

ATTENTION: SUBMITTALS ARE REQUIRED

DO NOT PURCHASE EQUIPMENT WITHOUT APPROVED SHOP DRAWINGS AND SUBMITTALS. WE WILL NOT APPROVE PAY REQUISITIONS WITHOUT SUBMITTALS. ANY COSTS INCURRED TO CORRECT PROBLEMS THAT COULD HAVE BEEN AVOIDED BY SUBMISSION OF SAID DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, EVEN IF SUCH CORRECTION IS OUTSIDE THE CONTRACTORS ORIGINAL CONTRACT RESPONSIBILITIES.

ELECTRICAL SUBMITTAL REQUIREMENTS

SUBMITTAL INFORMATION SHALL BE SUBMITTED AND APPROVED BEFORE THE RELATED INSTALLATION MAY COMMENCE. ANY DEVIATION IN DESIGN DURING THE INSTALLATION PROCESS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. THE INSTALLING CONTRACTOR SHALL PROVIDE THE ENGINEER WITH FIVE COPIES OF THE FOLLOWING DOCUMENTS FOR APPROVAL:

1. MANUFACTURER'S DATA SHEETS FOR ALL EQUIPMENT AND SUPPLIES TO BE PURCHASED AND/OR USED IN THIS PROJECT. THIS INCLUDES ANY CAULK, TAPE OR BOXES. ANY ITEMS INSTALLED OR PLACED IN THE BUILDING MUST BE SUBMITTED FOR APPROVAL.
2. ELECTRICAL SHOP DRAWINGS SHALL BE SUBMITTED INDICATING ANY SUB SLAB CONDUIT, ALL FIRE WALL PENETRATIONS AND DEVIATIONS FROM DESIGN.
3. CIRCUITING AND PULL BOX SHOP DRAWINGS INDICATING DEVIATIONS FROM DESIGN, CHANGES IN FITTINGS AND ROUTING, PENETRATIONS, AND INTERFERENCES.
4. EQUIPMENT DATA INCLUSIVE OF SPECIFICATION, INSTALLATION, AND MAINTENANCE CATALOGS FROM THE MANUFACTURER.
5. MANUFACTURER SAFETY DATA SHEETS ON ALL ITEMS BEING SUPPLIED AND LEFT AT THE SITE AFTER COMPLETION. THIS INCLUDES ADHESIVES AND CHALKING MATERIALS.

SPECIFICATIONS

SPECIFICATIONS ARE PROVIDED IN A-SIZE FORMAT AND ARE PART OF THIS CONSTRUCTION DRAWING SET. IT IS THE RESPONSIBILITY OF ALL CONTRACTORS TO READ AND UNDERSTAND ALL SPECIFICATIONS BEFORE BIDDING AND BEFORE BEGINNING WORK. CONTRACTORS WILL BE HELD TO THE SPECIFICATIONS AND DRAWINGS. WE WILL NOT APPROVE ANY CHANGES, REWORK, SUBSTITUTIONS, OR OMISSIONS DUE TO THE CONTRACTOR'S FAILURE TO FOLLOW THE SPECIFICATIONS.

GENERAL CONTRACTOR COORDINATION

THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE TO FIELD VERIFY COORDINATION OF DUCTWORK, LIGHTING, SPRINKLER HEADS, CEILING TILES, AND STRUCTURAL OBSTRUCTIONS. SUBMIT COORDINATED REFLECTED CEILING PLANS FOR APPROVAL PRIOR TO INSTALLATION. SCHEDULING, SEQUENCE OF INSTALLATION, EQUIPMENT CHANGES, CONTRACTOR PREFERENCES AND ACCUMULATION OF VARIATIONS IN MEASUREMENT AND INSTALLATION ALL CONTRIBUTE TO CONFLICTS IN CONSTRUCTION.

DESIGN LEARNED WILL INSPECT INSTALLATION DURING AND AFTER CONSTRUCTION TO ENSURE CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS.

GENERAL CONTRACTOR IS RESPONSIBLE FOR MAKING SURE THAT ALL SUB-CONTRACTORS ADHERE TO ALL DRAWINGS, SPECIFICATIONS, AND ADDENDA EXACTLY.

GENERAL CONTRACTOR IS RESPONSIBLE FOR THE COST OF REWORK ASSOCIATED WITH ANY UNAPPROVED DEVIATIONS TO DESIGN. MANY ASPECTS OF OUR DESIGNS FIT CLOSELY. BE ESPECIALLY CAUTIOUS OF ELECTRICAL CONDUIT, PLUMBING PIPING, AND SPRINKLER LINES: THESE FREQUENTLY AND INAPPROPRIATELY ARE ROUTED IN THE FIELD THROUGH SPACES THAT HAVE BEEN RESERVED FOR DUCTWORK.

ELECTRICAL SERVICE MAIN NOTES

1. CONTRACTOR TO INCLUDE ALL CONDUIT, WEATHER HEAD, METER SOCKET, MAIN DISTRIBUTION PANEL, DISTRIBUTION PANELS, HARDWARE, CONNECTORS, PANEL COVERS, BREAKERS AND ANY OTHER FITTINGS TO PRODUCE A COMPLETE, WORKING, CODE COMPLIANT INSTALLATION.
2. THE CT CABINET SHALL BE NEMA 3R FOR OUTDOOR USE. ALTERNATIVE ARRANGEMENTS MAY BE ACCEPTABLE - CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ELECTRICAL SERVICE MAIN AND RISER REGARDLESS OF WHETHER ARRANGEMENT DEVIATES FROM PLANS OR NOT.
3. SQUARE D, SIEMENS AND GENERAL ELECTRIC ARE GENERALLY ACCEPTABLE FOR MAJOR COMPONENTS BUT MUST BE SUBMITTED FOR APPROVAL. SMALLER COMPONENTS SUCH AS CONDUIT, WIRE, BREAKERS, AND OTHER FITTINGS HAVE NOT BEEN SPECIFIED BY MODEL BUT SHALL BE SUBMITTED IN THEIR ENTIRETY FOR APPROVAL.
4. ALL ELECTRICAL GEAR, CONDUIT, FITTINGS, ENCLOSURES, SWITCHES, BREAKERS, CABLE, WIRE, AND HANGERS SHALL BE SUBMITTED FOR APPROVAL BY THE ENGINEER PRIOR TO PURCHASE.
5. THE SUBMITTAL PACKAGE SHOULD BE DELIVERED AS A SINGLE SET WITH ALL MAJOR GEAR AND MINOR COMPONENTS IDENTIFIED ALONG WITH ANY OPTIONS.
6. DIMENSIONS AND RATINGS ARE BASED ON LATEST ONLINE CATALOG INFORMATION - CONFIRM ALL DIMENSIONS PRIOR TO PURCHASE.

FIRE RATED PENETRATIONS

ALL PENETRATIONS THROUGH A FIRE-RATED ASSEMBLY MUST BE SEALED IN A MANNER WHICH MEETS OR EXCEEDS THE FIRE-RATING OF THE PENETRATED ASSEMBLY. PENETRATIONS MUST BE SEALED WITH A UL LISTED FIRESTOP SYSTEM AND SHALL COMPLY WITH ALL STATE AND LOCAL CODES.

CONTRACTOR SHALL SUBMIT A SHOP DRAWING INDICATING FIREWALLS TO BE PENETRATED AND SYSTEMS USED TO SEAL PENETRATIONS TO THE ENGINEER FOR REVIEW AND APPROVAL. FIRESTOP SYSTEMS SHALL BE IDENTIFIED BY UL CATALOG NUMBER (e.g. XHEZ - WL1001).

FIRE ALARM CONTROL PANEL

CONTRACTOR SHALL PROVIDE A FULLY ADDRESSABLE PANEL LOCATED AS SHOWN IN BUILDING ENTRANCE. CONTRACTOR TO INCLUDE APPROPRIATE BATTERY AND CALCULATIONS FOR FINAL SYSTEM CONFIGURATION.

FIRE RATINGS

AT THE TIME OF DESIGN, THERE WERE NO FIRE WALLS INDICATED ON THE ARCHITECTURAL PLANS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING WHETHER ANY FIRE-RATED PARTITIONS ARE REQUIRED. IF FIRE-RATED PARTITIONS ARE REQUIRED, THE CONTRACTOR IS RESPONSIBLE FOR INCLUDING THE COST OF MAINTAINING THE RATING OF ANY PENETRATION TO THESE ASSEMBLIES IN THEIR WORK.

GENERAL/SERVICE ELECTRICAL SCOPE OF WORK

GENERAL:

THIS SCOPE OF WORK REPRESENTS THE GENERAL REQUIREMENTS FOR THE ELECTRICAL WORK AT THE LAWRENCE HUMANE SOCIETY. THE CONTRACTOR SHALL VERIFY THE EXISTING SITE CONDITIONS PRIOR TO BIDDING AND COMMENCING WORK ON THIS PROJECT. ALL QUESTIONS AND/OR DEVIATIONS FROM THIS DESIGN SHALL BE SUBMITTED IN WRITING FOR APPROVAL BY ENGINEER.

THE TERM 'PROVIDE AND INSTALL' SHALL MEAN TO FURNISH AND INSTALL COMPLETELY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL EQUIPMENT, MATERIALS, AND ACCESSORIES SPECIFIED WITHIN THIS ELECTRICAL DRAWING SET. ADDITIONALLY THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ANY EQUIPMENT, MATERIAL, ACCESSORY, AND/OR HARDWARE REQUIRED TO COMPLETE A FULLY OPERATIONAL ELECTRICAL SYSTEM. SUBMITTAL INFORMATION AS OUTLINED BELOW, SHALL BE SUBMITTED AND APPROVED BEFORE THE RELATED INSTALLATION MAY COMMENCE. NO DEVIATIONS MAY BE MADE WITH OUT WRITTEN CONSENT FROM THE DESIGN LEARNED, INC.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL PERMIT FEES, AND LOCAL BUILDING OFFICIAL REQUIREMENTS. DURING CONSTRUCTION, THE CONTRACTOR MAY CONTACT DESIGN LEARNED, INC. (860) 889-7078. CONTRACTOR IS ALSO RESPONSIBLE FOR INSTALLING ALL SYSTEMS IN COMPLIANCE WITH 2014 NEC, LOCAL MUNICIPALITY AMENDMENTS AND SPECIFICATIONS.

ALL CONDUIT, WIRING, ENCLOSURES, AND FIXTURES ARE TO BE NEAT, CLEAN, LEVEL, PLUMB AND ATTRACTIVE. ENCLOSURES, CIRCUITS, CONDUIT, PULL BOXES, GUTTER BOXES, AND CIRCUIT BREAKERS ARE TO BE CLEARLY LABELED WITH TYPED OR EMBOSSED LABELING SYSTEMS. DO NOT USE TAPE OR HANDWRITTEN TAGS FOR LABELS. PROVIDE ACCESS PANELS AS PART OF THE BASE FEE TO ANY OBSTRUCTED OR CONCEALED ENCLOSURES, PULL BOXES, SPLICES, GUTTER BOXES, OR OTHER TERMINATIONS AT ANY LOCATIONS THAT ARE OTHERWISE HIDDEN OR INACCESSIBLE.

ALL CONDUIT OR MC CABLE, WHETHER HUNG OR RUN IN CONDUIT, SHALL BE MOUNTED WITH HIGH QUALITY, MANUFACTURED CONDUIT OR CABLE SUPPORTS. ANY LOW GRADE HANGER SUCH AS PERFORMED HANGERS, PLASTIC TIES, ROPE OR WIRE IS UNACCEPTABLE. CONDUIT SUPPORTS SHALL BE MANUFACTURED AND SUBMITTED FOR APPROVAL BEFORE PURCHASE.

ALL DEBRIS SHALL BE REMOVED FROM INSIDE AND AROUND ALL PANELS, ELECTRICAL EQUIPMENT AND RECEPTACLES. ALL CONNECTIONS SHALL BE SECURELY FASTENED, AND ALL PANELS, CONDUIT, J-BOXES, AND WIRE SHALL BE NEATLY LABELED TO CREATE A NEAT AND CLEAN OPERATING SYSTEM.

CONTRACTOR TO VERIFY AVAILABILITY OF EQUIPMENT PRIOR TO BIDDING. SUBSTITUTIONS MAY BE ALLOWED PENDING ENGINEER APPROVAL. ALL SUBSTITUTIONS MUST BE SUBMITTED FOR APPROVAL PRIOR TO CONSTRUCTION.

ELECTRICAL SERVICE MAIN:

THE ELECTRICAL CONTRACTOR IS REQUIRED TO COORDINATE WITH THE LOCAL UTILITY TO INSTALL A NEW 600 AMP, 480 VOLT, THREE-PHASE SERVICE TO THE BUILDING. CONDUITS SHALL EXTEND FROM THE UTILITY TRANSFORMER TO A UTILITY APPROVED METERING DEVICE/SERVICE DISCONNECT LOCATED ON THE OUTSIDE OF THE BUILDING. CONDUITS SHALL EXTEND FROM THE SERVICE DISCONNECT TO THE MDP. THE MDP SHALL DISTRIBUTE POWER TO THE LIGHTING PANELS, MECHANICAL EQUIPMENT PANELS AND RECEPTACLE PANELS. FOR ALL CONDUIT AND WIRE SIZES REFER TO THE RISER DIAGRAM AND FEEDER SCHEDULE IN THE FOLLOWING SHEETS.

INTERIOR BUILDING LIGHTING:

LIGHTING THROUGHOUT THE BUILDING IS SPECIFIED AS LED LIGHTING WITH INTEGRAL LED DRIVERS. LIGHTING IN ANIMAL OCCUPIED AREAS SHALL BE CONTROLLED BY STANDARD SWITCHING PROCEDURES. LIGHTING IN OFFICES AND LOBBY AREAS SHALL BE CONTROLLED BY OCCUPANCY SENSORS, WHERE REQUIRED BY CODE. ONLY USE PASSIVE INFRARED OCCUPANCY SENSORS. OCCUPANCY SENSORS UTILIZING ULTRASONIC SOUND ARE NOT PERMISSIBLE THESE SENSORS OPERATE WITH A SOUND PRESSURE AND FREQUENCY THAT WILL CREATE STRESS IN ANIMALS AND CAUSE UNNECESSARY DISCOMFORT WITHIN THE BUILDING. OCCUPANCY SENSORS SHALL BE A LEARNING ADAPTABLE TYPE AND LOCATED AS SHOWN ON THE DRAWINGS. ALL ROOMS SHALL BE INDIVIDUALLY CONTROLLED BY SWITCHES OR OCCUPANCY SENSORS WHETHER THE SHOWN ON THE DRAWINGS OR NOT.

EXTERIOR BUILDING LIGHTING:

THE EXTERIOR LIGHTING SHALL BE WALL MOUNTED PACKS. ALL LIGHTING AT EXIT DOORS SHALL BE SUPPLIED WITH BATTERY BACK UP TO PROVIDE EMERGENCY EGRESS LIGHTING. THE EXTERIOR LIGHTS SHALL BE CONTROLLED BY AN ASTRONOMICAL TIME CLOCK WHICH AUTOMATICALLY ADJUSTS FOR THE CHANGING SUNSET TIMES. THE TIME CLOCK SHALL BE PRE PROGRAMMED FOR THE LAWRENCE AREA SUNSET AND SUNRISE TIMES.

EMERGENCY BUILDING LIGHTING:

THE EMERGENCY LIGHTING SHALL BE SUPPLIED BY THE INTERIOR BUILDING LIGHTING WITH EMERGENCY BATTERY BACKUP AS INDICATED ON THE LIGHTING SCHEDULE. ALL LIGHTING SHOWN WITH THESE LIGHTS SHALL STAY LIT FOR 90 MINUTES. ALL EXIT LIGHTS SHALL HAVE BATTERY BACK UP AND SHALL BE ON ITS OWN CIRCUIT. ALL EXIT LIGHTING SHALL BE MOUNTED TO THE CEILING WITH NO OBSTRUCTIONS BLOCKING THE LIGHT OF SIGHT TO THE SIGN.

FIRE ALARM SYSTEM:

THE FIRE ALARM SYSTEM SHALL BE AN ADDRESSABLE SYSTEM DESIGN FOR FULL COVERAGE OF THE FACILITY. THE FIRE ALARM SYSTEM SHALL BE CONFIGURED FOR EARLY DETECTION TO ALLOW ANIMALS TO BE EVACUATED FROM DANGEROUS ZONES FIRST. ALL SYSTEM WIRES SHALL BE RUN IN CONDUIT AND MAY NOT BE RUN OUTSIDE OF CONDUIT TO DETECTORS OR NOTIFICATION DEVICES. ALL EGRESS DOORS SHALL HAVE MANUAL PULL STATIONS MOUNTED WITHIN 2 FEET OF THE DOOR BELOW ANY LIGHT SWITCHES ON THE WALL. ALL NOTIFICATION DEVICES SHALL HAVE A CANDELA RATING OF AT MINIMUM 15. ALL SMOKE DETECTOR BASES SHALL BE INSTALLED WITH CARBON MONOXIDE DETECTORS AND ALL HEAT DETECTORS SHALL HAVE STANDARD BASES.

LIGHTING FIXTURE SCHEDULE

| FIXTURE | DESCRIPTION | BALLAST | MOUNTING | MANUFACTURER | MODEL | WATTS | VOLTS | COUNT | NOTES |
|---------|----------------------------------|---------|--------------|-----------------|---------------------------------------|-------|-------|-------|---|
| A | 2X4 TROFFER | LED | RECESSED | COOPER LIGHTING | 24ALNG-LD4-45-UNV-L835-CD1-U | 42 W | 277 V | 220 | |
| DL | 6" HIGH LUMEN RECESSED DOWNLIGHT | LED | RECESSED | COOPER LIGHTING | FLD6A15D010TE FERMG6A15835 FSR6LM1W94 | 23 W | 277 V | 31 | |
| SL | SITE LIGHTING | LED | POLE MOUNTED | COOPER LIGHTING | GLEON-AF-02-LED-E1-SL4 | 133 W | 277 V | 17 | USE THE COOPER LIGHTING ASX ALUMINUM SQUARE STRAIGHT POLE |
| SL2 | SITE LIGHTING | LED | POLE MOUNTED | COOPER LIGHTING | GLEON-AF-01-LED-E1-SL4-600 | 133 W | 277 V | 4 | USE THE COOPER LIGHTING ASX ALUMINUM SQUARE STRAIGHT POLE |
| SLA | ALTERNATE SITE LIGHTING | LED | POLE MOUNTED | COOPER LIGHTING | GLEON-AF-03-LED-E1-T3R-XX-QM | 166 W | 277 V | 7 | USE THE COOPER LIGHTING ASX ALUMINUM SQUARE STRAIGHT POLE |
| WM | WALL MOUNTED DOWN LIGHT | LED | WALL MOUNTED | COOPER LIGHTING | 9004-W1-RW-LED3090-W-WT-L3-UNV | 50 W | 277 V | 9 | |

* CONSULT WITH ARCHITECT AND OWNER FOR FINISH SELECTION

TELEPHONE AND DATA SCHEDULE

| DESCRIPTION | COUNT |
|------------------------------------|-------|
| DUPLEX TELEPHONE / COMPUTER OUTLET | 39 |

SWITCH LEGEND

| | |
|--|--------------------------|
| | CEILING OCCUPANCY SENSOR |
| | DIMMING SWITCH |
| | DUPLEX SWITCH |
| | DUPLEX THREE WAY SWITCH |
| | FOUR WAY SWITCH |
| | OCCUPANCY SWITCH |
| | STANDARD SWITCH |
| | THREE WAY SWITCH |
| | THREE WAY DIMMING SWITCH |

RECEPTACLE LEGEND

| | |
|--|-----------------------|
| | SIMPLEX RECEPTACLE |
| | DUPLEX RECEPTACLE |
| | QUADRUPLEX RECEPTACLE |
| | JUNCTION BOX |
| | SPECIALTY RECEPTACLE |

LUMINAIRE LEGEND

| | |
|--|-----------------|
| | ALL A FIXTURE |
| | B FIXTURE |
| | ALL DL FIXTURE |
| | ALL SL FIXTURES |
| | ALL WM FIXTURES |

LIGHTING NOTES

1. ELECTRICAL CONTRACTOR SHALL WIRE EXIT LIGHTING TO LOCAL AREA LIGHTING CIRCUITS, AHEAD OF SWITCHES, PER N.E.C. 700-12(E).
2. ALL WIRING SHALL BE IN EMT CONDUIT OR MC CABLE WITHOUT EXCEPTION.
3. PROVIDE AND INSTALL PULL CORDS IN ALL CONDUIT.
4. ALL SWITCHES AND RECEPTACLES SCHEDULED AND SHOWN IN THE ANIMAL AREAS SHALL BE IN NEMA 3R ENCLOSURES WITH GASKETED COVERS, AND MOUNTED AT 48 INCHES ABOVE FLOOR UNLESS OTHERWISE INDICATED.
5. THE CONTRACTOR SHALL PROVIDE EACH INTERIOR AREA REQUIRING A MANUAL CONTROL SWITCH TO HAVE THE ABILITY TO REDUCE THE LIGHTING BY 50 PERCENT EXCEPT CORRIDORS, STOREROOMS, REST ROOMS, LOBBIES OR ROOMS WITH ONE LUMINAIRE. AREAS SPECIFIED WITH OCCUPANCY SENSORS ARE EXEMPT.
6. CONTRACTOR SHALL INCLUDE THE COST OF ALL HOME RUN CIRCUITS TO BREAKERS AS INDICATED ON PANEL SCHEDULES.
7. THE BUILDING REQUIRES AN AUTOMATIC CONTROL IF NOT IN USE 24/7.

LIGHTING SCOPE OF WORK

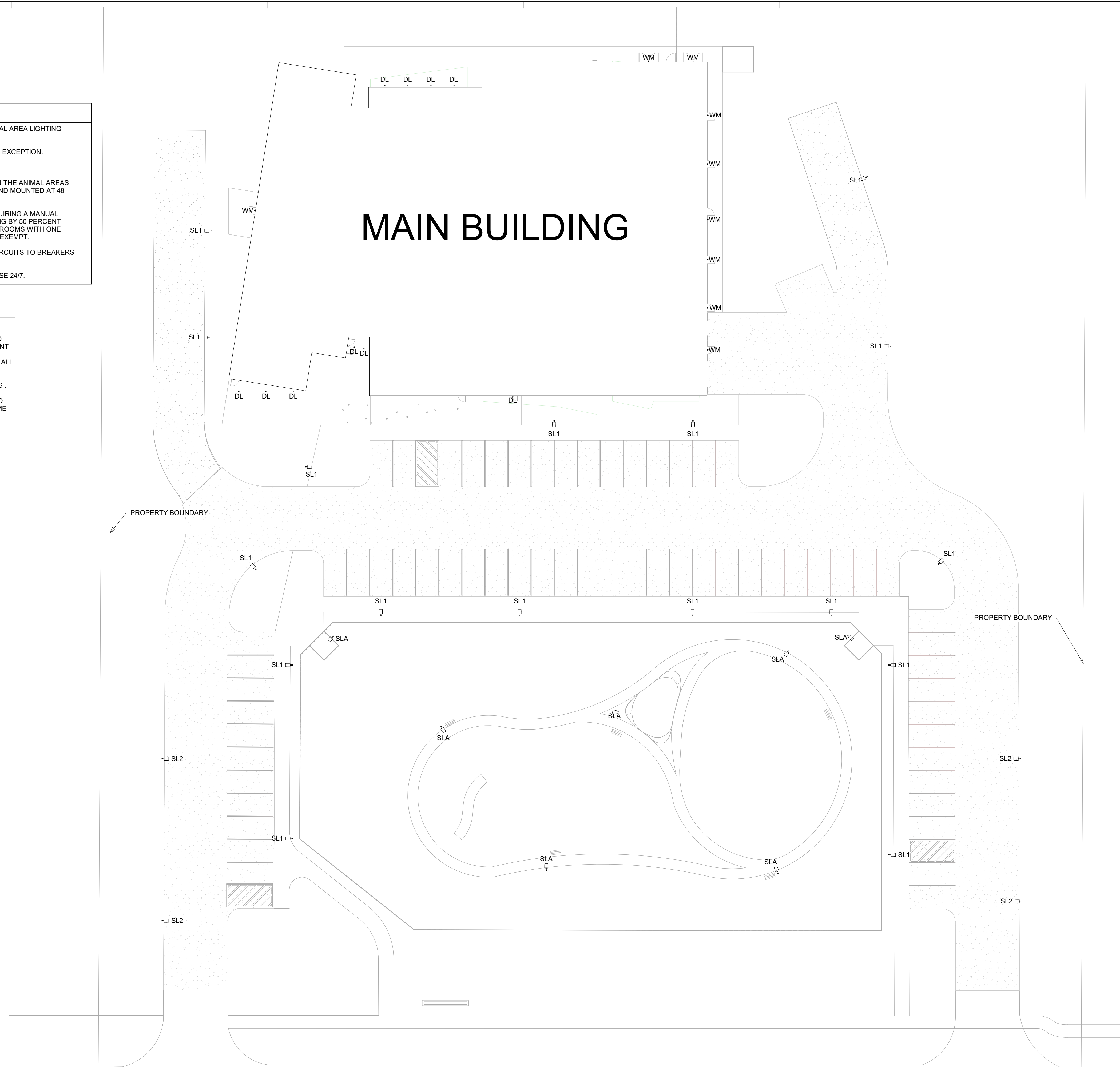
ALL INTERIOR LIGHTING IS DESIGNED TO SUIT THE INDIVIDUAL ENVIRONMENTS. IN AREAS WHERE THE ENVIRONMENT IS WET, DAMP, OR HUMID THE LIGHTING FIXTURES WILL BE GASKETED AND SEALED IN OTHER AREAS GASKETED LIGHTING IS USED TO PREVENT HAIR ACCUMULATION OR AVOID BACTERIAL CONTAMINATION. ALL INTERIOR LIGHT WIRING SHALL BE ROUTED IN EMT OR MC CABLE. ALL BALLASTS ARE TO BE ENERGY EFFICIENT ELECTRONIC BALLASTS.

EXTERIOR LIGHTING SHALL BE INSTALLED WITH NEMA 4R FITTINGS. CONTRACTOR TO INCLUDE COST AND INSTALLATION OF NEW HOMERUNS BACK TO THE NEW PANELBOARD. CONTRACTOR ALSO TO INCLUDE THE COST AND INSTALLATION OF ASTRONOMICAL TIME CLOCKS TO CONTROL SITE AND FACADE LIGHTING.

SITE LIGHTING NOTE

ALL POLE MOUNTED EXTERIOR LIGHT FIXTURES WILL BE MOUNTED 20 FEET ABOVE GRADE. THE PHOTOMETRIC PLAN IS CALCULATED AT GRADE LEVEL SPACED AT 10 FOOT INTERVALS.

ALL SLA FIXTURES ARE AN ALTERNATE LAYOUT.



LUMINAIRE LEGEND

| | |
|--|-----------------|
| | ALL A FIXTURE |
| | B FIXTURE |
| | ALL DL FIXTURE |
| | ALL SL FIXTURES |
| | ALL WM FIXTURES |

NOT FOR
CONSTRUCTION

Revisions

Issue Date: 12/29/17
Scale: As indicated
Project No.: LAWHS.KS
Drawn: ARB
Checked By: CSL
Title: SITE LIGHTING AND POWER LAYOUT

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