

l L	PULE DATA																			
			MAX.	*		POLE	TUBE				LE BAS	iΕ		ANCHO	R BOLT		FOUNDATION		Vr.	XCEL
XCEL	FINISH COLOR	QTY.	ARM	NOMINAL	BASE	TOP	LENGTH	GAUGE OR	SQUARE	CIACLE	THK.	HOLE/SLOT	DIA.	LENGTH	ноок	THREAD		CIACLE	T_BACE	T-BASE
NO.	LINIBU COTON	LUM.	LENGTH	MTG HEIGHT	DIA.	DIA.	LENGTH (FT)	THK.	"5"	"Y"	"M"	"Z"	"K"	"J"	"H"	LENGTH	GROUND	(IN) T-BASE	T-BASE	PART
			(FT)	(FT)	(IN)	(IN)	,	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	(IN)	MOUNTED			#
54448	GALVANIZED	SINGLE	10.00	20.00	6.50	3.70	20.00	11	12.00	12,00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
54453	GALVANIZED	SINGLE	10.00	25.00	8.00	4.50	25.00	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
54393	GALVANIZED	SINGLE	10.00	30.00	8.00	4.01	28.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
54394	GALVANIZED	TWIN	10.00	30.00	8.00	4.01	28.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6,00	12.00	12.00	M104	54519
54396	FED.GREEN #14056	SINGLE	10.00	30.00	8.00	4.01	28,50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
54397	FED.GREEN #14056	TWIN	10.00	30.00	8,00	4.01	28.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
54398	BLACK	SINGLE	10.00	30.00	8.00	4.01	28.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
69837	BLACK	TWIN	10.00	30.00	8.00	4.01	28.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
70137	DARK GRAY-RAL7039	SINGLE	10.00	30.00	8.00	4.01	28,50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
70138	LIGHT GRAY	SINGLE	10.00	30.00	8.00	4.01	28.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
54427	GALVANIZED	SINGLE	10.00	35.00	8.50	3.81	33.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36,00	4.00	6.00	12.00	12.00	M104	54519
54428	GALVANIZED	TWIN	10.00	35.00	8.50	3.81	33.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6,00	12.00	12.00	M104	54519
54429	FED.GREEN #14056	SINGLE	10.00	35.00	8.50	3.81	33,50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
54430	BLACK	TWIN	10.00	35.00	8.50	3.81	33.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
70002	LOUISVILLE BRONZE	SINGLE	10.00	35.00	B.50	3.81	33.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
70003	BLACK	SINGLE	10.00	35.00	8.50	3.81	33,50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
70141	DARK GRAY-RAL7039	SINGLE	10.00	35.00	8.50	3.81	33.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6,00	12.00	12.00	M104	54519
70142	LIGHT GRAY	SINGLE	10,00	35.00	8.50	3.81	33.50	11	12.00	12.00	1.00	1.13 X 1.69	1.00	36.00	4.00	6.00	12.00	12.00	M104	54519
54426	GALVANIZED	SINGLE	10.00	40.00	9.00	3.58	38.75	11	15.13	15.00	1,25	1.13 X 1.69	1.00	36.00	4.00	6.00	15.00	15.00	M098	54521
54417	GALVANIZED	TWIN	10.00	40.00	9.00	3.58	38.75	11	15.13	15.00	1.25	1.13 X 1.69	1.00	36.00	4.00	6.00	15.00	15.00	M098	54521
54421	BLACK	SINGLE	10,00	40.00	9.00	3.58	38.75	11	15.13	15.00	1.25	1.13 X 1.69	1.00	36.00	4.00	6.00	15.00	15.00	M098	54521
99155	DARK BRONZE	SINGLE	10.00	40.00	9.00	3.58	38.75	11	15.13	15.00	1.25	1.13 X 1.69	1.00	36.00	4.00	6.00	15.00	15.00	8e0M	54521
54457	GALVANIZED	SINGLE	10.00	50.00	11.00	4.00	50,00	10	15.13	15.00	1.25	1.38 X 1.94	1.25	42.00	6.00	6.00	15.00	17.25	M098	54521
	* ∆	DDING	POLES	ONTO	BREAK	AWAY	TRANSF	ORMER	BASE	INCRE	ASES	THE LUMINA	IRE MO	UNTING	HEIGH	IT BY	l'-5".			

ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN STRUCTURES OF ALL TYPES. BECAUSE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES, VIBRATIONS ARE GENERALLY UNPREDICTABLE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. THE VALMONT WARRANTY SPECIFICALLY EXCLUDES FATIGUE FAILURE OR SIMILAR PHENOMENA RESULTING FROM INDUCED VIBRATION, HARMONIC OSCILLATION OR RESONANCE ASSOCIATED WITH MOVEMENT OF AIR CURRENTS AROUND THE PRODUCT.

4	MATERIAL	_ DATA		RADIAL INDEX					
	COMPONENT	DESIGNATION		THE LIGHTING STRUCTURES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LOADING AND THE					
+	POLE SHAFT	A595 GR.A	55	ALLOWABLE STRESS REQUIREMENTS OF THE 2009 AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR					
4	ARM SHAFT	A595 GR.A	55	HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", FIFTH					
	BASE PLATE	A36	36	EDITION, INCLUDING THE 2011 WIND INTERIM. THE WIND LOADS					
	SIMPLEX PLATES	A36	36	WERE CALCULATED FROM A BASIC WIND VELOCITY OF 100 MPH					
_	GUSSETS	A36	36	WITH A RECURRENCE INTERVAL OF 50 YEARS.					
┥	LUMINAIRE BOLTS	SAE GR.5							
4	T-BASE CONN. BOLTS	A325		PER THE CODE COMMON LIGHTING STRUCTURES BELOW 55'					
╛	ANCHOR BOLTS	F1554 GR.55	55	ARE NOT REQUIRED TO BE ANALYZED FOR FATIGUE LOADS AS .					
1	GALVANIZING	A123 & A153		THEY HAVE NOT NORMALLY EXHIBITED FATIGUE PROBLEMS.					

OPTION 1: GALVANIZEO TO A123

OPTION 2: GALVANIZED TD A123 HIGH BUILD EPOXY POWDER TGIC OR SUPER DURABLE POLYESTER POWOER

OPTION 2: TGIC OR SUPER DURABLE POLYESTER POWDER

(COLOR AS SPECIFIED IN POLE DATA TABLE) FINISH NOTE

Westminster Lighting Details

Arterial/Collector Style Pole Galvanized Steel Standard Sheet 1 of 11



DESIGN LOADING CRITERIA: 1.7 EPA & 55LBS

Drawing/Engineered by Others

C MAW2 09/19/12 MAW2 09/19/12 9.00" POLES WERE M093 T-BASE & 13.50"B.C. B RBC2 04/19/12 RBC2 04/19/12 35'WH WERE 15"B.C/40"WH WERE 17.25"B.C. /DEL. 70' STRUCTURE A DAH7 02/06/12 MAW2 02/07/12 ADDED T-BASE PER CUSTOMER REQUEST GGL 09/20/11 | GGL 09/20/11 | DRAWN BY-DATE CHECK BY-DATE DESCRIPTION

TITLE XCEL STREETLIGHTING STANDARDS 3-BOLT CONNECTING PLATE DESIGNS DS32 SERIES LIGHTING STRUCTURES

VALMONT INDUSTRIES, INC. RESERVES THE RIGHT TO INSTALL VARIOUS, ENGINEER APPROVED, MATERIAL HANGING ACCOMMODATIONS TO FACILITATE THE MANUFACTURING PROCESS.

valmont	₹
Valley,NE 68064	

(402) 359-2201

1	PAGE NUMBER:	1	OF	3
'	DRAWING NUMBER			REV
	DRANG	177	7	
		, , ,		

POLE TUBE WALL

TUBE THK. T

-(2)-0.25" HEX HEAD STAINLESS STEEL SCHEWS

HANDHOLE COVER 12 GAUGE H.R.M.S.

" A "

DIM.

ALL ANGLES MEASURED CLOCKWISE FROM HAND-HOLE AS VIEWED FROM SMALL END OF POLE

3.00"

3.63"

4.13"

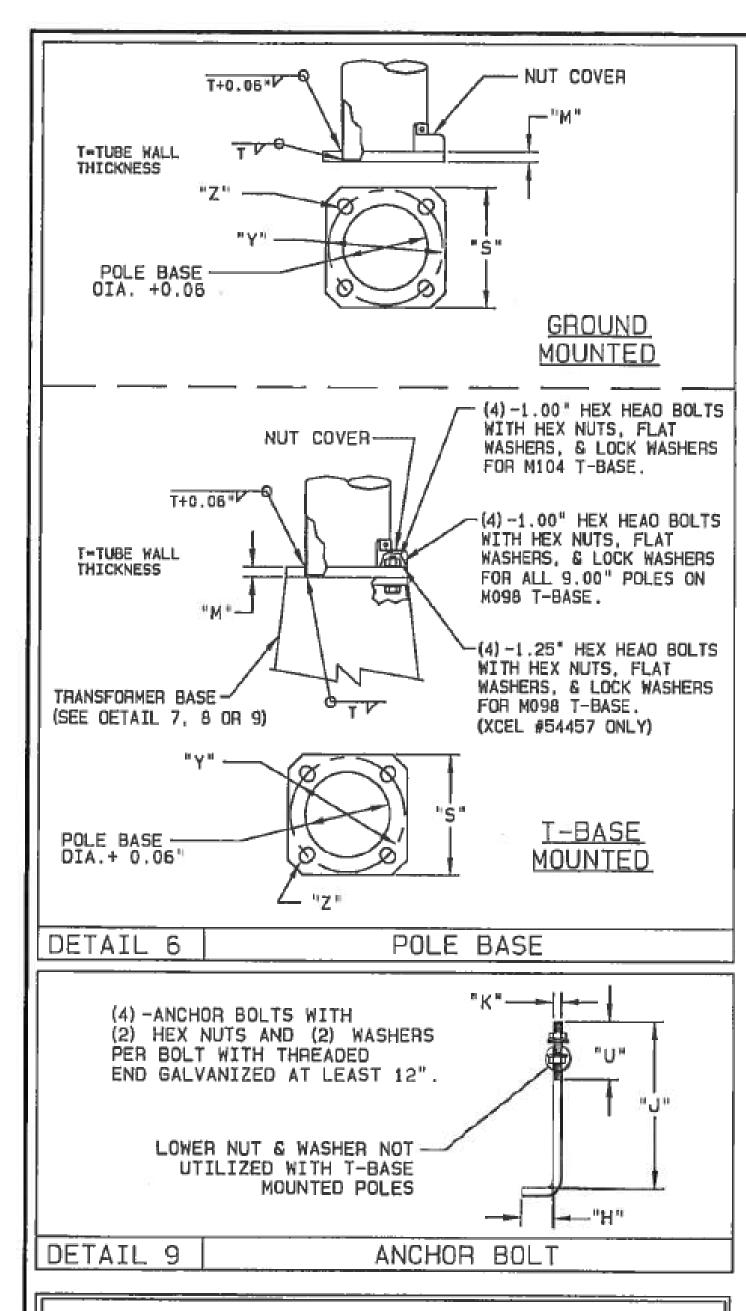
NUT COVER

SMALL

MEDIUM

LARGE

CTWIN ARM



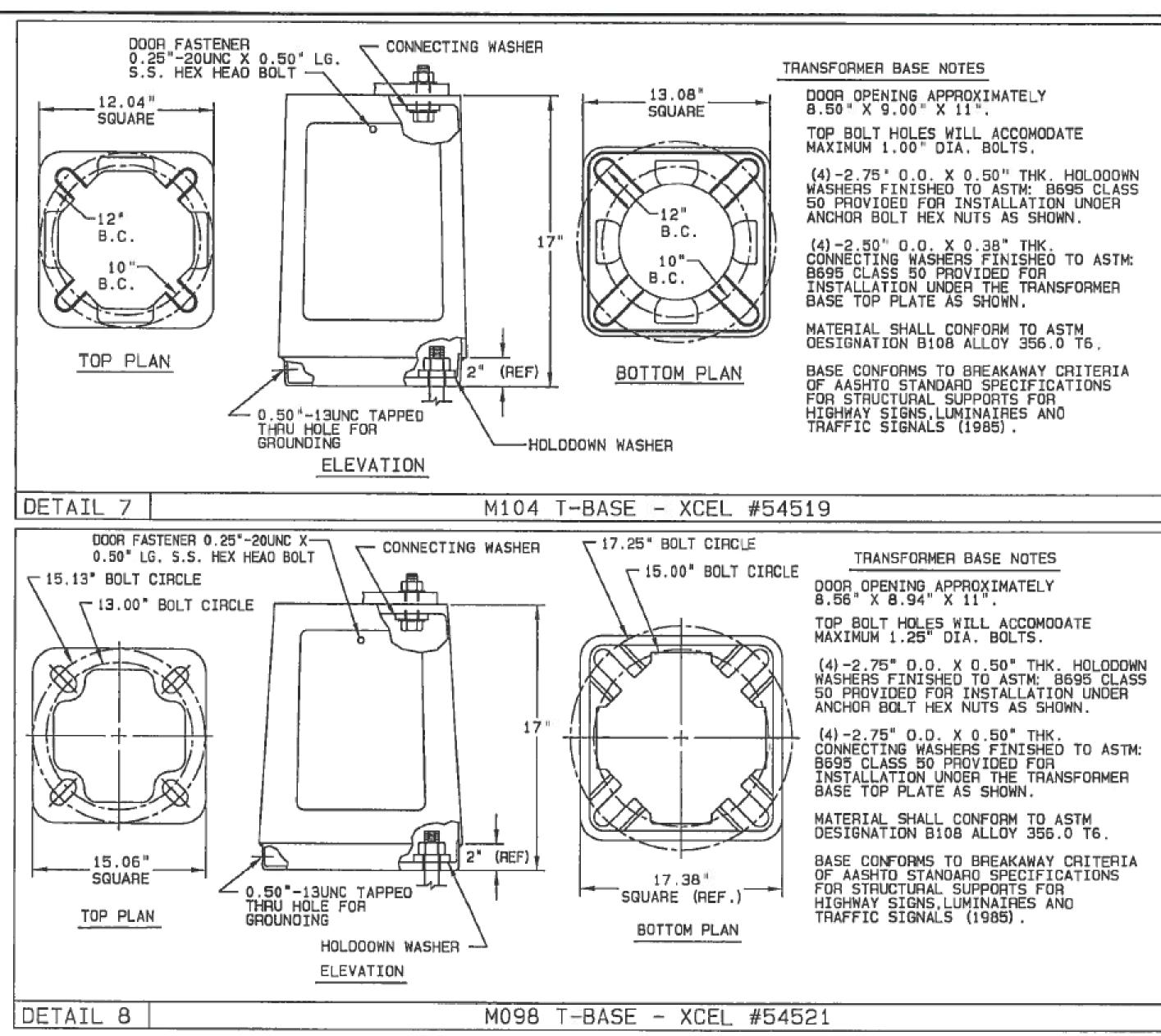
WHEN MOUNTING LIGHT POLES ON TRANSFORMER BASES, THE CONTRACTOR MUST ALWAYS USE THE LARGEST CONNECTING BOLT CIRCLE ALLOWED BY THE SLOTTED HOLES IN EITHER THE POLE BASE PLATE OR THE TRANSFORMER BASE TOP PLATE.

T-BASE FINISH NOTES: FINISH PAINT T-BASE WITH MAG CLORIDE RESISTANT PAINT SYSTEM

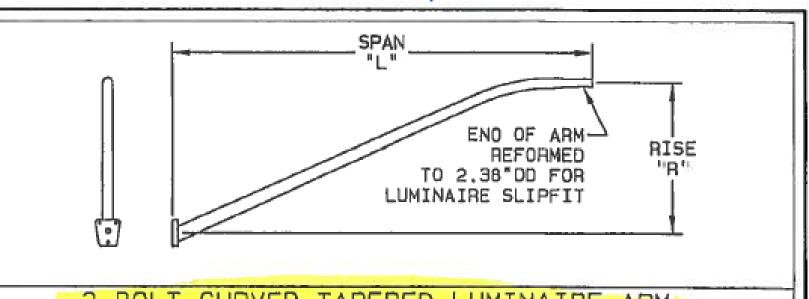
PRIME COAT: ANNODIZED DURANIDIC #313
PRIME COAT: ATP DARK (5.0 MILS)
TOP COAT: TGIC OR URETHANE POLYESTER
POWDER (3 MILS)

COLOR:

NATURAL ALUMINUM

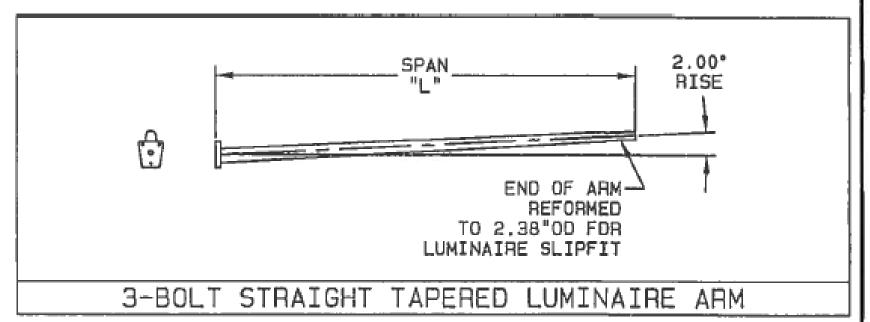


T-Base Mount normally not used



3-BOLT CURVED TAPERED LUMINAIRE ARM

	CURVED LUMINAIRE ARM DATA								
XCEL ITEM NO.	FINISH COLOR	ARM SPAN "L" (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GA.	RISE HEIGHT "R"			
54489	GALVANIZED	6.00	3.28	2.38	11	1'-6"			
54490	FED.GREEN #14056	6.00	3.28	2.38	11	1'-6"			
54491	BLACK	6.00	3.28	2.38	11	1'-6"			
70147	INTERLOCKEN GRAY	6.00	3.28	2.38	11	1'-6"			
70148	LIGHT GRAY	6.00	3.28	2.38	11	1'-6"			
54499	GALVANIZED	10.00	3.86	2.38	11	2'-2"			
54500	FED.GREEN #14056	10.00	3.86	2.38	11	2'-2"			
67624	BLACK	10.00	3.86	2.38	11	2'-2"			
67625	INTERLOCKEN GRAY	10.00	3.86	2.38	11	2'-2"			
70001	LOUISVILLE BRONZE	10.00	3.86	2.38	11	2'-2"			
70145	LIGHT GRAY	10.00	3.86	2.38	11	2'-2"			



	STRAIGHT	LUMINAIRE	ARM DATA	4	
XCEL ITEM NO.	FINISH COLOR	ARM SPAN "L" (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GA.
70166	DARK BRONZE	6.00	3.24	2,38	11
54113	FED.GREEN #14056	10.00	3.80	2.38	11
70168	BLACK	10.00	08.E	2.38	11

Westminster Lighting Details

Arterial/Collector Style Pole Galvanized Steel Standard

Sheet 2 of 11



Drawing/Engineered by Others

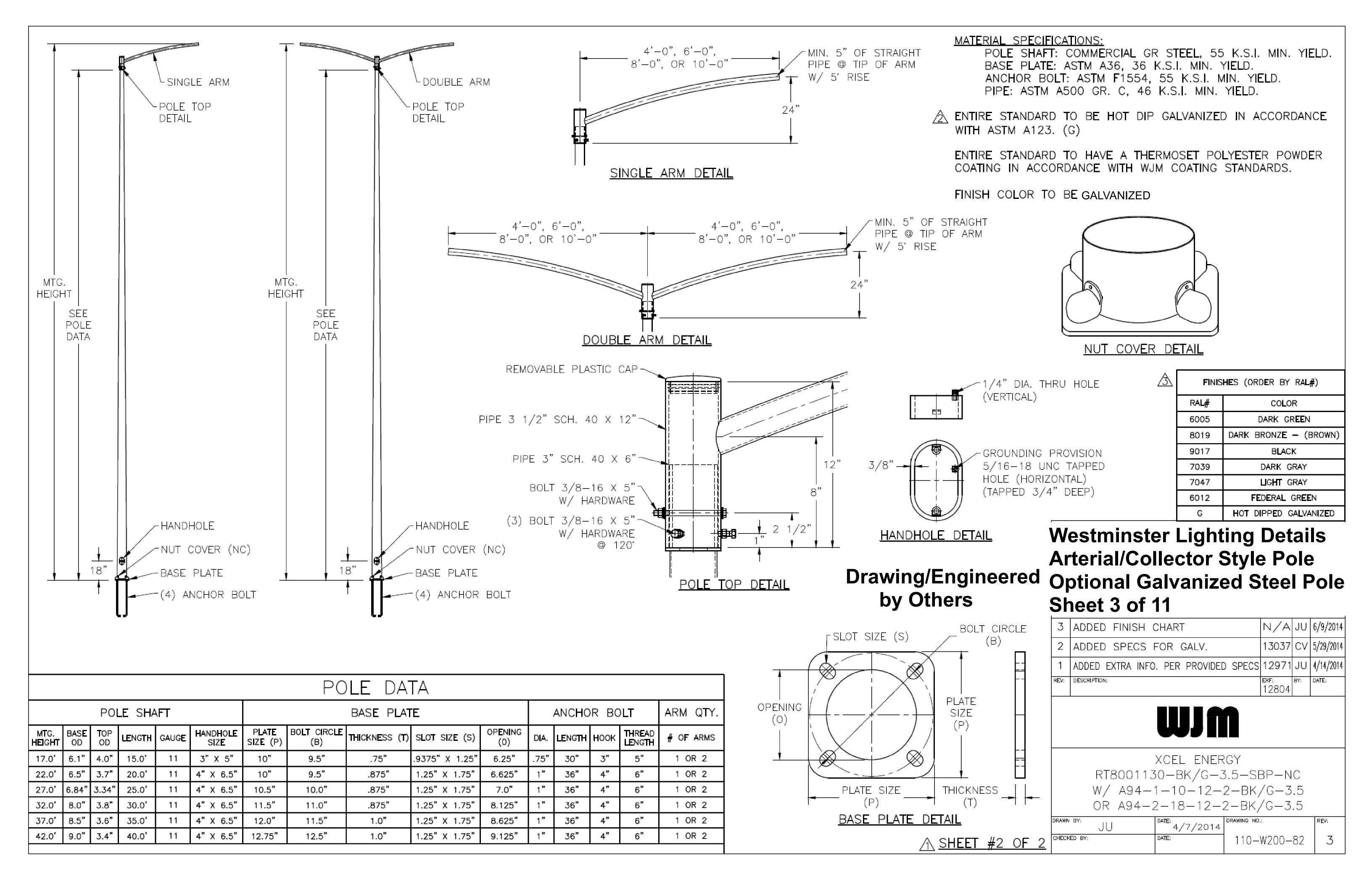
"""XCEL STREETLIGHTING STANDARDS
3-BOLT CONNECTING PLATE DESIGNS
DS32 SERIES LIGHTING STRUCTURES

VALMONT INDUSTRIES, INC. RESERVES
THE RIGHT TO INSTALL VARIOUS,
ENGINEER APPROVED, MATERIAL HANGING
ACCOMMODATIONS TO FACILITATE THE
MANUFACTURING PROCESS.

valmont V

(402) 359-2201

DB00977 C



Davit Steel Pole - Federal Green Paint over Galvanize

Cobra Head Style LED Luminaire

Cobra Head Style LED Luminaire (Lumens vary) Light Standard Foundation per CDOT M-613-1

GE Evolve LED Roadway Lighting

Scalable Cobrahead (ERS1, ERS2, ERS3, ERS4) 1 - 4 LED sections



LED Luminaire selection base upon roadway lighting requirements (Lumens vary)

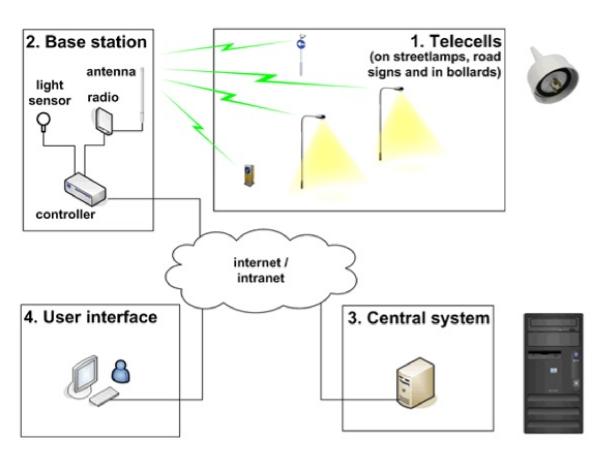
Adaptive Control Requirements

GE or Telensa (Ripley) Adaptive Lighting Controls Depending on project requirements either a GE Gateway
or a Telensa Base Station may be required

GE Standard or Stand-alone Node selection to be based on individual project specifications by the City



Telensa Planet Adaptive Control System



Westminster Lighting Details Arterial/Collector Style Poles & Fixtures

Drawings by Others

Sheet 4 of 11

Decorative Steel Pole - Federal Green Paint over Galvanize

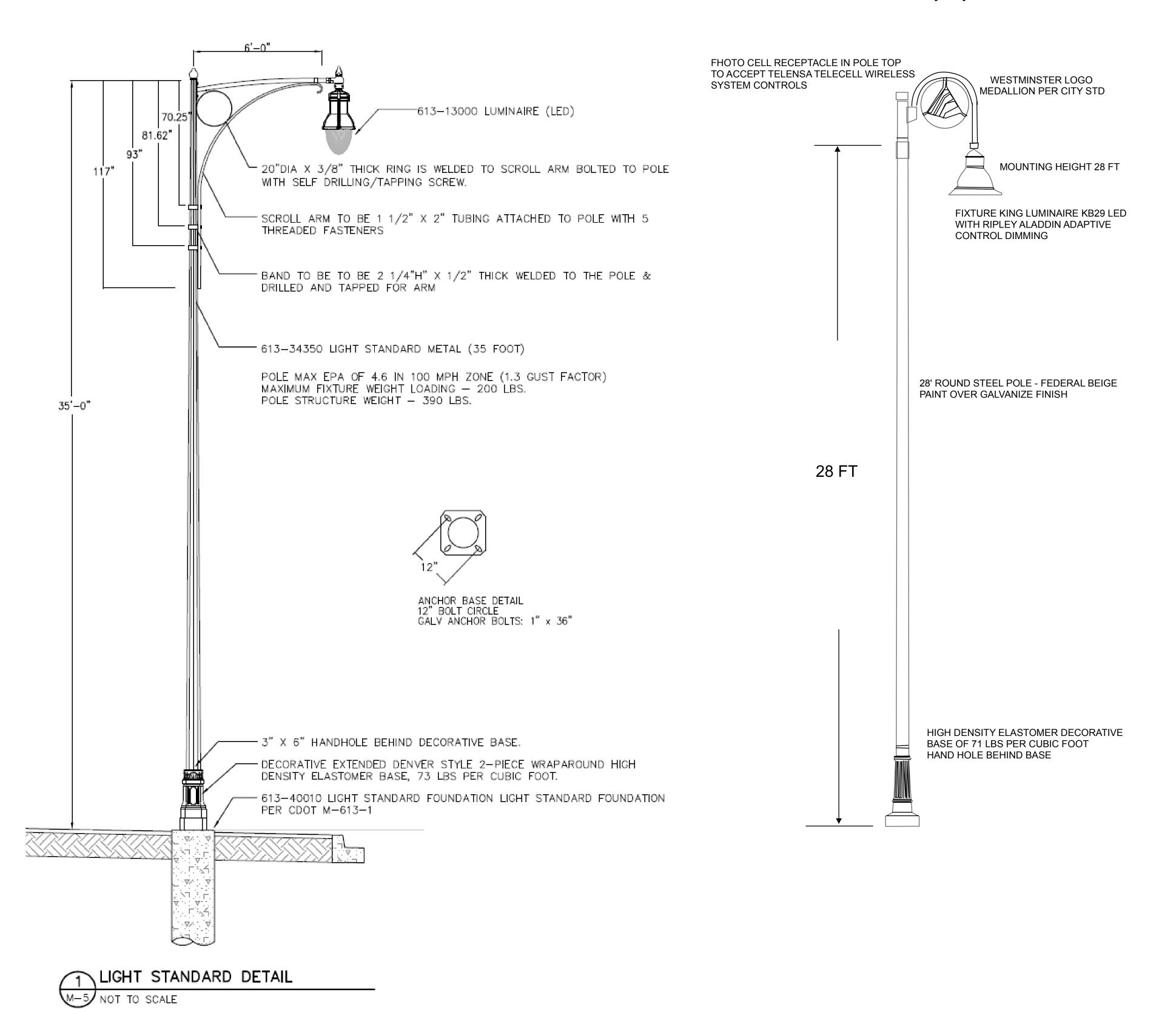
Decorative Arterial Steel Pole - Beige Paint over Galvanize

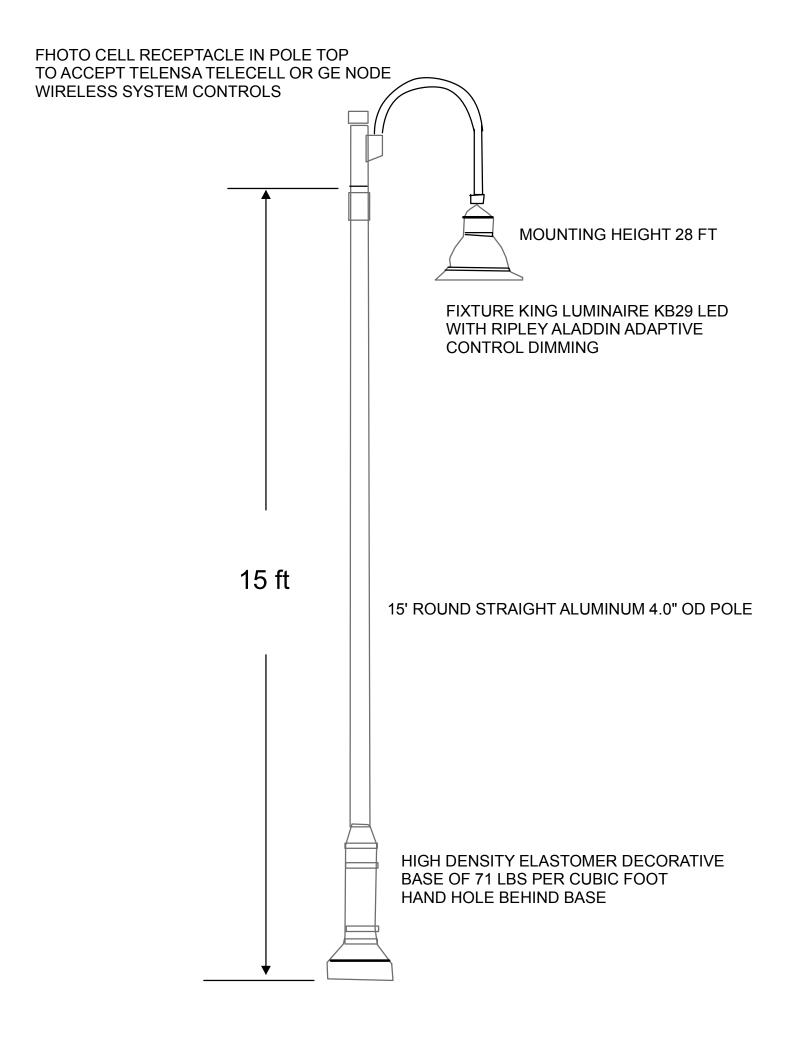
Decorative Residential Steel Pole - Black Paint over Galvanize

72nd & Raleigh Style

Orchard Pkwy Style

Hyland Village Style





Westminster Lighting Details
Decorative Style Poles & Fixtures

Drawings by Others

Sheet 5 of 11

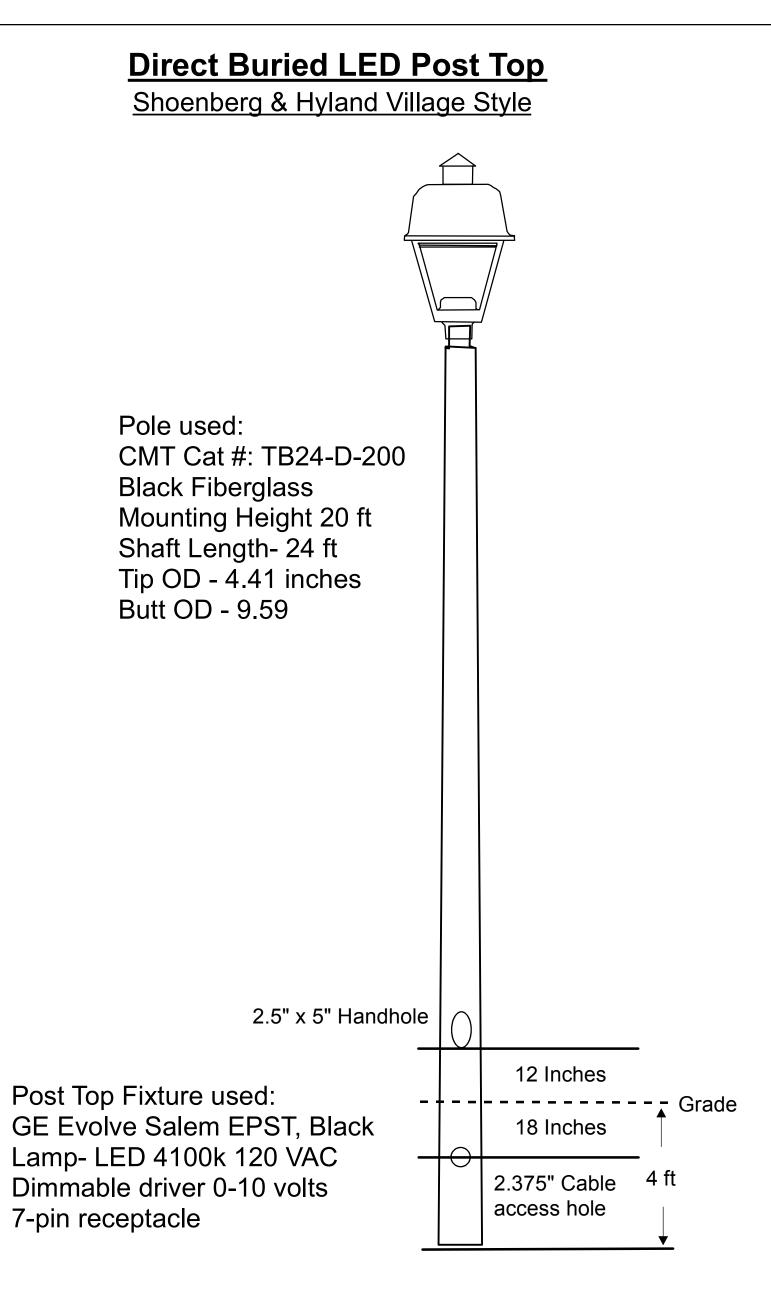
DETAIL OF MASTARM ARM TO MOUNT LUMINAIRE TO POLE IS 2" SCH40 PIPE WELDED TO POLE OVER 2" ACCESS HOLE 4" X 6" HANDHOLE WITH BOLT ON COVER BASE HAS 12" **BOLT CIRCLE**

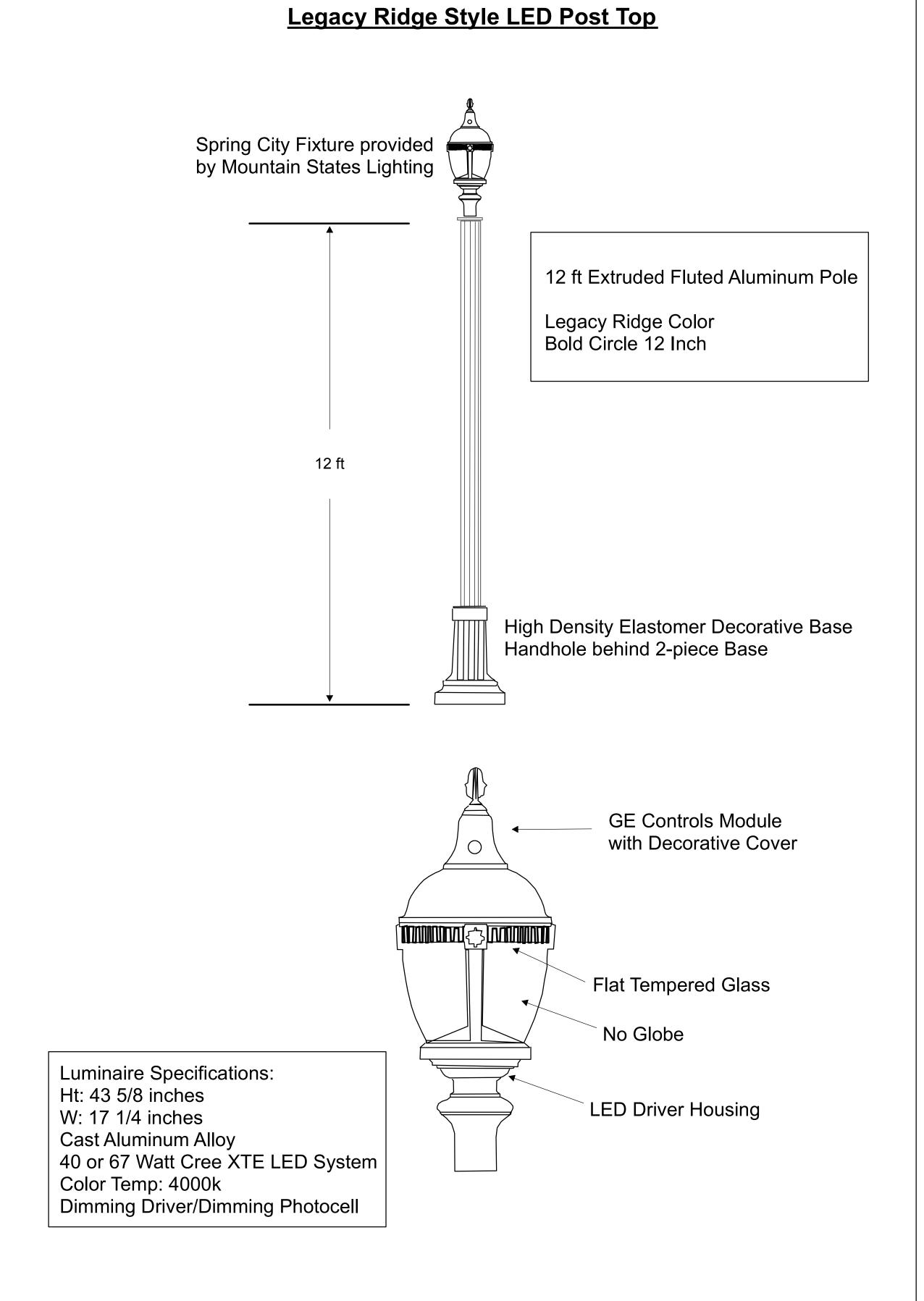
Curvelinear Steel Poie - Federal Green Paint over Galvanize

Pole:
28 ft found tapered Federal Green over galvanized Steel, Diameter 8" to 4" Taper

FOR 1" X 36"

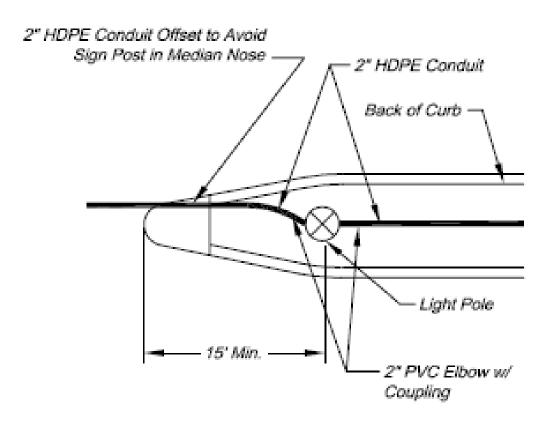
Curvilinear Fixture used:
Cyclone CD20S2
Clear tempered glass lens, 98% transmissive
LED 203-5 IESNA type III refractor lenses
Lamp- LED 4000k
Dimmable driver 0-10 volts
7-pin receptacle



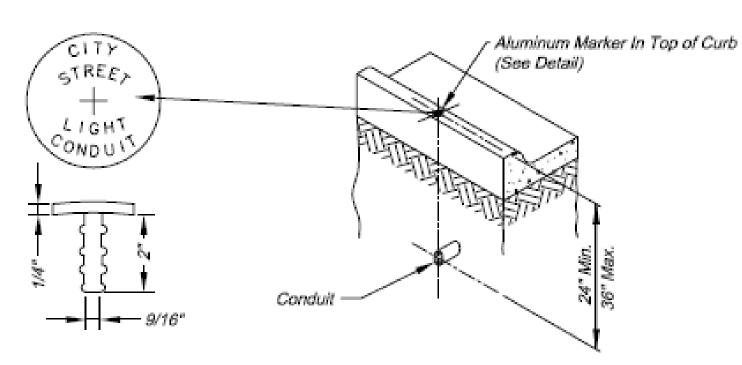


Westminster Lighting Details Collector/Residential Style Poles & Fixtures Sheet 6 of 11

Drawings by Others

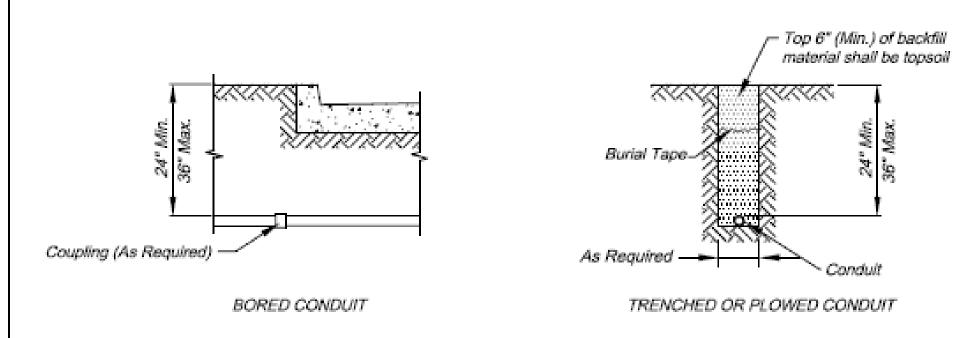


STREET LIGHT POLE IN MEDIAN



CONDUIT MARKING DETAIL

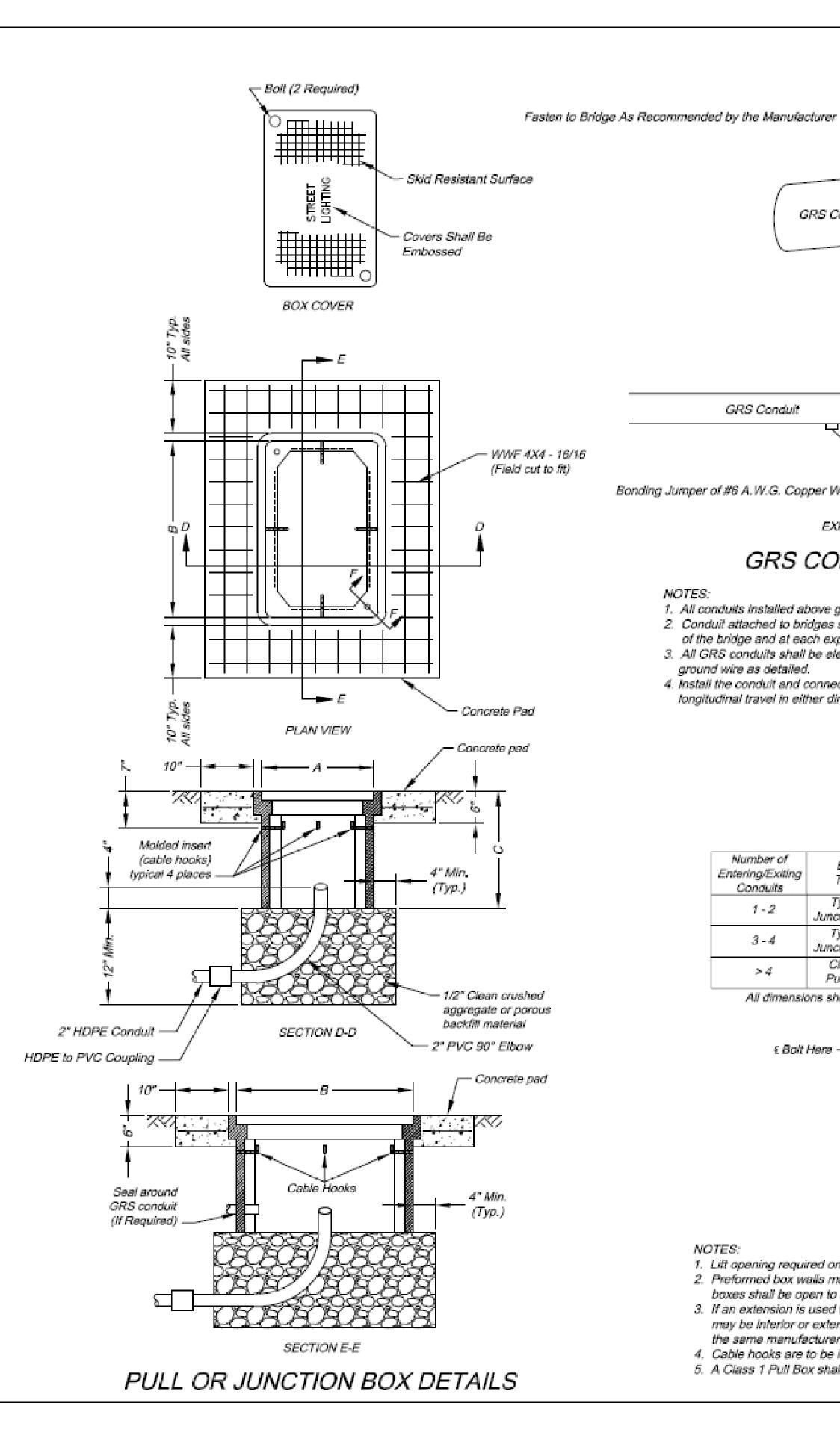
- An aluminum marker shall be placed in the top of the curb directly over the conduit.
- 2. Markers shall be installed by drilling the curb and expoxying the marker in place. If installed in a sidewalk or curb ramp, the top of the marker shall be flush with the concrete surface.
- No direct payment shall be made for conduit markers; they are subsidiary to the installation of conduit.



CONDUIT LOCATIONS

NOTES:

- 1. Backfill under paved surfaces shall be flowable fill.
- 2. The conduit shall not be covered unless inspected and approved by the City Engineer, so as to ensure proper depth, correct conduit material, and proper conduit end treatment.



Number of Minimum Box Dimensions Entering/Exiting 8 Conduits Type 1 1-2 12" Junction Box Type 2 3 - 4 Junction Box > 4 Pull Box

EXPANSION FITTING

GRS CONDUIT DETAILS

2. Conduit attached to bridges shall have expansion fittings installed at each end

3. All GRS conduits shall be electrically bonded by a grounding bushing and

4. Install the conduit and connector assembly to permit a 1/2" minimum

All conduits installed above ground shall be GRS.

of the bridge and at each expansion joint on the bridge.

All dimensions shown are nominal

GRS Conduit

GRS Conduit

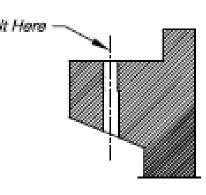
Bonding Jumper of #6 A.W.G. Copper Wire -

ground wire as detailed.

longitudinal travel in either direction.

CONDUIT HANGER

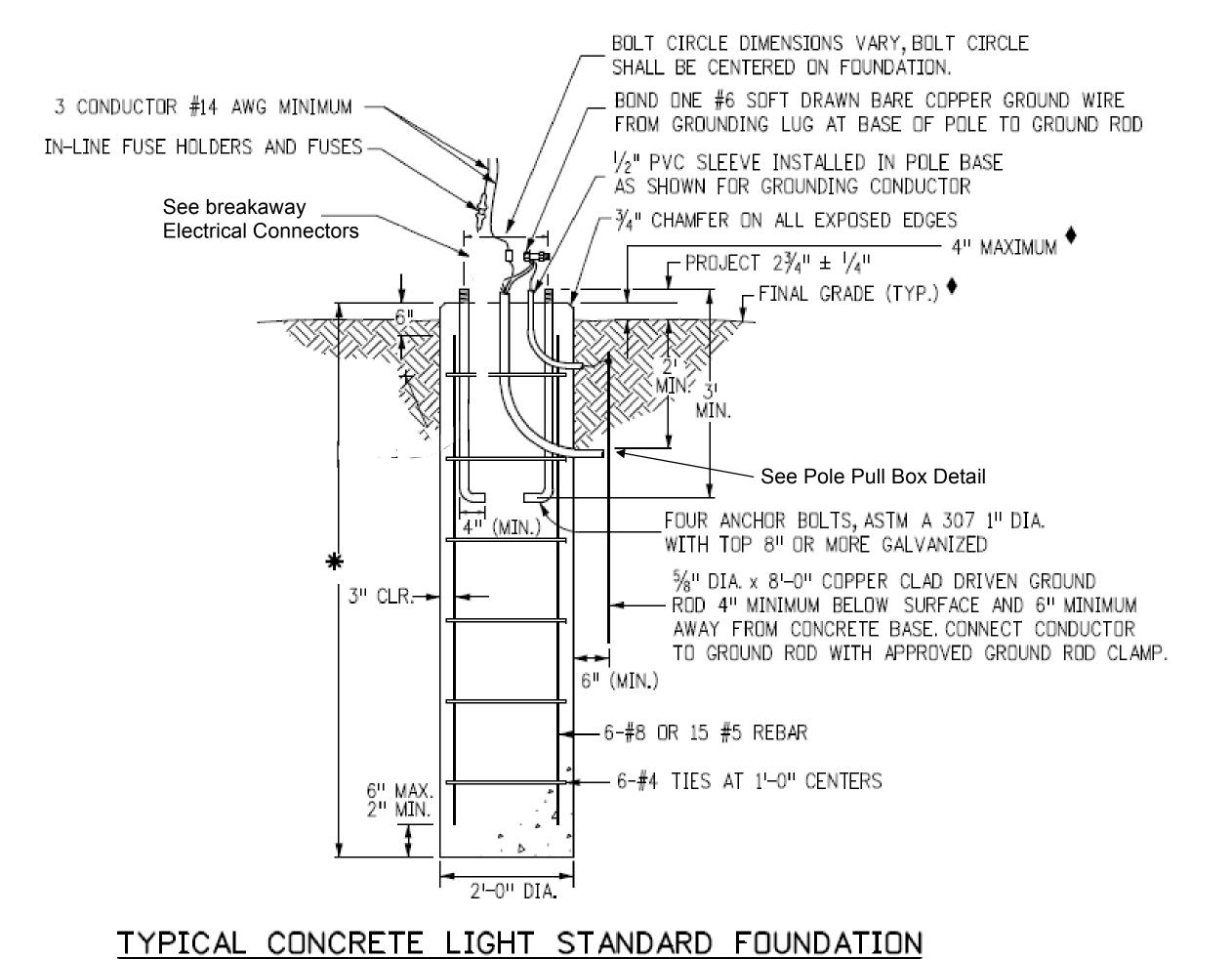
GRS Conduit

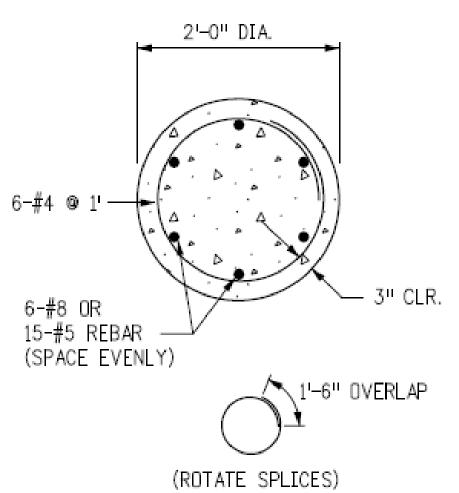


SECTION F-F

- Lift opening required on all covers.
- 2. Preformed box walls may be either flared or vertical. The bottom of boxes shall be open to below.
- 3. If an extension is used with a preformed box, the lip of the extension may be interior or exterior. The extension shall be compatible and from the same manufacturer.
- Cable hooks are to be included with Class 1 Pull Boxes only.
- A Class 1 Pull Box shall be installed adjacent to each 4-Circuit Power Supply.

Westminster Lighting Details Conduit and Pull Box Sheet 7 of 11

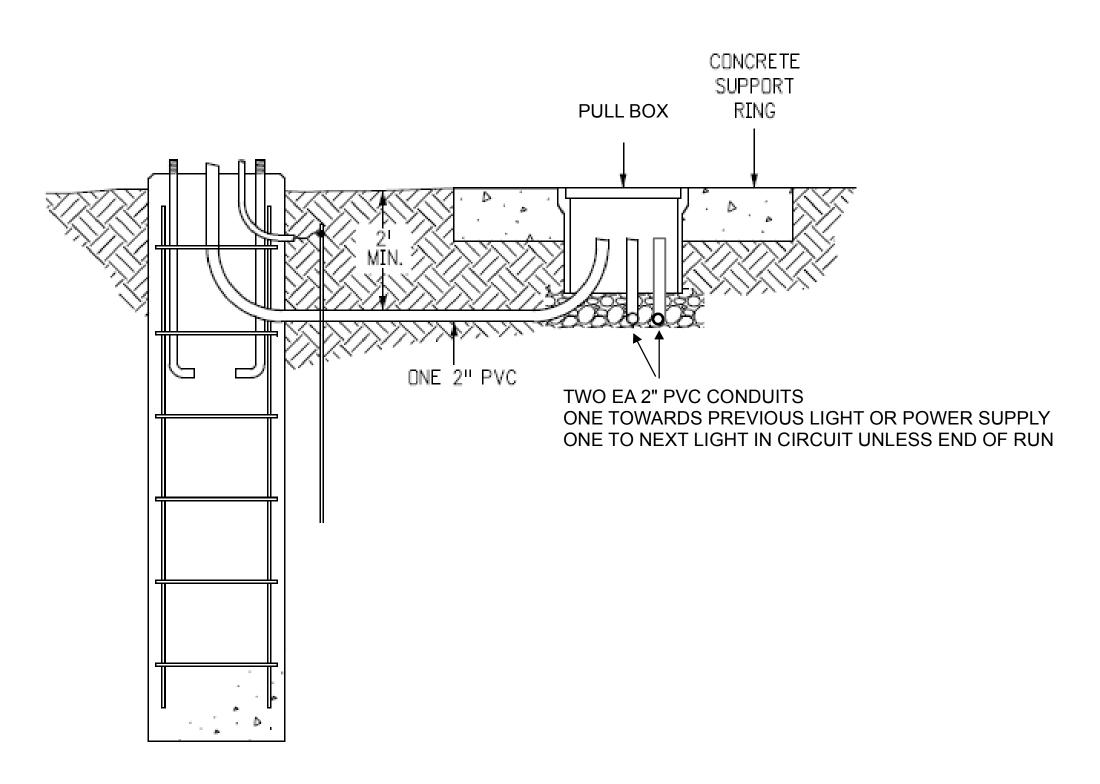




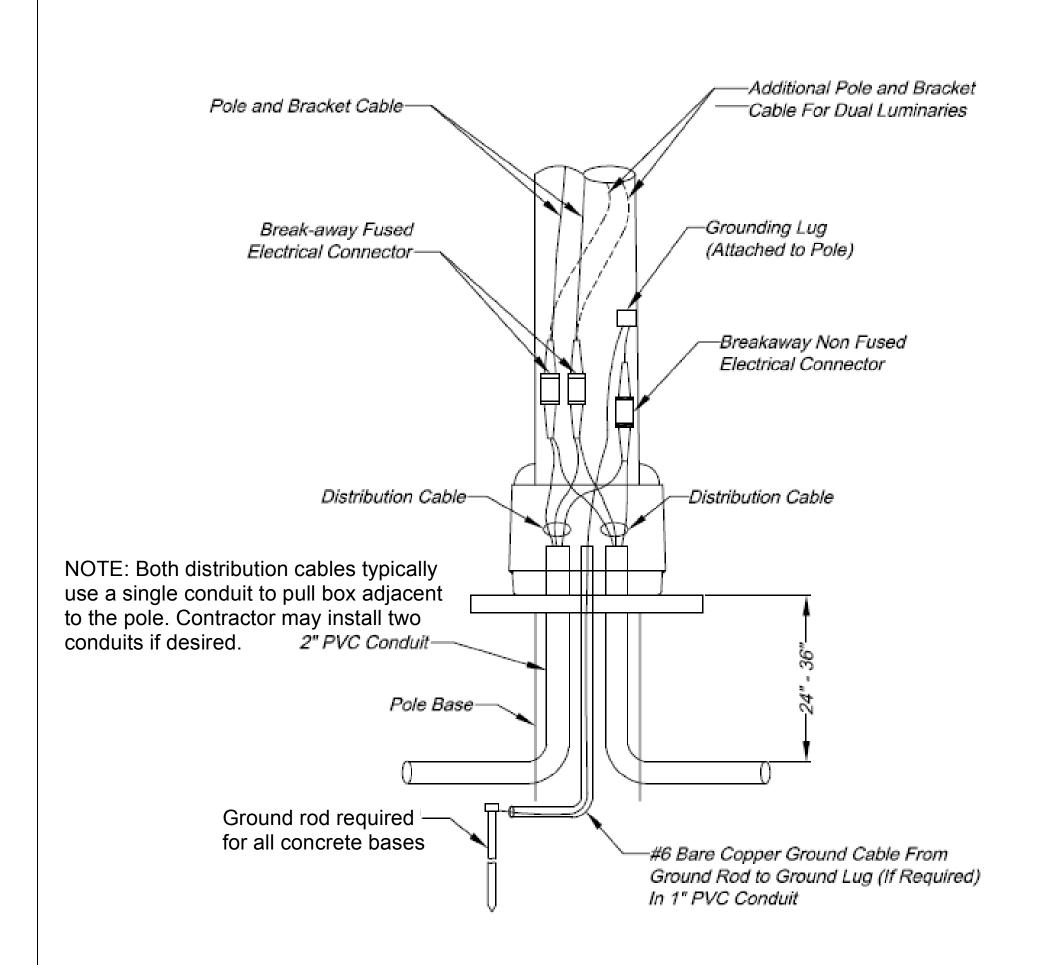
TYPICAL FOUNDATION SECTION

<u>NOTES</u>

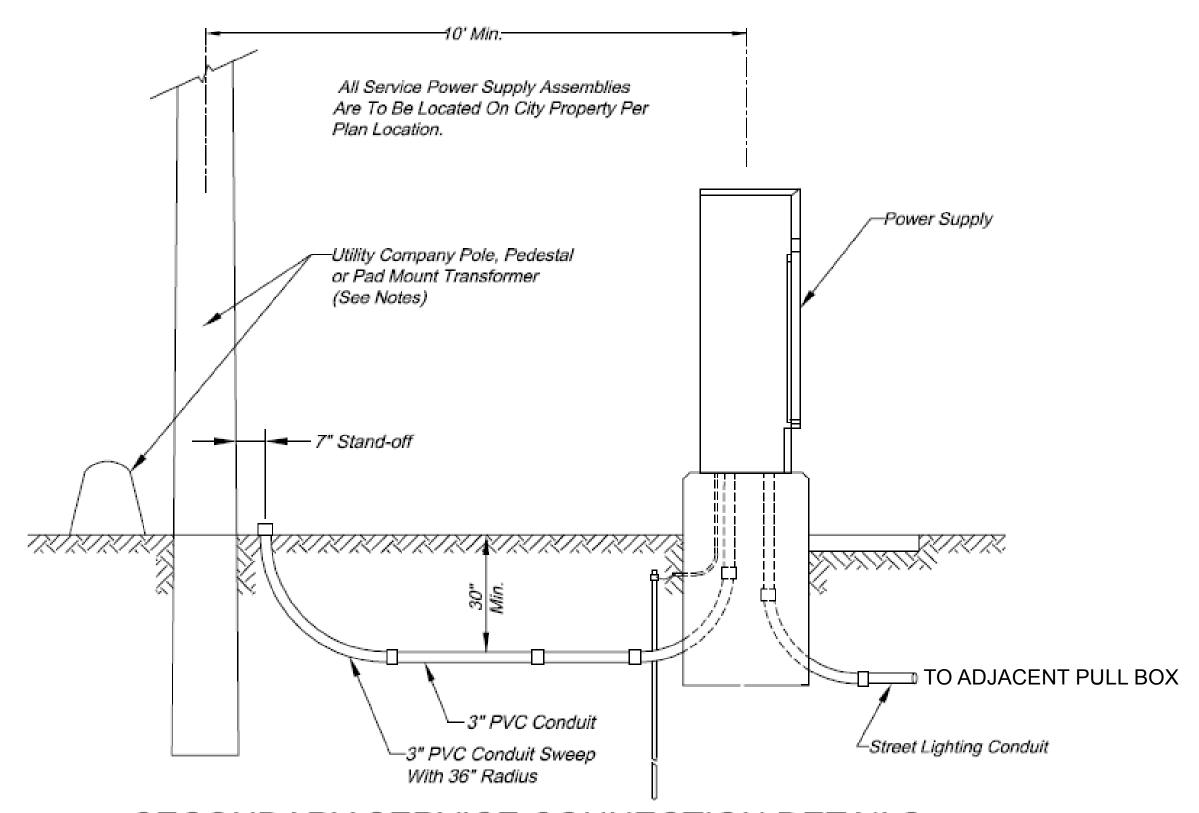
- DIMENSIONS FOR FOLLOWING ITEMS: ANCHOR BASE AND ANCHOR BOLTS ARE VARIABLE FOR THE HEIGHT OF THE LIGHT STANDARD AND THE MAST ARM CONFIGURATION. ALL COMPONENTS SHALL FIT AND ACCOMMODATE THE REQUIREMENTS OF THE LIGHT STANDARD SUPPLIED.
- 2. FOUNDATION SHALL BE 7 FT. FOR LIGHT STANDARDS 20 FT. THRU 40 FT., AND 6 FT. FOR LIGHT STANDARDS LESS THAN 20 FT.
- 3. LIGHT STANDARD FOUNDATION DEPTH IS BASED ON A MAXIMUM POLE HEIGHT OF 40 FT. IN STIFF CLAY WITH N > 8 OR MEDIUM SAND WITH N > 15 AS DETERMINED BY ASTM D 1586 STANDARD PENETRATION TEST.
- 4. CONCRETE SHALL BE CLASS B.
- 5. FOUNDATIONS FOR LIGHT STANDARDS HIGHER THAN 40 FT.OR LIGHT STANDARDS WITH MULTIPLE LUMINAIRES OR BANNERS, OR VARYING SOIL OR WIND CONDITIONS, SHALL BE DESIGNED BY THE CONTRACTOR'S ENGINEER AND SHOWN ON THE PLANS.
- ♦ WHERE FOUNDATION IS LOCATED IN THE SIDEWALK, THE TOP OF THE FOUNDATION SHALL BE FLUSH WITH THE TOP OF THE SIDEWALK CONFORMING TO ADA REQUIREMENTS.



PULL BOX REQUIRED AT EACH POLE



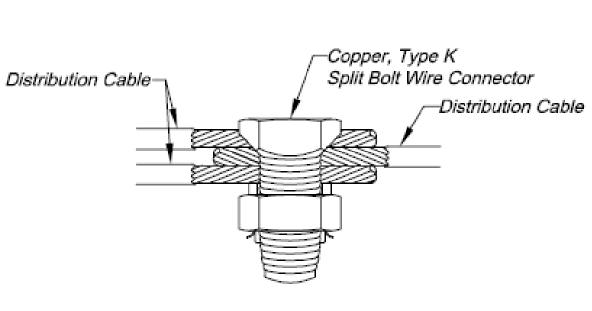
POLE WIRING DETAILS



SECONDARY SERVICE CONNECTION DETAILS

NOTES:

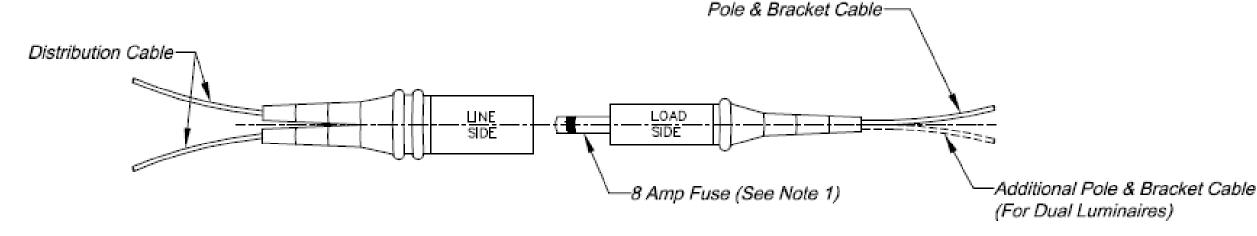
- Contractor shall install a conduit stub 24" to 6" above ground at utility poles. Conduit shall be stubbed to the side of the pole that will allow a direct run up the pole to the transformer without crossing other utility lines or cables. The end of the conduit shall be capped.
- Contractor shall install conduit in a trench to within 24" of pedestals or pad mount transformers and leave a 36" x 36" x 36" access hole in the ground. Contractor shall keep open trench covered and promptly backfill access hole when service is completed.



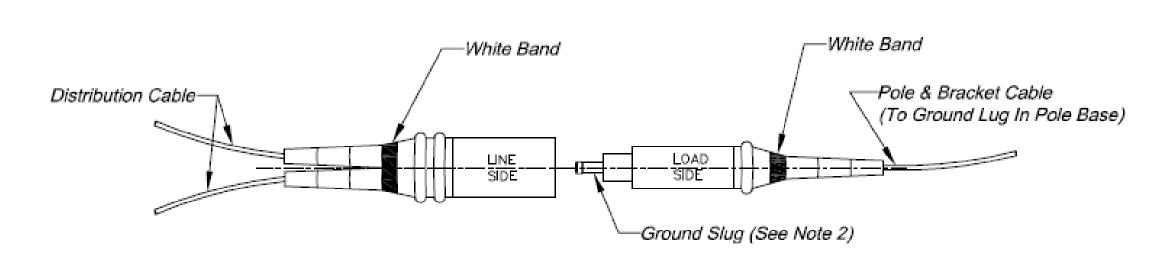
SPLICE KIT DETAILS

NOTES

- To be used only in junction or pull boxes where circuits branch or "tee".
- All splices shall be protected with a resin splice kit (not shown) installed in accordance with the manufacturer's recommendations.



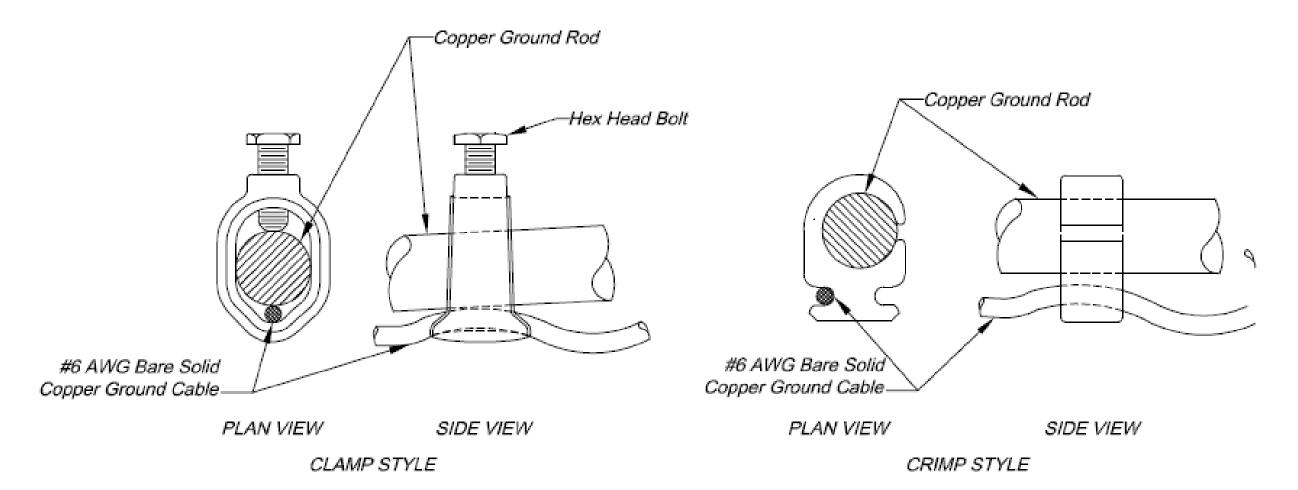
BREAK-AWAY FUSED ELECTRICAL CONNECTORS



BREAK-AWAY NON FUSED ELECTRICAL CONNECTOR

NOTES:

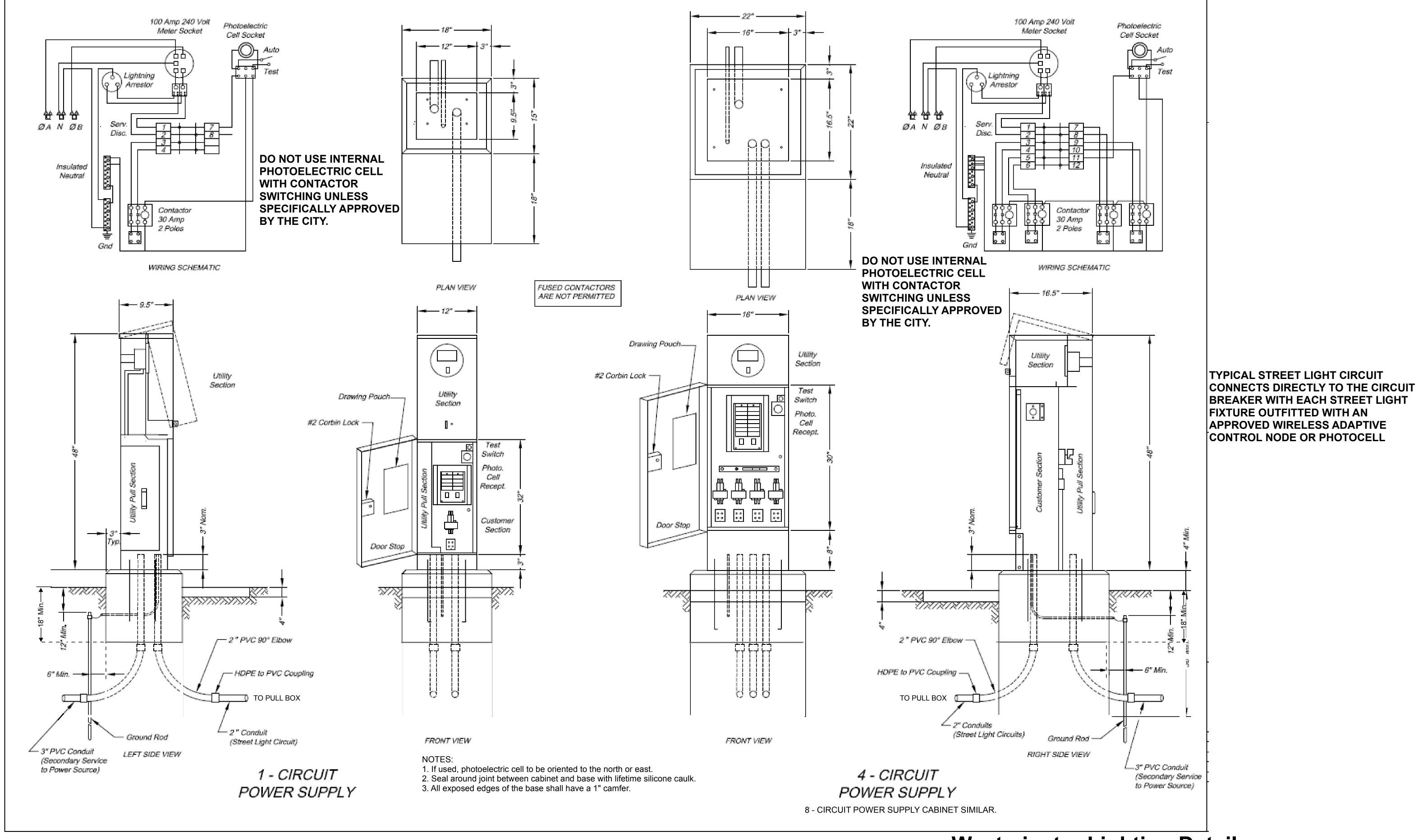
- Fuse remains in "Load Side" after break-away.
- 2. Ground "Slug" remains in "Load Side" after break-way.
- 3. Connectors shall have set screw type terminals to attach cables.



GROUND ROD CONNECTION DETAILS

Westminster Lighting Details Electrical Connections Sheet 9 of 11

Drawings by Others



Westminster Lighting Details
Power Supply
Drawings by Others Sheet 10 of 11

APPROVED POWER SUPPLY

MILBANK CP3B MAIN LOAD SERIES

ENSURE SUPPLIED CABINET MEETS ALL OF XCEL ENERGY CURRENT REQUIREMENTS

"A" Style 16" Metered Commercial Pedestal

