The Enclosed Document Is Provided For Your Convenience.

Please Email ALL Questions:

MailTo:ContractAdministration@TampaGov.net

Please Let Us Know If You Plan To Bid

City of Tampa
Contract Administration Department
306 E. Jackson St. #280A4N
Tampa, FL 33602
(813)274-8456

CITY OF TAMPA

CONTRACT NUMBER 17-C-00024

WEST TAMPA WATER TANK ILLUMINATION PROJECT

(2201 N. HIMES AVENUE, TAMPA FLORIDA 33607)

PREPARED FOR

City of Tampa Water Department

DRAWING SCHEDULE

COVER SHEET
E0.1 SITE LIGHTING PLAN
E0.2 SITE PICTURES
E1.1 DETAILS, LEGENDS & SCHEDULES
S0.1 LUMINAIRE MOUNTING PLAN

PREPARED BY

LYLE ENGINEERING GROUP, INC.

CONSULTING ENGINEERS CA5380
8308 N. SAULRAY ST.
TAMPA, FLA. 33604
Phone: 813-935-5009
www.lyleengineeringgroup.com

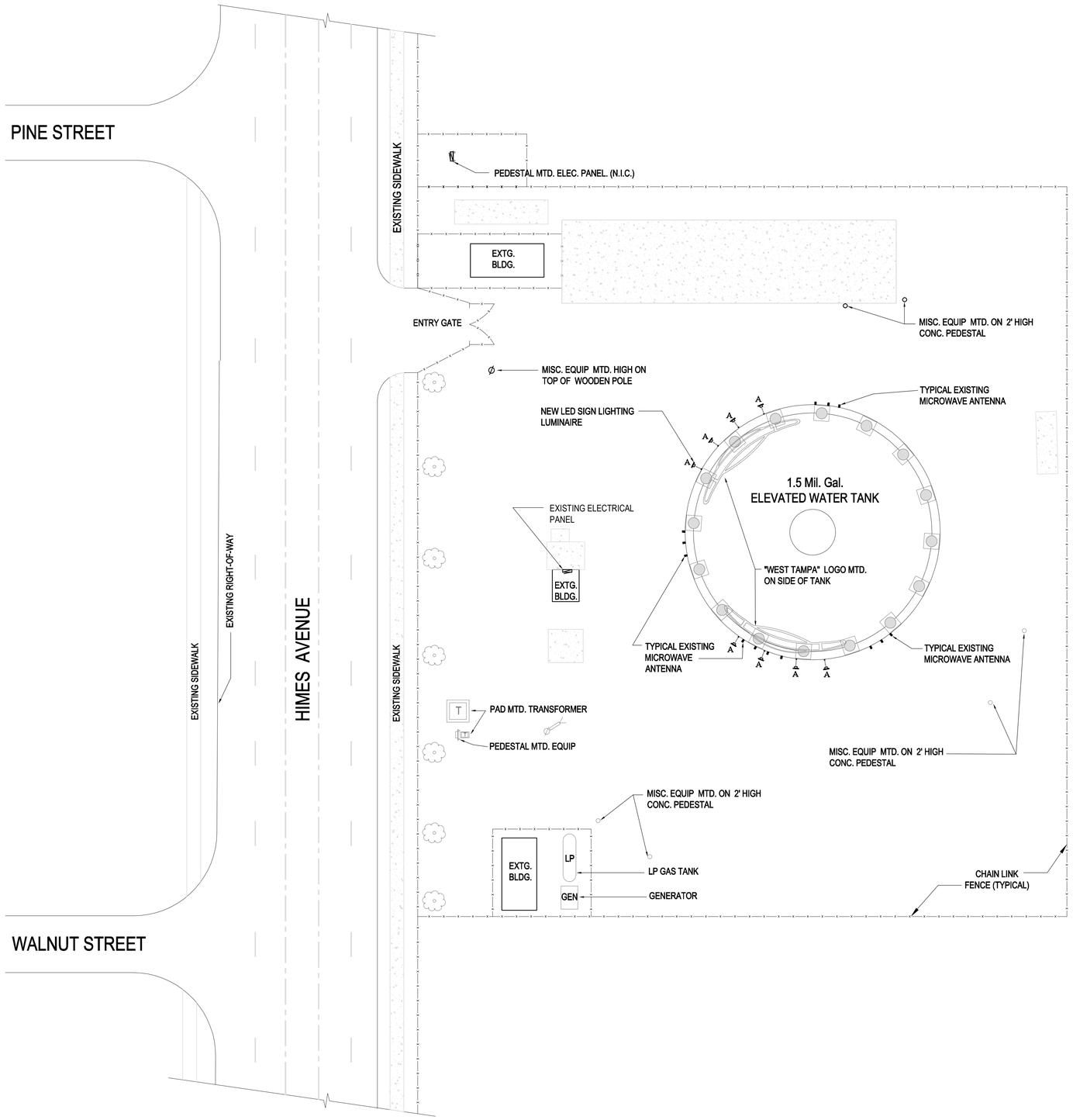
LOCATOR MAP

JAMES R. MEHLTRETTER
FL. LIC. P.E. 33860

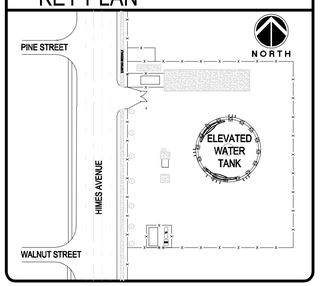
MASTER CONSULTING ENGINEERS, INC.
5523 WEST CYPRESS ST., #200
TAMPA, FLORIDA 33607
813.287.3600 FAX 813.287.3622
www.mcengineers.com
CA: 8426

SCOTT LOUIS LYLE, P.E.
FL. LIC. P.E. 32734

DECEMBER 19, 2016



KEY PLAN



NORTH

SCALE: 1" = 20'-0"

0 10' 20' 40'

WEST TAMPA WATER TANK SITE LIGHTING PLAN

LYLE ENGINEERING GROUP, INC.
CONSULTING ENGINEERS
8308 N. SAULSKY ST.
TAMPA, FLA. 33614
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CA-380

SCOTT LOVE LYLE P.E.
FL LIC. P.E.-52734

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PROJECT NO:	215007
DRAWN BY:	PDR
DATE:	12-30-2015
CHECKED BY:	SLL
DATE:	12-30-2015

CONSTRUCTION DOCUMENTS

ISSUE DATE: 12/30/2015

NO.	DATE	REVISION

TITLE: WEST TAMPA WATER TANK SITE LIGHTING PLAN

PROJECT NAME: CITY OF TAMPA
WEST TAMPA WATER TANK
TANK ILLUMINATION PROJECT
2201 N. HIMES AVENUE, TAMPA, FL 33607

SHEET NO: E0.1

PLOT DATE: Jan 04, 2016 - 3:15pm D:\2015\215007\Working Drawings\Electrical\215007-E0.1.dwg User:Patrick

McGRAW-EDISON®

Catalog #		Type
Project		
Comments		Date
Prepared by		

DESCRIPTION

The superior design and versatile construction of the Marquis LED sign and flood luminaire makes it an ideal option for new construction or a retrofit to achieve energy savings. Introducing mature LED technology to the sign flight market means maintaining recommended light levels, reducing energy consumption over traditional sources and reducing maintenance costs. UL and cUL listed for wet locations.

SPECIFICATION FEATURES

Construction
HOUSING: Rugged die-cast aluminum housing designed to optimize lumen output and enhance the natural cooling of the LEDs to maximize service life. Shallow housing profile is optimized for light distribution and to ensure minimal obstruction to Billboard. Housing features a partition wall which isolates driver components for cooler operation. Monolithic heat sink provides superior heat transfer in +40°C ambient environments. DOOR: Door swings open and retained on the casting. GASKET: Continuous gasket provided to seal optical enclosures to housing. LENS: Premium quality glass lenses, including linear spread refractive prisms and Solite. Lenses are individually sealed to optical enclosure for IP66 rating. HARDWARE: Tool-less release latches are stainless steel construction and allows access to lead wires and mounting hardware.

Optics
DISTRIBUTION: Dedicated optical cavities for the array of 20 individual LEDs maximizes the efficiency and control of the distribution out of each module. Four or six total optical modules are optimally aimed to maximize light collection and directional distribution onto the application area. Each reflector is specifically manufactured via injection molding and coated with a highly reflective optical coating via vacuum-metalization. Precisely engineered reflectors are coupled to the board media and sealed to an optically optimized premium glass lens. LEDs: Greater than 90% lumen maintenance expected at 60,000 hours per TM-21. Offered standard in 4000K (+/- 275K) CCT and 70 CRI nominal.

Electrical
DRIVER: LED drivers are potted and heat sunk for optimal performance and prolonged life. Standard drivers feature electronic universal voltage (120-277V/50-60Hz), greater than 0.9 power factor, less than 20% harmonic distortion and feature ambient temperature range of -40°C (104°F) down to minimum starting temperature of -40°C (-22°F). Two standard drive currents are available (350mA or 700mA). Shipped standard with our proprietary circuit module designed to withstand 10kV of transient line surge. Options to control light levels, photocontrols and energy savings are available.

Mounting
INTERNAL MAST ARM: Mounting configuration available for arm (to be supplied by others). Internal bolts guides and self-rising clamps allow easy positioning of fixture on mast arm during installation. SLIPFITTER WITH KNUCKLE: Slipfitter available for pole, mast arm or tenon mounting configurations (2-3/8" or 3" tenons are standard). DIRECT MOUNT DRILL PATTERN: Four-bolt pattern is available for direct or indirect mounting configuration.

Finish
Housing is finished in super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult Outdoor Architectural Colors brochure for a complete selection.

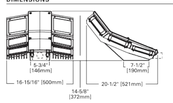
Warranty
Five-year warranty.

MAQ MARQUIS LED

Solid State LED

SIGN LIGHTING/ FLOOD LIGHTING

DIMENSIONS



CERTIFICATION DATA

40°C Ambient Temperature Rating
UL and cUL Listed
LM79 / LM80 Compliant
IP66 Electrical Compartment
IP66 Optical Compartment
ROHS Compliant
ISO 9001
DesignLights Consortium® Qualified*

ENERGY DATA

Electronic LED Driver
>0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 & 60Hz, 347V/60Hz, 480V/60Hz
-30°C Minimum Temperature

EPA

Effective Projected Area: (Sq. Ft.)
Luminaire w/o Arm: 2.08

SHIPPING DATA

Approximate Net Weight:
Direct Mount 31 lbs. (14.09 kgs.)
Internal Mast Arm 31 lbs. (14.09 kgs.)
Slipfitter 34 lbs. (15.45 kgs.)

Cooper Lighting
by EATON

*www.designlights.org

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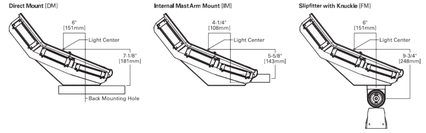
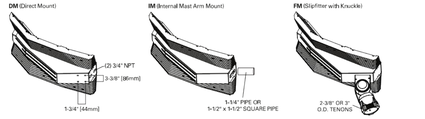
MAQ MARQUIS LED

LIGHT CENTER [PHOTOMETRIC CENTER DIMENSIONS TO MOUNTING POSITION]



OPTIONS

MOUNTING METHODS



LUMENS AND POWER CHART

Number of LEDs	Drive Current	Distribution	Lumen Output	Wattage
---		---	---	---
120	350mA	Standard Narrow (SN)	11,548	126W
120	350mA	Standard Wide (SW)	11,388	126W
120	700mA	Standard Narrow (SN)	19,692	261W
120	700mA	Standard Wide (SW)	19,303	261W
80	350mA	Extra Wide (SX)	7,332	86W
80	700mA	Extra Wide (SX)	12,106	177W

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
25°C	> 94%	> 350,000
40°C	> 93%	> 250,000
50°C	> 90%	> 170,000

Cooper Lighting
by EATON

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

Eaton's Cooper Lighting Business
1121 Highway 74 South
Peachtree City, GA 30269
United States
www.cooperlighting.com

Specifications and dimensions subject to change without notice.

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2014-08-21 15:49:12

MAQ MARQUIS LED

ORDERING INFORMATION

Sample Number: MAQ-B120-3-LED-347-SN-QM-DM

Product Family[1]	LED Series	Drive Current	Lamp Type	Voltage	Distribution	Color	Mounting Method[4]
MAQ–Marquis	**B80**–80 LEDs[2] **B120**–120 LEDs	**3**–350mA **7**–700mA	**LED**–Solid State Light Emitting Diode	**E1**–Electronic (120-277V) **347**–347V **480**–480V[3]	**SN**–Standard Narrow **SW**–Standard Wide **SX**–Extra Wide[5]	**AP**–Grey **BZ**–Bronze **BK**–Black **WH**–White **DP**–Dark Platinum **GM**–Graphite Metallic	**DM**–Direct Mount **IM**–Internal Mast Arm **FM**–Slipfitter w/Knuckle Mount

Options (Add as Suffix)	Accessories (Order Separately)
RU–NEMA Twistlock Photocontrol Receptacle, Uplight Application **RD**–NEMA Twistlock Photocontrol Receptacle, Downlight Application **SM**–Snow Melt for Uplight Application **DIM**–0-10V Dimming Drivers	**OA/RA1016**–NEMA Twistlock Photocontrol - Multi-Tap **OA/RA1021**–NEMA Twistlock Photocontrol - 480V **OA/RA1201**–NEMA Twistlock Photocontrol - 347V **RA1253**–10kV Circuit Module Replacement

Notes:
1. DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
2. Only available with SX distribution.
3. Not to be used with on grounded systems.
4. Only available with B80.
5. Consult factory if ordering NEMA photocontrol receptacle.

Cooper Lighting
by EATON

Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
Eaton.com

Eaton's Cooper Lighting Business
1121 Highway 74 South
Peachtree City, GA 30269
United States
www.cooperlighting.com

Specifications and dimensions subject to change without notice.

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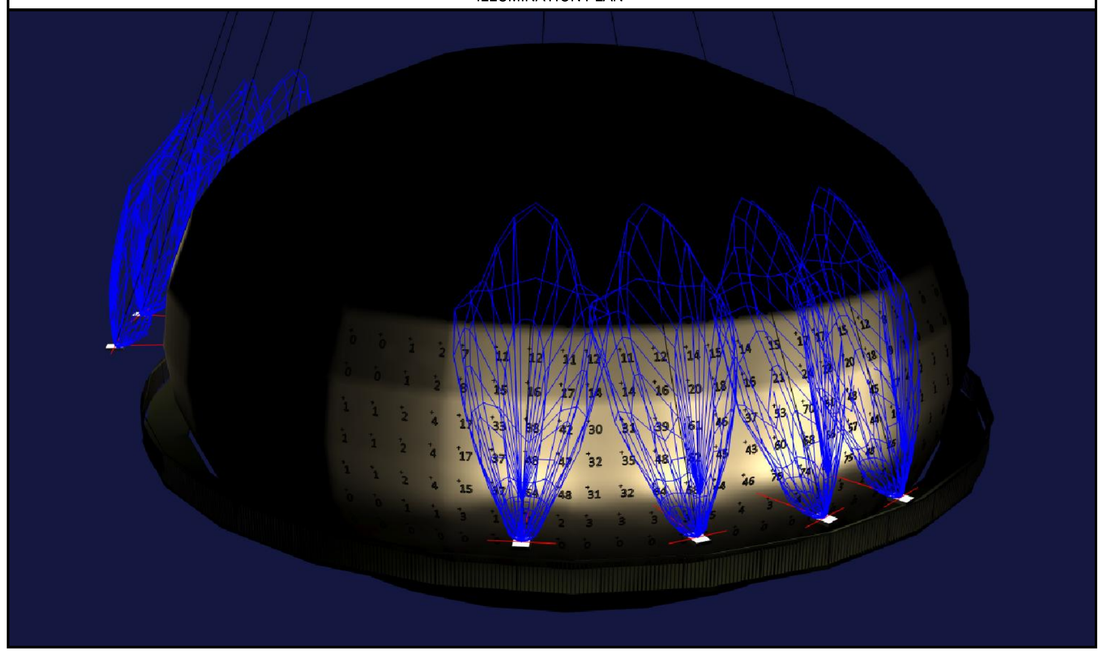
ILLUMINATION PLAN



LUMINAIRE SCHEDULE

SYM.	MANUFACT.	CATALOG NO.	LAMPS	VOLTS	WATTS	LOCATION/MTG.	REMARKS
A	McGRAW-EDISON	MAQ-B120-7-LED-E1-SW-BZ-FM	LED	120	261	POLE MTD.	.

NOTES:

ELECTRICAL NOTES

A. ALL WORK TO CONFORM WITH THE LATEST REQUIREMENTS OF NATIONAL, STATE, AND LOCAL ELECTRICAL CODES.

B. ALL SERVICE EQUIPMENT TO CONFORM TO REQUIREMENTS OF LOCAL POWER COMPANY.

C. PROVIDE LABOR, MATERIAL AND EQUIPMENT NECESSARY TO FURNISH COMPLETE ELECTRICAL SYSTEM(S).

D. ALL CONDUCTORS SHALL BE SOLID COPPER, 600 VOLT WITH MINIMUM SIZE OF #12 AWG. THWN UNLESS OTHERWISE SPECIFIED. WIRE SIZES OF #8 AND LARGER SHALL BE STRANDED

E. ALL EQUIPMENT SHALL BE RATED FOR MAXIMUM AVAILABLE VOLTAGE AND GROUND FAULT CURRENT. ALL EQUIPMENT SHALL BE U.L. LISTED.

F. CONTRACTOR SHALL MAINTAIN A COMPLETE TEMPORARY POWER AND LIGHTING SYSTEM DURING CONSTRUCTION.

G. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR ONE YEAR.

H. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL ELECTRICAL PERMITS AND INSPECTIONS.

I. ALL WIRE SHALL BE INSTALLED IN CONDUIT. ALL EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL. CONDUIT INSTALLED BELOW SLAB, ON GRADE OR UNDERGROUND MAY BE SCHEDULE 40 PVC (3/4" MINIMUM). EMT MAY BE USED IN WALLS, CEILINGS OR WHERE NOT SUBJECT TO DAMAGE (1/2" MINIMUM). EMT CONNECTORS SHALL BE COMPRESSION TYPE WHERE SUBJECT TO MOISTURE. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE.

J. PROVIDE ALL REQUIRED SUPPORTS FOR MATERIAL AND EQUIPMENT.

K. PROVIDE GREEN GROUND WIRE IN EACH RACEWAY. SIZE WIRE IN ACCORDANCE WITH TABLE 250.122 OF THE NATIONAL ELECTRICAL CODE.

L. PANELBOARDS, CIRCUIT BREAKERS, DISCONNECT SWITCHES, STARTERS, TIMECLOCKS, OR OTHER ELECTRICAL APPARATUS INSTALLED FOR THE OPERATION OF ANY EQUIPMENT SHALL BE PROPERLY IDENTIFIED WITH ENGRAVED LAMINATED PLASTIC NAMEPLATES ATTACHED TO EQUIPMENT BY TWO PART EPOXY.

M. ALL WIREWAYS, PULLBOXES, OUTLET AND JUNCTION BOXES SHALL BE PROPERLY SIZED PER THE NATIONAL ELECTRICAL CODE, PULL AND OUTLET BOXES SHALL HAVE ALL WIRING TAGGED TO INDICATED PANEL AND CIRCUIT NUMBERS.

N. ALL FUSES WHEN REQUIRED SHALL BE BUSMANN SIZED PER EQUIPMENT REQUIREMENTS.

O. PROVIDE BACKBOX AND CONDUIT DISTRIBUTION SYSTEMS AS INDICATED ON THE DRAWINGS. VERIFY ALL LOCATIONS WITH THE TELEPHONE COMPANY. WHERE INDIVIDUAL OUTLETS ARE SHOWN PROVIDE FLUSH OUTLET BOX WITH BLANK COVER (MOUNTED AT 18" A.F.F.) AND A 3/4" CONDUIT INSTALLED IN WALL FROM THE BOX TO A POINT ABOVE THE CEILING.

P. CONTRACTOR SHALL VISIT JOB SITE PRIOR TO BID AND BE FAMILIAR WITH ALL EXISTING CONDITIONS.

SPECIAL CONDITIONS

PROVIDE (2) TWO COPIES OF TECHNICAL DATA FOR ALL ELECTRICAL EQUIPMENT FURNISHED.

PROVIDE RECORD DRAWINGS UPON COMPLETION OF WORK. PRESENT THE OWNER WITH (3) THREE RECORD SETS OF RECORD DRAWINGS. RECORD DRAWINGS SHALL BE UPDATED DAILY.

PROVIDE THE OWNER WITH INSTRUCTION IN THE OPERATION OF ALL ELECTRICAL SYSTEMS.

PROVIDE THE OWNER WITH (2) TWO SETS OF MAINTENANCE AND OPERATIONS MANUAL FOR ALL ELECTRICAL EQUIPMENT.

---

phone:813-935-5009
LYLE ENGINEERING GROUP, INC.
CONSULTING ENGINEERS
8308 N. SAULSKY ST.
TAMPA, FL 33614
www.lyleengineeringgroup.com
CA5380

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PROJECT NO: 215007

DRAWN BY: PDR
DATE: 12-30-2015
CHECKED BY: SLL
DATE: 12-30-2015

CONSTRUCTION DOCUMENTS
ISSUE DATE: 12/30/2015

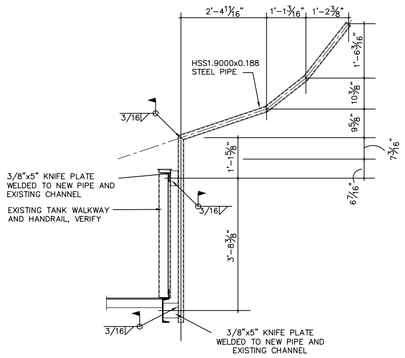
NO.	DATE	REVISION

TITLE: DETAILS, LEGENDS, AND SCHEDULES

PROJECT NAME:
CITY OF TAMPA
WEST TAMPA WATER TANK
TANK ILLUMINATION PROJECT
2201 N. HIMES AVENUE, TAMPA, FL 33607

SHEET NO:
E1.1

PLOT DATE: Jan 04, 2016 - 3:14pm D:\2015\215007\Working Drawings\Electrical\215007-E1.1.dwg User:Patrick



LUMINAIRE MOUNTING DETAIL

SCALE: 1/2" = 1'-0"

0 1' 2' 4'

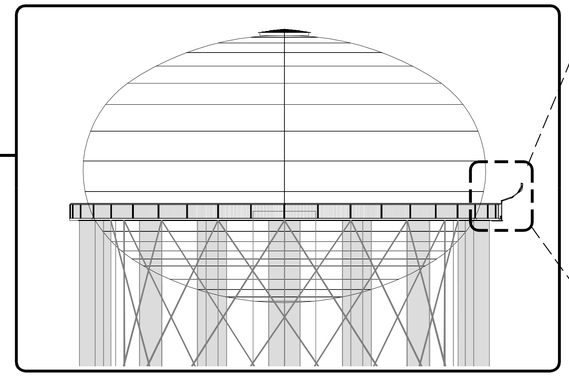
WIND DESIGN DATA:

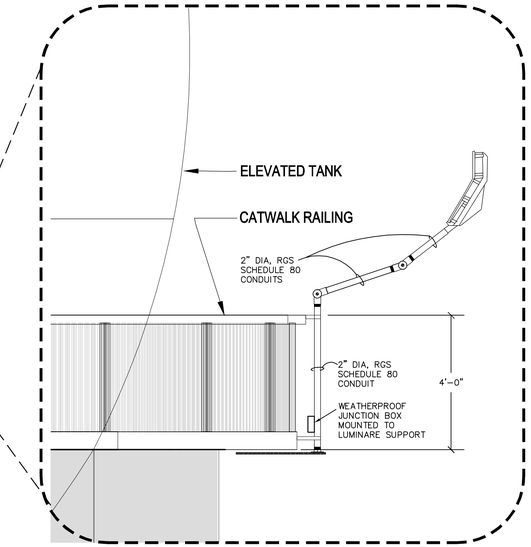
CODE: FLORIDA BUILDING CODE 5TH EDITION (2014)
ASCE 7-10
EXPOSURE CATEGORY: C
RISK CATEGORY: IV
BASIC WIND SPEED: 150 MPH (Ult)
ENCLOSURE CLASSIFICATION: OPEN
WIND PRESSURE: 60 PSF (ASD)

WEST TAMPA WATER TANK SIDE ELEVATION

SCALE: 1/16" = 1'-0"

0 8' 16' 32'

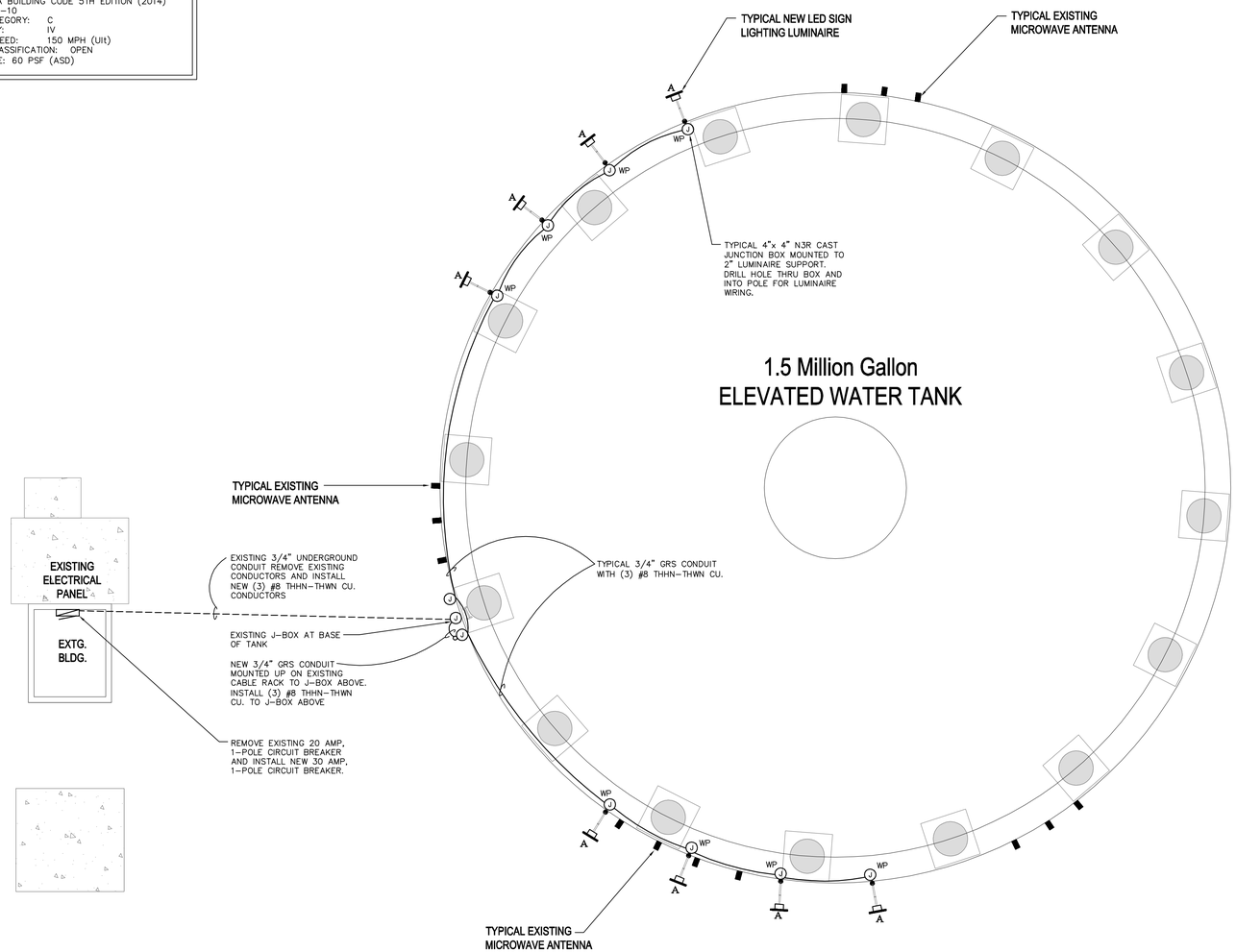




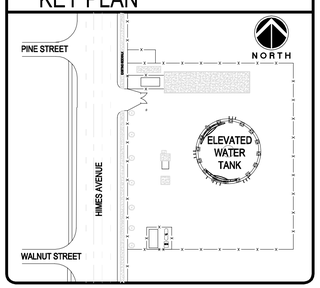
WEST TAMPA WATER TANK ENLARGED SECTION

SCALE: 1/2" = 1'-0"

0 1' 2' 4'



KEY PLAN



NORTH

SCALE: 1/8" = 1'-0"

0 4' 8' 16'

WEST TAMPA WATER TANK FLOOR PLAN

LYLE ENGINEERING GROUP, INC.
CONSULTING ENGINEERS
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TAMPA, FL 33604
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TITLE: WEST TAMPA WATER TANK FLOOR PLAN

PROJECT NAME:
CITY OF TAMPA
WEST TAMPA WATER TANK
TANK ILLUMINATION PROJECT
2201 N. HIMES AVENUE, TAMPA, FL 33607

SHEET NO:
E2.1

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