

ELECTRICAL SPECIFICATIONS

- DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK.
- ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE LATEST EDITIONS OF THE ADOPTED CODES AND THEIR LOCAL AMENDMENTS AS IDENTIFIED BY THE AUTHORITY HAVING JURISDICTION.
- WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN TO "PROVIDE AND INSTALL".
- FINAL CONNECTIONS TO EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
- IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. THE ENGINEER RESERVES THE RIGHT TO APPROVE METHODS AND MATERIALS NOT REFLECTED HEREIN.
- CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL, MECHANICAL AND OTHER RELATED DRAWINGS PRIOR TO BID.
- CONTRACTOR SHALL VISIT SITE PRIOR TO BID AND VERIFY THAT CONDITIONS ARE AS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR SHALL INCLUDE IN HIS BID, ANY COSTS REQUIRED TO MAKE HIS WORK MEET THE CONTRACT SCOPE UTILIZING EXISTING CONDITIONS.
- WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT
- WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE AND NATIONAL CODES AND ORDINANCES.
- PROVIDE PERMITS AND INSPECTIONS REQUIRED.
- GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
- PROVIDE RECORD DRAWINGS TO ENGINEER. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTINGS, ETC.
- VERIFY SPECIFIC LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.
- ELECTRICAL AND TELECOMMUNICATION SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.
- BOXES FOR TELEPHONE, T.V., COMPUTER, WIRING DEVICES, ETC., SHALL BE MINIMUM 4" SQUARE.
- RECESSED LIGHT FIXTURES INSTALLED IN GYP. BOARD OR PLASTER CEILINGS SHALL HAVE PLASTER FRAMES INSTALLED PRIOR TO CEILING MATERIAL.
- RECESSED FIXTURES INSTALLED INDOORS SHALL BE THERMALLY PROTECTED.
- SEE DIVISION 15 DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT. PROVIDE SERVICE TO AND CONNECT EQUIPMENT AS REQUIRED.
- CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE AND FUSES SHALL BE BUSSMANN CLASS "J", 300KAIC, DUAL ELEMENT, TIME DELAY OR EQUIVALENT FOR UP TO 600A AND CLASS "L" FUSES ABOVE 600A.
- ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC RACEWAYS WITH INSULATED THROAT TYPE CONNECTORS. RACEWAYS IN SLAB-ON-GRADE OR BELOW GRADE SHALL BE SCHEDULE 40 PVC. PVC-COATED RIGID STEEL FACTORY ELBOWS SHALL BE PROVIDED FOR BENDS IN PVC RUNS LONGER THAN 100 FEET.
- PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS.
- ALL ELECTRICAL AND TELECOMMUNICATION SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY U.L. OR OTHER RECOGNIZED TESTING FACILITY.
- WIRE TERMINATION PROVISIONS FOR PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES, AND ALL OTHER ELECTRICAL APPARATUS SHALL BE LISTED AS SUITABLE FOR 75 DEGREE C.
- THE FOLLOWING CONDUCTOR SIZES SHALL BE UTILIZED FOR 20 AMP CIRCUITS PERTAINING TO DISTANCES (IN FEET) INDICATED:

120VOLT, 1PH	CONDUCTOR	208VOLT, 3PH
0-64	#12AWG	0-129
65-106	#10AWG	130-212
107-160	#8AWG	213-321
277VOLT, 1PH	CONDUCTOR	480VOLT, 3PH
0-48	#12AWG	0-297
149-245	#10AWG	298-491
246-271	#8AWG	492-742

NOTE: BASED ON 75°C COPPER CONDUCTORS INSTALLED IN EMT WITH 16AMP LOAD @ 85% P.F.

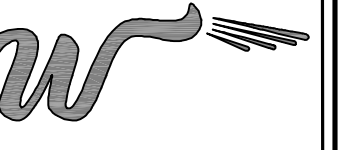
- ELECTRICAL CONTRACTOR SHALL PROVIDE CONTROLS, INTERLOCKS, ACCESSORIES, ETC., IN MOTOR CONTROL STARTERS AS REQUIRED BY THE TEMPERATURE CONTROL CONTRACTOR. STARTERS SHALL CONTAIN 120V CONTROL TRANSFORMER, PILOT LIGHT, AND PUSH BUTTONS OR SELECTOR SWITCH AS REQUIRED, IN ADDITION TO OTHER ITEMS (AUXILIARY CONTACTS, DOOR SWITCHES, RELAYS, ETC.) REQUIRED. SUBMIT ELEMENTARY CONTROL DIAGRAMS FOR APPROVAL. SUBMITTALS SHALL INCLUDE INDICATION OF PRIOR REVIEW AND ACCEPTANCE BY TEMPERATURE CONTROL CONTRACTOR. REFER TO DIV. 15 DRAWINGS AND TEMPERATURE CONTROL DIAGRAMS FOR ADDITIONAL CONDUIT, WIRE, RELAYS, TRANSFORMERS, CONNECTIONS, ETC. REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- PROVIDE WITH SHOP DRAWING SUBMITTAL, 1/4" SCALE LAYOUT DRAWINGS OF ROOMS WITH ELECTRICAL SWITCHGEAR AND TRANSFORMERS. LAYOUTS SHALL SHOW LOCATIONS OF AND SHALL BE COORDINATED WITH MECHANICAL EQUIPMENT AND EQUIPMENT SHALL BE DRAWN TO SCALE.
- ALL EMPTY RACEWAY SYSTEMS SHALL HAVE A PULL STRING OR EQUIVALENT AND SHALL BE IDENTIFIED AT ALL JUNCTION, PULL AND TERMINATION POINTS, USING PERMANENT METALLIC TAGS. TAG SHALL INDICATE INTENDED USE OF CONDUIT, ORIGIN AND TERMINATION POINTS OF EACH INDIVIDUAL CONDUIT.
- FIXTURES INDICATED AS BEING ON EMERGENCY OR NIGHT LIGHT CIRCUITS SHALL BE PROVIDED WITH SELF-CONTAINED INTEGRAL BATTERY POWERED INVERTER UNIT FOR DIRECT MOUNTING IN FIXTURE. PROVIDE UNIT WITH FULLY AUTOMATIC TWO RATE CHARGER, NICKEL CADMIUM BATTERY, AC 10A PILOT LIGHT, AND TEST SWITCH. DESIGN AND WIRE UNIT TO AUTOMATICALLY TRANSFER TO BATTERY SUPPLY ON LOSS OF NORMAL AC POWER AND TO OPERATE F40 FLUORESCENT LAMP WITH MINIMUM OUTPUT OF 2800 LUMENS FOR MINIMUM 1-1/2 HOURS (BODINE MODEL B30 OR RADIANT SK-81-3 SERIES).
- PROPOSED SUBSTITUTIONS OF ELECTRICAL AND TELECOMMUNICATION EQUIPMENT OR REQUEST FOR "OR EQUIVALENT" OR "APPROVED EQUIVALENT" LISTING SHALL BE SUBMITTED TO ARCHITECT NOT LESS THAN TEN (10) WORKING DAYS PRIOR TO BID. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- FIRE ALARM SYSTEM. CONTRACTOR SHALL PROVIDE DEVICES, CONDUIT, WIRES AND CABLE AS DIRECTED BY EQUIPMENT MANUFACTURER MATERIALS, EQUIPMENT AND WORKMANSHIP SHALL MEET PREVAILING CODES. THE SYSTEM SHALL BE COMPLETE AND OPERABLE IN EVERY RESPECT. SUBMIT SINGLE LINE OF SYSTEM WITH SHOP DRAWINGS. THIS SINGLE LINE DIAGRAM SHALL SHOW DEVICES, CONDUIT, WIRE AND CABLE SIZES. EQUIPMENT TO BE USED AND SHALL BE STAMPED AND SIGNED BY LOCAL FIRE DEPARTMENT. SYSTEM CALIBRATION AND TESTING SHALL BE BY FACTORY CERTIFIED TECHNICIAN.
- WIRE SHALL BE COPPER, 90 DEGREES C RATED FOR GENERAL USE. SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30 DEGREES C AMBIENT. CONDUCTOR AMPACITY SHALL BE DERATED FOR HIGHER AMBIENT INSTALLATIONS. 600 VOLT COMPACT ALUMINUM WIRE AND CABLE IN SIZES 1/0 AND LARGER MAY BE SUBSTITUTED FOR COPPER ON SERVICES AND FEEDERS IF AMPACITY IS EQUIVALENT TO OR GREATER THAN COPPER AND VOLTAGE DROP IS EQUIVALENT TO OR LESS THAN COPPER.

- PROVIDE SHOP DRAWING SUBMITTAL DATA AT ONE TIME, IN ELECTRONIC PDF FORMAT INDEXED IN A NEAT AND ORDERLY MANNER. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED. SUBMITTALS SHALL INCLUDE BUT NOT BE LIMITED TO: LIGHTING FIXTURES, SWITCHGEAR, PANELBOARDS, WIRING DEVICES, OUTLETS, SAFETY SWITCHES, FUSES, MOTOR STARTERS, LAMPS, CONDUIT, CONDUIT FITTINGS, WIRE, CABLES, AND TRANSFORMERS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
- CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT OR INSTALLATION METHODS.
- ELECTRICAL AND TELECOMMUNICATION SYSTEMS SHALL BE COMPLETE, OPERABLE AND READY FOR CONTINUOUS OPERATION AT COMPLETION OF PROJECT.
- VERIFY SPECIFIC LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPING AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION, SUPPORTS, SERVICE FEEDERS (CONDUIT AND/OR WIRE), PULLBOXES, TRANSFORMER PADS, SAWCUTTING AND PATCHING, CONCRETE/PAVING, ETC., REQUIRED. BACKFILL TRENCHES TO 90% COMPACTION AND PATCH TO MATCH EXISTING. CONTRACTOR SHALL OBTAIN AND VERIFY SPECIFIC UTILITY COMPANY DRAWINGS AND REQUIREMENTS.
- PULLBOXES, CABINETS, ETC., MOUNTED ON THE EXTERIOR AT GRADE LEVEL, SHALL BE WEATHERPROOF TYPE WITH HINGED LOCKABLE COVERS SECURED WITH TAMPER-PROOF SCREWS.
- DEVICES SHALL BE AS FOLLOWS:
 - RECEPTACLES - HUBBELL #5362 SERIES
 - SWITCHES - HUBBELL #1221 SERIES
 - THE COLOR OF THE DEVICES AND COVER PLATES SHALL BE AS DIRECTED BY ARCHITECT IN DAMP OR WET LOCATIONS COVER PLATES SHALL BE STAINLESS STEEL IN DRY LOCATIONS COVER PLATES SHALL BE SMOOTH HIGH ABUSE NYLON OR EQUIVALENT. PROVIDE COVER PLATES FOR SWITCHES, RECEPTACLES, TELEPHONE, TELEVISION, COMPUTER AND J-BOX OUTLETS AS REQUIRED.
- TYPE 'MC' CABLE WITH A FULL SIZED GROUNDING CONDUCTOR MAY BE USED INDOORS IN DRY LOCATIONS FOR BRANCH CIRCUIT WIRING WHERE PERMITTED BY BOTH THE N.E.C. AND LOCAL ORDINANCES (EXCEPT FOR HOMERUNS FROM THE PANELBOARD TO THE FIRST DEVICE).
- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE GROUNDING SYSTEMS OF SERVICE TRANSFORMER AND EQUIPMENTS AND COMBINATION MAIN/METER SECTIONS.
- FIXTURES RECESSED IN "T-BAR" CEILING SHALL BE SUPPORTED INDEPENDENTLY OF CEILING SYSTEM, WITH TWO #12 HANGER WIRES UP TO STRUCTURE. SECURE HANGER WIRES TO CORNERS OF FIXTURE. CLIP FIXTURE TO GRID ON TWO SIDES WITH FACTORY-FURNISHED CLIPS. FINAL CONNECTION TO FIXTURE SHALL BE MADE WITH A FLEXIBLE U.L. APPROVED ASSEMBLY.
- SWITCHBOARDS, (DISTRIBUTION BOARDS), PANELBOARDS, DISCONNECT SWITCHES, MOTOR CONTROL CENTERS AND TRANSFORMERS SHALL BE MANUFACTURED BY EATON, GENERAL ELECTRIC (ABB), SIEMENS (ITE) OR SQUARE 'D'. BOLT FREE STANDING EQUIPMENT TO 4" HIGH CONCRETE PADS.
- DRY TYPE TRANSFORMERS SHALL BE 80°C RISE AND CLASS 155 INSULATION. MOUNT ON RUBBER-IN-SHEAR ISOLATORS. MANUFACTURERS SHALL BE EATON, GENERAL ELECTRIC (ABB), SIEMENS (ITE), OR SQUARE D.
- PANEL DIRECTORIES SHALL BE REMOVABLE. SUBMIT PROPOSED SCHEDULE OF DIRECTORIES TO OWNER FOR APPROVAL. ROOM NAMES AND NUMBERS SHALL BE AS DIRECTED BY OWNER. DIRECTORIES SHALL BE TYPED AND INSTALLED UNDER CLEAR PLASTIC COVERS.
- DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE. FUSIBLE SWITCHES SHALL ACCEPT CLASS 'R' FUSES ONLY AND REJECT ALL OTHERS.
- PROVIDE DYMO-TAPE TAG INSIDE COVER OF EACH FUSIBLE SWITCH, INDICATING SIZE AND TYPE OF FUSES PROVIDED.
- CONDUITS PENETRATING THRU ROOF SHALL HAVE UL LISTED ROOF FLASHING BOOT WITH COUNTER FLASHING SLEEVE. INSTALLATION SHALL BE WATER TIGHT.
- FINAL CONNECTIONS TO VIBRATING EQUIPMENT SHALL BE WITH FLEX (LIQUID TIGHT FOR EXTERIOR APPLICATIONS) AND APPROVED FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.
- THE ENGINEER OF RECORD SHALL PERFORM SHORT CIRCUIT CALCULATIONS AND THE AIC RATINGS INDICATED FOR EACH DEVICE SHALL BE ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.
- THE ENGINEER OF RECORD SHALL PERFORM VOLTAGE DROP CALCULATIONS AND ALL BRANCH CIRCUITS AND FEEDERS COMPLY WITH NEC 210-19(A) FPN NO 4 AND ASHRAE 90.1. NO MORE THAN 2% V.D ON FEEDERS AND 3% ON BRANCH CIRCUITS.
- THE CONTRACTOR SHALL COORDINATE THE SPECIFIC LOCATION, MOUNTING HEIGHT, ROTATION, TYPE, COLOR, ETC. OF ALL DEVICES PRIOR TO INSTALLATION.
- ALL INDOOR FLUORESCENT FIXTURES THAT UTILIZE DOUBLE-ENDED LAMPS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE OR BALLASTED LUMINAIRES THAT ARE SUPPLIED FROM MULTIWIRE BRANCH CIRCUITS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE SHALL COMPLY WITH 410.73 (g) OF THE NEC.
- PROVIDE ENGRAVED NAMEPLATES ON SWITCHBOARDS, PANELBOARDS, DISCONNECT SWITCHES, MOTOR CONTROL CENTERS, TRANSFORMERS, ETC., INDICATING EQUIPMENT DESIGNATION (OR DESIGNATION OF EQUIPMENT SERVED), VOLTAGE, FUSE OR CIRCUIT BREAKER AMPACITY AND WHERE THE EQUIPMENT IS FED FROM (EXAMPLE: PNL L1, 200A OCP FED FROM SL1). THE ENGRAVED NAMEPLATES SHALL BE COLOR CODED AS FOLLOWS:
 - NORMAL POWER EQUIPMENT - WHITE LETTERS/BLACK BACKGROUND.
- JUNCTION BOXES THAT CONNECT TO CONDUITS GREATER THAN 1 1/4" SHALL BE SIZED PER NEC 314.28.
- SECURITY SYSTEM. CONTRACTOR SHALL PROVIDE ALL CONDUIT, J-BOXES (MINIMUM 2-GANG) AND CABINETS FOR A COMPLETE RACEWAY SYSTEM. CONDUIT SHALL BE A MINIMUM OF 3/4" UNLESS NOTED. OWNER WILL INSTALL SECURITY PANELS, CAMERAS, WIRE, SECURITY DEVICES, ETC., AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM UNDER SEPARATE CONTRACT.
- INSTALLATION OF ALL TELECOMMUNICATION DEVICES SHALL COMPLY WITH NEC ARTICLE 800 AND ALL ANSI/TIA/EIA STANDARDS.
- UPON COMPLETION OF INSTALLATION FOR THE TELECOMMUNICATION SYSTEMS, ALL CABLES SHALL BE TESTED USING THE FOLLOWING STANDARDS:
 - TWISTED PAIR CABLING: TIA/EIA TSB67, TIA/EIA TSB95, TIA/EIA TSB95, AND ANSI/TIA/EIA-568-A AND ITS ADDENDA.
- CONDUIT/PATHWAY ROUTING INDICATED ON DRAWINGS IS FOR REFERENCE ONLY. LOW VOLTAGE CONTRACTOR SHALL COORDINATE SPECIFIC ROUTING IN FIELD AS REQUIRED.
- ALL TELECOMMUNICATION CONDUIT SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR. TELECOMMUNICATION CONTRACTORS SHALL COORDINATE WITH ELECTRICAL CONTRACTOR TO ENSURE CONDUIT ROUTING FOR TELECOMMUNICATION OUTLETS DOES NOT EXCEED 280 FEET.
- FIRE ALARM, SOUND, TELEPHONE, DATA AND SIMILAR SYSTEMS CONDUIT 2" OR LESS SHALL HAVE A BEND RADIUS EQUAL TO 8 TIMES THE INTERNAL CONDUIT DIAMETER. CONDUIT GREATER THAN 2" SHALL HAVE A BEND RADIUS EQUAL TO 10 TIMES THE INTERNAL CONDUIT DIAMETER.

- CONDUIT SHALL NOT EXTEND FROM TELECOMMUNICATION ROOM TO MORE THAN THREE OUTLETS.
- TELECOMMUNICATION CONDUIT RUNS SHALL HAVE NO BEND GREATER THAN 90 DEGREES OR AN AGGREGATE OF BENDS IN EXCESS OF 180 DEGREES BETWEEN PULL BOXES/PULL POINTS WITH NO CONTINUOUS SECTIONS LONGER THAN 100 FEET AND BE BONDED AT ONE OR BOTH ENDS. CONDUIT RUNS EXCEEDING 100 FEET SHALL HAVE PULL BOXES/PULL POINTS SPACED SO THAT NO SEGMENT BETWEEN BOXES/POINTS EXCEEDS 100 FEET.
- TELECOMMUNICATION CABLING SHALL BE CONTINUOUS BETWEEN THE DEVICE AND THE TERMINAL CABINET SPLICES, JOINTS, OR OTHER CONNECTORS IN CABLE RUNS BETWEEN THESE ITEMS SHALL NOT BE USED.
- TELECOMMUNICATION CABLES SHALL BE INSTALLED SUCH THAT A MINIMUM OF 12" OF CABLE SLACK IS AVAILABLE AT EACH OUTLET BOX AND A MINIMUM OF 10' OF CABLE SLACK IS AVAILABLE AT EACH TELECOMMUNICATIONS ROOM/ENCLOSURE.
- THE DISTANCE FOR ANY TELECOMMUNICATION CABLE RUN INCLUDING SLACK SHALL NOT EXCEED 295'.
- TELECOMMUNICATION CABLES SHALL BE UNIQUELY IDENTIFIED 6" FROM TERMINATING AT EACH END WITH A DURABLE CABLE LABEL CLAMPED OR SECURED FIRMLY OVER THE CABLE JACKET. CABLE SHALL BE IDENTIFIED ON DESIGNATION STRIP AT 110 TERMINATION POINT. HANDWRITTEN LABELING WILL NOT BE ACCEPTED AS PERMANENT OR TEMPORARY. IDENTIFY ALL RACKS, CABINETS, PATHWAYS, ETC. IN ACCORDANCE WITH TIA/EIA 606.
- ALL TERMINAL BACKBOARDS SHALL BE 2"x2"x1/2" VOID FREE FIRE RETARDANT AC GRADE OR BETTER PLYWOOD WITH THE LENGTH AS INDICATED ON PLAN. BACKBOARD SHALL BE SECURELY FASTENED TO WALL-FRAMING MEMBERS.
- CONTRACTOR SHALL MAINTAIN SEPARATION FROM ELECTRONIC BALLASTS, TRANSFORMERS, ETC. TO MINIMIZE ELECTROMAGNETIC INTERFERENCE.
- PROVIDE ALL TELECOMMUNICATION OUTLETS WITH (1) DOUBLE GANG BACK BOX WITH SINGLE GANG REDUCTION RING MOUNTED AT +18" AFF TO CENTER FACEPLATE UNLESS NOTED OTHERWISE.
- TELECOMMUNICATION GROUNDING SYSTEM SHALL COMPLY WITH TIA/EIA 607.
- CONTRACTOR SHALL PROVIDE FIRE STOPPING FOR ALL TELECOMMUNICATION CONDUITS AND CABLES WHERE REQUIRED BY BUILDING CONSTRUCTION.
- ALL POWER CONDUIT AND CONDUCTORS SHALL BE ROUTED AROUND ALL TELECOMMUNICATION IDF/MDF ROOMS UNLESS SERVING THESE SPECIFIC ROOMS.
- ALL TELECOMMUNICATION CONDUIT AND CONDUCTORS SHALL BE ROUTED AROUND ALL ELECTRICAL ROOMS UNLESS SERVING THESE SPECIFIC ROOMS.
- ALL TELECOMMUNICATION CONDUIT SHALL BE EMT NO FLEX OR MC TYPE CABLE SHALL BE PERMITTED UNLESS APPROVED BY SPECIFYING ENGINEER.
- ALL OFFICE AND WORK AREA TELECOMMUNICATION OUTLETS SHOULD BE LOCATED WITHIN 3 FEET AND AT THE SAME HEIGHT OF ASSOCIATED ELECTRICAL OUTLET.
- A MINIMUM OF 2" SEPARATION BETWEEN TELECOMMUNICATION CONDUIT AND POWER CONDUIT SHALL BE MAINTAINED FOR POWER CONDUCTORS UNDER 5KVA LOAD.
- A MINIMUM OF 6" SEPARATION BETWEEN TELECOMMUNICATION CONDUIT AND POWER CONDUIT SHALL BE MAINTAINED FOR POWER CONDUCTORS AT OR OVER 5KVA LOAD.
- PROVIDE WITH SHOP DRAWING SUBMITTAL, 1/4" SCALE LAYOUT DRAWINGS OF ALL TR AND ER ROOMS.
- FUNCTIONAL TESTING. CONTRACTOR SHALL PROVIDE TESTING AND DOCUMENTATION BY THE AUTHORIZED MANUFACTURERS REPRESENTATIVE FOR THE INSTALLED EQUIPMENT OR REGISTERED AND CERTIFIED TESTING COMPANY TO ENSURE THAT LIGHTING CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED, AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THESE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTION TO MEET THE REQUIREMENTS OF 2015 IECC SECTION C405. CONTRACTOR SHALL COMPLETE IECC INSPECTION AND COMPLIANCE FORMS INCLUDED WITH THIS DRAWING SET AND RETURN TO ENGINEER WITH ASBUILT DRAWINGS. THIS SHALL BE DONE AND COMPLETED WITHIN 90 DAYS OF OCCUPANCY PER SNA #408.3. 1.
- SURGE PROTECTIVE DEVICE SHALL BE INTERMATIC '110F13Y2DG1' OR APPROVED EQUAL.

sevan
DESIGN SOLUTIONS,
P.C.
Corporate Office:
3025 Highland Parkway | Suite 850
Downers Grove, IL 60515
info@sevan.com
www.sevan.com

INTEGRITY | RESPECT | TEAMWORK
EXCELLENCE | CHARITY



SEAL

DAVIS L. DICKERSON

No. **9701**

REGISTERED
PROFESSIONAL ENGINEER
(ELECTRICAL)

Davis L. Dickerson

SIGNATURE

03/30/2022 06/30/2023
DATE EXPIRATION DATE

NO.	DATE	REVISIONS	DESCRIPTION

PROJECT INFORMATION

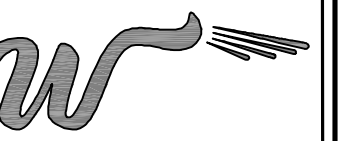
ELECTRICAL SPECIFICATIONS

WASHVILLE CAR WASH WASH04-078
991-995 W. MAIN STREET | MIDDLETOWN RI, 02842

SHEET MANAGEMENT	PROJECT NO. WASH04-078
DATE ISSUED: 03/11/22	SR
DRAWN BY:	DD
REVIEWED BY:	

SHEET NUMBER

E001



SEAL

DAVIS L. DICKERSON

No. **9701**

REGISTERED
PROFESSIONAL ENGINEER
(ELECTRICAL)

[Signature]

03/30/2022 06/30/2023
DATE EXPIRATION DATE

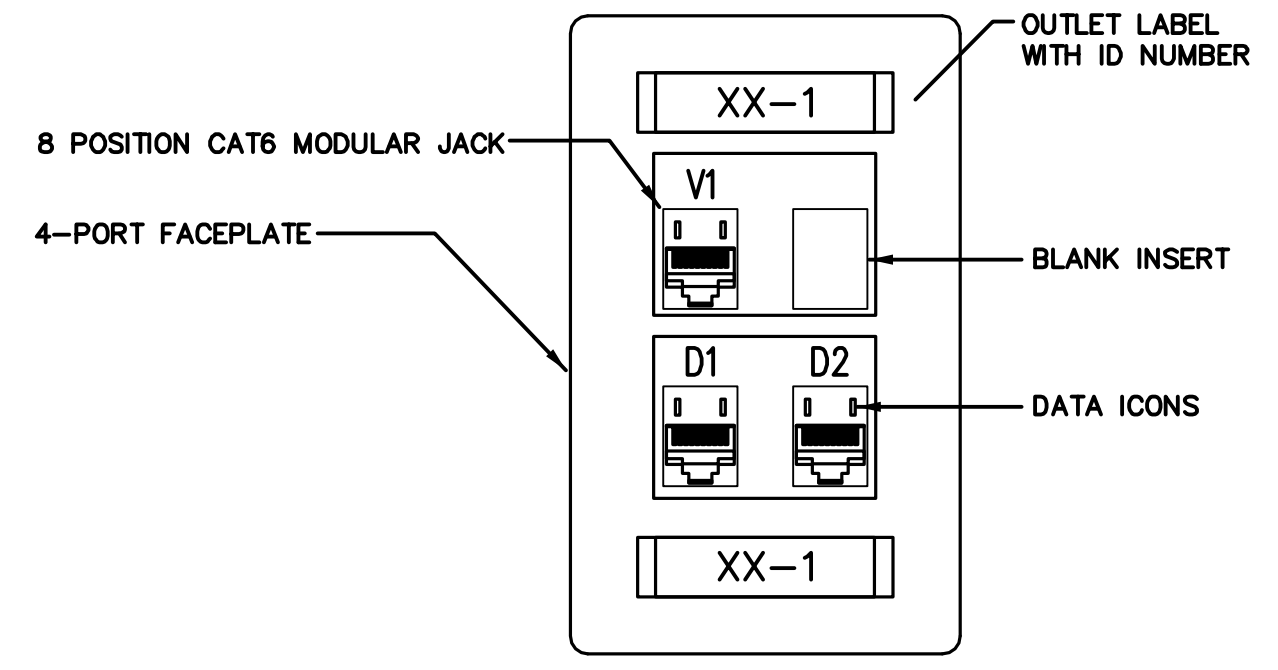
NO.	DATE	REVISIONS	DESCRIPTION

ELECTRICAL DETAILS

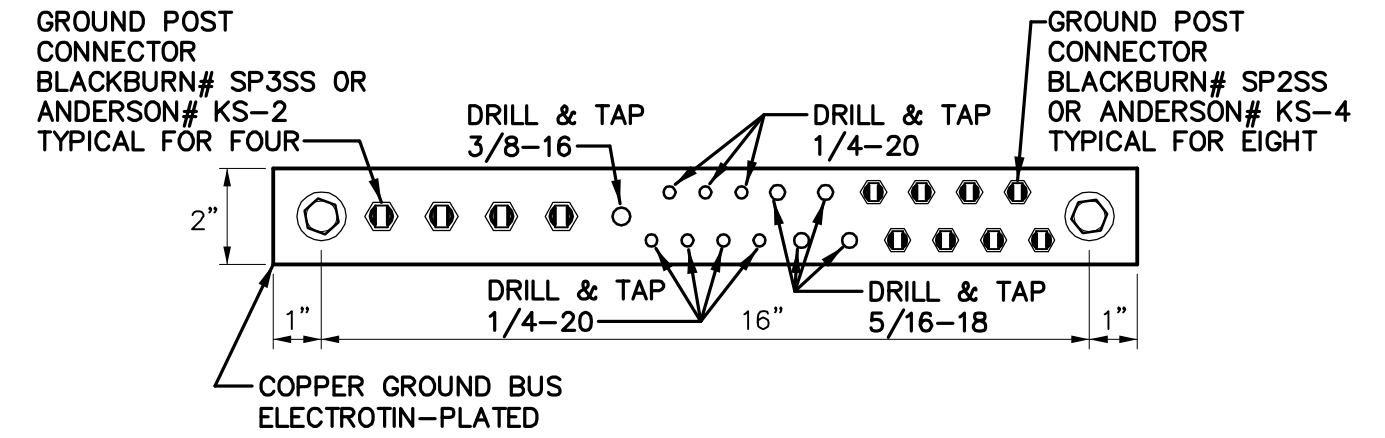
WASHVILLE CAR WASH WASH04-078
991-995 W. MAIN STREET | MIDDLETOWN RI, 02842

SHEET MANAGEMENT	PROJECT NO. WASH04-078
DATE ISSUED: 03/11/22	SR
DRAWN BY:	DD
REVIEWED BY:	

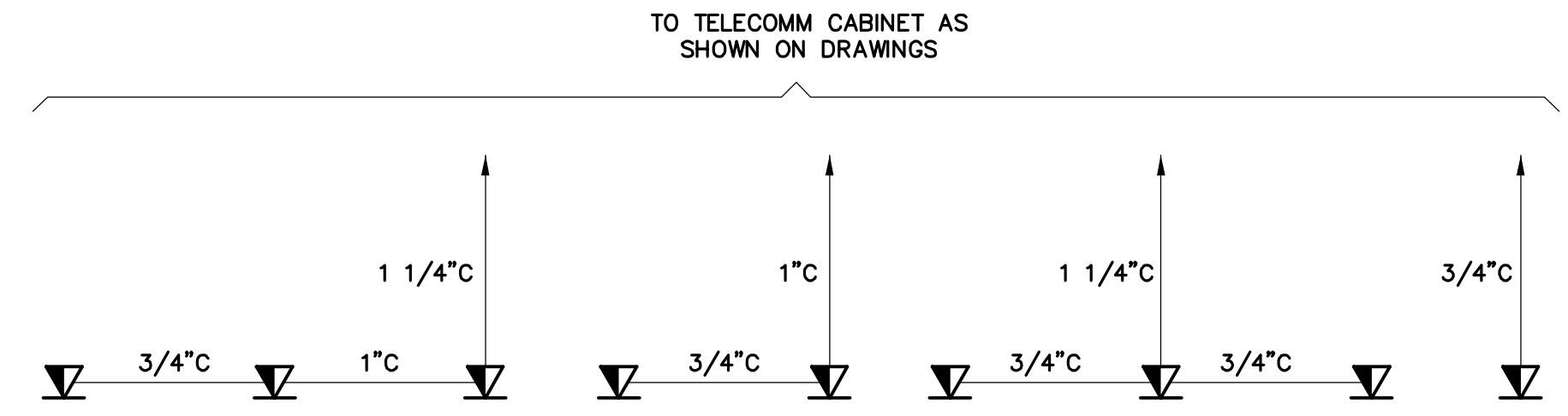
SHEET NUMBER
E002



**VOICE/DATA WALL OUTLET
DETAIL (TYPICAL)**
NO SCALE

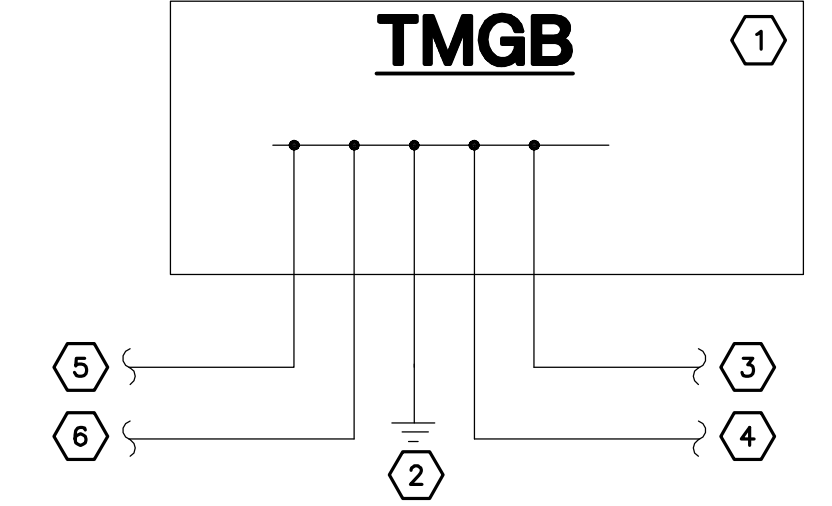


**TMGB - TELECOMMUNICATIONS
GROUNDING BUS BAR DETAIL**
NO SCALE



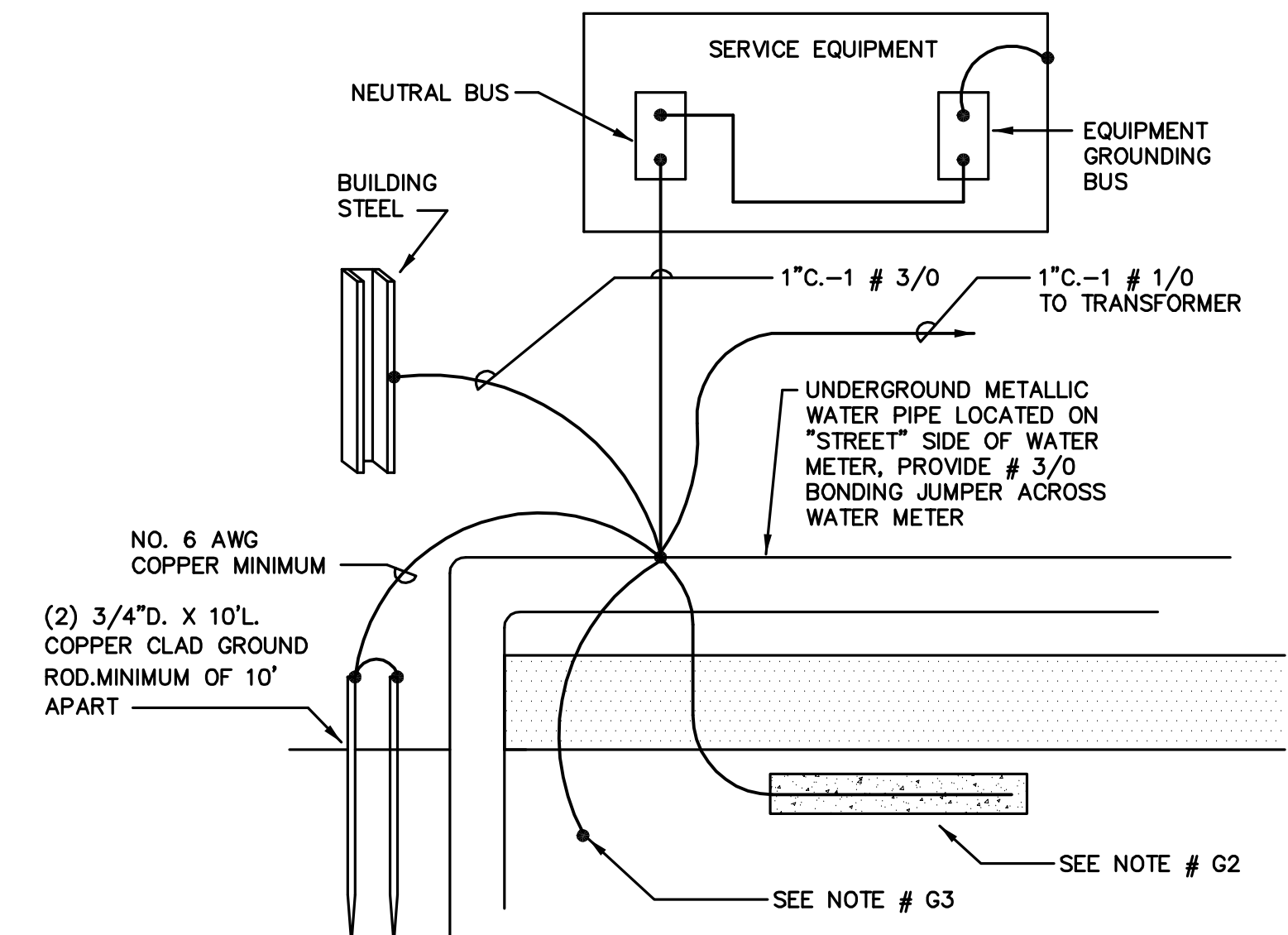
TYPICAL TELEPHONE/DATA CONDUIT DIAGRAM
NO SCALE

- NOTES:**
1. TELEPHONE ONLY, DATA ONLY AND P.O.S. OUTLETS SIMILAR.
 2. REFER TO SYMBOL LIST FOR CABLE TYPE AND QUANTITY.



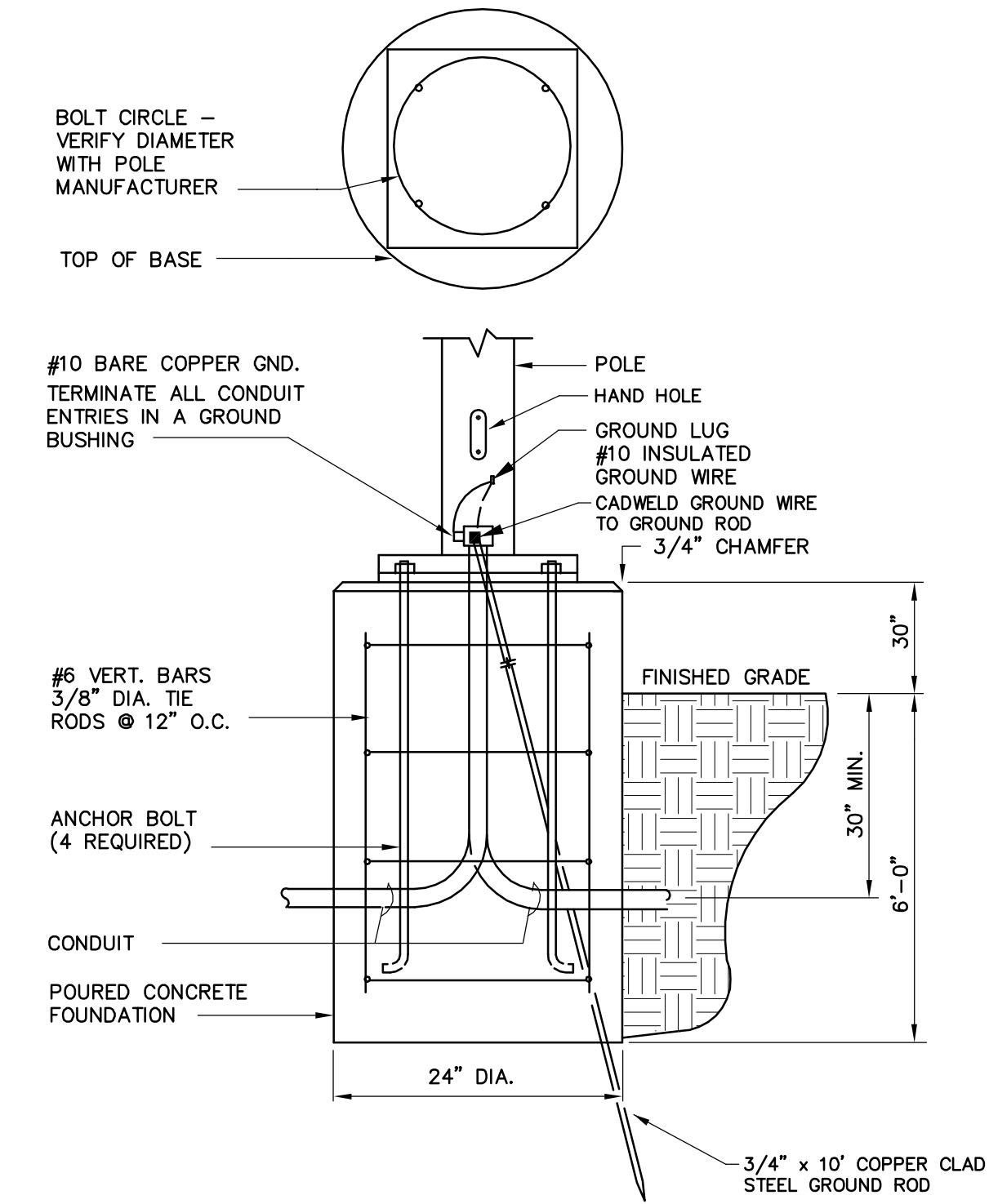
TMGB - CONNECTOR DIAGRAM
NO SCALE

- NOTES:**
- 1 PROVIDE PRE-DRILLED COPPER BUSBAR WITH STANDARD NEMA BOLT HOLES. SEE ABOVE DETAIL FOR ADDITIONAL INFORMATION.
 - 2 PROVIDE #6 AWG CU TO BUILDING STEEL.
 - 3 PROVIDE TELECOMMUNICATIONS MAIN BONDING CONDUCTOR TO BUILDING ELECTRICAL SERVICE GROUNDING SYSTEM. COORDINATE EXACT CONNECTION WITH ELECTRICAL CONTRACTOR.
 - 4 PROVIDE #6 AWG CU TO EQUIPMENT RACKS AS REQUIRED.
 - 5 PROVIDE #6 AWG CU FOR BONDING OF CONDUIT AND CABLE TRAY AS REQUIRED.
 - 6 PROVIDE #6 AWG CU TO ENTRANCE FACILITY PROTECTORS AS REQUIRED.

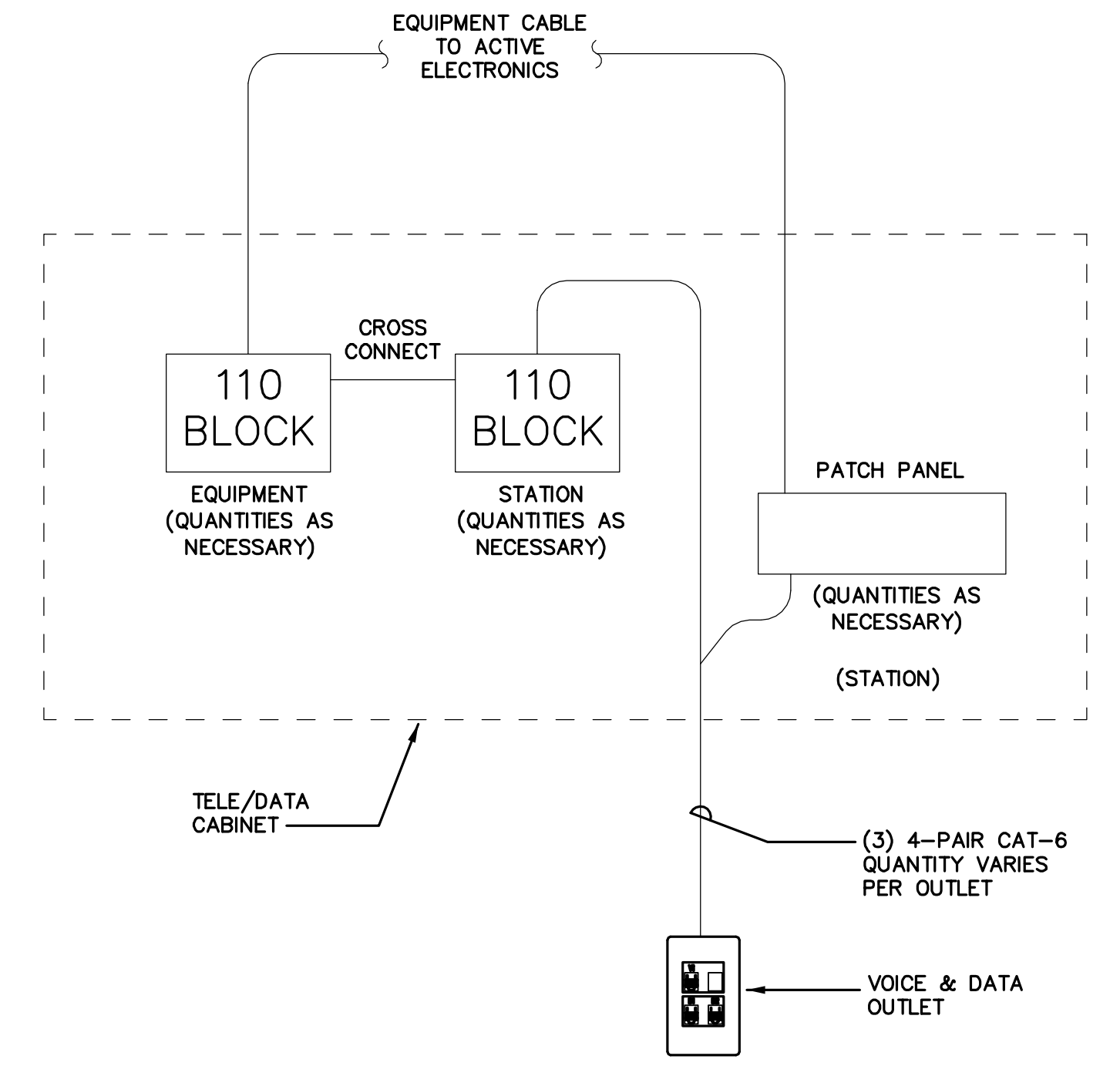


**SUGGESTED SERVICE
GROUND DETAIL**
NO SCALE

- NOTES:**
- G1. CONTRACTOR SHALL OBTAIN APPROVAL FROM LOCAL CODE AUTHORITIES BEFORE INSTALLING GROUNDING.
 - G2. CONCRETE ENCASED ELECTRODE ENCASED BY A MINIMUM OF 2" OF CONCRETE ON ALL SIDES LOCATED WITHIN AND NEAR THE BOTTOM OF A CONCRETE FOOTING OR FOUNDATION. ELECTRODE SHALL CONSIST OF A MINIMUM OF 20' OF BARE COPPER CONDUCTOR (# 3/0).
 - G3. BOND TO REBAR STUBOUT IN FOUNDATION PER NEC 250.



POLE BASE DETAIL
SCALE: NONE



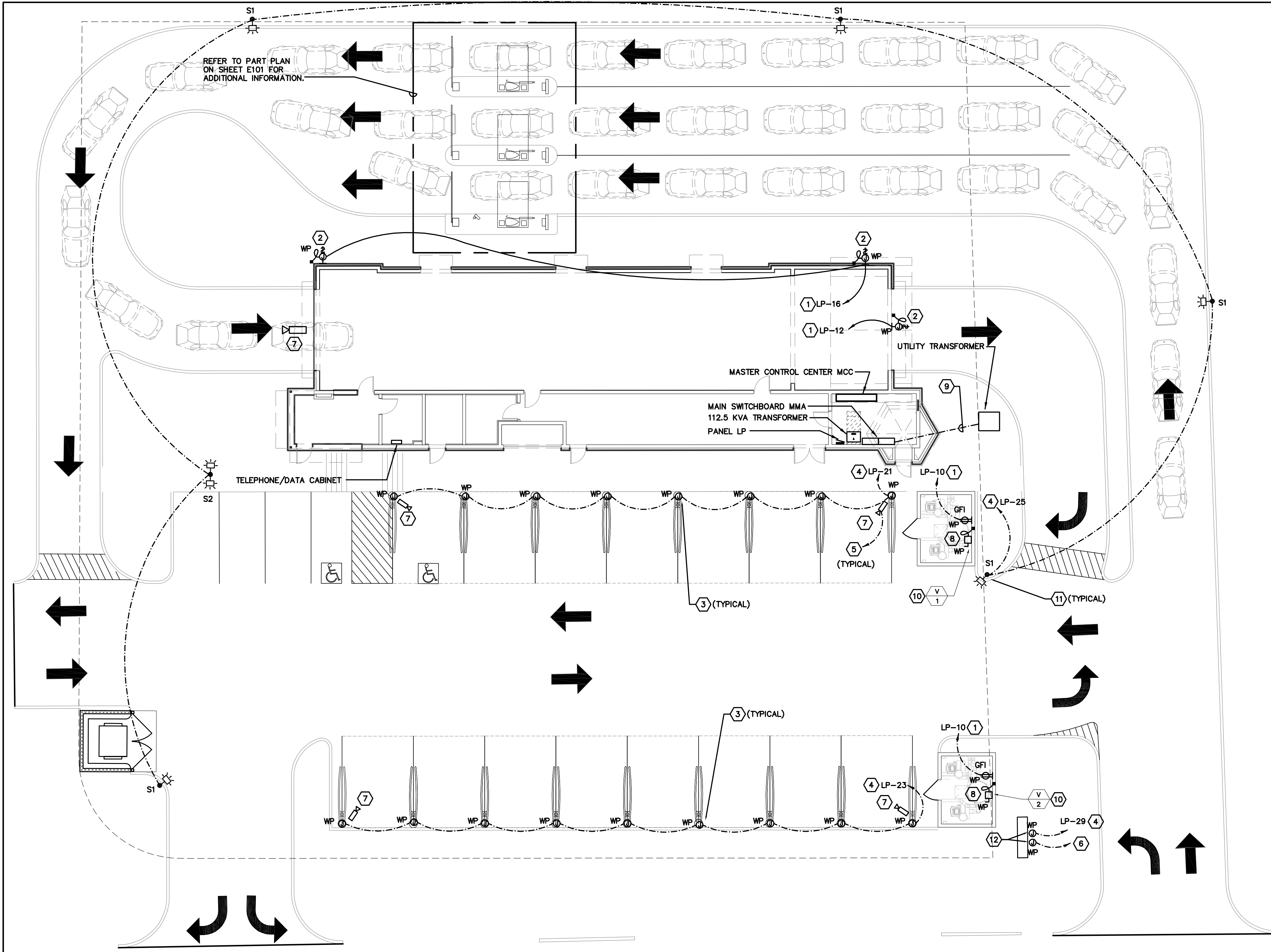
TELEPHONE/DATA DIAGRAM
NO SCALE

MOTOR SCHEDULE

ITEM	EQUIPMENT DESIGNATION	MOTOR LOCATION	HP, WATTS OR AMPS	VOLTAGE & PHASE	CONTROL DEVICES					SIZE		REMARKS		
					HAND OFF AUTO SWITCH IN COVER W/ PILOT LIGHT	COMBINATION STARTER AND CIRCUIT BREAKER IN MCC	SINGLE POLE THERMAL OVERLOAD SWITCH	120V HAND-OFF-AUTO SWITCH W/ PILOT LIGHT IN COVER	DUCT MOUNTED SMOKE DETECTOR IN SUPPLY (> 2,000 CFM)	PACKAGED CONTROLLER	CONDUIT, WIRE AND POWER SOURCE		DISCONNECT SWITCH BY E.C.	STARTER SIZE (BY E.C.)
CU-1	CONDENSER CU-1	ROOF	19 MCA	208V, 1PH	-	-	-	-	-	-	LP-(40,42) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
CP-1	CONDENSATE PUMP CP-1	ELECTRICAL ROOM	1/50 HP	120V, 1PH	-	-	EE	-	-	-	1/2"C-2 # 12 & 1 # 12 GROUND	20A -1P WP	-	-
EF-1	EXHAUST FAN EF-1	ROOF	1/6 HP	120V, 1PH	-	-	EE	-	-	-	LP-35 1/2"C-2 # 12 & 1 # 12 GROUND	20A -1P WP	-	-
EF-2	EXHAUST FAN EF-2	ROOF	1/4 HP	120V, 1PH	-	-	EE	-	-	-	LP-37 1/2"C-2 # 12 & 1 # 12 GROUND	20A -1P WP	-	-
FCU-1	FAN COIL UNIT FCU-1	ELECTRICAL ROOM	-	208V, 1PH	-	-	EE	-	-	-	POWERED BY CU-1 1/2"C-5 # 12 & 1 # 12 GROUND	20A -2P WP	-	-
IRH-1	INFRARED HEATER IRH-1	PAY STATION CANOPY	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(43,45) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
IRH-2	INFRARED HEATER IRH-2	PAY STATION CANOPY	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(47,49) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
IRH-3	INFRARED HEATER IRH-3	PAY STATION CANOPY	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(51,53) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
IRH-4	INFRARED HEATER IRH-4	CAR WASH TUNNEL	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(55,57) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
IRH-5	INFRARED HEATER IRH-5	CAR WASH TUNNEL	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(59,61) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
IRH-6	INFRARED HEATER IRH-6	CAR WASH TUNNEL	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(63,65) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
IRH-7	INFRARED HEATER IRH-7	CAR WASH TUNNEL	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(67,69) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
IRH-8	INFRARED HEATER IRH-8	CAR WASH TUNNEL	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(71,73) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
IRH-9	INFRARED HEATER IRH-9	CAR WASH TUNNEL	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(66,68) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
IRH-10	INFRARED HEATER IRH-10	CAR WASH TUNNEL	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(60,62) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
IRH-11	INFRARED HEATER IRH-11	CAR WASH TUNNEL	5.0 KW	208V, 1PH	-	-	-	-	-	-	LP-(64,66) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
RH-1	RADIANT HEATER RH-1	EQUIPMENT ROOM	15.0 A	208V, 1PH	-	-	-	-	-	-	LP-(50,52) 1/2"C-2 # 12 & 1 # 12 GROUND	20A -2P WP	-	-
RTU-1	ROOF TOP UNIT RTU-1	ROOF	21.0 MCA	208V, 3PH	-	-	-	-	-	ME	LP-(32,34,36) 3/4"C-3 # 10 & 1 # 10 GROUND	30A -3P WP	-	-
UH-1	UNIT HEATER UH-1	EQUIPMENT ROOM	1/10 HP	120V, 1PH	-	-	EE	-	-	-	LP-17 1/2"C-2 # 12 & 1 # 12 GROUND	20A -1P WP	-	-
UH-2	UNIT HEATER UH-2	EQUIPMENT ROOM	1/10 HP	120V, 1PH	-	-	EE	-	-	-	1/2"C-2 # 12 & 1 # 12 GROUND	20A -1P WP	-	-
V-1	VACUUM V-1	VACUUM ROOM	50 HP	480V, 3PH	-	-	-	-	-	-	MMA-9 1 1/4"C-3 # 2 & 1 # 8 GROUND	100A -3P WP	-	-
V-2	VACUUM V-2	VACUUM ROOM	40 HP	480V, 3PH	-	-	-	-	-	-	MMA-11 1"C-3 # 4 & 1 # 8 GROUND	100A -3P WP	-	-
WH-1	WATER HEATER WH-1	RESTROOM	4.16 KW	208V, 1PH	-	-	-	-	-	-	LP-(39,41) 3/4"C-2 # 10 & 1 # 10 GROUND	30A -2P WP	-	-
WH-2	WATER HEATER WH-2	BREAKROOM	8.32 KW	208V, 1PH	-	-	-	-	-	-	LP-(44,46) 3/4"C-2 # 6 & 1 # 10 GROUND	60A -2P WP	-	-
WH-3	WATER HEATER WH-3	EQUIPMENT ROOM	12.0 KW	480V, 3PH	-	-	-	-	-	-	MMA-8 3/4"C-3 # 12 & 1 # 12 GROUND	30A -3P WP	-	-

ITEM #	EQUIPMENT DESCRIPTION	ELECTRICAL SOURCE #	ELECTRICAL SOURCE	VOLTAGE (V)	HORSE POWER	AMPACITY (A)	PHASE	WIRE SIZE & QUANTITY (AWG)	CONDUIT SIZE (in)	PANEL/CIRCUIT #	NOTES	
01	CONVEYOR		D	24	-	-	-	2/C#18AWG	2x 3/4"	MASTER CONTROL CENTER	LOCATED AT CONVEYOR ENTRANCE. SEE PDF EU FOR CONDUIT ROUTING.	
01-a	XR-1000 CHAIN TENSION REED SWITCH		D	TC	24	-	-	2/C#18AWG	2x 3/4"	MASTER CONTROL CENTER	IF ELECTRICAL MOTOR IS ORDERED PLEASE USE THESE SPECIFICATIONS. LOCATED AT CONVEYOR TRENCH EXIT.	
01-b	CONVEYOR MOTOR - *ORDER DEPENDANT SEE NOTES*		D	VFD	460	7.5	16.4	4/C#12AWG	2 1/2"	MASTER CONTROL CENTER	LOCATED AT CONVEYOR TRENCH EXIT. SEE PDF EU FOR CONDUIT ROUTING.	
01-c	XR-1000 ROTARY ENCODER & FLOAT SWITCHES		D	TC	24	-	-	2X 2/C#18AWG	3/4"	MASTER CONTROL CENTER	ELECTRICIAN TO RUN HOME RUN CABLES FROM EACH EMERGENCY STOP BUTTON TO TC.	
03	EMERGENCY STOP BUTTONS		D	TC	110	-	-	2/C#18AWG	3/4"	MASTER CONTROL CENTER	CAN BE RAN IN SAME CONDUIT AS THE CHAIN TENSION REED SWITCH.	
04	TAPE SWITCH FOR ROLLER UP		D	TC	24	-	-	2/C#18AWG	3/4"	MASTER CONTROL CENTER	REQUIRES 1X CAT5E FOR COM WIRED TO MODEM IN TC.	
08	PUSH BUTTON STATION - E-STOP / POWER		D	TC	24	-	-	4/C#18AWG	3/4"	MASTER CONTROL CENTER	SIGN BACK LIGHTING POWER SUPPLY REQUIRED.	
08-a	PBS4000 PUSH BUTTON STATION - NETWORKING		D	TC	24	-	-	1X CAT5E	3/4"	MASTER CONTROL CENTER	2X 3/C#18AWG REQUIRED FOR RECEIVERS & 2X 2/C#18AWG REQUIRED FOR EMITTERS.	
09	TAPE SWITCH FOR CTAS		D	TC	24	-	-	2/C#18AWG	3/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.	
10	GRAND ENTRY FX - FULLY ILLUMINATED ECLIPSE ENTRY ARCH		D	TC	110	-	-11	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	GEL PACK MOTOR ENCLOSURE.
10-a	LED RGB LIGHT		D	TC	110	-	-3	1	3/C#14AWG	1"	MASTER CONTROL CENTER	ELECTRICIAN TO RUN HOME RUN CABLES FROM EACH EMERGENCY STOP BUTTON TO TC.
11	DOUBLE PHOTO EYES		D	TC	24	-	-	SEE NOTE	3/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.	
14	TOP BRUSH WITH 94 INCH CORE		D	VFD	460	1	2.9	3	4/C#12AWG	1 1/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.
15	MAGNUM WHEEL BOSS WITH FOAM BRUSH		D	VFD	460	2X 1	2X 2.9	3	2X 4/C#12AWG	2X 1-1/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.
16	EMERGENCY STOP BUTTONS		D	TC	24	-	-	2/C#18AWG	3/4"	MASTER CONTROL CENTER	ELECTRICIAN TO RUN HOME RUN CABLES FROM EACH EMERGENCY STOP BUTTON TO TC.	
20	HIGH SIDE WASHERS		D	VFD	460	2X 1	2X 2.9	3	2X 4/C#12AWG	2X 1 1/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.
22	LOW SIDE WASHER WITH 36" CORE - QUADPACK		D	VFD	460	2X 1	2X 2.9	3	2X 4/C#12AWG	2X 1 1/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.
25	SUPERFLEX WRAP AROUND - LONG ARMS		D	VFD	460	2X 1	2X 2.9	3	2X 4/C#12AWG	2X 1 1/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.
26	WARNING HORN		D	TC	24	110	-	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	WARNING HORN SPECIFICATION: EDWARDS 8760GS 24VAC.
28	BLAZE FX - FULLY ILLUMINATED ECLIPSE APPLICATION ARCH		D	TC	110	-	-11	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	SIGN BACK LIGHTING POWER SUPPLY REQUIRED.
28-a	LED YELLOW & RED LIGHT		D	TC	110	-	-3	1	3X 3/C#14AWG	3X 3/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.
29	TOP BRUSH WITH 94 INCH CORE		D	VFD	460	1	2.9	3	4/C#12AWG	1 1/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.
30	LOW SIDE WASHER WITH 22" CORE		D	VFD	460	2X 1	2X 2.9	3	2X 4/C#12AWG	2X 1 1/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.
33	CERAMIC PUNCH ARCH		D	TC	110	-	-11	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	SIGN BACK LIGHTING POWER SUPPLY REQUIRED.
33-a	LED RGB LIGHT		D	TC	110	-	-3	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	SIGN BACK LIGHTING POWER SUPPLY REQUIRED.
34	SHIELD FX - FULLY ILLUMINATED ECLIPSE APPLICATION ARCH		D	TC	110	-	-11	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	SIGN BACK LIGHTING POWER SUPPLY REQUIRED.
34-a	LED BLUE LIGHT		D	TC	110	-	-3	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	SIGN BACK LIGHTING POWER SUPPLY REQUIRED.
35	EMERGENCY STOP BUTTONS		D	TC	24	-	-	2/C#18AWG	3/4"	MASTER CONTROL CENTER	ELECTRICIAN TO RUN HOME RUN CABLES FROM EACH EMERGENCY STOP BUTTON TO TC.	
36	DRY FX - FULLY ILLUMINATED ECLIPSE APPLICATION ARCH		D	TC	110	-	-11	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	SIGN BACK LIGHTING POWER SUPPLY REQUIRED.
36-a	RED LED LIGHTS		D	TC	110	-	-3	1	3X 3/C#14AWG	3X 3/4"	MASTER CONTROL CENTER	FEED VFD RATED CABLES DIRECT TO MOTORS & GEL PACK MOTOR ENCLOSURE.
38	NC5-DC DRYERS ON STANDARD H-FRAME ARCH		D	STARTER MCC	460	2X 15	2X 21	3	2X 4/C#8AWG	2X 1 1/2"	MASTER CONTROL CENTER	USE SPLIT BOLT CONNECTORS AT MOTOR JB. WIRE SIZE BASED ON 4/C PER CONDUIT.
39	LIGHT BAR KIT		D	TC	110	-	-3	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	SO CORO & 4"X4" WATERTIGHT PVC JUNCTION SUPPLIED & INSTALLED BY ELECTRICIAN.
40	GLOSS BOSS 9" BRUSH		D	VFD	460	2X 1	2X 2.9	3	2X 4/C#12AWG	2X 1-1/4"	MASTER CONTROL CENTER	GEL PACK MOTOR ENCLOSURE.
41	NC5-DC DRYERS ON X-WIDE PROBUID ARCH		D	STARTER MCC	460	4X 15	4X 21	3	4X 4/C#8AWG	4X 1 1/2"	MASTER CONTROL CENTER	USE SPLIT BOLT CONNECTORS AT MOTOR JB. WIRE SIZE BASED ON 4/C PER CONDUIT.
42	LIGHT BAR KIT		D	TC	110	-	-3	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	SO CORO & 4"X4" WATERTIGHT PVC JUNCTION SUPPLIED & INSTALLED BY ELECTRICIAN.
43	NC5-DC DRYERS ON X-WIDE PROBUID ARCH		D	STARTER MCC	460	5X 15	5X 21	3	5X 4/C#8AWG	5X 1 1/2"	MASTER CONTROL CENTER	USE SPLIT BOLT CONNECTORS AT MOTOR JB. WIRE SIZE BASED ON 4/C PER CONDUIT.
44	LIGHT BAR KIT		D	TC	110	-	-3	1	3/C#14AWG	3/4"	MASTER CONTROL CENTER	SO CORO & 4"X4" WATERTIGHT PVC JUNCTION SUPPLIED & INSTALLED BY ELECTRICIAN.
45	EMERGENCY STOP BUTTONS		D	TC	24	-	-	2/C#18AWG	3/4"	MASTER CONTROL CENTER	ELECTRICIAN TO RUN HOME RUN CABLES FROM EACH EMERGENCY STOP BUTTON TO TC.	
46	ANTI COLLISION PAD		D	TC	24	-	-	2/C#18AWG	3/4"	MASTER CONTROL CENTER	CAN BE RAN IN SAME CONDUIT AS THE ROTARY ENCODER. ELECTRICIAN WILL NEED TO PULL SUPPLIED CABLE TO TUNNEL CONTROLLER. IF LONGER CABLE IS REQUIRED ELECTRICIAN WILL NEED TO SUPPLY & INSTALL TWISTED SHIELDED CABLE IN A CONDUIT & SPLICE IN A WATERTIGHT PVC JUNCTION BOX.	
47	TRAFFIC COMMANDER 2SECTIONS		D	TC	100-240	-	2X 12	1	5/C#14AWG	3/4"	MASTER CONTROL CENTER	CONNECTED TO CAR WASHES MAIN POWER SOURCE.
A	MAIN ELECTRICAL PANEL		N/A	N/A	460	-	800A	3	REFER TO ONELINE	TBD		
B	SECONDARY DISTRIBUTION TRANSFORMER		A	DP	460 / 110 / 208	-	TBD	3	REFER TO ONELINE	TBD	MMA-12	
C	208V/110V SECONDARY PANEL		B	STX	208 / 120	-	TBD	3	REFER TO ONELINE	TBD	FED FROM TRANSFORMER	
D	MASTER CONTROL CENTER		A	DP	460	-	TBD	3	REFER TO ONELINE	TBD	MMA-2	
E	GLOSS BOSS CHEMICAL PANEL		D	TC	24 / 110	-	-	1	3/C#18AWG	3/4"	MASTER CONTROL CENTER	
F	AIR DISTRIBUTION PANEL 2		D	TC	24 / 110	-	-	1	25/C#18AWG	1"	MASTER CONTROL CENTER	
G	AIR COMPRESSORS - BY OTHERS		A	STARTER DP	460	2X 10	2X 14	3	2X 4/C#12AWG	2X 3/4"	MMA-3.5	THE AMPACITY LISTED IS ESTIMATED. ELECTRICIAN TO CONFIRM AMPACITY.
H	AIR DRYER		C	DP	110	-1/3	-7.2	1	3/C#12AWG	3/4"	LP-54	TYPICALLY REQUIRES A 1PH 110VAC 20A CIRCUIT. ELECTRICIAN TO CONFIRM AMPACITY.
I	WATER DISTRIBUTION PANEL 2		D	TC	24 / 110	-	-	1	25/C#18AWG	1"	MASTER CONTROL CENTER	
J	HYDRALFLEX CHEMICAL PANELS XD X2		D	TC	24 / 110	-	-3	1	M12 CABLE	1"	MASTER CONTROL CENTER	CONNECT SUPPLIED HOMERUN CABLES BACK TO MCC. CONNECT THE 2/C#18AWG TEMPERATURE SWITCH TO THE CONTROL PANEL LOCATED BESIDE THE HFI PANEL.
K	HYDRALFLEX GRUNDFOF PUMPS		A	DP	460	7.5	11	3	4/C#12AWG	1 1/4"	MMA-4	
L	MAGNUM HIGH PRESSURE PUMP 15HP		D	STARTER MCC	460	15	21	3	4/C#12AWG	3/4"	MASTER CONTROL CENTER	
L-a	LOW WATER LEVEL SENSOR		D	TC	24	-	-	1	2/C#18AWG	3/4"	MASTER CONTROL CENTER	
M	MAGNUM DIRECT DRIVE PUMPING STATION 7.5HP		D	STARTER MCC	460	7.5	11	3	4/C#12AWG	3/4"	MASTER CONTROL CENTER	
M-a	LOW WATER LEVEL SENSOR		D	TC	24	-	-	1	2/C#18AWG	3/4"	MASTER CONTROL CENTER	
N	HYDRALFUSE - DOUBLE PUMP - NON-FOAMING		D	TC	24 / 110	-	-	1	3/C#18AWG	3/4"	MASTER CONTROL CENTER	
O	WATER DISTRIBUTION PANEL 1		D	TC	24 / 110	-	-	1	25/C#18AWG	1"	MASTER CONTROL CENTER	
P	AIR DISTRIBUTION PANEL 1		D	TC	24 / 110	-	-	1	25/C#18AWG	1"	MASTER CONTROL CENTER	
Q	RECLAIM SYSTEM		A	STARTER DP	460	3	7.6	3	4/C#12AWG	3/4"	MMA-6	TYPICALLY REQUIRES A 3PH 460VAC 20A CIRCUIT.
Q-a	RECLAIM SYSTEM - CONTROL POWER		C	DP	110	-	SEE NOTE	1	3/C#1			

F:\E100 - ELECTRICAL SITE PLAN.DWG March 30, 2022 - 2:29pm cad01



- CODE PLAN NOTES:**
- (1) 3/4"C-2 #12 & 1 #12 GROUND THROUGHOUT CIRCUIT.
 - J-BOX FOR CONNECTION TO SIGNAGE FBO. VERIFY SPECIFIC LOCATION WITH G.C. AND SIGNAGE CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE ALL JUNCTION BOXES, CONDUIT AND WIRE FOR A COMPLETE AND OPERABLE SYSTEM.
 - J-BOX FOR CONNECTION TO CANOPY LIGHTS FBO.
 - (1) 3/4"C-2 #10, 1 #10 GROUND THROUGHOUT CIRCUIT.
 - (1) 3/4"C TO TELE/DATA CABINET.
 - (1) 1"C WITH (1) CAT6 CABLE AND ADDITION CABLES AS REQUIRED FOR ENTRY SYSTEM.
 - CAMERA MOUNTED ON CANOPY STRUCTURE FBO. VERIFY SPECIFIC MOUNTING LOCATION WITH OWNER/CANOPY DESIGNER PRIOR TO ROUGH-IN.
 - PROVIDE 3/4"C WITH WIRING PER MANUFACTURER'S RECOMMENDATIONS BETWEEN RESPECTIVE VACUUMS/VFD.
 - SEE SHEET E000 FOR CONDUIT/WIRE INFORMATION.
 - (1) 3/4"C TO ASSOCIATED VFD FBO IN ELECTRICAL ROOM FOR CONTROL WIRING.
 - SEE POLE BASE DETAIL ON SHEET E002 FOR MOUNTING OF FIXTURE.
 - J-BOX FOR CONNECTION TO PYLON SIGN. VERIFY WITH ARCHITECT SPECIFIC LOCATION PRIOR TO ROUGH-IN.

- GENERAL NOTES**
- LOCATIONS OF METER ASSEMBLY AND TELEPHONE MINIMUM POINT OF PRESENCE CABINET MUST BE COORDINATED WITH SERVING UTILITIES PRIOR TO START OF WORK.
 - CONTRACTOR SHALL COORDINATE TRENCH ROUTING FROM SERVING UTILITIES.
 - FINAL LOCATIONS OF PAD MOUNTED TRANSFORMERS TO BE DETERMINED BY UTILITY COMPANY. CONCRETE PADS, PRIMARY CONDUITS, SECONDARY CONDUITS AND CONDUIT STUBS INTO PRIMARY TRENCH SHALL BE BY ELECTRICAL CONTRACTOR, PER UTILITY COMPANY REQUIREMENTS.
 - ELECTRICAL CONTRACTOR SHALL PROVIDE THE POWER AND TELEPHONE COMPANIES A COMPLETE SET OF WORKING DRAWINGS WITHIN TWO WEEKS OF CONTRACT AWARD.
 - CONTRACTOR SHALL COORDINATE TRENCHING WITH UTILITY COMPANIES. VERIFY USE OF COMMON TRENCH AND COMBINE RUNS WHEREVER POSSIBLE. ALL TRENCHING, BACK FILLING, CONDUITS, POLE RISERS, PULLBOXES AND CONDUCTORS REQUIRED TO PROVIDE ELECTRICAL SERVICE TO THIS PROJECT SHALL BE DEEMED PART OF THE ELECTRICAL CONTRACT.

SITE PLAN - ELECTRICAL
 SCALE: 3/32"=1'-0"
 0' 8' 16' 24' 32' 40' 48' NORTH

SITE LIGHTING FIXTURE SCHEDULE

MARK	SYMBOL	DESCRIPTION	VOLTAGE	LAMPS		MANUFACTURER AND CATALOG NUMBER
				WATTS	TYPE	
S1		EVOLVE LED AREA LIGHT WITH SHIELD	120	36	LED	GE # EAQL01-0-B4-AF730-N-1-D1-BLCK MOUNTED AT 20 FT POLE TO BE COOPER LIGHTING # SSS-5-M-17.5-S-Y-2-1
S2		EVOLVE LED AREA LIGHT WITH SHIELD DOUBLE FIXTURE	120	72	LED	GE # EAQL01-0-B4-AF730-N-1-D1-BLCK MOUNTED AT 20 FT POLE TO BE COOPER LIGHTING # SSS-5-M-17.5-S-Y-2-1

- LIGHTING FIXTURE NOTES:**
- REFER TO CIVIL DRAWINGS FOR EXACT LOCATION OF LIGHT FIXTURES.
 - FIXTURE MUST BE U.L. APPROVED FOR DAMP LOCATIONS.
 - CONTRACTOR SHALL IDENTIFY AT TIME OF BID ANY FIXTURES UTILIZING MANUFACTURERS NOT LISTED BY NAME AND MODEL NUMBER IN LIGHTING FIXTURE SCHEDULE. THE ENGINEER SHALL HAVE THE RIGHT TO REVIEW ALL LIGHTING FIXTURE ALTERNATE SUBMISSIONS FOR EQUIVALENCE AND REJECT OR ACCEPT BASED ON ENGINEERS DETERMINATION OF EQUIVALENCE.
 - LIGHTING FIXTURE CATALOG NUMBERS ARE SERIES TYPE ONLY PROVIDE ALL NECESSARY HARDWARE AS REQUIRED BY THE SPECIFICATIONS, DRAWINGS, AND PROJECT CONDITIONS FOR A COMPLETE INSTALLATION.

sevan
 DESIGN SOLUTIONS, P.C.
 Corporate Office:
 3025 Highland Parkway | Suite 850
 Downers Grove, IL 60515
 www.sevan.com
 INTEGRITY | RESPECT | TEAMWORK
 EXCELLENCE | CHARITY

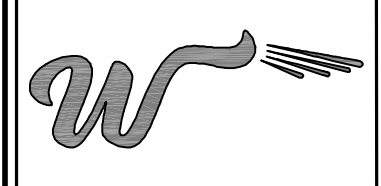
SEAL
DAVIS L. DICKERSON
 No. 9701
 REGISTERED PROFESSIONAL ENGINEER (ELECTRICAL)
 SIGNATURE: [Signature]
 DATE: 03/30/2022 06/30/2023
 EXPIRATION DATE

NO.	DATE	REVISIONS	DESCRIPTION

PROJECT INFORMATION
ELECTRICAL SITE PLAN
 WASHVILLE CAR WASH WASH04-078
 991-995 W. MAIN STREET | MIDDLETOWN RI, 02842

SHEET MANAGEMENT
 PROJECT NO. WASH04-078
 DATE ISSUED: 03/11/22
 DRAWN BY: SR
 REVIEWED BY: DD

SHEET NUMBER
E100



SEAL

DAVIS L. DICKERSON

No. **9701**

REGISTERED
PROFESSIONAL ENGINEER
(ELECTRICAL)

[Signature]

03/30/2022 06/30/2023
DATE EXPIRATION DATE

NO.	DATE	REVISIONS	DESCRIPTION

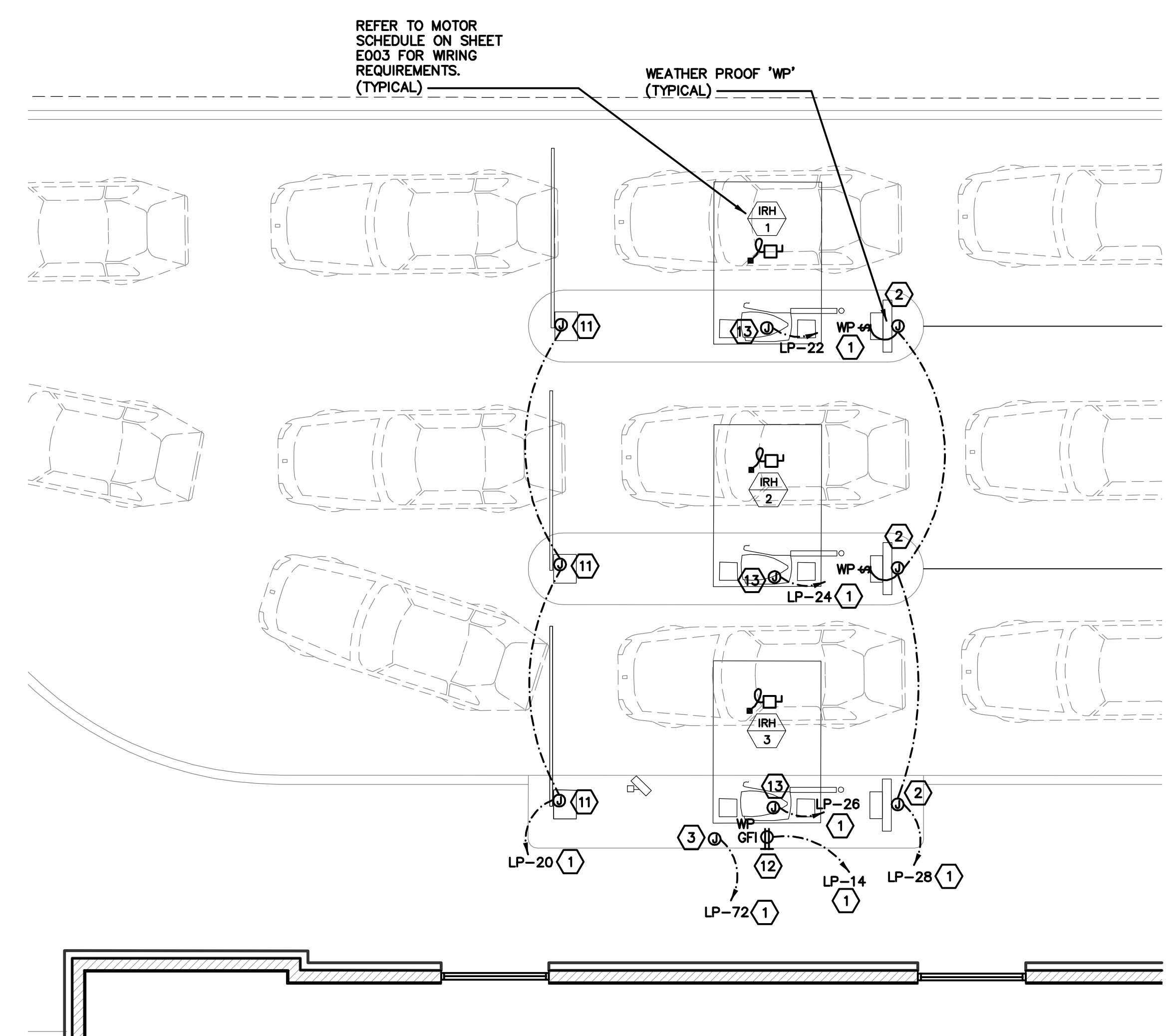
ENLARGED ELECTRICAL SITE PLAN

WASHVILLE CAR WASH WASH04-078
991-995 W. MAIN STREET | MIDDLETOWN RI, 02842

SHEET MANAGEMENT	PROJECT NO. WAS04-078
DATE ISSUED: 03/11/22	SR
DRAWN BY:	DD
REVIEWED BY:	

SHEET NUMBER

E101

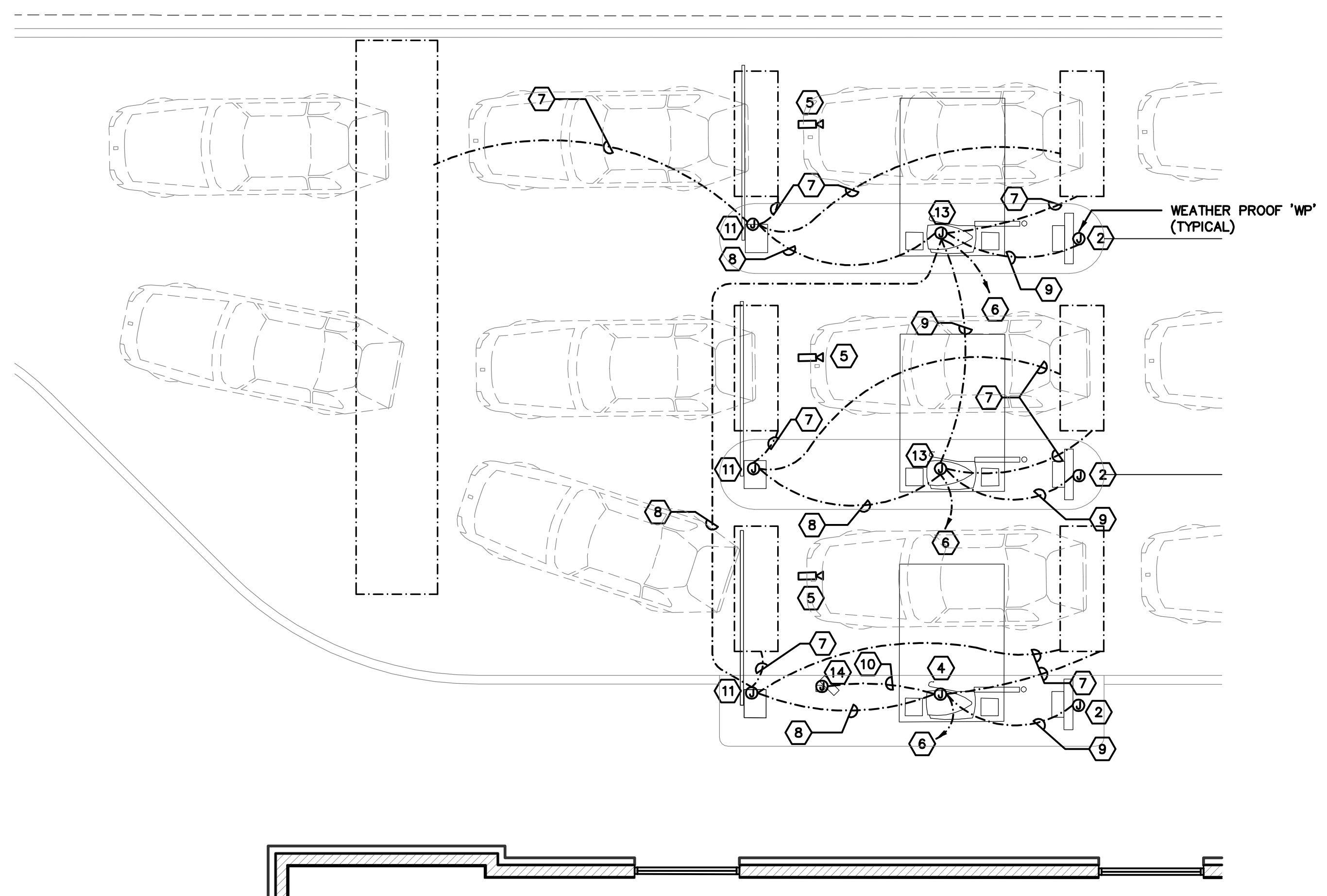


ELECTRICAL ENLARGED SITE PLAN

SCALE: 3/16"=1'-0"

0' 4' 8' 12' 16' 20' 24'

NORTH



TELECOMMUNICATION ENLARGED SITE PLAN

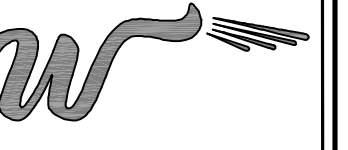
SCALE: 3/16"=1'-0"

0' 4' 8' 12' 16' 20' 24'

NORTH

REFER TO VENDOR DRAWINGS FOR ADDITIONAL INFORMATION PROVIDE ALL REQUIRED APPURTANCES FOR A COMPLETE AND OPERATIONAL SYSTEM.

- CODE PLAN NOTES:**
- (1) 3/4" C-2 #12 & 1 #12 GROUND THROUGHOUT CIRCUIT.
 - J-BOX FOR CONNECTION TO SIGNAGE FBO. VERIFY SPECIFIC LOCATION WITH G/C SIGNAGE CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE ALL JUNCTION BOXES, CONDUIT AND WIRE FOR A COMPLETE AND OPERABLE SYSTEM.
 - J-BOX FOR CONNECTION TO CANOPY LIGHTS FBO.
 - J-BOX FOR CONNECTIONS TO FASTPASS ENCLOSURE FBO. VERIFY SPECIFIC LOCATION WITH OWNER/SUPPLIER PRIOR TO ROUGH IN.
 - CAMERA TO BE MOUNTED UNDERSIDE OF CANOPY FACING THE DRIVE LANE.
 - (1) 1" C WITH (1) CAT6 CABLE (NETWORK), 4 #22 SHIELDED TWISTED PAIR CABLE (INTERCOM), 2 #RG-59/ (CAMERA), AND 2 #33 TWISTED PAIR CABLE (EXT ALARM).
 - (1) 3/4" PVC WITH CABLE PER MANUFACTURER RECOMMENDATIONS (LEAD-IN SYSTEMS #IMSA 51-3/18).
 - (1) 3/4" C WITH (1) CAT6 CABLE (ETHERNET CONTROLLED GATES) AND (1) WEST PENN #3270 CABLE (NON-ETHERNET GATES).
 - (1) 3/4" C WITH (2) # 22 STRANDED COPPER.
 - (1) 3/4" WITH (1) CAT6 CABLE (FOR CARPICS) AND DRB SYSTEMS #CA06000 CABLE (FOR FASTPASS).
 - J-BOX FOR CONNECTIONS TO GATE FBO. VERIFY SPECIFIC LOCATION WITH OWNER/SUPPLIER PRIOR TO ROUGH IN.
 - RECEPTACLE FOR CONNECTION TO MISTING SYSTEM FBO. VERIFY SPECIFIC LOCATION WITH OWNER/SUPPLIER PRIOR TO ROUGH-IN.
 - J-BOX FOR CONNECTION TO XPT UNIT FBO. VERIFY SPECIFIC LOCATION WITH OWNER/SUPPLIER PRIOR TO ROUGH IN.
 - J-BOX FOR CONNECTION FASTPASS/CARPICS FBO. VERIFY SPECIFIC LOCATION WITH OWNER/SUPPLIER PRIOR TO ROUGH IN.



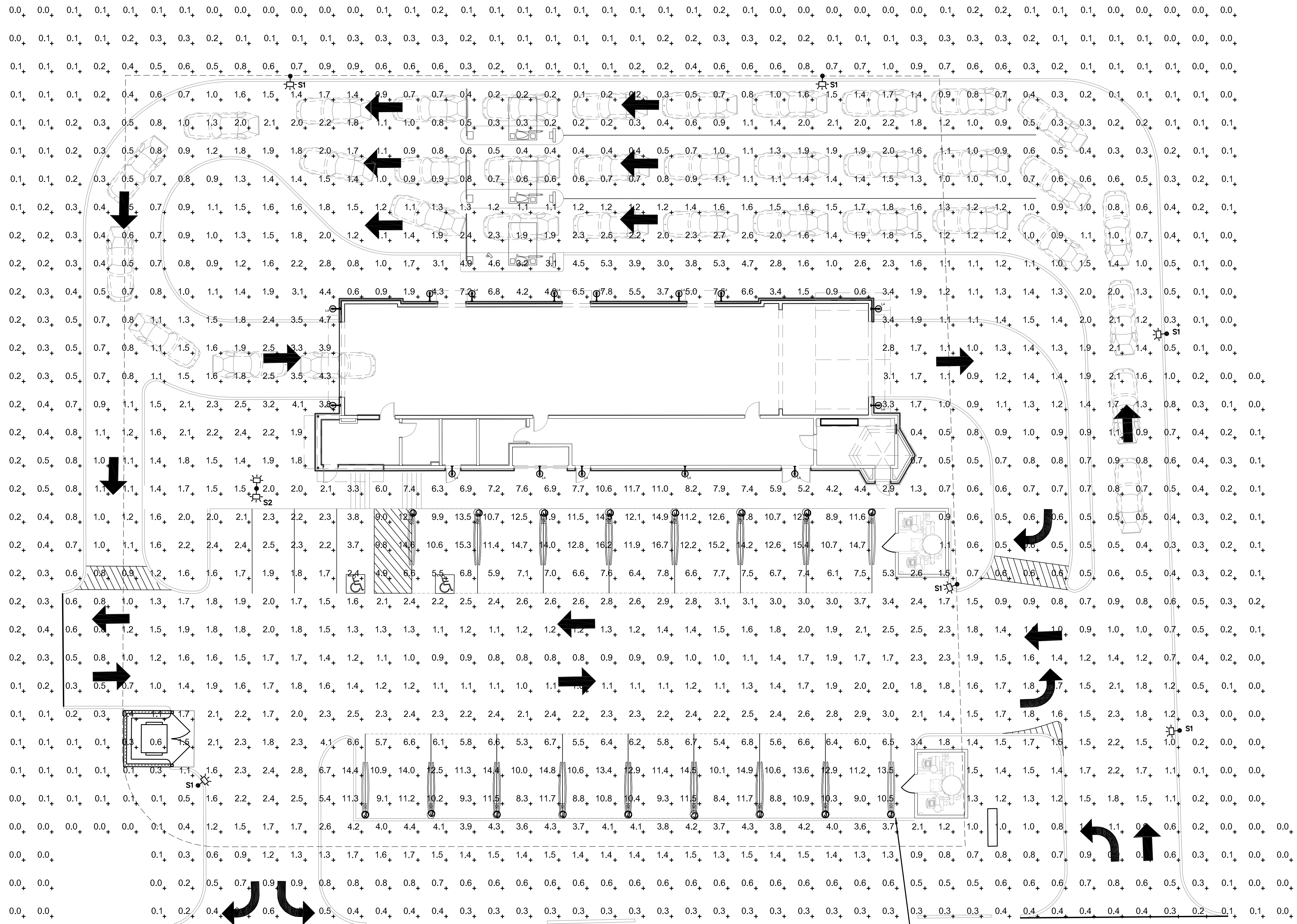
SEAL
DAVIS L. DICKERSON
No. **9701**
REGISTERED
PROFESSIONAL ENGINEER
(ELECTRICAL)
[Signature]
03/30/2022 06/30/2023
DATE EXPIRATION DATE

NO.	DATE	REVISIONS	DESCRIPTION

PROJECT INFORMATION
SITE PLAN - PHOTOMETRIC
WASHVILLE CAR WASH WASH WASH04-078
991-995 W. MAIN STREET | MIDDLETOWN RI, 02842

SHEET MANAGEMENT
PROJECT NO. WASH04-078
DATE ISSUED: 03/11/22
DRAWN BY: SR
REVIEWED BY: DD

SHEET NUMBER
E102



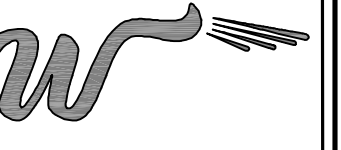
SITE PLAN - PHOTOMETRIC
SCALE: 3/32"=1'-0"



Statistics					
Description	Symbol	Avg	Max	Min	Max/Min
SITE	+	2.0 fc	16.7 fc	0.0 fc	N/A

Notes:
1. Calculation @ ground level.

- THIS LIGHTING DESIGN IS BASED ON INFORMATION SUPPLIED BY OTHERS. CHANGES IN ELECTRICAL SUPPLY, AREA GEOMETRY AND OBJECTS WITHIN THE LIGHTED AREA MAY PRODUCE ILLUMINATION VALUES DIFFERENT FROM THE PREDICTED RESULTS SHOWN ON THIS LAYOUT.
- THIS LAYOUT IS BASED ON .IES FILES THAT WERE LAB TESTED OR COMPUTER GENERATED. ACTUAL RESULTS MAY VARY.



SEAL

DAVIS L. DICKERSON

No. **9701**

REGISTERED
PROFESSIONAL ENGINEER
(ELECTRICAL)

SIGNATURE

03/30/2022 06/30/2023
DATE EXPIRATION DATE

NO.	DATE	REVISIONS	DESCRIPTION

PROJECT INFORMATION

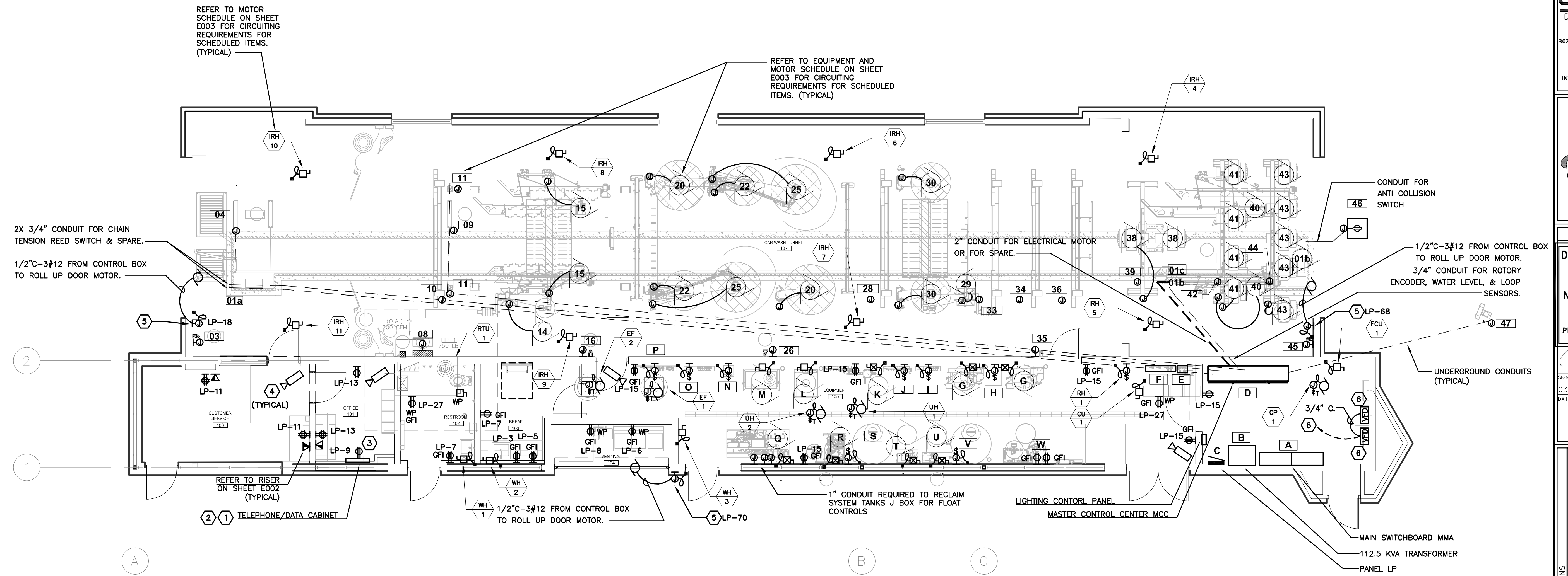
FLOOR PLAN - POWER & SPECIAL SYSTEMS

WASHVILLE CAR WASH WASH04-078
991-995 W. MAIN STREET | MIDDLETOWN RI, 02842

SHEET MANAGEMENT	PROJECT NO. WASH04-078	DATE ISSUED: 03/11/22	SR	DD
	DRAWN BY:	REVIEWED BY:		

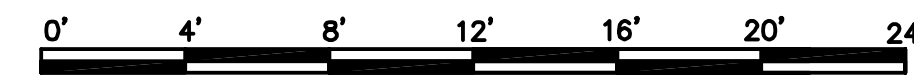
SHEET NUMBER

E200



FLOOR PLAN - POWER & SPECIAL SYSTEMS

SCALE: 3/16"=1'-0"



CODE PLAN NOTES:

- PROVIDE 2'x2'x12" DEEP NEMA 1 HINGED CABINET WITH 3/4" FIRE RETARDANT PLYWOOD BACKBOARD PER SPECIFICATIONS ON INSIDE BACK OF CABINET. MOUNT CABINET AS HIGH AS POSSIBLE BENEATH CEILING TILES.
- (2) 2"C. TO TELECOM SERVICE POINT.
- MOUNT RECEPTACLE IN TELEPHONE/DATA CABINET.
- (1) 3/4"C. TO TELEPHONE/DATA CABINET.
- ROLL UP DOOR: 120V, 1PH. PROVIDE (2) # 12, #12G IN 1/2" COND FROM A 20A/1P BREAKER. COORDINATE EXACT LOCATION OF THE CONTROL BOX AND POWER REQUIREMENTS WITH THE MANUFACTURER.
- TO VACUUM ENCLOSURE FOR CONTROLS. SEE SHEET E100 FOR CONDUIT AND WIRE REQUIREMENTS.

GENERAL NOTES

- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND QUANTITIES FOR ALL ELECTRICAL DEVICES.
- REFER TO MECHANICAL DRAWINGS FOR EXACT SIZE, LOCATION, AND ELECTRICAL REQUIREMENTS FOR ALL MOTORS AND MECHANICAL EQUIPMENT. COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE ELECTRICAL CONNECTIONS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM.
- REFER TO OWNER VENDOR CARWASH DRAWINGS FOR EXACT REQUIREMENTS OF ELECTRICAL WORK REQUIRED. PROVIDE COMPLETE POWER AND CONTROL WIRING IN WEATHERPROOF RACEWAY AND FINAL CONNECTION OF ALL COMPONENTS. REFER TO VENDOR DRAWINGS. INCLUDE ALL COSTS IN BASE BID PROPOSAL FOR A COMPLETE AND OPERABLE SYSTEM.
- ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH GREEN EQUIPMENT GROUND CONDUCTOR.
- MOTORS LOCATED IN CARWASH TUNNEL SHALL HAVE NEMA-4X DISCONNECT IN SIGHT OF MOTOR. COORDINATE EXACT MOUNTING LOCATIONS IN THE FIELD. ALL WIRING, CONDUIT, CONNECTORS AND BOXES IN CARWASH TUNNEL SHALL BE WET LOCATION LISTED.
- LETTER/NUMBER ADJACENT DEVICE INDICATES CAR WASH EQUIPMENT DESIGNATION. VERIFY ALL REQUIREMENTS, SIZES AND CONNECTION POINTS WITH CARWASH EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN.
- WHERE CONDUITS ENTER CONVEYOR TRENCH, THE INVERT IS TO BE 12" BELOW FINISHED FLOOR.
- ALL STUB-UPS SHALL BE 1" FROM WALL UNLESS OTHERWISE NOTED.
- SPLIT BOLTS TO BE REQUIRED ON ALL MOTOR CONNECTIONS FOR BLOWERS, AIR COMPRESSOR, HIGH PRESSURE PUMPS AND ANY MOTOR OVER 5HP.
- ALL MOTOR AND CONTROL WIRES TO BE THHN STRANDED OR EQUIVALENT. NO SOLID WIRE FOR ANY ASPECT OF CAR WASH EQUIPMENT.
- ALL UNI-STRUT, CLAMPS AND FASTENER UTILIZED WITHIN TUNNEL WILL BE MADE OF NON-CORROSIVE MATERIAL UNI-STRUT SHALL BE ALUMINUM, STAINLESS STEEL OR COMPOSITE. STAINLESS STEEL CLAMPS SHALL BE STAINLESS STEEL, PVC OR COMPOSITE. ALL FASTENERS SHALL BE STAINLESS STEEL.
- ALL TUNNEL MOTOR POWER/ TELECOMMUNICATION CONNECTIONS ARE TO BE RAN WITHIN CABLE TRAY FURNISHED BY OTHERS IN THE TUNNEL UNLESS OTHERWISE NOTED.

REFER TO MOTOR SCHEDULE ON SHEET E003 FOR CIRCUITING REQUIREMENTS FOR SCHEDULED ITEMS. (TYPICAL)

REFER TO EQUIPMENT AND MOTOR SCHEDULE ON SHEET E003 FOR CIRCUITING REQUIREMENTS FOR SCHEDULED ITEMS. (TYPICAL)

2X 3/4" CONDUIT FOR CHAIN TENSION REED SWITCH & SPARE.

1/2"C-3#12 FROM CONTROL BOX TO ROLL UP DOOR MOTOR.

2" CONDUIT FOR ELECTRICAL MOTOR OR FOR SPARE.

CONDUIT FOR ANTI COLLISION SWITCH

1/2"C-3#12 FROM CONTROL BOX TO ROLL UP DOOR MOTOR. 3/4" CONDUIT FOR ROTARY ENCODER, WATER LEVEL, & LOOP SENSORS.

UNDERGROUND CONDUITS (TYPICAL)

REFER TO RISER ON SHEET E002 (TYPICAL)

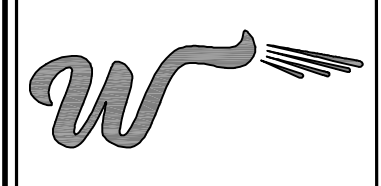
TELEPHONE/DATA CABINET

1/2"C-3#12 FROM CONTROL BOX TO ROLL UP DOOR MOTOR.

1" CONDUIT REQUIRED TO RECLAIM SYSTEM TANKS J BOX FOR FLOAT CONTROLS

LIGHTING CONTROL PANEL
MASTER CONTROL CENTER MCC

MAIN SWITCHBOARD MMA
112.5 KVA TRANSFORMER
PANEL LP



SEAL

DAVIS L. DICKERSON

No. 9701

REGISTERED
PROFESSIONAL ENGINEER
(ELECTRICAL)

03/30/2022 06/30/2023
DATE EXPIRATION DATE

NO.	DATE	REVISIONS	DESCRIPTION

PROJECT INFORMATION

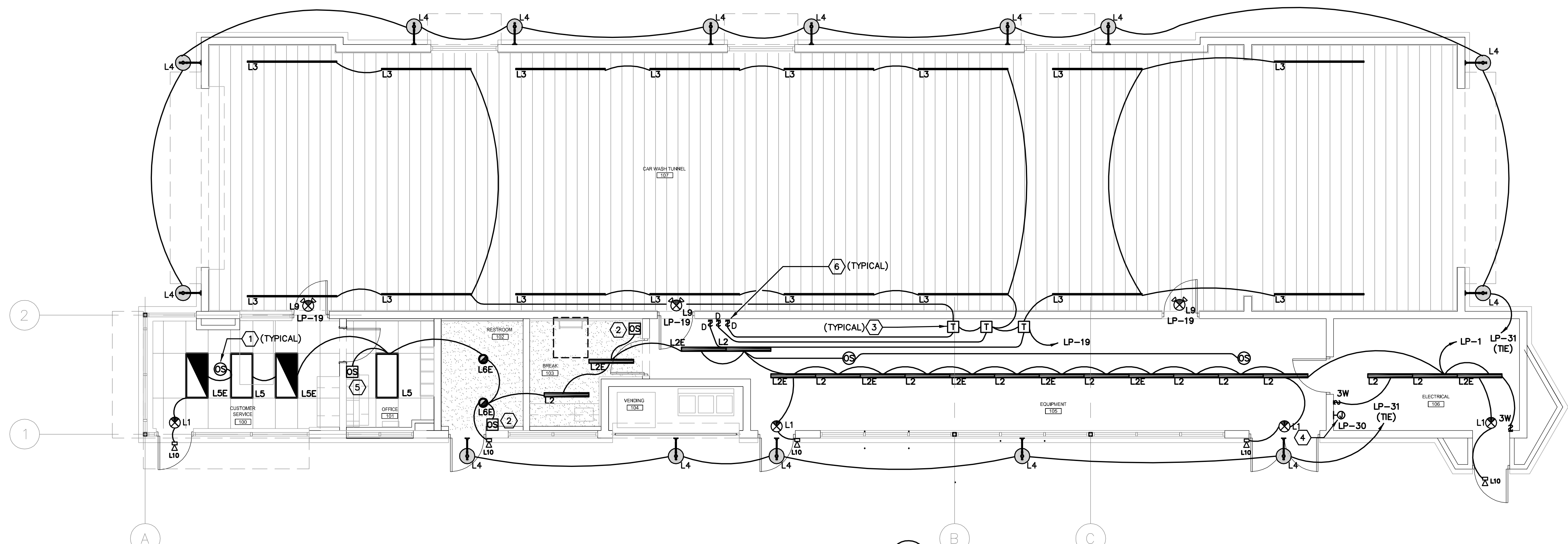
FLOOR PLAN - LIGHTING

WASHVILLE CAR WASH WASH04-078
991-995 W. MAIN STREET | MIDDLETOWN RI, 02842

SHEET MANAGEMENT	PROJECT NO. WASH04-078
DATE ISSUED: 03/11/22	SR
DRAWN BY:	DD
REVIEWED BY:	DD

SHEET NUMBER

E300



FLOOR PLAN - LIGHTING

SCALE: 3/16"=1'-0"

0' 4' 8' 12' 16' 20' 24'

NORTH

MARK	SYMBOL	DESCRIPTION	VOLTAGE	LAMPS		MANUFACTURER AND CATALOG NUMBER	REMARKS
				WATTS	TYPE		
L1		STANDARD EXIT SIGN WITH THERMOPLASTIC BLACK HOUSING, GREEN LED LETTERS AND EMERGENCY BATTERY PACK.	120	0.66	LED	LITHONIA LIGHTING # LQM-S-3-G-120/277-ELN-SD	SEE NOTE # L1
L2		4' LINEAR LED STANDARD STRIP W/ LENS	120	35.4	LED	LITHONIA LIGHTING # CLX-L48-5000LM-HEF-FDL-MVOLT-GZ10-35K-90CRI-WH	
L2E		4' LINEAR LED STANDARD STRIP WITH WIREGUARD AND EMERGENCY BATTERY PACK	120	35.4	LED	LITHONIA LIGHTING # CLX-L48-5000LM-HEF-FDL-MVOLT-GZ10-35K-90CRI-PS1050-BSE10-WH	
L3		8' LED WATERPROOF LUMINAIRE - PROVIDE ALL ACCESSORIES AS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM	120	50	LED	G&G SPECIAL ENVIRONMENTS # WPX8-SO-40K-DIM WITH WPX-PSU-600 DRIVERS	SEE NOTE # L5
L4		WALL MOUNTED LED GOOSNECK FIXTURE	120	27	LED	BARN LIGHT # BLE-G-WH14-975-G64-975-LED27-3000K-DL	SEE NOTE # L5
L5		2'X4' LED TROFFER W/ STEEL HOUSING, ACRYLIC PRISMATIC LENS	120	53	LED	LITHONIA LIGHTING # 2GTL-4-72L-GZ1-LP835	
L5E		2'X4' LED TROFFER W/ STEEL HOUSING, ACRYLIC PRISMATIC LENS WITH EMERGENCY BATTERY PACK	120	53	LED	LITHONIA LIGHTING # 2GTL-4-72L-GZ1-LP835-EL14L	
L6E		8" DOWNLIGHT W/ CLEAR APERTURE / TRIM AND EMERGENCY BATTERY PACK - 3000 LUMENS	120	47.1	LED	GOHAM LIGHTING # EV08-30/30-AR-MWD-LSS-120-EZ1-EL	
L9		COMBO EXIT SIGN WITH EMERGENCY BATTERY LIGHT	120	5.7	LED	LITHONIA LIGHTING # WLTC-1-G-SD	SEE NOTE # L5
L10		EXTERIOR EMERGENCY BATTERY LIGHT	120	2.0	LED	SURE-LITE # AEL2-46-XXX	SEE NOTE # L5 XXX- COLOR BY ARCHITECT

LIGHTING FIXTURE NOTES:

- L1. PROVIDE DIRECTIONAL ARROWS AS SHOWN ON PLAN DRAWINGS AND AS REQUIRED BY LOCAL CODE AUTHORITIES. PROVIDE LETTER SIZE, COLOR AND TYPE AS REQUIRED BY LOCAL CODE AUTHORITIES.
- L2. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LIGHT FIXTURES.
- L3. CONTRACTOR SHALL COORDINATE LIGHTING FIXTURE FRAME TYPES WITH CEILING CONSTRUCTION PRIOR TO BASE BID PROPOSAL.
- L4. ENSURE COMPATIBILITY OF ALL LIGHTING SYSTEM COMPONENTS, ESPECIALLY DIMMED SYSTEMS. FIXTURES, LAMPS, BALLAST(S), AND DIMMING SYSTEMS/INDIVIDUAL CONTROLS MUST BE FACTORY CERTIFIED COMPATIBLE FOR FULL RANGE OF DIMMING COMPATIBILITY.
- L5. FIXTURE MUST BE U.L. APPROVED FOR WET LOCATIONS.
- L6. ALL ACRYLIC LENS SHALL BE 0.125" THICKNESS.
- L7. CONTRACTOR SHALL IDENTIFY AT TIME OF BID ANY FIXTURES UTILIZING MANUFACTURERS NOT LISTED BY NAME AND MODEL NUMBER IN LIGHTING FIXTURE SCHEDULE. THE ENGINEER SHALL HAVE THE RIGHT TO REVIEW ALL LIGHTING FIXTURE ALTERNATE SUBMISSIONS FOR EQUIVALENCE AND REJECT OR ACCEPT BASED ON ENGINEERS DETERMINATION OF EQUIVALENCE.
- L8. LIGHTING FIXTURE CATALOG NUMBERS ARE SERIES TYPE ONLY PROVIDE ALL NECESSARY HARDWARE AS REQUIRED BY THE SPECIFICATIONS, DRAWINGS, AND PROJECT CONDITIONS FOR A COMPLETE INSTALLATION.
- L9. ALL LIGHT FIXTURES SHALL BE LABELED BY MANUFACTURER TO MAXIMUM WATTAGE LISTED IN LIGHTING FIXTURE SCHEDULE. MANUFACTURER SHALL PROVIDE REDUCE WATTAGE LABEL FOR LIGHT FIXTURE AS REQUIRED TO COMPLY WITH ENERGY CODE REQUIREMENTS.
- L10. PROVIDE APPROVED FIRE-RATED ENCLOSURES FOR ALL LIGHTING FIXTURES LOCATED IN FIRE-RATED CEILING.

GENERAL NOTES

- A. PROVIDE UNSWITCHED HOT TO ALL EMERGENCY, EXIT SIGNS AND NIGHT LIGHTS. WIRE AHEAD OF LOCAL SWITCHING PER NEC 700.12.
- B. ALL EXTERIOR LIGHTING AND SIGNS SHALL BE CONTROLLED BY CONTACTOR WITH LIGHTING CONTROL PANEL.
- C. EMERGENCY LUMINAIRES SHALL PROVIDE AN INITIAL AVERAGE ILLUMINATION LEVEL OF AT LEAST 1 FOOT-CANDLE BUT AT ANY POINT IT SHALL NOT BE LESS THAN 0.1 FOOT-CANDLE ALONG THE PATH OF EGRESS AT FLOOR LEVEL.
- D. CONTRACTOR SHALL FURNISH AS-BUILD DRAWINGS FOR ELECTRICAL POWER SYSTEMS WITHIN 30 DAYS OF SYSTEM ACCEPTANCE.
- E. CONTRACTOR SHALL FURNISH OPERATION & MAINTENANCE INSTRUCTIONS FOR SYSTEMS AND EQUIPMENT TO THE BUILDING TENANT OR DESIGNATED REPRESENTATIVE.
- F. CONTRACTOR SHALL PROVIDE WRITTEN VERIFICATION WITH COPY TO ENGINEER THAT LIGHTING SYSTEMS HAVE BEEN TESTED TO ENSURE PROPER CALIBRATION, ADJUSTMENT, PROGRAMMING AND OPERATION.

CODE PLAN NOTES:

1. PROVIDE CEILING MOUNTED OCCUPANCY SENSOR EQUIVALENT TO SENSOR SWITCH # CMR-PDT-10.
2. PROVIDE WALL MOUNTED OCCUPANCY SENSOR EQUIVALENT TO SENSOR SWITCH # WSX-PDT-WH.
3. PROVIDE POWER SUPPLY AS PER SPECIFICATIONS.
4. PROVIDE LIGHTING CONTROL PANEL NLIGHT #ARP INTENC08-NLT-16SPR-MVOLT-HLK-SM WITH (16) SINGLE POLE RELAYS NORMALLY OPEN FOR CONTROL OF EXTERIOR LIGHTING AND SIGNAGE.
5. PROVIDE DIMMABLE WALL MOUNTED OCCUPANCY SENSOR EQUIVALENT TO SENSOR SWITCH # WSX-PDT-D-WH.
6. PROVIDE 0-10V DIMMER SWITCH LUTRON DIVA # DVSTV-WH OR EQUIVALENT.