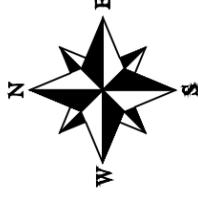


STREET LIGHTING GENERAL NOTES:

1. THIS PROJECT WILL BE BID FOR THE INSTALLATION OF THE PEDESTRIAN, AND STREET LIGHTING. BASE PROJECT: COMPLETE THE MAIN PATH PEDESTRIAN LIGHTING ALONG RIVERSIDE PARKWAY.
2. THIS PROJECT CONSISTS OF WORK TO INSTALL ALL WIRING, CONDUIT, PULL BOXES, AND POWER PANEL. REFERENCE SCHEDULE OF LIGHTING DEVICES AND SUMMARY OF QUANTITIES DRAWING E2.
3. LIGHT STANDARD & LUMINARIES (PEDESTRIAN AND STREET LIGHT), SHALL INCLUDE THE FOLLOWING ITEMS FROM MH LIGHTING LOCATED AT 1044 SPEER BOULEVARD, DENVER, CO 80204-0222, 303.573.0222. THE ITEMS NUMBERS ARE AS FOLLOWS.
4. TYPE SA - 1A-1527LED-R-5V1-4ARC35T2-MDL03-EZ/OAPT/450P414/BK, PROVIDE COLLISION BREAK AWAY CONNECTORS. FIXTURE TO BE 12' ABOVE FINISHED GRADE TO BOTTOM OF LIGHT.
5. TYPE SB-GL18-1-2-230LA-NW-240-BLPPC, PROVIDE COLLISION BREAK AWAY CONNECTORS. FIXTURE TO BE 27' ABOVE FINISHED GRADE TO BOTTOM OF LIGHT.
6. ALL PEDESTRIAN LIGHTING FIXTURES(TYPE "SA") INSTALLED ON THE PROJECT WILL BE CONTROLLED WITH A ELECTRICAL CONTRACTOR SUPPLIED PHOTO CELL TO BE LOCATED IN NEW MILBANK POWER PEDESTALS #CF3B5451XB 22SL1. ONE PANEL PP2 WILL BE LOCATED AT THE WEST RESTROOMS AND ONE PANEL PP1 WILL BE LOCATED AT THE CENTER RESTROOMS.
7. ALL STREET LIGHTING FIXTURES(TYPE "SB") WILL EACH BE ORDERED WITH THEIR OWN PHOTOCELL INSTALLED IN THE FIXTURE, AND POWERED WITH NEW 208 VOLT 3PHASE MILBANK POWER PEDESTAL #CF3B5451XK 22CL1.
8. PROVIDE 2" PVC SCHEDULE 80 CONDUIT WITH PULL STRING TO FUTURE WEST PARKING LOT FROM PANEL PP2 AS SHOWN IN DRAWINGS.
8. PROVIDE 2" PVC SCHEDULE 80 CONDUIT WITH PULL STRING TO FUTURE EAST PARKING LOT FROM PANEL PP1 AS SHOWN IN DRAWINGS.
9. ELEVATIONS SHOWN IN THE SCHEDULE OF LIGHTING DEVICES ON THE PLANS SHEETS REPRESENT THE DESIGN FINISHED GRADE OR THE EXISTING GROUND FINISHED GRADE. THESE ELEVATIONS DO NOT INDICATE THE TOP ELEVATION OF THE LUMINARIES (PEDESTRIAN) FOUNDATION. PEDESTRIAN LIGHTING FOUNDATIONS SHALL BE CONSTRUCTED PER THE MANUFACTURERS RECOMMENDATIONS.
10. PULL BOXES FOR LIGHT STANDARD (PEDESTRIAN AND STREET) WILL BE TYPE 1 CDOT PULL BOXES 11"X18"X12".
11. PULL BOXES WILL BE INSTALLED IN GRADES WITHOUT CONCRETE WHERE POSSIBLE.
12. ALL ELECTRICAL CONDUIT SHALL BE SCHEDULE 80 PVC UNLESS NOTED OTHERWISE, TYPICAL.
13. UNLESS OTHERWISE NOTED, THE WORK DESCRIBED ON THE PLANS SHALL INCLUDE PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM. FURNISH ALL REQUIRED ITEMS WHETHER SUCH ARE SPECIFICALLY SHOWN OR NOT.
14. INFORMATION SHOWN ON DRAWINGS IS DIAGRAMMATIC ONLY AND SHALL NOT BE SCALED. OBTAIN VERIFY EXACT LOCATIONS, MEASUREMENTS, LEVELS, SPACE REQUIREMENTS, POTENTIAL CONFLICTS AMONG TRADES AND FOR ADJUSTING THE WORK REQUIRED BY THE ACTUAL CONDITIONS OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDER GROUND OBSTRUCTIONS AND MAKING ALLOWANCES FOR FIELD ADJUSTMENT OF LOCATION OF LUMINARIES TO AVOID SHUT DOWN OF ANY SERVICES OR SYSTEMS THAT ARE TO REMAIN.
15. BEFORE SUBMITTING THE BID ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE THE PREMISES AND/OR JOB SITE SO AS TO ASCERTAIN THE EXISTING CONDITIONS IN WHICH THE CONTRACTOR WILL BE OBLIGED TO OPERATE IN PERFORMING HIS PART OF THE CONTRACT TO ANTICIPATE ANY POSSIBLE SPACE RESTRICTIONS OR CONSTRAINTS THAT COULD AFFECT THE TIMELY COMPLETION OF THE ELECTRICAL WORK IN ACCORDANCE WITH THE INTENT OF THE SPECIFICATIONS AND DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL REPORT TO THE PROJECT ENGINEER OR GENERAL CONTRACTOR ANY CONDITIONS THAT MIGHT PREVENT THE SPECIFIED ELECTRICAL WORK FROM BEING PERFORMED IN THE MANNER INTENDED. NO CONSIDERATION OR ALLOWANCE WILL BE GRANTED TO THE ELECTRICAL CONTRACTOR FOR FAILURE TO VISIT THE PROJECT SITE, OR FOR ANY ALLEGED MISUNDERSTANDING OF THE MATERIALS TO BE FURNISHED OR WORK TO BE DONE.
16. THE ELECTRICAL CONTRACTOR SHALL EXAMINE THE DRAWINGS OF ALL TRADES WHOSE WORK RELATES TO OR IS DEPENDENT ON ELECTRICAL WORK TO BECOME FULLY INFORMED OF THE EXTENT AND CHARACTER OF THEIR SPECIFIED WORK AND BE ABLE TO COORDINATE WITH OTHER TRADES WHILE AVOIDING POSSIBLE INTERFERENCE WITH THE ELECTRICAL WORK.

PP1-X ELECTRICAL CIRCUIT NUMBER (REFER TO PANEL SCHEDULES)

- HEAVY DUTY, TRAFFIC RATED, FLUSH-TO-GRADE POLYMER CONCRETE SPlice BOX WITH HEAVY DUTY, TRAFFIC RATED, BOLTED COVER. 11"X18"X12" TYPE 1.
- UNDER GROUND BURIED RACEWAY (2#4 THWN CU AND 1#6 GND) N 2" PVC CONDUIT (UNLESS NOTED OTHERWISE ON PLANS) IN 24" DEEP TRENCH, BURY AND COMPACTED BACKFILL TO PRE CONSTRUCTION CONDITION.
- INSTALL SINGLE ARM PEDESTRIAN STANDARD OR STREET STANDARD AS SPECIFIED.



Know what's below.
Call before you dig.



ACM CONSULTING
ELECTRICAL DESIGN, CONSULTING
ENGINEERS: PH: 970-245-7292
PO 3211 GRAND JCT., CO 81502
EMAIL: joelm@ACMengra.com

REVISION	DESCRIPTION	DATE	DRAWN BY	AJM	DATE	1/29/18	SCALES:	PLAN & PROFILE
REVISION Δ			DESIGNED BY	AJM	DATE	1/29/18	0	HORIZONTAL
REVISION Δ			CHECKED BY	AJM	DATE	1/29/18	0	VERTICAL
REVISION Δ			APPROVED BY	JT	DATE	1/29/18	0	



PUBLIC WORKS
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 1A
COMPOSITE UTILITY PLAN

E1
of 12

Schedule of Lighting Devices

DESCRIPTION	LUMINAIRE LED PEDESTRIAN (70 WATT) TYPE SA EACH		LUMINAIRE LED STREET (250 WATT) TYPE SB EACH		NOTES	
	PLAN	PROFILE	PLAN	PROFILE		
E3	SA-1	31570.70	94784.20	1	1,2	
E3	SB-1	31510.60	94820.50	1	1,2	
E3	SA-2	31504.10	94874.47	1	1,2	
E3	SA-3	31509.82	94928.43	1	1,2	
E3	SB-2	31521.39	95002.57	1	1,2	
E3	SA-4	31536.02	95053.20	1	1,2	
E3	SA-5	31551.07	95117.78	1	1,2	
E4	SA-6	31557.48	95184.76	1	1,2	
E4	SA-7	31554.85	95251.99	1	1,2	
E4	SA-8	31543.22	95318.26	1	1,2	
E4	SA-9	31522.80	95382.37	1	1,2	
E4	SA-10	31496.29	95442.70	1	1,2	
E4	SA-11	31478.52	95517.81	1	1,2	
E4	SA-12	31481.33	95594.95	1	1,2	
E4	SB-3	31494.79	95645.02	1	1,2	
E4	SA-13	31532.69	95721.87	1	1,2	
E4	SA-14	31534.96	95780.40	1	1,2	
E5	SA-15	31564.50	95839.59	1	1,2	
E5	SA-16	31568.38	95891.78	1	1,2	
E5	SA-17	31589.65	95950.30	1	1,2	
E5	SA-18	31612.01	96005.46	1	1,2	
E5	SA-19	31648.97	96054.14	1	1,2	
E5	SA-20	31679.27	96128.24	1	1,2	
E5	SA-21	31724.41	96188.33	1	1,2	
E6	SA-22	31788.91	96240.63	1	1,2	
E6	SA-23	31840.48	96300.21	1	1,2	
E6	SA-24	31904.80	96344.88	1	1,2	
E6	SA-25	31956.14	96373.93	1	1,2	
E6	SA-26	32010.19	96386.64	1	1,2	
E6	SA-27	32059.31	96417.56	1	1,2	
E6	SA-28	32119.98	96435.11	1	1,2	
E6	SA-29	32173.20	96434.88	1	1,2	
E7	SA-30	32235.36	96457.20	1	1,2	
E7	SA-31	32298.02	96468.34	1	1,2	
E7	SA-32	32353.07	96474.10	1	1,2	
E7	SA-33	32385.08	96537.71	1	1,2	
E7	SB-4	32437.73	96584.97	1	1,2	
E7	SA-34	32425.99	96669.85	1	1,2	
E7	SB-5	32467.43	96485.56	1	1,2	
E7	SB-6	32436.81	96392.04	1	1,2	
E6	SA-35	32169.39	96385.91	1	1,2	
E6	SA-36	32025.69	96349.38	1	1,2	
E6	SA-37	31806.87	96202.69	1	1,2	
E5	SA-38	31676.78	96023.19	1	1,2	
E5	SA-39	31576.57	95711.92	1	1,2	
E3	SB-7	31569.32	94859.79	1	1,2	
TABLE TOTALS				39	46	7

SCHEDULE OF LIGHTING DEVICES NOTES:

- FOUNDATION TOP HEIGHT EQUAL TO ADJACENT SIDEWALK
- FOUNDATION TOP HEIGHT AT 2'6" AS SHOWN IN DETAIL.

REVISION Δ	DATE	DRAWN BY AJM	DATE 1/29/18
REVISION Δ		DESIGNED BY AJM	DATE 1/29/18
REVISION Δ		CHECKED BY AJM	DATE 1/29/18
REVISION Δ		APPROVED BY JT	DATE 1/29/18

CITY OF
Grand Junction
C O L O R A D O

PUBLIC WORKS
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 1A
COMPOSITE UTILITY PLAN

E2
of 12

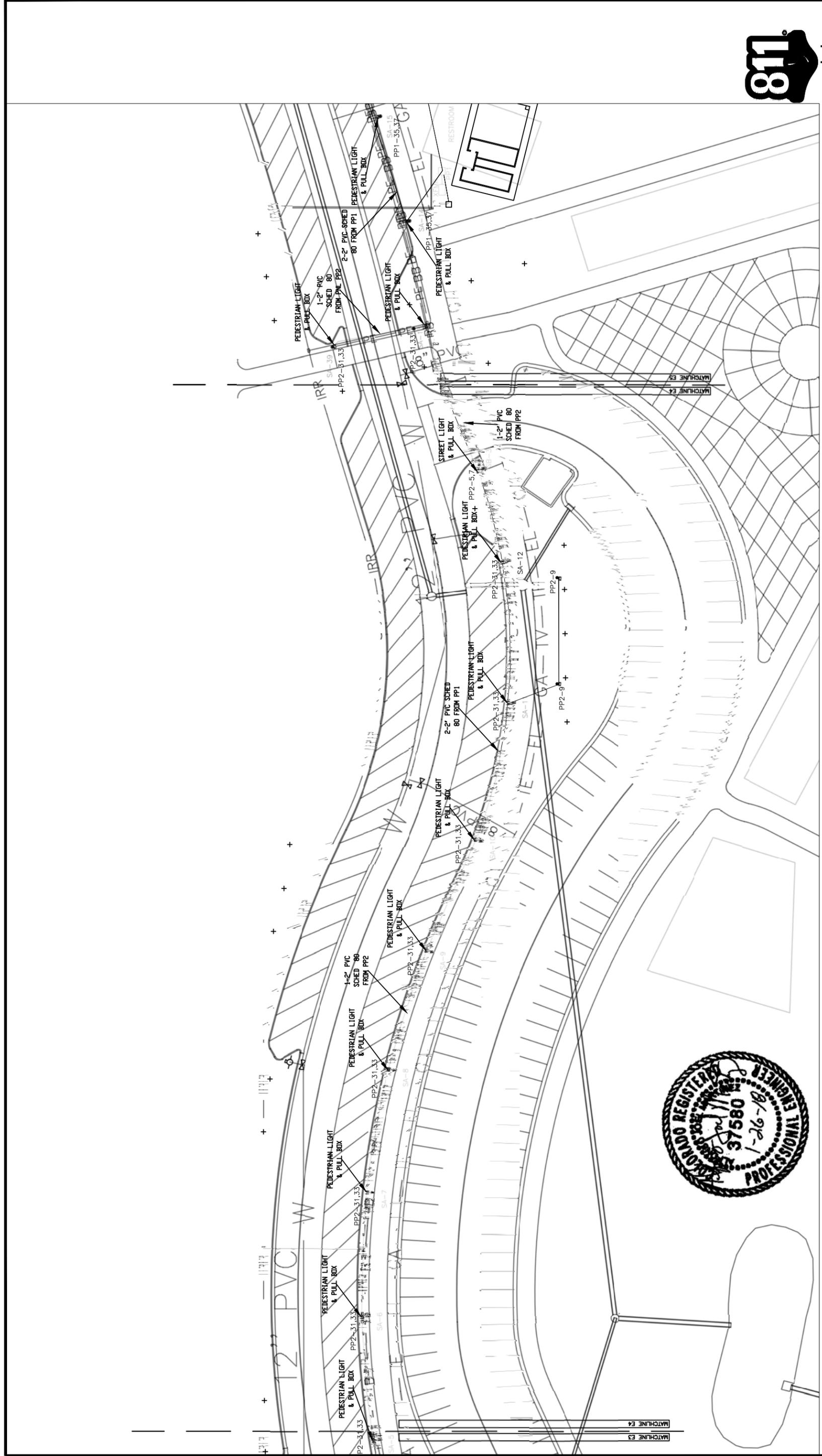
STREET LIGHTING GENERAL NOTES:
1. EACH LIGHT TO HAVE A PULL BOX, REFERENCE ELECTRICAL SHEETS.



Know what's below.
Call before you dig.



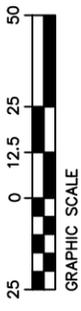
ACM CONSULTING
ELECTRICAL DESIGN, CONSULTING
ENGINEERS: PH: 970-245-7292
PO 3211 GRAND JCT., CO 81502
EMAIL: joelm@ACMengr.com



Know what's below.
Call before you dig.

ACM CONSULTING
ELECTRICAL DESIGN, CONSULTING
ENGINEERS: PH: 970-245-7292
PO 3211 GRAND JCT., CO 81502
EMAIL: joelm@ACMengr.com

LIGHTING/ELECTRICAL PLAN
SCALE: 1"=50'



- GENERAL NOTES:
- POWER CIRCUIT AS SHOWN ON DRAWING, TYPICAL.
 - LIGHT TO BE ORIENTED TO BE PERPENDICULAR TO SIDEWALK AND SHINE ON SIDEWALK, TYPICAL.
 - PROVIDE 2-#6 THWN + #8GND IN 2" PVC SCHEDULE 80 CONDUIT BETWEEN PULL BOXES UNLESS SHOWN OTHERWISE, TYPICAL.

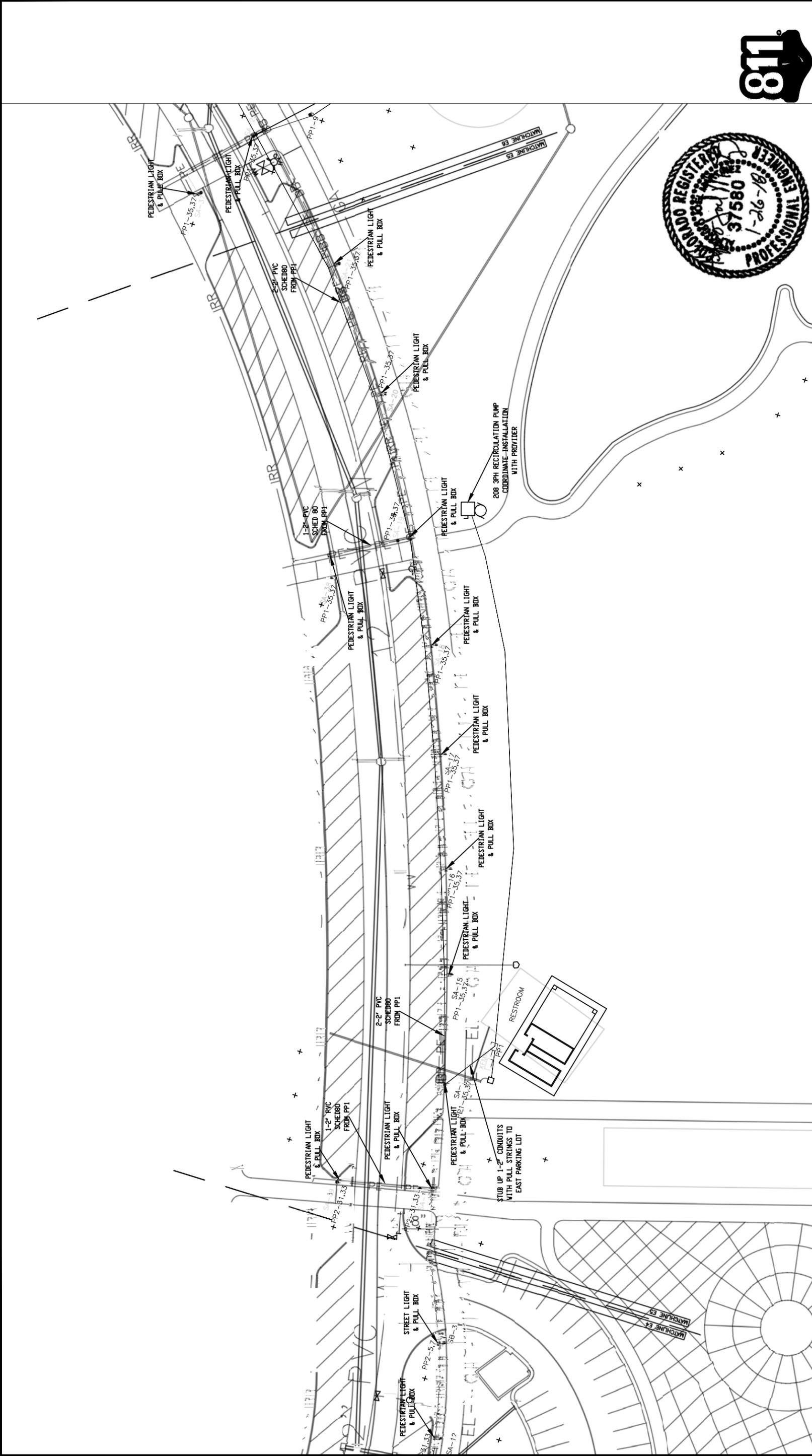


REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	DESIGNED BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
REVISION 1				1/29/18		1/29/18		1/29/18		1/29/18
REVISION 2										
REVISION 3										



PUBLIC WORKS
ENGINEERING DIVISION

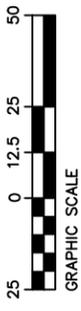
LAS COLONIAS BUSINESS PARK PHASE 1A
COMPOSITE UTILITY PLAN



GENERAL NOTES:

1. POWER CIRCUIT AS SHOWN ON DRAWING, TYPICAL.
2. LIGHT TO BE ORIENTED TO BE PERPENDICULAR TO SIDEWALK AND SHINE ON SIDEWALK, TYPICAL.
3. PROVIDE 2-#6 THWN + #8GND IN 2" PVC SCHEDULE 80 CONDUIT BETWEEN PULL BOXES UNLESS SHOWN OTHERWISE, TYPICAL.

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION 1		1/29/18	AJM	1/29/18
REVISION 2		1/29/18	AJM	1/29/18
REVISION 3		1/29/18	AJM	1/29/18
REVISION 4		1/29/18	JT	1/29/18



LIGHTING/ELECTRICAL PLAN
SCALE: 1"=50'

Know what's below.
Call before you dig.



ACM CONSULTING
ELECTRICAL DESIGN, CONSULTING
ENGINEERS: PH: 970-245-7292
PO 3211 GRAND JCT., CO 81502
EMAIL: joelm@ACMengr.com



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION 1		1/29/18	AJM	1/29/18
REVISION 2		1/29/18	AJM	1/29/18
REVISION 3		1/29/18	AJM	1/29/18
REVISION 4		1/29/18	JT	1/29/18



PUBLIC WORKS
ENGINEERING DIVISION

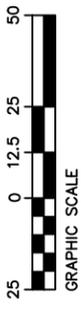
LAS COLONIAS BUSINESS PARK PHASE 1A
COMPOSITE UTILITY PLAN



GENERAL NOTES:

1. POWER CIRCUIT AS SHOWN ON DRAWING, TYPICAL.
2. LIGHT TO BE ORIENTED TO BE PERPENDICULAR TO SIDEWALK AND SHINE ON SIDEWALK, TYPICAL.
3. PROVIDE 2-#6 THWN + #8GND IN 2" PVC SCHEDULE 80 CONDUIT BETWEEN PULL BOXES UNLESS SHOWN OTHERWISE, TYPICAL.

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION 1		1/29/18	AJM	1/29/18
REVISION 2		1/29/18	AJM	1/29/18
REVISION 3		1/29/18	AJM	1/29/18
REVISION 4		1/29/18	JT	1/29/18



LIGHTING/ELECTRICAL PLAN
SCALE: 1"=50'



ACM CONSULTING
ELECTRICAL DESIGN CONSULTING
ENGINEERS: PH: 970-245-7292
PO 3211 GRAND JCT., CO 81502
EMAIL: joelm@ACMengra.com

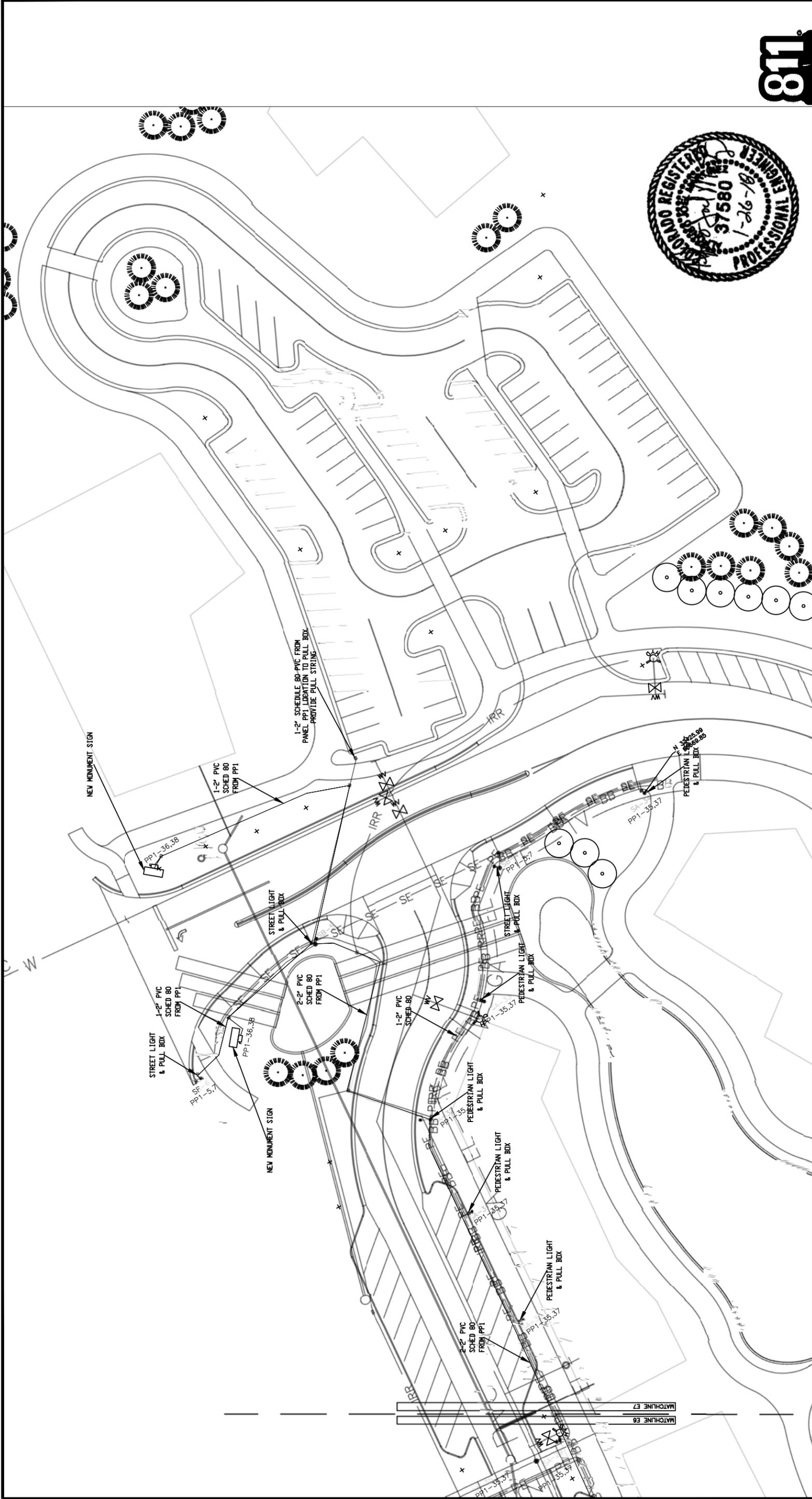


Know what's below.
Call before you dig.

CITY OF
Grand Junction
COLORADO

PUBLIC WORKS
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 1A
COMPOSITE UTILITY PLAN

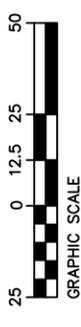


Know what's below.
Call before you dig.



ACM CONSULTING
ELECTRICAL DESIGN, CONSULTING
ENGINEERS: PH: 970-245-7292
PO 3211 GRAND JCT., CO 81502
EMAIL: joelm@ACMengra.com

LIGHTING/ELECTRICAL PLAN



SCALE: 1"=50'

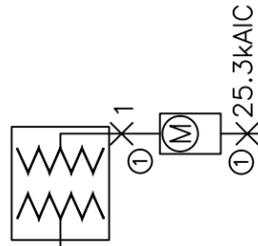
GENERAL NOTES:

1. POWER CIRCUIT AS SHOWN ON DRAWING, TYPICAL.
2. LIGHT TO BE ORIENTED TO BE PERPENDICULAR TO SIDEWALK AND SHINE ON SIDEWALK, TYPICAL.
3. PROVIDE 2-#6 THWN + #8GND IN 2" PVC SCHEDULE 80 CONDUIT BETWEEN PULL BOXES UNLESS SHOWN OTHERWISE, TYPICAL.

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	DESIGNED BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
REVISION 1				1/29/18		1/29/18		1/29/18		1/29/18
REVISION 2										
REVISION 3										
REVISION 4										

SCALES:	PLAN & PROFILE
0	HORIZONTAL
0	VERTICAL

NEW PAD MOUNTED
TRANSFORMER 75KVA
480/277 VOLT, 3PH
BY XCEL



- ① 2 SET(S)[2" PVC
SCHED. 80
(4#3/0(CU,THWN)+1#4(CU)GND)]

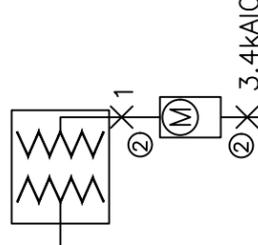
PP1 320A MCB MILBANK
PEDESTAL
CP3B5451XK22CSSL1,
30 UN SWITCHED/16
SWITCHED CKTS
208/120V 3PH, 4W
22 kAIC

ONE-LINE DIAGRAM



NOT TO SCALE

NEW PAD MOUNTED
TRANSFORMER 75KVA
480/277 VOLT, 3PH
BY XCEL



- ② 1 SET(S)[2" PVC
SCHED. 80
(3#3(CU,THWN)+1#8(CU)GND)]

PP2 100A MCB MILBANK
PEDESTAL
CP3B5110A22SL1, 16
UN SWITCHED/16
SWITCHED CKTS
208/120 3PH, 4W
22 kAIC

ONE-LINE DIAGRAM



NOT TO SCALE

GENERAL NOTES:

- IN AS MUCH AS DESIGN REQUIRES THAT CERTAIN ASSUMPTIONS BE MADE REGARDING EXISTING CONDITIONS, AND BECAUSE SOME OF THESE ASSUMPTIONS CANNOT BE VERIFIED, FIELD COORDINATION DURING CONSTRUCTION SERVICES IS IMPERATIVE. CONTRACTORS BIDDING THIS WORK MUST MAKE REASONABLE ALLOWANCES FOR UNFORESEEN CONTINGENCIES.
- THE SERVING ELECTRICAL ASSOCIATION SHALL ADVISE THE OWNER/ENGINEER PRIOR TO SERVICE MODIFICATION REQUIRING COST TO THE OWNER.
- REFERENCE CIVIL, LANDSCAPE AND IRRIGATION DRAWING PLANS FOR COORDINATION AND LOCATION OF ALL UNDER GROUND SYSTEMS.
- ALL WORK SHALL BE COORDINATED WITH OTHER TRADES AS REQUIRED: REFERENCE CIVIL LANDSCAPE AND IRRIGATION DRAWINGS.
- ALL WIRING IS SHOWN DIAGRAMMATICALLY ON DRAWINGS, FIELD VERIFY ALL CONDITIONS PRIOR TO ROUGH-IN.
- ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL CODES.
- ALL WIRE TO BE #12 UNLESS NOTED OTHERWISE.
- CONDUCTOR COUNT IS SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL ENSURE THAT ANY AND ALL DEVICES AND EQUIPMENT ARE CIRCUITED PROPERLY. CONTRACTOR SHALL ENSURE THAT NO EQUIPMENT OR DEVICES ARE COMBINED OTHER THAN WHAT IS DEPICTED.
- FIELD VERIFY ALL DIMENSIONS, DO NOT SCALE DRAWINGS.
- COORDINATE INSTALLATION OF METER AND ELECTRICAL REQUIREMENTS WITH XCEL ENERGY.
 - PEDESTAL MUST MEET ALL XCEL ENERGY REQUIREMENTS I.E. COLD SEQUENCE PADLOCK SLIP LATCH ON METER COVER, HOLD OPEN BAR ON METER HOOD.



Know what's below.
Call before you dig.



ACM CONSULTING
ELECTRICAL DESIGN, CONSULTING
ENGINEERS: PH: 970-245-7292
PO 3211 GRAND JCT., CO 81502
EMAIL: jjoelm@ACMengra.com



PUBLIC WORKS
ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 1A
COMPOSITE UTILITY PLAN

E8
of 12

REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	SCALE:	PLAN & PROFILE
REVISION Δ			Δ/JM	1/29/18		HORIZONTAL
REVISION Δ			Δ/JM	1/29/18		VERTICAL
REVISION Δ			Δ/JT	1/29/18		

Panel Schedule PP1

Circuit Information:
 Circuits: 30 UNSWITCHED/12 SWITCHED
 Voltage: 120 / 208
 System: 3Ø,
 Hertz: 60

Protection Information:
 Frame Size: 400A
 Load (A): 21
 NEMA: Type 3R
 OCPD Size: 320A
 42 Kaic

Conductor Information:
 Conductor: 2-3/0
 Neutral: 1-3/0
 Ground: 1-4 ga.
 Insulation: THWN
 Material: Copper
 Raceway: 2 in. - PVC-80

Circuit Information:
 Circuits: 30 UNSWITCHED/12 SWITCHED
 Voltage: 120 / 208
 System: 3Ø,
 Hertz: 60

Protection Information:
 Frame Size: 100A
 Load (A): 21
 NEMA: Type 3R
 OCPD Size: 100A
 42 Kaic

Conductor Information:
 Conductor: 2-3/0
 Neutral: 1-#3
 Ground: 1-#8 ga.
 Insulation: THWN
 Material: Copper
 Raceway: 2 in. - PVC-80

Calculated Kaic: 25.3

Calculated Kaic: 3.4

UN-SWITCHED CIRCUIT DIRECTORY

Ct#	Load Description	OCPD Size / Ø	Load - kVA AØ	Load - kVA BØ	Load - kVA CØ	L	CØ	OCPD Size / Ø	Load Description	Ct#
1	MAIN	100A/2	0.18			L1		15A/2	CONTROL POWER	2
									SWITCHED LC CONTROL	
3	---			0.3		L2		60A/2		4
5	STREET LIGHT EAST	20A/2	0.3			L3	0.3			6
7	---					L1				8
9	RCPT: XMAS LTS EAST	20A/2	0.2			L2	3.4	100A/3	RECIRCULATION PUMP	10
11						L3				12
13						L1	3.4			14
15						L2				16
17						L3				18
19						L1				20
21						L2				22
23						L3				24
25						L1				26
27						L2				28
29						L3				30

UN-SWITCHED CIRCUIT DIRECTORY

Ct#	Load Description	OCPD Size / Ø	Load - kVA AØ	Load - kVA BØ	Load - kVA CØ	L	CØ	OCPD Size / Ø	Load Description	Ct#
1	MAIN	100A/2	0.18			L1		15A/2	CONTROL POWER	2
									SWITCHED LC CONTROL	
3	---			0.3		L2		60A/2		4
5	STREET LIGHT WEST	20A/2	0.3			L3	0.3			6
7	---					L1				8
9	RCPT: XMAS LTS WEST	20A/2	0.2			L2	3.4			10
11						L3				12
13						L1				14
15						L2				16
17						L3				18
19						L1				20
21						L2				22
23						L3				24
25						L1				26
27						L2				28
29						L3				30

SWITCHED CIRCUIT DIRECTORY

Ct#	Load Description	OCPD Size / Ø	Load - kVA AØ	Load - kVA BØ	Load - kVA CØ	L	CØ	OCPD Size / Ø	Load Description	Ct#
31	PED. LIGHTS TO EAST	20A/2	2.5			L1		0.2	MONUMENT SIGN EAST	32
33	---					L2	2.5	0.2		34
35						L3				36
37						L1				38
39						L2				40
41						L3				42
	Phase Totals - kVA:		2.8	0.2	2.5		3.7	3.9	3.78	

Load Totals Amps: 46.9
 kVA: 16.88

SWITCHED CIRCUIT DIRECTORY

Ct#	Load Description	OCPD Size / Ø	Load - kVA AØ	Load - kVA BØ	Load - kVA CØ	L	CØ	OCPD Size / Ø	Load Description	Ct#
31	PED. LIGHTS TO WEST	20A/2	2.5			L1		0.2	MONUMENT SIGN WEST	32
33	---					L2	2.5	0.2		34
35						L3				36
37						L1				38
39						L2				40
41						L3				42
	Phase Totals - kVA:		2.8	0.2	2.5		0.3	3.9	0.38	

Load Totals Amps: 28.0
 kVA: 10.08

Panel Schedule PP2

Circuit Information:
 Circuits: 30 UNSWITCHED/12 SWITCHED
 Voltage: 120 / 208
 System: 3Ø,
 Hertz: 60

Protection Information:
 Frame Size: 400A
 Load (A): 21
 NEMA: Type 3R
 OCPD Size: 320A
 42 Kaic

Conductor Information:
 Conductor: 2-3/0
 Neutral: 1-3/0
 Ground: 1-4 ga.
 Insulation: THWN
 Material: Copper
 Raceway: 2 in. - PVC-80

Circuit Information:
 Circuits: 30 UNSWITCHED/12 SWITCHED
 Voltage: 120 / 208
 System: 3Ø,
 Hertz: 60

Protection Information:
 Frame Size: 100A
 Load (A): 21
 NEMA: Type 3R
 OCPD Size: 100A
 42 Kaic

Conductor Information:
 Conductor: 2-3/0
 Neutral: 1-#3
 Ground: 1-#8 ga.
 Insulation: THWN
 Material: Copper
 Raceway: 2 in. - PVC-80

Calculated Kaic: 25.3

Calculated Kaic: 3.4

UN-SWITCHED CIRCUIT DIRECTORY

Ct#	Load Description	OCPD Size / Ø	Load - kVA AØ	Load - kVA BØ	Load - kVA CØ	L	CØ	OCPD Size / Ø	Load Description	Ct#
1	MAIN	100A/2	0.18			L1		15A/2	CONTROL POWER	2
									SWITCHED LC CONTROL	
3	---			0.3		L2		60A/2		4
5	STREET LIGHT EAST	20A/2	0.3			L3	0.3			6
7	---					L1				8
9	RCPT: XMAS LTS EAST	20A/2	0.2			L2	3.4	100A/3	RECIRCULATION PUMP	10
11						L3				12
13						L1	3.4			14
15						L2				16
17						L3				18
19						L1				20
21						L2				22
23						L3				24
25						L1				26
27						L2				28
29						L3				30

UN-SWITCHED CIRCUIT DIRECTORY

Ct#	Load Description	OCPD Size / Ø	Load - kVA AØ	Load - kVA BØ	Load - kVA CØ	L	CØ	OCPD Size / Ø	Load Description	Ct#
1	MAIN	100A/2	0.18			L1		15A/2	CONTROL POWER	2
									SWITCHED LC CONTROL	
3	---			0.3		L2		60A/2		4
5	STREET LIGHT WEST	20A/2	0.3			L3	0.3			6
7	---					L1				8
9	RCPT: XMAS LTS WEST	20A/2	0.2			L2	3.4			10
11						L3				12
13						L1				14
15						L2				16
17						L3				18
19						L1				20
21						L2				22
23						L3				24
25						L1				26
27						L2				28
29						L3				30

SWITCHED CIRCUIT DIRECTORY

Ct#	Load Description	OCPD Size / Ø	Load - kVA AØ	Load - kVA BØ	Load - kVA CØ	L	CØ	OCPD Size / Ø	Load Description	Ct#
31	PED. LIGHTS TO EAST	20A/2	2.5			L1		0.2	MONUMENT SIGN EAST	32
33	---					L2	2.5	0.2		34
35						L3				36
37						L1				38
39						L2				40
41						L3				42
	Phase Totals - kVA:		2.8	0.2	2.5		3.7	3.9	3.78	

Load Totals Amps: 46.9
 kVA: 16.88

SWITCHED CIRCUIT DIRECTORY

Ct#	Load Description	OCPD Size / Ø	Load - kVA AØ	Load - kVA BØ	Load - kVA CØ	L	CØ	OCPD Size / Ø	Load Description	Ct#
31	PED. LIGHTS TO WEST	20A/2	2.5			L1		0.2	MONUMENT SIGN WEST	32
33	---					L2	2.5	0.2		34
35						L3				36
37						L1				38
39						L2				40
41						L3				42
	Phase Totals - kVA:		2.8	0.2	2.5		0.3	3.9	0.38	

Load Totals Amps: 28.0
 kVA: 10.08



Know what's below.
 Call before you dig.



ACM CONSULTING
 ELECTRICAL DESIGN, CONSULTING
 ENGINEERS: PH: 970-245-7292
 PO 3211 GRAND JCT., CO 81502
 EMAIL: joelm@ACMengra.com

REVISION	DATE	DESCRIPTION

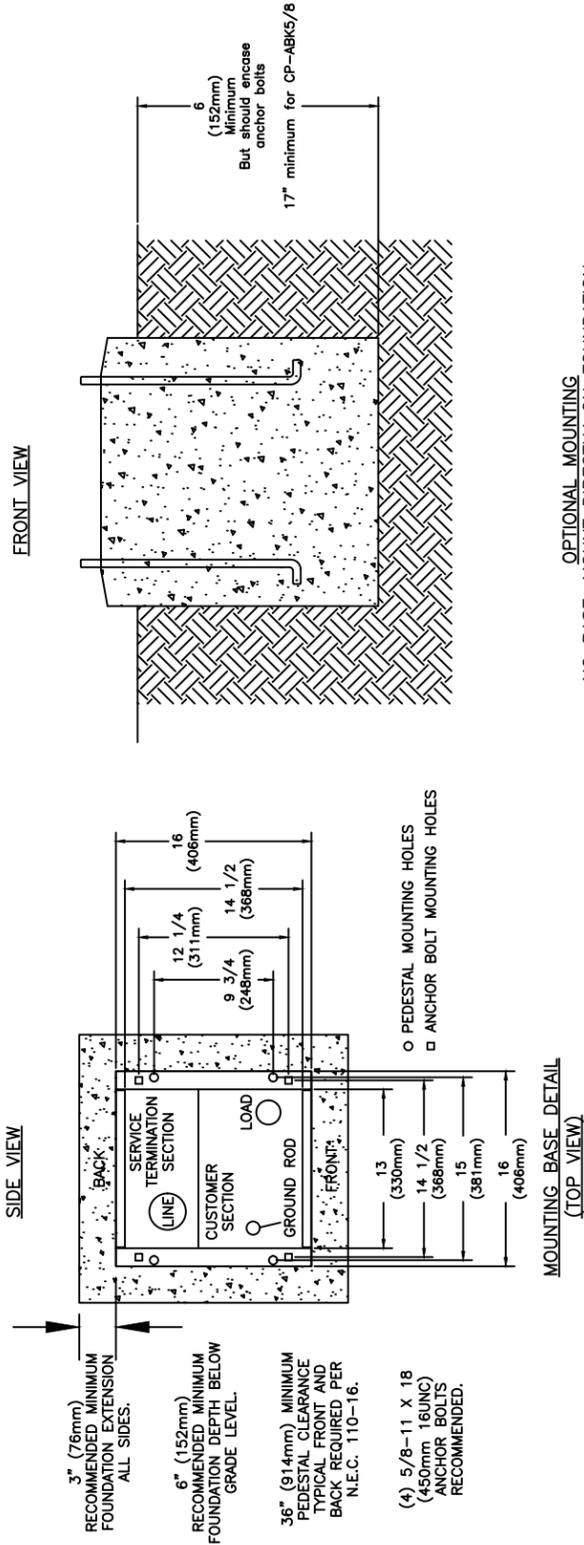
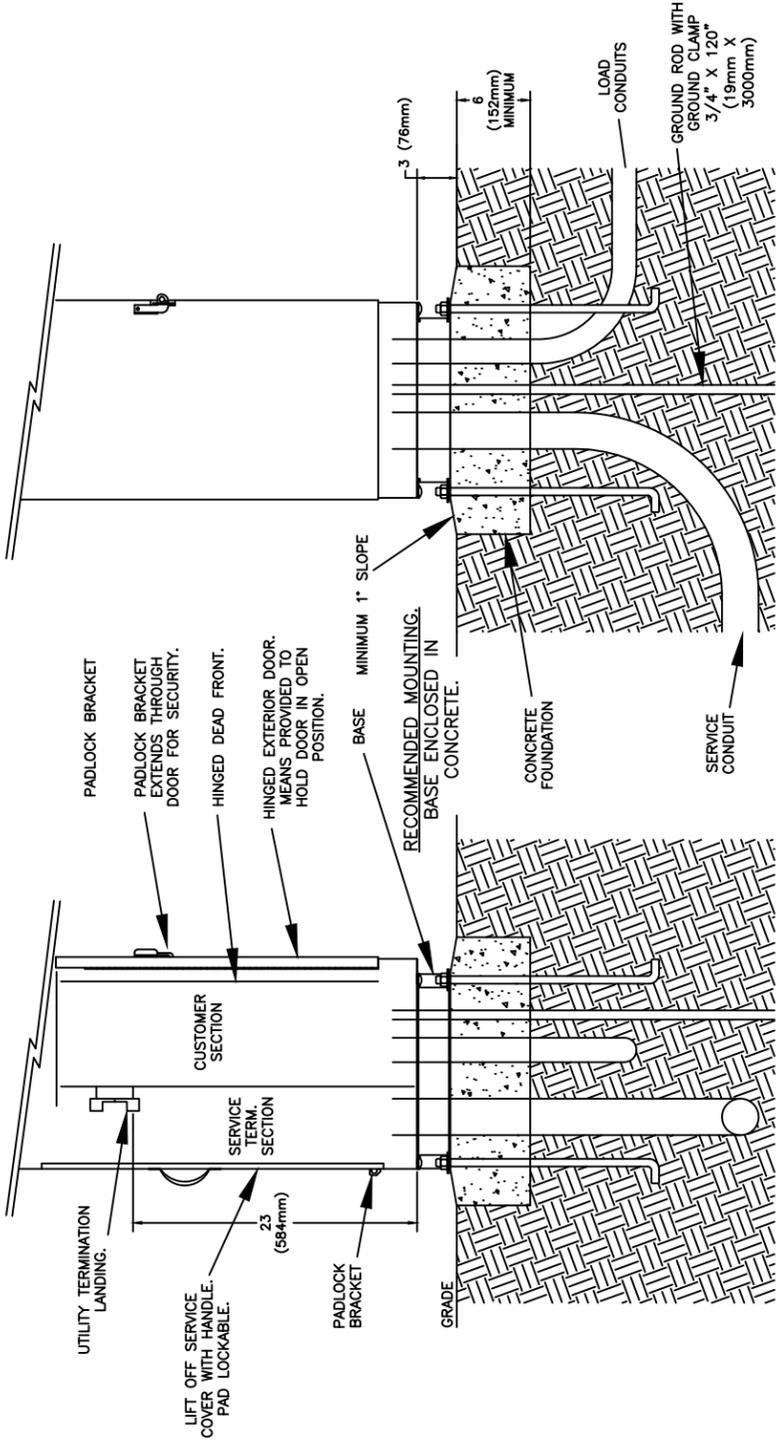
CITY OF
Grand Junction
 COLORADO

PUBLIC WORKS
 ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 1A
 PANEL SCHEDULES PLAN

NOTES

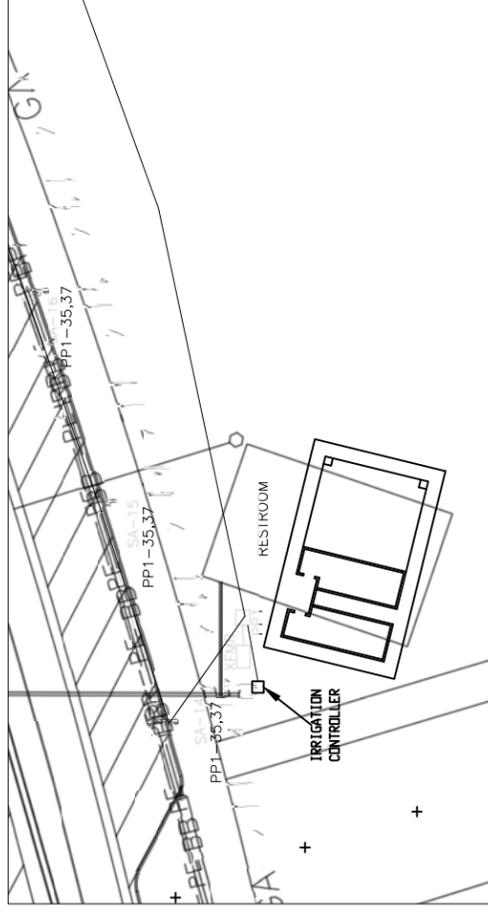
- CONTROL CABINET SHALL BE U/L LISTED "INDUSTRIAL CONTROL PANEL" PER UL 508.
- CONSTRUCTION SHALL BE NEMA 3R, 12 GA. A60 STEEL POWDER COATED MINT GREEN WITH PHOTO ELECTRIC CELL IN SERVICE CABINET. ELECTRICAL CONTRACTOR TO PROVIDE PHOTOCELL.
- VOLTAGE RATINGS OF SERVICE EQUIPMENT SHALL CONFORM TO THE SERVICE VOLTAGES INDICATED ON THE PLANS.
- SERVICE EQUIPMENT ENCLOSURE AND METERING EQUIPMENT SHALL MEET THE REQUIREMENTS OF THE SERVING UTILITY. WHEN THE SERVING UTILITY PROVIDES BOTH METERED AND UNMETERED CIRCUITS, A SEPARATE BUS SHALL BE PROVIDED FOR EACH CIRCUIT. THE METER AREA SHALL HAVE A SEALING, LOCKABLE, RAIN TIGHT COVER THAT CAN BE REMOVED WITHOUT THE USE OF TOOLS.
- SERVICE EQUIPMENT SHALL BE FACTORY WIRED AND CONFORM TO NEMA STANDARDS.
- THE EXTERIOR DOOR SHALL HAVE PROVISIONS FOR PADLOCKING. THE PADLOCK HOLE SHALL BE A MINIMUM DIAMETER OF 11mm.
- ALL TERMINALS FOR INCOMING SERVICE CONDUCTORS SHALL BE COMPATIBLE WITH EITHER COPPER OR ALUMINUM CONDUCTORS SIZED TO SUIT THE CONDUCTORS SHOWN ON THE PLAN. TERMINAL LUGS SHALL BE COPPER OR TIN-PLATED ALUMINUM. SOLID NEUTRAL TERMINAL STRIP SHALL BE RATED 125A UNLESS OTHERWISE SPECIFIED AND FOR USE WITH COPPER OR ALUMINUM CONDUCTORS. THE TERMINAL SHOULD INCLUDE BUT NOT BE LIMITED TO:
 - INCOMING TERMINALS (LANDING LUGS)
 - NEUTRAL LUGS
 - SOLID NEUTRAL TERMINAL STRIP.
 - TERMINAL STRIPS FOR CONDUCTORS WITHIN THE ENCLOSURE.
- AT LEAST 4 STANDARD SINGLE POLE 240V AND 1 SINGLE POLE 12 CIRCUIT BREAKER SPACES (20mm NOMINAL) SHALL BE PROVIDED FOR BRANCH CIRCUITS. CIRCUIT BREAKER INTERIORS SHALL BE COPPER. INTERIORS SHALL ACCEPT PLUG-IN OR CABLE-IN/ CABLE-OUT CIRCUIT BREAKERS.
- PLUG-IN CIRCUIT BREAKERS MAY BE MOUNTED IN THE VERTICAL OR HORIZONTAL POSITION. CABLE-IN/ CABLE-OUT CIRCUIT BREAKERS SHALL BE MOUNTED IN THE VERTICAL POSITION.
- FASTENERS ON THE EXTERIOR OF THE ENCLOSURE SHALL BE VANDAL RESISTANT AND SHALL NOT BE REMOVABLE FROM THE EXTERIOR. ALL NUTS, BOLTS, SCREWS, WASHERS, AND HINGES SHALL BE STAINLESS STEEL.
- PHENOLIC NAME PLATES SHALL BE PROVIDED AS REQUIRED.
- A PLASTIC COVERED WIRING DIAGRAM SHALL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
- FOUNDATION SHALL EXTEND 50mm MINIMUM BEYOND EDGE OF ENCLOSURE.
- PANEL WILL ADHERE TO XCEL ENERGY REQUIREMENT FOR COLD SEQUENCE DISCONNECTION.



OPTIONAL MOUNTING
NO BASE, MOUNT DIRECTLY ON FOUNDATION.

B TYPICAL POWER PEDESTAL/LIGHTING CONTROL CENTER PLAN
1 NOT TO SCALE

B TYPICAL LIGHTING CONTROL CENTER PP1 AND POWER PEDESTAL(SPECIAL) LOCATION PLAN
2 NOT TO SCALE



REVISION	DATE	DESCRIPTION

Grand Junction

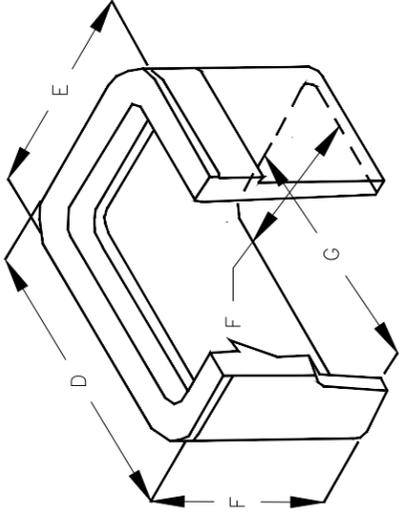
 COLORADO

PUBLIC WORKS
 ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 1A
 COMPOSITE UTILITY PLAN

Know what's below.
 Call before you dig.

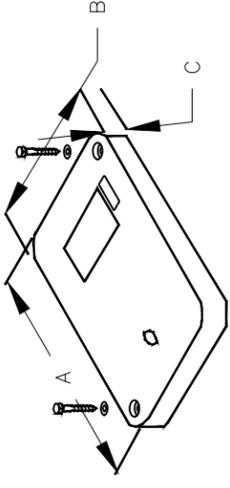
ACM CONSULTING
 ELECTRICAL DESIGN, CONSULTING
 ENGINEERS: PH: 970-245-7292
 PO 3211 GRAND JCT., CO 81502
 EMAIL: joelme@ACMengr.com



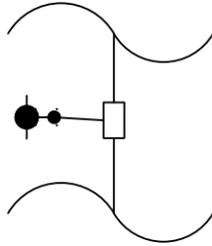
- A 18-1/8"
- B 11-1/4"
- C 1-1/4"
- D 20-1/2"
- E 13-3/8"
- F 12"
- G 15-3/4"
- H 8-7/8"

C UTILITY BOX DETAIL

1 NOT TO SCALE



1. PULL BOXES, PULL BOX COVERS AND EXTENSIONS SHALL BE MADE OF FIBERGLASS REINFORCED POLYMER CONCRETE. PULL BOXES SHALL BE VERIFIED BY A 3RD PARTY NATIONALLY RECOGNIZED INDEPENDENT TESTING LABORATORY AS MEETING ALL TEST PROVISIONS OF THE LATEST ANSIS/CTE 77 SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY, TIER 22 RATING. CERTIFICATION DOCUMENTS SHALL BE SUBMITTED WITH MATERIALS SUBMITTALS. THE PULL BOX SHALL HAVE A DETACHABLE COVER WITH A SKID RESISTANT SURFACE AND HAVE THE WORDS ELECTRICAL CAST INTO THE SURFACE. PAINTING THE WORDS SHALL NOT BE ACCEPTED. MARKINGS SHOWING THE TIER 22 RATING MUST BE LABELED OR STENCILED ON THE INSIDE AND OUTSIDE OF THE BOX AND THE ON THE UNDER SIDE OF THE COVER. THE COVER SHALL BE ATTACHED TO THE PULL BOX BODY BY MEANS OF A MINIMUM 3/8" - 7 UNIFIED NATIONAL COURSE (UNC) STAINLESS STEEL PENITA HEAD BOLTS AND SHALL HAVE TWO LIFT SLOTS TO AID IN THE REMOVAL OF THE LID.
2. PULL SLOTS SHALL BE RATED FOR A MINIMUM PULL OUT OF 3,000 POUNDS. MAGNESIUM CHLORIDE TESTS SHOULD BE PERFORMED IN ACCORDANCE WITH THE LATEST ANSIS/CTE 77 SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY, TIER 22 RATING.
3. PROVIDE AT LEAST 6 INCHES OF PEA GRAVEL MEASURED FROM BOTTOM OF PULL BOX FOR DRAINAGE. PEA GRAVEL IS INCLUDED IN PULL BOX PAY ITEM.



C UTILITY BOX CONNECTION DETAIL

2 NOT TO SCALE

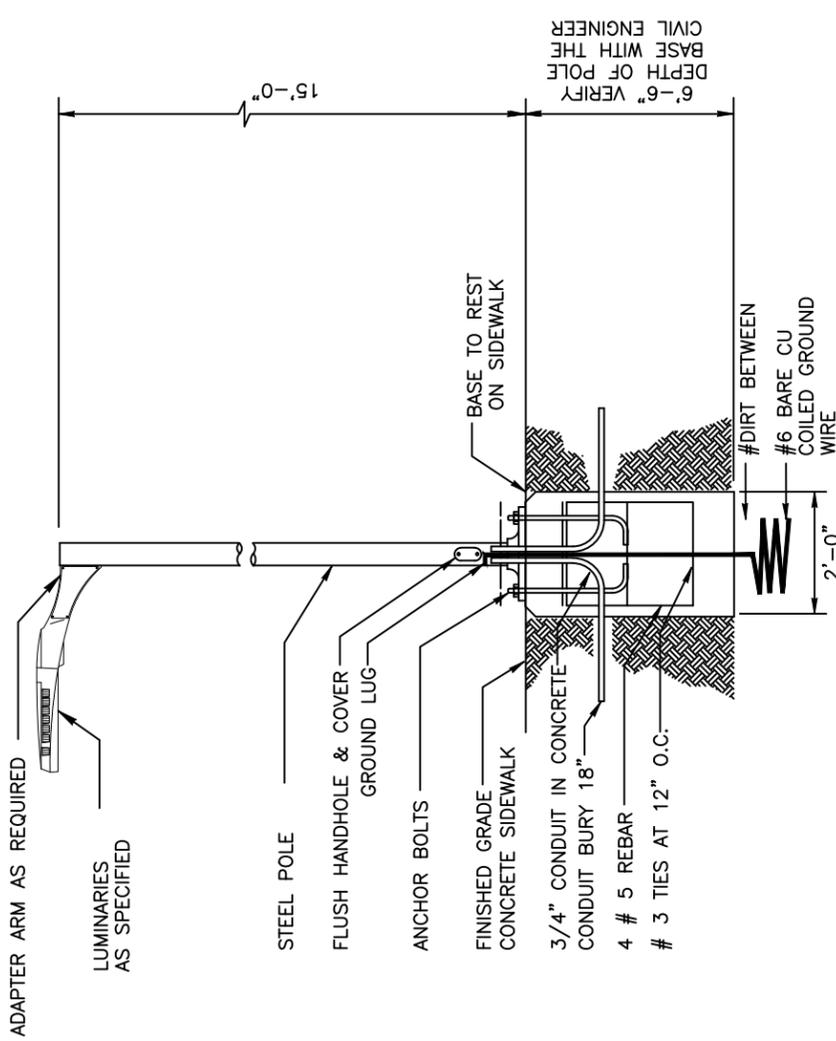
TYPE	MANUFACTURER MODEL NUMBER	APPROVAL	VOLTAGE MOUNTING # OF LAMPS	LUMINAIRE SCHEDULE	
				BALLAST LAMP TYPE	DESCRIPTION
SA	PHILIPS GARDCO GL18-1-2-230LA-NW-240-BLP	OWNER REQUESTED	240 POLE 1	ELECTRONIC LED 50 W	STREET SIDE LUMINAIRE, ARM MOUNTED, LED, CUTOFF, ORDER POLE SO THAT LAMP HEIGHT IS 15' AFG MEASURED AT BOTTOM OF LUMINAIRE. COLOR OF POLE AND ARM TO MATCH, BOTH BLACK.
SB	PHILIPS GARDCO GL18-1-2-230LA-NW-240-BLP	OWNER REQUESTED	240 POLE 1	ELECTRONIC LED 230 W	STREET SIDE LUMINAIRE, ARM MOUNTED, LED, CUTOFF. POLE TO BE 27' SO THAT TOTAL HEIGHT AFG IS 29' MEASURED AT BOTTOM OF LUMINAIRE. COLOR OF POLE AND ARM TO MATCH, BOTH BLACK.

REVISION Δ	DATE	DRAWN BY AJM	DATE 1/29/18
REVISION Δ		DESIGNED BY AJM	DATE 1/29/18
REVISION Δ		CHECKED BY AJM	DATE 1/29/18
REVISION Δ		APPROVED BY JT	DATE 1/29/18



PUBLIC WORKS ENGINEERING DIVISION

LAS COLONIAS BUSINESS PARK PHASE 1A COMPOSITE UTILITY PLAN



TYPE SA LIGHT DETAIL

NOT TO SCALE

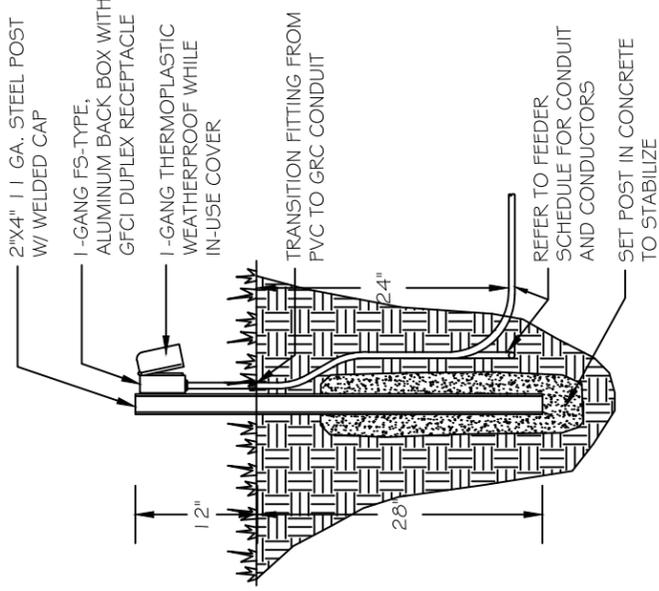
GENERAL NOTES:

1. ELECTRICAL CONTRACTOR TO ORDER ALL REQUIRED HARDWARE FOR MOUNTING OF EACH LUMINARIES.
2. VERIFY THE BURY DEPTH AND DIAMETER OF THE SONOTUBE FOR POLE LUMINARIES WITH THE CIVIL ENGINEER PRIOR TO PURCHASING THE EQUIPMENT. DEPTH WILL DEPEND ON SOIL CONDITIONS. TYPICAL CONCRETE DEPTH IS 5 FT. VERIFY WITH CIVIL ENGINEER.
3. ELECTRICAL CONTRACTOR TO VERIFY THAT ALL FIXTURES TO COMPLY WITH LIGHT TRESPASS AND AND DARK SKY CODES.
4. NOTIFY ENGINEER OF ANY OBSTRUCTIONS TO POLE PLACEMENT IMMEDIATELY BEFORE PROCEEDING.
5. VERIFY REQUIRED VOLTAGE OF FOR EACH LUMINARIES WITH AVAILABLE VOLTAGES PRIOR TO ORDERING.



Know what's below. Call before you dig.

ACM CONSULTING ELECTRICAL DESIGN, CONSULTING ENGINEERS: PH: 970-245-7292 PO 3211 GRAND JCT., CO 81502 EMAIL: joelm@ACMengrs.com



NOTES

- 2-PLEX RECEPTACLE (WITH BOX AND COVER) PAY ITEM 613-50132.
- A**
1
NOT TO SCALE

UTILITY BOX CONNECTION DETAIL

UTILITY BOX CONNECTION DETAIL

NOT TO SCALE

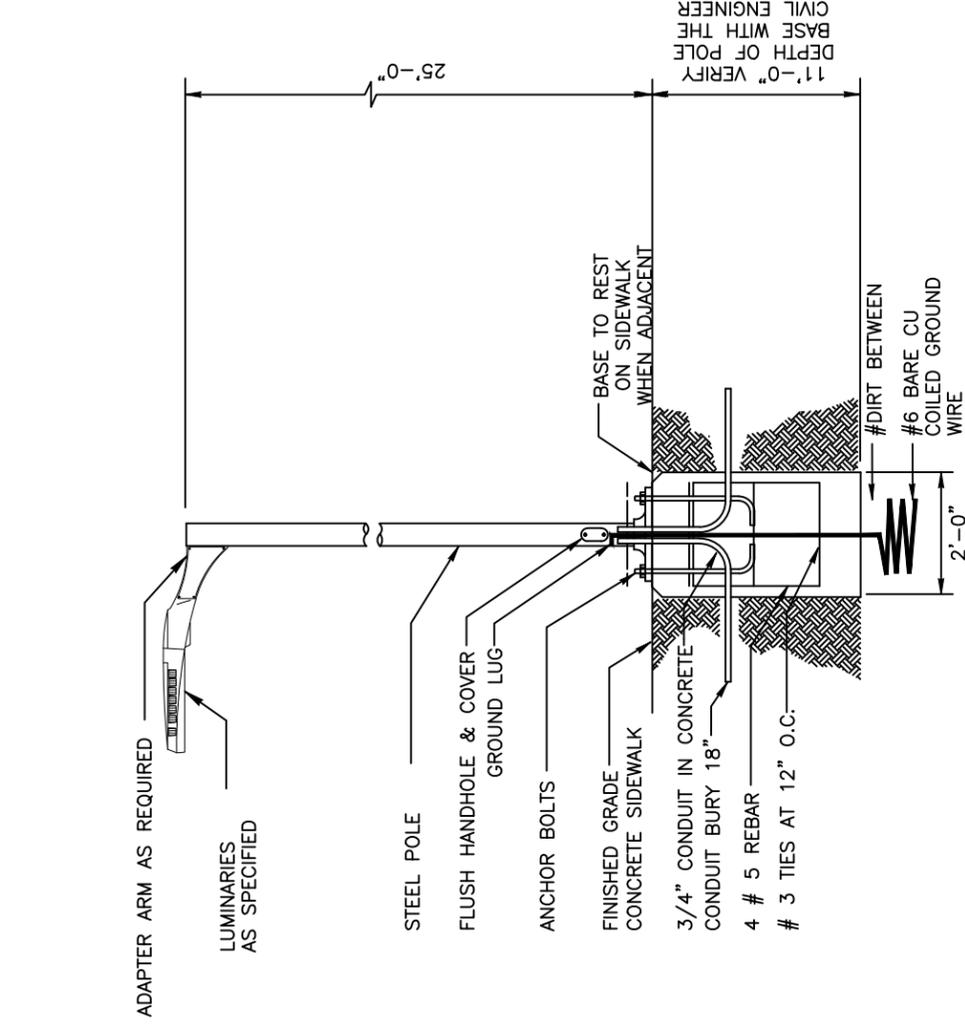
REVISION	DESCRIPTION	DATE	DRAWN BY	DATE	DESIGNED BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
1			AJM	1/29/18	AJM	1/29/18	AJM	1/29/18	JT	1/29/18
2										
3										
4										



**PUBLIC WORKS
ENGINEERING DIVISION**

**LAS COLONIAS BUSINESS PARK PHASE 1A
COMPOSITE UTILITY PLAN**

E12
of 12



TYPE SB LIGHT DETAIL

NOT TO SCALE



Know what's below.
Call before you dig.

GENERAL NOTES:

- ELECTRICAL CONTRACTOR TO ORDER ALL REQUIRED HARDWARE FOR MOUNTING OF EACH LUMINARIES.
- VERIFY THE BURY DEPTH AND DIAMETER OF THE SONOTUBE FOR POLE LUMINARIES WITH THE CIVIL ENGINEER PRIOR TO PURCHASING THE EQUIPMENT. DEPTH WILL DEPEND ON SOIL CONDITIONS. TYPICAL CONCRETE DEPTH IS 5 FT. VERIFY WITH CIVIL ENGINEER.
- ELECTRICAL CONTRACTOR TO VERIFY THAT ALL FIXTURES TO COMPLY WITH LIGHT TRESPASS AND DARK SKY CODES.
- NOTIFY ENGINEER OF ANY OBSTRUCTIONS TO POLE PLACEMENT IMMEDIATELY BEFORE PROCEEDING.
- VERIFY REQUIRED VOLTAGE OF FOR EACH LUMINARIES WITH AVAILABLE VOLTAGES PRIOR TO ORDERING.



ACM CONSULTING
ELECTRICAL DESIGN, CONSULTING
ENGINEERS: PH: 970-245-7292
PO 3211 GRAND JCT., CO 81502
EMAIL: joelm@ACMengr.com