

**FOR INFORMATIONAL PURPOSES ONLY-NOT TO BE USED FOR BIDDING**

**Department of Public Works Nassau County, N.Y.**

**Bid Sheet for Contract: H61126-01G**

Nassau County DPW

Page 46 of 314

H61126-01G

Item No	Engineers Estimate	Item Description			
1M	1.00 LS	Mobilization	For:		
2	220.00 CY	Unclassified Excavation	For:		
3	34.00 CY	Trench, Culvert and Bridge Excavation	For:		
4A	90.00 SY	Cement Concrete Breaking (Pavement)	For:		
4B	6.00 CY	Cement Concrete Breaking (Structures)	For:		
5C	75.00 CY	Selected Fill	For:		
5D	20.00 CY	Selected Granular Fill	For:		
9	75.00 CY	Topsoil	For:		
10A	355.00 SF	Temporary Sheet piling and Bracing	For:		
12A-4-15	5.00 LF	Reinforced Concrete Pipe Class IV, 15 Inch Diameter	For:		
12H	150.00 LF	Cleaning Existing Drainage System	For:		
13A-2	7.00 CY	Catch Basins Type 2	For:		
14	1.00 EACH	Connections to Existing Drainage Facilities	For:		
16A	1.00 EACH	Altering Brick Manholes (Corbel Top with Frame Head)	For:		
16X	4.00 EACH	Altering Brick Manholes	For:		

**Department of Public Works Nassau County, N.Y.**

**Bid Sheet for Contract: H61126-01G**

Nassau County DPW

Page 47 of 314

H61126-01G

Item No	Engineers Estimate	Item Description			
24V	22.00 CY	Concrete Valley Gutter	For:		
26	200.00 LF	Concrete Curb - Type A	For:		
26CG	2,550.00 LF	Monolithic Concrete Curb and Gutter	For:		
27	10,620.00 SF	Cement Concrete Sidewalk	For:		
27CI	3,150.00 SF	Colored & Imprinted Concrete Sidewalk	For:		
27DW	225.00 SF	Detectable Warning Surface	For:		
28	1,750.00 SF	Cement Concrete Driveways and Driveway Aprons	For:		
29	3,650.00 SF	Driveway Restoration	For:		
30	580.00 SY	Metal Reinforcement for Concrete Pavement	For:		
34	2,710.00 LB	Miscellaneous Metals	For:		
36C	300.00 TON	Asphalt Concrete Truing and Leveling Type 1A	For:		
36CX	25.00 TON	Asphalt Concrete Truing and Leveling Course TYPE 1A (For Cracks in Asphalt Pavement)	For:		
36DRAR	605.00 TON	Rut Avoidance Asphalt Concrete Type 1A (Top RA Resurfacing)	For:		
58A	700.00 LF	Saw Cutting Existing Non-Roadway Asphalt	For:		
58RPC	250.00 LF	Saw Cutting Existing Roadway Pavement and Concrete	For:		

**Department of Public Works Nassau County, N.Y.**

**Bid Sheet for Contract: H61126-01G**

Nassau County DPW

Page 46 of 314

H61126-01G

Item No	Engineers Estimate	Item Description			
102	1.00 LS	Work Zone Traffic Control	For:		
102D	265.00 DAY	Flashing Arrow Board	For:		
102PVMS	265.00 DAY	Portable Variable Message Sign	For:		
104XF	60.00 LF	REMOVE EXISTING FENCE	For:		
105SFS-6	60.00 LF	6' Stockade Fence	For:		
110	5.00 CF	Masonry Pipe Plugs	For:		
111	1,090.00 SY	Removal and Replacement of Pavements	For:		
114	25.00 EACH	Adjustment of Water Valve Box Elevation	For:		
116A	7,200.00 SY	Profiling and Removal of Asphalt Pavement	For:		
127	2.00 EACH	Relocating Existing Hydrant	For:		
132	3.00 EACH	Plowable Raised Reflectorized Pavement Markers	For:		
133X	1.00 LS	Clean and Fill Joints and Cracks	For:		
136S	10.00 DAY	Survey Stakeout (Per Day)	For:		
137	2,100.00 LF	Removal of Pavement Markers	For:		
141B	3.00 EACH	Silt Protection For Surface Inlet Drainage Structures	For:		
141C	5.00 EACH	Silt Protection For Curb Inlet Drainage	For:		

**Department of Public Works Nassau County, N.Y.**

**Bid Sheet for Contract: H61126-01G**

Nassau County DPW

Page 51 of 314

H61126-01G

Item No	Engineers Estimate	Item Description			
		Structures			
199	1.00 LS	Interim Payments (Force)	For:	\$60,000.00	
199A	1.00 LS	Asphalt Price Adjustment (Force)	For:	\$4,110.00	
361A	1.00 EA	Deciduous Major Tree	For:		
362	1.00 CY	Triple Shredded Mulch	For:		
365	4,360.00 SF	Sodding	For:		
372C	4.00 EACH	Tree Removal - C - (12" - <24" Caliper)	For:		
374C	4.00 EACH	Stump Grinding -C- (12" - <24" Diameter)	For:		
401SS	23.00 EA	Decorative Street Light Poles & Luminaires	For:		
450	13.00 EACH	Furnish and Install Post Mounted Sign	For:		
450SS	35.00 EA	Relocating Signs	For:		
504	70.00 SF	Resetting Brick, Block, or Flagstone Pavement	For:		
510A	6.00 EA	Trash Receptacles	For:		
680.5100 0010	1.00 EACH	Alter Elevation of Pull Boxes	For:		
685.0720 0110	3,850.00 LF	White Epoxy Reflectorized Pavement Stripes - 20 mils (Wet Night Visibility Spheres)	For:		

Department of Public Works Nassau County, N.Y.

Bid Sheet for Contract: H61126-01G

Nassau County DPW

Page 53 of 314

Item No	Engineers Estimate	Item Description			
685.0720 0310	8.00 EACH	White Epoxy Reflectorized Pavement Symbols - 20 mils (Wet Night Visibility Spheres)	For:		
685.0720 0510	2,725.00 LF	White Epoxy Reflectorized Pavement Stripes (Special Markings) - 20 mils (Wet Night Visibility Spheres)	For:		
685.0720 0610	3,600.00 LF	Yellow Epoxy Reflectorized Pavement Stripes - 20 mils (Wet Night Visibility Spheres)	For:		
DSL-E-3R	400.00 LF	Cable in Riser Assembly on Wood Poles	For:		
DSL-E-3U	2,300.00 LF	Underground Cable	For:		
DSL-E- 4CG	1,470.00 LF	Galvanized Continuous Conduit Between Structures (1-1/2" Dia.)	For:		
DSL-E- 4RP	400.00 LF	PVC CONDUIT FOR RISER ON WOOD POLES	For:		
DSL-E-6F	19.00 EA	Street Lighting Pullbox (Fiberglass)	For:		
E-5FM	1.00 EA	FURNISH & INSTALL MODIFIED FLUSH CONCRETE FOUNDATION	For:		

H61126-01G

# BELLMORE AVENUE STREETSCAPE

(From the vicinity of Merrick Road to Sunrise Highway)

## LIST OF SPECIAL SPECIFICATIONS:

Item No.	Description	Unit
16X	Altering Brick Manholes	EA
27CI	Colored & Imprinted Concrete Sidewalk	SF
36CX	Asphalt Concrete Truing and Leveling Course Type 1A	TON
133X	Clean & Fill Joints & Cracks	LS
136S	Survey Stakeout (DAY)	DAY
401SS	Decorative Street Light Poles & Luminaires	EA
450SS	Relocating Signs	EA
504	Resetting Brick, Block, or Stone Walkways or Curb	SF
510A	Trash Receptacles	EA
680.51000010	Alter Elevation of Pull Boxes	EA
685.07200110	White Epoxy Reflectorized Pavement Stripes - 20 mils (Wet Night Visibility Spheres)	LF
685.07200310	White Epoxy Reflectorized Pavement Symbols - 20 Mils (Wet Night Visibility Spheres)	EA
685.07200510	White Epoxy Reflectorized Pavement Stripes (Special Markings) - 20 mils (Wet Night Visibility Spheres)	LF
685.07200610	Yellow Epoxy Reflectorized Pavement Stripes - 20 mils (Wet Night Visibility Spheres)	LF
DSL-E-3R	Cable in Riser Assembly on Wood Poles	LF
DSL-E-3U	Underground Cable	LF
DSL-E-4CG	Galvanized Continuous Conduit Between Structures (1-1/2" Dia.)	LF
DSL-E-4RP	PCV Conduit for Riser on Wood Poles	LF
DSL-E-6F	Street Lighting Pullbox (Fiberglass)	EA
E-5FM	Modified Street Lighting Pole Foundation	EA

### **ITEM 16X – ALTERING BRICK MANHOLES**

All the provisions of Item 16A and 16B of the Nassau County Department of Public Works (NCDPW) 2009 Standard Specifications and as amended shall apply with the following modifications:

#### **1. Description**

- a.** A 7'×7' square area shall be saw cut full depth in the existing pavement around each manhole casting that is to be adjusted, thus allowing approximately two-feet (2') of space for the use of a plate tamper on the new base asphalt. In the event a transverse or longitudinal joint in the concrete pavement is encountered, a minimum of six-feet (6') of pavement must remain, otherwise the Item 111 limit will be the joint. The cost of this restoration work will be included in the Item bid for Item 111.
- b.** All loose brick and mortar under the casting must be removed and replaced before any new material is used.
- c.** Final adjustment will be made with use of plastic shims and quick set mortar.
- d.** Surface inlets that cannot be adjusted with inserts will be done as indicated above.

## **ITEM 27CI - COLORED AND IMPRINTED CONCRETE SIDEWALK**

The General Specifications for Item 27 shall apply with the following exceptions and modifications:

### **1. Description**

The contractor shall construct Portland Cement concrete sidewalks & utility strips on a prepared subbase, having the surface colored and imprinted with a pattern as indicated on the plans.

### **2. Materials**

Concrete shall conform to all the requirements specified for item 27, except it shall have a minimum 28 day compressive strength of 4000 psi, an air content of 6.5%, and shall contain synthetic fiber reinforcement meeting ASTM C1116 at the rate of 0.1% by volume, minimum. No other admixture will be permitted. The Contractor shall be responsible for designing the concrete mix and submitting it for approval to the Chief Engineer.

Bomanite Color Hardener, Bomacron Release Agent and Bomanite Sealer shall be distributed by Bomanite of New York & Long Island, #22 Bolton Road, East Windsor, New Jersey 08520, (800)972-0668, or approved equal.

LITHOCHROME Colorcaulk shall be as manufactured by L.M. Scofield Company (800)800-9900, or approved equal.

### **3. Construction Details**

The concrete shall be laid in one course 4 inches thick except at intersecting street radii, where it shall be 6 inches thick. Steel fabric reinforcement conforming to the requirements of Item 25F will be required only in those portions of sidewalk where the Engineer orders it to be 6 inches thick.

Bomanite Color Hardener shall be applied evenly to the plastic surface by the dry-shake method at a rate of 60 pounds per 100 square feet, minimum. It shall be applied in two or more shakes, floated after each and towed only after the final floating.

Bomacron Clear, Nonpigmented Release Agent shall be applied evenly to the surface, as required.

While the concrete is still in the plastic stage of set, the Bomanite imprinting tools (or equal) shall be applied to make the desired impression. Impressions shall not be deeper than 3/8".

The surface shall be scored at 5' intervals or as shown on the plan by means of a tool or may be sawcut. The depth of the score shall be one inch. If the sawcut option is used, the sawcut shall be completed within 24 hours after imprinting.



Premoulded resilient joint filler (from the latest NYSDOT Approved Materials List) shall be installed at 20' intervals or AOB and between the sidewalk and curb to within one inch of the top of the slab. The top one inch of the joint shall be caulked with LITHOCHROME Colorcaulk sealant in the matching color.

The surface shall be sealed with two coats of Bomanite Sealer.

The contractor shall show evidence that they have successfully completed similar installations. Prior to the start of work the Contractor shall install a small section of sidewalk (5'x10' or AOB) at a location selected by the engineer. If approved, this section shall remain in place and work shall continue. If unacceptable to the engineer, the contractor shall remove the sample section at his/her expense and install a corrected or improved section for approval.

#### **4. Method of Measurement**

The quantity to be paid for under this item shall be the number of square feet of colored & imprinted cement concrete sidewalk and/or utility strip measured in place, acceptable completed in accordance with the plans and specifications.

#### **5. Basis of Payment**

The unit price bid per square foot for this item shall include the cost of furnishing all labor, material, tools, equipment and incidentals necessary to satisfactorily complete the entire work, including fine grading and all grading including excavation, the removal of existing utility strip, preparing subgrade, steel fabric reinforcement.

All the provisions of item NCDPW Standard 'Item 36C - Asphalt Concrete Truing and Leveling Course Type 1A' shall apply with the following modifications:

- This Item will be utilized to fill all joints and cracks greater than one-inch (1") in the existing pavement, as outlined in Item 133X, Clean and Fill Joints and Cracks.

Payment will be made under:

<b><u>Item No.</u></b>	<b><u>Item</u></b>	<b><u>Pay Unit</u></b>
36CX	Asphalt Concrete Truing and Leveling Course Type 1A	TON

## **ITEM 133X – CLEAN & FILL JOINTS & CRACKS (LUMP SUM)**

All the provisions of item NCDPW Standard ‘Item 133 – Clean & Fill Joints & Cracks’ shall apply with the following modifications:

### **METHOD OF MEASUREMENT and BASIS OF PAYMENT**

Payment will be made at the lump sum price bid for this item.

The lump sum price bid shall include the cost of furnishing all labor, equipment and materials as necessary to complete the work as specified or as ordered by the Engineer. Damaged areas shall be repaired by the Contractor at no additional cost to the County.

Payment will be made under:

<b><u>Item No.</u></b>	<b><u>Item</u></b>	<b><u>Pay Unit</u></b>
133X	Clean & Fill Joints & Cracks (LUMP SUM)	LS

## **ITEM 136S – SURVEY STAKEOUT (DAY)**

All the provisions of item NCDPW Standard ‘Item 136 - Survey Stakeout’ shall apply with the following modifications:

### **METHOD OF MEASUREMENT and BASIS OF PAYMENT**

The quantity to be paid for under this item will be the total number of days survey crews perform work as described in Item 136 Survey Stakeout.

The per day price shall include the cost of furnishing all labor, equipment, instruments and materials and other incidentals necessary to satisfactorily complete the required project including but not limited to surveying, stakeout and retie of control points.

Payment will be made under:

<b><u>Item No.</u></b>	<b><u>Item</u></b>	<b><u>Pay Unit</u></b>
136S	Survey Stakeout (DAY)	DAY

## **ITEM 401SS- FURNISH AND INSTALL DECORATIVE STREET LIGHTING ASSEMBLY**

### **DESCRIPTION:**

This work shall consist of furnishing and installing decorative lamp posts with luminaires, on Portland Cement Concrete Foundations in accordance with the contract plans and specifications and the manufacture's written requirements, and at locations shown in the contract plans or as directed by the Engineer.

### **MATERIALS:**

Decorative lamp post with luminaire shall be a Sentry model SAL-B 12' Aluminum Lighting Post as manufactured by Sentry Electric LLC, phone 1-516-379-4660 / web [www.sentrylighting.com](http://www.sentrylighting.com), or approved equal.

Post:

Model: SAL-B 12' - James Madison Style

Anchor Base: 11-1/2" Bolt Circle

Height: 12'

Finish/Color: TOH Federal Green

Catalog code: **SAL-B-12'**

Luminaire:

SLR-LED Riverside Luminaire

Catalog Code:

**SLR-NB-LEDV29B-0.7A-840-()-KHT3-BPC-120V-FG**

Anchor Bolts: Galvanized steel 1" x 51" x 8"

Ground rod: 5/8" dia copper; 10" long

Foundation reinforcement: #4 steel bars

The foundation shall be cast in place concrete conforming to the requirements of Section 501, Portland Cement Concrete-General, except that the requirements of inspection facilities, automated batching control and recordation do not apply.

### **CONSTRUCTION DETAILS:**

The requirements of applicable sections of Subsection 670-3 of the NYSDOT Standard Specifications shall apply. All electrical work shall be performed by an electrician licensed by Suffolk County Department of Consumer Affairs. Decorative lamp posts with luminaires, foundations and ground rods shall be installed per the manufacturer's instructions, to the satisfaction of the E.I.C as well as the Village of Patchogue Street Lighting Department.

All decorative lamppost installations shall be consistent with the manufacturer's recommendations, and in compliance with the National Electrical Code, all State and local regulations. All work must be coordinated with Town of Hempstead Streetlighting & PSEGLI.

### **METHOD OF MEASUREMENT:**

This work will be measured as each decorative lamp post with luminaire, photocell, foundation & ground rod successfully furnished and installed in accordance with the plans, specifications or as directed by the engineer.

**BASIS OF PAYMENT:**

The unit price bid for this item shall include the cost of all labor, materials and equipment necessary to complete the work, including light pole, fixture, foundation, excavation and restoration, to the satisfaction of the Engineer.

If a Modified Concrete Foundation is required due to the presence of underground utilities, the cost of furnishing & installing the modified foundation shall be paid for separately under Item E-5FM.

# TYPICAL DECORATIVE RIVERSIDE LED POST TOP LUMINAIRE

## SLR-LED Riverside Luminaire

The SLR-LED Riverside luminaire, with prominent finial and decorative bas-relief around its dome, evokes the historical theme of many North American landmark parks and cities while delivering the benefits associated with solid state lighting technology. Most notably, users will realize a reduction in energy consumption, maintenance, downtime, and various costs associated with today's sustainable initiatives.

At the heart of SLR-LED is Sentry's optical system, which works in tandem with the LED light source to provide comfortable, pleasing, diffuse light. Several light distribution choices, system wattages and color temperatures satisfy a multitude of application needs.

The SLR-LED features a high-strength cast aluminum structure and textured polycarbonate globe. Several decorative bases are available for appropriate mating with a variety of ornamental posts. A high gloss Super Durable polyester powder coat paint enhances the aesthetic appearance and provides a long lasting, protective finish.



Ambient Temperature	-40° C minimum to 35° C maximum (Luminaire not to operate at maximum temperature for a period of time longer than 15% of total operating hours.)
CRI	80
Color Temperature	2700K, 3000K, 3500K, 4000K
Rated Life (L70B50) @ 25° C Ambient Temperature	50,000 Hours at 70% lumen maintenance
Surge Protection	Surge current rating of 20 kA using standard 8/20 µSec wave. Protected line-neutral, line-ground, and neutral-ground in accordance with ANSI/IEEE 62.41, Category C3.
Driver Specifications	<ul style="list-style-type: none"> <li>• 120-277V power supply</li> <li>• Compatible with 0-10V lighting control systems</li> <li>• Complies with the requirements of UL and CSA</li> </ul>
Optics	UV stabilized polycarbonate or high impact acrylic textured globe with internal optics.
Mounting	Mounts to a Ø3" by 3" tall tenon. Three (3) 3/8"-16 UNC stainless steel allen head cup point set screws secure luminaire to post top tenon.

**Sentry**  
ELECTRIC

## SLR-LED

Sentry Electric LLC

185 Buffalo Avenue, Freeport, New York 11520

Telephone: 516.379.4660 Fax: 516.378.0624

[www.sentrylighting.com](http://www.sentrylighting.com)

[info@sentrylighting.com](mailto:info@sentrylighting.com)

# TYPICAL DECORATIVE RIVERSIDE LED POST TOP LUMINAIRE

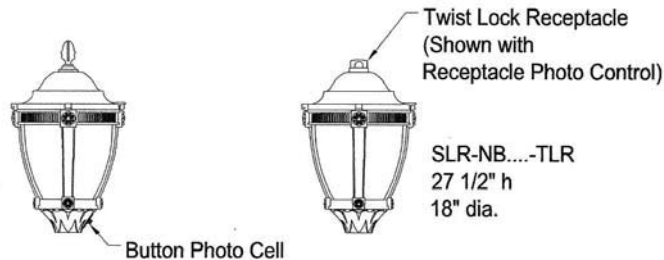
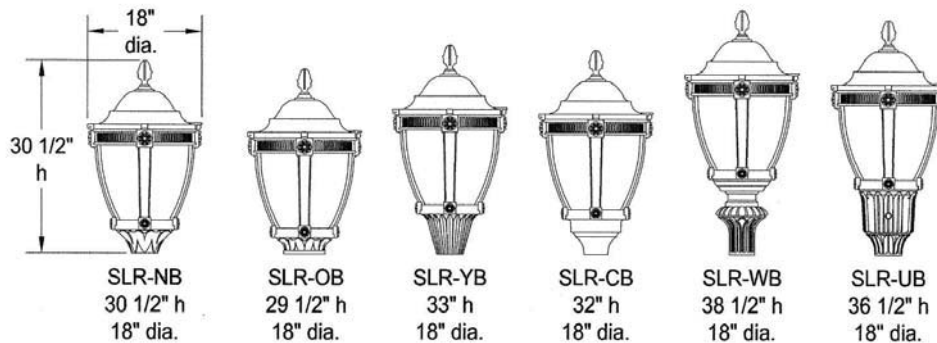
## Ordering Information

Choose the **boldface** catalog references that best suit your needs.

Model Base Light Source Color Temp Globe Material Distribution Options Voltage Finish  
TOH SPEC: SLR - NB - LEDV29B-0.7A - 840 - ( ) - KHT3 - BPC - 120V - FG

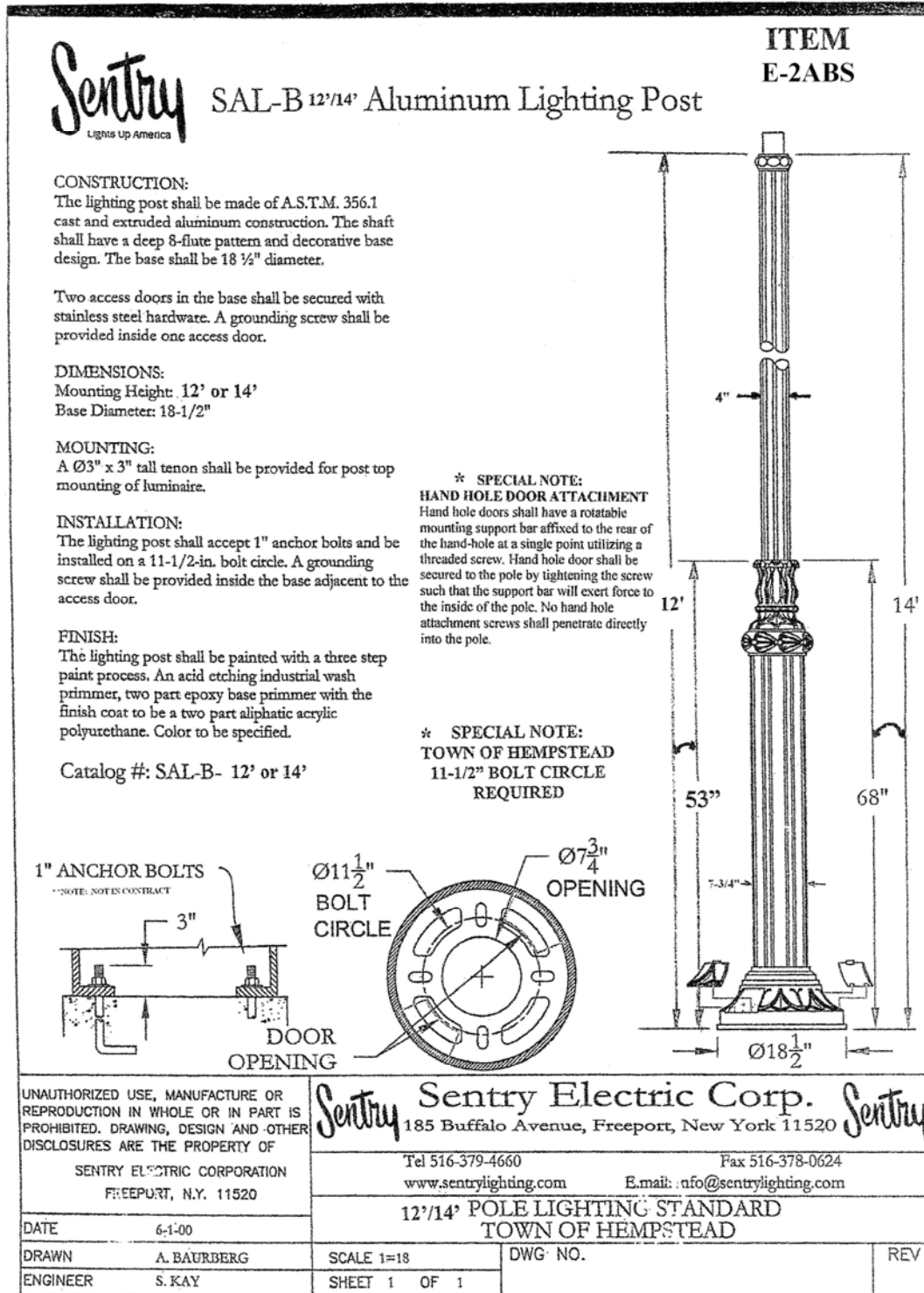
Model	Base	Light Source & Wattage	Globe Material	Distribution	Options	Finish
SLR	NB OB YB CB WB UB	LEDV29B-1.05A 58 watts LEDV29B-0.7A 36 watts LEDV18C-0.7A 26 watts  CRI & Color Temperature 827 80 CRI, 2700K 830 80 CRI, 3000K 835 80 CRI, 3500K 840 80 CRI, 4000K  Consult factory for additional light source and color temperature options.	(blank) Polycarbonate DR High Impact Acrylic	KHT5 Type V KHT5SQ Type V Square KHT4 Type IV KHT3 Type III KHT2 Type II  Consult factory for additional distribution options.	BPC Button Photo Cell TLR Twist Lock Receptacle IP66 IP66 (Consult Factory)  Accessories RPC Receptacle Photo Control  Voltage (blank) 120V thru 277V (Standard) 120V 120V (With BPC Only) 208-277V 208V thru 277V (With BPC Only)	BK Black (Standard) BZ Bronze FG Federal Green  Consult factory for custom finish.

Light Source	System Watts	Color Temp	KHT2 (Type II)		KHT3 (Type III)		KHT4 (Type IV)		KHT5 (Type V)		KHT5SQ (Type VS)	
			Delivered Lumens	Lumens Per Watt	Delivered Lumens	Lumens Per Watt	Delivered Lumens	Lumens Per Watt	Delivered Lumens	Lumens Per Watt	Delivered Lumens	Lumens Per Watt
LEDV29B-1.05A	58	3000	5639	97	5457	94	5512	95	5350	92	5198	90
LEDV29B-0.7A	36	3000	3805	100	3662	96	3720	97	3610	95	3514	92
LEDV18C-0.7A	26	3000	2472	95	2392	92	2417	93	2345	90	2283	88

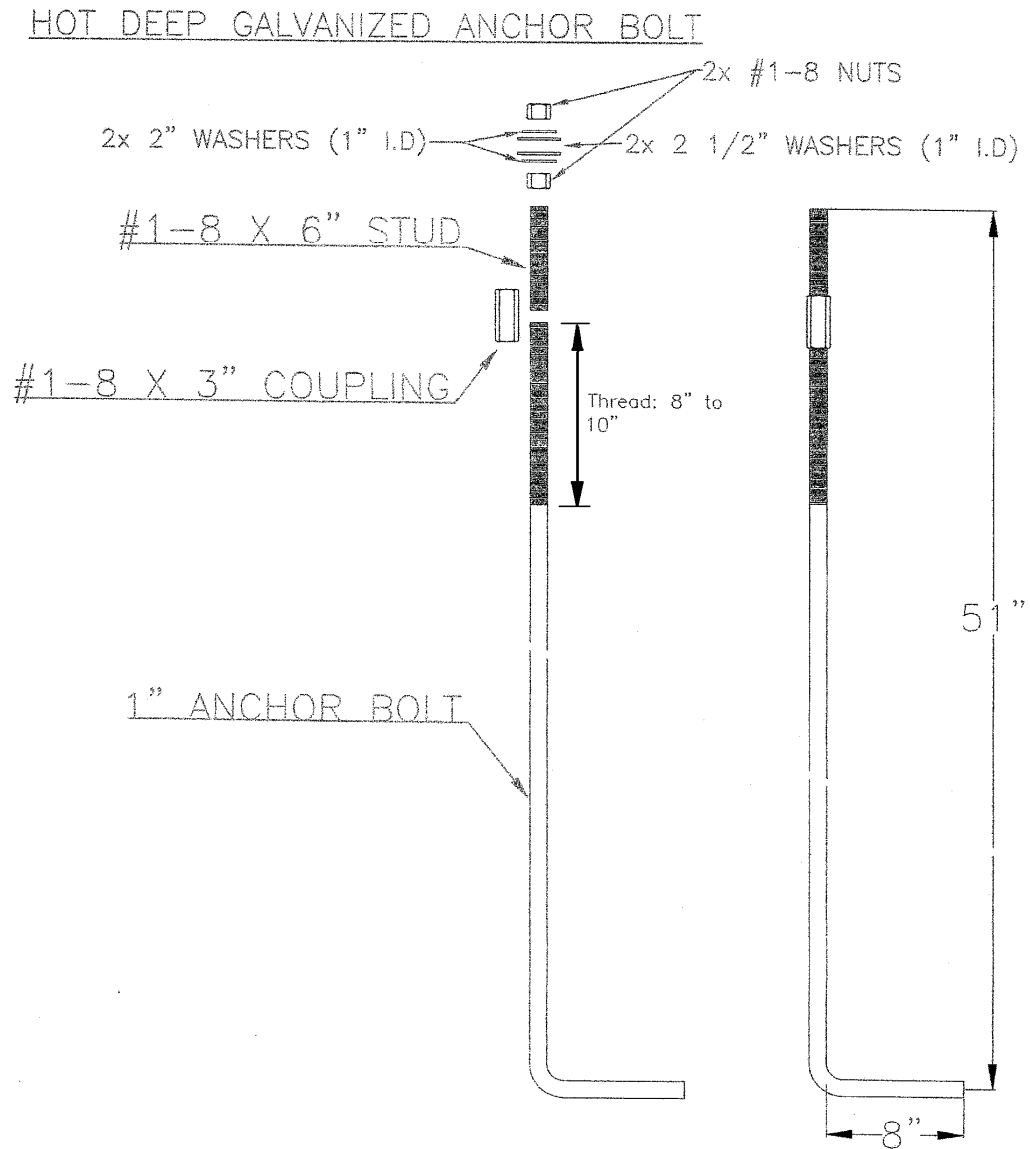




# DECORATIVE ANCHOR BASE POST TOP POLE TYPICAL JAMES MADISON STYLE



# TYPICAL 1" DIAMETER ANCHOR BOLTS FOR CONCRETE FOUNDATIONS



## **ITEM 450SS - RELOCATING SIGNS**

### **A. DESCRIPTION**

This work shall consist of furnishing labor, materials, equipment and appliances necessary to perform and complete all work involved in relocating, in kind, an existing sign in accordance with the plans, specifications and as directed by the Engineer.

### **B. MATERIALS**

The contractor may reuse as many of the original components as possible and as approved by the Engineer. If it becomes necessary to supply new components, they shall be of equal quality to the original components.

Concrete for footings, when required, shall be in accordance with the requirements of NCDPW Specifications Section A, "Portland Cement Concrete, General Specifications" and shall be Class "A" Concrete.

### **C. CONSTRUCTION DETAILS**

The Contractor shall inspect the sign to be relocated to determine the materials, equipment and appliances necessary to effect the relocation. The Contractor shall submit shop drawings for approval, showing all dimensions, details of construction, design criteria and relationship to adjoining work, where same requires cutting and fitting, and other work required for a complete relocation. Use an accredited erection crew experienced in erecting signs.

Protect materials during relocation to preclude any damage. The Contractor shall replace, at his own expense, any components damaged during relocation.

Electrical connections, when required, shall be under the direction of a licensed electrician and in accordance with the current electrical codes.

Existing concrete sign footings shall be cut to a depth of 18 inches below the existing ground and covered with suitable material, or as directed by the Engineer.

Any areas, site elements or services disturbed during the relocation process shall be restored to their original condition.

### **D. METHOD OF MEASUREMENT**

Payment will be made for EACH sign relocated in accordance with these specifications and the orders of the Engineer.

### **E. BASIS OF PAYMENT**

The unit price bid for each relocated sign shall include the cost of all labor, materials, equipment, electrical work, restoration and services necessary to complete the work.

## **ITEM 504 - RESETTING BRICK, BLOCK, OR STONE WALKWAYS OR CURB**

### **Description:**

Under this item the contractor shall carefully remove, store, clean and reset the existing brick, block or stone walkways or curbing.

### **Materials:**

All brick, block or flagstone shall be in a usable condition as determined by the Engineer.

Any additional material or damage caused by the contractor to the existing material shall be replaced with equal material of the same shape, size and color, to the satisfaction of the Engineer. All material shall meet the requirements of the Standard Specifications or as directed by the Engineer.

### **Construction Details:**

All brick, block and stone walkways or curb shall be laid in the same pattern as existed or as directed by the Engineer, and shall be bedded in the same manner as was the existing sidewalk or driveway.

### **Method of Measurement:**

This work will be measured as the number of square feet of brick, block or stone reset. Stone curbing shall be measured by total length x 0.5' width.

### **Basis of Payment:**

The unit price bid shall include the cost of all labor, material and equipment necessary, including any additional material as needed, repair to damaged material, excavation and any bedding materials needed to complete the work. Any additional subbase material needed as shown on the plans to raise the grade of the existing sidewalk or driveway shall be paid for under its appropriate item.

## **ITEM 510A – FURNISH & INSTALL TRASH RECEPTACLES**

### **DESCRIPTION:**

Under this Item, the Contractor shall furnish & install decorative steel trash receptacles as shown on the plans and as directed by the Engineer. The Contractor shall verify the type, quantity, location and method for installing each bench with the Engineer prior to ordering.

### **MATERIALS:**

Litter Receptacle: Metro Collection Trash Can (Model Metro S)  
by STREESCAPES.BIZ™ ([www.streescapes.biz](http://www.streescapes.biz)) or approved equal.

- A. Slats: 1.5" x 3.5" Boulevard wood (Color: Boulevard Ash)
- B. Liner: 30-gallon (115 liter) capacity high density plastic liner (Color: Black)
- C. Lid: Ash Dome Top (Color: Black)
- D. Hardware: Galvanized Steel bolts (3/4" anchor bolt hole)
- E. Installation: Surface mount
- F. Overall Dimensions: 28" Diameter x 36" Height

### **CONSTRUCTION DETAILS:**

The Contractor shall furnish & install trash receptacles at various locations on-site, as shown on the plans and as directed by the Engineer. Units must be fastened to 5" thick concrete with galvanized steel hardware, as shown on the plans and per the manufacturer's instructions. All trash receptacles must be installed level, and attached firmly to the finished surface. Any rocking motion upon completion of installation is unacceptable.

### **METHOD OF MEASUREMENT:**

The quantity to be paid for shall be the number of trash receptacles satisfactorily furnished & installed.

### **BASIS OF PAYMENT:**

The unit price bid per each of this item shall include the costs of furnishing all materials, labor and equipment necessary to satisfactorily complete the work including trash receptacles and hardware for fastening. The cost for concrete shall be paid for under item 27 or 27CI.

## **ITEM 680.51000010 - ALTER ELEVATION OF PULL BOXES**

### **DESCRIPTION:**

Under this item the Contractor shall alter the elevation of existing pull boxes in accordance with this specification, the details included in the contract plans, and the directions of the Engineer.

### **MATERIALS:**

Existing pull box frames and covers shall be reused.

Concrete shall meet the material requirements for Portland Cement Concrete, Class A, as outlined under Section 501 of the Standard Specifications.

### **CONSTRUCTION DETAILS:**

The Contractor shall exercise care in removing and reinstalling pull box frames and covers so as not to damage any part thereof. Any component parts damaged by the Contractor shall be repaired or replaced at the Contractor's expense to the satisfaction of the Engineer.

Pull box walls shall be reconstructed as shown on the contract plans.

### **METHOD OF MEASUREMENT:**

This work will be measured as the number of pull boxes altered in accordance with the plans, specifications, and directions of the Engineer.

### **BASIS OF PAYMENT:**

The unit price bid for this item shall include the cost of all labor, equipment, and materials necessary to complete the work.

12/24/08E

1

10/12/95 REV 12/28/01

## **DESCRIPTION:**

Under this work the contractor shall furnish and apply epoxy reflectorized pavement markings in accordance with these specifications, the Contract Documents, the NYSMUTCD, or as ordered by the Engineer. Items for Special Markings include stop bars and crosswalks.

Yield line symbols are isosceles triangles with height equaling 1.5 times the base dimension:

A small yield line symbol shall have a base dimension of one foot.

A large yield line symbol shall have a base dimension of two feet.

Yield line symbols are to be installed with the Apex of the triangle oriented towards oncoming traffic.

The epoxy marking material shall be hot-applied by spray methods onto bituminous and portland cement concrete pavement surfaces at the thickness and width shown on the Contract Documents. Following a simultaneous application of Standard Glass Beads (Type 2) and Wet/Night Visibility Beads (Type 1), the cured epoxy marking shall be an adherent reflectorized stripe that will provide wet night retro-reflectivity.

## **MATERIALS REQUIREMENTS:**

Epoxy Paint	727-03
Glass Beads for Pavement Markings	727-05

### **Reflective Glass Spheres**

Retro-reflective beads shall be a double drop system of glass spheres consisting of Standard Beads (Type 2) and Wet/Night Visibility Beads (Type 1) as defined in §727-05 Glass Beads for Pavement Markings.

## **EPOXY APPLYING EQUIPMENT**

In general, a mobile applicator shall be a truck mounted, self-contained pavement marking machine, specifically designed to apply epoxy resin materials and reflective glass spheres in continuous line patterns. The applying equipment shall be maneuverable to the extent that straight lines can be followed and normal curves can be made in a true arc. In addition, the truck mounted unit shall be provided with accessories to allow for the marking of cross hatching and other special patterns as directed by the Engineer.

At any time throughout the duration of the project, the Contractor shall provide free access to his epoxy applying equipment for inspection by the Engineer or his authorized representative.

The Engineer may approve the use of a portable applicator in lieu of mobile truck mounted accessories for use in applying special markings only, provided such equipment can demonstrate satisfactory application of reflectorized epoxy markings in accordance with these specifications.

Mobile applying equipment shall be capable of installing up to 19 miles of epoxy reflectorized pavement markings in an eight hour day and shall include the following features:

1. Individual tanks for the storage of Part A and Part B of the epoxy resin.
2. Individual tanks for the storage of Standard (Type 2) and Wet/Night Visibility (Type 1) glass spheres. Each tank shall have a minimum capacity of 3000 lbs.
3. Heating equipment of sufficient capacity to maintain the individual epoxy resin components at the manufacturer's recommended temperature for spray application.
4. Individual dispensers for the simultaneous application of Standard (Type 2) and Wet/Night Visibility (Type 1) glass spheres. Each dispenser shall be capable of applying spheres at a minimum rate of 10 lbs/gal of epoxy resin composition.
5. Metering devices or pressure gauges on the proportioning pumps, positioned to be readily visible to the Engineer.
6. All necessary spray equipment, mixers, compressors, and other appurtenances for the placement of epoxy reflectorized pavement markings in a simultaneous sequence of operations as described in Construction Details, D. Application of Epoxy Reflectorized Pavement Markings.

## **CONSTRUCTION DETAILS**

### **A. General**

All pavement markings shall be placed as shown on the Contract Documents and in accordance with the New York State, Manual of Uniform Traffic Control Devices (MUTCD).

Before any pavement marking work is begun, a schedule of operations shall be submitted for the approval of the Engineer.

At least five (5) days prior to starting striping, the Contractor shall provide the Engineer with the epoxy manufacturer's written instructions for use. These instructions shall include, but not be limited to, material mixing ratios and application temperatures.

When pavement markings are applied under traffic, the Contractor shall provide all necessary flags, markers, signs, etc. in accordance with the MUTCD to maintain and protect traffic, and to protect marking operations and the markings until thoroughly set.

The application of pavement markings shall be done in the general direction of traffic. Striping against the direction of traffic flow shall not be allowed.



The Contractor shall be responsible for removing, to the satisfaction of the Engineer, all tracking marks, spilled epoxy, and epoxy markings applied in unauthorized areas.

When necessary the Contractor shall establish marking line points at 30 foot intervals throughout the length of the pavement or as directed by the Engineer.

## **B. Atmospheric Conditions**

Epoxy pavement markings shall only be applied during conditions of dry weather and on substantially dry pavement surfaces. At the time of installation the pavement surface temperature shall be a minimum of 50°F and the ambient temperature shall be a minimum of 50°F and rising. The Engineer shall be the sole determiner as to when atmospheric conditions and pavement surface conditions are such to produce satisfactory results.

## **C. Surface Preparation**

The Contractor shall clean the pavement and existing durable markings to the satisfaction of the Engineer.

Surface cleaning and preparation work shall be performed only in the area of the epoxy markings application.

At the time of application all pavement surfaces and existing durable markings shall be free of oil, dirt, dust, grease and similar foreign materials. The cost of cleaning these contaminants shall be included in the bid price of this item.

In addition, concrete curing compounds on new portland cement concrete surfaces and existing painted pavement markings on both concrete and bituminous pavement surfaces shall be cleaned and paid for in accordance with §635 Cleaning and Preparation of Pavement Surfaces for Pavement Markings.

## **D. Application of Epoxy Reflectorized Pavement Markings**

Epoxy reflectorized pavement markings shall be placed at the width, thickness, and pattern designated in the Contract Documents.

Marking operations shall not begin until applicable surface preparation work is completed and approved by the Engineer, and the atmospheric conditions are acceptable to the Engineer.

Pavement markings shall be applied by the following simultaneous operation:

1. The pavement surface is air-blasted to remove dirt and residues.
2. The epoxy resin, mixed and heated in accordance with the manufacturer's

recommendations, is uniformly hot-sprayed onto the pavement surface at the minimum specified thickness.

3. Standard (Type 2) and Wet/Night Visibility (Type 1) reflective glass spheres are injected into or dropped onto the liquid epoxy marking. Standard beads (Type 2) shall be applied first immediately followed by the application of Wet/Night Visibility beads (Type 1). Each type shall be applied at a minimum rate of 10 lbs/gal of epoxy resin (minimum total application = 20 lbs/gal).

#### **E. Defective Epoxy Pavement Markings**

Epoxy reflectorized pavement markings, which after application and curing are determined by the Engineer to be defective and not in conformance with this specification, shall be repaired. Repair of defective markings shall be the responsibility of the Contractor and shall be performed to the satisfaction of the Engineer as follows:

1. Insufficient film thickness and line width; insufficient glass bead coverage or inadequate glass bead retention.

Repair Method. Prepare the surface of the defective epoxy marking by grinding or blast cleaning. No other cleaning methods will be allowed. Surface preparation shall be performed to the extent that a substantial amount of the reflective glass spheres are removed and a roughened epoxy marking surface remains.

Immediately after surface preparation remove loose particles and foreign debris by brooming or blasting with compressed air.

Repair shall be made by restriping over the cleaned surface in accordance with the requirements of this specification and at the full thickness indicated on the Contract Documents.

2. Uncured or discolored epoxy\*; insufficient bond (to pavement surface or existing durable marking).

Repair Method. The defective epoxy marking shall be completely removed and cleaned to the underlying pavement surface in accordance with the requirements of Section 635 - Cleaning and Preparation of Pavement Surfaces, at the Contractor's expense.

The extent of removal shall be the defective area plus any adjacent epoxy pavement marking material extending three feet in any direction.

After surface preparation work is complete, repair shall be made by reapplying epoxy over the cleaned pavement surface in accordance with the requirements of this specification.

\*Uncured epoxy shall be defined as applied material that fails to cure (dry) in accordance with the requirements of §727-03 Epoxy Paint; or applied material that fails to cure (dry) within a reasonable time period under actual field conditions, as defined by the Engineer.

Discoloration shall be defined as localized areas or patches of brown, grayish or black colored epoxy marking material. These areas often occur in a cyclic pattern and often are not visible until several days or weeks after markings are applied.

Other defects not noted above, but determined by the Engineer to need repair, shall be repaired or replaced as directed by and to the satisfaction of the Engineer.

All work in conjunction with the repair or replacement of defective epoxy reflectorized pavement markings shall be performed by the Contractor at no additional cost to the State.

#### **METHOD OF MEASUREMENT**

Pavement striping (regular lines, cross hatching and special markings) will be measured in feet along the centerline of the pavement stripe and will be based on a 4 inch wide stripe. Measurement for striping with a width greater than the basic 4 inches, as shown on the plans or directed by the Engineer, will be made by the following method:

$$\frac{\text{Plan Width of Striping (inches) X Feet}}{4 \text{ inches}}$$

#### **BASIS OF PAYMENT**

The accepted quantities of markings will be paid for at the contract unit price, which shall include the cost of furnishing all labor, materials and equipment to satisfactorily complete the work. The cost for maintaining and protecting traffic during the marking operations shall be included in the price bid. The cost of removal of concrete curing compounds and existing pavement markings will be paid under separate items and are not included in this item.

No payment will be made for the repair or replacement of defective epoxy reflectorized pavement markings.

<b><u>PAY ITEM NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>PAY UNIT</u></b>
685.07150110	White Epoxy Reflectorized Pavement Stripes – 15 mils	Foot

685.07150210	(Wet Night Visibility Spheres) White Epoxy Reflectorized Pavement Letters - 15 mils	Each
685.07150310	(Wet Night Visibility Spheres) White Epoxy Reflectorized Pavement Symbols – 15 mils	Each
685.07150410	(Wet Night Visibility Spheres) White Epoxy Reflectorized Cross Hatching -15 mils Thick	Foot
685.07150510	(Wet Night Visibility Spheres) White Epoxy Reflectorized Pavement Stripes (Special Markings) 15 mils Thick (Wet Night Visibility Spheres)	Foot
685.07150610	Yellow Epoxy Reflectorized Pavement Stripes – 15 mils (Wet Night Visibility Spheres)	Foot
685.07150710	Yellow Epoxy Reflectorized Pavement Stripes (Cross Hatching) 15 mils Thick (Wet Night Visibility Spheres)	Foot
685.07150810	White Epoxy Reflectorized Pavement Yield Line Symbols - Small - 15 mils (Wet Night Visibility Spheres)	Each
685.07150910	White Epoxy Reflectorized Pavement Yield Line Symbols - Large - 15 mils (Wet Night Visibility Spheres)	Each
685.07200110	White Epoxy Reflectorized Pavement Stripes – 20 mils (Wet Night Visibility Spheres)	Foot
685.07200210	White Epoxy Reflectorized Pavement Letters – 20 mils (Wet Night Visibility Spheres)	Each
685.07200310	White Epoxy Reflectorized Pavement Symbols – 20 mils (Wet Night Visibility Spheres)	Each
685.07200410	White Epoxy Reflectorized Pavement Stripes (Cross Hatching) 20 mils Thick (Wet Night Visibility Spheres)	Foot
685.07200510	White Epoxy Reflectorized Pavement Stripes (Special Markings) 20 mils Thick (Wet Night Visibility Spheres)	Foot

685.07200610	Yellow Epoxy Reflectorized Pavement Stripes – 20 mils (Wet Night Visibility Spheres)	Foot
685.07200710	Yellow Epoxy Reflectorized Pavement Stripes (Cross Hatching) 20 mils Thick (Wet Night Visibility Spheres)	Foot
685.07200810	White Epoxy Reflectorized Pavement Yield Line Symbols - Small - 20 mils (Wet Night Visibility Spheres)	Each
685.07200910	White Epoxy Reflectorized Pavement Yield Line Symbols - Large - 20 mils (Wet Night Visibility Spheres)	Each

### **ITEM DSL-E-3U - UNDERGROUND CABLE**

The Contractor shall furnish and install designated cable, including all source point connections, material and accessories, required to complete the work in order to energize the system. All cable shall meet the prevailing Underwriters Laboratory standards for the specific use as designated on the plans or specifications or as directed by the Engineer.

Underground cable shall be installed by direct burial or within specific conduit. Cable shall be one (1), two (2), or three (3) medium drawn solid or strand copper conductors rated for 600 volts, Type "USE or RHH or RHW – XLP", 60 mil thick insulated wire with cross linked polyethylene jacket suitable for operation in wet or dry locations at a maximum temperature of 75 degrees C.

All underground cable, within specified conduit or direct burial, will be of different colors throughout insulation in accordance with standard color coding for conductors, i.e.: black, red white, green color coded continuous for the entire length of cable, with the standard color for the cable use. This specification will also apply to riser and pole/arm cable.

The ground or bonding wire shall be as specified by Item, for the specified conductor, and shall be contained in a green insulated jacket.

Cable burial, either direct or in conduit, shall be at a minimum of 24" below surface (unless extenuating conditions exist as authorized by the Engineer), but no less than 18" below grade (generally assumed to be the top of curb when between the walk and curb). The cable shall be located 3' from the curb line unless otherwise directed.

Cable in grass areas will be buried directly unless otherwise specified and/or directed. Cable under permanent surface such as sidewalks, driveways, roadways, etc., will be placed in conduit as directed by the Engineer. At the direction of the Town, the contractor shall bore conduit and pull the cable through the core, except in the roadway. Cable shall be continuous with no splices in the line. When the length of cable run exceeds the length of cable, additional length or lengths may be connected at the following points only: service point, poles to be connected to cable, or Town of Hempstead junction boxes, pull boxes or lighting manholes.

Underground Cable/Conduit Installation is understood to be generally installed by utilizing mechanical equipment. It is understood that a direct burial cable shall be installed by use of standard cable plow equipment. Trenching will be permitted only when specifically authorized by the Engineer, prior to the commencement of actual cable installation. However, hand digging installation may be required in certain areas such as rear and side yard installations, common trench areas, "vicinity of sprinkler lines and heads to safeguard system", or in other areas of limited accessibility. The contractor will be responsible for any damage and repair costs to underground sprinkler systems and associated appurtenances caused by his work, even if he is unaware at the time of his work that he caused damage. This will include all reasonable repairs made by the property owner using a reputable repair service, even if the contractor receives "no prior notice" of the damage caused by his work. Installation of underground cable/conduit that requires hand digging shall be included at the item unit price bid for underground cable installation and no additional payment shall be made.

Cable shall be sub-itemized according to size, number of wires and characteristics of its assembly (i.e. single strands, single cable with number of wires, insulation type, etc.).

All pullboxes will have a minimum of 36" of cable per conductor entering and 36" exiting, neatly coiled with proper connections as outlined in the specifications. There shall be no separate payment for this requirement. The cost shall be included in the appropriate items of the contract.

Specific underground cable shall be identified by size and type designation prefixed by the Item number DSL-E-3U and suffixed by the size and number of cables. All cable, except for single conductor, shall include a ground or bonding cable. See details for further requirements.

The Contractor shall install the following **specific underground cable items**:

**DSL-E-3U 6/2 – TWO #6 CONDUCTORS PLUS ONE #6 GROUND**

**DSL-E-3U 6/3 – THREE #6 CONDUCTORS PLUS ONE #6 GROUND**

#### METHOD OF MEASUREMENT

The quantity to be paid for under DSL-E-3U items shall be the actual number of linear feet measured along the path of the cable from the center of the junction or end points (poles, junction boxes, "T" taps, splice tubes, etc.) as directed by the Town.

#### BASIS OF PAYMENT

The unit price per linear foot for this furnish and install item shall include the cost of all required connections herein described: Fuses, labor, hardware, materials, excavations, backfill, etc., as directed and to the satisfaction of the County and/or Town and all incidentals necessary and/or as required to satisfactorily complete the work in accordance with all pertinent standards and codes.

### **ITEM DSL-E-3R- CABLE IN RISER ASSEMBLIES ON WOOD POLES**

The Contractor shall furnish and install underground approved cable in risers on utility wood poles. The requirements as stated in Item DSL-E-3U cable will apply except method of measurement and basis of payment.

Specific items are as follows:

DSL-E-3R 6/3 3 #6 Conductors

DSL-E-3R 6/2 2 #6 Conductors

### **MEASUREMENT AND BASIS OF PAYMENT**

The price per linear foot of cable furnished and installed will be determined by the length of conduit per linear foot that encases the cable, regardless of the length of cable required to attach to the secondary supply and to make all connections in the junction box. The unit price bid shall include all labor, material, equipment and incidentals including central photoelectric control, necessary to satisfactorily complete the work.



## **CABLE CONNECTIONS**

The Contractor shall make connections necessary to satisfactorily complete the work and as directed by Engineer. The connections include those at junction boxes, branch circuits, utility posts, lamp posts, including LIPA/National Grid to secondary service, etc. Connections shall be made to the supply shown on the plans or to a pole which is either Town owned or rented from LIPA/National Grid.

Connections shall be made by the most modern approved connections or splicing methods accepted by the current codes and regulations by the governing agencies. Connections to LIPA/National Grid secondary service shall be made by using Dossert TVR 10-10-AN, 8-1/0 on all connectors.

Splicing shall be performed by experienced splicers using accepted modern methods and materials. Connectors shall have a carrying capacity not less than that of the conductors.

The Contractor shall submit samples of the type, method and materials for the various types of splices for approval by the Engineer and the Town of Hempstead.

All conductors shall be wrapped with waterproof insulating tape, tightly applied, half-lapped and built-up to not less than 150% of the conductor insulation thickness. A suitable waterproof sealant shall be placed over each connection as approved by the Town. The Contractor may use approved heat shrink material or a waterproof wrap.

All underground connections shall be of a water tight nature in concrete junction boxes, to the satisfaction of the Town.

The Contractor shall properly notify the Engineer and Town when connections are to be done to allow for proper inspection. Any connection not approved by the Town may be required to be exposed for visual inspection. The Contractor shall bear the cost of exposing cable and no separate payment shall be made.

Payment for connections shall be included in the various related payment items of the contract and shall include all materials, incidentals and labor necessary to complete the connections.

## **FUSING**

The Contractor shall install fuses of the type and at required locations subject to the approval of the Town of Hempstead.

All of the following locations shall be fused with fuses of required amperage:

1. Each light unit shall be individually fused with a 10 AMP slow blow fuse at the locations specified below:
  - A. Luminaires utilizing underground cables shall be individually fused within the luminaire at a convenient maintenance place and/or as directed by the Engineer.
  - B. Luminaires utilizing overhead cables shall be individually fused within the down lead prior to its connection to a secondary or feeder line as shown on the details.

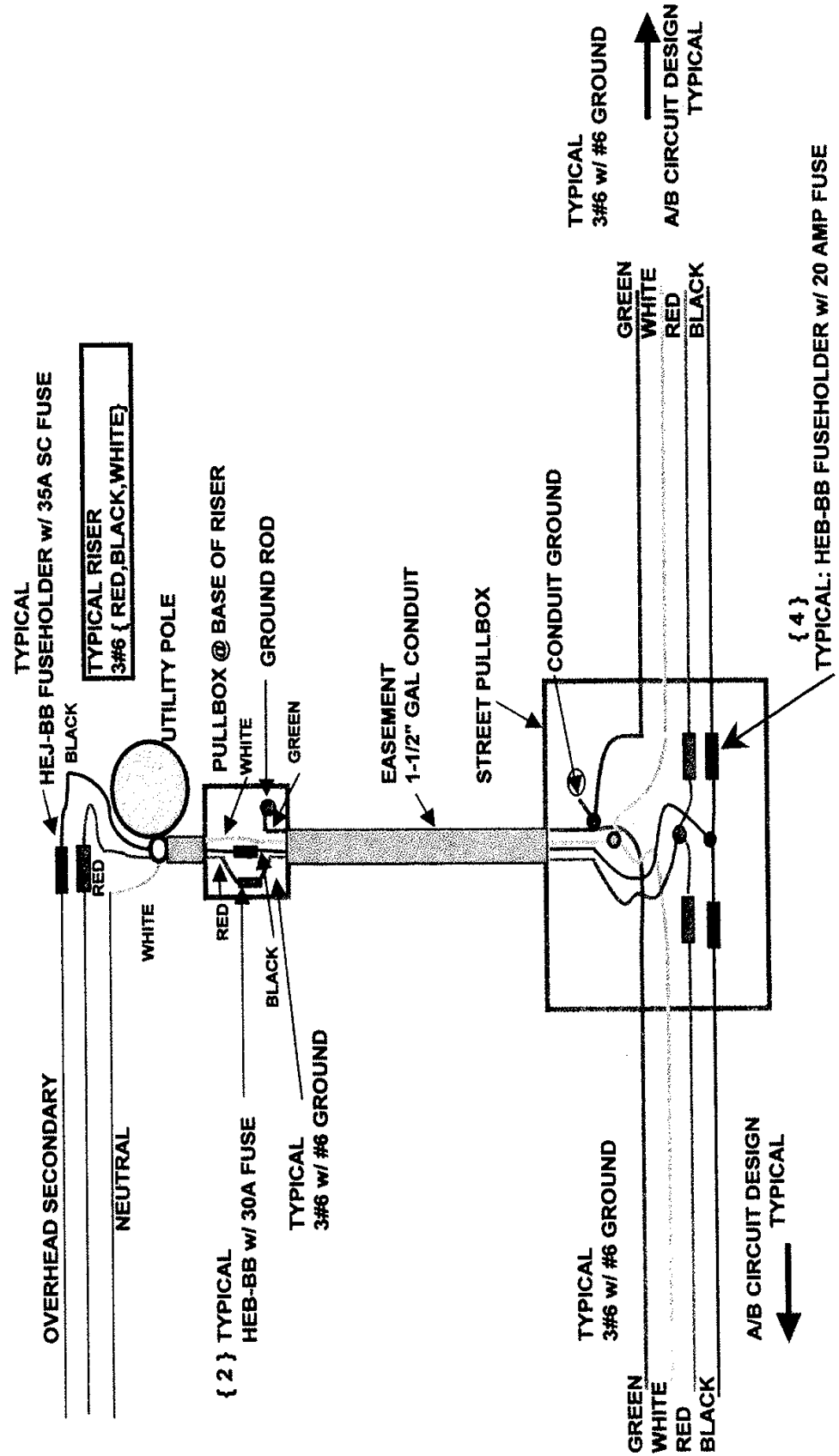
Any exception to the above locations shall be either specified on the plans, detail sheets or directed by the Engineer. Changes in location shall not constitute grounds by the Contractor for any additional payment.

2. The Contractor shall further fuse the system in the following locations:
  - A. Underground system utilizing rear yard feeds through property easements: The Contractor shall fuse each circuit at the source point between the curb and the walk within the junction box. The contractor shall also further fuse these lines at the top of the pole in the rear yard, with an approved in-line fuse and fuse-holder.
  - B. Underground systems utilizing new or existing risers on the utility poles: The Contractor shall fuse each circuit in the pull box at the new or existing pullbox at the base of the pole and at the top of the utility pole with proper in-line fuse and fuse holder, as directed.
  - C. Underground systems utilizing a feed from an existing L.I.P.A. manhole: The Contractor shall fuse each circuit in the junction box adjacent to the L.I.P.A. manhole, whether existing or new.
  - D. Overhead fed systems utilizing service drops, installed by the contractor, shall be fused at the utility end of the drop with appropriate in-line fuse and fuse holder.

All system fuses shall be of the amperage specified on the plans or specifications, or as required by the Town for the particular circuit. The Contractor shall also specify, if not already specified, the particular amperage size he plans to use for each circuit.

Note: Unless otherwise noted, no separate payment shall be made for fusing. The cost of furnishing and installing fuses shall be included in the various related items of the contract, and shall include all materials, labor, equipment and incidentals necessary to complete the work.

# TYPICAL UTILITY POLE RISER - DESIGN CIRCUIT FUSING AND CONNECTIONS



#### **ITEM DSL-E-4 - CONDUIT “GENERAL SPECIFICATION FOR ALL CONDUIT ITEMS”**

Under this item the Contractor shall furnish and install specified conduit by excavating and placing conduit in trench. The conduit materials, sizes (1-½” minimum), installation and moisture sealing shall conform to the latest requirements of the National Electrical and Municipal Codes.

The conduit shall be placed below all roadways, driveways, sidewalks, and structures, through property easements and as risers up utility poles and/or as directed by the Engineer in Charge. They will be installed at a minimum of 24” below finished grade, and by a method suitable to the Engineer, such as by trenching, tunneling or boring below structures. All conduit shall be approved Schedule 40 galvanized rigid steel material. All fittings shall be compatible with the specific conduit. Contractor will be required to blow-in a drag line for future cable pulling operations.

#### **NOTE:**

The Contractor shall backfill with suitable backfill material in six (6) inch layers. The compaction shall be with a mechanical vibrator compactor delivering not less than 2500 pounds at a rate of not less than 1100 per minute. A minimum of three passes will be required. The Contractor shall install galvanized steel conduit under driveways, trees or other structures between the walk and curb in residential areas. **Specific items are as follows:**

#### **DSL-E-4CG 1-½”- GALVANIZED CONTINUOUS CONDUIT BETWEEN STRUCTURES**

The Contractor shall furnish and install 1- ½” galvanized steel conduit for continuous connection between foundations (includes required sweeps and vertical risers inside foundations to a height of 1” above top of foundation), manholes, pullboxes, and/or junction boxes and other structures. Conduit shall be continuous between structures. The conduit shall be installed at 1-½’ (FT) behind face of curb (unless otherwise directed). The conduit shall be an approved galvanized rigid type unless otherwise specified. Galvanized steel conduit shall be continuously bonded from the top of the riser, and through connection boxes or structures. Bonding through structures shall be by means of a permanent screw or bolt in a bonding bushing affixed to each end of the conduit inside the structure.

All conduit joints and connections to structures shall be watertight throughout the job. All connections, conduit sweeps & bends, sealed joints and bonding shall be included in the unit cost per linear foot of conduit.

When the Contractor excavates driveways, sidewalks, etc. the areas disturbed shall be backfilled with proper backfill material and temporary pavement shall be installed in accordance with the sections noted above, as approved and directed by the Engineer in charge. This shall be done as part of the conduit item at no additional contract cost.

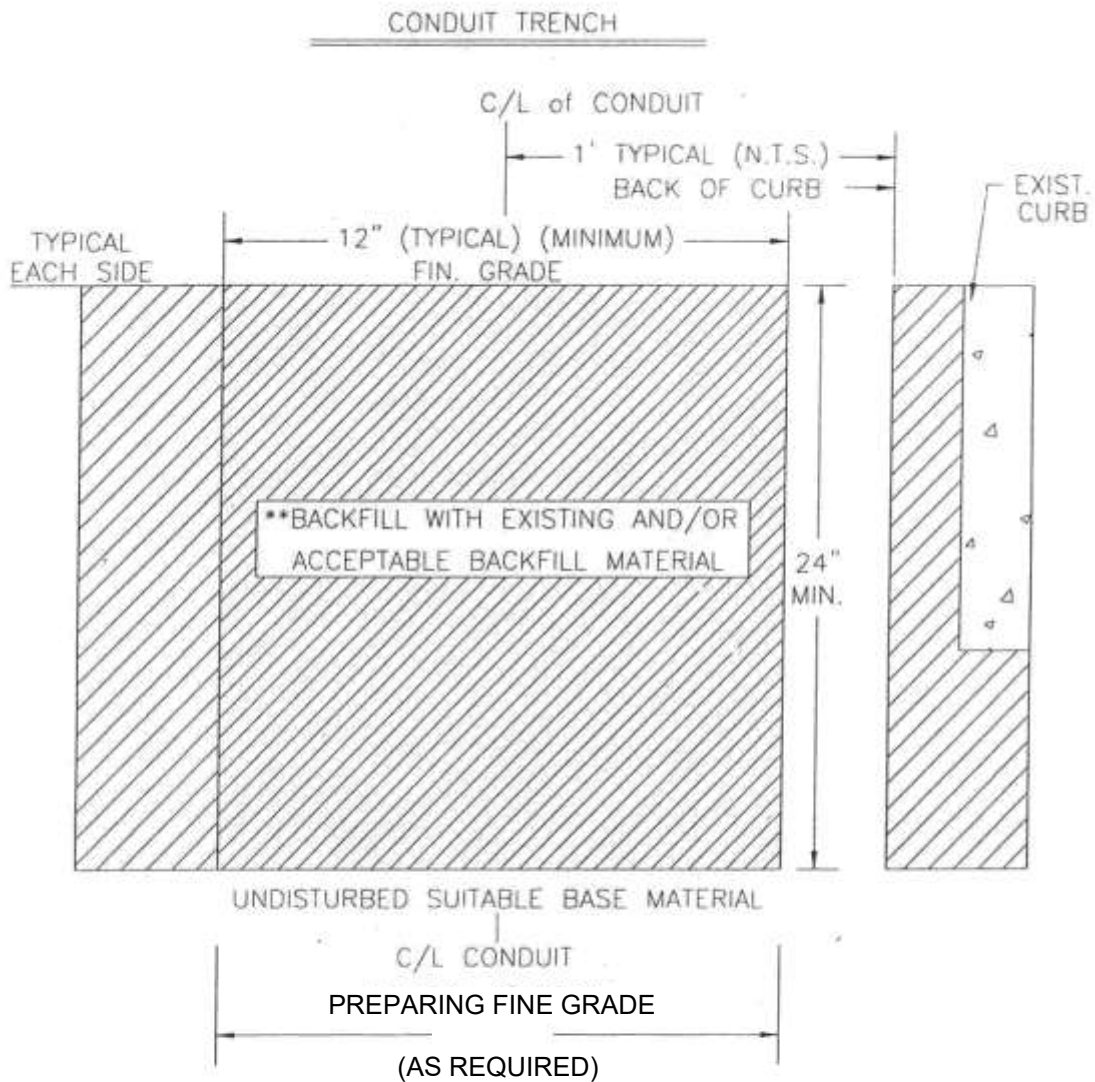
#### **DSL-E-4RG- GALVANIZED CONDUIT FOR RISER ON WOOD POLES**

The Contractor shall furnish and install galvanized conduit for risers on wood poles. Conduit shall be in accordance with the detail on risers. The material shall be rigid Schedule 40 galvanized steel pipe, as required. Specific item shall be as follows:

DSL-E-4RG 1-½”: 1-½” Galvanized conduit for riser on wood poles.

**NOTE:** Galvanized steel riser conduit to be installed to a height of 10 ft above finished grade.

# DETAIL OF CONDUIT TRENCH



SUFFOLK COUNTY  
 ITEM-2  
 (UNCLASSIFIED EXCAVATION)  
 WILL BE APPLIED TO THE 24" DEEP X 12" MIN. HORIZONTAL  
 CROSS-SECTION X THE LENGTH OF TRENCH  
 ALL THE COSTS TO BE INCLUDED UNDER THE UNIT PRICE BID  
 FOR ITEM E-4CG 1- 1/2"

#### DSL-E-4RP- PVC CONDUIT FOR RISER ON WOOD POLES

The Contractor shall furnish and install PVC conduit for risers on wood poles. Conduit shall be in accordance with the detail on risers. The material shall be rigid electrical PVC, Schedule 80, or rigid fiberglass etc., as required. Specific item shall be as follows:

DSL-E-4RP 1-1/2": 1-1/2" PVC CONDUIT FOR RISER ON WOOD POLES.

All conduit joints and connections to structures shall be watertight throughout the job. All connections, sealed joints, and bonding shall be included in the unit cost per linear foot of conduit.

Galvanized steel conduit shall be continuously bonded from the top of the riser, and through connection boxes or structures. Bonding through structures shall be by means of a permanent screw or bolt in bushing affixed to each end of conduit inside structure.

#### METHOD OF MEASUREMENT

The quantity to be paid for under this item shall be the actual number of linear feet measured along the path of the conduit from the center to center of the junction boxes or poles furnished and installed and approved by the Engineer. No extra payment will be made for deviations from the conduit layout due to obstructions, unless A.O.B.E.

#### BASIS OF PAYMENT

The price per linear foot shall include the cost of all required connections herein described, labor, materials, incidentals, excavation, tunneling and backfilling, blowing in a drag line for future cable pulling operations and required restoration, as directed and to the satisfaction of the Engineer, to properly complete the work in accordance with all pertinent standards and codes.

If the Contractor elects to bore conduit under roadway or other permanent structure, the cost shall be included in the price bid. No extra payment shall be made for boring.

**NOTE:** All conduit, regardless of use, shall have a minimum inside diameter as stated in the chart below (but not less than one inch), or as otherwise specified, whichever is greater.

**\*\*\*\*\*GENERAL WIRING DATA/WIRES IN CONDUIT AND AMPACITIES\*\*\*\*\***

ALLOWABLE AMPACITIES		MAXIMUM NUMBER OF CONDUCTORS IN TRADE SIZES OF CONDUIT/TUBING									
NOT MORE THAN THREE CONDUCTORS IN RACEWAY OR CABLE OR DIRECT BURIAL (BASED ON ROOM TEMPERATURE OF 30 DEG. C. 86 DEG. F.)		NEW YORK **									
SIZE	INSULATED COPPER CONDUCTORS	CONDUIT OR TUBING SIZE									
AWG	75 DEG. C	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	
14	15	10	18	25	41	58	90	121	155		
12	20	8	15	21	34	50	76	103	132		
10	30	7	13	17	29	41	64	86	110		
8	45	4	7	10	17	25	38	52	67	105	
6	65	3	4	6	10	15	23	32	41	64	
4	85	1	3	5	8	12	18	24	31	49	
3	100	1	3	4	7	10	16	21	28	44	
2	115	1	3	3	6	9	14	19	24	38	
1	130	1	1	3	4	7	10	14	18	29	
0	150	1	1	2	4	6	9	12	16	25	
00	175	1	1	1	3	5	8	11	14	22	
000	200	1	1	1	3	4	7	9	12	19	
0000	230		1	1	2	3	6	8	10	16	

\*\* Maximum number of conductors may be increased for rewiring per Chapter 9 Table 1A of the National Electrical Code.

## **ITEM DSL-E-6 – SPLICE BOXES, PULLBOXES, JUNCTION BOXES & MANHOLES**

The Contractor shall install complete boxes and manholes for electric service purposes when required. The sizes and details shall be in conformance with the drawings, specifications, standards of the Town of Hempstead Division of Street Lighting.

All structures shall be installed complete with all material including covers, incidentals and openings, all as shown on the drawing.

All pullboxes, junction boxes and manholes shall be installed flush with the finished grade.

The covers shall have molded-in text on the exposed face that reads "STREET LIGHTING".

The covers shall be installed with standard locking pentahead bolts to secure cover and prevent tampering. Under this Item, the Contractor shall supply two wrenches/sockets necessary to engage the cover bolts for access to the inside of the box.

- \* NOTE: When required, the contractor shall install a grounding rod(s) in each box or manhole installed. Grounding rods shall be in accordance with and paid under Item DSL-E-7.

The required boxes shall be as follows:

### **ITEM DSL-E-6PL PLASTIC**

Plastic boxes which shall be molded in one piece and shall include a cover that will withstand normal sidewalk use. Top measurement of 11  $\frac{3}{4}$ " X 17" X 12" deep.

### **ITEM DSL-E-6F FIBERGLASS**

The Contractor shall install, as per specification detail drawings, fiberglass boxes which shall be molded in one piece and shall include a cover that will withstand normal sidewalk use.

### **ITEM DSL-E-6P PRECAST (ONE PIECE) POLYMER CONCRETE PULLBOX W/COVER**

The Contractor shall install, as per specification detail drawing, precast lightweight polymer concrete pullbox with 12" x 12" top I.D. tapering to 24" x 24" base x 24" deep with cover. App. Wt. of pullbox: 85 lbs.

### **ITEM DSL-E-6H PRECAST CONCRETE BOXES WITH CAST IRON COVERS**

Precast concrete boxes meeting SCDPW specifications for Class A concrete structures. The inside dimensions shall be 17  $\frac{1}{2}$ " X 25  $\frac{1}{2}$ " I.D. X 42" deep with cast iron covers. The wall of the box shall be a minimum of 4" thick.

## **METHOD OF MEASUREMENT**

The quantity to be paid for under this item shall be the actual number of complete structures as described above actually furnished and installed and approved by Engineer.



The price per structure shall include the cost of all required labor, materials, covers, castings, locking bolts, excavation, incidentals, backfilling and all required restoration, as directed by and to the satisfaction of the Engineer, to properly complete the work in accordance with all pertinent standards and codes.



**ITEM E-5FM**  
**FURNISH & INSTALL MODIFIED FLUSH CONCRETE FOUNDATION**

**DESCRIPTION:**

Contractor will furnish & install a modified concrete lighting foundation as detailed in the plans to avoid underground existing utility alignment and grade conflicts. The contractor will form and pour in-place a concrete pole foundation in strict adherence to the detail drawing and specifications for item E-5FM shown on the plans & A.O.B.E.

In addition, the Contractor shall furnish and install polyethylene foam to maintain the minimum three {3} inch clearance between the top of existing utilities and the bottom of the concrete as per the detail. all exposed concrete surfaces to be finished to match standard concrete flush foundation detail shown on the plans.

**CONSTRUCTION DETAILS:**

The top of the foundation shall be set level at no more than 1" above top of curb and/or finished sidewalk/paved areas (where applicable), and set back from face of curb to face of foundation app. 1'-6" to allow a 2' minimum setback from "face of pole" (lower shaft) to "street face" of curb, unless otherwise specifically directed by the E.I.C.

Furnish and install concrete foundations for anchor base poles with 11-1/2" dia. Bolt circle and 1"dia. Anchor bolts w/bolt coupling & stud. installation shall include excavation, setting, leveling and backfilling and all required restoration.

**METHOD OF MEASUREMENT:**

The quantity to be paid for shall be the number of concrete foundations satisfactorily furnished & installed and approved by the E.I.C.

**BASIS OF PAYMENT:**

The price per foundation shall include the cost of all material, required labor, excavation, incidentals, backfilling, and all required restoration as directed and to the satisfaction of the engineer in charge to properly complete the work in accordance with all pertinent detail drawings, standards and codes.

**(On Construction firms letterhead)**

Date Issued: \_\_\_\_\_

Dear Resident:

We are sorry to inconvenience you, but in order to proceed with construction for \_\_\_\_\_ we must close and/or limit your access to your driveway. As work progresses, you will be notified on a daily basis when and how your particular residence will be affected. We assure you that every effort will be made to minimize the impact to you relative to this construction.

Our current schedule calls for the project related work to be performed in your area during the week of \_\_\_\_\_. A copy of this letter with specific dates and time for this work will be delivered at least twenty-four (24) hours in advance in order that you will have sufficient opportunity to plan for accessibility to your vehicles.

If additional information is necessary, you may contact any of the representatives listed below.

Thank you for your patience.

Contractor	_____	Phone: _____
Inspector	_____	Phone: _____
Project Manager	_____	Phone: _____

\_\_\_\_\_

**(On Construction firms letterhead)**

---

Date Issued: \_\_\_\_\_

CONSTRUCTION NOTIFICATION  
24 HOUR NOTICE

Date & Type of Construction: \_\_\_\_\_

How will residence be affected: \_\_\_\_\_

Approximate time of  
Construction: \_\_\_\_\_

Driveway access (will) (will not) be permitted.