutions derived from RTK GNSS observations using the Ohio Department of Transportation's Ohio Real Time Network equipment and software. The bearing of South 86° 06' 35" East, assigned to the centerline of Caldwell Place, is designated the "basis of bearings" for this description.



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER

Street Lighting Improvements for
CIRCUIT 79
Schematic Plan

DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 2 OF 46	DWG NO.: 13E0241

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

REFERENCE SPECIFICATIONS

The City of Columbus Construction and Material Specifications (CMSC), 2018 Edition, including all revisions and supplements in effect at the time of signature by the Director of Public Utilities shall govern all construction items that are part of this plan unless noted otherwise.

PRE-CONSTRUCTION NOTIFICATIONS REQUIRED

Contractor shall notify the following Divisions at least 24 hours before starting work.

48 Hour Notice will be given to the:

Division of Power	(614) 645-7627
Division of Design and Construction	(614) 645-3182
Division of Planning and Operations – Operations Section	(614) 645-7738
Division of Water	(614) 645-7677
Division of Sewerage and Drainage	(614) 645-7102
Department of Recreation and Parks	(614) 645-7665

PERMITS

When excavating within Columbus Public Right of Way limits, the Contractor shall obtain an Excavation Permit from City of Columbus, Department of Public Service, Permit Office between the hours of 7:30 am and 4:00 pm Monday through Friday. Phone (614) 645-7497; Fax (614) 645-1876; Email: colspemits@columbus.gov.

UTILITIES

The identity and location of the existing underground utility facilities located in and around the construction area have been shown and labeled on the plans by using information provided by the respective utility owners. The City of Columbus or the Consulting Engineer will not assume responsibility for the accuracy of location or depth of existing underground utilities as shown on the plan.

Support and protection of all utilities and appurtenances shall be the responsibility of the Contractor. Costs for the repair and restoration of existing utilities damaged by the Contractor shall be the responsibility of the Contractor. The City of Columbus will only locate and mark main line facilities. The Contractor is responsible for locating all service laterals and lines for both public and private utilities. Costs associated with the above work and responsibilities shall be included in the price bid for the various items.

Prior to excavation, the Contractor shall give a 48-hour notice to the Ohio Utilities Protection Service (OUPS) by calling (800) 362-2764. A 48-hour notice shall be given to owners of underground utilities shown on the plans who are not members of a registered underground protection service.

Listed below are utility companies that have facilities located within the work limits of this project and subscribe to OUPS:

American Electric Power Distribution Attn: Brent Gates 777 Hopewell Drive Heath, Ohio 43056 AEP Solutiion Center: 800-277-2177 bmgtates@aep.com	City of Columbus Division of Sewerage and Drainage 1250 Fairwood Avenue Columbus, Ohio 43206 Phone: 645-7102
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MMI Atlantic LLC Attn: John DeGuise deguise@fb.com relocations@middlemileinfra.com mablackstone@columbusfiber.net	Verizon Business (MCI) Attn: Maurice Jones Attn: Robert Dillow 757 Commerce Ct Lewis Center, OH 43035 maurice.jones@verizon.com robert.dillow@verizon.com Cell: 614-816-0361 (Dillow) Cell: 614-593-6685 (Jones)
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Columbia Gas of Ohio Attn: Rob Caldwell 3550 Johnny Appleseed Ct. Columbus, OH 43231 Phone: (614) 818-2104 Cell: (614) 370-1906 rcaldwell@nisource.com Customer Service: 1-800-344-4077 Damage Prevention: 1-866-632-6243	AT&T Attn: Donald G. Marshall Jr. 111 N 4th St Columbus, Ohio 43215 Cell: 614-216-2396 G01553@att.com AT&T Repair Service: 888-288-2020 Damage Prevention: 937-296-3929
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City of Columbus Department of Public Service Traffic Management 1820 East 17th Ave. Columbus, OH, 43219 Office: (614) 645-7393	ODOT ITS 1606 West Broad St. Columbus, OH 43223 (614) 387-4113 CEN.ITS.LAB@DOT.OHIO.GOV
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City of Columbus Division of Water 910 Dublin Road Columbus, Ohio 43215 Phone: 645-7788	Zayo Group Attn: Eric Alexander 240 Neilston Street Columbus, OH 4321 (614) 989-9655 eric.alexander@zayo.com
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City of Columbus Division of Power 3500 Indianola Ave. Columbus, Ohio 43214 Phone: 645-6129	Charter Communications/Spectrum (Time Warner) 3760 Interchange Road Columbus, OH 43204 dl-moh-construction-frelo-team@charter.com
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UTILITY COORDINATION

The Contractor is responsible to coordinate their construction activity along with the relocation of any utilities as required by the plan with the Owner of the affected utility. The Contractor shall coordinate construction operations and protect existing utility poles to remain. The utility company will provide equipment to support poles as required during construction.

Utility poles within the influence of storm line trenches or earthwork operations shall be reinforced by the utility company prior to these construction activities. Notification of the utility company prior to construction shall be the responsibility of the Contractor.

The Contractor shall perform any exploratory excavations necessary to locate underground utilities prior to digging or jacking and drilling. Where project work is located close to existing utility lines, excavation shall be accomplished via hand digging or vacuum excavation. The cost of the work shall be included in the various items bid.

EMERGENCY PROVISIONS

The Contractor shall provide to the City of Columbus project representative a list of 24 hour emergency telephone numbers (in writing) prior to the start of construction.

SECURING EXCAVATIONS & TRENCHES FOR NON-WORKING HOURS

Excavations and trenches over 24-inches deep shall be securely plated, or backfilled during non-working hours.

MISCELLANEOUS WORK ITEMS

The Contractor shall perform all items of work called for on the plans, for which no specific method of payment is provided. The cost of these items shall be included in the various unit prices bid for the project improvement.

BENCHMARKS AND SURVEY MONUMENTS

Do not disturb any Franklin County Certified Benchmarks (vertical and/or horizontal) located within the working limits of the project. Contractor shall contact the Franklin County Survey Department (614) 462-3026, prior to

construction, to coordinate the proper procedures for resetting, relocation, or replacement of any Franklin County Certified Benchmark or Survey Monument.

COLUMBIA GAS DAMAGE PREVENTION CENTER

For information concerning Columbia Gas lines or equipment, or if damage occurs to gas lines or equipment the Contractor can call the Columbia Gas Damage Prevention Center at (614) 280-7372 or toll free at (866) 632-6243.

STORAGE OF EQUIPMENT AND MATERIALS

Materials, including pipe, shall not at any time (working or non-working hours) be stored within the right-of-way or within one hundred (100') feet of any intersecting street or driveway, without prior written approval from the City of Columbus. Compliance with this requirement along with additional provisions of the Contract Specifications shall not in any way relieve the Contractor of his legal responsibilities or liabilities for the safety of the public. The Contractor shall inform the City of Columbus on his plan for the storage of equipment and materials at the pre-construction meeting.

NON-RUBBER-TIRED VEHICLES

Non-rubber-tired vehicles shall not be moved on public streets. The City Engineer may grant exceptions when short distances and special circumstances are involved. Granting of exceptions must be in writing, and any damage must be repaired to the satisfaction of the City of Columbus acceptable representative.

FOR THE DIVISION OF WATER

For any emergencies involving the water distribution system, please contact the Division of Water Distribution Maintenance Office at 614-645-7788.

All water line valve boxes, service boxes, test stations, pitometer tap structures, meter pit covers, and other surface utility structures within the disturbed area shall be adjusted to grade. Any of these structures located within pavement, driveways, or other traveled areas, whether existing or proposed, shall be equipped with a traffic rated, heavy duty valve box and/or cover in accordance with the Standard Drawings. Existing water service boxes to remain that are encountered within the project limits shall be cleaned out, centered above the curb stop, and adjusted to the proposed grade.

Where new conduit is proposed to cross an exiting or proposed water main or water service, a minimum of 12-inches of vertical clearance shall be maintained between the conduit and the water main or service. A minimum of 3-feet of horizontal clearance (out to out) is required at locations where the conduit is parallel to the water main and at locations of water line thrust blocks.

A minimum of 3 feet of horizontal clearance (out to out) shall be maintained between all existing water mains and foundations for poles, pull boxes, push button pedestals, and any other miscellaneous electrical structure.

Expose water line at crossing(s) to verify depth and location prior to and during any directional boring.

The Contractor is responsible for located all customers owned service lines. The Contractor shall field verify the horizontal and vertical location of any City or customer owned main or service line that may be affected by the proposed construction activities. Field verification shall take place prior to an activity that may jeopardize the integrity of the facility and at a location nearest the point of possible conflict.

Any repair to City or customer owned water lines are the responsibility of the Contractor. The Contractor shall contact the City of Columbus, Division of Water at 614-645-7788 prior to any repairs on City owned water facilities. The Contractor must be a City of Columbus licensed water contractor. The Contractor shall maintain a minimum of 3' horizontal and 1' vertical clearance from the outside diameter of all water lines at 8' from any "tee" connection, bands, and ends of the water lines, from outside diameter to the nearest edge of the facility being placed.

If during excavation, the polyethylene encasement of the existing water main becomes damaged, the Contractor shall repair the polyethylene encasement per manufacture's specifications and DOW Standard Drawings L-1003 and L-1004, at their own expense. Ensure that the entire exposed area shall be covered with new polyethylene encasement and securely taped, prior to backfill.

If a lead or galvanized water tap is encountered and is neither damaged nor part of a planned relocation/replacement, the Contractor shall report the presence of the tap via email to waterquality@columbus.gov. Include the site's address and a photo of the tap in the email. If a lead or galvanized tap is either damaged during construction or is part of a planned water tap relocation/replacement, the Contractor shall take the following steps:

1. If damaged, immediately contact The Division of Water Distribution Engineering Office at 614-645-7677 to request the shut off of the existing curb stop.
2. Contractor shall expose the owner's side of the water service to confirm the material. The Inspector shall be present for this.
3. If the customer's private service material is lead or galvanized, stop work and notify the Division of Water Distribution Engineering Office (614-645-7677) immediately. If the material is not lead or galvanized, the contractor shall replace the lead or galvanized tap (from existing corporation stop to curb stop) and reinstate service to the customer. Partial repairs of the lead tap are NOT permitted.
4. Refer to Division of Water Standard Drawings L-7102C and L-9901 for information on water tap relocations, placing new curb stops, and relocating curb boxes.

FOR THE DIVISION OF SEWERAGE AND DRAINS

Maintain a minimum of 3 ft. horizontal and 1 ft. vertical clearance from all sewers other than brick, and 10 ft. horizontal / 5 ft. vertical for brick sewers along the drill path.

The Contractor is responsible for locating all service laterals. Any damage to main sewer lines or service laterals is the responsibility of the Contractor. All repairs must be performed by a licensed sewer contractor, under a separate sewer permit.

The Contractor shall give a forty-eight (48) hour notice to Ohio Utilities Protection Service (OUPS) by calling 1-800-362-2764.

FOR THE DIVISION OF POWER

The Division of Power (DOP) may have underground and overhead primary, secondary and street lighting at this work location. The Contractor is hereby required to contact OUPS at 811 or 1-800-362-2764 forty-eight hours prior to conducting any activity in the construction area.

required relocation, support, protection, or any other activity concerned with the City's electrical facilities in the construction area is to be performed by the Contractor under the direction of DOP personnel and at the expense of the project. The Contractor shall use material and make repairs to a City of Columbus street lighting system by following DOP's "Material and Installation Specifications" (MIS) and the City of Columbus "Construction and Material Specifications" (CMS). Any new or re-installed underground street light system shall require testing as referred to in section 1001.18 of the CMS manual. The Contractor shall conform to DOP's existing street light Lockout/Tagout (LOTO) procedure, MIS-1, copies of which are available at https://www.columbus.gov/Services/Public-Utilities/About-Public-Utilities/Public-Utilities-FAQs/Power-Specifications-Street-Lighting-MIS-Specifications.

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

If any electric facility belonging to DOP is damaged in any manner by the Contractor, its agents, servants, or employees, and requires emergency repairs, DOP District Office should be contacted immediately at 614-645-7627. DOP shall make all necessary repairs, and the expense of such repairs and other related costs shall be paid by the Contractor to the Division of Power, City of Columbus, Ohio.

INSPECTION/ACCEPTANCE BY THE DIVISION OF POWER

Upon completion of construction of the project, the Contractor will be required to follow the procedures for inspection and acceptance of a street lighting project by the Division of Power. For this project, the Contractor will be required to show the Division of Power that all luminaires are functioning properly. During the final inspection/acceptance process, the contractor will be required to cover the photocell(s), in order to verify operation of the luminaires to the Division of Power.

COLUMBUS RECREATION AND PARKS DEPARTMENT STANDARD PLAN NOTE

Prior to submission of Final Site Compliance Plan, any entity requesting non-park use/development must submit a Non-Park Use of Parkland (NPUP) Application to CRPD Property Manager Tina Mohn at TMohn@columbus.gov to secure a permit to enter CRPD property. The Contractor shall contact Columbus Recreation & Parks Department's (CRPD) Inspector, Keith May, at KAMay@columbus.gov thirty (30) calendar days prior to any work on or near CRPD property. The Contractor shall submit a work schedule and coordinate access with CRPD Inspector prior to any work on or near CRPD property. Scheduled events by CRPD shall take precedence over the Contractor's work schedule, and the Contractor shall adjust work schedule as necessary. The Contractor shall not enter into a CRPD property nor stage/store any materials or equipment outside their work limits on CRPD property without a permit issued by CRPD. The permit must be posted onsite at all times. Any and all CRPD park areas disturbed by the Contractor during the course of their work activities shall be restored to conditions that meet or exceed existing conditions within the time frames noted in the approved schedule and shall be to the satisfaction of CRPD. Unless specific permissions are granted by CRPD, access to, from, on, over, under, though, or across CRPD property is not granted or implied. Failure to have a permit in place that is that is consistent with CRPD NPUP Policy will result in delay of final site compliance approval signature by Recreation & Parks/City Forester. This work shall be considered incidental to the various bid items.

COLUMBUS RECREATION AND PARKS DEPARTMENT GREENWAY TRAIL NOTE

All activities that may be adjacent to, may potentially disturb a Columbus Recreation & Parks Department (CRPD) trail, and/or have any impacts to normal trail flow require coordination with Keith May with CRPD at KAMay@columbus.gov thirty (30) calendar days prior to any work commencing for onsite coordination, onsite meeting, signage, traffic control detour plan, restoration plan, disturbance and/or clearing limit review. Access or use of Greenway trails for any non-park use is not granted or implied unless specific permissions are granted in writing from CRPD. The Contractor shall submit a vehicle/equipment traffic plan including identification numbers, type of vehicle/equipment, and weight of vehicle/equipment to be used prior to the start of work. Only vehicles/equipment approved by CRPD in writing shall be permitted on the trail. Additionally, existing trail conditions must be documented through pictures or video before work begins. If the trail is damaged by Contractor use, the Contractor must repair the trail back to conditions that meet or exceed existing conditions. This work shall be considered incidental to the various bid items.

INDIANA BAT HABITAT PROTECTION NOTE

For any trees designated for removal that may be potential bat habitat areas, removal shall only occur from October 1st to March 31st. If the contractor prefers to remove the trees outside of this time frame, a survey must be conducted according to the United States Fish and Wildlife Services and by a biologist with all required federal and/or state collection permits to determine the presence of any Indiana Bats. The data collected during the survey must be provided to the City Forestry Section at forestry@columbus.gov according to the conditions of the permit and any regulatory authority requirements. If no bats are present the tree shall be removed within 24 hours of the survey being conducted. If bats are found to be present, then tree shall remain and a protection and enhancement plan will be required. This work shall be considered incidental to the various bid items.

PUBLIC TREE IMPACT NOTE

Any work on or within the Critical Root Zone of a Public Tree is considered an impact to the Public Tree. A Public Tree Plan and permit from Columbus Recreation & Parks Forestry is required for any plan with Public Trees in the work limits. The Public Tree Plan shall denote all public trees in the project's Work Limits. Tree information shall conform to the Columbus Tree Technical Manual requirements and be provided by a Natural Resource Professional. Failure to contact the City Forestry representative in advance of construction will result in the Contractor reimbursing Forestry for the cost of any and all damage to Public Trees.

PUBLIC TREE PROTECTION NOTE

All Public Trees and the ground in the Critical Root Zone, whether shown or not shown on the plans, are to be protected unless a permit to remove is given by Columbus Recreation & Parks (CRPD) Forestry. The Contractor shall protect trees near or adjacent to the work area to avoid damage to all trees that are to remain. Heavy equipment will not be allowed to compact the soil over the Critical Root Zone of existing public trees. Restricted equipment access routes shall be coordinated with CRPD Forestry at Forestry@columbus.gov before work begins. Temporary paving materials, such as plywood, lumber or rubber matting, spread over the root zone of Public Trees may be required to prevent compaction. Construction materials, excavation debris, fuel, equipment, or vehicles are not to be stockpiled, stored, dumped, or parked within the Critical Root Zone of Public Trees. All Trees must be protected against injury or damage to branches, trunks, or roots from construction and excavation, as described in the CRPD Tree Technical Manual. If there is a question regarding tree protection needs, the Contractor must contact the City Forestry Section at forestry@columbus.gov.

FORESTRY PERMIT NOTE

Any work on or within the Critical Root Zone of a Public Tree requires a Forestry Permit. All applicable fees must be paid prior to permit issuance. Refer to the CRPD Tree Technical Manual for tree removal, pruning, protection, and mitigation standards.

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
Street Lighting Improvements for CIRCUIT 79 General Notes		
DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: NONE	SHEET: 3 OF 46	DWG NO.: 13E0241

OAK WILT NOTE

To prevent the spread of oak wilt, a fungal disease, oak trees shall only be pruned from November 1 to March 1.

EROSION AND SEDIMENT CONTROL

Land disturbance areas less than one acre and not part of a larger common plan of development are not required to submit to the City of Columbus a full scale erosion and sediment control plan for approval. However, the proposed land disturbing activities must comply with all of the provisions of the division of Sewerage and Drainage Erosion and Sediment Control regulation. All land disturbing activities shall be subject to inspection and site investigation by the City of Columbus to determine compliance with city standards and regulations. Failure to comply with these regulations may subject the site to enforcement action by the City. Questions regarding Erosion and Sediment Control may be referred to the Stormwater Management Office at 645–6311.

On Site Contact: (TO BE FURNISHED BY CONTRACTOR)

Phone: (TO BE FURNISHED BY CONTRACTOR)

Fax: (TO BE FURNISHED BY CONTRACTOR)

E-mail: (TO BE FURNISHED BY CONTRACTOR)

Site is located in Panel 39049C0326K (Zone "X"), effective date June 17, 2008.

Site is tributary to Alum Creek.

PAVEMENT CUTTING, SAWING AND EXCAVATION OPERATIONS NOTE:

All public agencies and private contractor performing pavement–cutting operations on City of Columbus streets and roadways shall protect the environment from discharges created by their pavement cutting operations. Note that Columbus City Code 1145 prohibits non–stormwater discharge into the City of Columbus sewer system, curb inlets and any part of its MS4 (municipal separate storm sewer system).

The requirement includes but is not limited to wet or dry saw–cutting, jack hammering, excavation equipment use, etc. The public agency and/or private contractor work crews shall recover and dispose of detritus, polluted waters, or other such discharges resulting from their pavement cutting operations and protect all storm sewer inlets from receiving any discharges from the construction operations. The agency or contractor responsible for each pavement cutting activity shall be solely liable for Notice of Violations (NOV/s) and fines issued by City of Columbus and/or State of Ohio Authorities.

Equipment, materials and methods shall be provided by the responsible public agency and/or private contractor to work crews performing the pavement cutting activity and made available to work crews for use in cleaning up discharges resulting from such cutting activities and preventing runoff. All work crews shall be trained to exercise and employ equipment, materials, and environmental protective measures to prevent polluted discharges from entering the City of Columbus storm sewer system and waters of the State of Ohio.

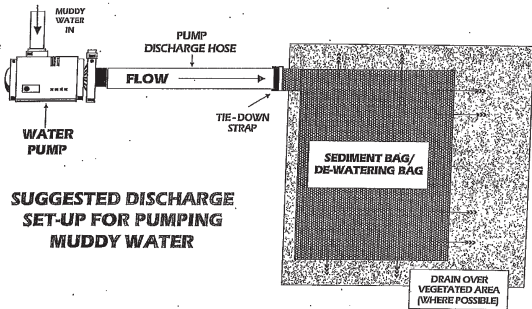
The public agency and/or private contractor is solely responsible for ensuring that the inlet protection is adequate. The most stringent project plans, notes and/or drawings including Stormwater Pollution Prevention Plan (SWP3) or Spill Prevention/Remediation Plan shall apply to all pavement cutting, sawing or excavation operations.

NOTICE

The pumping or direct discharge of sediment-laden (muddy) water to the City's sewer system or a receiving stream is a violation of Ohio EPA and City of Columbus regulations.

All inlets receiving flow from runoff, pumping activities, or other direct discharges shall be fitted with an inlet protection device that is properly sized and secured to reduce the discharge of sediment into the storm sewer system and receiving stream. Inlet protection is required on all inlets receiving discharge regardless of whether or not the inlet is tributary to any downstream erosion and sediment controls.

Discharge hoses used during pumping activities shall be fitted with sediment bags that are properly sized per manufacturer's recommendations regardless of what other sediment controls are in place further downstream. Sediment bags must be properly secured to the discharge hose and placed over vegetated areas, where feasible, during discharge. See detail below of a typical sediment bag installation.



ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN

All temporary traffic control (TTC) devices shall be furnished, erected, maintained and removed by the Contractor in accordance with the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways (Current Edition). Copies are available from the Ohio Department of Transportation, Office of Contracts, 1980 West Broad Street, Columbus, Ohio 43223. **NOTE:** All devices shall comply, for condition and location, with the current edition of the NCHRP 350 and MASH Crash Testing Guidelines.

Construction operations shall NOT begin until all traffic control is in place and approved by the Department of Public Service inspector. If the Contractor does not comply with the standards, including the installation of temporary pavement markings and the removal of conflicting traffic controls, their permit shall be revoked and all work shall be terminated. Temporary pavement markings to include, but not limited to, channelizing lines, edge lines, and centerlines shall be installed and maintained on all construction operations lasting a minimum of 14 calendar days or as directed by the Temporary Traffic Control Coordinator or the Project Engineer.

The Contractor shall give advance notice (written and verbally) to the Temporary Traffic Control Coordinator at 614–645–0355 or 614–645–5845 and the Division of Refuse Collection's Operation Manager at 614–645–0529, Project Engineer, and the COTA Right of Way Operations Manager at 614–308–4373 or (Cell) 614–401–4324, informing them of all upcoming maintenance of traffic changes on a weekly basis. Notification shall include, but not be limited to, what, where, when, and how pedestrian and vehicular traffic will be affected, and the temporary traffic control procedures the Contractor is planning to use. The type of traffic change shall determine the length of advance notification required:

TYPE OF CHANGE	ADVANCE NOTIFICATION NEEDED
Detours/road closures	30–day notification prior to closure.
Lane closures lasting 2 weeks or more	2–weeks
Lane closures of less than 2 weeks	3–days
Lane closures of 2 days or less	1–day

The COTA Senior Service Planner shall be contacted 30 days prior to any planned closure on assigned COTA routes. Any other unforeseen impacts to traffic shall be immediately reported as they occur.

The Contractor shall report any lane closure, planned, current, and emergency, lasting one hour or more, or the placement of a steel plate within the City of Columbus right of way using the Closed Lanes Or Steel Plate Events (CLOSE) program form. The form "tipcard" can be found at www.Columbus.gov/close. Reporting lane closures and/or steel plate placement is mandatory. Please contact closeprogram@columbus.gov.

The Contractor shall be responsible for the protection and safe movement of pedestrians through, around, or detoured away from the construction site. Traffic control for pedestrian movement shall be as per City of Columbus Construction and Material Specifications, City of Columbus Standard Construction Drawings, and Figures 6H–28 (TA–28) and 6H–29 (TA–29) of Part VI of the Ohio Manual of Uniform Traffic Control Devices. When not shown on a signed plan, all sidewalk diversions and temporary mid–block crossings shall be pre–approved by the Project Engineer or the Temporary Traffic Control Coordinator. Access for pedestrian and vehicular traffic to all adjoining properties shall be maintained at all times.

Maintaining Traffic During Holidays and Special Events

No work shall be performed and all existing lanes shall be open to traffic during designated holidays or special events including The Ohio State football home games. The period of time that the lanes are to be open depends on the day of the week on which the holiday or event falls. Contact the City of Columbus Temporary Traffic Control Coordinator, 614–645–5845 or cell, 614–332–7472 for event dates, locations, and schedule. Holidays will consist of Christmas, New Years, Fourth of July–Red, White and Boom fireworks night (6:00am–12midnight), Memorial Day, Labor Day, and Thanksgiving. RED, WHITE AND BOOM, fireworks celebration and a minimum of one day prior to fireworks night shall require all temporary traffic control devices to be removed from the project area and place either in a pre–determined location approved by the Temporary Traffic Control Coordinator or completely removed from the site.

The Contractor shall contact the City of Columbus Temporary Traffic Control Coordinator for any additional MOT requirements for special events, including Ohio State football home games.

The Contractor shall maintain all permanent traffic controls not in conflict with the temporary traffic controls throughout this project. Permanent traffic controls may be temporarily relocated or covered, as approved by the Engineer. The Contractor shall assume all liability for missing, damaged, or improperly placed signs.

Any work done by the Department of Public Service, including installation, relocation, removal and/or replacement of temporary traffic control devices as a result of work done by the Contractor or as a result of negligence of the Contractor, shall be at the Contractors' expense.

The roadway shall NOT be opened to non–construction traffic until the critical permanent traffic controls are in place, or until temporary traffic controls approved by the engineer, are installed. The critical permanent traffic controls are STOP, YIELD, ONE WAY, DO NOT ENTER, RESTRICTED TURN SIGNS and all STREET NAME SIGNS. Other critical signs may be noted on the plans as well. The Contractor assumes all liability for the premature removal of temporary traffic controls.

Item 614 – Maintaining Traffic

All costs that consist of maintaining and protecting vehicular and pedestrian traffic according to the latest edition of the City of Columbus Construction and Material Specifications, the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways (OMUTCD), and per the requirements designated in the plan including all Law Enforcement Officer (LEO) and Flagger hours shall be included in the lump sum ITEM 614.

In addition to the requirements herein, and the latest edition of the Ohio Manual of Uniform Traffic Control Devices, a uniformed law enforcement officer (LEO) shall be provided for controlling traffic under the following conditions:

- Work within a signalized intersection, defined as the area bounded by the rear x–walk lines
- When flagging within the intersection of two arterial roadways
- When specified in the Maintenance of Traffic plan or as when directed by the Project Engineer
- When shifting traffic left of center, through a signalized intersection, without shifting signal heads

A Flagger shall be utilized to assist in controlling traffic while equipment is entering or exiting an intersection or work zone. The Contractor may utilize his own flagger or LEO under Pay Item 614 Maintaining Traffic, Lump Sum.

Flaggers and LEO's shall be equipped according to the standards for flagging traffic contained in the OMUTCD. Flagging operations performed by LEO's or designated flaggers shall only be permitted as long as all traffic control is in place according to figure 6H–10 (TA–10) in the Ohio manual. Patrol cars shall NOT be used in flagging operations.

If the Contractor wishes to utilize LEO's with or without patrol cars for traffic control other than for that required in the plans, they may do so at their own expense. The Contractor shall make arrangement through the Columbus Police Division at (614) 645–4795.

LEO's shall be considered to be employed by the Contractor and the Contractor shall be responsible for their actions. Although employed by the Contractor, the City Representative shall have control over their placement. LEO's shall not have the authority to change, edit or modify any maintenance of traffic scheme without the permission of the Temporary Traffic Control Coordinator or Project Engineer unless an emergency develops.

If a safety hazard develops, a LEO may be assigned by the Columbus Public Safety and/or the Public Service Director at the Contractor's expense.

Portable Changeable Message Signs (PCMS) shall be installed a minimum of 7 days prior to closure of a roadway. The message shall advise the motorist of the dates, times, and duration of the closure. The PCMS shall remain in place for 7 days after the start of the closure.

When not included in a signed plan, a TTC Plan (TTCP) including pedestrian control shall be submitted to the TTC Coordinator at 614–645–0355 or 614–645–5845 at the pre–construction meeting or a minimum of ten (10) working days prior to beginning work. Copies of the approved TTCP shall be given to the Project Engineer and kept on site along with the Street Closure/Occupancy Permit.

Type C Steady–Burn or Type D 360–degree Steady–Burn warning lights shall be required on all barricades, drums, and similar traffic control devices in use at night. Only 42" reflectorized channelizing devices (cones) shall be permitted for nighttime work with the approval of the TTC Coordinator at 614–645–0355 or 614–645–5845 per O.D.O.T. standards.

All traffic lanes shall be fully open to traffic from 6:00A.M. To 9:00 A.M. and 4:00P.M. To 6:00 P.M., or 6:00 to 9:00 A.M. and 3:00 to 6:00 P.M. in the Columbus Business District (CBD) parking area, Monday through Friday.

A flashing arrow panel (48" X 96"–Type C) shall be used in lane closures as per the Ohio Manual.

All trenches within the road right of way shall be backfilled or securely plated per (City of Columbus general policy on steel plate usage dated 11/15/2006 and std. dwg. 1441, latest edition) during non–working hours.

Two–way, one–lane traffic may be maintained during construction operations on the project roadways, per the City of Columbus Maintenance of Traffic, Standard Construction Drawing 1550 and Figure 6H–10 (TA–10) of the Ohio Manual of Uniform Traffic Control Devices.

The Contractor shall contact Ohio Utility Protection Service (OUPS) to locate and mark all underground traffic control cables prior to the beginning of any work within 450 feet of any signalized intersection(s) or within any posted area where the Department has underground cable. The Signal Operation Engineer (614–645–6418) shall be notified six (6) weeks in advance for signal revisions or pole relocations.

The Contractor shall contact the Division of Refuse Collection, Operations Manager Catrina Whitlock, 614–645–0529 or 614–732–8929.

No excavation shall be made within five (5) feet of any foundation that supports signal poles, traffic signal displays or signs by mast arm or signal span. Excavation within eight (8) feet, but more than five (5) feet shall require additional support (down guy, head guy, base guy, etc.). The Contractor shall contact Signal Operation Personnel at 614–645–0423 (cell 614–419–4501) at least forty–eight (48) hours (excluding Sat. & Sun.) prior to the beginning of such excavation so that the City can approve the stabilization setup by the Contractor. If unable to make contact through above numbers, call 614–645–7393. Stabilization will be done by the Contractor at the Owners'/Contracting Agency's expense.

Signal conduit clearance 3' horizontal and 1' vertical from adjacent utilities shall be maintained at all times.

When any traffic control device, conduit, or cable is damaged, the Contractor shall notify Signal Operation Personnel at 614–645–4256 (cell 614–629–4385) between 7:00 am and 4:00 pm, Monday through Friday. If unable to make contact through the other numbers, call 614–645–7393.

The roadway or any section of roadway shall not be opened to non–construction traffic until all temporary, non–reflective, blackout tape has been completely removed from non–conflicting permanent pavement markings for that area of the roadway, or unless otherwise directed in writing by the engineer.

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

In addition to LEO and Flagger hours included in Item 614 Maintaining Traffic, Lump Sum; quantities have been included in the General Summary to be used as directed by the Engineer or an acceptable representative for the City of Columbus. The official patrol car with top mounted emergency flashing lights shall be a public safety vehicle as required by the Ohio Revised Code. The Contractor shall be paid for this bid item only if directed by the Engineer.

EXISTING PERMANENT TRAFFIC CONTROL

1. Any work done by the Department of Public Service, including installation, relocation, removal and/or replacement of permanent traffic control devices as a result of work done by the Contractor or as a result of negligence of the Contractor, shall be at the Contractors' expense.

2. The Contractor shall be responsible for reinstallation and/or replacement of all permanent traffic control devices damaged or removed during construction. Permanent traffic control no longer in conflict with temporary traffic control shall be replaced immediately.

3. The Contractor shall replace all pavement markings, including raised pavement markers (RPM) shown in conflict, removed due to construction or maintenance of traffic set up, destroyed, or rendered unserviceable by the Project Engineer or the Public Service Pavement Marking Manager. All pavement marking materials shall be replaced in–like kind if not shown in the plan or permit including raised pavement markers. All pavement markings shall be replaced in full. No partial length or sections of pavement markings shall be replaced without removing the entire marking by use of the water blast method. Removal by abrasive wheel grinding shall only be approved by the Public Service Pavement Marking Manager.

FOR REFERENCE ONLY.

PLEASE CONTACT THE CITY OF COLUMBUS

DEPARTMENT OF PUBLIC SERVICE FOR THE

MOST CURRENT VERSION OF ALL REQUIRED

GENERAL AND SPECIFIC PLAN NOTES

SUMMARY OF POST–CONSTRUCTION STORMWATER CONTROL FACILITIES			
CONTROL/OUTLET STRUCTURE NO. (AS REFERENCED ON PLANS)	CONTROL FUNCTION	DRAINAGE AREA TO CONTROL FACILITY (ACRE)	FACILITY TYPE
N/A	N/A	N/A	N/A

Project has less than 1 acre of disturbance, therefore water quality is not required.
Project has less than 10,000 sf of disturbance and adds less than 2,000 sf of impervious area.
Per the Columbus Stormwater Drainage Manual De Minimis exception no stormwater detention is required.

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
Street Lighting Improvements for CIRCUIT 79 General Notes		
DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: NONE	SHEET: 4 OF 46	DWG NO.: 13E0241

STREET LIGHTING NOTES

The street lighting shall be constructed in accordance with the current City of Columbus, Ohio "Construction and Material Specifications" (2018 Edition, Section 1001, titled "Street Lighting"), including all supplements thereto, in force on the date of the contract, shall govern all materials and workmanship involved in the improvements shown on these plans, except as such specifications are modified by the following specifications or by the construction details set forth herein.

Circuit voltage for all luminaires shall be 480 volt, unless otherwise noted.

Centerline of light pole foundation and conduit trench to be placed in accordance with the plan details.

All proposed luminaires shall be 3000K LED.

No splices shall be made to circuit cables except at noted locations when permitted.

Trench location shall be deflected around obstacles as noted in this plan.

Where the trench is offset from the centerline of the foundations, the conduit shall be directed toward the ell of the foundation at approximately 45 degree angle. The foundation ells may be aimed out of foundation at approximately 45 degree angles to facilitate connection to conduit with the least amount of bends.

The plan details shall be considered supplemental to MIS Specifications.

Light pole foundations shall be located approximately where shown on plans with exact locations to be determined in the field after consideration is given to the location of underground and overhead utilities, pavements and grades.

It shall be the Contractor's responsibility to provide the anchor bolts and ensure that the bolt size, anchor bolt circle and pattern match the light pole.

All items of work called for on the plans, for which no specific method of payment is provided, shall be performed by the Contractor and the cost of these shall be included in the unit price bid for the various related items. This includes, but is not limited to, such incidental items as relocation of mail boxes, saw cutting and removal and/or relocation of signs, railroad ties, sprinklers, relocating roof or sump drains around light pole foundations, hand digging around underground utilities or other miscellaneous items.

Prior to any painting, the Contractor shall submit paint samples and shop drawings to the City of Columbus. Paint samples shall be representative of the color, type and manufacture that will be used for light pole.

AS BUILD RECORD

The Contractor shall maintain a set of project record documents. These documents shall include reviewed shop drawings, change orders, equipment operating instructions, field test records, and as built drawings. The as built drawing shall be marked legibly in red, the actual location of equipment and conduits as constructed. All equipment and underground conduits installed shall have locations marked in distances off a landmark at least every 25 feet and as necessary at bends for location at a later date.

UTILITY CLEARANCE REQUIREMENTS AND CONFLICT RESOLUTION

OUPS— The Contractor shall cause notice to be given to the Ohio Utility Protection Service (OUPS— Phone: 1–800–362–2764, toll free) and the owners of underground facilities located within the project area who are not members of the registered underground protection service in accordance with Section 153.64 of the Ohio Review Code. The above mentioned notice shall be given at least two working days prior to the start of construction.

These plans call for the installation of light poles and luminaires in areas where existing overhead and underground utilities are highly prevalent. The Contractor shall conduct a thorough field evaluation prior to installing any proposed items to confirm that appropriate clearance is provided from all utilities. Appropriate clearance from overhead power cables as provided by the Occupational Safety and Health Administration (OSHA), the National Electrical Safety Code, and the National Electrical Code shall be maintained for all proposed items. All deviations from the plans shall be approved by the Division of Power prior to installation. Should the Contractor encounter locations where minimum overhead clearance clearances cannot be obtained, the project Engineer shall be notified immediately.

The location of underground utilities shown on these plans are as obtained from the owners of the utility as required by Ohio Revised Code, section 153.64. The Contractor shall expose utilities adjacent to proposed light pole locations and and at proposed conduit crossings prior to installation as indicated in these plans or at the direction of the Engineer/City of Columbus.

Should the Contractor find utilities in unexpected locations and/or adequate clearance cannot be maintained, the project Engineer and the City of Columbus, Division of Power, project representative shall be notified. Under these conditions, the Contractor should expect to make minor adjustment to the location of the proposed street lighting item. The project team will look to identify a location that maintains utility clearance, pedestrian access route minimum widths and adequate separation from adjacent roadways and right-of-ways.

All existing underground utility lines may or may not be shown on the plans. Individual service lines not shown should be located by the Contractor prior to commencing any work. Field verify all utilities at locations of proposed improvements. Location, support, protection or restoration of all utility lines, services and appurtenances is the responsibility of the Contractor. Obtaining the exact location and protection of utilities and of structures is the responsibility of the Contractor. The Contractor shall perform exploratory excavation as specified herein and as needed to locate underground utilities prior to the commencement of work. Where proposed improvements are located in close proximity to existing utilities or where caution notes are provided, excavation shall be conducted via hand digging or vacuum excavation.

If a line or service is damaged by the Contractor, it is his responsibility to provide the repair or oversee the repair by the appropriate utility at the Contractor's expense. The Contractor is responsible to mitigate any damage caused by the project at the Contractor's expense. Mitigation shall include but is not limited to: property owner notification, utility owner notification, coordinating shut-off (as applicable), and timely repairs/restoration of service to the satisfaction of the City of Columbus and utility owner.

All cost for field evaluation, exposing utilities, and field adjustments to the locations of proposed items shall be considered incidental to the cost of the various lighting items and separate payment will not be made.

ITEM 1001, (MIS–62 APP), 3” RISER, STREET LIGHT CIRCUIT FOR POLE MOUNT CONTROLLER, AS PER PLAN

The proposed conduit riser for the pole mounted controller shall be as per MIS–62, except that it shall be 3” PVC, SCH 80.

Payment shall be as per Item 1001 and shall include one medium duty pull box per MIS–61.

ITEM 1001, (MIS–600/603 APP), 3–WIRE, 480V POLE MOUNT CONTROLLER, AS PER PLAN

The proposed pole mounted control cabinet shall be installed per the details and requirements set forth in MIS–600, except it shall be configured for 3 wire street lighting circuits per the wiring details included in MIS–603.

The Contractor shall coordinate with the Division of Power to obtain power for the lighting control center via the existing 480V DOP pole mounted transformer.

Payment shall be as per Item 1001 for a control site that is furnished and installed by the Contractor.

ITEM 1001, (MIS–802–APP), LUMINAIRE, LED, ACORN, AS PER PLAN

In addition to the requirements of MIS–802, the acorn luminaire shall be Cooper, Fairfax with the complete part number listed below. This shall be the only luminaire that is permitted to be supplied by the Contractor for this project. No substitutions shall be permitted.

FFX–CLB–30–730–8–FR–T3–X–3 (CLEAR)–BK–10K–PR7–SH

The luminaire shall consist of, Fairfax classical base, 30 watt (4,785 lumens), 70 CRI, 3000k, 480V, Fairfax refractor, Type III, Architectural finial (clear finial as opposed to painted), black luminaire housing color, 10K UL 1449 surge suppression, 7–pin photocontrol receptacle, and shorting cap.

Payment shall be as per Item 1001.

ITEM 1001, (MIS–902), EXISTING UNDERGROUND SYSTEM REMOVAL

Under this item, the Contractor shall be required to remove all existing Division of Power street lighting facilities, including but not limited to, light poles, luminaires, pull boxes, the existing street lighting controller, and circuit cable in accordance with MIS–902 as shown in the lighting removal plans. Existing street lighting conduit, including concrete encasement, may be abandoned in place if doing so does not conflict with the proposed street lighting system. If the existing lighting conduit is in conflict with or prevents the installation of the proposed street lighting conduit or light pole foundations, the Contractor shall remove and dispose of the existing conduit and encasement to allow for the new lighting materials to be installed. No additional payment shall be made for the removal of existing conduit/encasement.

ITEM SPECIAL, MAINTAIN EXISTING LIGHTING

Under this item, the Contractor shall be required to maintain the existing lighting system throughout the duration of the construction of the new lighting system. In certain instances where the proposed lighting infrastructure disturbs the existing lighting infrastructure, the Contractor may be required to install temporary conduit and cable to ensure that there are no outages during construction. Any temporary materials or labor required to patch the existing circuit, if needed, shall be included in this lump sum pay item. Once the proposed lighting system has been tested and accepted by the City of Columbus, only then shall the existing system be removed. Removal of existing lighting items shall be paid for separately.

Payment shall be made per the lump sum contract price and shall include labor and materials required to ensure that the existing lighting system is maintained throughout construction.

LUMINAIRES

Luminaires for this project shall be furnished and installed per the respective MIS requirements.

The Contractor shall reference the photometric plan and furnish and install the design luminaire that is listed, or alternatively, submit the proper documentation that is required to be furnished to the City by the Contractor for the City to review and approve an alternate/equal. Alternates for the acorn luminaire will not be considered.

STREET LIGHTING CONDUIT

In addition to the requirements of the MIS drawings, proposed lighting conduit shall be installed at the depth given in the plans to avoid conflicts with existing utilities where they cross. The Contractor shall provide 1' of vertical clearance between proposed lighting conduits and existing underground utility lines, and shall deviate from the proposed depths if necessary to provide such clearance. Any additional work required to provide adequate clearances shall be considered incidental to this item.

Payment shall be considered incidental to the various street lighting conduit items.

EXISTING FOUNDATION REMOVALS

Existing light pole foundation removals shall be as per MIS–900. Existing light pole foundations on the north side of Acheson Street between N 20th Street and Trevitt Street shall be removed in their entirety so that a proposed pull box can be installed in their place. All other existing light pole foundations may be removed at least one foot below the ground surface, with the hole backfilled, as long as doing so does not create a conflict with the proposed lighting installations.

RESTORATION

For all street lighting items that require excavation, the Contractor shall perform the following restoration:

In addition to the requirements of CMS 1001 and the applicable MIS references, this item of work shall include all excavation, backfill material, compaction, disposal of surplus materials and restoration to match the existing surface. Restoration shall include any seeding, sodding, and the replacement of items which were disturbed, including but not limited to, plantings, guardrail, or fence panels. The Contractor shall return items such as trash containers, planter boxes, parking meters, small signs and other items which were temporarily moved to facilitate construction to their former position. When in paved areas, this shall also include sawing and removing existing pavement as required, along with any necessary repaving that is required to restore the area to the original conditions. All restoration shall comply with City of Columbus standard specifications for backfill, compaction, disposal of surplus material, seeding, mulching, sidewalk and pavement repairs. No separate payment will be made for restoration.

Restoration shall be included in the various bid items:

Item 1001, (MIS–54), 13 Inch x 24 Inch Pull Box

Item 1001, (MIS–61), 17 Inch x 30 Inch Pull Box

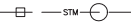
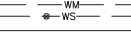
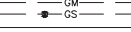
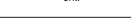
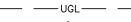
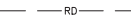
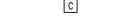
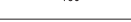
Item 1001, (MIS–200), 4' Street Light Foundation

Item 1001, (MIS–700), 2–Inch Conduit, Concrete Encased

Item 1001, (MIS–702), 3–Inch Rigid Steel with 2–Inch Conduit Insert

Item 1001, (MIS–711), 2” HDPE Conduit, Trenchless Installation

Item 1001. (MIS–902), Existing Underground System Removal

PLAN LEGEND - EXISTING			Existing Tree
	Existing Storm Sewer, Catch Basin, Manhole and Curb and Gutter Inlet		Existing Communication Pedestal Box
			Existing Telephone Pedestal Box
	Existing Sanitary Sewer and Manhole		Existing Telephone Pole
	Existing Water Main/Existing Water Service		Existing Lighting Pull Box
	Existing Gas Line/Existing Gas Service		Existing Light Pole w/ Mounting Arm
	Existing Underground Communication		Existing Gas Service Valve
	Existing Overhead Communication		Existing Gas Meter
	Existing Underground Electric		Existing Gas Marker
	Existing Overhead Electric		Existing Gas Valve
	Existing Overhead Street Lighting		Existing Electric Manhole
	Existing Overhead Utility		Existing Electric Pull Box
	Existing Traffic Conduit		Existing Electric Pedestal Box
	Existing Overhead Signal Wires		Existing Power Pole
	Existing Guardrail		Existing Transformer
	Existing Right–of–Way Fence		Existing Sign
	Existing Chain–Link Fence		Existing Fire Hydrant
	Existing Edge of Pavement		Existing Water Service Drive
	Existing Underground Street Lighting		Existing Water Meter
	Existing Roof Drain		Existing Water Valve
	Existing Telephone Light Pole		Existing Traffic Signal Pole
	Existing Telephone Pull Box		Existing Pedestrian Pedestal
	Existing Right–of–Way		Existing Post Top Light Pole and Foundation (TO BE REMOVED)
	Existing 100–Year Floodplain		Existing Fiber Optic Pull Box
	Existing 500–Year Floodplain		Existing Telephone Manhole

Existing Tree Pruning Table	
Tree ID	Description
067226	Prune limbs per SCD 1702 & MIS-58
067227	Prune limbs per SCD 1702 & MIS-58
025919	Prune limbs per SCD 1702 & MIS-58
031797	Prune limbs per SCD 1702 & MIS-58
285490	Prune limbs per SCD 1702 & MIS-58
285493	Prune limbs per SCD 1702 & MIS-58
285496	Prune limbs per SCD 1702 & MIS-58

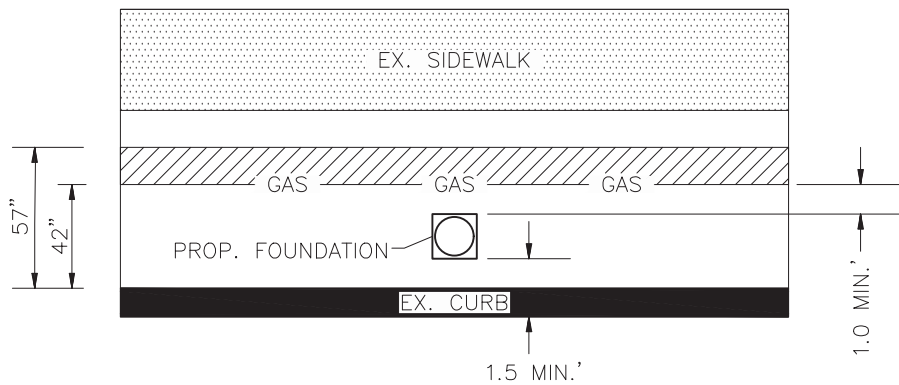
NOTES:

- All trees not listed in the table above shall not be disturbed by the Contractor, who shall adhere to the City of Columbus's tree protection specifications during construction.
- Tree ID numbers are listed in the plan and trees designated to be pruned by the Contractor are called out.

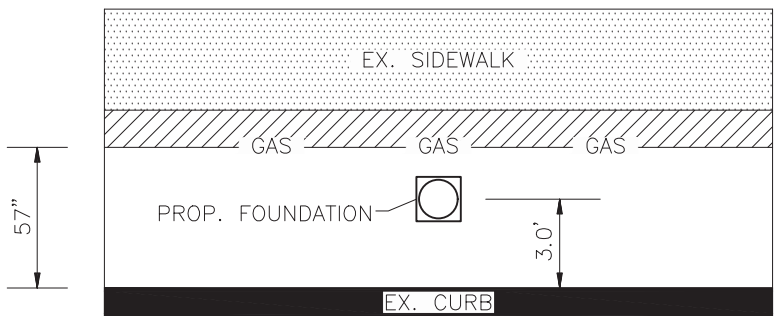
CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
Street Lighting Improvements for CIRCUIT 79 General Notes		
DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: NONE	SHEET: 5 OF 46	DWG NO.: 13E0241

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

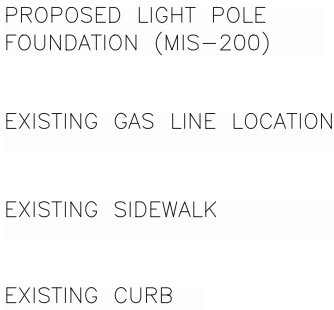
EX. GAS LINE BETWEEN 42" AND 57" FROM BACK OF CURB
(INSTALL FOUNDATION IN FRONT OF GAS LINE WITH
1' OF HORIZONTAL CLEARANCE, OUT-TO-OUT)



EX. GAS LINE FURTHER THAN 57" FROM BACK OF CURB
(INSTALL CENTER OF FOUNDATION 3' FROM BACK OF CURB)



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER



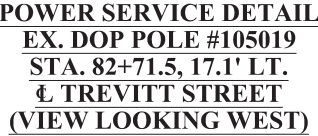
1. PROPOSED LIGHT POLE OFFSETS GIVEN IN THE PLAN SET ARE FOR REFERENCE ONLY. LIGHT POLE FOUNDATIONS SHALL BE INSTALLED AT THE LOCATION GIVEN IN THESE DETAILS ONCE THE EXISTING GAS LINE HAS BEEN EXPOSED.
2. IF GAS LINE IS NOT PRESENT IN THE VICINITY OF A PROPOSED LIGHT POLE, POLE FOUNDATION SHALL BE INSTALLED PER MIS-200, UNLESS OTHERWISE NOTED IN THE PLANS.

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER Street Lighting Improvements for CIRCUIT 79 Street Lighting Details		
DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: NONE	SHEET: 6 OF 46	DWG NO.: 13E0241



Notes:

1. An additional 1" conduit shall be installed in the foundation for the ground wire to the ground rod, which is not shown in this detail for clarity.



REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
Street Lighting Improvements for CIRCUIT 79 Street Lighting Details		
DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 7 OF 46	DWG NO.: 13E0241

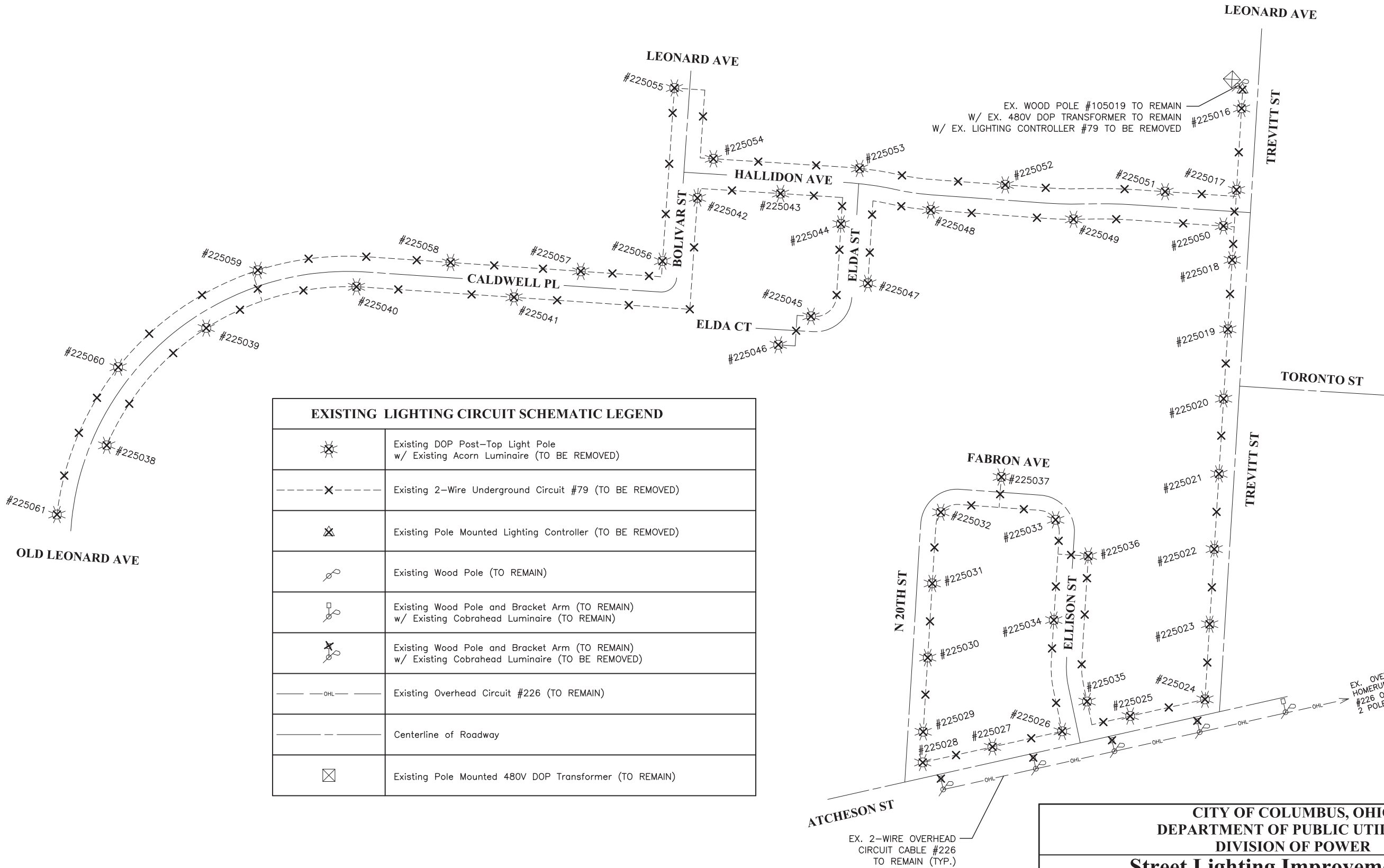
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General Summary				
Item	MIS	Quantity	Unit	Description
608	-	50	SF	4" Asphalt Concrete Walk
608	-	30	SF	4" Concrete Walk
614	-	1	LS	Maintaining Traffic, As Per Plan
614	-	8	HR	Law Enforcement Officer With Patrol Car, As Per Plan
623	-	1	LS	Construction Layout Stakes
624	-	1	LS	Mobilization
630	-	70	FT	Ground Mounted Support, No. 2 Post
630	-	6	EA	Street Name Sign Support, 2.5" Post
630	-	17	SF	Sign, Flat Sheet
630	-	41	SF	Sign, Street Name
630	-	2	EA	Removal of Ground Mounted Sign and Storage
630	-	11	EA	Removal of Pole Mounted Sign and Storage
630	-	1	EA	Removal of Pole Mounted Sign and Reerection
630	-	2	EA	Removal of Ground Mounted Post Support and Disposal
659	-	35	SY	Seeding and Mulching
1001	MIS-50	1	LS	Project Identification Signs
1001	MIS-54	20	EA	13 Inch x 24 Inch Pull Box
1001	MIS-57	1	EA	100 Amp Meter, Self-Contained with Meter Socket
1001	MIS-61	6	EA	17 Inch x 30 Inch Pull Box
1001	MIS-62-APP	1	EA	3" Riser, Street Light Circuit for Pole Mount Controller, As Per Plan
1001	MIS-200	46	EA	4' Street Light Foundation
1001	MIS-307	46	EA	Decorative Fiberglass Pole
1001	MIS-404	7216	CKT FT	3-Wire Underground Circuit
1001	MIS-501	46	EA	3-Wire Pole to be Wired
1001	MIS-600/603-APP	1	EA	3-Wire, 480V Pole Mount Controller, As Per Plan
1001	MIS-700	58	FT	2-Inch Conduit, Concrete Encased
1001	MIS-702	587	FT	3-Inch Rigid Steel with 2-Inch Conduit Insert
1001	MIS-711	6295	FT	2-Inch HDPE Conduit, Trenchless Installation
1001	MIS-800	4	EA	Luminaire, LED, Cobra Head
1001	MIS-802-APP	46	EA	Luminaire, LED, Acorn, As Per Plan
1001	MIS-900	46	EA	Foundation Removal
1001	MIS-901	1	LS	Existing Overhead System Removal
1001	MIS-902	1	LS	Existing Underground System Removal
SPECIAL	-	1	LS	Maintain Existing Lighting

NON-PAYMENT MIS SPECIFICATIONS	
MIS	Item Description
1	Street Light Lockout/Tagout (LOTO)
2	Guidelines for Inspection & Acceptance of Street Lighting Systems
3	Guidelines for Street Lighting "Materials for Approval" Submittal Packages
4	Inspection Checklist
58	Minimum Tree Clearance for Downtown, Urban, & Rural Areas

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
Street Lighting Improvements for CIRCUIT 79 General Summary		
DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: NONE	SHEET: 8 OF 46	DWG NO.: 13E0241



EXISTING LIGHTING CIRCUIT SCHEMATIC LEGEND	
	Existing DOP Post-Top Light Pole w/ Existing Acorn Luminaire (TO BE REMOVED)
	Existing 2-Wire Underground Circuit #79 (TO BE REMOVED)
	Existing Pole Mounted Lighting Controller (TO BE REMOVED)
	Existing Wood Pole (TO REMAIN)
	Existing Wood Pole and Bracket Arm (TO REMAIN) w/ Existing Cobrahead Luminaire (TO REMAIN)
	Existing Wood Pole and Bracket Arm (TO REMAIN) w/ Existing Cobrahead Luminaire (TO BE REMOVED)
	Existing Overhead Circuit #226 (TO REMAIN)
	Centerline of Roadway
	Existing Pole Mounted 480V DOP Transformer (TO REMAIN)

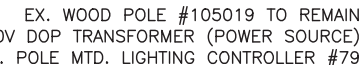
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER

Street Lighting Improvements for
CIRCUIT 79
Existing Lighting Circuit Schematic

DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: NONE	SHEET: 9 OF 46	DWG NO.: 13E0241

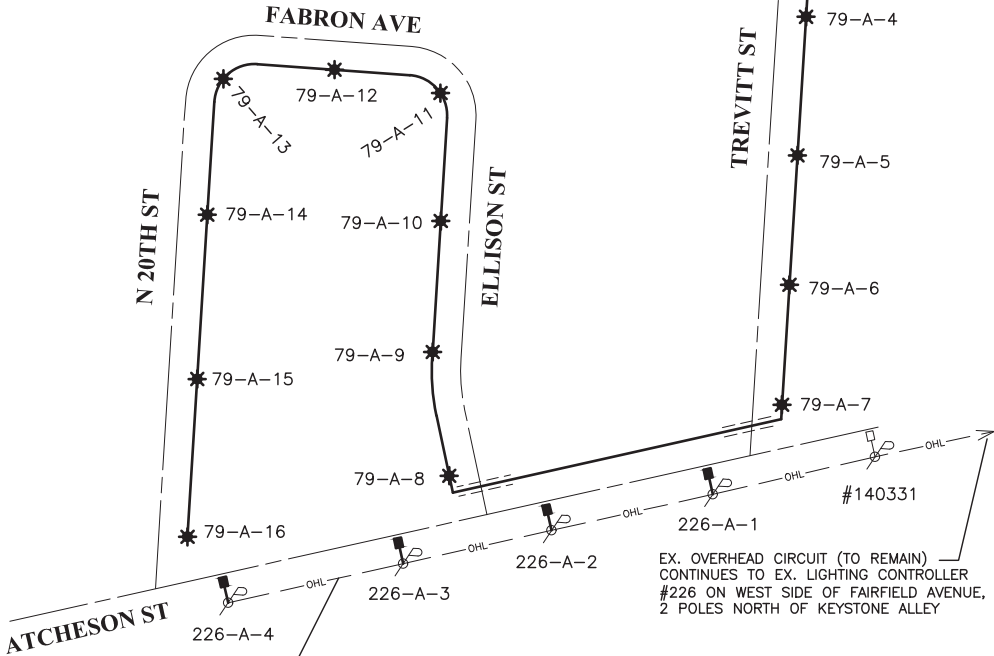
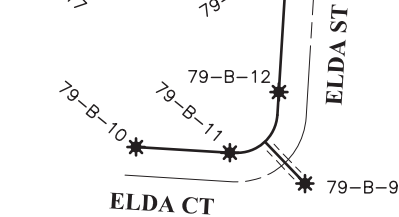
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LEONARD AVE

LEONARD AVE

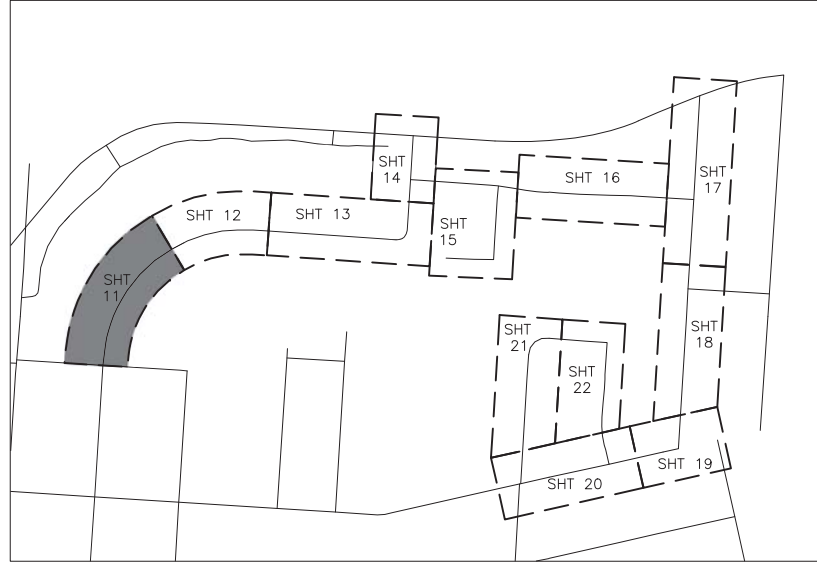
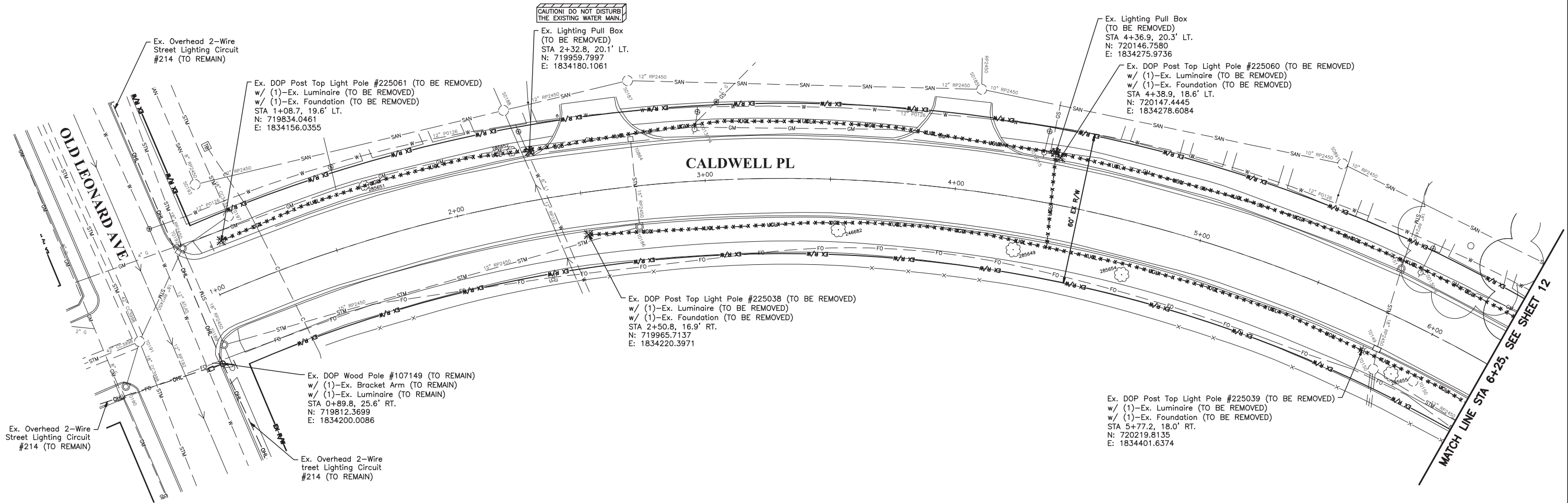


EX. 2-WIRE OVERHEAD
CIRCUIT #226 CABLE
TO REMAIN (TYP.)

**CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER**

Street Lighting Improvements for CIRCUIT 79 Proposed Lighting Circuit Schematic

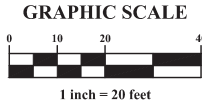
DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: NONE	SHEET: 10 OF 46	DWG NO.: 13E0241



LIGHTING REMOVAL PLAN LEGEND			
	Existing Post Top Light Pole and Foundation (TO REMAIN)		Ex. Underground Lighting Conduit (ABANDON) w/ Ex. 2-Wire Circuit Cable #79 (TO BE REMOVED)
	Existing Post Top Light Pole and Foundation (TO BE REMOVED)		Ex. Overhead Street Lighting Circuit (TO REMAIN)
	Existing Wooden Pole (TO REMAIN) w/ Existing Bracket Arm (TO REMAIN) w/ Existing Luminaire (TO REMAIN)		Ex. DOP Aluminum Light Pole and Luminaire (TO REMAIN)
	Existing Wooden Pole (TO REMAIN) w/ Existing Bracket Arm (TO REMOVED) w/ Existing Luminaire (TO BE REMOVED)		Ex. Pull Box (TO REMAIN)
	Ex. Underground Lighting Conduit (TO REMAIN) w/ Ex. 2-Wire Circuit Cable (TO REMAIN)		Ex. Pull Box (TO BE REMOVED)

NOTES

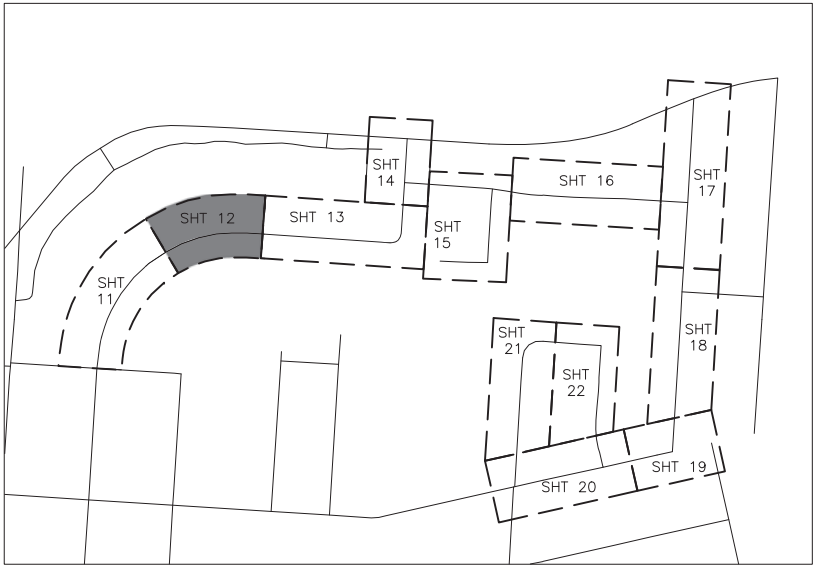
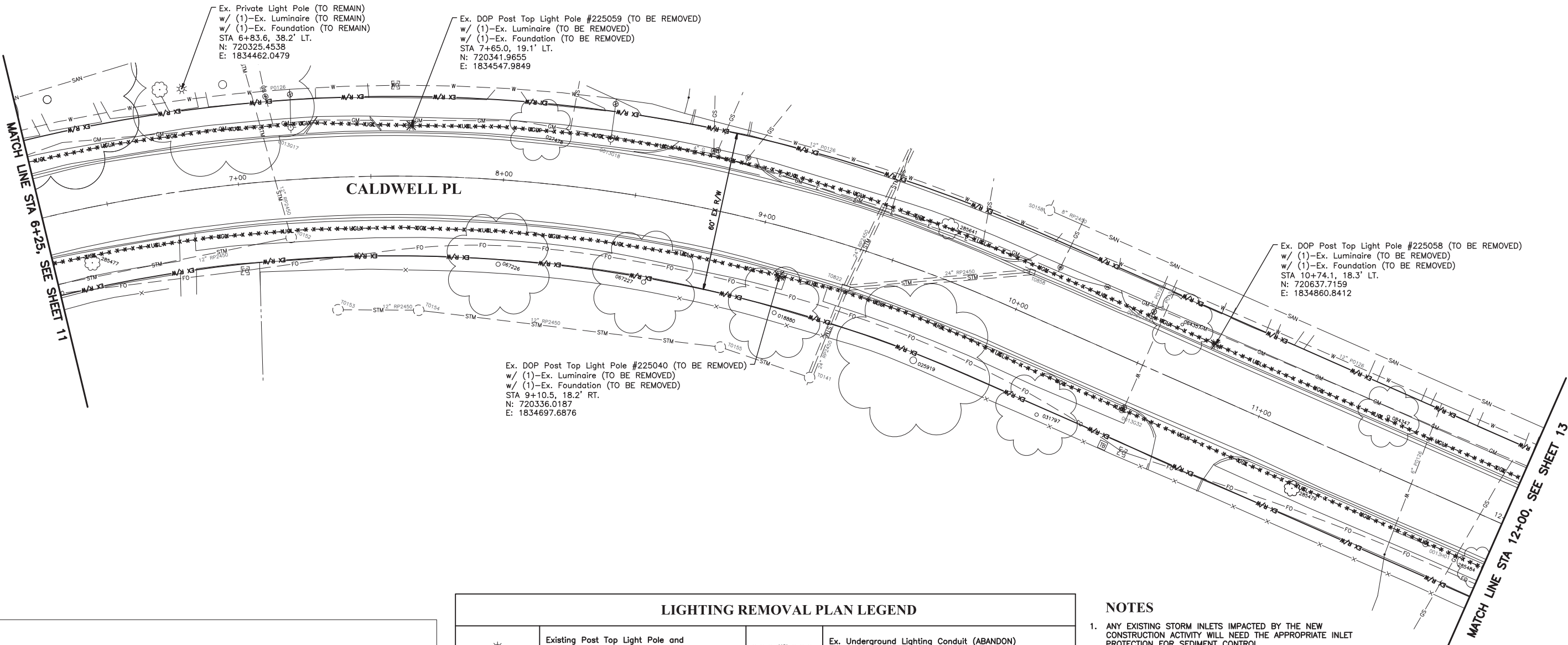
1. ANY EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL.



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
**Street Lighting Improvements for
CIRCUIT 79
Lighting Removal Plan**

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 11 OF 46	DWG NO.: 13E0241

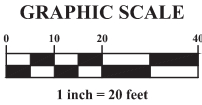


KEY PLAN
NOT TO SCALE

LIGHTING REMOVAL PLAN LEGEND			
	Existing Post Top Light Pole and Foundation (TO REMAIN)		Ex. Underground Lighting Conduit (ABANDON) w/ Ex. 2-Wire Circuit Cable #79 (TO BE REMOVED)
	Existing Post Top Light Pole and Foundation (TO BE REMOVED)		Ex. Overhead Street Lighting Circuit (TO REMAIN)
	Existing Wooden Pole (TO REMAIN) w/ Existing Bracket Arm (TO REMAIN) w/ Existing Luminaire (TO REMAIN)		Ex. DOP Aluminum Light Pole and Luminaire (TO REMAIN)
	Existing Wooden Pole (TO REMAIN) w/ Existing Bracket Arm (TO REMAIN) w/ Existing Luminaire (TO BE REMOVED)		Ex. Pull Box (TO REMAIN)
	Ex. Underground Lighting Conduit (TO REMAIN) w/ Ex. 2-Wire Circuit Cable (TO REMAIN)		Ex. Pull Box (TO BE REMOVED)

NOTES

1. ANY EXISTING STORM INLETS IMPACTED BY THE NEW CONSTRUCTION ACTIVITY WILL NEED THE APPROPRIATE INLET PROTECTION FOR SEDIMENT CONTROL.



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
Street Lighting Improvements for
CIRCUIT 79
Lighting Removal Plan

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 12 OF 46	DWG NO.: 13E0241

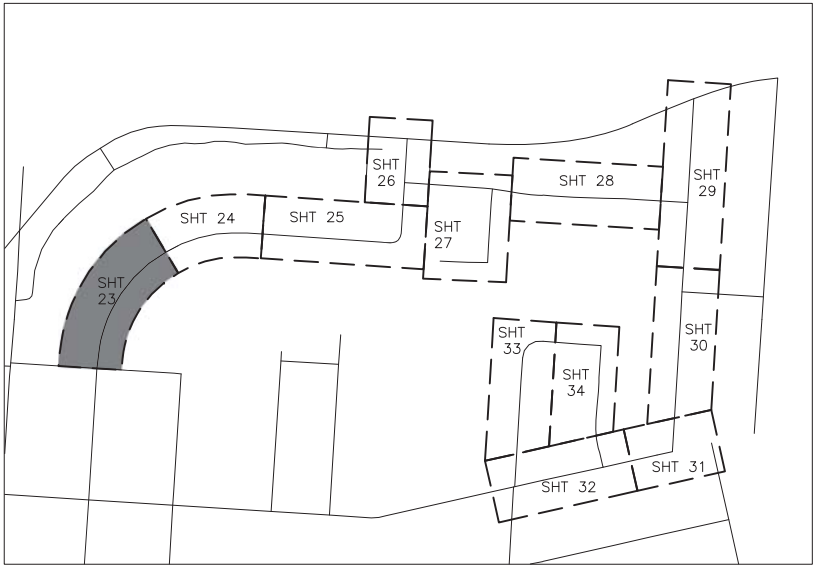
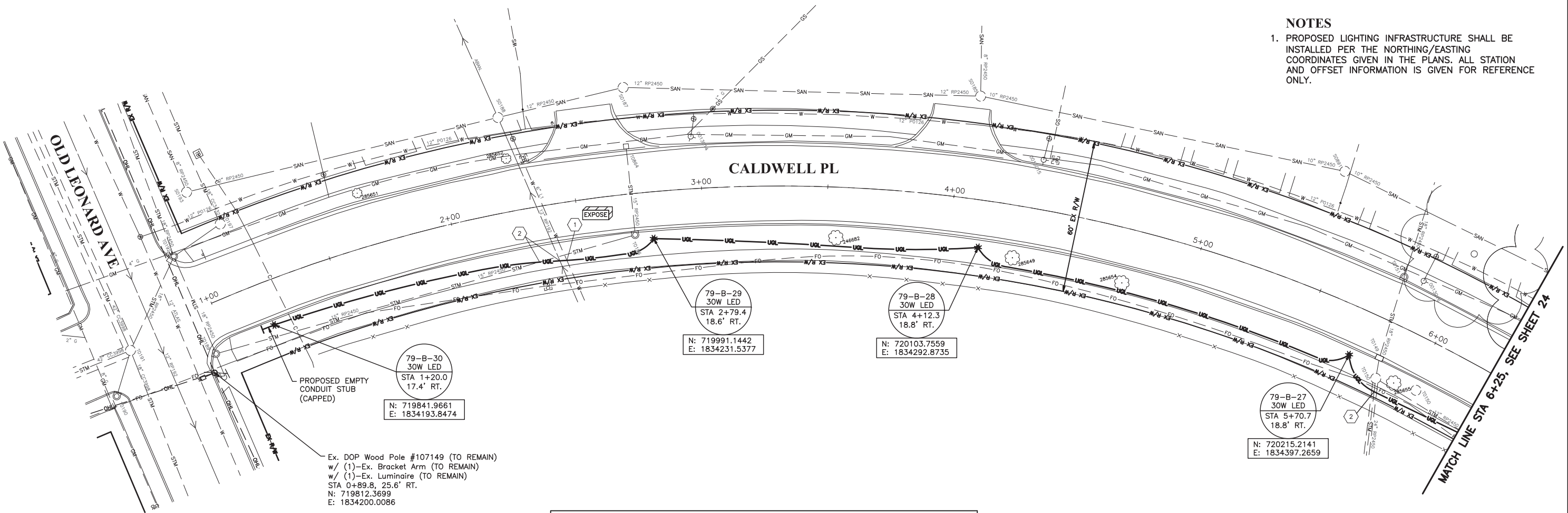


CODED NOTES

- 1
- CONTRACTOR TO EXPOSE EX. WATER LINE PRIOR TO INSTALLING LIGHTING CONDUIT. THE LIGHTING CONDUIT SHALL BE INSTALLED AT A DEPTH TO PROVIDE A MINIMUM OF 1' VERTICAL CLEARANCE FROM EX. WATER LINE.
- 2
- CONTRACTOR TO INSTALL LIGHTING CONDUIT AT A DEPTH TO PROVIDE A MINIMUM OF 1' VERTICAL CLEARANCE FROM EX. SEWER

NOTES

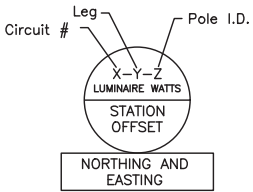
1.
- PROPOSED LIGHTING INFRASTRUCTURE SHALL BE INSTALLED PER THE NORTHING/EASTING COORDINATES GIVEN IN THE PLANS. ALL STATION AND OFFSET INFORMATION IS GIVEN FOR REFERENCE ONLY.



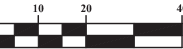
STREET LIGHTING PLAN LEGEND

	Proposed Post-Top Light Pole (MIS-307) w/ LED Acorn Luminaire (MIS-802) w/ 4' Street Light Foundation (MIS-200)
	Proposed Cobra Head LED Luminaire (MIS-800) (Install on Ex. Bracket Arm)
	Proposed Pull Box (MIS-54 or MIS-61 As Noted) with Splices Where Noted
	Proposed 480V, 3-Wire Pole Mounted Lighting Control Center
	Proposed 2" HDPE Conduit, Trenchless Installation (MIS-711) w/ Proposed 3-Wire Circuit Cable (MIS-404)
	Proposed Empty 2" SCH 40 PVC Conduit In Trench (MIS-700)
	Existing Underground Lighting Conduit (TO REMAIN)
	Proposed 3" Steel Conduit with 2" Conduit Insert, Jacked or Drilled Under Roadway (MIS-702) w/ Proposed 3-Wire Circuit Cable (MIS-404)
	Proposed 2" PVC Conduit (Empty) (Stubbed 5' From Foundation and Capped)

LIGHT POLE LEGEND



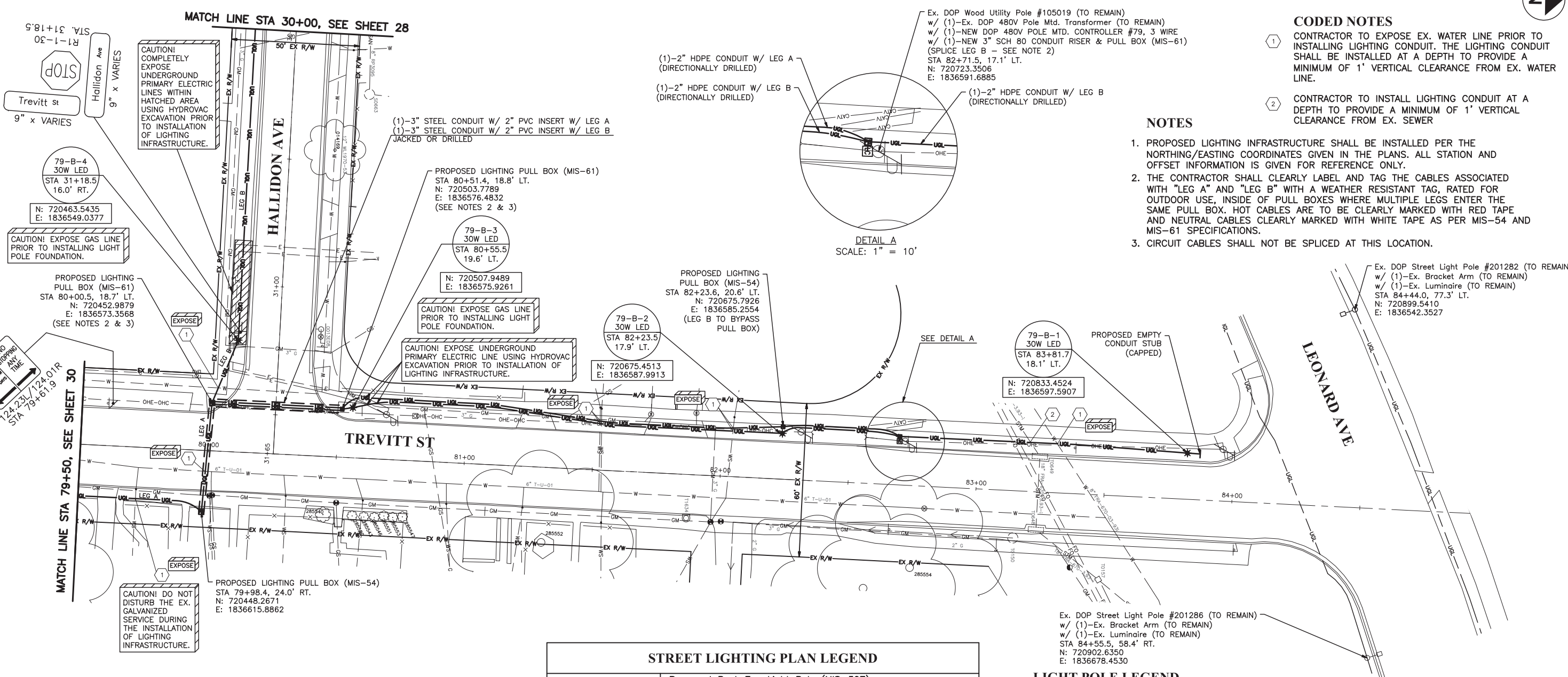
GRAPHIC SCALE



**CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
Street Lighting Improvements for
CIRCUIT 79
Street Lighting Plan**

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

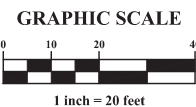
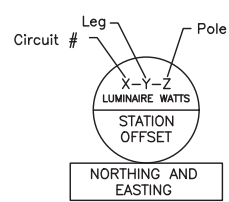
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APPROVED:		
SCALE: AS NOTED	SHEET: 23 OF 46	DWG NO.: 13E0241



STREET LIGHTING PLAN LEGEND

	Proposed Post-Top Light Pole (MIS-307) w/ LED Acorn Luminaire (MIS-802) w/ 4' Street Light Foundation (MIS-200)
	Proposed Cobra Head LED Luminaire (MIS-800) (Install on Ex. Bracket Arm)
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LIGHT POLE LEGEND



CODED NOTES

- CONTRACTOR TO EXPOSE EX. WATER LINE PRIOR TO INSTALLING LIGHTING CONDUIT. THE LIGHTING CONDUIT SHALL BE INSTALLED AT A DEPTH TO PROVIDE A MINIMUM OF 1' VERTICAL CLEARANCE FROM EX. WATER LINE.
- CONTRACTOR TO INSTALL LIGHTING CONDUIT AT A DEPTH TO PROVIDE A MINIMUM OF 1' VERTICAL CLEARANCE FROM EX. SEWER

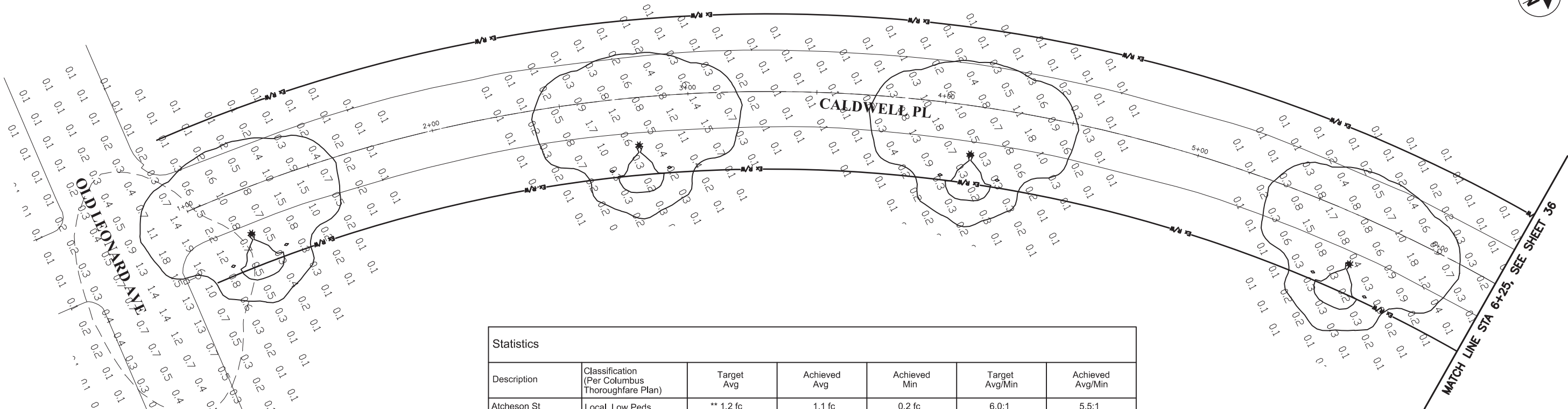
NOTES

- PROPOSED LIGHTING INFRASTRUCTURE SHALL BE INSTALLED PER THE NORTHING/EASTING COORDINATES GIVEN IN THE PLANS. ALL STATION AND OFFSET INFORMATION IS GIVEN FOR REFERENCE ONLY.
- THE CONTRACTOR SHALL CLEARLY LABEL AND TAG THE CABLES ASSOCIATED WITH "LEG A" AND "LEG B" WITH A WEATHER RESISTANT TAG, RATED FOR OUTDOOR USE, INSIDE OF PULL BOXES WHERE MULTIPLE LEGS ENTER THE SAME PULL BOX. HOT CABLES ARE TO BE CLEARLY MARKED WITH RED TAPE AND NEUTRAL CABLES CLEARLY MARKED WITH WHITE TAPE AS PER MIS-54 AND MIS-61 SPECIFICATIONS.
- CIRCUIT CABLES SHALL NOT BE SPLICED AT THIS LOCATION.

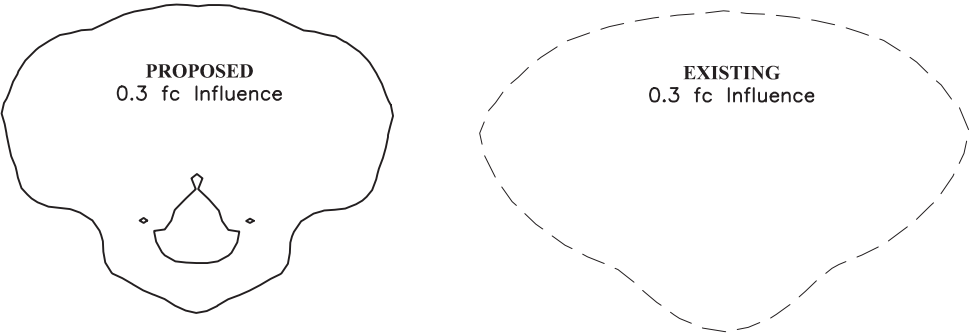
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
Street Lighting Improvements for
CIRCUIT 79
Street Lighting Plan

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 29 OF 46	DWG NO.: 13E0241



PHOTOMETRIC PLAN LEGEND



Statistics						
Description	Classification (Per Columbus Thoroughfare Plan)	Target Avg	Achieved Avg	Achieved Min	Target Avg/Min	Achieved Avg/Min
Atcheson St	Local, Low Peds	** 1.2 fc	1.1 fc	0.2 fc	6.0:1	5.5:1
Bolivar St	Local, Low Peds	0.4 fc	0.5 fc	0.0 fc	6.0:1	N/A
Caldwell Pl	Local, Low Peds	0.4 fc	0.5 fc	0.0 fc	6.0:1	N/A
Elda Ct	Local, Low Peds	0.4 fc	0.5 fc	0.0 fc	6.0:1	N/A
Ellison St	Local, Low Peds	0.4 fc	0.4 fc	0.0 fc	6.0:1	N/A
Fabron Ave	Local, Low Peds	0.4 fc	0.4 fc	0.0 fc	6.0:1	N/A
Hallidon Ave	Local, Low Peds	0.4 fc	0.5 fc	0.0 fc	6.0:1	N/A
N 20th St	Local, Low Peds	0.4 fc	0.4 fc	0.0 fc	6.0:1	N/A
Trevitt St	Local, Low Peds	0.4 fc	0.5 fc	0.0 fc	6.0:1	N/A

** Target foot-candle of 1.2 fc to match the existing conditions.

Luminaire Schedule							
Style	Manufacturer	Catalog Number	Description	File Name	Lumens Per Lamp	Light Loss Factor	Wattage
Cobra Head (MIS-800)	AEL	ATB0 P204 R2 3K	Autobahn P204 Package Roadway Type II 3000K	ATB0 P204 R2 3K.ies	11,800	0.86	88
Acorn (MIS-802)	Cooper	FFX-CLB-30-730-8-FR-T3-X-3 (CLEAR)-BK-10K-PR7-SH	Fairfax Classical Base, 30W Performance Package, 3000K CCT, 70 CRI, Type III Fairfax Refractor	FFX-CLB-30-730-U-FR-T3_4785 lumens.ies	4,785	0.86	30

PHOTOMETRIC SUBMITTAL REQUIREMENTS

Street light pole placement for this project was based on a photometric analysis using fixtures listed in the luminaire schedule. The results of this photometric analysis are detailed within on the included photometric plan sheets. If the specified fixtures are used for the project, no additional documentation from the Contractor is required. However, if one of the other manufactures as permitted by the City of Columbus standard MIS specification is selected for use by the Contractor, the following shall be submitted by the Contractor to the City for review and approval:

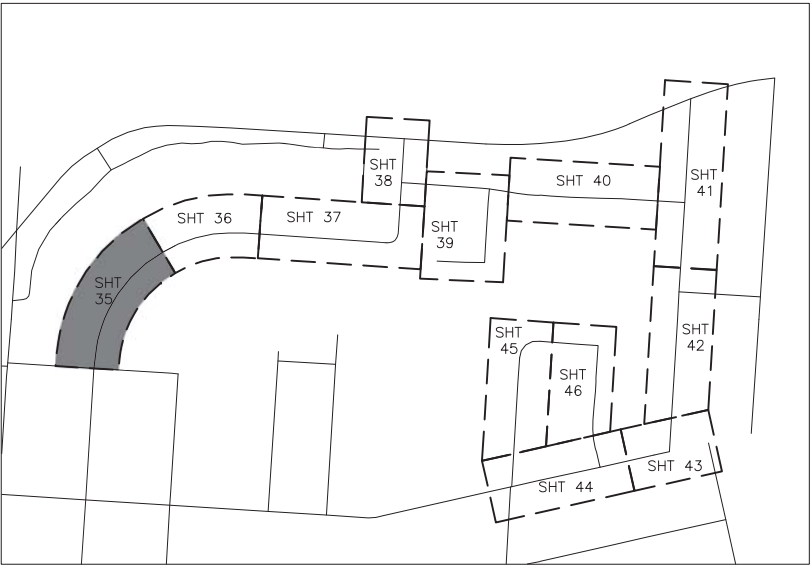
- Photometric analysis using lighting design software documenting that the selected luminaire meets the following average foot–candle requirements listed in the Photometric Results Table (+/– 0.1 fc) and the average/minimum uniformity ratio meets or exceeds the requirements listed in the Photometric Results Table, using pole locations as detailed in the plan set.

Upon request, the City will furnish the photometric file used by the project.

GRAPHIC SCALE



1 inch = 20 feet



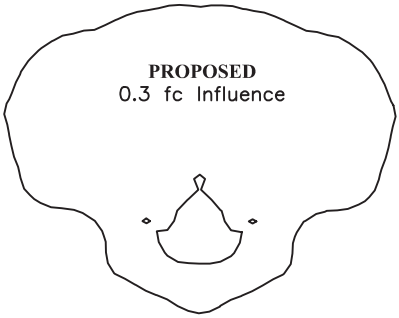
KEY PLAN
NOT TO SCALE

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
Street Lighting Improvements for
CIRCUIT 79
Photometric Plan

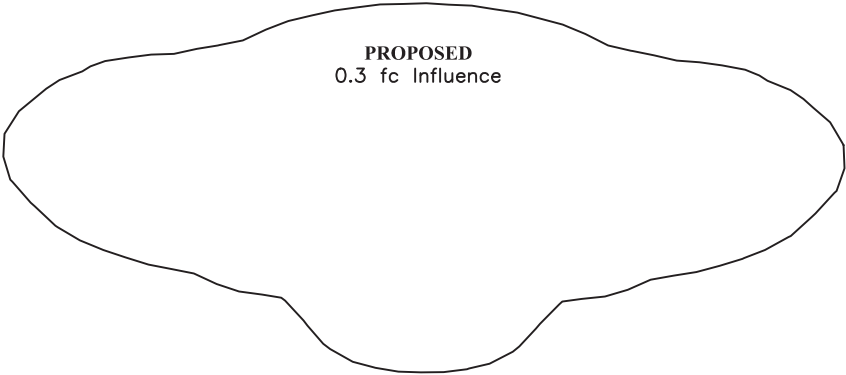
REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 35 OF 46	DWG NO.: 13E0241

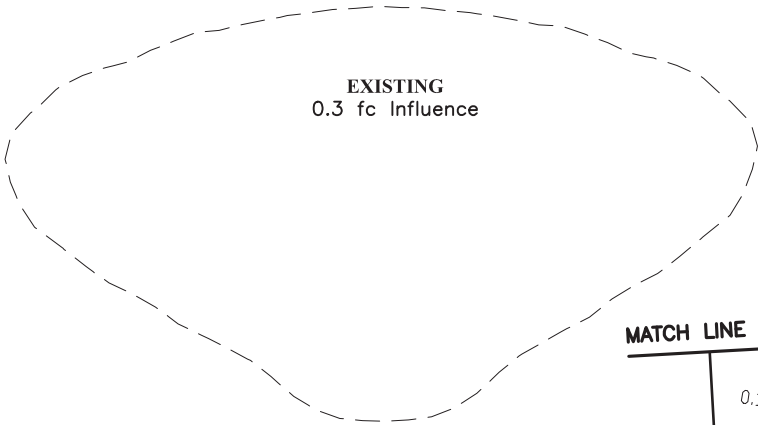
PHOTOMETRIC PLAN LEGEND



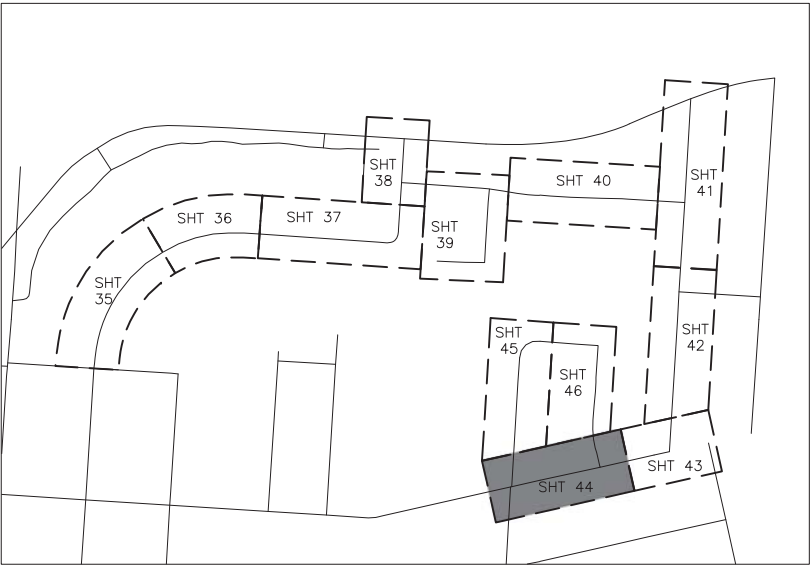
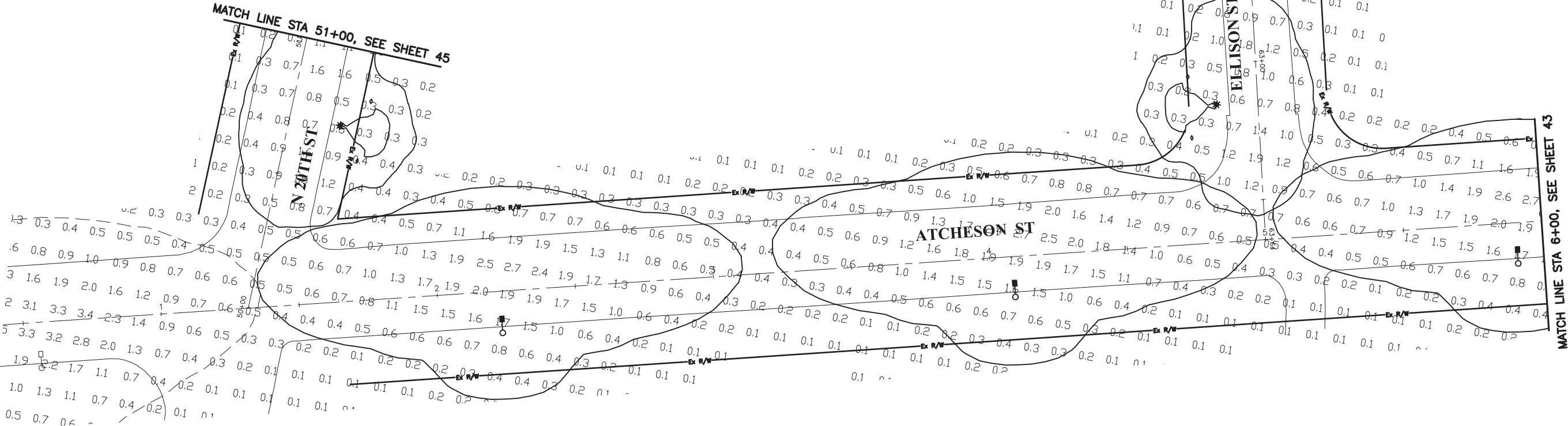
PROPOSED
0.3 fc Influence



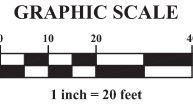
PROPOSED
0.3 fc Influence



EXISTING
0.3 fc Influence



KEY PLAN
NOT TO SCALE



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
**Street Lighting Improvements for
CIRCUIT 79
Photometric Plan**

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

DRAWN BY: EMHT	DATE: MAY 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 44 OF 46	DWG NO.: 13E0241

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4, Xrefs: 20240419-XU-REFR-E, 20240419-XT-ROAD-REFR-E, 20240419-COC-brdr, 20240419-CL-LITE-N

INDEX OF SHEETS

TITLE SHEET	1
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GENERAL NOTES	4-6
STREET LIGHTING DETAILS	7
GENERAL SUMMARY	8
LIGHTING CIRCUIT SCHEMATICS	9-10
LIGHTING REMOVAL PLAN	11-31
STREET LIGHTING PLAN	32-55
PHOTOMETRIC PLAN	56-76

PROJECT DESCRIPTION

The purpose of this plan is to remove the existing overhead wire lighting system associated with existing City of Columbus owned Circuit #23 and install a new LED, overhead wire street lighting system within the limits of the project area. Existing light poles located on the south side of E Broad Street and fed from existing Circuit #23 shall be disconnected from Circuit #23 and transferred to a new, 480V pad mounted controller #868 proposed near the southwest corner of E Broad Street and S Glenwood Avenue.

BASIS OF BEARINGS

Bearings shown in this plan are based on the Ohio State Plane Coordinate System, South Zone, NAD 83 (2011). Said bearings are based upon positional solutions derived from RTK GPS observations using the Ohio Department of Transportation Virtual Reference System equipment and software during June of 2019.

BENCH MARKS

See Schematic Plan for Benchmark Data.

2018 SPECIFICATIONS

The City of Columbus Construction and Material Specifications (CMSC), 2018 Edition, including all revisions and supplements in effect at the time of signature by the Director of Public Utilities shall govern all construction items that are part of this plan unless noted otherwise.

EARTH DISTURBED AREA

Total EDA: 0.010 acres
Pre-Impervious Area: 9.790 acres
Post-Impervious Area: 9.790 acres

FEMA NOTE

According to the Federal Emergency Management Agency's Flood Insurance Rate Maps (dated June 17, 2008), the subject parcel shown hereon lies within Zone "X" and "A", on Community Panel No. 39049C0308K and 39049C0309K. This project is located in an area with reduced flood risk due to the levee. No fill will be added within the 100-year floodplain. 100-year floodplain lines and 500-year floodplain lines are shown on the pertinent street lighting plan sheets for reference.

FLOODPLAIN INFORMATION	DATA	REFERENCE SHEET NO.
FIRM Panel Number	39049C0308K & 39049C0309K	N/A
Effective Date of FIRM Panel	June 17, 2008	N/A
Flood Zones	"X" and "A"	See Street Lighting Plan
Any Floodway Fill or Floodway Obstruction?	No	N/A
Any fill or structure added to the floodway fringe of the 100-year floodplain?	No	N/A
Base Flood Elevation (BFE)	N/A - Zone "A" Floodplain	N/A



PREPARED BY:



Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll Free: 888.775.3648
emht.com



ENGINEER

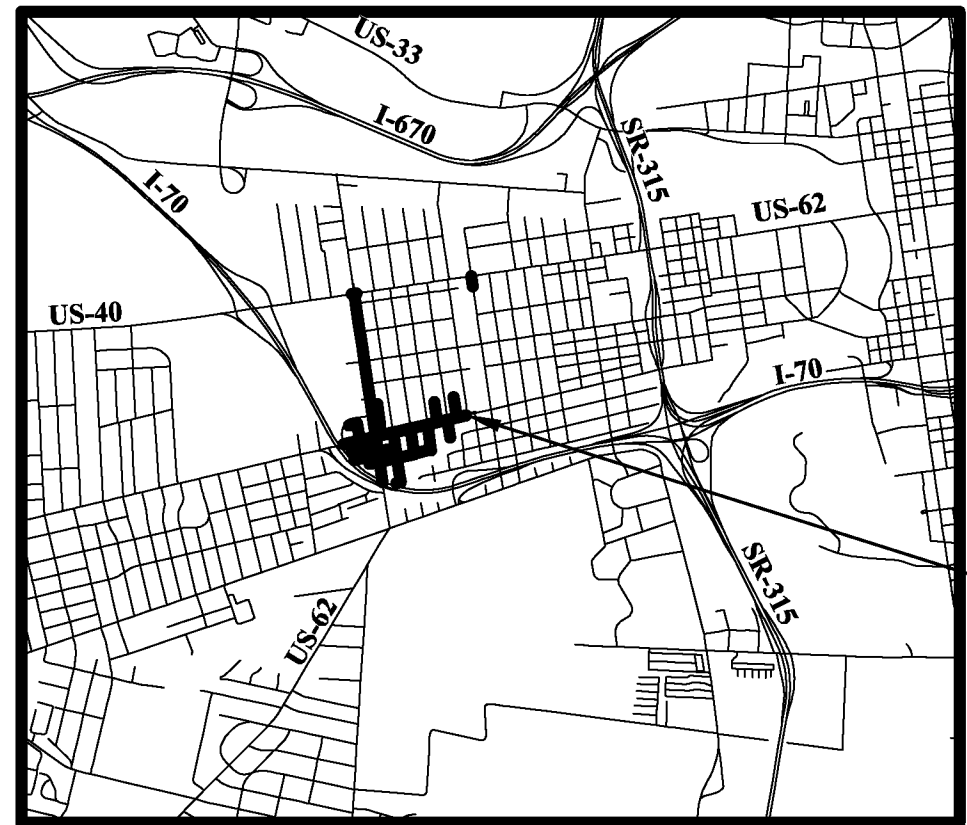
EMH&T
5500 New Albany Road,
Columbus, OH 43054
Dylan McCann
614.775.4500
dmccann@emht.com

6-25-25
Date

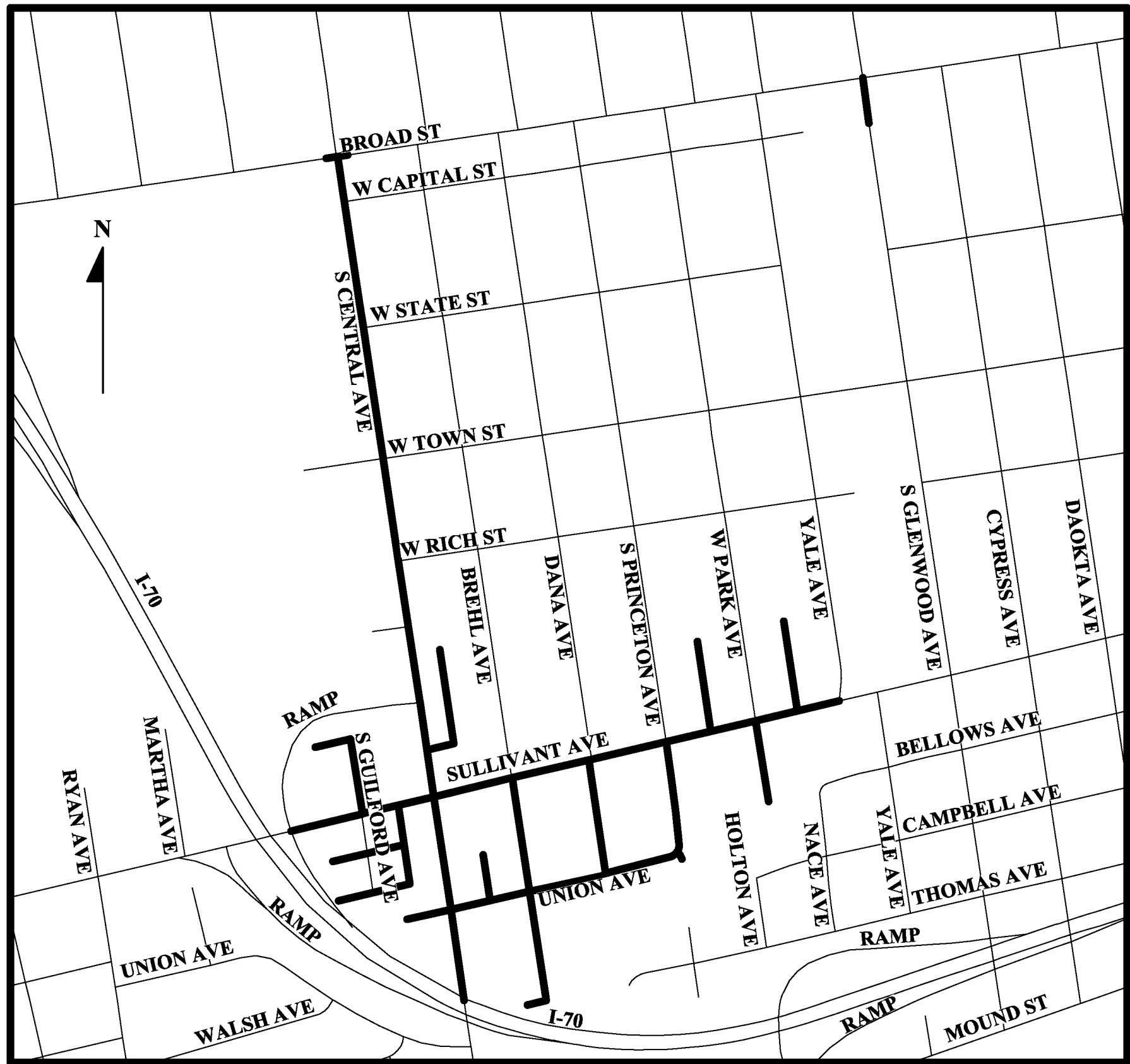
Dylan McCann
Registered Engineer No. 82923

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
STREET LIGHTING IMPROVEMENTS
FOR
CIRCUIT #23
CIP# 670892-100000

OVERHEAD DESIGN
EXAMPLE



INDEX MAP
NOT TO SCALE



LOCATION MAP
1" = 500'

ODOT STANDARD CONSTRUCTION DRAWINGS	COLUMBUS STANDARD CONSTRUCTION DRAWINGS	COLUMBUS STANDARD MIS DRAWINGS	SUPPLEMENTAL SPECIFICATIONS
MT-101.90 7/17/20	1441 7/1/24	MIS-1 MIS-61 MIS-702 TDMIS-27	1620
MT-105.10 1/17/20	1500 9/15/15	MIS-2 MIS-62 MIS-711 TDMIS-28	
MT-110.10 7/19/13	1510 9/15/15	MIS-3 MIS-100 MIS-800 TDMIS-200	
	1550 9/15/15	MIS-4 MIS-101 MIS-901 TDMIS-600	
	1702 10/1/24	MIS-50 MIS-310 MIS-902 TDMIS-804	
	1703 11/1/24	MIS-51 MIS-400 TDMIS-1603	
	2160 12/31/18	MIS-52 MIS-401 TDMIS-1604	
	2300 7/1/23	MIS-54 MIS-403 TDMIS-1607	
	2303 7/1/21	MIS-55 MIS-500 TDMIS-2300	
	4600 7/1/20	MIS-56 MIS-600 TDMIS-7 TDMIS-2700	
	L-7102-C 1/26/18	MIS-57 MIS-601 TDMIS-10 TDMIS-8000	
	L-9901 9/21/22	MIS-58 MIS-700 TDMIS-26 TDMIS-9070	

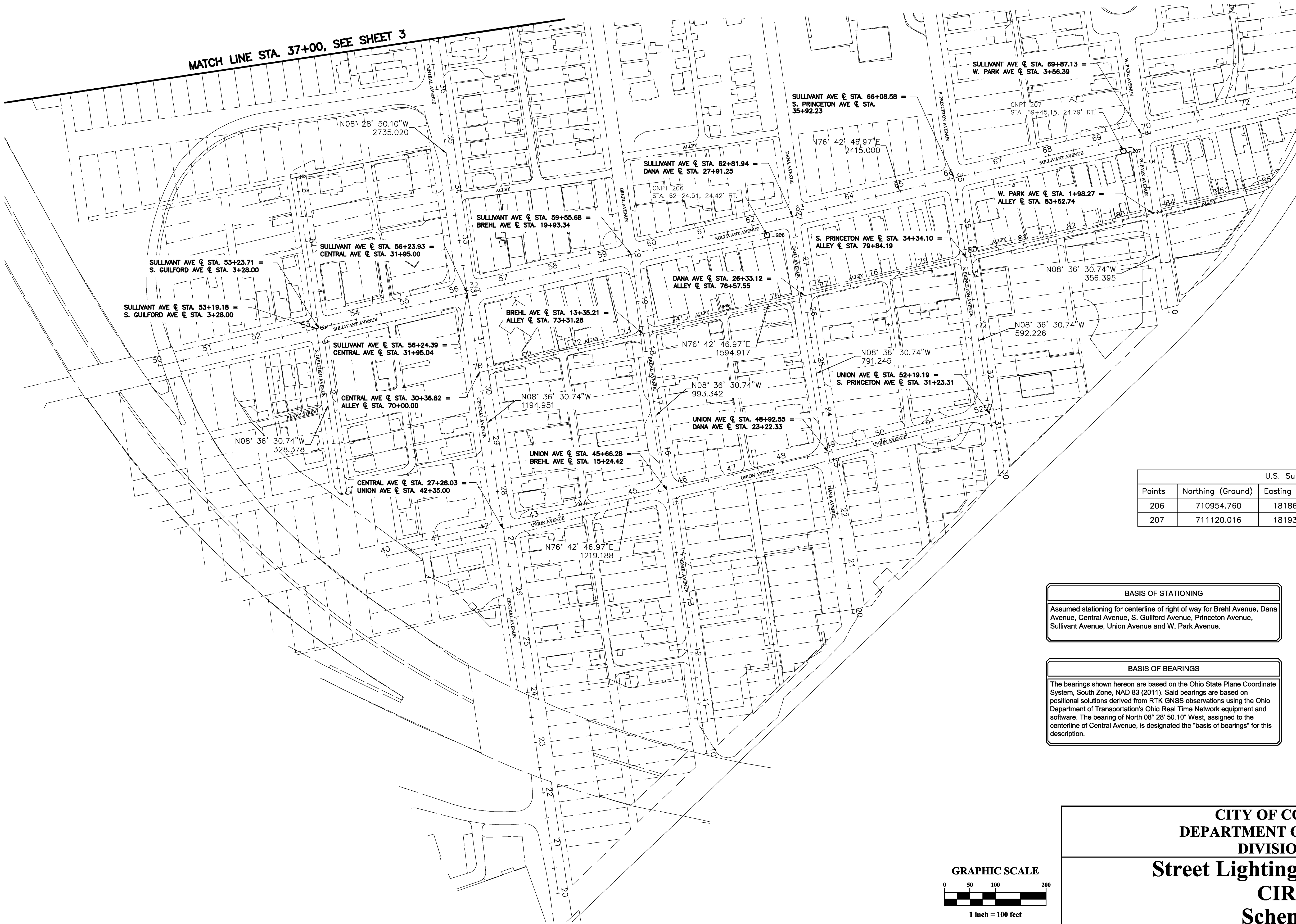
REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
Street Lighting Improvements for
CIRCUIT 23
TITLE SHEET

DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 1 OF 76	DWG NO.: 13E0240

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3 Xrefs: 20240420-X1-ROAD-BEER-F, 20240420-X11-BEER-F, 20240420-COC-hdr



U.S. Survey Foot				
Points	Northing (Ground)	Easting (Ground)	Elevation	Description
206	710954.760	1818628.636	708.59	1165 TOPO MAGS
207	711120.016	1819330.073	704.21	1165 TOPO MAGS

BASIS OF STATIONING

Assumed stationing for centerline of right of way for Brehl Avenue, Dana Avenue, Central Avenue, S. Guilford Avenue, Princeton Avenue, Sullivan Avenue, Union Avenue and W. Park Avenue.

BASIS OF BEARINGS

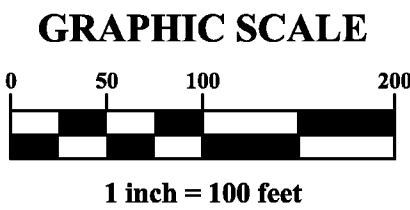
The bearings shown hereon are based on the Ohio State Plane Coordinate System, South Zone, NAD 83 (2011). Said bearings are based on positional solutions derived from RTK GNSS observations using the Ohio Department of Transportation's Ohio Real Time Network equipment and software. The bearing of North 08° 28' 50.10" West, assigned to the centerline of Central Avenue, is designated the "basis of bearings" for this description.

Vertical Datum

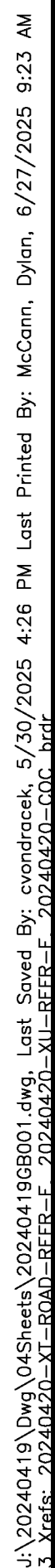
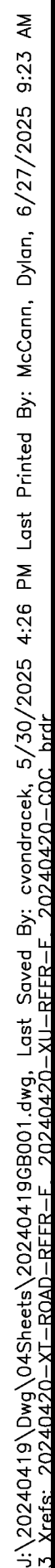
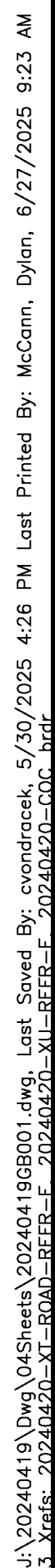
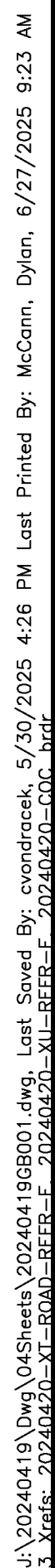
The elevations shown on this map are based on the North American Vertical Datum of 1988. Said elevations are based upon positional solutions derived from RTK GNSS observations using the Ohio Department of Transportation's Ohio Real time Network equipment and software and the National Geodetic Survey's GEOID18 model at traverse control points numbered 201, 202, 203, 204 and 205. Elevations from said traverse control points were then transferred by conventional leveling procedures to the permanent benchmarks listed hereon.

Horizontal Datum

The coordinates shown on this map are based on the Ohio State Plane Coordinate System, South Zone, NAD 83 (2011). Said coordinates are based upon positional solutions derived from RTK GNSS observations using the Ohio Department of Transportation Ohio's Real Time Network equipment and software at traverse control points numbered 201, 202, 203, 204 and 205. The grid to ground combined scale factor (1.000042811856) was applied at the location of point number 205 (N:713483.804, E: 1817364.948)



REVISION DESCRIPTION				SHEET OR SHEETS	INITIAL	DATE	CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER Street Lighting Improvements for CIRCUIT 23 Schematic Plan		
				DRAWN BY: EMHT			DATE: JUNE 2025		SPL NUMBER: -
				APPROVED:					
				SCALE: AS NOTED			SHEET: 2 OF 76		DWG NO.: 13E0240



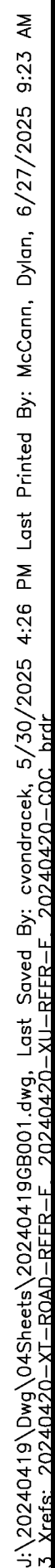
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3. xrefs: 20240420-XI-ROAD-REFR-F 20240420-XII-REFR-F 20240420-COC brdr

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REFERENCE SPECIFICATIONS

The City of Columbus Construction and Material Specifications (CMSC), 2018 Edition, including all revisions and supplements in effect at the time of signature by the Director of Public Utilities shall govern all construction items that are part of this plan unless noted otherwise.

PRE-CONSTRUCTION NOTIFICATIONS REQUIRED

Contractor shall notify the following Divisions at least 24 hours before starting work.
48 Hour Notice will be given to the:

Division of Power	(614) 645-7627
Division of Design and Construction	(614) 645-3182
Division of Planning and Operations – Operations Section	(614) 645-7738
Division of Water	(614) 645-7677
Division of Sewerage and Drainage	(614) 645-7102
Department of Recreation and Parks	(614) 645-7665

PERMITS

When excavating within Columbus Public Right of Way limits, the Contractor shall obtain an Excavation Permit from City of Columbus, Department of Public Service, Permit Office between the hours of 7:30 am and 4:00 pm Monday through Friday. Phone (614) 645-7497; Fax (614) 645-1876; Email: colspemits@columbus.gov.

UTILITIES

The identity and location of the existing underground utility facilities located in and around the construction area have been shown and labeled on the plans by using information provided by the respective utility owners. The City of Columbus or the Consulting Engineer will not assume responsibility for the accuracy of location or depth of existing underground utilities as shown on the plan.

Support and protection of all utilities and appurtenances shall be the responsibility of the Contractor. Costs for the repair and restoration of existing utilities damaged by the Contractor shall be the responsibility of the Contractor. The City of Columbus will only locate and mark main line facilities. The Contractor is responsible for locating all service laterals and lines for both public and private utilities. Costs associated with the above work and responsibilities shall be included in the price bid for the various items.

Prior to excavation, the Contractor shall give a 48-hour notice to the Ohio Utilities Protection Service (OUPS) by calling (800) 362-2764. A 48-hour notice shall be given to owners of underground utilities shown on the plans who are not members of a registered underground protection service.

Listed below are utility companies that have facilities located within the work limits of this project and subscribe to OUPS:

American Electric Power Distribution Attn: Brent Gates 700 Morrison Road Gahanna, Ohio 43230 Phone: (614) 883-6802 AEP Solution Center: 800-277-2177 bmrgates@aep.com AEP Telecom Attn: Jim Rigdon ohfiberrelocate@aep.com	City of Columbus DPU – Division of Sewerage and Drainage Sewer Maintenance Manager 1250 Fairwood Avenue Columbus, Ohio 43206 Phone: (614) 645-7102	Crown Castle Fiber Attn: Jon Tarnowski 2 Easton Oval – Suite 425 Columbus, Ohio 43219 Phone: (585) 445-5813 Cell: (614) 940-2462 jon.tarnowski@crowncastle.com
MMI Atlantic LLC Attn: John DeGuise deguise@fb.com relocations@middlemileinfra.com mablackstone@columbusfiber.net	Verizon Business (MCI) Attn: Maurice Jones 757 Commerce Ct Lewis Center, OH 43035 maurice.jones@verizon.com Cell: 614-593-6685	Everstream Attn: Scott Lancia 240 N. 5th Street – Suite 168 Columbus, Ohio 43215 Office: (380) 204-5465 Cell: (614) 515-3479 slancia@everstream.net ssaleh@everstream.net kkhay@everstream.net
Columbia Gas of Ohio Attn: Rob Caldwell 3550 Johnny Applesseed Ct. Columbus, OH 43231 Phone: (614) 818-2104 (614) 370-1906 rcaldwell@nisource.com Customer Service: 1-800-344-4077 Damage Prevention: 1-866-632-6243	Lumen 250 W. Old Wilson Bridge, Suite 130 Warthington, Ohio 43085 relocations@lumen.com relocations@brightspeed.com haley.woods@lumen.com	
City of Columbus Department of Public Service Attn: Brad Hegwood Damage Prevention Supervisor Traffic Signals 1820 East 17th Ave. Columbus, OH, 43219 Office: (614) 560-0839 bdhegwood@columbus.gov	ODOT ITS 1606 West Broad St. Columbus, OH 43223 (614) 387-4113 CEN.ITS.LAB@DOT.OHIO.GOV	Cogent Communications Attn: Paul Becker 6182 Johnson Rd Flushing, Michigan 48433 Cell: (815) 557-8416 PBecker@cogentco.com
City of Columbus Division of Water 910 Dublin Road Columbus, Ohio 43215 Phone: 645-7788	Zayo Group Attn: Eric Alexander 251 Neilston Street Columbus, OH 4321 (614) 989-9655 eric.alexander@zayo.com	Columbus Fibernet Attn: Matt Blackstone 1600 Walcutt Road Columbus, Ohio 43228 Office: (614) 921-8524 mablackstone@columbusfiber.net CFNinfo@columbusfiber.net
City of Columbus Division of Power 3500 Indianola Ave. Columbus, Ohio 43214 Phone: (614) 645-7627	Breezeline Attn: Jeremy Borreson 3675 Corporate Drive Columbus, Ohio 43231 jborreson@breezeline.com DL_CMHFR@BREEZELINE.COM	Windstream-KDL Inc. Attn: Leon Taylor 2165 State Route 133 South Blanchester, Ohio 45107 Cell: (937) 725-5358 leo.taylor@windstream.com
City of Columbus Department of Technology 1355 McKinley Avenue Columbus, Ohio 43222 dhjoyce@columbus.gov bcmickley@columbus.gov Phone: (614) 645-7756	Charter Communications/Spectrum (Time Warner) Attn: Chris Hamilton 3760 Interchange Road Columbus, OH 43204 chris.hamilton@charter.com dl-moh-construction-frelo-team@charter.com	COTA Attn: Paul Evans 33 North High Street 8th Floor of William J. Lhota Building Columbus, Ohio 43215 EvansPM1@cota.com

FOR REFERENCE ONLY. PLEASE CONTACT
THE CITY OF COLUMBUS DEPARTMENT OF PUBLIC SERVICE
FOR THE MOST CURRENT LIST OF UTILITY CONTACTS

UTILITY COORDINATION

The Contractor is responsible to coordinate their construction activity along with the relocation of any utilities as required by the plan with the Owner of the affected utility. The Contractor shall coordinate construction operations and protect existing utility poles to remain. The utility company will provide equipment to support poles as required during construction.

Utility poles within the influence of storm line trenches or earthwork operations shall be reinforced by the utility company prior to these construction activities. Notification of the utility company prior to construction shall be the responsibility of the Contractor.

The Contractor shall perform any exploratory excavations necessary to locate underground utilities prior to digging or jacking and drilling. Where project work is located close to existing utility lines, excavation shall be accomplished via hand digging or vacuum excavation. The cost of the work shall be included in the various items bid.

EMERGENCY PROVISIONS

The Contractor shall provide to the City of Columbus project representative a list of 24 hour emergency telephone numbers (in writing) prior to the start of construction.

SECURING EXCAVATIONS & TRENCHES FOR NON-WORKING HOURS

Excavations and trenches over 24-inches deep shall be securely plated, or backfilled during non-working hours.

MISCELLANEOUS WORK ITEMS

The Contractor shall perform all items of work called for on the plans, for which no specific method of payment is provided. The cost of these items shall be included in the various unit prices bid for the project improvement.

BENCHMARKS AND SURVEY MONUMENTS

Do not disturb any Franklin County Certified Benchmarks (vertical and/or horizontal) located within the working limits of the project. Contractor shall contact the Franklin County Survey Department (614) 462-3026, prior to construction, to coordinate the proper procedures for resetting, relocation, or replacement of any Franklin County Certified Benchmark or Survey Monument.

COLUMBIA GAS DAMAGE PREVENTION CENTER

For information concerning Columbia Gas lines or equipment, or if damage occurs to gas lines or equipment the Contractor can call the Columbia Gas Damage Prevention Center at (614) 280-7372 or toll free at (866) 632-6243.

STORAGE OF EQUIPMENT AND MATERIALS

Materials, including pipe, shall not at any time (working or non-working hours) be stored within the right-of-way or within one hundred (100') feet of any intersecting street or driveway, without prior written approval from the City of Columbus. Compliance with this requirement along with additional provisions of the Contract Specifications shall not in any way relieve the Contractor of his legal responsibilities or liabilities for the safety of the public. The Contractor shall inform the City of Columbus on his plan for the storage of equipment and materials at the pre-construction meeting.

NON-RUBBER-TIRED VEHICLES

Non-rubber-tired vehicles shall not be moved on public streets. The City Engineer may grant exceptions when short distances and special circumstances are involved. Granting of exceptions must be in writing, and any damage must be repaired to the satisfaction of the City of Columbus acceptable representative.

FOR THE DIVISION OF WATER

For any emergencies involving the water distribution system, please contact the Division of Water Distribution Maintenance Office at 614-645-7788.

All water line valve boxes, service boxes, test stations, pitometer tap structures, meter pit covers, and other surface utility structures within the disturbed area shall be adjusted to grade. Any of these structures located within pavement, driveways, or other traveled areas, whether existing or proposed, shall be equipped with a traffic rated, heavy duty valve box and/or cover in accordance with the Standard Drawings. Existing water service boxes to remain that are encountered within the project limits shall be cleaned out, centered above the curb stop, and adjusted to the proposed grade.

Where new conduit is proposed to cross an exiting or proposed water main or water service, a minimum of 12-inches of vertical clearance shall be maintained between the conduit and the water main or service. A minimum of 3-feet of horizontal clearance (out to out) is required at locations where the conduit is parallel to the water main and at locations of water line thrust blocks.

A minimum of 3 feet of horizontal clearance (out to out) shall be maintained between all existing water mains and foundations for poles, pull boxes, push button pedestals, and any other miscellaneous electrical structure.

Expose water line at crossing(s) to verify depth and location prior to and during any directional boring.

The Contractor is responsible for located all customers owned service lines. The Contractor shall field verify the horizontal and vertical location of any City or customer owned main or service line that may be affected by the proposed construction activities. Field verification shall take place prior to an activity that may jeopardize the integrity of the facility and at a location nearest the point of possible conflict.

Any repair to City or customer owned water lines are the responsibility of the Contractor. The Contractor shall contact the City of Columbus, Division of Water at 614-645-7788 prior to any repairs on City owned water facilities. The Contractor must be a City of Columbus licensed water contractor. The Contractor shall maintain a minimum of 3' horizontal and 1' vertical clearance from the outside diameter of all water lines at 8' from any "tee" connection, bands, and ends of the water lines, from outside diameter to the nearest edge of the facility being placed.

If during excavation, the polyethylene encasement of the existing water main becomes damaged, the Contractor shall repair the polyethylene encasement per manufacture's specifications and DOW Standard Drawings L-1003 and L-1004, at their own expense. Ensure that the entire exposed area shall be covered with new polyethylene encasement and securely taped, prior to backfill.

If a lead or galvanized water tap is encountered and is neither damaged nor part of a planned relocation/replacement, the Contractor shall report the presence of the tap via email to waterquality@columbus.gov. Include the site's address and a photo of the tap in the email. If a lead or galvanized tap is either damaged during construction or is part of a planned water tap relocation/replacement, the Contractor shall take the following steps:

1. If damaged, immediately contact The Division of Water Distribution Engineering Office at 614-645-7677 to request the shut off of the existing curb stop.
2. Contractor shall expose the owner's side of the water service to confirm the material. The Inspector shall be present for this.
3. If the customer's private service material is lead or galvanized, stop work and notify the Division of Water Distribution Engineering Office (614-645-7677) immediately. If the material is not lead or galvanized, the contractor shall replace the lead or galvanized tap (from existing corporation stop to curb stop) and reinstate service to the customer. Partial repairs of the lead tap are NOT permitted.
4. Refer to Division of Water Standard Drawings L-7102C and L-9901 for information on water tap relocations, placing new curb stops, and relocating curb boxes.

FOR THE DIVISION OF SEWERAGE AND DRAINS

Maintain a minimum of 3 ft. horizontal and 1 ft. vertical clearance from all sewers other than brick, and 10 ft. horizontal / 5 ft. vertical for brick sewers along the drill path.

The Contractor is responsible for locating all service laterals. Any damage to main sewer lines or service laterals is the responsibility of the Contractor. All repairs must be performed by a licensed sewer contractor, under a separate sewer permit.

The Contractor shall give a forty-eight (48) hour notice to Ohio Utilities Protection Service (OUPS) by calling 1-800-362-2764.

FOR THE DIVISION OF POWER

The Division of Power (DOP) may have underground and overhead primary, secondary and street lighting at this work location. The Contractor is hereby required to contact OUPS at 811 or 1-800-362-2764 forty-eight hours prior to conducting any activity in the construction area.

Any required relocation, support, protection, or any other activity concerned with the City's electrical facilities in the construction area is to be performed by the Contractor under the direction of DOP personnel and at the expense of the project. The Contractor shall use material and make repairs to a City of Columbus street lighting system by following DOP's "Material and Installation Specifications" (MIS) and the City of Columbus "Construction and Material Specifications" (CMS). Any new or re-installed underground street light system shall require testing as referred to in section 1001.18 of the CMS manual. The Contractor shall conform to DOP's existing street light Lockout/Tagout (LOTO) procedure, MIS-1, copies of which are available at https://www.columbus.gov/Services/Public-Utilities/About-Public-Utilities/Public-Utilities-FAQs/Power-Specifications-Street-Lighting-MIS-Specifications.

If any electric facility belonging to DOP is damaged in any manner by the Contractor, its agents, servants, or employees, and requires emergency repairs, DOP District Office should be contacted immediately at 614-645-7627. DOP shall make all necessary repairs, and the expense of such repairs and other related costs shall be paid by the Contractor to the Division of Power, City of Columbus, Ohio.

INSPECTION/ACCEPTANCE BY THE DIVISION OF POWER

Upon completion of construction of the project, the Contractor will be required to follow the procedures for inspection and acceptance of a street lighting project by the Division of Power. For this project, the Contractor will be required to show the Division of Power that all luminaires are functioning properly. During the final inspection/acceptance process, the contractor will be required to cover the photocell(s), in order to verify operation of the luminaires to the Division of Power.

COLUMBUS RECREATION AND PARKS DEPARTMENT STANDARD PLAN NOTE

Prior to submission of Final Site Compliance Plan, any entity requesting non-park use/development must submit a Non-Park Use of Parkland (NPUP) Application to CRPD Property Manager Tina Mohn at TMMohm@columbus.gov to secure a permit to enter CRPD property. The Contractor shall contact Columbus Recreation & Parks Department's (CRPD) Inspector, Keith May, at KAMay@columbus.gov thirty (30) calendar days prior to any work on or near CRPD property. The Contractor shall submit a work schedule and coordinate access with CRPD Inspector prior to any work on or near CRPD property. Scheduled events by CRPD shall take precedence over the Contractor's work schedule, and the Contractor shall adjust work schedule as necessary. The Contractor shall not enter into a CRPD property nor stage/store any materials or equipment outside their work limits on CRPD property without a permit issued by CRPD. The permit must be posted onsite at all times. Any and all CRPD park areas disturbed by the Contractor during the course of their work activities shall be restored to conditions that meet or exceed existing conditions within the time frames noted in the approved schedule and shall be to the satisfaction of CRPD. Unless specific permissions are granted by CRPD, access to, from, on, over, under, though, or across CRPD property is not granted or implied. Failure to have a permit in place that is that is consistent with CRPD NPUP Policy will result in delay of final site compliance approval signature by Recreation & Parks/City Forester. This work shall be considered incidental to the various bid items.

COLUMBUS RECREATION AND PARKS DEPARTMENT GREENWAY TRAIL NOTE

All activities that may be adjacent to, may potentially disturb a Columbus Recreation & Parks Department (CRPD) trail, and/or have any impacts to normal trail flow require coordination with Keith May with CRPD at KAMay@columbus.gov thirty (30) calendar days prior to any work commencing for onsite coordination, onsite meeting, signage, traffic control detour plan, restoration plan, disturbance and/or clearing limit review. Access or use of Greenway trails for any non-park use is not granted or implied unless specific permissions are granted in writing from CRPD. The Contractor shall submit a vehicle/equipment traffic plan including identification numbers, type of vehicle/equipment, and weight of vehicle/equipment to be used prior to the start of work. Only vehicles/equipment approved by CRPD in writing shall be permitted on the trail. Additionally, existing trail conditions must be documented through pictures or video before work begins. If the trail is damaged by Contractor use, the Contractor must repair the trail back to conditions that meet or exceed existing conditions. This work shall be considered incidental to the various bid items.

INDIANA BAT HABITAT PROTECTION NOTE

For any trees designated for removal that may be potential bat habitat areas, removal shall only occur from October 1st to March 31st. If the contractor prefers to remove the trees outside of this time frame, a survey must be conducted according to the United States Fish and Wildlife Services and by a biologist with all required federal and/or state collection permits to determine the presence of any Indiana Bats. The data collected during the survey must be provided to the City Forestry Section at forestry@columbus.gov according to the conditions of the permit and any regulatory authority requirements. If no bats are present the tree shall be removed within 24 hours of the survey being conducted. If bats are found to be present, then tree shall remain and a protection and enhancement plan will be required. This work shall be considered incidental to the various bid items.

PUBLIC TREE IMPACT NOTE

Any work on or within the Critical Root Zone of a Public Tree is considered an impact to the Public Tree. A Public Tree Plan and permit from Columbus Recreation & Parks Forestry is required for any plan with Public Trees in the work limits. The Public Tree Plan shall denote all public trees in the project's Work Limits. Tree information shall conform to the Columbus Tree Technical Manual requirements and be provided by a Natural Resource Professional. Failure to contact the City Forestry representative in advance of construction will result in the Contractor reimbursing Forestry for the cost of any and all damage to Public Trees.

PUBLIC TREE PROTECTION NOTE

All Public Trees and the ground in the Critical Root Zone, whether shown or not shown on the plans, are to be protected unless a permit to remove is given by Columbus Recreation & Parks (CRPD) Forestry. The Contractor shall protect trees near or adjacent to the work area to avoid damage to all trees that are to remain. Heavy equipment will not be allowed to compact the soil over the Critical Root Zone of existing public trees. Restricted equipment access routes shall be coordinated with CRPD Forestry at Forestry@columbus.gov before work begins. Temporary paving materials, such as plywood, lumber or rubber matting, spread over the root zone of Public Trees may be required to prevent compaction. Construction materials, excavation debris, fuel, equipment, or vehicles are not to be stockpiled, stored, dumped, or parked within the Critical Root Zone of Public Trees. All Trees must be protected against injury or damage to branches, trunks, or roots from construction and excavation, as described in the CRPD Tree Technical Manual. If there is a question regarding tree protection needs, the Contractor must contact the City Forestry Section at forestry@columbus.gov.

FORESTRY PERMIT NOTE

Any work on or within the Critical Root Zone of a Public Tree requires a Forestry Permit. All applicable fees must be paid prior to permit issuance. Refer to the CRPD Tree Technical Manual for tree removal, pruning, protection, and mitigation standards.

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
Street Lighting Improvements for CIRCUIT 23 General Notes		
DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 4 OF 76	DWG NO.: 13E0240

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

OAK WILT NOTE
To prevent the spread of oak wilt, a fungal disease, oak trees shall only be pruned from November 1 to March 1.

EROSION AND SEDIMENT CONTROL

Land disturbance areas less than one acre and not part of a larger common plan of development are not required to submit to the City of Columbus a full scale erosion and sediment control plan for approval. However, the proposed land disturbing activities must comply with all of the provisions of the division of Sewerage and Drainage Erosion and Sediment Control regulation. All land disturbing activities shall be subject to inspection and site investigation by the City of Columbus to determine compliance with city standards and regulations. Failure to comply with these regulations may subject the site to enforcement action by the City. Questions regarding Erosion and Sediment Control may be referred to the Stormwater Management Office at 645-6311.

On Site Contact: (TO BE FURNISHED BY CONTRACTOR)
Phone: (TO BE FURNISHED BY CONTRACTOR)
Fax: (TO BE FURNISHED BY CONTRACTOR)
E-mail: (TO BE FURNISHED BY CONTRACTOR)

Site is located in Panels 39049C0308K and 39049C0309K.

Site is tributary to the Scioto River.

PAVEMENT CUTTING, SAWING AND EXCAVATION OPERATIONS NOTE:

All public agencies and private contractor performing pavement-cutting operations on City of Columbus streets and roadways shall protect the environment from discharges created by their pavement cutting operations. Note that Columbus City Code 1145 prohibits non-stormwater discharge into the City of Columbus sewer system, curb inlets and any part of its MS4 (municipal separate storm sewer system).

The requirement includes but is not limited to wet or dry saw-cutting, jack hammering, excavation equipment use, etc. The public agency and/or private contractor work crews shall recover and dispose of detritus, polluted waters, or other such discharges resulting from their pavement cutting operations and protect all storm sewer inlets from receiving any discharges from the construction operations. The agency or contractor responsible for each pavement cutting activity shall be solely liable for Notice of Violations (NOV/s) and fines issued by City of Columbus and/or State of Ohio Authorities.

Equipment, materials and methods shall be provided by the responsible public agency and/or private contractor to work crews performing the pavement cutting activity and made available to work crews for use in cleaning up discharges resulting from such cutting activities and preventing runoff. All work crews shall be trained to exercise and employ equipment, materials, and environmental protective measures to prevent polluted discharges from entering the City of Columbus storm sewer system and waters of the State of Ohio.

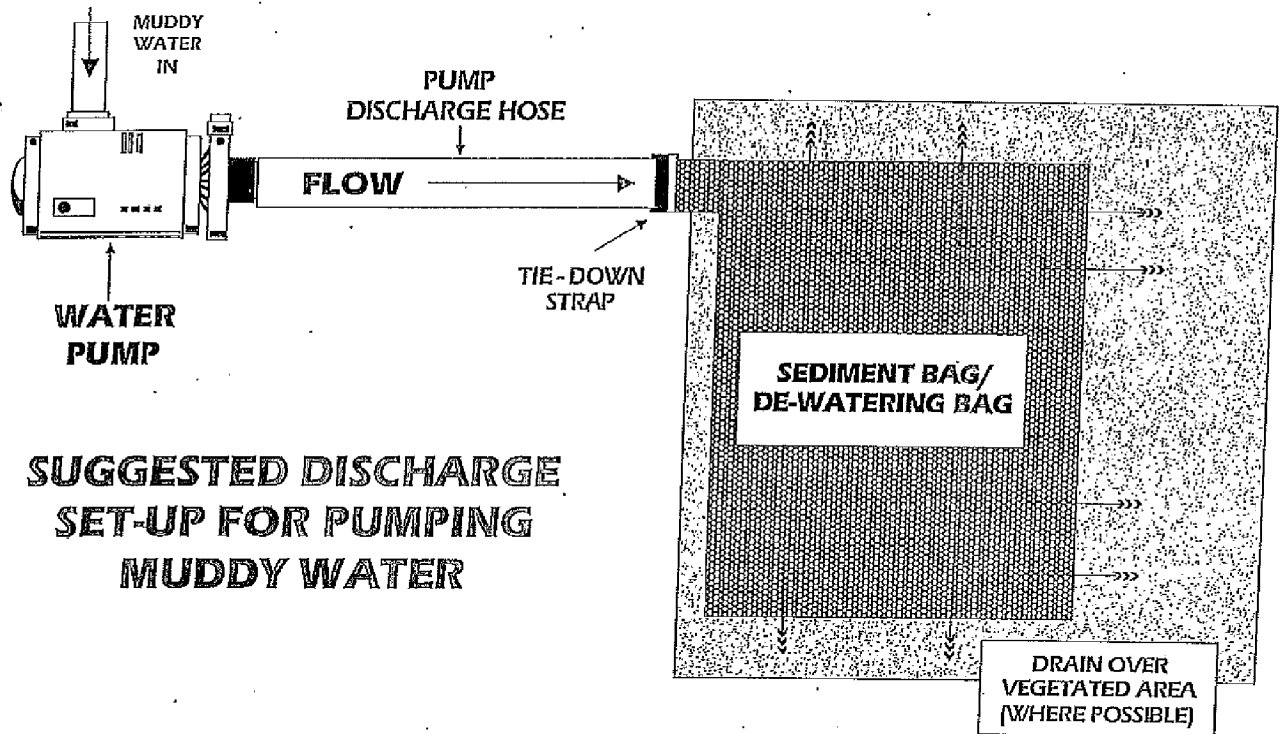
The public agency and/or private contractor is solely responsible for ensuring that the inlet protection is adequate. The most stringent project plans, notes and/or drawings including Stormwater Pollution Prevention Plan (SWP3) or Spill Prevention/Remediation Plan shall apply to all pavement cutting, sawing or excavation operations.

NOTICE

The pumping or direct discharge of sediment-laden (muddy) water to the City's sewer system or a receiving stream is a violation of Ohio EPA and City of Columbus regulations.

All inlets receiving flow from runoff, pumping activities, or other direct discharges shall be fitted with an inlet protection device that is properly sized and secured to reduce the discharge of sediment into the storm sewer system and receiving stream. Inlet protection is required on all inlets receiving discharge regardless of whether or not the inlet is tributary to any downstream erosion and sediment controls.

Discharge hoses used during pumping activities shall be fitted with sediment bags that are properly sized per manufacturer's recommendations regardless of what other sediment controls are in place further downstream. Sediment bags must be properly secured to the discharge hose and placed over vegetated areas, where feasible, during discharge. See detail below of a typical sediment bag installation.



SUMMARY OF POST-CONSTRUCTION STORMWATER CONTROL FACILITIES			
CONTROL/OUTLET STRUCTURE NO. (AS REFERENCED ON PLANS)	CONTROL FUNCTION	DRAINAGE AREA TO CONTROL FACILITY (ACRE)	FACILITY TYPE
N/A	N/A	N/A	N/A

Project has less than 1 acre of disturbance, therefore water quality is not required.
Project has less than 10,000 sf of disturbance and adds less than 2,000 sf of impervious area.
Per the Columbus Stormwater Drainage Manual De Minimis exception no stormwater detention is required.

ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN

All temporary traffic control (TTC) devices shall be furnished, erected, maintained and removed by the Contractor in accordance with the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways (Current Edition). Copies are available from the Ohio Department of Transportation, Office of Contracts, 1980 West Broad Street, Columbus, Ohio 43223. NOTE: All devices shall comply, for condition and location, with the current edition of the NCHRP 350 and MASH Crash Testing Guidelines.

Construction operations shall NOT begin until all traffic control is in place and approved by the Department of Public Service inspector. If the Contractor does not comply with the standards, including the installation of temporary pavement markings and the removal of conflicting traffic controls, their permit shall be revoked and all work shall be terminated. Temporary pavement markings to include, but not limited to, channelizing lines, edge lines, and centerlines shall be installed and maintained on all construction operations lasting a minimum of 14 calendar days or as directed by the Temporary Traffic Control Coordinator or the Project Engineer.

The Contractor shall give advance notice (written and verbally) to the Temporary Traffic Control Coordinator at 614-645-0355 or 614-645-5845 and the Division of Refuse Collection's Operation Manager at 614-645-0529, Project Engineer, and the COTA Right of Way Operations Manager at 614-308-4373 or (Cell) 614-401-4324, informing them of all upcoming maintenance of traffic changes on a weekly basis. Notification shall include, but not be limited to, what, where, when, and how pedestrian and vehicular traffic will be affected, and the temporary traffic control procedures the Contractor is planning to use. The type of traffic change shall determine the length of advance notification required:

TYPE OF CHANGE	ADVANCE NOTIFICATION NEEDED
Detours/road closures	30-day notification prior to closure.
Lane closures lasting 2 weeks or more	2-weeks
Lane closures of less than 2 weeks	3-days
Lane closures of 2 days or less	1-day

The COTA Senior Service Planner shall be contacted 30 days prior to any planned closure on assigned COTA routes. Any other unforeseen impacts to traffic shall be immediately reported as they occur.

The Contractor shall report any lane closure, planned, current, and emergency, lasting one hour or more, or the placement of a steel plate within the City of Columbus right of way using the Closed Lanes Or Steel Plate Events (CLOSE) program form. The form "tipcard" can be found at www.Columbus.gov/close. Reporting lane closures and/or steel plate placement is mandatory. Please contact closeprogram@Columbus.gov.

The Contractor shall be responsible for the protection and safe movement of pedestrians through, around, or detoured away from the construction site. Traffic control for pedestrian movement shall be as per City of Columbus Construction and Material Specifications, City of Columbus Standard Construction Drawings, and Figures 6H-28 (TA-28) and 6H-29 (TA-29) of Part VI of the Ohio Manual of Uniform Traffic Control Devices. When not shown on a signed plan, all sidewalk diversions and temporary mid-block crossings shall be pre-approved by the Project Engineer or the Temporary Traffic Control Coordinator. Access for pedestrian and vehicular traffic to all adjoining properties shall be maintained at all times.

Maintaining Traffic During Holidays and Special Events

No work shall be performed and all existing lanes shall be open to traffic during designated holidays or special events including The Ohio State football home games. The period of time that the lanes are to be open depends on the day of the week on which the holiday or event falls. Contact the City of Columbus Temporary Traffic Control Coordinator, 614-645-5845 or cell, 614-332-7472 for event dates, locations, and schedule. Holidays will consist of Christmas, New Years, Fourth of July-Red, White and Boom fireworks night (6:00am-12midnight), Memorial Day, Labor Day, and Thanksgiving. RED, WHITE AND BOOM, fireworks celebration and a minimum of one day prior to fireworks night shall require all temporary traffic control devices to be removed from the project area and place either in a pre-determined location approved by the Temporary Traffic Control Coordinator or completely removed from the site.

The Contractor shall contact the City of Columbus Temporary Traffic Control Coordinator for any additional MOT requirements for special events, including Ohio State football home games.

The Contractor shall maintain all permanent traffic controls not in conflict with the temporary traffic controls throughout this project. Permanent traffic controls may be temporarily relocated or covered, as approved by the Engineer. The Contractor shall assume all liability for missing, damaged, or improperly placed signs.

Any work done by the Department of Public Service, including installation, relocation, removal and/or replacement of temporary traffic control devices as a result of work done by the Contractor or as a result of negligence of the Contractor, shall be at the Contractors' expense.

The roadway shall NOT be opened to non-construction traffic until the critical permanent traffic controls are in place, or until temporary traffic controls approved by the engineer, are installed. The critical permanent traffic controls are STOP, YIELD, ONE WAY, DO NOT ENTER, RESTRICTED TURN SIGNS and all STREET NAME SIGNS. Other critical signs may be noted on the plans as well. The Contractor assumes all liability for the premature removal of temporary traffic controls.

Item 614 - Maintaining Traffic

All costs that consist of maintaining and protecting vehicular and pedestrian traffic according to the latest edition of the City of Columbus Construction and Material Specifications, the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways (OMUTCD), and per the requirements designated in the plan including all Law Enforcement Officer (LEO) and Flagger hours shall be included in the lump sum ITEM 614.

- In addition to the requirements herein, and the latest edition of the Ohio Manual of Uniform Traffic Control Devices, a uniformed law enforcement officer (LEO) shall be provided for controlling traffic under the following conditions:
- Work within a signalized intersection, defined as the area bounded by the rear x-walk lines
 - When flagging within the intersection of two arterial roadways
 - When specified in the Maintenance of Traffic plan or as when directed by the Project Engineer
 - When shifting traffic left of center, through a signalized intersection, without shifting signal heads

A Flagger shall be utilized to assist in controlling traffic while equipment is entering or exiting an intersection or work zone. The Contractor may utilize his own flagger or LEO under Pay Item 614 Maintaining Traffic, Lump Sum.

Flaggers and LEO's shall be equipped according to the standards for flagging traffic contained in the OMUTCD. Flagging operations performed by LEO's or designated flaggers shall only be permitted as long as all traffic control is in place according to figure 6H-10 (TA-10) in the Ohio manual. Patrol cars shall NOT be used in flagging operations.

If the Contractor wishes to utilize LEO's with or without patrol cars for traffic control other than for that required in the plans, they may do so at their own expense. The Contractor shall make arrangement through the Columbus Police Division at (614) 645-4795.

LEO's shall be considered to be employed by the Contractor and the Contractor shall be responsible for their actions. Although employed by the Contractor, the City Representative shall have control over their placement. LEO's shall not have the authority to change, edit or modify any maintenance of traffic scheme without the permission of the Temporary Traffic Control Coordinator or Project Engineer unless an emergency develops.

If a safety hazard develops, a LEO may be assigned by the Columbus Public Safety and/or the Public Service Director at the Contractor's expense.

Portable Changeable Message Signs (PCMS) shall be installed a minimum of 7 days prior to closure of a roadway. The message shall advise the motorist of the dates, times, and duration of the closure. The PCMS shall remain in place for 7 days after the start of the closure.

When not included in a signed plan, a TTC Plan (TTCP) including pedestrian control shall be submitted to the TTC Coordinator at 614-645-0355 or 614-645-5845 at the pre-construction meeting or a minimum of ten (10) working days prior to beginning work. Copies of the approved TTCP shall be given to the Project Engineer and kept on site along with the Street Closure/Occupancy Permit.

Type C Steady-Burn or Type D 360-degree Steady-Burn warning lights shall be required on all barricades, drums, and similar traffic control devices in use at night. Only 42" reflectorized channelizing devices (cones) shall be permitted for nighttime work with the approval of the TTC Coordinator at 614-645-0355 or 614-645-5845 per O.D.O.T. standards.

All traffic lanes shall be fully open to traffic from 6:00A.M. To 9:00 A.M. and 4:00P.M. To 6:00 P.M., or 6:00 to 9:00 A.M. and 3:00 to 6:00 P.M. in the Columbus Business District (CBD) parking area, Monday through Friday.

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

A flashing arrow panel (48" X 96"-Type C) shall be used in lane closures as per the Ohio Manual.

All trenches within the road right of way shall be backfilled or securely plated per (City of Columbus general policy on steel plate usage dated 11/15/2006 and std. dwg. 1441, latest edition) during non-working hours.

Two-way, one-lane traffic may be maintained during construction operations on the project roadways, per the City of Columbus Maintenance of Traffic, Standard Construction Drawing 1550 and Figure 6H-10 (TA-10) of the Ohio Manual of Uniform Traffic Control Devices.

The Contractor shall contact Ohio Utility Protection Service (OUPS) to locate and mark all underground traffic control cables prior to the beginning of any work within 450 feet of any signalized intersection(s) or within any posted area where the Department has underground cable. The Signal Operation Engineer (614-645-6418) shall be notified six (6) weeks in advance for signal revisions or pole relocations.

The Contractor shall contact the Division of Refuse Collection, Operations Manager Catrina Whitlock, 614-645-0529 or 614-732-8929.

No excavation shall be made within five (5) feet of any foundation that supports signal poles, traffic signal displays or signs by most arm or signal span. Excavation within eight (8) feet, but more than five (5) feet shall require additional support (down guy, head guy, base guy, etc.). The Contractor shall contact Signal Operation Personnel at 614-645-0423 (cell 614-419-4501) at least forty-eight (48) hours (excluding Sat. & Sun.) prior to the beginning of such excavation so that the City can approve the stabilization setup by the Contractor. If unable to make contact through above numbers, call 614-645-7393. Stabilization will be done by the Contractor at the Owners'/Contracting Agency's expense.

Signal conduit clearance 3' horizontal and 1' vertical from adjacent utilities shall be maintained at all times.

When any traffic control device, conduit, or cable is damaged, the Contractor shall notify Signal Operation Personnel at 614-645-4256 (cell 614-629-4385) between 7:00 am and 4:00 pm, Monday through Friday. If unable to make contact through the other numbers, call 614-645-7393.

The roadway or any section of roadway shall not be opened to non-construction traffic until all temporary, non-reflective, blackout tape has been completely removed from non-conflicting permanent pavement markings for that area of the roadway, or unless otherwise directed in writing by the engineer.

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

In addition to LEO and Flagger hours included in Item 614 Maintaining Traffic, Lump Sum; quantities have been included in the General Summary to be used as directed by the Engineer or an acceptable representative for the City of Columbus. The official patrol car with top mounted emergency flashing lights shall be a public safety vehicle as required by the Ohio Revised Code. The Contractor shall be paid for this bid item only if directed by the Engineer.

EXISTING PERMANENT TRAFFIC CONTROL

1. Any work done by the Department of Public Service, including installation, relocation, removal and/or replacement of permanent traffic control devices as a result of work done by the Contractor or as a result of negligence of the Contractor, shall be at the Contractors' expense.

2. The Contractor shall be responsible for reinstallation and/or replacement of all permanent traffic control devices damaged or removed during construction. Permanent traffic control no longer in conflict with temporary traffic control shall be replaced immediately.

3. The Contractor shall replace all pavement markings, including raised pavement markers (RPM) shown in conflict, removed due to construction or maintenance of traffic set up, destroyed, or rendered unserviceable by the Project Engineer or the Public Service Pavement Marking Manager. All pavement marking materials shall be replaced in-like kind if not shown in the plan or permit including raised pavement markers. All pavement markings shall be replaced in full. No partial length or sections of pavement markings shall be replaced without removing the entire marking by use of the water blast method. Removal by abrasive wheel grinding shall only be approved by the Public Service Pavement Marking Manager.

PROTECTION OF CITY TRAFFIC SIGNALS AND INTERCONNECT INFRASTRUCTURE

Protection of the existing City of Columbus DPS traffic signal facilities, Franklin County engineer's office, and ODOT infrastructure during construction activities is critically important for the safety of construction workers and the general public.

Any damage to this critical infrastructure shall be reported immediately by the contractor to the engineer and repaired the same day unless approved by the owner, at the sole discretion of the engineer. All costs of the emergency repairs for the damage shall be the responsibility of the contractor regardless of who does the repair. The engineer shall determine acceptable time periods for completion of repairs. For instances where the contractor cannot perform the repair work within this time period, the city, county and ODOT reserve the right to use their internal forces or outsources to complete the work and may bill the contractor based on time and material costs.

Any and all existing field equipment, including vehicle detection, surveillance, interconnect, or signal equipment damaged during construction shall be repaired or replaced at the direction of the engineer and shall be subject to inspection and require final approval of the respective owner agency. Downtime to the ctss network caused by damage to ctss fiber optic cable shall be charged to the contractor at a rate of \$400 per hour.

4/28/16

ITEM 1620 FIBER OPTIC CABLE, MISC.: FIBER OPTIC CABLE RELOCATED

This item of work shall consist of relocating existing aerial CTSS fiber optic interconnect cable as detailed within. Prior to relocation, the Contractor and the Engineer shall inspect the equipment and cable to document any existing damage. Any damage identified after the relocation process and not previously documented will be presumed to have been caused by the Contractor. Any damaged equipment or cable will be repaired or replaced as directed by the Engineer at the Contractor's expense. This item of work shall include detaching, attaching, and relocation of aerial CTSS fiber optic cable which shall performed in conformance with SCD 4600.

The work as described will be measured as a lump sum for all relocation work and shall include all materials, equipment and incidentals, complete in place. Mounting brackets/hardware, lashing/delashing, and other miscellaneous items and materials or labor shall be considered incidental to this work and no separate payment will be made.

Payment shall be as per SS1620.

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER Street Lighting Improvements for CIRCUIT 23 General Notes		
DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 5 OF 76	DWG NO.: 13E0240

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STREET LIGHTING NOTES

The street lighting shall be constructed in accordance with the current City of Columbus, Ohio "Construction and Material Specifications" (2018 Edition, Section 1001, titled "Street Lighting"), including all supplements thereto, in force on the date of the contract, shall govern all materials and workmanship involved in the improvements shown on these plans, except as such specifications are modified by the following specifications or by the construction details set forth herein.

Circuit voltage for all luminaires shall be 480 volt, unless otherwise noted.

Centerline of wood poles and conduit trench to be placed in accordance with the plan details.

All proposed luminaires shall be 3000K LED.

No splices shall be made to circuit cables except at noted locations when permitted.

Trench location shall be deflected around obstacles as noted in this plan.

Where the trench is offset from the centerline of the foundations, the conduit shall be directed toward the ell of the foundation at approximately 45 degree angle. The foundation ells may be aimed out of foundation at approximately 45 degree angles to facilitate connection to conduit with the least amount of bends.

The plan details shall be considered supplemental to MIS Specifications.

Wood poles shall be located approximately where shown on plans with exact locations to be determined in the field after consideration is given to the location of underground and overhead utilities, pavements and grades.

All items of work called for on the plans, for which no specific method of payment is provided, shall be performed by the Contractor and the cost of these shall be included in the unit price bid for the various related items. This includes, but is not limited to, such incidental items as relocation of mail boxes, saw cutting and removal and/or relocation of signs, railroad ties, sprinklers, relocating roof or sump drains around light pole foundations, hand digging around underground utilities or other miscellaneous items.

AS BUILD RECORD

The Contractor shall maintain a set of project record documents. These documents shall include reviewed shop drawings, change orders, equipment operating instructions, field test records, and as built drawings. The as built drawing shall be marked legibly in red, the actual location of equipment and conduits as constructed. All equipment and underground conduits installed shall have locations marked in distances off a landmark at least every 25 feet and as necessary at bends for location at a later date.

UTILITY CLEARANCE REQUIREMENTS AND CONFLICT RESOLUTION

OUPS– The Contractor shall cause notice to be given to the Ohio Utility Protection Service (OUPS– Phone: 1–800–362–2764, toll free) and the owners of underground facilities located within the project area who are not members of the registered underground protection service in accordance with Section 153.64 of the Ohio Review Code. The above mentioned notice shall be given at least two working days prior to the start of construction.

These plans call for the installation of light poles and luminaires in areas where existing overhead and underground utilities are highly prevalent. The Contractor shall conduct a thorough field evaluation prior to installing any proposed items to confirm that appropriate clearance is provided from all utilities. Appropriate clearance from overhead power cables as provided by the Occupational Safety and Health Administration (OSHA), the National Electrical Safety Code, and the National Electrical Code shall be maintained for all proposed items. All deviations from the plans shall be approved by the Division of Power prior to installation. Should the Contractor encounter locations where minimum overhead clearance clearances cannot be obtained, the project Engineer shall be notified immediately.

The location of underground utilities shown on these plans are as obtained from the owners of the utility as required by Ohio Revised Code, section 153.64. The Contractor shall expose utilities adjacent to proposed light pole locations and and at proposed conduit crossings prior to installation as indicated in these plans or at the direction of the Engineer/City of Columbus.

Should the Contractor find utilities in unexpected locations and/or adequate clearance cannot be maintained, the project Engineer and the City of Columbus, Division of Power, project representative shall be notified. Under these conditions, the Contractor should expect to make minor adjustment to the location of the proposed street lighting item. The project team will look to identify a location that maintains utility clearance, pedestrian access route minimum widths and adequate separation from adjacent roadways and right-of-ways.

All existing underground utility lines may or may not be shown on the plans. Individual service lines not shown should be located by the Contractor prior to commencing any work. Field verify all utilities at locations of proposed improvements. Location, support, protection or restoration of all utility lines, services and appurtenances is the responsibility of the Contractor. Obtaining the exact location and protection of utilities and of structures is the responsibility of the Contractor. The Contractor shall perform exploratory excavation as specified herein and as needed to locate underground utilities prior to the commencement of work. Where proposed improvements are located in close proximity to existing utilities or where caution notes are provided, excavation shall be conducted via hand digging or vacuum excavation.

If a line or service is damaged by the Contractor, it is his responsibility to provide the repair or oversee the repair by the appropriate utility at the Contractor's expense. The Contractor is responsible to mitigate any damage caused by the project at the Contractor's expense. Mitigation shall include but is not limited to: property owner notification, utility owner notification, coordinating shut-off (as applicable), and timely repairs/restoration of service to the satisfaction of the City of Columbus and utility owner.

All cost for field evaluation, exposing utilities, and field adjustments to the locations of proposed items shall be considered incidental to the cost of the various lighting items and separate payment will not be made.

ITEM 1001, (MIS–100–APP), BRACKET, 4’ ALUMINUM, FOR WOOD POLE, AS PER PLAN

Bracket arms shall be furnished and installed per the requirements of MIS–100, except that the bracket arm length shall be 4’.

Payment shall be as per Item 1001.

ITEM 1001, (MIS–901–APP), EXISTING OVERHEAD SYSTEM REMOVAL, AS PER PLAN

The Contractor shall remove existing Division of Power overhead street lighting infrastructure in accordance with MIS–901, and in cases where, at the conclusion of the project, there will no longer be any Division of Power attachments remaining on existing wood poles to remain, the Contractor shall be responsible for performing the required work:

- Remove existing luminaire and bracket arm
- Remove existing overhead circuit cable and attachment hardware, spool rack, etc.
- Remove existing DOP identification pole tag
- Relocate existing aerial CTSS to adjacent, proposed wood poles where noted on the plans (if applicable). Existing CTSS shall be relocated to proposed wood poles in conformance with Standard Drawing 4600. See Item 804 Fiber Optic Cable, Misc.: Fiber Optic Cable Relocated for payment.
- Remove any other miscellaneous Division of Power street lighting equipment attachments
- If the City of Columbus street lighting facilities were the highest attachment prior to removal or the CTSS line was the highest attachment prior to relocation, remove the top portion of the wood pole to a point one foot above the tallest remaining attachment ("Pole to be Topped" in the plan).

Payment for the removals described shall be considered incidental to the lump sum pay item.

ITEM SPECIAL, MID SPAN TAP OF PROPOSED OVERHEAD STREET LIGHTING CIRCUIT CABLE

Mid span taps may only be used where specifically listed in the plan. The Contractor shall install the proper materials including but not limited to mid span clamps, crimps, insulators, and tape to achieve three–way splicing of lighting conductors along overhead spans between wood poles where noted on the plans. Materials shall be rated properly for the type of conductors that are to be spliced. The Contractor shall install overhead spans with tension appropriate for the material being spliced, to provide for adequate overhead clearance and clearances from adjacent overhead wires.

In all cases, mid span taps shall only be performed to splice cable specifications of similar type (i.e. open wire to open wire or duplex to duplex). The Contractor shall not use mid span taps to splice open wire overhead cable with duplex cable.

The Contractor shall submit shop drawings for review and approval prior to ordering any materials for use with a mid span tap.

Payment shall be made for each conductor where mid span taps are required, as noted on the plans, and shall include all labor and materials that are required to achieve three–way overhead splicing.

ITEM SPECIAL, MAINTAIN EXISTING LIGHTING

Under this item, the Contractor shall be required to maintain the existing lighting system throughout the duration of the construction of the new lighting system. The Contractor may be required to install temporary lighting materials to ensure that there are no outages during construction, and temporary material costs and labor shall be included in this lump sum pay item. The Contractor shall remove any temporary lighting materials prior to the new system being tested and accepted by the City of Columbus.

Payment shall be made per the lump sum contract price and shall include labor and materials required to ensure that the existing lighting system is maintained throughout construction.

LUMINAIRES

Luminaires for this project shall be furnished and installed per the respective MIS requirements.

The Contractor shall reference the photometric plan and furnish and install the design luminaire that is listed. If the Contractor desires to submit an alternate luminaire, the Contractor shall submit the proper documentation to the City for review and approval.

STREET LIGHTING CONDUIT

In addition to the requirements of the MIS drawings, proposed lighting conduit shall be installed at the depth given in the plans to avoid conflicts with existing utilities where they cross. The Contractor shall provide 1' of vertical clearance between proposed lighting conduits and existing underground utility lines, and shall deviate from the proposed depths if necessary to provide such clearance. Any additional work required to provide adequate clearances shall be considered incidental to this item.

Payment shall be considered incidental to the various street lighting conduit items.

RESTORATION

For all street lighting items that require excavation, the Contractor shall perform the following restoration:

In addition to the requirements of CMS 1001 and the applicable MIS references, this item of work shall include all excavation, backfill material, compaction, disposal of surplus materials and restoration to match the existing surface. Restoration shall include any seeding, sodding, and the replacement of items which were disturbed, including but not limited to, plantings, guardrail, or fence panels. The Contractor shall return items such as trash containers, planter boxes, parking meters, small signs and other items which were temporarily moved to facilitate construction to their former position. When in paved areas, this shall also include sawing and removing existing pavement as required, along with any necessary repaving that is required to restore the area to the original conditions, except when quantified separately. All restoration shall comply with City of Columbus standard specifications for backfill, compaction, disposal of surplus material, seeding, mulching, sidewalk and pavement repairs. No separate payment will be made for restoration.

Restoration shall be included in the various bid items:

Item 1001, (MIS–51), 10,000 Lbs Anchor and Down Guy Assembly

Item 1001, (MIS–54), 13 Inch x 24 Inch Pull Box

Item 1001, (MIS–56), Streetlight Circuit Riser

Item 1001, (MIS–61), 17 Inch x 30 Inch Pull Box

Item 1001, (MIS–310), 35 Ft. Class 5 Wood Pole

Item 1001, (MIS–310), 40 Ft. Class 3 Wood Pole

Item 1001, (MIS–601), 2–Wire, 480V Pad Mount Controller

Item 1001, (MIS–700), 2–Inch Conduit, Concrete Encased

Item 1001, (MIS–702), 3–Inch Rigid Steel with 2–Inch Conduit Insert

Item 1001, (MIS–711), 2–Inch HDPE Conduit, Trenchless Installation

Item 1001, (MIS–901–APP), Existing Overhead System Removal, As Per Plan

Item 1001, (MIS–902), Existing Underground System Removal

PLAN LEGEND - EXISTING		Existing Telephone Manhole	
	Existing Storm Sewer, Catch Basin, Manhole and Curb and Gutter Inlet		Existing Tree
			Existing Communication Pedestal Box
	Existing Sanitary Sewer and Manhole		Existing Telephone Pedestal Box
	Existing Water Main/Existing Water Service		Existing Telephone Pole
	Existing Gas Line/Existing Gas Service		Existing Lighting Pull Box
	Existing Underground Communication		Existing Light Pole w/ Mounting Arm
	Existing Overhead Communication		Existing Gas Service Valve
	Existing Underground Electric		Existing Gas Meter
	Existing Overhead Electric		Existing Gas Marker
	Existing Overhead Street Lighting		Existing Gas Valve
	Existing Overhead Utility		Existing Electric Manhole
	Existing Traffic Conduit		Existing Electric Pull Box
	Existing Overhead Signal Wires		Existing Electric Pedestal Box
	Existing Guardrail		Existing Power Pole with Comm Attached
	Existing Fence		Existing Power Pole with Comm and Light Attached
	Existing Edge of Pavement		Existing Power Enclosure
	Existing Underground Street Lighting		Existing Sign
	Existing Roof Drain		Existing Fire Hydrant
	Existing Telephone Light Pole		Existing Water Service Curb Stop
	Existing Telephone Pull Box		Existing Water Meter
	Existing Right–of–Way		Existing Water Valve
	Existing 100–Year Floodplain		Existing Anchor Base Traffic Signal Pole
	Existing 500–Year Floodplain		Existing Embedded Traffic Signal Pole
	Existing Communications Marker Post		Existing Pedestrian Pedestal
	Existing Overhead School Flasher Assembly		Existing Fiber Optic Pull Box
	Existing Aerial CTSS Fiber Optic Cable To Remain		Relocated Existing Aerial CTSS Fiber Optic Cable

Existing Tree Pruning Table	
Tree ID	Description
003414	Prune limbs per SCD 1702 & MIS-58
005414	Prune limbs per SCD 1702 & MIS-58
012884	Prune limbs per SCD 1702 & MIS-58
030113	Prune limbs per SCD 1702 & MIS-58
051837	Prune limbs per SCD 1702 & MIS-58
090529	Prune limbs per SCD 1702 & MIS-58
177437	Prune limbs per SCD 1702 & MIS-58
177438	Prune limbs per SCD 1702 & MIS-58
177454	Prune limbs per SCD 1702 & MIS-58
177456	Prune limbs per SCD 1702 & MIS-58
177604	Prune limbs per SCD 1702 & MIS-58
177605	Prune limbs per SCD 1702 & MIS-58
177606	Prune limbs per SCD 1702 & MIS-58
177608	Prune limbs per SCD 1702 & MIS-58
Private - 416 Union Ave	Prune limbs per SCD 1702 & MIS-58
Private - 1378 Union Ave	Prune limbs per SCD 1702 & MIS-58

NOTES:

1. All trees not listed in Existing Tree Pruning Table shall not be disturbed by the Contractor, who shall adhere to the City of Columbus's tree protection specifications during construction.
2. Tree ID numbers are listed in the plan and trees designated to be pruned by the Contractor are called out.

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER

Street Lighting Improvements for
CIRCUIT 23
General Notes

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE			
				DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
				APPROVED:		
				SCALE: AS NOTED	SHEET: 6 OF 76	DWG NO.: 13E0240

POWER SOURCE SPECIFICATIONS

APPLICABLE PUBLICATIONS AND STANDARDS

The equipment supplied and installation shall conform to all applicable ANSI, USASI, NEC, NESC, and NEMA standards and the specifications stated herein. All items furnished shall be new.

The plan details shall be considered supplemental to TDMIS specifications and Section 1002 of the CMS.

QUALITY STANDARDS

Transformer shall be supplied by the Division of Power and installed by the Contractor.

The Contractor is required to pick up the transformer from the Division of Power as directed by the plans and specifications. The Contractor is to coordinate with the Division of Power project manager to coordinate the receipt the transformer that has been tested and tagged with a case number prior to installation. It is the Contractor's responsibility to contact the Division of Power to facilitate this coordination no less than 30 days after the pre-construction meeting. No transformer is to be installed or energized onto the Division of Power distribution system without first being tested and approved for use by the Transformer Technical Support Group. The Transformer is to have a case number, and all required markings by the Division of Power clearly installed on the transformer case prior to being energized on the Division of Power distribution system.

The high voltage connections shall be bushing wells for use with "Elastimold" or approved equal, high voltage cable terminators.

The City of Columbus Distribution System is based on a primary voltage of 14.4 kV Delta or ungrounded WYE configuration.

SPECIFICATION FOR DIVISION OF POWER TRANSFORMERS

TRANSFORMER

The pole mounted transformer will be provided to the Contractor by the Division of Power. The Contractor shall be required to install the transformer per the applicable TDMIS drawings. Contact the Division of Power project manager for coordination no more than 30 days after the pre-construction meeting.

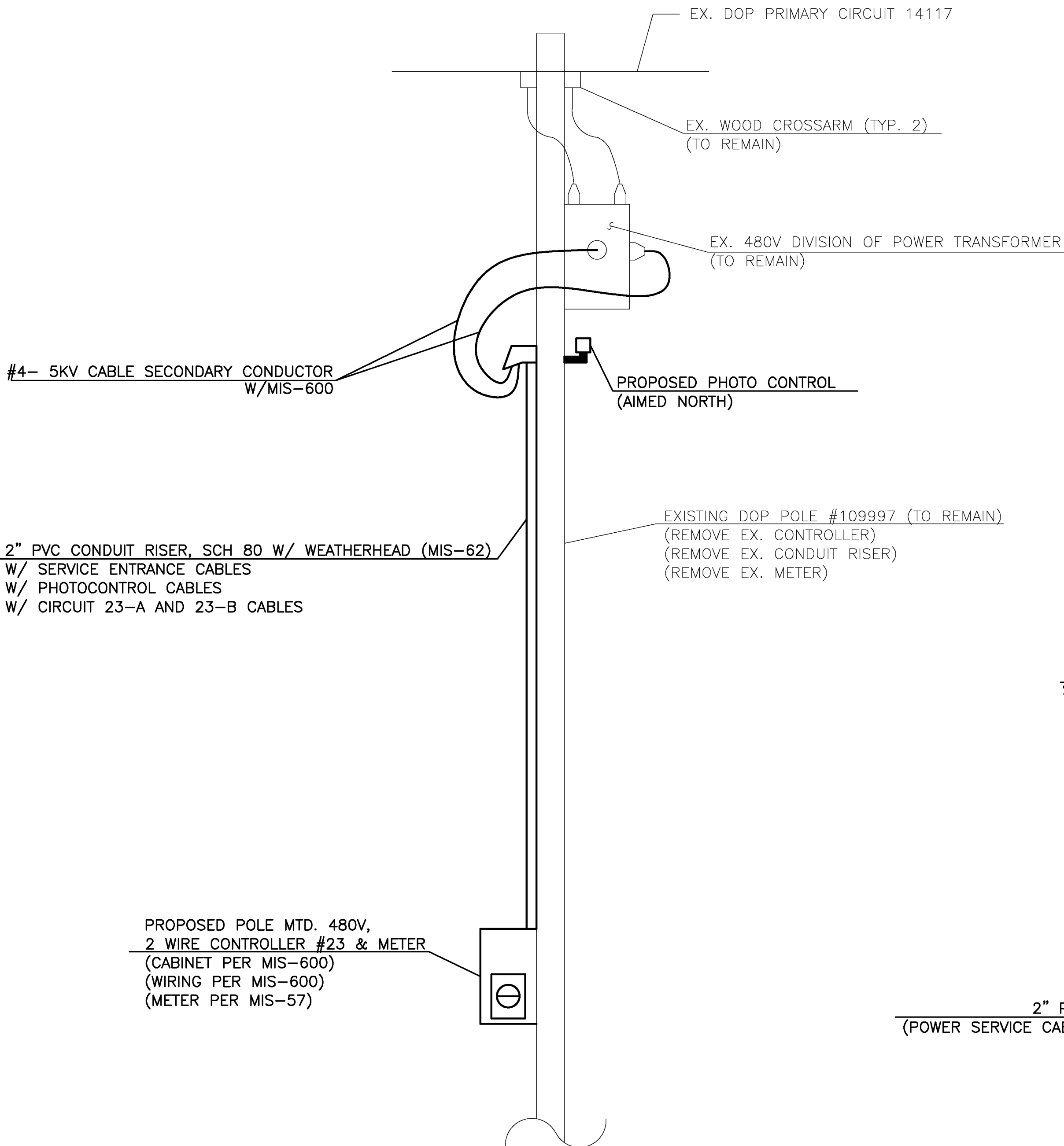
GROUNDING

Pole mounted transformer and lightning arresters shall be grounded in conformance with the current Division of Power TDMIS specifications. Payment shall be considered incidental to Item 1002, Single Phase Pole Mounted Transformer, Installation Only (Furnished by Division of Power).

SAMPLING, INSPECTION, AND TEST PROCEDURES

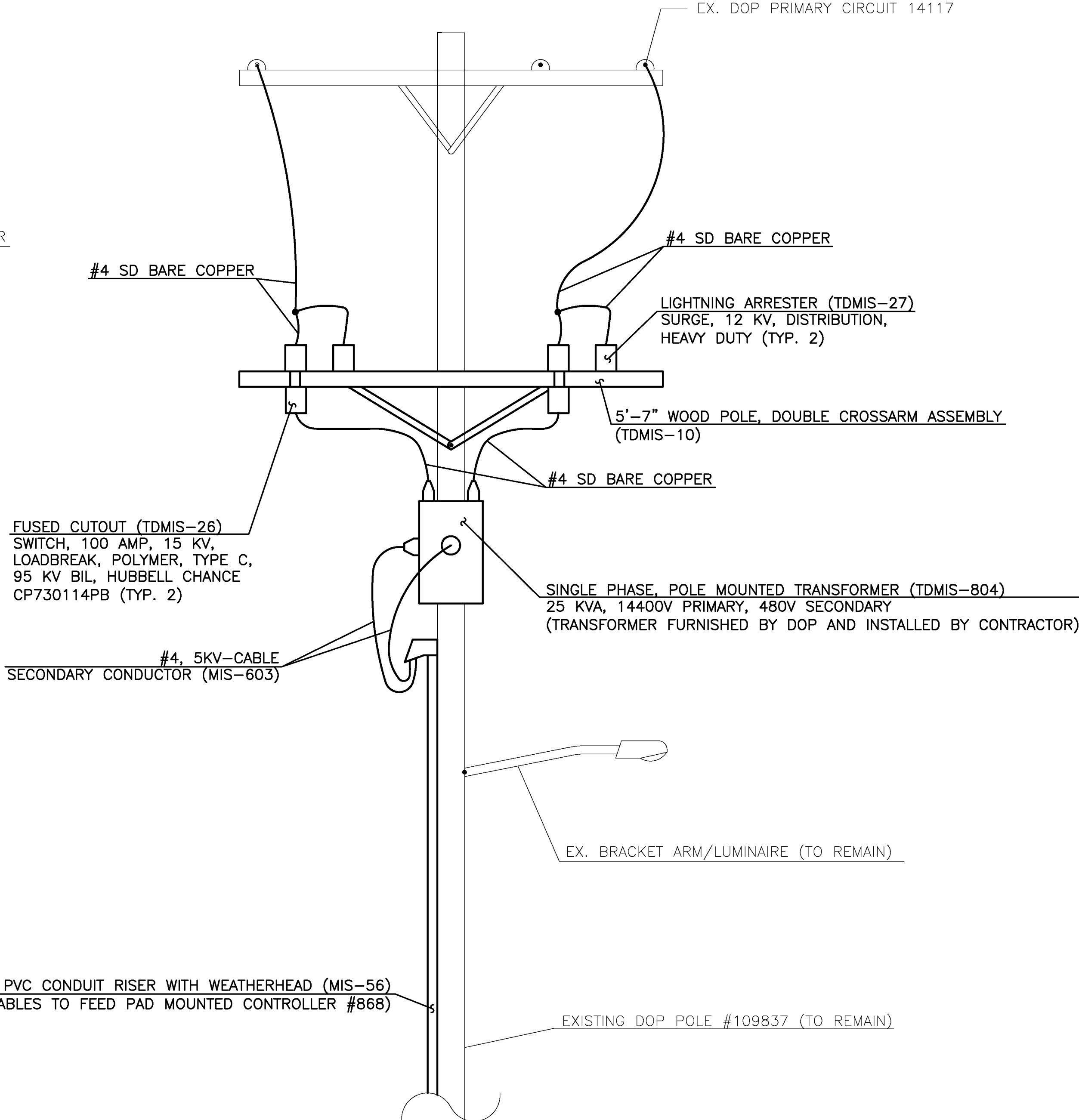
All equipment supplied by the Contractor shall meet testing requirements found in the various TDMIS Standards. This will be verified by City subsequent to delivery. Equipment will be inspected again at time of installation.

Any damage or defect to the equipment found following installation shall require the Contractor to replace the damaged or defective item(s).



CIRCUIT #23 POWER SERVICE DETAIL
EX. DOP POLE #109997 , STA. 53+04.4, 19.1' RT.   CENTRAL AVENUE
(VIEW LOOKING EAST)

NO SCALE



CIRCUIT #868 POWER SERVICE DETAIL
EX. DOP POLE #109837, GLENWOOD AVENUE
(VIEW LOOKING NORTH)

NO SCALE

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
Street Lighting Improvements for
CIRCUIT 23
Street Lighting Details

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 7 OF 76	DWG NO.: 13E0240

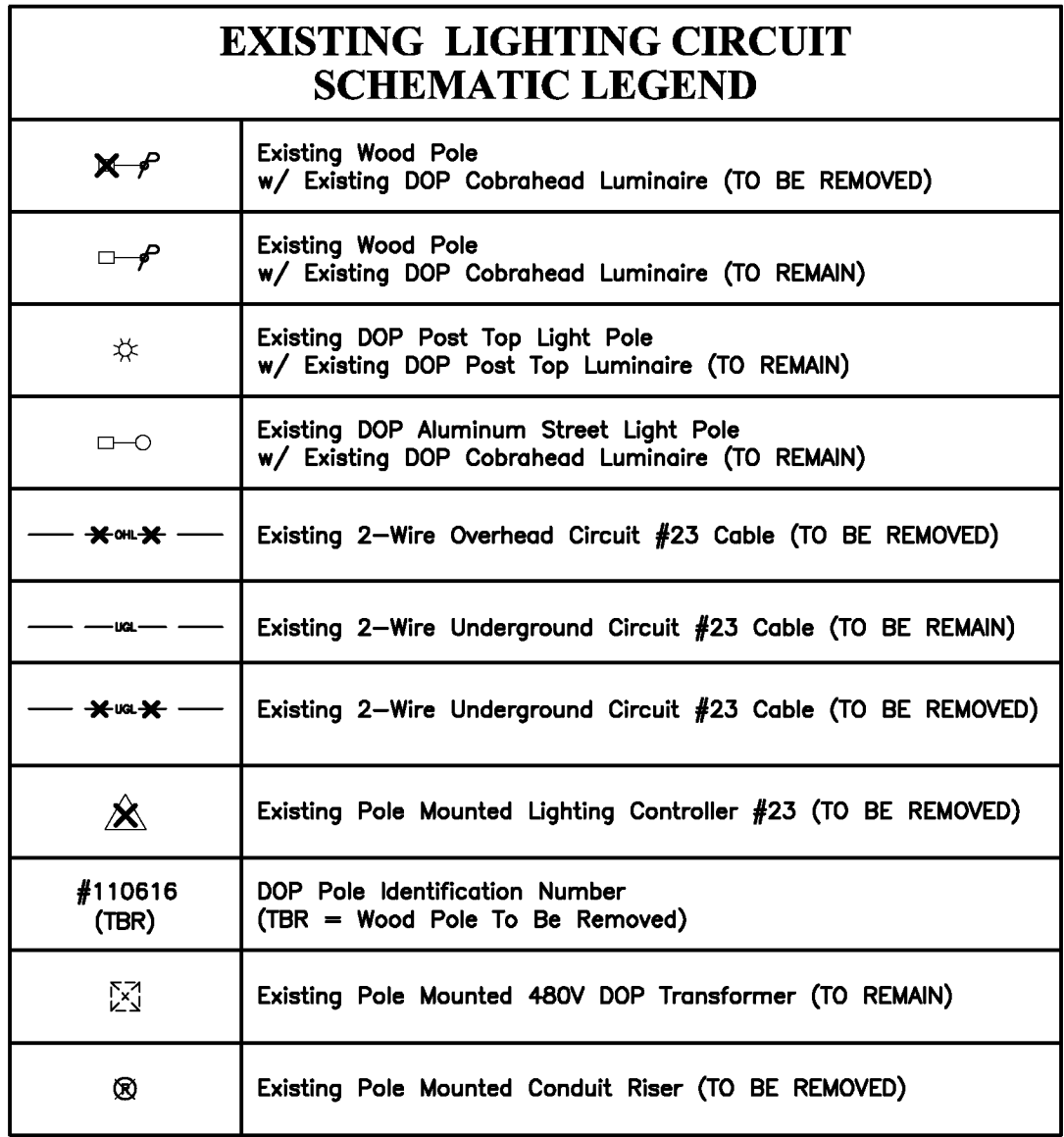
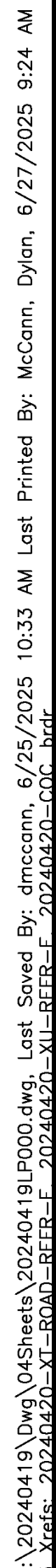
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General Summary				
Item	MIS	Quantity	Unit	Description
202	-	300	SF	Walk Removed
259	-	0.9	CY	Driveway Pavement Replacement Type IIIA
608	-	230	SF	Concrete Walk (4")
608	-	103	SF	Concrete Walk (8")
614	-	1	LS	Maintaining Traffic, As Per Plan
614	-	20	HR	Law Enforcement Officer With Patrol Car, As Per Plan
623	-	1	LS	Construction Layout Stakes
624	-	1	LS	Mobilization
659	-	40	SY	Seeding and Mulching
1001	MIS-50	1	LS	Project Identification Signs
1001	MIS-51	14	EA	10,000 Lbs Anchor and Down Guy Assembly
1001	MIS-52	4	EA	Pole Key Anchor Assembly
1001	MIS-54	5	EA	13 Inch x 24 Inch Pull Box
1001	MIS-55	26	EA	Ground Rod
1001	MIS-56	8	EA	Streetlight Circuit Riser
1001	MIS-57	2	EA	100 Amp Meter, Self-Contained with Meter Socket
1001	MIS-61	3	EA	17 Inch x 30 Inch Pull Box
1001	MIS-62	1	EA	Riser, Street Light Circuit for Pole Mount Controller
1001	MIS-100-APP	16	EA	Bracket, 4' Aluminum, for Wood Pole, As Per Plan
1001	MIS-100	44	EA	Bracket, 6' Aluminum, for Wood Pole
1001	MIS-100	9	EA	Bracket, 8' Aluminum, for Wood Pole
1001	MIS-101	5	EA	Bracket, 10' Aluminum, for Wood Pole
1001	MIS-101	3	EA	Bracket, 12' Aluminum, for Wood Pole
1001	MIS-310	24	EA	35' Class 5 Wood Pole
1001	MIS-310	2	EA	40' Class 3 Wood Pole
1001	MIS-400	8352	CKT FT	2-Wire, Open Wire Overhead Circuit
1001	MIS-401	3589	CKT FT	2-Wire, #2 Duplex Overhead Circuit
1001	MIS-403	1445	CKT FT	2-Wire Underground Circuit
1001	MIS-500	4	EA	2-Wire Pole to be Wired
1001	MIS-600	1	EA	2-Wire, 480V Pole Mount Controller
1001	MIS-601	1	EA	2-Wire, 480V Pad Mount Controller
1001	MIS-700	24	FT	2-Inch Conduit, Concrete Encased
1001	MIS-702	66	FT	3-Inch Rigid Steel with 2-Inch Conduit Insert
1001	MIS-711	1021	FT	2-Inch HDPE Conduit, Trenchless Installation
1001	MIS-800	36	EA	Cobra Head LED Luminaire, 36W
1001	MIS-800	28	EA	Cobra Head LED Luminaire, 49W
1001	MIS-800	14	EA	Cobra Head LED Luminaire, 70W
1001	MIS-901-APP	1	LS	Existing Overhead System Removal, As Per Plan
1001	MIS-902	1	LS	Existing Underground System Removal
1002	TDMIS-7	1	EA	Complete Grounding System Module
1002	TDMIS-10	1	EA	Module, Pole, Double Crossarm Assembly W/ Wood Braces
1002	TDMIS-26	2	EA	Fused Cutout, Switch
1002	TDMIS-27	2	EA	Lightning Arrester
1002	TDMIS-28	2	EA	Hot Line Clamp and Riser Assembly
1002	TDMIS-804	1	EA	Single Phase Pole Mounted Transformer, Installation Only
1620	-	1	LS	Fiber Optic Cable, Misc.: Fiber Optic Cable Relocated
SPECIAL	-	4	EA	Mid Span Tap of Overhead Street Lighting Circuit Cable
SPECIAL	-	1	LS	Maintain Existing Lighting

NON-PAYMENT MIS SPECIFICATIONS	
MIS	Item Description
1	Street Light Lockout/Tagout (LOTO)
2	Guidelines for Inspection & Acceptance of Street Lighting Systems
3	Guidelines for Street Lighting "Materials for Approval" Submittal Packages
4	Inspection Checklist
58	Minimum Tree Clearance for Downtown, Urban, & Rural Areas

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER Street Lighting Improvements for CIRCUIT 23 General Summary		
DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 8 OF 76	DWG NO.: 13E0240



REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

**CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER**

**Street Lighting Improvements for
CIRCUIT 23
Existing Lighting Circuit Schematic**

DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
APPROVED:		
SCALE: NONE	SHEET: 9 OF 76	DWG NO.: 13E0240

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3 Xrefs: 20240420-X1=ROAD-BEIR-F, 20240420-X2=ROAD-BEIR-F, 20240420-X3=ROAD-BEIR-F

PROPOSED LIGHTING CONTROLLER #23 SCHEDULE

CONTROL CENTER	LEG	PROPOSED LUMINAIRES	LOAD		CIRCUIT FUSE	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
			WATTS	AMPS			
CONTROLLER #23 2 WIRE, 480V POLE MOUNTED LIGHTING CONTROL CENTER	A	(4)–49W COBRAHEAD LUMINAIRES	196	0.5	15 A	2	CITY OF COLUMBUS
	B	(30)–36W COBRAHEAD LUMINAIRES (24)–49W COBRAHEAD LUMINAIRES (14)–70W COBRAHEAD LUMINAIRES	3,236	7.5	15 A	2	
	TOTAL	(30)–36W COBRAHEAD LUMINAIRES (28)–49W COBRAHEAD LUMINAIRES (14)–70W COBRAHEAD LUMINAIRES	3,432	8.0			

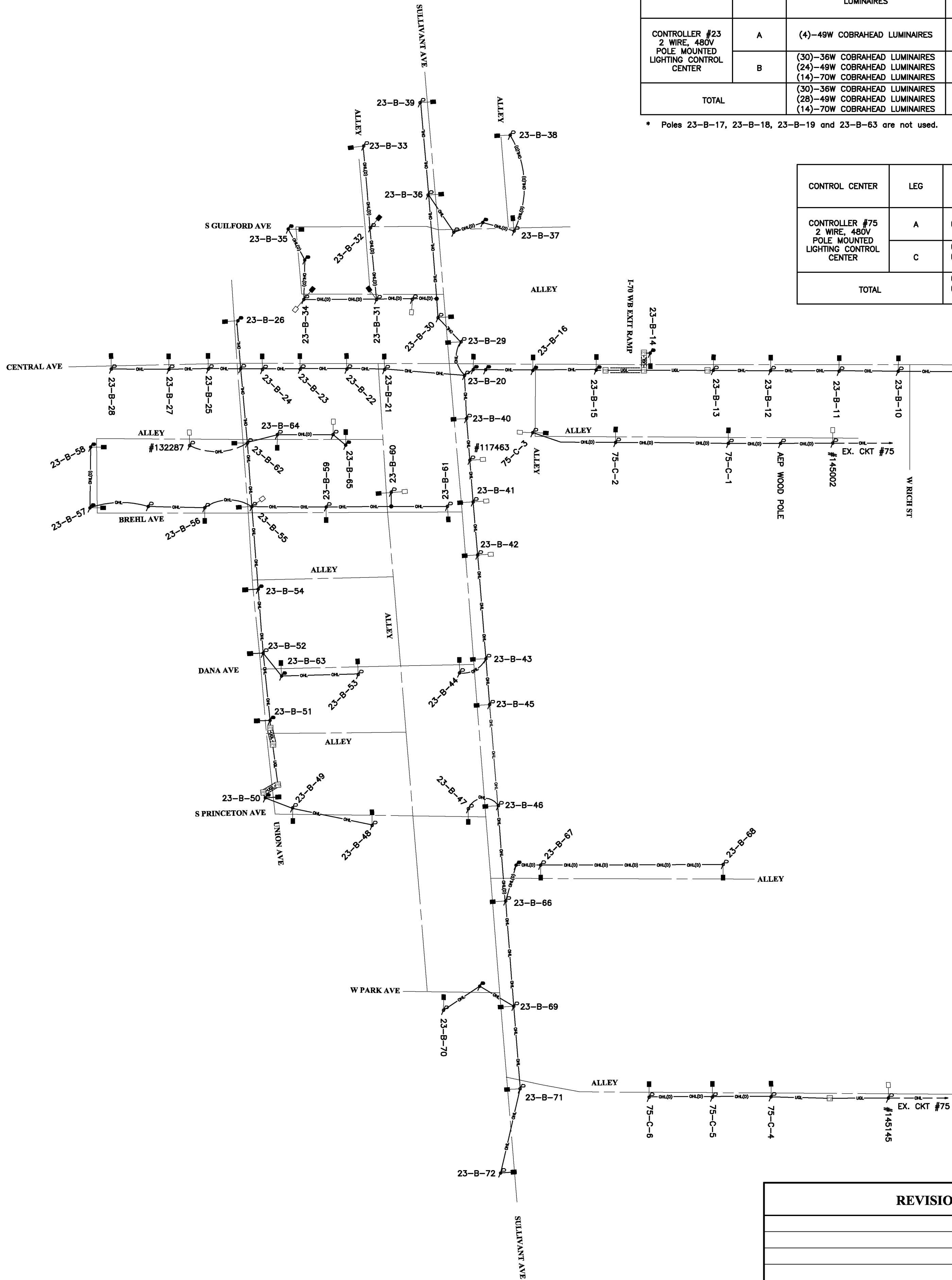
* Poles 23-B-17, 23-B-18, 23-B-19 and 23-B-63 are not used.

PROPOSED LIGHTING CONTROLLER #868 SCHEDULE

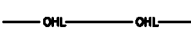
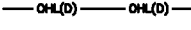
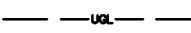
CONTROL CENTER	LEG	EXISTING LUMINAIRES	LOAD		CIRCUIT FUSE	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
			WATTS	AMPS			
CONTROLLER #868 2 WIRE, 480V PAD MOUNTED LIGHTING CONTROL CENTER	A	(18)-100W ACORN LUMINAIRES (8)-200W COBRAHEAD LUMINAIRES (13)-400W COBRAHEAD LUMINAIRES	8,600	19.9	30 A	4	CITY OF COLUMBUS
	B	(18)-100W ACORN LUMINAIRES (17)-400W COBRAHEAD LUMINAIRES	8,400	19.5	30 A	4	
TOTAL		(34)-100W ACORN LUMINAIRES (8)-200W COBRAHEAD LUMINAIRES (30)-400W COBRAHEAD LUMINAIRES	17,000	39.4			

EXISTING LIGHTING CONTROLLER #75 SCHEDULE

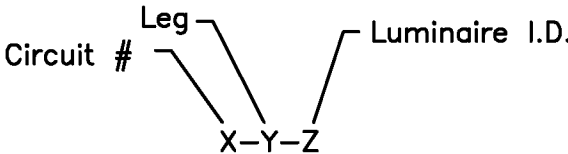
CONTROL CENTER	LEG	EXISTING LUMINAIRES	PROPOSED LUMINAIRES	LOAD		CIRCUIT FUSE	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
				WATTS	AMPS			
CONTROLLER #75 2 WIRE, 480V POLE MOUNTED LIGHTING CONTROL CENTER	A	(0)–200W COBRAHEAD LUMINAIRES (41)–100W COBRAHEAD LUMINAIRES (11)–55W COBRAHEAD LUMINAIRES	–	4,705	10.9	Ex.	Ex.	CITY OF COLUMBUS
	C	(12)–200W COBRAHEAD LUMINAIRES (57)–100W COBRAHEAD LUMINAIRES (27)–55W COBRAHEAD LUMINAIRES	(6)–36W COBRAHEAD LUMINAIRES	9,801	22.7	Ex.	Ex.	
	TOTAL	(12)–200W COBRAHEAD LUMINAIRES (98)–100W COBRAHEAD LUMINAIRES (38)–55W COBRAHEAD LUMINAIRES	(6)–36W COBRAHEAD LUMINAIRES	14,506	33.6			



PROPOSED LIGHTING CIRCUIT SCHEMATIC LEGEND

	Existing Wood Pole w/ Proposed DOP Cobrahead Luminaire (MIS-800)
	Proposed Wood Pole (MIS-310) w/ Proposed DOP Cobrahead Luminaire (MIS-800)
	Existing Wood Pole w/ Existing DOP Cobrahead Luminaire (TO REMAIN)
	Existing DOP Post Top Light Pole w/ Existing DOP Post Top Luminaire (TO REMAIN)
	Existing DOP Aluminum Street Light Pole w/ Existing DOP Cobrahead Luminaire (TO REMAIN)
	Proposed 2-Wire Open Wire Overhead Circuit #23 Cable (MIS-400)
	Proposed 2-Wire Duplex Overhead Circuit #23 Cable (MIS-401)
	Proposed 2" HDPE Duct, Directionally Drilled, As Per Plan w/ 2-Wire Underground Circuit Cable (MIS-403)
	Proposed 3" Rigid Steel w/ 2-Inch Conduit Insert (MIS-702) w/ 2-Wire Underground Circuit Cable (MIS-403)
	Existing 2-Wire Underground Circuit Cable (TO REMAIN)
	Existing 2-Wire Overhead Circuit Cable (TO REMAIN)
#110616	DOP Pole Identification Number
	Existing Pole Mounted 480V DOP Transformer (TO REMAIN)
	Proposed Pole Mounted 480V DOP Transformer
	Proposed 2-Wire Pole Mtd. 480V DOP Lighting Controller (MIS-600)
	Proposed 2-Wire Pad Mtd. 480V DOP Lighting Controller (MIS-601)
	Proposed Lighting Pull Box
	Proposed Mid-Span Tap

LUMINAIRE LABEL LEGEND



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
**Street Lighting Improvements for
CIRCUIT 23
Proposed Lighting Circuit Schematic**

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
APPROVED:		
SCALE: NONE	SHEET: 10 OF 76	DWG NO.: 13E0240

LIGHTING REMOVAL PLAN LEGEND			
	Ex. DOP Aluminum Light Pole w/ Ex. Cobra Head Luminaire (TO REMAIN)		Ex. DOP Post Top Light Pole w/ Ex. Post Top Luminaire (TO REMAIN)
	Ex. Wooden Pole (TO REMAIN)		Ex. Pull Box (TO REMAIN)
	Ex. Wooden Pole (TO REMAIN) w/ Ex. Bracket Arm (TO REMAIN) w/ Ex. Luminaire (TO REMAIN)		Ex. Underground Lighting Conduit (TO REMAIN) w/ Ex. 2-Wire Circuit Cable #23 (TO BE REMOVED)
	Ex. Wooden Pole (TO REMAIN) w/ Ex. Bracket Arm (TO REMAIN) w/ Ex. Luminaire (TO BE REMOVED)		Ex. Underground Lighting Conduit (TO REMAIN) w/ Ex. 2-Wire Circuit Cable (TO REMAIN)
	Ex. Wooden Pole (TO REMAIN) w/ Ex. Bracket Arm (TO BE REMOVED) w/ Ex. Luminaire (TO BE REMOVED)		Ex. Overhead Street Lighting Circuit #23 (TO BE REMOVED)
	Ex. Wooden Pole (TO BE REMOVED) w/ Ex. Bracket Arm (TO BE REMOVED) w/ Ex. Luminaire (TO BE REMOVED)		Ex. Overhead Street Lighting Circuit (TO REMAIN)
			Ex. Edge of Pavement

Ex. DOP Wood Pole #117477 (TO REMAIN)
w/ Ex. Joint User/Power Attachments (TO REMAIN)
w/ (1)-Ex. Bracket Arm, Street Side (TO BE REMOVED)
w/ (1)-Ex. Luminaire, Street Side (TO BE REMOVED)
w/ (1)-Ex. Private AEP Light (TO REMAIN)
STA 41+22.3, 14.5' LT.
N: 710365.2020
E: 1817996.0850

Ex. AEP Wood Pole, DOP ID# 117510 (TO REMAIN)
w/ Ex. Joint User/Power Attachments (TO REMAIN)
w/ (1)-Ex. Bracket Arm (TO BE REMOVED)
w/ (1)-Ex. Luminaire (TO BE REMOVED)
STA 27+89.2, 20.3' RT.
N: 710442.4780
E: 1818119.8080

Ex. AEP Wood Pole, DOP ID# N/A (TO REMAIN)
w/ Ex. Joint User/Power Attachments (TO REMAIN)
w/ (1)-Ex. Bracket Arm (TO BE REMOVED)
w/ (1)-Ex. Luminaire (TO BE REMOVED)
STA 28+70.1, 19.6' RT.
N: 710522.3330
E: 1818106.9430

Ex. DOP Wood Pole #N/A (TO REMAIN)
w/ Ex. Joint User/Power Attachments (TO REMAIN)
STA 42+63.6, 18.9' LT.
N: 710401.9310
E: 1818132.6540

Ex. DOP Wood Pole #117511 (TO REMAIN)
w/ Ex. Joint User/Power Attachments (TO REMAIN)
w/ Ex. DOP Pole ID Tag (TO BE REMOVED - SEE NOTE 2)
STA 28+68.1, 19.5' RT.
N: 710520.3940
E: 1818107.2080

Ex. DOP Wood Pole #117479 (TO REMAIN)
w/ Ex. Joint User/Power Attachments (TO REMAIN)
w/ Ex. DOP Pole ID Tag (TO BE REMOVED – SEE NOTE 2)
STA 42+63.3, 17.4' LT.
N: 710400.3470
E: 1818132.7090

GRAPHIC SCALE

1 inch = 20 feet

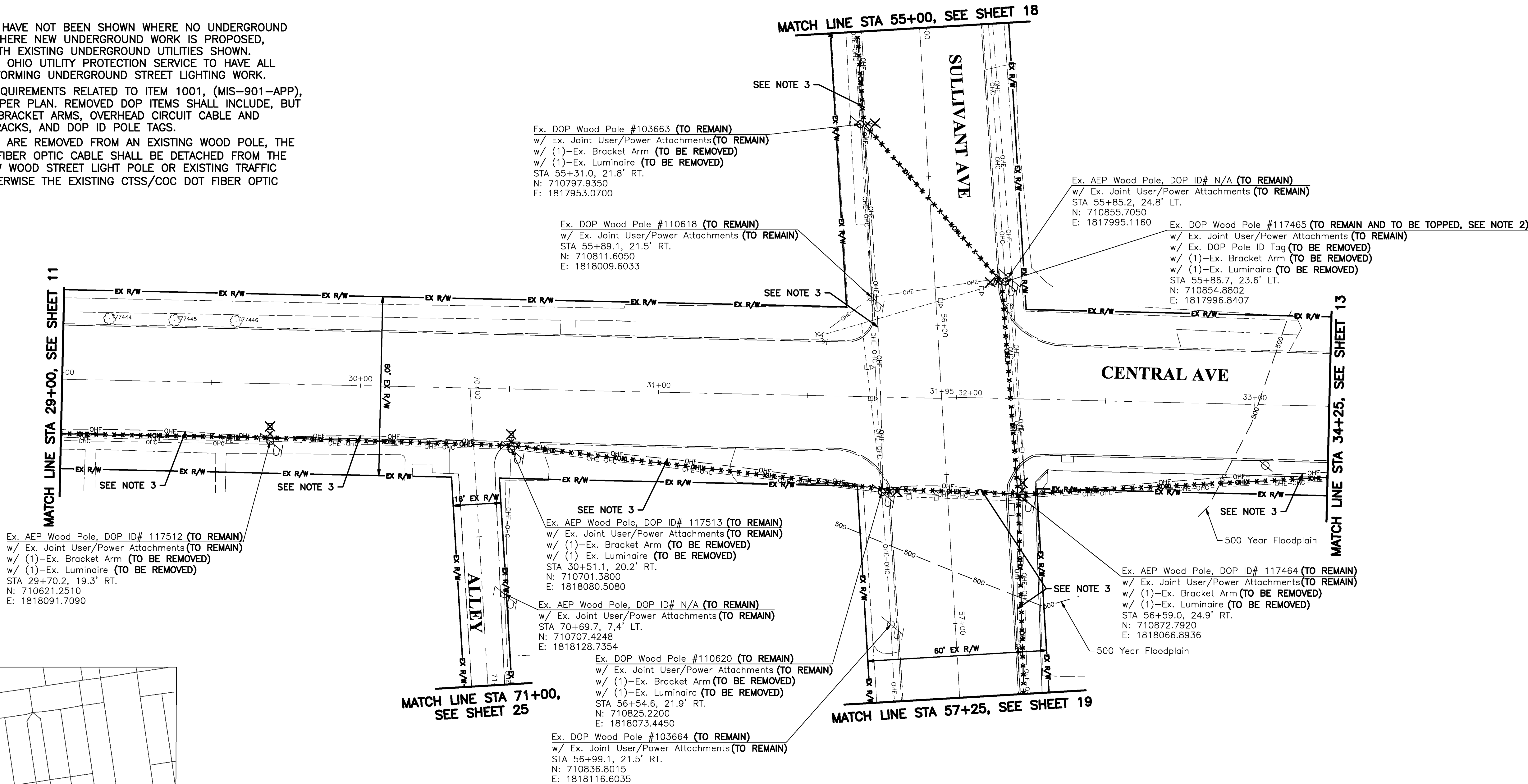
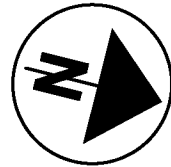
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER

Street Lighting Improvements for
CIRCUIT 23
Lighting Removal Plan

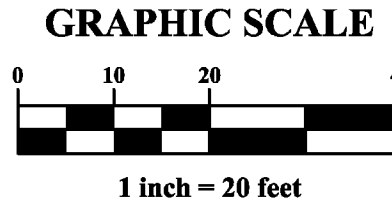
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				DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
				APPROVED:		
				SCALE: AS NOTED	SHEET: 11 OF 76	DWG NO.: 13E0240

NOTES

1. EXISTING UNDERGROUND UTILITIES HAVE NOT BEEN SHOWN WHERE NO UNDERGROUND WORK IS PROPOSED. IN AREAS WHERE NEW UNDERGROUND WORK IS PROPOSED, DETAILS HAVE BEEN PROVIDED WITH EXISTING UNDERGROUND UTILITIES SHOWN. CONTRACTOR SHALL CONTACT THE OHIO UTILITY PROTECTION SERVICE TO HAVE ALL UTILITIES MARKED PRIOR TO PERFORMING UNDERGROUND STREET LIGHTING WORK.
2. SEE SHEET 6 FOR ADDITIONAL REQUIREMENTS RELATED TO ITEM 1001, (MIS-901-APP), OVERHEAD SYSTEM REMOVAL, AS PER PLAN. REMOVED DOP ITEMS SHALL INCLUDE, BUT IS NOT LIMITED TO, LUMINAIRES, BRACKET ARMS, OVERHEAD CIRCUIT CABLE AND ATTACHMENT HARDWARE, SPOOL RACKS, AND DOP ID POLE TAGS.
3. WHEN STREET LIGHTING FACILITIES ARE REMOVED FROM AN EXISTING WOOD POLE, THE EXISTING AERIAL CTSS/COC DOT FIBER OPTIC CABLE SHALL BE DETACHED FROM THE POLE AND ATTACHED TO THE NEW WOOD STREET LIGHT POLE OR EXISTING TRAFFIC SIGNAL SUPPORT AS NOTED. OTHERWISE THE EXISTING CTSS/COC DOT FIBER OPTIC CABLE SHALL NOT BE DISTURBED.



LIGHTING REMOVAL PLAN LEGEND			
	Ex. DOP Aluminum Light Pole w/ Ex. Cobra Head Luminaire (TO REMAIN)		Ex. DOP Post Top Light Pole w/ Ex. Post Top Luminaire (TO REMAIN)
	Ex. Wooden Pole (TO REMAIN)		Ex. Pull Box (TO REMAIN)
	Ex. Wooden Pole (TO REMAIN) w/ Ex. Bracket Arm (TO REMAIN) w/ Ex. Luminaire (TO REMAIN)		Ex. Underground Lighting Conduit (TO REMAIN) w/ Ex. 2-Wire Circuit Cable #23 (TO BE REMOVED)
	Ex. Wooden Pole (TO REMAIN) w/ Ex. Bracket Arm (TO REMAIN) w/ Ex. Luminaire (TO BE REMOVED)		Ex. Underground Lighting Conduit (TO REMAIN) w/ Ex. 2-Wire Circuit Cable (TO REMAIN)
	Ex. Wooden Pole (TO REMAIN) w/ Ex. Bracket Arm (TO BE REMOVED) w/ Ex. Luminaire (TO BE REMOVED)		Ex. Overhead Street Lighting Circuit #23 (TO BE REMOVED)
	Ex. Wooden Pole (TO BE REMOVED) w/ Ex. Bracket Arm (TO BE REMOVED) w/ Ex. Luminaire (TO BE REMOVED)		Ex. Overhead Street Lighting Circuit (TO REMAIN)
			Ex. Edge of Pavement



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
Street Lighting Improvements for
CIRCUIT 23
Lighting Removal Plan

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

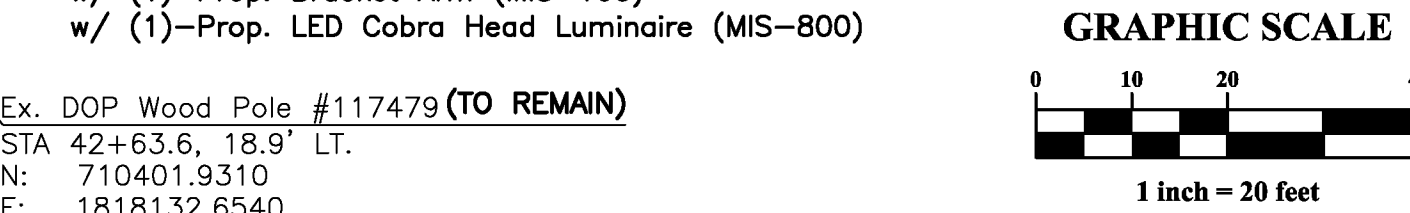
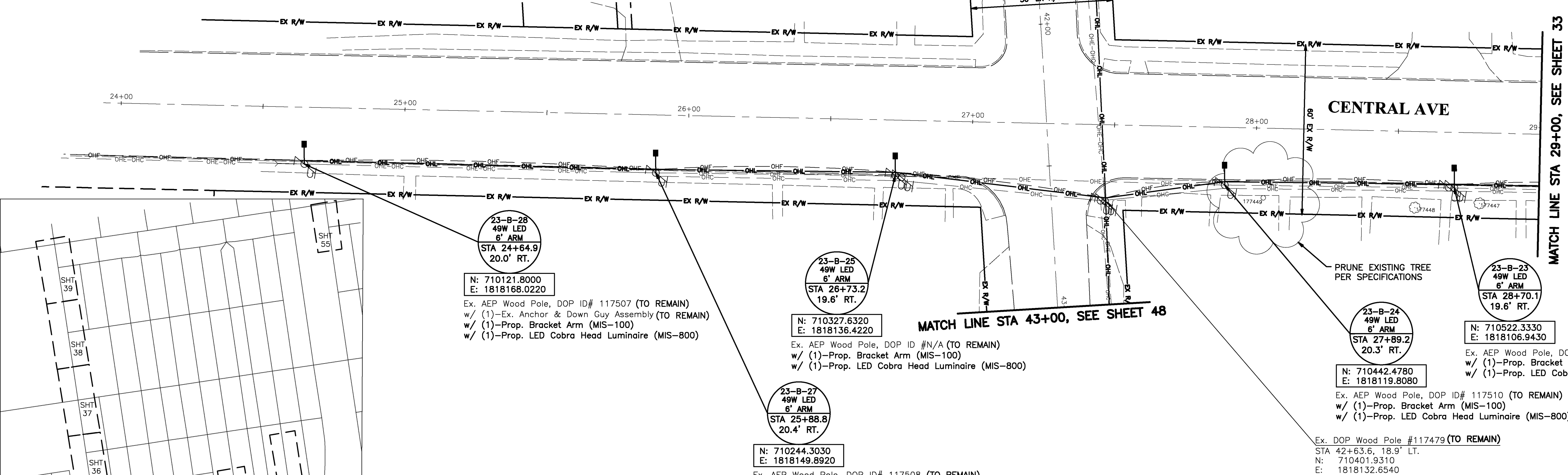
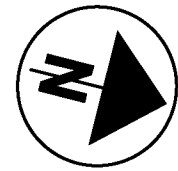
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APPROVED:		
SCALE: AS NOTED	SHEET: 12 OF 76	DWG NO.: 13E0240

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4. Xrefs: 20240419-XU-REFR-E, 20240419-XT-ROAD-REFR-E, 20240419-COC-brdr, 20240419-CL-LIE-N

STREET LIGHTING PLAN LEGEND			
	Prop. DOP Wood Pole, Height/Class As Noted (MIS-310) w/ Prop. Bracket Arm, Length As Noted w/ Prop. LED Cobra Head Luminaire (MIS-800) w/ Prop. Ground Rod (MIS-55)		Prop. 2" Conduit Riser (MIS-56) (Includes a Pull Box Per MIS-54)
	Prop. LED Cobra Head Luminaire (MIS-800) w/ Prop. Bracket Arm, Length As Noted (Install on Ex. Wooden Pole)		Existing Edge of Pavement
	Ex. Wooden Pole (TO REMAIN) w/ Ex. Bracket Arm (TO REMAIN) w/ Ex. Luminaire (TO REMAIN)		Prop. Mid Span Tap (Type As Noted)
	Prop. 480V, 2-Wire Pole Mt'd. Lighting Control Center (MIS-600)		Prop. 2-Wire, Open Wire Overhead Circuit Cable (MIS-400)
	Prop. 480V, 2-Wire Pad Mt'd. Lighting Control Center (MIS-601)		Prop. 2-Wire, #2 Duplex Overhead Circuit Cable (MIS-401)
	Prop. Pull Box (Size As Noted)		Prop. 2" HDPE Conduit, Trenchless Installation (MIS-711) w/ Prop. 2-Wire Circuit Cable (MIS-403)
	Prop. Anchor and Down Guy Assembly (MIS-51)		Ex. Underground Street Lighting Conduit (TO REMAIN) w/ Prop. 2-Wire Circuit Cable (MIS-403)
	Prop. Pole Key Anchor Assembly (MIS-52)		Prop. 3" Steel Conduit w/ 2" Conduit Insert, Jacked or Drilled Under Roadway (MIS-702) w/ Prop. 2-Wire Circuit Cable (MIS-403)

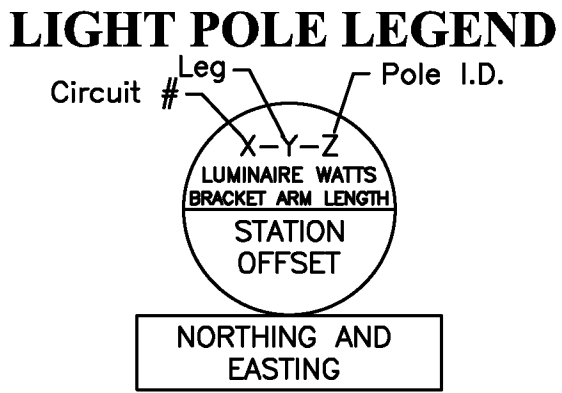
NOTES

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- PROPOSED LIGHTING INFRASTRUCTURE SHALL BE INSTALLED PER THE NORTHING/EASTING COORDINATES GIVEN IN THE PLANS. ALL STATION AND OFFSET INFORMATION IS GIVEN FOR REFERENCE ONLY.



CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
Street Lighting Improvements for CIRCUIT 23 Street Lighting Plan		
DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 32 OF 76	DWG NO.: 13E0240

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

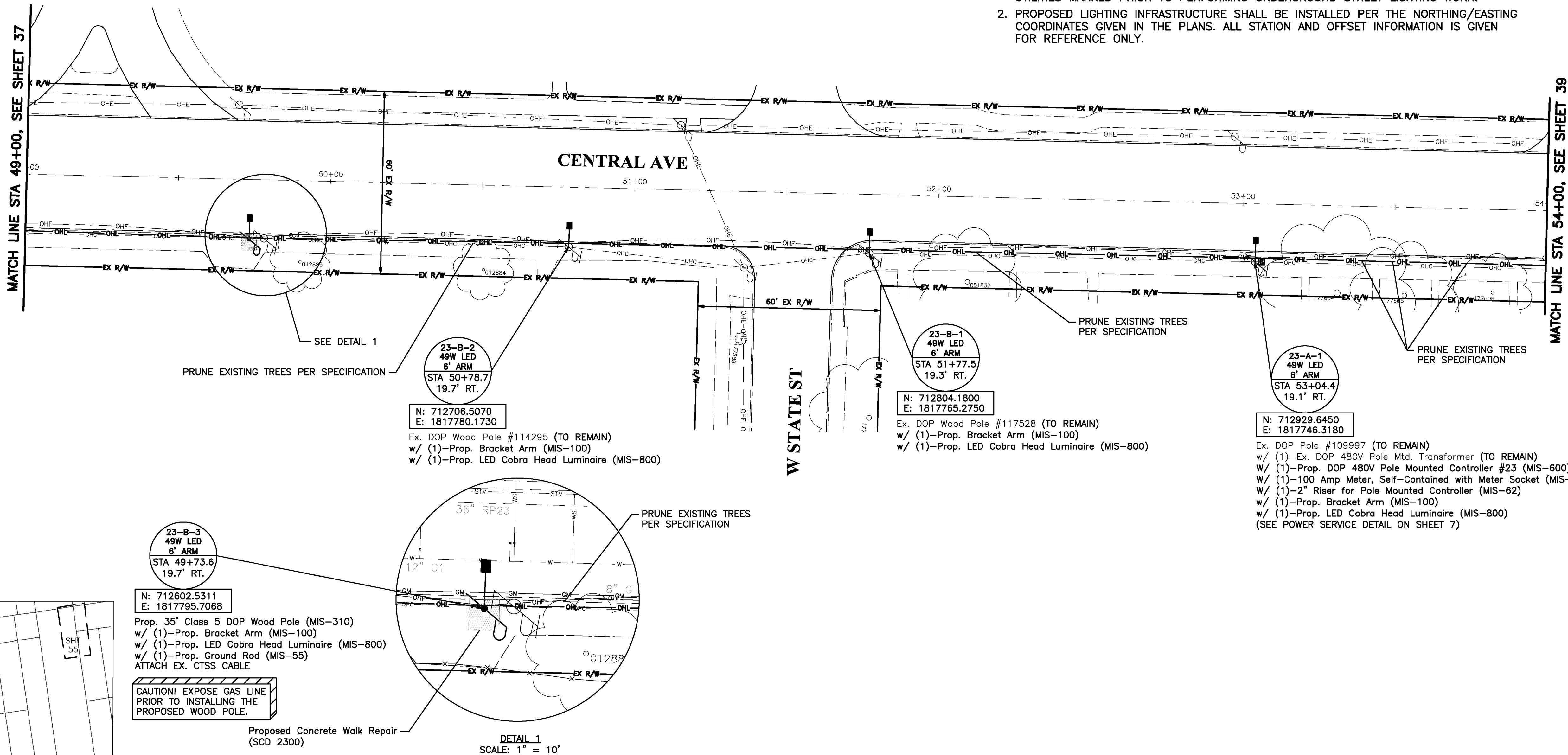


KEY PLAN
NOT TO SCALE

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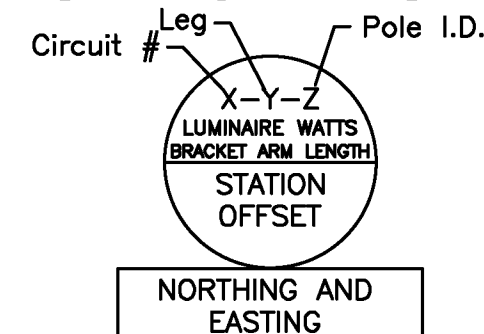
KEY PLAN
NOT TO SCALE



STREET LIGHTING PLAN LEGEND

	Prop. DOP Wood Pole, Height/Class As Noted (MIS-310) w/ Prop. Bracket Arm, Length As Noted w/ Prop. LED Cobra Head Luminaire (MIS-800) w/ Prop. Ground Rod (MIS-55)		Prop. 2" Conduit Riser (MIS-56) (Includes a Pull Box Per MIS-54)
	Prop. LED Cobra Head Luminaire (MIS-800) w/ Prop. Bracket Arm, Length As Noted (Install on Ex. Wooden Pole)		Existing Edge of Pavement
	Ex. Wooden Pole (TO REMAIN) w/ Ex. Bracket Arm (TO REMAIN) w/ Ex. Luminaire (TO REMAIN)		Prop. Mid Span Tap (Type As Noted)
	Prop. 480V, 2-Wire Pole Mt'd. Lighting Control Center (MIS-600)		Prop. 2-Wire, Open Wire Overhead Circuit Cable (MIS-400)
	Prop. 480V, 2-Wire Pad Mt'd. Lighting Control Center (MIS-601)		Prop. 2-Wire, #2 Duplex Overhead Circuit Cable (MIS-401)
	Prop. Pull Box (Size As Noted)		Prop. 2" HDPE Conduit, Trenchless Installation (MIS-711) w/ Prop. 2-Wire Circuit Cable (MIS-403)
	Prop. Anchor and Down Guy Assembly (MIS-51)		Ex. Underground Street Lighting Conduit (TO REMAIN) w/ Prop. 2-Wire Circuit Cable (MIS-403)
	Prop. Pole Key Anchor Assembly (MIS-52)		Prop. 3" Steel Conduit w/ 2" Conduit Insert, Jacked or Drilled Under Roadway (MIS-702) w/ Prop. 2-Wire Circuit Cable (MIS-403)

LIGHT POLE LEGEND



REVISION DESCRIPTION

SHEET OR
SHEETS

INITIAL

DATE

DRAWN BY: EMHT

DATE: JUNE 2025

SPL NUMBER: -

APPROVED:

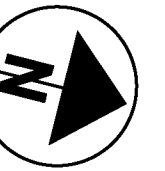
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SHEET: 38 OF 76

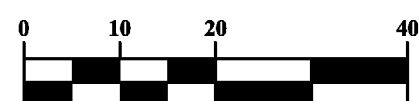
DWG NO.: 13E0240

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GRAPHIC SCALE



1 inch = 20 feet

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER

Street Lighting Improvements for CIRCUIT 23 Street Lighting Plan

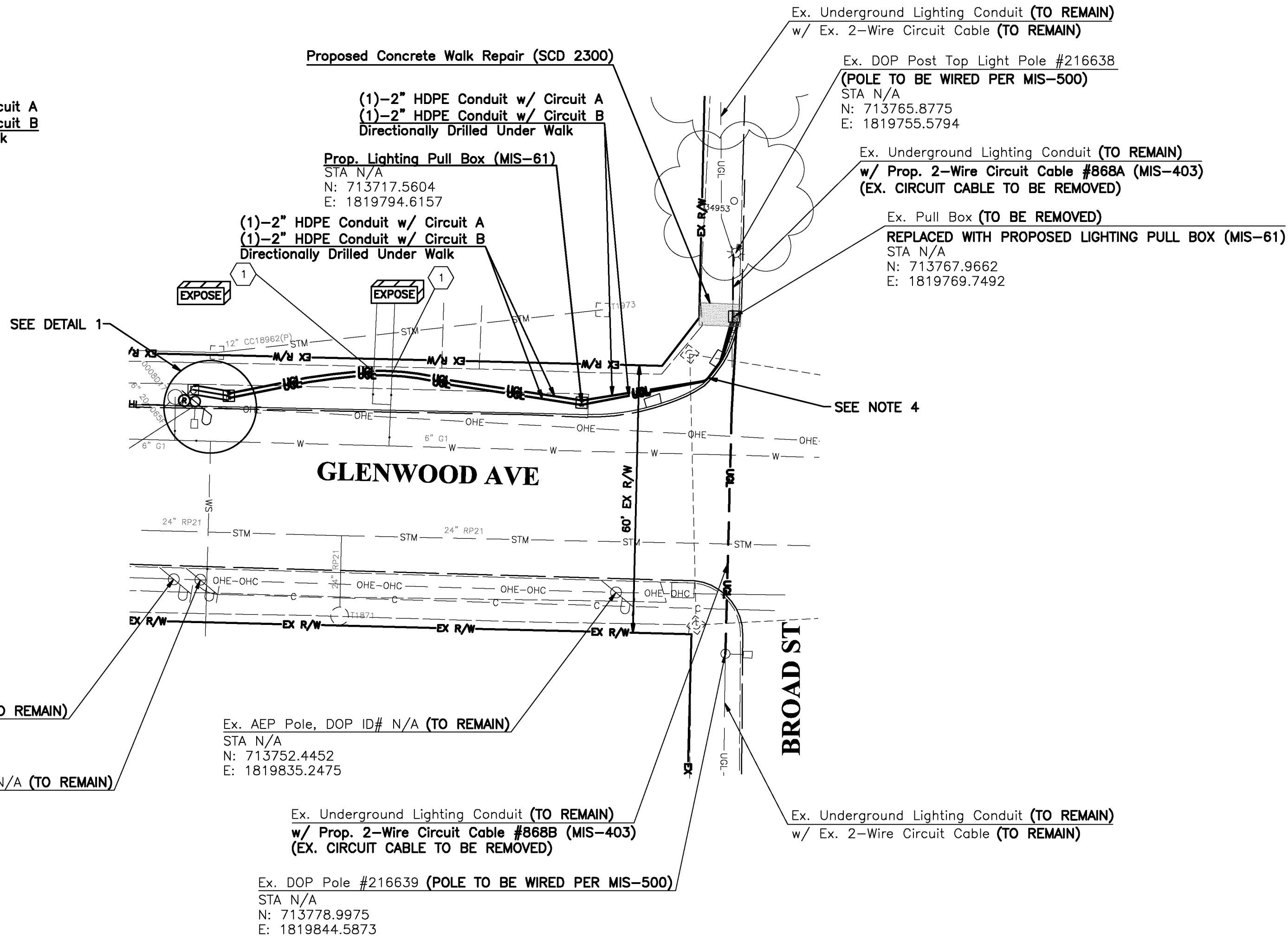
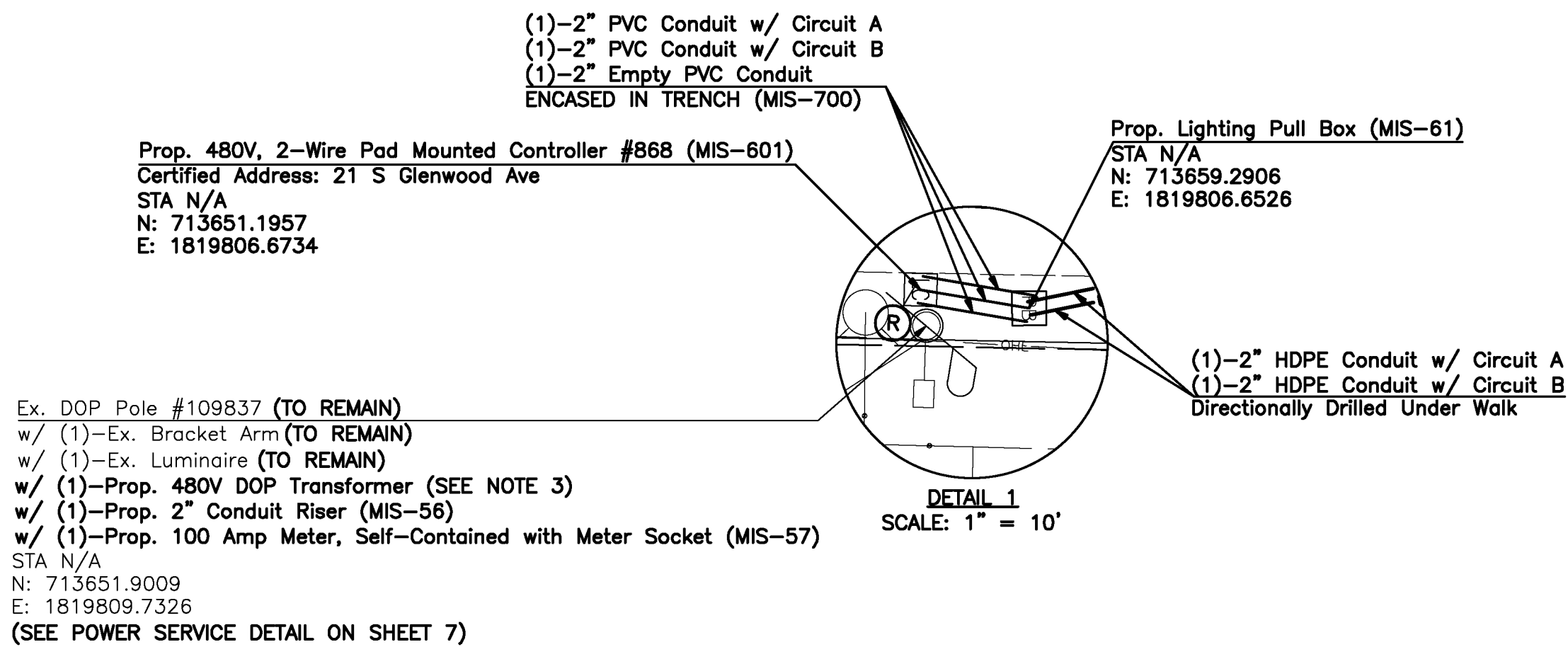
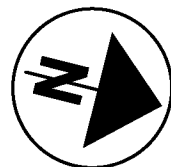
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4. Xrefs: 20240419-XU-REFR-E, 20240419-XT-ROAD-REFR-E, 20240419-COC-brdr, 20240419-CL-LITE-N

CODED NOTES

CONTRACTOR TO EXPOSE EX. WATER LINE PRIOR TO INSTALLING LIGHTING CONDUIT

NOTES

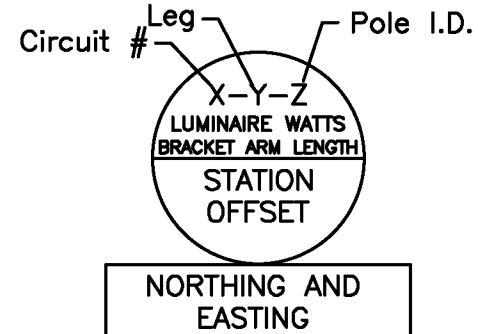
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- PROPOSED LIGHTING INFRASTRUCTURE SHALL BE INSTALLED PER THE NORTHING/EASTING COORDINATES GIVEN IN THE PLANS. ALL STATION AND OFFSET INFORMATION IS GIVEN FOR REFERENCE ONLY.
- PROPOSED LIGHTING CONTROLLER SHALL BE POWERED FROM PRIMARY CIRCUIT #14117.
- PROPOSED LIGHTING CONDUIT SHALL BE INSTALLED BEHIND THE EXISTING CURB AS SHOWN.



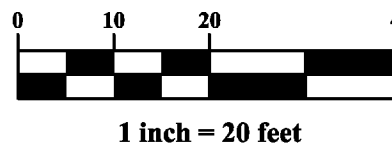
KEY PLAN
NOT TO SCALE

STREET LIGHTING PLAN LEGEND			
	Prop. DOP Wood Pole, Height/Class As Noted (MIS-310) w/ Prop. Bracket Arm, Length As Noted w/ Prop. LED Cobra Head Luminaire (MIS-800) w/ Prop. Ground Rod (MIS-55)		Prop. 2" Conduit Riser (MIS-56) (Includes a Pull Box Per MIS-54)
	Prop. LED Cobra Head Luminaire (MIS-800) w/ Prop. Bracket Arm, Length As Noted (Install on Ex. Wooden Pole)		Existing Edge of Pavement
	Ex. Wooden Pole (TO REMAIN) w/ Ex. Bracket Arm (TO REMAIN) w/ Ex. Luminaire (TO REMAIN)		Prop. Mid Span Tap (Type As Noted)
	Prop. 480V, 2-Wire Pole Mt'd. Lighting Control Center (MIS-600)		Prop. 2-Wire, Open Wire Overhead Circuit Cable (MIS-400)
	Prop. 480V, 2-Wire Pad Mt'd. Lighting Control Center (MIS-601)		Prop. 2-Wire, #2 Duplex Overhead Circuit Cable (MIS-401)
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	Prop. Pole Key Anchor Assembly (MIS-52)		Prop. 3" Steel Conduit w/ 2" Conduit Insert, Jacked or Drilled Under Roadway (MIS-702) w/ Prop. 2-Wire Circuit Cable (MIS-403)

LIGHT POLE LEGEND



GRAPHIC SCALE

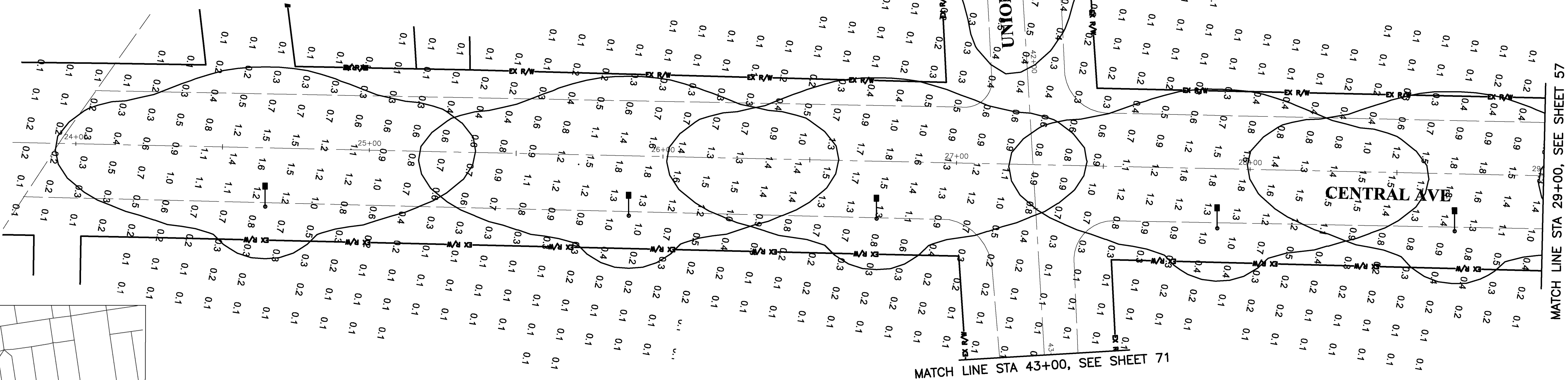


CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
Street Lighting Improvements for
CIRCUIT 23
Street Lighting Plan

DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 55 OF 76	DWG NO.: 13E0240

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4, Xrefs: 20240419-XU-REFR-E, 20240419-XT-ROAD-REFR-E, 20240419-COC-brdr, 20240419-CL-LITE-N

Luminaire Schedule								
Style	Manufacturer	Catalog Number	Description	File Name	Lumens Per Lamp	Light Loss Factor	Wattage	Location
Cobra Head (MIS-800)	AEL	ATB0 P201 R2 3K	Autobahn Small P201 Package Roadway Type II 3000K	ATB0 P201 R2 3K.ies	5,473	0.86	36	Brehl, Dana, Princeton, Guilford, Union, Park, & Alleys
Cobra Head (MIS-800)	AEL	ATB0 P202 R2 3K	Autobahn Small P202 Package Roadway Type II 3000K	ATB0 P202 R2 3K.ies	7,100	0.86	49	Central
Cobra Head (MIS-800)	AEL	ATB0 P203 R2 3K	Autobahn Small P203 Package Roadway Type II 3000K	ATB0 P203 R2 3K.ies	10,050	0.86	70	Sullivant



PHOTOMETRIC PLAN LEGEND

PROPOSED
0.3 fc Influence

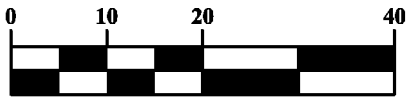
PHOTOMETRIC SUBMITTAL REQUIREMENTS

Street light pole placement for this project was based on a photometric analysis using fixtures listed in the luminaire schedule. The results of this photometric analysis are detailed within on the included photometric plan sheets. If the specified fixtures are used for the project, no additional documentation from the Contractor is required. However, if one of the other manufactures as permitted by the City of Columbus standard MIS specification is selected for use by the Contractor, the following shall be submitted by the Contractor to the City for review and approval:

- Photometric analysis using lighting design software documenting that the selected luminaire meets the following average foot–candle requirements listed in the Photometric Results Table (+/– 0.1 fc) and the average/minimum uniformity ratio meets or exceeds the requirements listed in the Photometric Results Table, using pole locations as detailed in the plans set.

Upon request, the City will furnish the photometric file used by the project.

GRAPHIC SCALE



1 inch = 20 feet

Statistics						
Description	Classification (Per Columbus Thoroughfare Plan)	Target Avg	Achieved Avg	Achieved Min	Target Avg/Min	Achieved Avg/Min
Central Ave	Collector, Med Peds	0.9 fc	0.9 fc	0.2 fc	4.0:1	4.5:1
Sullivant Ave	Collector, Med Peds	0.9 fc	0.9 fc	0.2 fc	4.0:1	4.5:1
Brehl Ave	Local, Low Peds	0.4 fc	0.5 fc	0.1 fc	6.0:1	5.0:1
Dana Ave	Local, Low Peds	0.4 fc	0.6 fc	0.1 fc	6.0:1	6.0:1
Princeton Ave	Local, Low Peds	0.4 fc	0.4 fc	0.1 fc	6.0:1	4.0:1
S Guilford Ave	Local, Low Peds	0.4 fc	0.4 fc	0.1 fc	6.0:1	4.0:1
Union Ave	Local, Low Peds	0.4 fc	0.6 fc	0.1 fc	6.0:1	6.0:1
W Park Ave	Local, Low Peds	0.4 fc	0.4 fc	0.1 fc	6.0:1	4.0:1

REVISION DESCRIPTION	SHEET OR SHEETS	INITIAL	DATE

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF POWER		
Street Lighting Improvements for CIRCUIT 23 Photometric Plan		
DRAWN BY: EMHT	DATE: JUNE 2025	SPL NUMBER: -
APPROVED:		
SCALE: AS NOTED	SHEET: 56 OF 76	DWG NO.: 13E0240

Appendix D: Street Lighting Pole & Luminaire Installation Matrix

Appendix D: Street Lighting Pole & Luminaire Installation Matrix provides the typical illumination requirements, pole spacing, installation pattern, and pole / luminaire assembly required for a street lighting design based on the roadway classification, along with other requirements. This is not an all-inclusive matrix. Specific applications will require direct involvement from the Division of Power to complete the design.

CITY OF COLUMBUS
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF POWER
Street Lighting Pole & Luminaire Installation Matrix

Roadway Classification (See Note 1)	Pedestrian Area Classification (See Note 2)	Typical Roadway Width	Roadway Illumination		Sidewalk Illumination (See Note 5)		Target LED Lumens	General Style Recommendation / Luminaire Mounting Height (See Note 3)	Pole Arrangement	Preferred Pole Spacing (See Note 4)		
			Average (fc)	Uniformity (Ave/Min)	Average (fc)	Uniformity (Ave/Min)				One Side Layout X' (See Diagram)	Staggered Layout X' (See Diagram)	Opposite Layout X' (See Diagram)
Residential Alley	N/A	12'-20'	0.2	N/A	N/A	N/A	5,000 - 6,000	Wood Light Poles / 28'	One Side	300'-400'	N/A	N/A
Commercial Alley		12'-20'	0.4							220'-280'		
Local	Low	20'-30'	0.4	6.0:1	0.3	6.0:1	5,000 - 6,000	Wood Light Poles / 28' Post Top Light Poles/ 13'	One Side	180'-200' (Wood Light Poles) 150'-170' (Post Top Light Poles)	N/A	N/A
	Medium	20'-30'	0.7	6.0:1	0.5	4.0:1	8,000 - 9,000					
	High	20'-30'	0.9	6.0:1	1.0	4.0:1	10,000 - 11,000					
Collector	Low	26'-36'	0.6	4.0:1	0.3	6.0:1	8,000 - 12,000	Wood Light Poles / 28' Post Top Light Poles / 13' Standard Light Poles / 30' Teardrop Light Poles / 31'	One Side or Staggered	180'-200' (Wood Light Poles) 120'-140' (Post Top Light Poles) 180'-200' (Standard Light Poles) 180'-200' (Teardrop Light Poles)	360'-400' (Wood Light Poles) 240'-280' (Post Top Light Poles) 360' 400' (Standard Light Poles) 360'-400' (Teardrop Light Poles)	N/A
	Medium	26'-36'	0.9	4.0:1	0.5	4.0:1	10,000 - 13,000					
	High	26'-36'	1.2	4.0:1	1.0	4.0:1	17,000 - 23,000					
Arterial (Major/Downtown)	Low	40'-50'	0.9	3.0:1	0.4	4.0:1	14,000-17,000	Wood Light Poles / 28' Standard Light Poles / 30' or 40' Teardrop Light Poles / 31'	One Side or Staggered or Opposite	160'-190' (Wood Light Poles) 160'-190' (Standard Light Poles) 160'-190' (Teardrop Light Poles)	320'-380' (Wood Light Poles) 320'-380' (Standard Light Poles) 320'-380' (Teardrop Light Poles)	160'-190' (Wood Light Poles) 160'-190' (Standard Light Poles) 160'-190' (Teardrop Light Poles)
	Medium	40'-60'	1.3	3.0:1	0.5	4.0:1	21,000-25,000					
	High	40'-140'	1.7	3.0:1	1.0	4.0:1	25,000-33,000					

Updated: 6-30-25

Notes:

1. Street classification shall be based on the City of Columbus **Multimodal** Thoroughfare plan with the following designations:

Urban Community Connector - 60' = Collector	Suburban Commuter Corridor - 120' = Arterial
Urban Community Connector - 80' = Collector	Suburban Commuter Corridor - 160'-220' = Arterial
Community Connector - 100' = Arterial	Signature Corridor - R/W Varies = Arterial
Urban Commuter Corridor - 100' = Arterial	Freeway = Arterial

<https://columbus.legistar.com/LegislationDetail.aspx?ID=4066837&GUID=FA56A812-1334-4CF4-9610-5DBF5D84AE44&Options=ID%7cText%7c&Search=1950-2019>

Roadways not listed in the COC Thoroughfare plan are typically local or alley designations.

2. The pedestrian area classifications are generally described in ANSI/IES RP-8. General guidelines are as follows, during the first hour of darkness:

Low	Fewer than 10 pedestrians per hour within the first hour after sunset.
Medium	10-100 pedestrians per hour within the first hour after sunset.
High	More than 100 pedestrians per hour within the first hour after sunset.

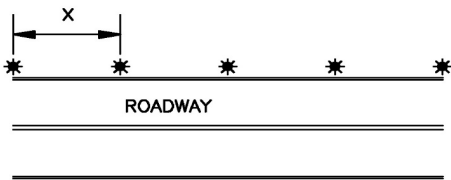
3. Wood Poles: Overhead cable, Wood Poles, LED Cobrahead Luminaire (Basic Service)
Standard Light Poles: Underground cable, Aluminum Pole, LED Cobrahead Luminaire
Post Top Light Poles: Underground cable, Decorative Post Top Pole with LED Acorn or Traditional Luminaire
Teardrop Light Poles: Underground cable, Aluminum Pole, LED Teardrop Luminaire

4. Typical pole spacing is a recommended starting point for design. Photometric output, site conditions, driveways, utilities and other project constraints will dictate final pole spacing.

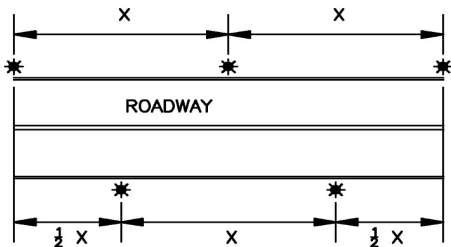
5. Sidewalk illumination standards shall only apply if included in the project scope, the sidewalk is located immediately behind the back of curb, or if directed by the Division of Power.

6. For lighting in the DOWNTOWN area utilizing (2) Post Top luminaires on a single Post Top pole, contact the Division of Power.

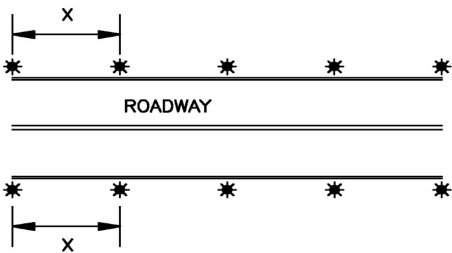
ONE SIDE LAYOUT



STAGGERED LAYOUT



OPPOSITE LAYOUT



Appendix E: Luminaire, Pole, and Foundation Matrix

Appendix E: Luminaire, Pole, and Foundation Matrix is intended to provide the Designer with the appropriate pole and foundation to be used with a particular luminaire style. Modified, flush, or “spread” foundations are only allowed to be utilized in design with prior permission from the Division of Power. The foundations designs specified in this document are the preferred foundation designs that should be used when designing street lighting for the City of Columbus.

CITY OF COLUMBUS; DIVISION OF POWER
STREET LIGHTING
LUMINAIRE / POLE / FOUNDATION MATRIX

LUMINAIRE MIS #	LUMINAIRE STYLE	POLE & ARM MIS #	POLE & ARM DESCRIPTION	FOUNDATION MIS #	FOUNDATION DEPTH
			UNDERGROUND		
MIS-800	COBRAHEAD	MIS-300	POLE, ALUMINUM, X' BRACKET, T-BASE, 30' MOUNTING HEIGHT (6',8',10',12',15')	MIS-201	6'
		MIS-302	POLE, ALUMINUM, X' BRACKET, T-BASE, 40' MOUNTING HEIGHT (12',15')	MIS-202	8'
MIS-801	TEARDROP	MIS-305	POLE, ALUMINUM, 6' BRACKET, T-BASE, 31' MOUNTING HEIGHT, BLACK/GREEN (TEARDROP)	MIS-201	6'
		MIS-308	POLE, DOWNTOWN	MIS-203	6'
MIS-802	ACORN	307	POLE, FIBERGLASS, DECORATIVE 11'-6"	MIS-200	4'
		311	POLE FIBERGLASS. DECORATIVE 13'	MIS-200	4'
MIS-803	TRADITIONAL	307	POLE, FIBERGLASS, DECORATIVE 11'-6"	MIS-200	4'
		311	POLE FIBERGLASS. DECORATIVE 13'	MIS-200	4'
MIS-805	SQUARE	312	POLE, ALUMINUM, 14" TENON, T-BASE, 30' MOUNTING HEIGHT	MIS-201	6'
		300	POLE, ALUMINUM, X' BRACKET, T-BASE, 30' MOUNTING HEIGHT, BRONZE (8',10',12' 15')	MIS-201	6'
		302	POLE, ALUMINUM, X' BRACKET, T-BASE, 40' MOUNTING HEIGHT, BRONZE (10', 12',15')	MIS-202	8'
MIS-806	LOW MAST	306	POLE, ALUMINUM, LOW MAST, ADJUSTABLE 39' TO 43'	MIS-202	8'
			OVERHEAD		
MIS-800	COBRAHEAD	310 / 100	POLE, WOODEN / BRACKET, X' ALUMINUM, FOR WOOD POLE (6' OR 8')	NONE	N/A
		310 / 101	POLE, WOODEN / BRACKET, X' ALUMINUM, FOR WOOD POLE (10', 12', OR 15')	NONE	N/A
		310 / 102	POLE, WOODEN / BRACKET, 20' ALUMINUM, FOR WOOD POLE	NONE	N/A
				NONE	N/A
MIS-801	TEARDROP	310 / 103	POLE, WOODEN / BRACKET, 6' ALUMINUM, FOR WOOD POLE, TEAR DROP	NONE	N/A

NOTES

- 1
- MIS-206 Flush Foundation can only be used on a project with the prior approval of the Division of Power.

Appendix F: Temporary Lighting As Per Plan Note

MAINTAIN EXISTING AND TEMPORARY LIGHTING

Street lighting outages during the course of construction are prohibited without prior approval from the Division of Power. Adequate light levels are to be maintained to the satisfaction of the City of Columbus throughout the course of construction of the project.

Existing roadways which are to remain open to traffic during the construction of the project and lighted shall have the lighting maintained.

When the sequence of construction activities requires, or should the contractor desire, the contractor shall be responsible for providing temporary lighting when the removal of the existing lighting occurs before the new lighting is fully operational.

Before installing such lighting, the contractor shall prepare and submit a temporary lighting plan to the Designer for review and approval by the Division of Power. This plan shall show the locations of poles, lengths of bracket arms, details of luminaires, mounting heights, wiring methods, and other pertinent information. Mounting height for temporary luminaires shall not be less than 28 feet, and minimum overhead conductor clearance shall be above NESC minimum.

The temporary lighting shall match the existing or proposed average foot-candle intensity and average minimum uniformity ratio, as directed by the Designer. It is the responsibility of the contractor to remove and dispose of the Temporary Lighting material once the proposed street lighting is operational.

The contractor shall provide installations in accordance with the IEEE, National Electrical Safety Code, and conform to local laws and codes governing such work. Wood poles with overhead wiring may be used. However, temporary lighting shall meet federal and state safety criteria. If breakaway poles are used to meet these criteria, then underground wiring shall be used. Reconditioned or used materials may be furnished for a temporary lighting system. Where new electrical service is necessary to power temporary lighting, the contractor is responsible for arranging new service and paying all electrical costs. The contractor is responsible for obtaining pole owner permission for attachments. These costs shall be paid for under the lump sum item "Maintain Existing and Temporary Lighting-As Per Plan". When no longer needed the temporary lighting installation shall be totally removed and properly disposed of by the contractor.