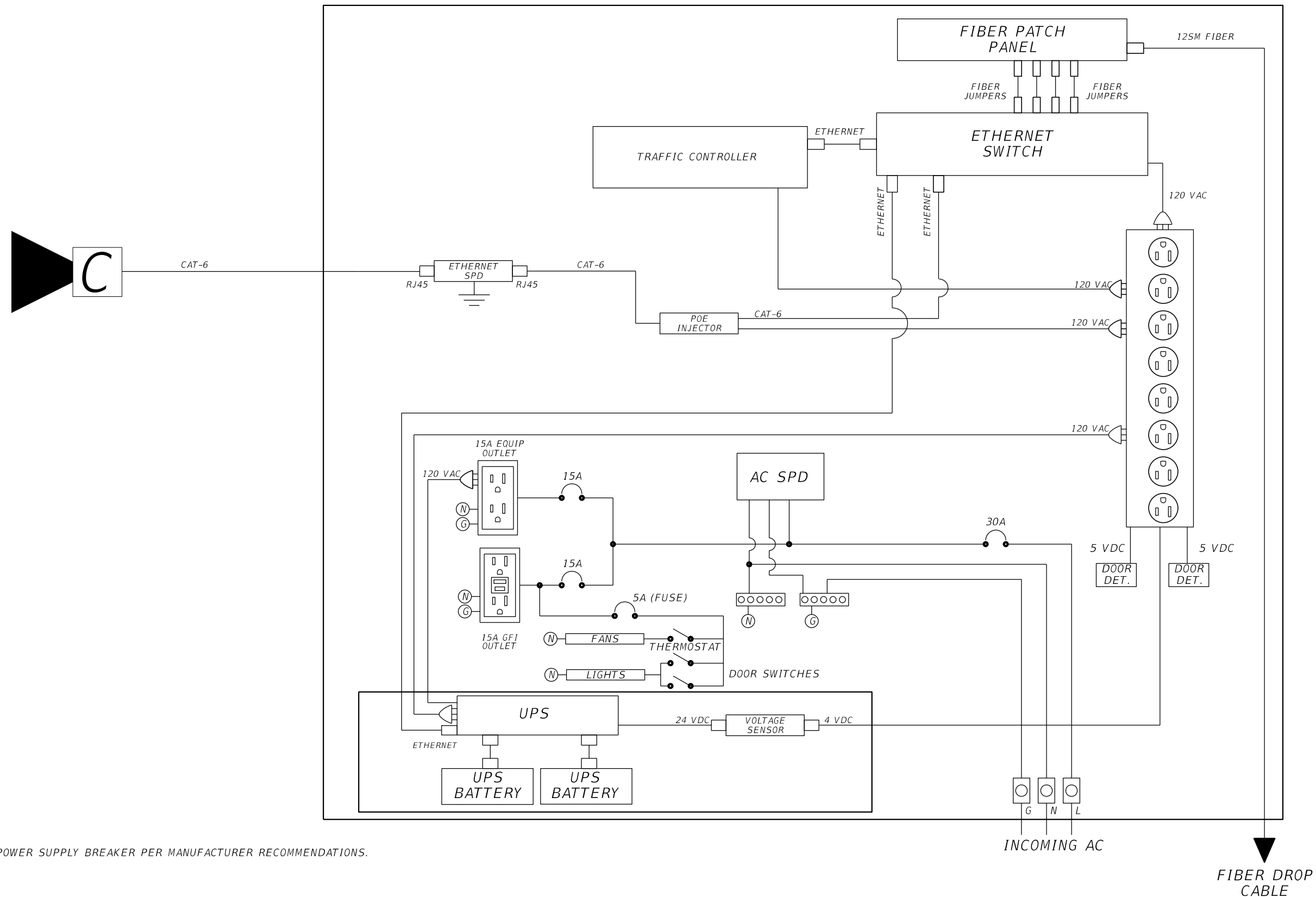


# CCTV & TRAFFIC SIGNAL CONTROL CONNECTION DIAGRAM

COUNTY PROJ. NO. 5400229	SHEET NO. 31
-----------------------------	-----------------

**N.T.S.**

FIELD EQUIPMENT CABINET



**NOTES:**

- \* CAMERA POWER SUPPLY BREAKER PER MANUFACTURER RECOMMENDATIONS.

**REVISIONS**

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

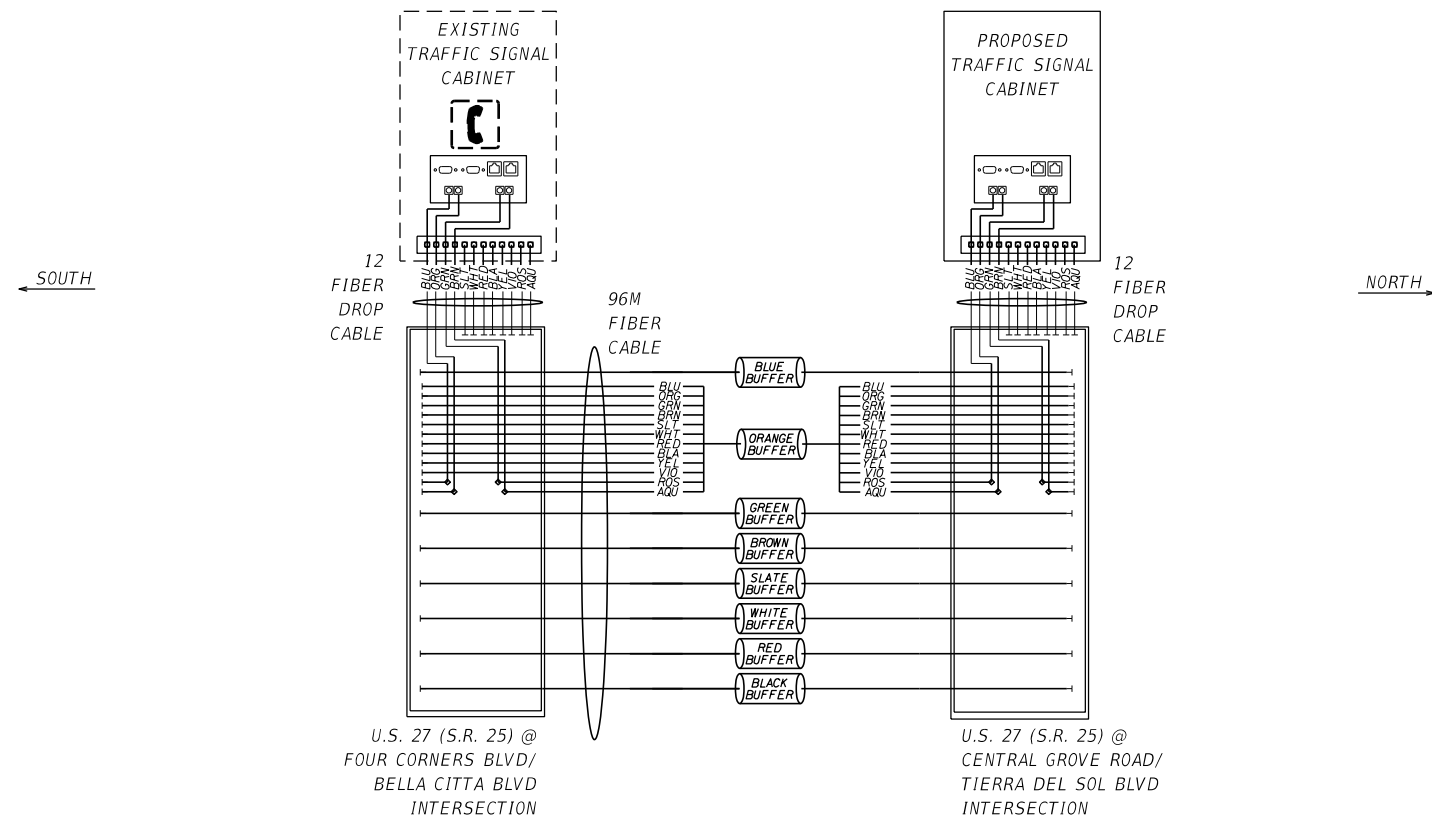
**AECOM** Technical Services  
212 East Main Street  
Bartow, FL 33830-4631  
PATRICK B. NEVAH, P.E. 72369

POLK COUNTY  
ROADS AND DRAINAGE  
APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

TIERRA DEL SOL  
CCTV WIRING DIAGRAM

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COUNTY PROJ. NO.	SHEET NO.
5400229	32



**LEGEND:**

= FIELD CABINET	= 12-PORT FIELD TERMINATED PATCH PANEL
= CABINET	= PROPOSED SPLICE BOX
= EXISTING CELLULAR MODEM	

**NOTE:**

1. ALL TRUNK FIBERS ARE TO REMAIN SPLICED THROUGH. CUT AND SPLICE TO THE DROP FIBER ONLY THOSE FIBERS SHOWN.

= 100 Mbps ETHERNET PORT
= FIBER SPLICE
= UNTERMINATED FIBER
= MULTIPLE SPLICE

REVISIONS											
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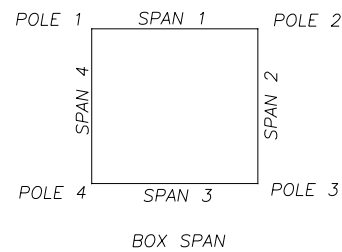
PATRICK B. NEVAH, P.E. 72369

POLK COUNTY  
 ROADS AND DRAINAGE

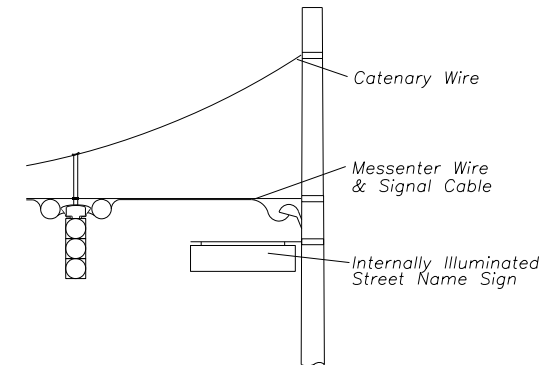
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TIERRA DEL SOL  
 FIBER OPTIC SPLICING DETAIL

NOTE:  
CCTV TO BE MOUNTED 35' ABOVE  
FINISHED GROUND ELEVATION AT  
BASE OF POLE 1.



CRITICAL ELEVATION DIFFERENTIAL IS THE DIFFERENCE IN ELEVATION FROM THE POLE LOCATION TO THE HIGHEST POINT OF THE ROADWAY THAT SPAN(S) CROSSES. A POSITIVE ELEVATION DIFFERENTIAL INDICATES THE POLE LOCATION IS LOWER THAN THE ROADWAY.



INITIAL TRAFFIC SIGNAL LOCATIONS AND INFORMATION.

LOC. NO.	SHEET NO.	P O L E	STRUC. ID NO.	FDN. ELEV.	CRIT. ELEV. DIF.	CONC. OR STEEL	COLOR IF STEEL	S P A N	SPAN LENGTH	BACK-PLATES (Y/N)	SIGNAL DATA DISTANCE FROM POLE/NUMBER OF SECTIONS								VEHICLE DETECTOR ASSEMBLY DISTANCE FROM POLE OPTICAL (OPT.) / VIDEO				SIGN DATA DISTANCE FROM POLE/HEIGHT & WIDTH ("P" = attached to pole)													
											DIST.	SEC.	DIST.	SEC.	DIST.	SEC.	DIST.	SEC.	DIST.	SEC.	DIST.	SEC.	DIST.	HT.	DIST.	HT.	WIDTH	DIST.	HT.	WIDTH	DIST.	HT.	WIDTH			
1	18	1	N/A	203.54'	5.61'	CONC.	—	1	170'	Y	65.5'	3	79'	3	92'	3	—	—	—	—	—	—	85.5'	OPT.	—	—	—	P	2.0'	9.0'	72'	2.5'	2.5'	—	—	—
1	18	2	N/A	202.41'	2.95'	CONC.	—	2	219'	Y	114'	3	126'	3	138'	3	150'	3	—	—	—	—	144'	OPT.	—	—	—	P	2.0'	8.5'	169'	2.5'	2.5'	—	—	—
1	18	3	N/A	203.09'	2.27'	CONC.	—	3	125'	Y	45'	3	74'	3	86'	3	—	—	—	—	—	—	80'	OPT.	—	—	—	P	2.0'	9.0'	68'	2.5'	2.5'	—	—	—
1	18	4	N/A	205.21'	3.94'	CONC.	—	4	197'	Y	130'	3	142'	3	154'	3	166'	3	—	—	—	—	160'	OPT.	—	—	—	P	2.0'	8.5'	183'	2.5'	2.5'	—	—	—

ULTIMATE TRAFFIC SIGNAL LOCATIONS AND INFORMATION  
WHICH THE STRUCTURAL DESIGN IS TO BE BASED UPON.

LOC. NO.	SHEET NO.	P O L E	STRUC. ID NO.	FDN. ELEV.	CRIT. ELEV. DIF.	CONC. OR STEEL	COLOR IF STEEL	S P A N	SPAN LENGTH	BACK-PLATES (Y/N)	SIGNAL DATA DISTANCE FROM POLE/NUMBER OF SECTIONS								VEHICLE DETECTOR ASSEMBLY DISTANCE FROM POLE OPTICAL (OPT.) / VIDEO				SIGN DATA DISTANCE FROM POLE(*)/HEIGHT & WIDTH ("P" = attached to pole)													
											DIST.	SEC.	DIST.	SEC.	DIST.	SEC.	DIST.	SEC.	DIST.	SEC.	DIST.	SEC.	DIST.	HT.	DIST.	HT.	WIDTH	DIST.	HT.	WIDTH	DIST.	HT.	WIDTH			
1	18	1	N/A	203.54'	5.61'	CONC.	—	1	170'	Y	70'	4	74'	4	84'	3	92'	5	—	—	—	—	89'	OPT.	—	—	—	P	2.0'	9.0'	66'	2.5'	2.5'	—	—	—
1	18	2	N/A	202.41'	2.95'	CONC.	—	2	219'	Y	114'	3	126'	3	138'	3	150'	3	—	—	—	—	144'	OPT.	—	—	—	P	2.0'	8.5'	168'	2.5'	2.5'	—	—	—
1	18	3	N/A	203.09'	2.27'	CONC.	—	3	125'	Y	50'	4	77'	4	87'	3	95'	3	—	—	—	—	92'	OPT.	—	—	—	P	2.0'	9.0'	73'	2.5'	2.5'	—	—	—
1	18	4	N/A	205.21'	3.94'	CONC.	—	4	197'	Y	130'	3	142'	3	154'	3	166'	3	—	—	—	—	160'	OPT.	—	—	—	P	2.0'	8.5'	136'	2.5'	2.5'	183'	2.5'	2.5'

REVISIONS

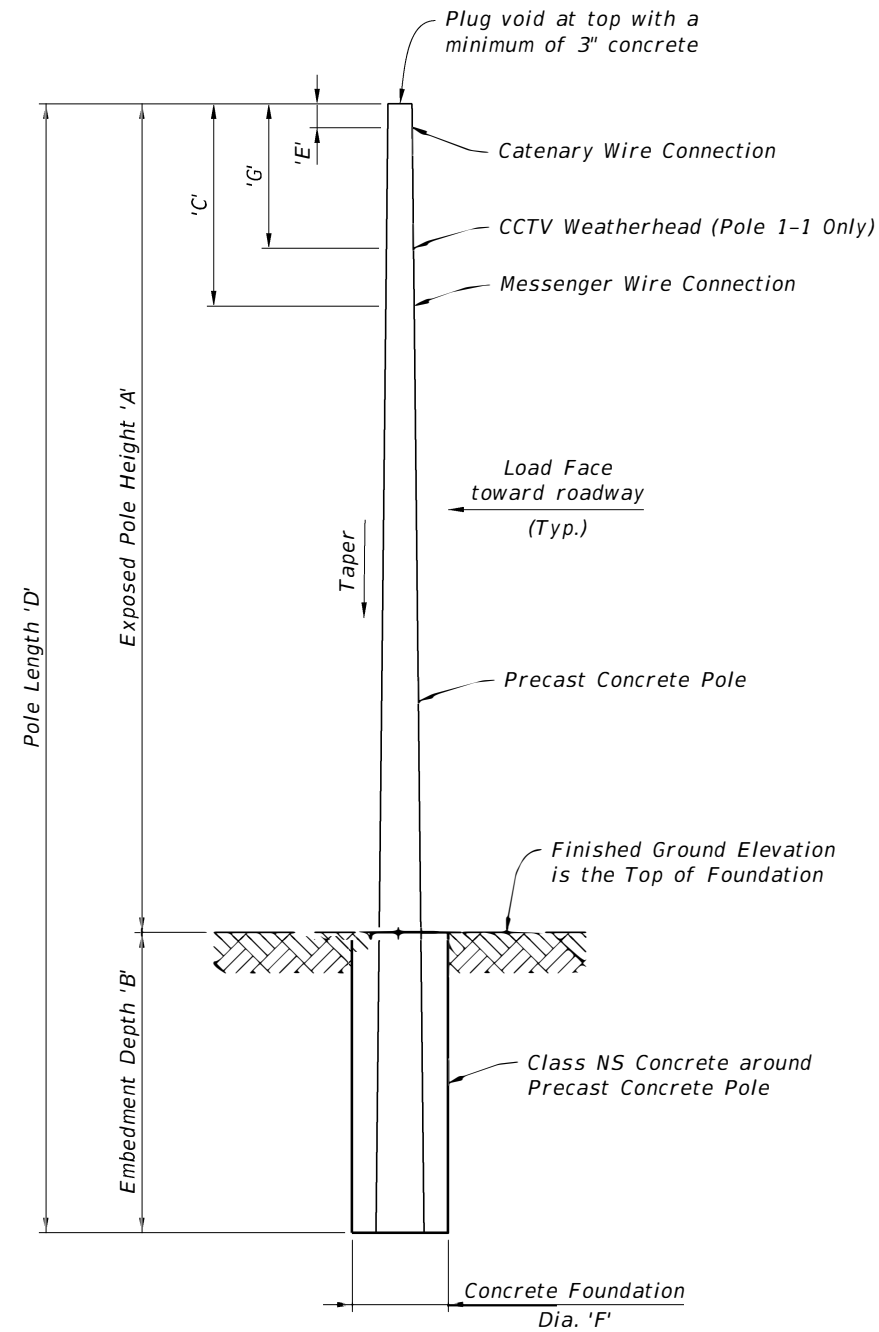
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**AECOM** AECOM Technical Services  
212 East Main Street  
Bartow, FL 33830-4631  
PATRICK B. NEVAH, P.E. 72369

POLK COUNTY  
ROADS AND DRAINAGE  
APPROVED BY: DATE:

TIERRA DEL SOL  
STRAIN POLE SCHEDULE

POLE SCHEDULE									
POLE NO.	INTERSECTION	TYPE	DIMENSIONS						
			'A' (FT.)	'B' (FT.)	'C' (FT.)	'D' (FT.)	'E' (FT.)	'F' (FT.)	'G' (FT.)
1-1	SR 27 & Tierra Del Sol	P-VIII	45.00	18.00	15.04	63.00	4.04	4.00	11.00
1-2		P-VIII	47.00	18.00	15.91	65.00	3.91	4.00	-
1-3		P-VIII	47.00	18.00	16.59	65.00	4.59	4.00	-
1-4		P-VIII	46.00	18.00	17.71	64.00	6.71	4.00	-



**CONCRETE STRAIN POLE ELEVATION**  
(NOT TO SCALE)

**NOTES**

1. Work this sheet with Design Standards Index No's. 634-001, 641-010 & 659-010 and Signalization Plans.
2. Cable Sizes: Both the Catenary and Messenger wires to be = 1/2" Diameter. Comply with Specification Section 634 (Span Wire Assembly).
3. Refer to the FDOT Standard Plans Instructions of Index 641-010 for Soil Parameters.
4. Contractor is responsible for reviewing the Geotechnical Report prior to installing the foundations. Assume that layers of very loose sands and very soft clay may be encountered. Additionally, caving soils may be encountered during the excavations.
5. Wind Loading: A 140-MPH (3-second gust) wind speed in conjunction with a 300 year Extreme Event Limit State per the FDOT Modifications to AASHTO LRFD LTS-1.
6. Provide a 17'-6" minimum vertical clearance to the roadway, for all items attached to the span wires.
7. Installation shall be in accordance with Specification Section 641. Construct the foundations with Class NS concrete as noted in Specification Section 347. A minimum clearance of 3 inches between the exterior of any pole and the sides of the foundation shall be maintained. The diameter of the foundations shall be as indicated in the Pole Schedule.
8. Embedment depths are based on a finish ground elevation adjacent to the top of foundation being 1:4 or flatter. For steeper slopes, consult with the Engineer prior to manufacturing the poles.
9. Prior to manufacturing the poles, the Contractor is responsible for determining pick-up, storage, and transportation points on the poles.
10. Contractor shall field verify all dimensions, utilities, and locations prior to fabrication and construction.
11. The Concrete Poles are designed to support a 15 foot long, horizontal arm with a light fixture. The light fixture shall have a maximum Effective Projected Area of 1.5 sf and a maximum weight of 51 pounds. The horizontal support arm shall have a maximum Effective Projected Area of 3.1 sf and a maximum weight of 43 pounds. The Contractor shall submit shop drawings and calculations, signed and sealed by a professional engineer licensed in the State of Florida, for the arm assembly and the connection to the Concrete Poles. Shop Drawings must be reviewed and approved prior to ordering. Provide 2" wiring hole in upper arm for 1" min. I.D. rubber grommet. Refer to Luminaire & CCTV Detail for more information
12. Provide a 15 foot aluminum arm, attachment to pole and lighting meeting the intent of FDOT Index 715-002 sheets 2 and 3 of 9. Also refer to Note 11 on this sheet for additional criteria. Arm must be able to rotate and swivel after installation. Arm must be installed to a rectangular FDOT Type P-VIII Concrete pole. Refer to Sheet 36 Lighting Plan Sheet for the angles needed to meet the lighting photometrics.
13. Refer to sheet 37 for information related to the CCTV equipment attached to the rectangular FDOT Type P-VIII concrete pole. For the attachment to the pole, submit either manufacturer's literature for attachment to the pole, or shop drawings prepared by a Professional Engineer licensed in the State of Florida.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

**AECOM** Technical Services  
212 East Main Street  
Bartow, FL 33830-4631  
GEORGE R. PAPADOPOULOS, P.E. NO. 55843

**POLK COUNTY  
ROADS AND DRAINAGE**  
APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

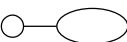



**TIERRA DEL SOL  
STRAIN POLE DETAIL**

### LIGHTING DATA TABLE

POLE NO.	STATION	OFFSET	X-COORDINATES	Y-COORDINATES	ALIGNMENT	POLE OWNER	MAINTAINING AGENCY	POLE TYPE	ARM LENGHT (FT)	LUMEN OUTPUT *	MOUNTING HEIGHT (FT)	TILT ANGLE	INPUT WATTAGE	INPUT VOLTAGE	LOAD CENTER NUMBER	CIRCUIT NUMBER	FOUNDATION TYPE	PAY ITEM	NOTES **
S-1-1	21+37.28	95.4, RT	764589.268	1436211.508	BL US 27	FDOT	POLK COUNTY	STANDARD	12	44255	50	0	319	120	SIGNAL	1	STANDARD	715-61-542	AO 7
S-1-2	15+44.17	33.0, RT	764354.524	1436279.882	BL CENTRAL GROVE RD	FDOT	POLK COUNTY	STANDARD	12	44255	50	0	319	120	SIGNAL	1	STANDARD	715-61-542	AO 7
S-1-3	24+17.57	90.0, RT	764555.724	1436439.396	BL US 27	FDOT	POLK COUNTY	STANDARD	12	44255	50	0	319	120	SIGNAL	1	STANDARD	715-61-542	AO 7
S-1-4	15+94	74.8, RT	764410.408	1436239.453	BL CENTRAL GROVE RD	FDOT	POLK COUNTY	STRAIN POLE	15	44255	48.5	5	319	120	SIGNAL	1	STRAIN POLE	715-5-31	AO 7
S-1-5	17+80.36	63.0, LT	764585.861	1436390.428	BL TIERRA DEL SOL	FDOT	POLK COUNTY	STRAIN POLE	15	44255	48.5	5	319	120	SIGNAL	1	STRAIN POLE	715-5-31	AO 7
S-1-6	17+90.7	61.5, RT	764605.066	1436267.101	BL TIERRA DEL SOL	FDOT	POLK COUNTY	STRAIN POLE	15	44255	48.5	5	319	120	SIGNAL	1	STRAIN POLE	715-5-31	AO 7
S-1-7	15+56.5	90.0, LT	764369.333	1436401.946	BL CENTRAL GROVE RD	FDOT	POLK COUNTY	STRAIN POLE	15	44255	48.5	5	319	120	SIGNAL	1	STRAIN POLE	715-5-31	AO 7

\* HOUSE SIDE SHIELD = 44,255 LUMENS  
 \*\* ADJUSTABLE OUTPUT RESPONSE (AO) 7 = 94% LUMEN OUTPUT AND FIXTURE WATTAGE

### LEGEND

-  SINGLE ARM LIGHTING STANDARD ALUMINUM POLE, SHOULDER MOUNT, IDENTIFICATION TAG AND LED LUMINAIRE WITH HOUSE -SIDE SHIELD DESIGNED FOR TYPE III OPTICS, AMERICAN ELECTRIC LIGHTING CATALOG NUMBER ATB2 P904 R3 4K HSS, 120 VOLT OPERATION, 319 WATT, MOUNTING HEIGHT 50-FT, SYMBOL INCLUDES POLE CABLE DISTRIBUTION SYSTEM (PAID FOR SEPARATELY), ALUMINUM POLE WITH FRANGIBLE BASE, CONCRETE FOUNDATION, CONCRETE PAD AND GROUNDING.
-  SINGLE ARM AND LED LUMINAIRE WITH HOUSE-SIDE SHIELD DESIGNED FOR TYPE III OPTICS, AMERICAN ELECTRIC LIGHTING CATALOG NUMBER ATB2 P904 R3 4K HSS, 319 WATT, MOUNTING HEIGHT 48.5-FT, INSTALLED ON CONCRETE TRAFFIC SIGNAL STRAIN POLE.
-  TWO (2) 2" SCHEDULE 40 PVC CONDUITS, ONE ACTIVE AND ONE SPARE, DIRECTIONAL BORE, TERMINATE IN PULL BOXES. THE ACTIVE CONDUIT SHALL CONTAIN CONDUCTORS AS INDICATED ON PLANS. ALL CONDUCTORS SHALL BE STRANDED COPPER. GROUND CONDUCTORS SHALL HAVE GREEN COLOR INSULATION. RUN GROUND CONDUCTORS INSIDE ACTIVE CONDUIT WITH OTHER CONDUCTORS.
-  PULL BOX WITH CONCRETE PAD AND A 3/8" X 20 FT. GROUND ROD. PROVIDE PULL BOXES WHERE SHOWN ON PLANS, AT BOTH ENDS OF CONDUIT AT ROADWAY CROSSINGS AND ELSEWHERE AS NECESSARY FOR THE COMPLETION OF THE PROJECT.

### PANEL SCHEDULE

Vworking	120			
US 27/TIERRA DEL SOL SIGNAL CABINET 22+60				
		TOTAL AMPS	VA	NOTES
	CKT			
	S-1	17.49	2099.01	STREET LIGHTING
		17.49	2099.01	125% CONTINUOUS LOAD
		21.86	2623.77	TOTAL LOAD

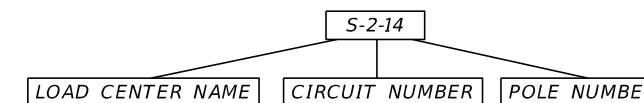
ADD 30 AM SINGLE POLE BREAKER TO SIGNAL CABINET FOR ROADWAY LIGHTING CIRCUIT. REFER TO SIGNAL PLANS FOR LOCATION.

### LIGHTING CRITERIA

#### SIGNALIZED INTERSECTION AND NEW OR RECONSTRUCTION LIGHTING DESIGN CRITERIA

Average Initial Intensity (Intersection)	3.0 H.F.C. (Std.)
Average Initial Intensity (Intersection)	1.5 V.F.C. (Std.)
Uniformity Ratio Avg./Min.	4:1 OR LESS
Uniformity Ratio Max./Min.	10:1 OR LESS
Veiling Luminance Ratio	N/A
Wind Speed (Orange County)	140 MPH

#### POLE ID NAMING CONVENTION



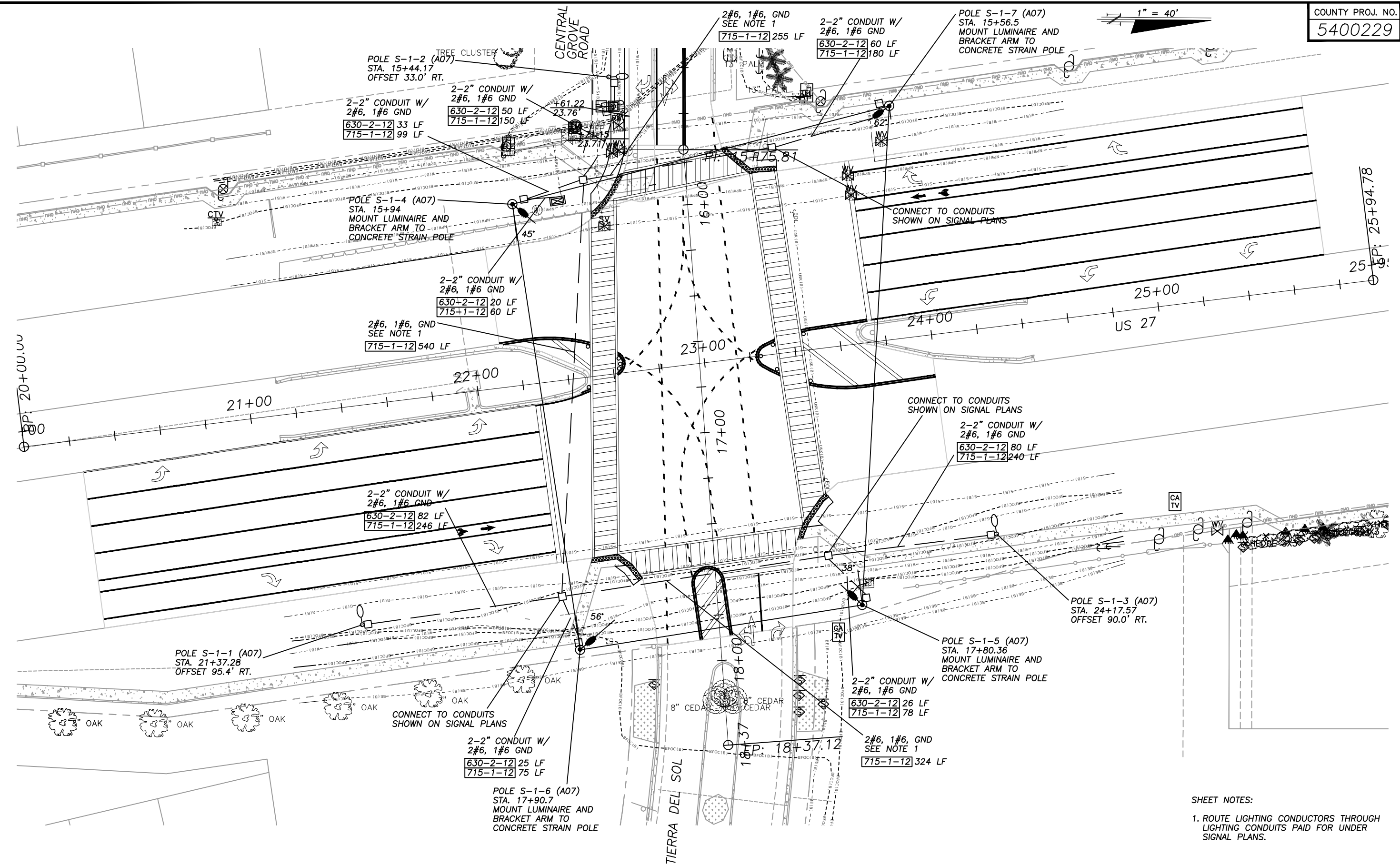
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**AECOM** Technical Services  
 212 East Main Street  
 Bartow, FL 33830-4631  
 ALEXIS MOUSADI, P.E. 50764

**POLK COUNTY ROADS AND DRAINAGE**  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

**TIERRA DEL SOL**  
**LIGHTING DATA TABLE & LEGEND**

COUNTY PROJ. NO.	SHEET NO.
5400229	36



SHEET NOTES:  
 1. ROUTE LIGHTING CONDUCTORS THROUGH LIGHTING CONDUITS PAID FOR UNDER SIGNAL PLANS.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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 AECOM Technical Services  
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 Bartow, FL 33830-4631  
 ALEX MOUSADI, P.E. 50764

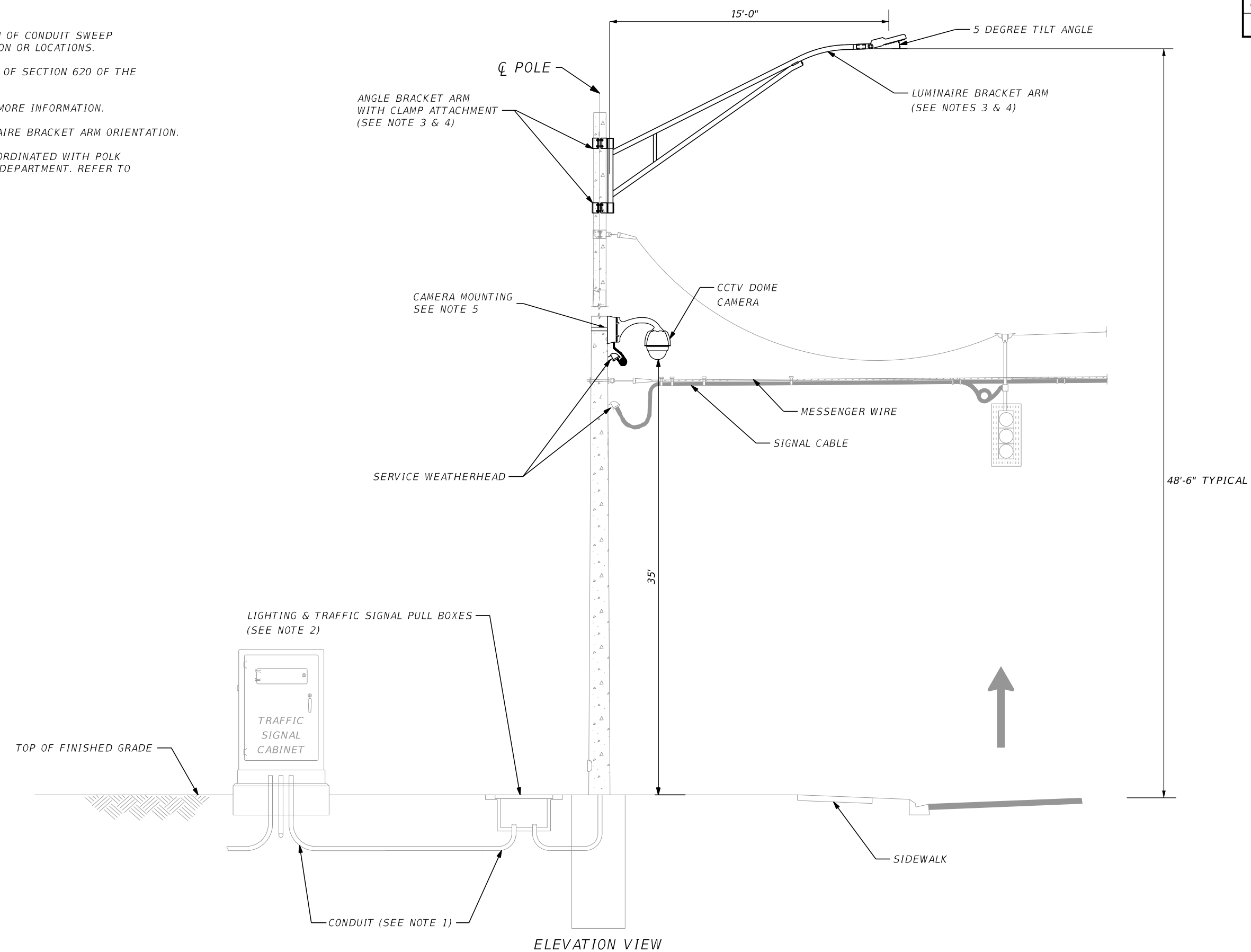
POLK COUNTY  
 ROADS AND DRAINAGE  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

US 27  
 LIGHTING PLAN SHEET

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COUNTY PROJ. NO.	SHEET NO.
5400229	37

- NOTES:
1. THE NUMBER, SIZE AND ORIENTATION OF CONDUIT SWEEP WILL VARY ACCORDING TO SITE CONDITION OR LOCATIONS.
  2. MEET ALL GROUNDING REQUIREMENTS OF SECTION 620 OF THE STANDARD SPECIFICATIONS.
  3. REFER TO STRAIN POLE DETAIL FOR MORE INFORMATION.
  4. REFER TO LIGHTING PLAN FOR LUMINAIRE BRACKET ARM ORIENTATION.
  5. CAMERA MOUNTING HEIGHT TO BE COORDINATED WITH POLK COUNTY TRAFFIC AND TRANSPORTATION DEPARTMENT. REFER TO SIGNAL PLANS FOR MORE INFORMATION.



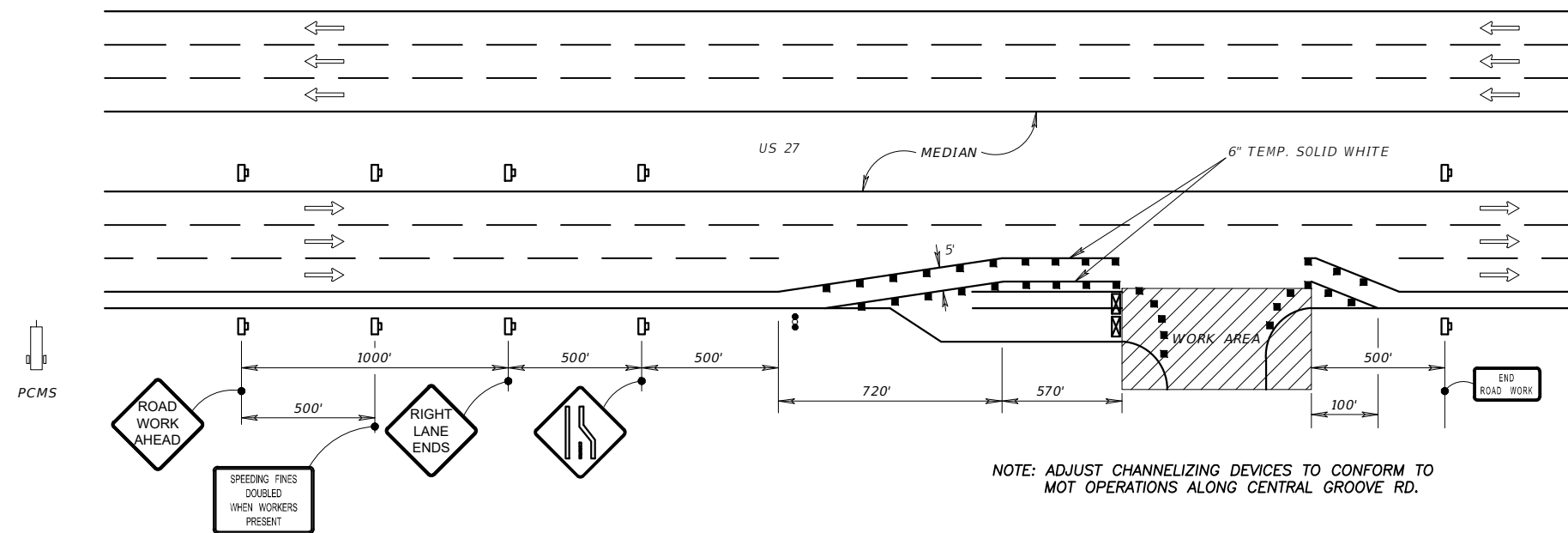
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 212 East Main Street  
 Bartow, FL 33830-4631  
 ALEXIS MOUSADI, P.E. 50764

**POLK COUNTY**  
**ROADS AND DRAINAGE**  
 APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

**TIERRA DEL SOL**  
**LUMINAIRE & CCTV DETAIL**

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NOTE: ADJUST CHANNELIZING DEVICES TO CONFORM TO MOT OPERATIONS ALONG CENTRAL GROOVE RD.

**LEGEND**

- Work Area
- Work Zone Sign
- Type III Barricade
- Portable Changeable (Variable) Message Sign
- Channelizing Device (50' Spacing) (TYP.) (See Std. Plans 102)
- Advanced Warning Arrow Board
- Lane Identification and Direction of Traffic

**LANE CLOSURE DETAIL (US 27)**

REGULATORY SPEED (POSTED) = 60MPH  
NTS

MESSAGES TWO WEEKS PRIOR CONST.

MESSAGE 1: RT LANE CLOSED US 27	MESSAGE 2: XX/XX/XX TO XX/XX/XX
--	--

MESSAGES DURING CONST.

MESSAGE 1: RT LANE CLOSED US 27	MESSAGE 2: USE CAUTION
--	------------------------------

**GENERAL NOTES**

1. THE REGULATORY SPEED SHALL BE MAINTAINED DURING CONSTRUCTION.
2. TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO FDOT STANDARD PLANS 102 SERIES.
3. NOTIFY THE ENGINEER A MINIMUM OF 14 DAYS IN ADVANCED OF ANY LANE CLOSURES.
4. NOTIFY ALL LOCAL EMERGENCY MANAGEMENT AGENCIES OF ALL SCHEDULED LANE CLOSURES TWO WEEKS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
5. LANE CLOSURES ON US 27 SHALL BE ALLOWED FROM 7:00 PM TO 7:00 AM.
6. PEDESTRIAN CROSSING CLOSURE SHALL COMPLY WITH FDOT STANDARD DRAWING 102-660.

**REVISIONS**

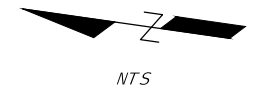
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**AECOM**  
AECOM Technical Services  
212 East Main Street  
Bartow, FL 33830-4631  
ROBERT N. JULIUS, P.E. 54039

POLK COUNTY  
ROADS AND DRAINAGE  
APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

US 27  
TEMPORARY TRAFFIC CONTROL (1)





SIDEWALK CLOSED  
AT CENTRAL GROVE RD.



SIDEWALK  
CLOSED

SIDEWALK  
CLOSED



SIDEWALK CLOSED  
AT CENTRAL GROVE RD.



SIDEWALK CLOSED  
AT CENTRAL GROVE RD.



SIDEWALK CLOSED  
AT CENTRAL GROVE RD.

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POLK COUNTY  
ROADS AND DRAINAGE  
APPROVED BY:      DATE:

US 27  
SIDEWALK CLOSURE PLAN (1)