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## **GENERAL INFORMATION**

#### **Definition of Customer**

"*Customer*" in these guidelines refers to the entity in contract with Nashville Electric Service (NES) for lighting services. Portions of the requirements for lighting may be completed by others, but the responsibility to meet all requirements and pay all debts rests solely with the *Customer*.

#### **Definition of Street Lighting**

*"Street Lighting"* in these guidelines applies to unmetered lighting services as defined in the NES Outdoor Lighting Rate – Schedule LS, Part A for *Street Lighting* accounts of government Customers.

#### **Definition of Outdoor Lighting**

*"Outdoor Lighting"* in these guidelines applies to unmetered lighting services as defined in the NES Outdoor Lighting Rate – Schedule LS, Part B for *Outdoor Lighting* for individual Customers.

#### Nashville Electric Service Guidelines

The **NES Electric Service Policies and Procedures** is the governing document approved by the NES Electric Power Board. Any discrepancies between policies therein and this, or any other NES guidelines, shall be resolved in favor of the **Policies and Procedures**. This document may be obtained by contacting an NES representative.

Refer to the **NES Electric Service Guidelines** for information regarding:

- Metered Lighting Service
- Temporary Service
- Residential Developments
- Individual Residences
- Commercial and Industrial Services

These and other NES guidelines can be obtained by contacting NES Engineering, Customer Relations, or Meter Departments. Guidelines may also be accessed at <a href="https://www.nespower.com/builders-and-developers/">https://www.nespower.com/builders-and-developers/</a>

## **GENERAL INFORMATION**

#### <u>Standards</u>

The following Lighting Standards have been developed for use by Customers to assist with the installation of lighting on the NES system.

All designs and requests for lighting must be submitted to and approved by the Lighting section of the NES Energy Services Engineering department prior to any construction.

Requests for NES inspections will be denied until appropriate documentation of the lighting system is submitted, approved, and finalized by the NES Lighting section.

Read and become familiar with these Standards before beginning a project. Follow these Standards as well as any other project specific documentation.

Locations of lights must be in accordance with requirements of the local Authority Having Jurisdiction.

Lighting conduit locations shown on NES distribution plans are not considered final lighting locations. It is the Customer's responsibility to determine the final light locations and coordinate those locations with the NES Lighting section. In order to receive an inspection, NES Operations crews must have a drawing and work order from the NES Lighting section of the NES Energy Services Engineering department.

# FAILURE TO COMPLY WITH ANY OF THE STANDARDS OR PROCESSES OUTLINED OR INFERRED BY THESE GUIDELINES, OR BY WRITTEN OR VERBAL COMMUNICATION WITH NES SHALL BE CONSTITUTED AS GROUNDS FOR DENIAL OF SERVICE.

#### **Contact Information**

To contact the NES Lighting section for clarification of these guidelines or other general lighting inquiries:

- Email <u>StreetLighting@nespower.com</u>
- Mail to NES Street Lighting, 1214 Church St, Room 200, Nashville, TN 37246

## LIGHTING INSTALLATION PROCESS

#### Step by Step Process



- 1. Determine the Lighting Account Type (go to page 4)
- 2. Initiate a Lighting Work Request
  - a. Street Lighting Contact the Customer (see page 5)
  - b. Outdoor Lighting Call to place an order (see page 6)
- 3. Select Light Fixture (go to page 7)
- 4. Select Pole (go to page 9)
- 5. Submit Lighting Documentation and Design (go to page 10)
  - a. Signed Contract or Letter with light quantity and type
  - b. Drawing of light location(s)
- 6. Obtain an NES Drawing and Work Order (go to page 11)
- 7. Install Lighting
  - a. Contact NES Operations for inspections (see page 12)
  - b. Contact NES Operations for power connection (see page 13)

# LIGHTING

#### Determine the Lighting Account Type

Refer to the definitions of Street Lighting and Outdoor Lighting in the General Information section of these Guidelines (page 1).

Street Lighting is typically installed as required by a City government over public right-of-way. The location, quantity, and type of Street Lighting is determined by the City requiring lighting.

Outdoor Lighting is typically installed to illuminate areas not required by a City to have lighting both within and outside the public right-of-way. The location, quantity, and type of Outdoor Lighting is determined by the communities or agencies which they serve as allowed by the Authority Having Jurisdiction.

Contact NES Lighting for further clarification of new lighting account types and determining existing lighting account types. Refer to Contact Information (page 2).

Once the lighting account type has been determined, proceed to Step 2 of the Installation Process.

## **STREET LIGHTING**



#### Initiate a Work Request

#### **Street Lighting – Contact the Customer**

To install, remove, or modify the Street Lighting of an existing Customer, contact the Customer and request that a letter be sent to NES authorizing work.

The list below has contact information for municipalities and government departments within the NES service area.

| Municipality /<br>Department                | Contact Person   | Phone Number / Email           |
|---|------------------|--------------------------------|
| Nashville Dept. of<br>Transportation (NDOT) | None             | NDOTStreetLights@Nashville.gov |
| Metro Traffic<br>Commission                 | Mike Hirtzer     | (615) 880 - 3261               |
| City of Belle Meade                         | Larry Smith      | (615) 297 - 6041               |
| City of Berry Hill                          | Joe Baker        | (615) 292 - 5531               |
| City of Brentwood                           | Todd Hoppenstedt | (615) 371 - 0080               |
| City of Forest Hills                        | Mark Hill        | (615) 372 - 8677               |
| City of Gallatin                            | Nick Tuttle      | (615) 451 - 5965               |
| City of Goodlettsville                      | Jeff McCormick   | (615) 859 - 2740               |
| City of Hendersonville                      | Sarah Lock       | (615) 590 - 4640               |
| City of Lavergne                            | Garlon Russell   | (615) 793 - 9891               |
| City of Millersville                        | Jerry Schrader   | (615) 859 - 0880               |
| City of Mt. Juliet                          | Andy Barlow      | (615) 773 - 7957               |
| City of Oak Hill                            | Jeff Clawson     | (615) 371 - 8291               |
| City of Ridgetop                            | Sam Rider        | (615) 859 - 0596               |

Once a letter has been sent, proceed to Step 3 of the Installation Process.\*

\* Relocations of overhead electrical facilities by NES require a Work Request to be placed with NES Energy Services by calling (615) 747-3775.

# **OUTDOOR LIGHTING**



#### Initiate a Work Request

#### **Outdoor Lighting – Call to Place an Order**

To install, remove, or modify Outdoor Lighting for new or existing accounts call NES Customer Service at (615) 736-6900 to place a Private Lighting Work Request.

Each new Private Lighting Work Request will incur a non-refundable fee of \$125 per light and \$175 per pole up to a maximum of \$600.

Visit <u>https://www.nespower.com/programs-and-services/security-lighting/</u> for a listing of available outdoor light types and rates.

Once an order has been placed, proceed to Step 3 of the Installation Process.



# **NES-Approved Light Fixture Selection**

The following fixtures must be used for lighting systems which are to be maintained by NES.

For specification and manufacturer contact information, see NES-Approved Light Fixture Details (page 24). NES-Approved Light Fixtures are subject to change, coordinate with NES Lighting for the most current light specifications.

#### **Decorative Post Top Fixtures**

(See page 24 for Fixture Details)

| Hadco Refractive              | Hadco Architectural             | Hadco Independence  |
|-------------------------------|---------------------------------|---------------------|
| Holophane Washington –<br>LED | Holophane Prismasphere –<br>LED | USAL Viper –<br>LED |
| Holophane Granville –<br>LED  |                                 |                     |

# STEP 3

# **NES-Approved Light Fixture Selection**

#### **Roadway Fixtures**

(See page 31 for Fixture Details)

|                       | C                           |  |
|-----------------------|-----------------------------|--|
| AEL ATB0/ATB2 – LED   | Holophane Mongoose –<br>LED | Holophane Mongoose –<br>LED with Uplight Skirt |
|                       |                             |  |
| Holophane Esplanade – | Holophane Esplanade –       | Holophane Wall Pack –                          |
| LED                   | LED with Uplight            | LED  |

Once an approved fixture has been selected, proceed to Step 4 of the Installation Process.



# **NES-Approved Light Pole Selection**

The following poles must be used for lighting systems which are to be maintained by NES.

For specification and manufacturer contact information, see NES-Approved Light Pole Details (page 38).

## **Residential Poles**

Hadco P1566

Holophane Burlington

Hapco Abingdon

Hapco Grand

Hapco Davit

## **Urban Streetscape Poles**

Valmont Core (Teardrop) Assembly

Hadco Traditional Assembly

USA Lighting Contemporary (Gulch) Assembly

Hadco Alternative Traditional (Church Street) Assembly

Valmont Perimeter (West End) Assembly

Valmont Perimeter (Alternate Teardrop) Assembly

Once an approved pole has been selected, proceed to Step 5 of the Installation Process.

# LIGHTING



#### **Documentation and Design**

The following documentation must be submitted prior to the installation of lighting:

- Signed Lighting Contract (Outdoor Lighting) or Modification Letter (Street Lighting)
  - Once a Private Lighting Work Request has been placed, NES will generate a Contract for the Customer to sign.
- Scaled engineering drawing showing all components of the lighting system

The following design criteria must be met for all lighting systems:

| Criteria          | NES Specification   |
|-------------------|---|
| Codes             | Lighting systems must comply with all applicable codes adopted by the<br>Authority Having Jurisdiction including, but not limited to, the National Electric<br>Code (NEC) and the National Electrical Safety Code (NESC)  |
| Conductor<br>Size | Conductors shall be sized to handle the rated ampacity of the lighting served,<br>and such that voltage drop does not exceed 5% from the point of service to<br>the farthest point of utilization   |
| Clearances        | <ul> <li>In addition to applicable codes clearances NES lighting systems shall maintain:</li> <li>10' clear to all fire hydrants or other grounded objects</li> <li>6' clear to all portions of NES underground vault, manhole, and handhole entrances</li> <li>3' clear from non-accessible sides of all above ground NES equipment pads if bonded per NESC Rule 384</li> <li>6' clear from accessible sides of all above ground NES equipment pads</li> <li>DO NOT INSTALL ANY ITEM DIRECTLY IN FRONT OF ANY NES ABOVE GROUND EQUIPMENT</li> <li>1' clear horizontally and vertically from all other utilities</li> </ul> |
| Landscaping       | Landscaping materials shall not cover or come in contact with NES equipment   |
| Locations         | Light locations shall be in accordance with the requirements of the Authority<br>Having Jurisdiction. Private Customers must obtain written approval from the<br>Authority Having Jurisdiction to place lighting over public streets or within the<br>right-of-way<br>Lighting shall be a maximum of fifteen feet (15') from the street right-of-way<br>and accessible by NES trucks on paved surfaces<br>The Customer shall coordinate placement of lighting with other trades.  |

The Customer shall ensure proper clearance from NES equipment to allow access for inspection, maintenance, and replacement. Any object not conforming to these requirements shall be promptly removed or modified to comply upon notification from NES. Failure to comply with clearance requirements after notification shall grant NES the right to remove any such object at the owner's expense without incurring any liability.

Once proper documentation has been submitted and the design is approved, proceed to Step 6 of the Installation Process.



#### **NES Drawing and Work Order**

NES Engineering, Lighting section will generate an official lighting inspection and power connection drawing and a Work Order for NES Operations crews.

Once the NES Lighting Drawing is complete and Work Order number is created, proceed to Step 7 of the Installation Process.

## LIGHTING



#### **Inspection and Power Connection**

#### \*DO NOT BEGIN WORK ON NES LIGHTING BEFORE COMPLETING STEPS 1-6.\*

It is the Customer's responsibility to contact NES and schedule all required inspections. NES must inspect any lighting system that will be maintained by NES. If the Customer fails to have NES inspect the construction phase of the lighting system, the Customer will be required to take any necessary action to facilitate the inspections listed on the following page.

#### NES requests a minimum of three business days advance notice for all inspections.

| NES<br>Center | Contact Info                  | Zip Codes Served  |
|---------------|-------------------------------|---|
| Donelson      | DonelsonLighting@nespower.com | 37013, 37027, 37076, 37086, 37122, 37135,<br>37167, 37204, 37210, 37211, 37214, 37217,<br>37220               |
| North         | NorthLighting@nespower.com    | 37066, 37072, 37073, 37075, 37080, 37115,<br>37138, 37189, 37206, 37207, 37208, 37213,<br>37216, 37228        |
| West          | WestLighting@nespower.com     | 37015, 37062, 37064, 37069, 37082, 37143,<br>37201, 37203, 37205, 37209, 37212, 37215,<br>37218, 37219, 37221 |
| С&М           | DowntownLighting@nespower.com | Downtown Network  |
| Central       | CentralLighting@nespower.com  | Interstate Lighting   |

The Codes department of the Authority Having Jurisdiction inspects any receptacles mounted on NES light poles. An Electrical Codes release may be required prior to energizing any receptacles. Refer to the installation details section (page 14) for construction requirements in order to satisfy the inspections. The following inspections shall be performed by NES Operations:

| Inspection                          | Requirements  |
|-------------------------------------|---|
| Conduit<br>and<br>Pull-box          | <ul> <li>Conduit and pull-boxes shall be inspected prior to backfilling ditch</li> <li>All work shall be performed according to the applicable NES construction details and drawings</li> <li>Excavate ditch and/or pull-box hole to proper depth <ul> <li>Contact NES Operations for inspection and obtain approval</li> </ul> </li> <li>Install ground wire, first layer of gravel, conduit, and/or pull-box as directed by NES Operations <ul> <li>Contact NES Operations for inspection and obtain approval</li> </ul> </li> <li>Install warning tape and backfill</li> </ul> |
| Footing                             | <ul> <li>Footing shall be inspected prior to pouring concrete</li> <li>All work shall be performed according to the applicable NES construction details and drawings</li> <li>Construct footing according to appropriate NES detail, including grounding <ul> <li>Contact NES Operations for inspection and obtain approval</li> </ul> </li> <li>Pour Concrete</li> </ul>   |
| Conductor,<br>Light,<br>and<br>Pole | <ul> <li>Conductors, lights, and poles shall be inspected prior to power connection</li> <li>All work shall be performed according to the applicable NES construction details and drawings</li> <li>Install conductors, lights, and poles</li> <li>Contact NES Operations for power connection</li> </ul>   |

All lighting associated with an NES Drawing and Work Order shall be complete prior to power connection. Partially complete lighting installations shall not be energized.

- Lighting Equipment Maintained by NES
- Lighting Equipment Not Maintained by NES
- Figure 1: Trench Requirements Lighting
- Figure 2: Underground Lighting Service from Pad-mounted Transformer
- Figure 3: Underground Lighting Service from Riser
- Figure 4: Street Lighting Pull-Box Installation Detail
- Figure 5: General Footing Detail NES Poles, Height Greater than Fourteen Feet (14')
- Figure 6: Footing Detail for Subdivisions NES Poles, Height of Fourteen Feet (14') or Less
- Figure 7: Street Lighting and Traffic Signal Manhole Connections

#### Lighting Equipment Maintained by NES

The following materials must be used for lighting systems which are to be maintained by NES.

| Material                                 | NES Specification   |
|--|---|
| Underground Conduit                      | 2" Schedule 40 PVC  |
| Conduit Elbow at Miscellaneous Locations | 2" Schedule 40 PVC with 24" Radius  |
| Conduit Elbow at Riser Poles             | 2" Schedule 80 PVC with 24" Radius  |
| Exposed Conduit at Utility Riser Pole    | 2" Rigid Galvanized Steel<br>from End of Schedule 80 PVC Radius and<br>Continuing up First 10' of Pole<br>Above Finished Grade<br>(Figure 3 on p.19)                              |
| Decorative Luminaires                    | See Approved Light Fixture List (p.7-8)   |
| Decorative Poles                         | See Approved Light Pole List (p.9)  |
| Lamps                                    | Wattages and Type as specified in Approved<br>Light Fixture List  |
| Conductor                                | NEMA Listed THHN/THWN<br>Copper, 600V, 90°C<br>#4,#6, or #12 AWG as required to maintain<br>Voltage Drop of less than 5%<br>(#12 allowed only in Residential Subdivisions)        |
| Conductor Color Code                     | Lighting Phase – Black, Spare Phase – Red,<br>Receptacle Phase – Blue (Obtain Customer<br>approval for Receptacle Installation), Full Size<br>Neutral – White, and Ground – Green |
| Bare Copper Ground in Trench             | Minimum #6 Copper, Soft Drawn, Bare   |
| Wire Connectors                          | 600V Rated Compression Type   |
| Pole Base Fuses and Fuse Blocks          | Furnished by NES, Installed by Customer   |
| Pull-Boxes                               | See Figure 4 on page 20   |
| Standard Photocells                      | DTL DP124, Sun-Tech PX124, Ripley 6390 with ANIS Standard 1.5fc turn-on   |
| Long-life Photocell (for use with LED)   | DTL DLL127, Sun-Tech ELL124   |
| Warning Tape                             | Furnished by NES, Installed by Customer   |

#### Lighting Equipment Maintained by NES (Continued)

Lighting maintained by NES shall be subject to Inspection by NES Operations.

Lighting maintained by NES shall be billed at the appropriate rate.

Outdoor lighting rates can be found at: <u>https://www.nespower.com/programs-and-services/security-lighting/</u>

#### Lighting Equipment Not Maintained by NES

Lighting equipment not maintained by NES must be connected to a metered service.

Refer to the NES Electric Service Guidelines for all metered service requirements.

These and other NES guidelines can be obtained by contacting NES Customer Engineering, Customer Service, or Meter Departments. Guidelines may also be accessed at <u>https://www.nespower.com/builders-and-developers/</u>

Contact NES Customer Service (615) 736-6900 to apply for service.

## **Trench Requirements – Lighting**

- 1. All trenches shall meet OSHA standards.
- 2. Trench depths and widths given are the minimum working requirements.
- 3. All excavated and other materials shall be placed at least two feet from the edge of the trench.
- 4. All selected backfill shall be free of stones, rock, or other material which might damage the conduit system. Selected backfill shall contain no solid material larger than two inches in diameter. If native soils are not suitable, #67 crushed gravel shall be substituted three inches above and three inches below the conduit.
- 5. A minimum of 12" vertical and horizontal clearance is required between NES conduit and other utilities, unless the said utility has a greater clearance requirement (for example, Harpeth Valley Utility District requires five feet). Conduits for lighting maintained by NES are considered another utility and shall be separated from other NES conduits.
- 6. Conduit crossing under drainage ditches or small creeks shall have four inches of concrete encasement. The length of the encasement shall be determined in the field by NES.
- 7. All backfill under paved areas shall be #67 crushed gravel.
- 8. Schedule trench/conduit inspection with NES Operations a minimum of three business days prior to the desired time of inspection. Do not backfill trench prior to inspection by NES Operations.
- 9. If the lighting conduits are installed at the same time, and in the same trench as the primary/secondary conduits for NES electrical distribution conduits, it is the Customer's responsibility to contact NES Operations for inspection of the 2" conduits shown on the distribution plan or lighting plan.
- 10. Conduit to be laid so that the imprint is visible from grade.
- 11. Customer must ensure complete conduit integrity throughout all lighting system before any lights will be energized. Damaged conduit must be repaired or replaced.
- 12. Operations will not inspect work without an NES lighting drawing and work order.
- 13. Ground Installation Option: Ground wire may be installed in conduit for poles less than 20' in height.

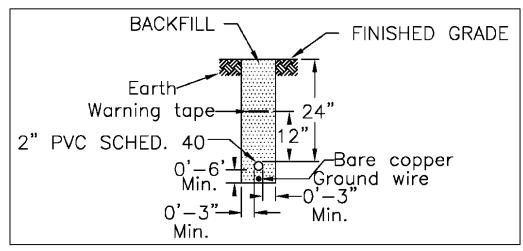
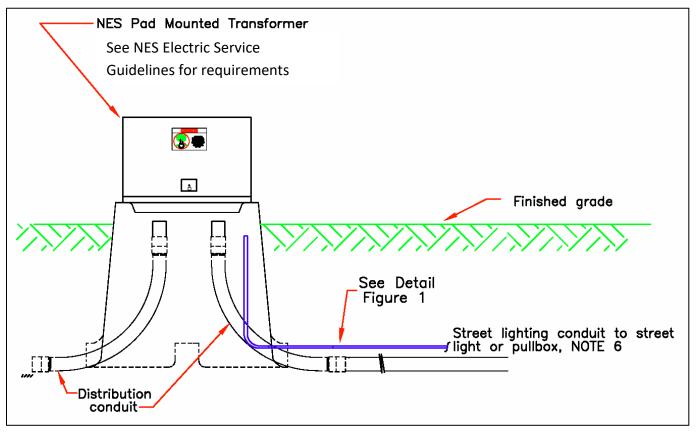


FIGURE 1

# **Underground Service from Pad-mounted Transformer**

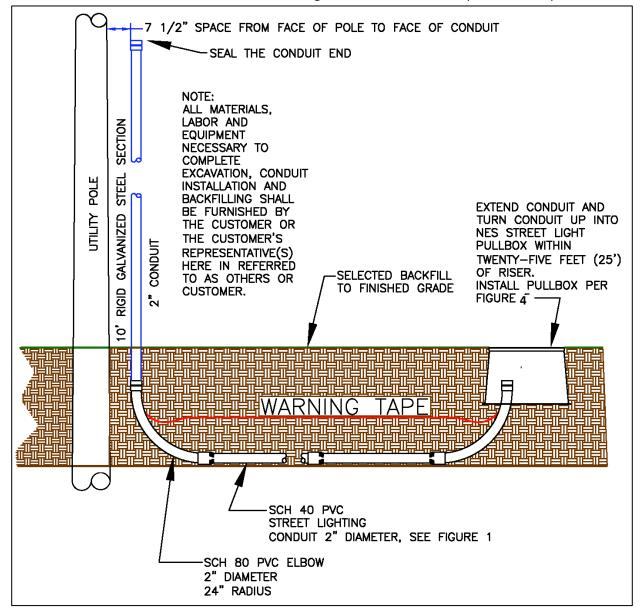
- 1. NES requires an NES inspection approving the lighting system installation before energizing the fixtures.
- 2. Customer shall be responsible for all excavation and backfill.
- 3. Customer shall install the lighting conduit and wire from the secondary compartment of the transformer to the light fixture.
- 4. The Customer is responsible for coordinating the installation of the conduit and wire into the padmounted transformer with NES Operations.
- 5. Customer shall furnish and install all wire into the pad-mounted transformer under the supervision of NES Operations.
- 6. Conduit shall be installed to light pole base or pull-box according to NES lighting drawing or NES Operations.
- 7. Enclosed circuit breakers should not be installed for lighting systems which are to be maintained by NES.
- 8. Transformers serving public lighting shall be in the public right-of-way.





#### **Underground Lighting Service from Riser**

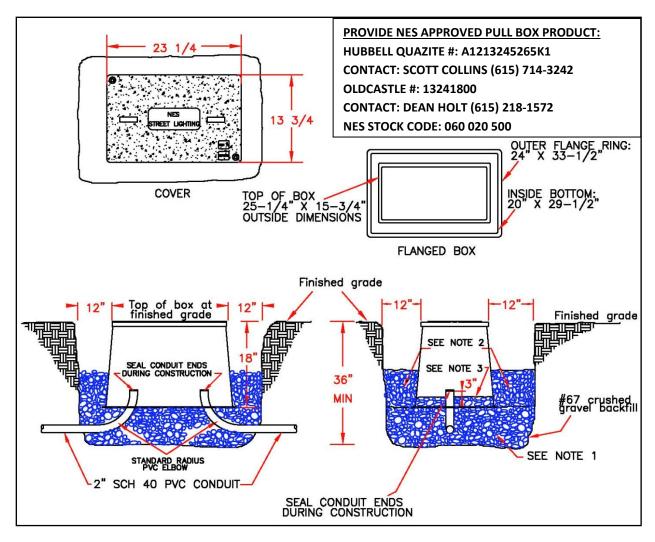
- 1. Two inch (2") conduit and 24 inch (24") radius shall be used for elbows.
- 2. Conduit must be laid so the imprint is visible.
- 3. The Customer is responsible for soil stabilization during and after construction. The Customer is also responsible for the disposal of soils from excavation.
- 4. NES to furnish and install stand-off brackets.
- 5. An NES Street Lighting pull-box is required within 25' of utility pole base.
- 6. Refer to NES Pole Attachment and Conduit Usage Guidelines for conduit placement requirements.



**FIGURE 3** 

## **Street Lighting Pull-box Installation Detail**

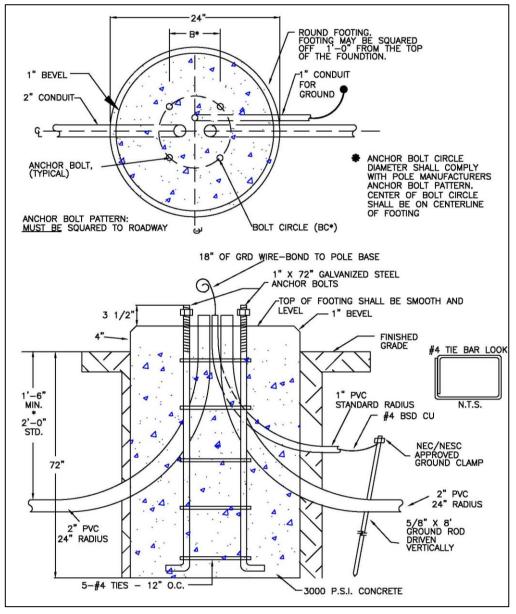
- 1. Excavate and backfill with minimum eighteen inch (18") thick layer of #67 crushed gravel.
- 2. Install box and backfill to within twelve inches (12") of finished grade with #67 crushed gravel.
- 3. Backfill inside box within three inches (3") of the top of the conduit with #67 crushed gravel.
- 4. The top of the pull-box must be flush with finished grade.
- 5. Pull-box to be furnished and installed by customer.
- 6. Schedule inspection of pull-box installation with NES Operations a minimum of three business days prior to inspection.
- 7. NES reserves the right to require a larger pull-box. If larger pull-box is required, NES will issue specifications and installation requirements for the larger pull-box.
- 8. Pull-boxes are required to be installed at the midpoint of any circuit run that exceeds 200 feet.
- 9. Pull-boxes are not to be installed in the path of vehicular travel.



**FIGURE 4** 

#### General Footing Detail – NES Poles, Height Greater than Fourteen Feet (14')

- 1. Concrete to be Class 'A', 3000 P.S.I. compressive strength in 28 days.
- 2. All conduits to be capped.
- 3. Protect anchor bolts from damage before and after concrete pour. NES will require damaged anchor bolts to be replaced.
- 4. Schedule footing inspection with NES Operations a minimum of three business days prior to the desired time of inspection. Do not pour concrete without inspection and approval by NES Operations.
- 5. This detail is for use with NES-approved lighting poles taller than fourteen feet (14') found in these guidelines.



**FIGURE 5** 

#### Footing Detail for Subdivisions – NES Poles, Height of Fourteen Feet (14') or Less

- 1. Concrete to be Class 'A', 3000 P.S.I. compressive strength in 28 days.
- 2. All conduits to be capped.
- 3. Protect anchor bolts from damage before and after concrete pour. NES will require damaged anchor bolts to be replaced.
- 4. Schedule footing inspection with NES Operations a minimum of three business days prior to the desired time of inspection. Do not pour concrete without inspection and approval by NES Operations.
- 5. This detail is for use with twelve feet (12') tall NES-approved decorative poles found in these guidelines.

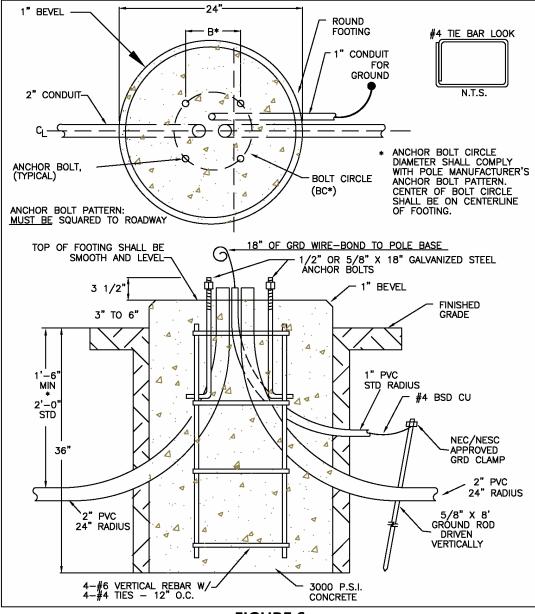
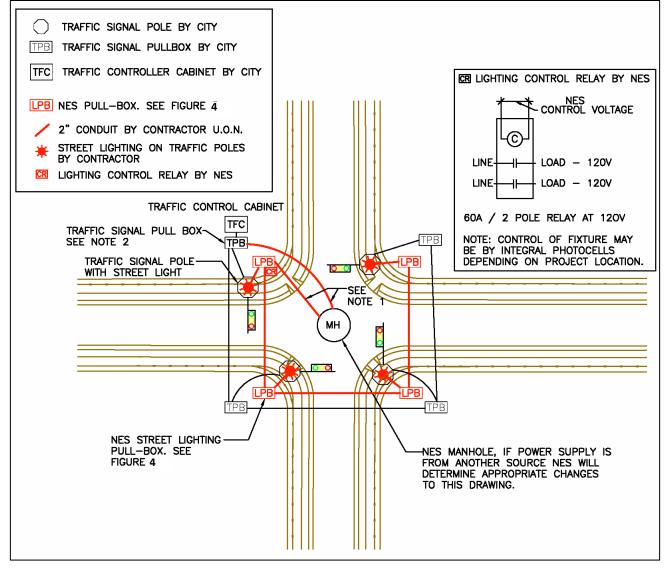


FIGURE 6

#### **Street Lighting and Traffic Manhole Connections**

- Contractor shall furnish and install conduit to within eighteen inches (18") of wall of manhole. Contractor shall trench and backfill to face of manhole under supervision of NES. NES to core manhole (if necessary) and install two inch (2") conduit from manhole to Contractor's conduit. Contractor to connect conduits. NES will furnish and install conductors from manhole to first pullbox. Contractor is responsible for repaying/repairing road as required by Public Works.
- 2. All down-stream conduit and wiring requirements for traffic signal work past this pull-box are to be determined by Public Works.
- 3. NES to determine 120 volt power source connection and lighting control method.
- 4. Pole set-back to be three feet (3') from face of curb and five feet (5') from radius.



**FIGURE 7** 

# **NES-Approved Light Fixture Details**

**Decorative Post Top Fixtures** 

Hadco Refractive (R34)

NES Stock Code: 303 294 700



| Manufacturer:                     | Philips Hadco   |
|-----------------------------------|---|
| Catalog #:                        | S7912-AK3HRG150S-Multi-tap  |
| Lamp:                             | 150W High Pressure Sodium with Mogul Base   |
| Control:                          | Integral Twist-lock Photocell   |
| Pole:                             | NES Approved Residential 12' Decorative Poles   |
| Photometric File:                 | R34-15S3VCN.IES   |
| Manufacturer's<br>Representative: | Shad Asebrook, Sesco Lighting, (615) 830-1655   |
| Website:                          | https://www.signify.com/en-us/products/outdoor-luminaires/road-and-<br>urban-lighting/urban/posttop/refractive-post-top-r34#downloads |

Hadco Architectural (V600)

NES Stock Code: 303 303 500



| Manufacturer:                     | Philips Hadco   |
|-----------------------------------|---|
| Catalog #:                        | S7466D-A-B3-R-G-150S-Multi-tap<br>TWP 150S TB L/LP  |
| Lamp:                             | 150W High Pressure Sodium with Mogul Base   |
| Control:                          | Integral Twist-lock Photocell   |
| Pole:                             | NES Approved Residential 12' Decorative Poles   |
| Photometric File:                 | V600-15S3VB3.IES  |
| Manufacturer's<br>Representative: | Shad Asebrook, Sesco Lighting, (615) 830-1655   |
| Website:                          | https://www.signify.com/en-us/products/outdoor-luminaires/road-and-<br>urban-lighting/urban/posttop/architectural-post-top-v600 |

Hadco Independence (V151)

# NES Stock Code: 303 295 000



| Manufacturer:                     | Philips Hadco  |
|-----------------------------------|--|
| Catalog #:                        | S7466A-AB3RG-150S-Multi-tap  |
| Lamp:                             | 150W High Pressure Sodium with Mogul Base  |
| Control:                          | Integral Twist-lock Photocell  |
| Pole:                             | NES Approved Residential 12' Decorative Poles  |
| Photometric File:                 | V151-15SVB3.IES  |
| Manufacturer's<br>Representative: | Shad Asebrook, Sesco Lighting, (615) 830-1655  |
| Website:                          | https://www.signify.com/en-us/products/outdoor-luminaires/road-and-<br>urban-lighting/urban/posttop/independence-post-top-v151 |

# Holophane Washington LED

# NES Stock Codes: 303 447 100 (10,000 L) and 303 447 170 (17,000 L)



| Manufacturer:                     | Holophane   |
|-----------------------------------|---|
| Catalog #:                        | WAE3 P40 27K MVOLT EN GL3 BK SBR TBK PR7<br>WAE3 P70 27K MVOLT EN GL3 BK SBR TBK PR7                                    |
| Light:                            | 10,000 Lumen LED<br>17,000 Lumen LED  |
| Control:                          | Integral Twist-lock Long-Life Photocell or<br>External Relay System with Shorting Cap                                   |
| Pole:                             | Hadco Traditional Pole or Metro Traffic Pole  |
| Twin Arm:                         | Hadco PTH2520-P4-A  |
| Photometric File:                 | WAE3 P40 27K XXXX GL3 BBR.ies   |
| Manufacturer's<br>Representative: | Sean Clare, Holophane Lighting, (615) 885-2831  |
| Website:                          | https://holophane.acuitybrands.com/products/detail/1129640/holopha<br>ne/wae3/washington-postlite-ledglass-led-post-top |

Holophane Prismasphere LED

NES Stock Code: 303 442 090 (9,000 L)



| Manufacturer:                     | Holophane  |
|-----------------------------------|--|
| Catalog #:                        | RFUE3 P30 30K MVOLT MS BK GL5 PR7  |
| Light:                            | 9,000 Lumen LED  |
| Control:                          | Integral Twist-lock Long-Life Photocell or<br>External Relay System with Shorting Cap                            |
| Pole:                             | Hadco Alternative Traditional (Church Street) Pole or<br>Metro Traffic Pole                                      |
| Photometric File:                 | RFUE3 P30 30K XXXX GL5.ies   |
| Manufacturer's<br>Representative: | Sean Clare, Holophane Lighting, (615) 885-2831   |
| Website:                          | https://holophane.acuitybrands.com/products/detail/1313882/holopha<br>ne/rfue3-post-top/riverfrontr-led-post-top |

Decorative Post Top Fixtures US Architectural Lighting Viper-R LED NES Stock Code: 303 441 550 (5,000 L)



| Manufacturer:                     | US Architectural Lighting   |
|-----------------------------------|---|
| Catalog #:                        | VPR1-R-VLED-II-48LED-350-WW-MT120/TPR7/RAL7004-S                                      |
| Light:                            | 5,000 Lumen LED   |
| Control:                          | Integral Twist-lock Long-Life Photocell or<br>External Relay System with Shorting Cap |
| Pole:                             | USA Lighting Contemporary (Gulch) Pole or Metro Traffic Pole                          |
| Photometric File:                 | Request from Manufacturer   |
| Manufacturer's<br>Representative: | Sharon Bishop, DesignLight, (615) 329-6700  |
| Website:                          | https://www.usaltg.com/products/asr/VPR-R.html?zoom_highlight=vpr                     |

# Holophane Granville LED

# NES Stock Code: 303 443 100 (10,000 L)



| Manufacturer:                     | Holophane  |
|-----------------------------------|--|
| Catalog #:                        | GVD3 P40 27K MVOLT MS GL3 BK RB ST TBK PR7   |
| Light:                            | 10,000 Lumen LED   |
| Control:                          | Integral Twist-lock Long-Life Photocell or<br>External Relay System with Shorting Cap                      |
| Pole:                             | Hadco Traditional Pole or<br>NES Approved Residential 12' Decorative Poles                                 |
| Photometric File:                 | GVD3 P40 27K XXXX GL3 RB.ies   |
| Manufacturer's<br>Representative: | Sean Clare, Holophane Lighting, (615) 885-2831   |
| Website:                          | https://www.acuitybrands.com/products/detail/1312776/holophane/gv<br>d3-gpd3/granville-led-post-top-acorns |

# AEL ATBO/ATB2 LED

NES Stock Codes: 303 446 050 (5,000 L) 303 446 100 (10,000 L) 303 446 200 (20,000 L) 303 446 350 (35,000 L)



| Manufacturer:     | American Electric Lighting   |
|-------------------|--|
| Catalog #:        | ATB0 P201 MVOLT R2 RFD335380<br>ATB0 P301 MVOLT R3 RFD335381<br>ATB0 P305 MVOLT R3 RFD335382<br>ATB2 P604 MVOLT R3 RFD335383 |
| Light:            | 5,000 Lumen LED<br>10,000 Lumen LED<br>20,000 Lumen LED<br>35,000 Lumen LED  |
| Control:          | Integral Twist-lock Long-Life Photocell or<br>External Relay System with Shorting Cap  |
| Pole Options:     | NES Utility Pole<br>Davit Pole<br>Aluminum Pole with Truss Arm (Contact NES)   |
| Photometric File: | Contact NES Lighting   |
| Installation:     | Coordinate with NES Lighting   |
| Website:          | https://www.acuitybrands.com/products/detail/122046/american-<br>electric-lighting/autobahn-atb0/autobahn-led-cobra-head     |

# Holophane Mongoose LED

# NES Stock Code: 303 445 300 (30,000 L)



| Manufacturer:                     | Holophane   |
|-----------------------------------|---|
| Catalog #:                        | MGLEDM P6 30K MVOLT WG VH GRSD PR7 SPCLNL RFD336280   |
| Light:                            | 30,000 Lumen LED  |
| Control:                          | Integral Twist-lock Long-Life Photocell or<br>External Relay System with Shorting Cap   |
| Pole:                             | NES Utility Pole or Interstate Lighting Pole  |
| Photometric File:                 | MGLEDM_P6_30K_XXXXX_WG.IES  |
| Manufacturer's<br>Representative: | Sean Clare, Holophane Lighting, (615) 885-2831  |
| Website:                          | https://holophane.acuitybrands.com/products/detail/939319/holophane<br>/mongoose-led-medium/medium-led-roadway-and-area-light |

Holophane Mongoose LED with Uplight Skirt

NES Stock Code: 303 445 140 (14,000 L)



| Manufacturer:                     | Holophane   |
|-----------------------------------|---|
| Catalog #:                        | MGLEDM P1 30K MVOLT WG VH BKSD PR7 US SPCLNL RFD336279  |
| Light:                            | 14,000 Lumen LED  |
| Control:                          | Integral Twist-lock Long-Life Photocell or<br>External Relay System with Shorting Cap   |
| Pole:                             | Valmont Perimeter (West End) Pole   |
| Photometric File:                 | MGLEDM P1 30K XXXXX WG US.ies   |
| Manufacturer's<br>Representative: | Sean Clare, Holophane Lighting, (615) 885-2831  |
| Website:                          | https://holophane.acuitybrands.com/products/detail/1312852/holophan<br>e/mgledm-roadway/mongooser-medium-led-roadway-and-area-light |

# Holophane Esplanade LED

# NES Stock Codes: 303 448 100 (10,000 L) and 303 448 200 (20,000 L)





Add "DS" to Catalog # Confirm City and NES Approval before Specifying

| Manufacturer:                     | Holophane   |
|-----------------------------------|---|
| Catalog #:                        | ESL3 P20S 27K MOVLT TG3 NPT BK PR7<br>ESL3 P45S 27K MVOLT TG3 NPT BK PR7  |
| Light:                            | 10,000 Lumen LED<br>20,000 Lumen LED  |
| Control:                          | Integral Twist-lock Long-Life Photocell or<br>External Relay System with Shorting Cap   |
| Pole Options:                     | <ol> <li>1) Valmont Core (Teardrop) Pole</li> <li>2) Valmont Perimeter (Alternate Teardrop) Pole</li> <li>3) NES Utility Pole</li> </ol>  |
| Arm & Fitter<br>Options:          | <ol> <li>Holophane OUC45/1-CA-BKH (or OUC90/2-CA-BKH) &amp;<br/>BALF-200-S-CA-BK</li> <li>Valmont DB0074B – Vanderbilt – Type B Arm &amp;<br/>Holophane WLLF-200-S-CA-BK Fitter</li> <li>Holophane VGC96/1-CA/BK-WP &amp; BALF-200-S-CA-BK</li> </ol> |
| Photometric File:                 | ESL3 P20S 27K XXXXX TG3.IES<br>ESL3 P45S 27K XXXXX TG3.IES  |
| Manufacturer's<br>Representative: | Sean Clare, Holophane Lighting, (615) 885-2831  |
| Website:                          | https://holophane.acuitybrands.com/products/detail/1689769/holopha<br>ne/esl3-pendant/esplanader-tear-drop-large-roadway-led-pendant  |

## **Roadway Fixtures**

Holophane Esplanade LED with Uplight

# NES Stock Code: 303 448 130 (13,000 L)



| Manufacturer:                     | Holophane   |
|-----------------------------------|---|
| Catalog #:                        | ESL3 P20U 27K MOVLT TG3 NPT BK PR7  |
| Light:                            | 13,000 Lumen LED  |
| Control:                          | Integral Twist-lock Long-Life Photocell or<br>External Relay System with Shorting Cap   |
| Pole:                             | Valmont Core (Teardrop) Pole  |
| Arm & Fitter:                     | Holophane OUC45/1-CA-BKH (or OUC90/2-CA-BKH) & BALF-200-S-CA-BK   |
| Photometric File:                 | ESL3 P20U 27K XXXXX TG3.IES   |
| Manufacturer's<br>Representative: | Sean Clare, Holophane Lighting, (615) 885-2831  |
| Website:                          | https://holophane.acuitybrands.com/products/detail/1689769/holopha<br>ne/esl3-pendant/esplanader-tear-drop-large-oadway-led-pendant |

**Roadway Fixtures** 

Holophane Wall Pack

NES Stock Code: 303 449 070 (7,000 L)



| Manufacturer:                     | Holophane   |
|-----------------------------------|---|
| Catalog #:                        | W4GLED 20C1000 30K T3M MVOLT SPD GYSDP PR7 SPCLNL RFD336281   |
| Light:                            | 7,000 Lumen LED   |
| Control:                          | Integral Twist-lock Long-Life Photocell or<br>External Relay System with Shorting Cap                                       |
| Mounting:                         | Bridge or Tunnel - Coordinate Mounting with NES   |
| Photometric File:                 | W4GLED_20C1000_30K_T3M.IES  |
| Manufacturer's<br>Representative: | Sean Clare, Holophane Lighting, (615) 885-2831  |
| Website:                          | https://www.acuitybrands.com/products/detail/1313564/holophane/w4<br>gled-w4pled/wallpackr-led-for-wall-and-canopy-lighting |

**Roadway Fixtures** 

Holophane High Mast

NES Stock Code: 303 441 650 (65,000 L)



| Manufacturer:                     | Holophane  |
|-----------------------------------|--|
| Catalog #:                        | HMLED4 P3 30K MVOLT HGR AW PR7 SPCLNL RFD336647  |
| Light:                            | 65,000 Lumen LED   |
| Control:                          | External Relay System with Shorting Cap  |
| Pole:                             | High Mast – Coordinate Pole Selection with NES   |
| Photometric File:                 | HMLED4_P3_30K_XXXXX_AW.IES   |
| Manufacturer's<br>Representative: | Sean Clare, Holophane Lighting, (615) 885-2831   |
| Website:                          | https://www.acuitybrands.com/products/detail/1312787/holophane/h<br>mled4-high-mast/hmaot-led-ivhigh-mast-lighting |

## **NES-Approved Light Pole Details**

**Residential Poles** 

#### Hadco P1566

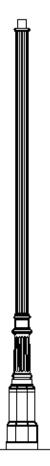
NES Stock Code: 306 925 000



| Manufacturer:                     | Hadco   |
|-----------------------------------|---|
| Catalog #:                        | P1566-12A   |
| Dimensions:                       | 12' Height x 3" Diameter x 3" Tenon   |
| Style:                            | Fluted Aluminum Shaft, Decorative Base, Black   |
| Luminaires:                       | NES Approved Decorative Post Top Fixtures   |
| Footing:                          | 3' Depth x 24" Diameter (See Figure 6 on p.22)  |
| Manufacturer's<br>Representative: | Shad Asebrook, Sesco Lighting, (615) 830-1655   |
| Website:                          | https://www.signify.com/en-us/products/outdoor-luminaires/poles-<br>brackets/urban-poles/p1500-series-poles-p1511-p1516-p1521-p1526-<br>p1561-p1566 |

Holophane Burlington

NES Stock Code: 306 910 500



| Manufacturer:                     | Holophane  |
|-----------------------------------|--|
| Catalog #:                        | BLA 12 F4C 11S C03 BK LAB  |
| Dimensions:                       | 12' Height x 4" Diameter x 3" Tenon  |
| Style:                            | Fluted Aluminum Shaft, Decorative Base, Black  |
| Luminaires:                       | NES Approved Decorative Post Top Fixtures  |
| Footing:                          | 3' Depth x 24" Diameter, (See Figure 6 on p.22)  |
| Manufacturer's<br>Representative: | Sean Clare, Holophane Lighting, (615) 885-2831   |
| Website:                          | https://www.acuitybrands.com/products/detail/830773/holophane/bla-<br>pole/burlington-decorative-cast-aluminum-poles |

Hapco Abingdon

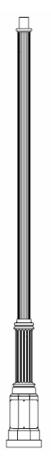
NES Stock Code: 306 910 500



| Manufacturer:                     | Нарсо   |
|-----------------------------------|---|
| Catalog #:                        | B74735-004-P1                                   |
| Dimensions:                       | 12' Height x 4" Diameter x 3" Tenon             |
| Style:                            | Fluted Aluminum Shaft, Decorative Base, Black   |
| Luminaires:                       | NES Approved Decorative Post Top Fixtures       |
| Footing:                          | 3' Depth x 24" Diameter, (See Figure 6 on p.22) |
| Manufacturer's<br>Representative: | Jason Bittaker, Yoder Sales, (423) 510-0164     |
| Website:                          | http://hapcodecorative.com/product/s-abingdon/  |

Hapco Grand

NES Stock Code: 306 910 000



| Manufacturer:                     | Нарсо   |
|-----------------------------------|---|
| Catalog #:                        | B75863-004-P1                                   |
| Dimensions:                       | 12' Height x 4" Diameter x 3" Tenon             |
| Style:                            | Fluted Aluminum Shaft, Decorative Base, Black   |
| Luminaires:                       | NES Approved Decorative Post Top Fixtures       |
| Footing:                          | 3' Depth x 24" Diameter, (See Figure 6 on p.22) |
| Manufacturer's<br>Representative: | Jason Bittaker, Yoder Sales, (423) 510-0164     |
| Website:                          | http://hapcodecorative.com/product/s-grand/     |

Hapco Davit

## NES Stock Code: 307 010 000



| Manufacturer:                     | Нарсо  |
|-----------------------------------|--|
| Catalog #:                        | 41-230524  |
| Dimensions:                       | 33' Height   |
| Style:                            | Round Tapered Aluminum, Single Arm   |
| Luminaires:                       | NES Approved Roadway Fixtures  |
| Footing:                          | 6' Depth x 24" Diameter, (See Figure 5 on p.21)                                  |
| Manufacturer's<br>Representative: | Jason Bittaker, Yoder Sales, (423) 510-0164                                      |
| Website:                          | https://www.hapco.com/rta-aluminum-poles-davit/rta-single-davit-4-<br>bolt-base/ |

### Valmont Core (Teardrop) Assembly

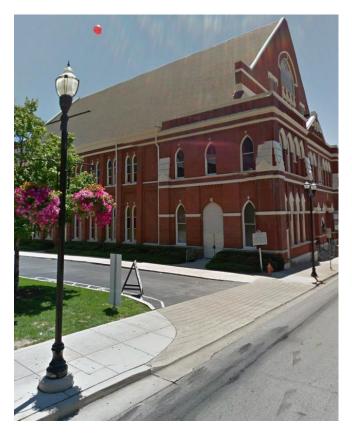
NES Stock Codes: 307 790 100 (Pole), 304 510 100 (Arm), 301 669 000 (Fitter), 304 510 200 (Double Arm), 307 100 100 (Base Cover)



| Sub-District:   | CORE   |
|-----------------|--|
| Manufacturer:   | Valmont  |
| Catalog #:      | DB00794D – Nashville – Type A  |
| Dimensions:     | 23' Height   |
| Style:          | Round Tapered Fluted Steel, Renaissance Base, Black  |
| Luminaires:     | Holophane Esplanade with Arm and Fitter  |
| Footing:        | 6' Depth x 24" Diameter, (See Figure 5 on p.21)  |
| Representative: | Mike Wright, Factory Sales Agency, (615) 242-5050  |
| Website:        | https://www.valmontstructures.com/products-solutions/product-<br>catalog/poles-and-posts/aluminum-posts/rta-renaissance-post |

Hadco Traditional Assembly

#### NES Stock Code: 306 993 000



| Sub-District:                     | TRADITIONAL   |
|-----------------------------------|---|
| Manufacturer:                     | Philips Hadco   |
| Catalog #:                        | SP5442V   |
| Dimensions:                       | 16' Height  |
| Style:                            | Fluted Steel Shaft, Decorative Base, Black  |
| Luminaires:                       | Holophane Washington  |
| Footing:                          | 6' Depth x 24" Diameter, (See Figure 5 on p.21)   |
| Manufacturer's<br>Representative: | Shad Asebrook, Sesco Lighting, (615) 830-1655   |
| Website:                          | https://www.signify.com/en-us/products/outdoor-luminaires/poles-<br>brackets/urban-poles/p2000-series-poles-p2025-p2060-p2061-p2063-<br>p2065-p2071 |

# USA Lighting Contemporary (Gulch) Assembly

### NES Stock Code: 306 940 000



| Sub-District:                     | CONTEMPORARY  |
|-----------------------------------|---|
| Manufacturer:                     | U.S. Architectural Lighting   |
| Catalog #:                        | RNTA-165-125-PT27-CC-GFI-PROV-CPLN2-BEB-RBC-RAL-7004  |
| Dimensions:                       | 16' Height  |
| Style:                            | Round Non-tapered Aluminum, Round Base, Grey  |
| Luminaires:                       | U.S. Architectural Lighting Viper - R   |
| Footing:                          | 6' Depth x 24" Diameter, (See Figure 5 on p.21)   |
| Manufacturer's<br>Representative: | Sharon Bishop, DesignLight, (615) 329-6700<br>(Confirm NES catalog # with manufacturer's representative prior to<br>ordering) |
| Website:                          | http://www.usaltg.com/Downloads/PDF/RNTA5.pdf   |

## Hadco Alternative Traditional (Church Street) Assembly

#### NES Stock Code: 306 921 000



| Sub-District:                     | TRADITIONAL, ALTERNATIVE  |
|-----------------------------------|---|
| Manufacturer:                     | Philips Hadco   |
| Catalog #:                        | CP0528-12A-GFI  |
| Dimensions:                       | 12' Height  |
| Style:                            | Decorative, Black   |
| Luminaires:                       | Holophane Prismasphere  |
| Footing:                          | 3' Depth x 24" Diameter, (See Figure 6 on p.22)   |
| Manufacturer's<br>Representative: | Shad Asebrook, Sesco Lighting, (615) 830-1655   |
| Website:                          | https://www.signify.com/api/assets/v1/file/content/698b0890bab343cb<br>88aca90b012cc738/had_454.pdf |

## Valmont Perimeter (West End) Assembly

NES Stock Code: 307 590 500 (Pole) and 300 382 500 (Base)



| Sub-District:   | PERIMETER  |
|-----------------|--|
| Manufacturer:   | Valmont  |
| Catalog #:      | LH95177  |
| Dimensions:     | 30' Height   |
| Style:          | Round Tapered, Transformer Base, Black   |
| Luminaires:     | Holophane Mongoose   |
| Footing:        | 6' Depth x 24" Diameter, (See Figure 5 on p.21)  |
| Representative: | Mike Wright, Factory Sales Agency, (615) 242-5050  |
| Website:        | https://www.valmontstructures.com/products-solutions/product-<br>catalog/us/poles-and-posts/aluminum/rta-4-bolt-anchor-base-pole-28-<br>33 |

### Valmont Perimeter (Alternate Teardrop) Assembly

NES Stock Codes: 307 790 100 (Pole), 304 950 100 (Arm), 301 669 500 (Fitter)



| Sub-District:   | PERIMETER   |
|-----------------|---|
| Manufacturer:   | Valmont   |
| Catalog #:      | FL210-750A230-P9-BK-HH  |
| Dimensions:     | 23' Height  |
| Style:          | Round Tapered Fluted Steel, Black   |
| Luminaires:     | Holophane Esplanade with Arm and Fitter   |
| Footing:        | 6' Depth x 24" Diameter, (See Figure 5 on p.21)   |
| Representative: | Mike Wright, Factory Sales Agency, (615) 242-5050   |
| Website:        | https://www.valmontstructures.com/products-solutions/product-<br>catalog/us/poles-and-posts/aluminum/rtfa-fluted-anchor-base-pole |

#### LIGHT MAINTENANCE

NES Maintains Lighting which meets the following criteria:

- Lighting installed using NES approved materials
- Lighting installed according to NES requirements
- Lighting inspected and approved by NES Operations
- Lighting in developments that are complete
- Lighting in locations accepted by the City
- Lighting with normal fixture or pole component failure
  - Includes ballast, photocell, lamp, starter, and capacitor
  - Costs associated with repairing fixtures damaged by abnormal means (e.g. construction, vehicular accident, lawn equipment, animal urine, shotgun) shall be borne by the responsible party
- Lighting located no more than fifteen feet (15') from the road right-of-way and accessible by NES trucks on paved surfaces
- Lighting installed on an NES utility pole

Provide the following information when requesting Light Maintenance:

- Location of the problem including an address
- Type of Problem (e.g. Light Out, Light Always On, etc.)
- Pole number (8 digit yellow & black tag), if available
- Your name and contact information

To request NES Light Maintenance:

- Visit <u>https://www.nespower.com/forms/report-a-streetlight-issue/</u>
- Email <u>CustServ@nespower.com</u>
- Call (615) 736-6900
- Mail to NES Street Lighting, 1214 Church St, Room 200, Nashville, TN 37246

NES does not provide maintenance for the following:

- Concrete Footings for Lighting Poles
- Conduit for Lighting
- Receptacles mounted on Lighting Poles
- Vegetation (e.g. trees, shrubs, algae) or vandalism on or around Lighting

# **NES Lighting Guidelines**

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| Edited By:   | Brad McKelvey  |
|--------------|--|
|              | Senior Engineer, Planning and Reliability Engineering – Standards    |
| Reviewed By: | Josh Jones   |
|              | Principal Associate Engineer, Energy Services Engineering – Lighting |
| Reviewed By: | Joey Streisel  |
|              | Supervisor, Energy Services Engineering – Lighting                   |
| Approved By: | Malal William Date: Find 232023                                      |
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|              | Supervisor, Planning and Reliability Engineering – Standards         |
| Approved By: | Date: <u>74 27 202</u> 3   |
|              | Leonard Leech  |
|              | Manager, Planning and Reliability Engineering                        |

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