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ADDENDUM-2

RFP: EM2019-148(KD)

Re:

INTERCOM, PAGING, AND EMERGENCY MESSAGING SYSTEM FOR SULLIVAN EAST MIDDLE SCHOOL

This addendum is issued as a follow up to Addendum #1.

1. When reviewing the blueprints it appears there are no intercom speakers in any classrooms. Is that the intention? Is there a specific intercom speaker count or should we base the bid response on what is shown on the blueprints.

Answer: **The added speakers are denoted by a red circle with a red "S" inside them as per the attached drawings.**

END OF ADDENDUM #2

PLEASE ACKNOWLDGE RECEIPT OF THIS ADDENDUM TO EMAIL ADDRESS: kris.davis@sullivancountytn.gov or call 423/323-6400.

SYMBOL SCHEDULE

2012 INTERNATIONAL ENERGY CONSERVATION CODE

COMMERCIAL ENERGY EFFICIENCY - ELECTRICAL SUMMARY

C405.1 METHOD OF COMPLIANCE

- [x] 2012 IECC CHAPTER C4
- [ ] ASHRAE 90.1-2007
- [ ] NOT APPLICABLE BASED ON PROJECT SCOPE

C401.2 APPLICATION COMPLIANCE

- [ ] C406.2 EFFICIENT HVAC PERFORMANCE
- [x] C406.3 EFFICIENT LIGHTING SYSTEM
- [ ] C406.4 ONSITE RENEWABLE ENERGY
- [ ] NOT APPLICABLE BASED ON PROJECT SCOPE

C405.2 - INTERIOR LIGHTING CONTROLS (MANDATORY REQUIREMENTS):

- [x] INTERIOR LIGHTING SYSTEMS ARE PROVIDED WITH CONTROLS AS REQUIRED PER SECTION C405.2, EXCEPT WHERE EXEMPT.
- [ ] NOT APPLICABLE

C405.3 - TANDEM WIRING (MANDATORY REQUIREMENTS):

- [ ] FLUORESCENT LUMINARIES LOCATED WITHIN THE SAME AREA ARE TANDEM WIRED AS REQUIRED PER SECTION 505.3, EXCEPT WHERE EXEMPT.
- [x] NOT APPLICABLE

C405.4 - EXIT SIGNS (MANDATORY REQUIREMENTS):

- [x] INTERNALLY ILLUMINATED EXIT SIGNS DO NOT EXCEED 5 WATTS PER SIDE.
- [ ] NOT APPLICABLE

C405.5 - INTERIOR LIGHTING POWER REQUIREMENTS (PRESCRIPTIVE) (NON-EXEMPT):

- [ ] NOT APPLICABLE PER 2012 IECC C101.4.3, EXCEPTION 7.

C405.5.1 - TOTAL CONNECTED INTERIOR LIGHTING POWER:

NOTE A WATTS SPECIFIED

C405.5.2 - TOTAL ALLOWABLE INTERIOR LIGHTING POWER:

METHOD OF COMPLIANCE:

- [x] BUILDING AREA METHOD
- [ ] SPACE-BY-SPACE METHOD

NOTE A WATTS ALLOWED

C405.6.1 - EXTERIOR BUILDING GROUNDS LIGHTING:

- [x] LAMPS OPERATING AT GREATER THAN 100 WATTS FOR EXTERIOR BUILDING GROUNDS LUMINARIES HAVE A MINIMUM EFFICACY OF 60 LUMENS PER WATT, EXCEPT WHERE EXEMPT.
- [ ] NOT APPLICABLE

C405.6.2 - EXTERIOR BUILDING LIGHTING POWER (NON-EXEMPT):

- [ ] NOT APPLICABLE

TOTAL CONNECTED EXTERIOR LIGHTING POWER:

NOTE A WATTS SPECIFIED

TOTAL ALLOWABLE EXTERIOR LIGHTING POWER:

1677 FEET NOTE A WATTS ALLOWED

C405.7 - ELECTRICAL ENERGY CONSUMPTION (DWELLING UNITS):

- [ ] SEPARATE TENANT METERING TO DETERMINE ELECTRICAL ENERGY CONSUMPTION HAS BEEN PROVIDED FOR BUILDINGS HAVING INDIVIDUAL DWELLING UNITS.
- [x] NOT APPLICABLE

NOTE A: SEE COMCHECK ON SHEET E602

ABBREVIATIONS

+42"	DIMENSION INDICATES HEIGHT ABOVE FINISHED FLOOR AT WHICH CENTER OF DEVICE IS TO MOUNTED. SEE PLANS.
3R	NEMA 3R
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLER UNIT
	CONDUIT WITH PULL CORD
C.B.	CIRCUIT BREAKER
EC	EMPTY CONDUIT WITH PULL CORD
E.C.	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FACP	FIRE ALARM CONTROL PANEL
FPN	FUSE PER NAMEPLATE
LC	LIGHTING CONTACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
U.G.	UNDERGROUND
WP	WEATHERPROOF
S.E.	SERVICE ENTRANCE
EM	EMERGENCY FIXTURE WITH BATTERY OR GEN. BACK-UP
ER	EXISTING ITEM RELOCATED TO THIS LOCATION.
RL	EXISTING ITEM TO BE RELOCATED.
RM	EXISTING ITEM TO REMAIN.
RP	EXISTING ITEM TO BE REPLACED.
RV	EXISTING ITEM TO BE REMOVED.
Isc	RMS SYMMETRICAL SHORT CIRCUIT CURRENT
AIC	AMPERE INTERRUPTING CAPACITY (EQUIPMENT RATING)

SYMBOL SCHEDULE NOTES:

1. SEE DETAIL FOR STANDARD MOUNTING HEIGHTS OF ALL DEVICES, UNLESS OTHERWISE NOTED.
2. ALL NORMAL GENERAL PURPOSE DEVICES (SWITCHES AND RECEPTACLES) SHALL BE GRAY UNLESS NOTED OTHERWISE. COVER PLATE SHALL BE 302 STAINLESS STEEL. ALL COVER PLATES IN MASONRY WALLS SHALL BE JUMBO PLATES.
3. SEE LIFE SAFETY PLAN FOR ALL FIRE RATED WALLS, BARRIERS, PARTITIONS, ETC. WHERE OUTLETS ARE SHOWN AT A FIRE RATED ASSEMBLY, PROVIDE FIRE STOP PUTTY PAD(S) TO MAINTAIN INTEGRITY OF THE RATING.
4. ALL FIRE ALARM SHALL BE IN CONDUIT CONCEALED ABOVE CEILING OR IN WALLS UNLESS OTHERWISE NOTED. THE INSTALLATION OF CONDUIT SHALL BE CONCEALED AT ALL TIMES, ABOVE CEILING OR IN WALLS.
5. ALL LOW VOLTAGE CABLING SHALL BE PLENUM RATED WHEN NOT INSTALLED IN CONDUIT.
6. MC CABLE SHALL NOT BE PERMITTED.
7. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL. IN THE CASE OF A CONFLICT, DISAGREEMENT, OR AMBIGUITY, PROVIDE THE BETTER QUALITY AND GREATER QUANTITY OF WORK.
8. SHARED NEUTRAL OR "SUPER NEUTRAL" CONDUCTORS SHALL NOT BE PERMITTED UNLESS SPECIFICALLY SHOWN ON THESE DRAWINGS.
9. SERIES RATED PANELS ARE NOT ACCEPTABLE .
10. ALL WALL MOUNTED OCCUPANCY/VACANCY SENSOR SWITCH OUTLETS SHALL BE BE PROVIDED WITH A GROUNDED CONDUCTOR AS PART OF THE WIRING SYSTEM.
11. PROPERLY SUPPORT AND BRACE VERTICALLY AND HORIZONTALLY ALL RACEWAYS, CABLE TRAY, ELECTRICAL EQUIPMENT, ETC IN ACCORDANCE WITH SEISMIC CATEGORY FOR THIS PROJECT.
12. ALL PANEL SCHEDULES SHALL BE UPDATED WITH SCHOOL ROOM NUMBERS.
13. ALL CONDUCTOR MATERIAL SHALL BE COPPER, NO ALUMINUM PERMITTED.
14. PROVIDE TEMPORARY POWER FOR ALL NEW WORK AS REQUIRED FOR COMPLETION OF WORK; INCLUDING ALL ASSOCIATED TRADES.
15. EXPOSED CONDUIT WILL NOT BE PERMITTED. ALL AREAS, CONDUIT(S) SHALL BE CONCEALED. THE ONLY EXCEPTIONS ARE THE MAIN HVAC AND ELECTRICAL ROOMS.
16. GFCI/GFI RECEPTACLES SHALL BE SELF TESTING TYPE. SELF TESTING SHALL SUPERCEDE ANY SPECIFICATION FOR NON SELF TESTING GFCI RECEPTACLES.
17. LOW VOLTAGE TRANSFORMERS SHALL MEET ENERGY EFFICIENCY LEVELS MANDATED BY DEPARTMENT OF ENERGY CFR 431.192.
18. ELECTRICAL OUTLET BOXES LOCATED ON OPPOSITE SIDES OF FIRE-RESISTANCE RATED WALLS MUST BE SEPARATED BY A HORIZONTAL DISTANCE OF 24 IN.

DEVICES AND PATHWAYS

- WIRING SYSTEM CONCEALED IN WALL OR CEILING.
- WIRING SYSTEM CONCEALED IN OR UNDER SLAB OR UNDERGROUND.
- BRANCH CIRCUIT HOMERUN TO PANEL.
- JUNCTION BOX WITH CONNECTION TO EQUIPMENT SERVED. 4" SQUARE BOX WITH A SINGLE-GANG OPENING AND PLASTER RING.
- HD — JUNCTION BOX FOR HAND DRYER CONNECTION; SEE MOUNTING HEIGHTS DETAIL FOR EXACT HEIGHT; SEE ARCH. SHEETS FOR COORDINATION 4" SQUARE BOX WITH A SINGLE-GANG OPENING AND PLASTER RING.
- S_{HD} — 20 AMP TOGGLE SWITCH FOR HAND DRYER TO BE MOUNTED ABOVE THE CEILING.
- DUPLEX RECEPTACLE, 20 AMP, 120 VOLT (USE 20 AMP FOR SINGLE RECEPTACLE ON A CIRCUIT.) HUBBELL 5352, OR EQUAL.
- DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER BACKSPLASH, OR AT HEIGHT NOTED.
- QUAD RECEPTACLE. TWO NEMA 5-20R DUPLEX RECEPTACLES.
- EWC — STANDARD NEMA (2) 5-20R DUPLEX RECEPTACLE FOR ELECTRIC WATER COOLER. COORDINATE LOCATION WITH PLUMBING CONTRACTOR.
- GFI — GROUND FAULT RECEPTACLE. NEMA 5-20R DUPLEX. ALL RECEPTACLES INSTALLED OUTSIDE, WITHIN 6' OF A SINK OR IN A KITCHEN SHALL BE GFCI.
- GFI — GROUND FAULT RECEPTACLE. DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER BACKSPLASH, OR AT HEIGHT NOTED.
- WP — WEATHERPROOF RECEPTACLE. NEMA 5-20R GFI DUPLEX. COVER SHALL BE INTERMATIC #WP1020 (CLEAR) OR SPECIFICATION EQUAL.
- SPD — SURGE PROTECTION DEVICE (SPD); SEE DETAIL
- WIREMOLD 2400 PLUGMOLD. NEMA 5-15R RECEPTACLES ON 12" CENTERS. ALTERNATE CIRCUITS.
- SPECIAL OUTLET. SEE PLANS.
- G — GROUNDING BAR PER DIAGRAM.
- FB6 — SIX GANG FLUSH MOUNTED FLOOR BOX WITH ACCESSIBLE COVER FOR POWER AND COMMUNICATIONS. PROVIDE TWO NEMA 5-20R DUPLEX RECEPTACLES AND ONE COMM. PLATE WITH PROVISION FOR SIX RJ45 CAT6 JACKS. EQUAL TO WIREMOLD RFB6E-OG-8CT. ARCHITECT TO SELECT FINISH. STUB FROM BOX ONE CONCEALED 1 1/4"C ROUTED TO WHICHEVER IS NEAREST, BB, J-HOOKS, OR CABLE TRAY. EQUALS: HUBBELL, THOMAS & BETTS, OR SPECIFICATION EQUAL.
- G — 6 GANG FLUSH MOUNTED FLOOR BOX WITH POWER AND COMMUNICATIONS. 3-NEMA 5-20 RECEPTACLES AND 3-COMM. PLATES EQUAL TO TO LEGRAND RFB6-OG-FPBTC. ARCHITECT TO SELECT FINISH. PROVIDE WITHIN 3-DUPLEX RECEPTACLES NEMA 5-20R. PROVIDE CONDUIT AS INDICATED ON DRAWING, AND ONE ADDITIONAL CONCEALED 1"C ROUTED TO WHICHEVER IS NEAREST, BB OR CABLE TRAY. PROVIDE EXTENSION RING FOR AIR GAP. FLOOR BOX COVER SHALL BE FLUSH STYLE.
- SEC — SECURITY POWER FOR MISCELLANEOUS SECURITY REQUIREMENTS, LOCATED ABOVE LOCAL ACCESSIBLE CEILING.

PANELS, DISCONNECTS

- S_M — FRACTIONAL HORSEPOWER MANUAL MOTOR STARTER, WITH OVERLOAD PROTECTION
- NON-FUSED HEAVY DUTY DISCONNECT SWITCH. NUMERALS INDICATE SWITCH RATING. NEMA 1 ENCLOSURE, UNLESS OTHERWISE NOTED.
- FUSED HEAVY DUTY DISCONNECT SWITCH. NUMERALS INDICATE SWITCH RATING/FUSE SIZE. NEMA 1 ENCLOSURE, UNLESS OTHERWISE NOTED.
- PANELBOARD. SEE SCHEDULE FOR MOUNTING. TOP OF PANEL AT 6'-6" AFF.

SECURITY

- CEILING MOUNTED SECURITY CAMERA. PROVIDE 3/4" CONDUIT TO LOCAL ACCESSIBLE CEILING UNLESS OTHERWISE NOTED. PROVIDE DOUBLE GANG JUNCTION BOX WITH SINGLE GANG OPENING PLATE. PROVIDE PULL STRING. SEE "AV" DRAWINGS FOR MORE INFORMATION.
- WALL MOUNTED SECURITY CAMERA. PROVIDE 3/4" CONDUIT TO LOCAL ACCESSIBLE CEILING UNLESS OTHERWISE NOTED. PROVIDE DOUBLE GANG JUNCTION BOX WITH SINGLE GANG OPENING PLATE. PROVIDE PULL STRING. SEE SECURITY SCHEDULE FOR TYPE AND MOUNTING. EXTERIOR IS PROVIDED WITH CONDUIT TO THE SURGE PROTECTION BOX, NO SEPARATE 4" BOX. +9' UNLESS OTHERWISE NOTED.
- MD — LONG RANGE MOTION SENSOR, PROVIDE MINIMUM 3/4" CONDUIT TO LOCAL ACCESSIBLE CEILING UNLESS OTHERWISE NOTED. PROVIDE WIRE GAURD FOR ALL. PROVIDE SINGLE GANG JUNCTION BOX AND PULL STRING. SEE "AV" DRAWINGS FOR MORE INFORMATION.
- CR — CARD READER, MINIMUM 3/4" CONDUIT. PROVIDE SINGLE GANG JUNCTION BOX AND PULL STRING. SEE DOOR ACCESS DETAIL FOR ADDITIONAL REQUIREMENTS OF PATHWAYS AND CABLING. SEE "AV" DRAWINGS FOR MORE INFORMATION. +48"
- DC — DOOR CONTACT, MINIMUM 3/4" CONDUIT. PROVIDE SINGLE GANG JUNCTION BOX AND PULL STRING. SEE DOOR ACCESS DETAIL FOR ADDITIONAL REQUIREMENTS OF PATHWAYS AND CABLING.
- KP — KEYPAD, PROVIDED BY OTHERS. PROVIDE COORDINATED SEMI-RECESSED BOX AND 3/4"C TO ABOVE ACCESSIBLE CEILING. BUSH END OF CONDUIT.
- ES — ENTRY DOOR STRIKE, MINIMUM 1/2" CONDUIT. PROVIDE SINGLE GANG JUNCTION BOX AND PULL STRING. SEE DOOR ACCESS DETAIL FOR ADDITIONAL REQUIREMENTS OF PATHWAYS AND CABLING.

FIRE ALARM

- FACP — FIRE ALARM CONTROL PANEL WITH LOCAL SMOKE DETECTOR
- RA — FIRE ALARM REMOTE ANNUNCIATOR. PROVIDE BOX AS REQUIRED PER MANUFACTURER RECOMMENDATION. PROVIDE 1"C CONDUIT FOR CABLING.
- F — FIRE ALARM MANUAL STATION. PROVIDE PROTECTION DEVICE
- SD — CEILING MOUNTED SMOKE DETECTOR. FA VENDOR PROVIDED.
- HD — CEILING MOUNTED HEAT DETECTOR.
- DD — DUCT MOUNTED SMOKE DETECTOR. FURNISHED AND CONNECTED BY ELECTRICAL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR. CUTTING OF DUCT, INSTALLATION OF DETECTOR. AND DETERMINATION OF SAMPLING TUBE LENGTH SHALL BE THE MECHANICAL CONTRACTOR. PROVIDE REMOTE INDICATING LIGHT WITH EACH DETECTOR.
- CO — CEILING MOUNTED CARBON MONOXIDE DETECTOR (CENTRAL SYSTEM CONNECTED)
- FS — SPRINKLER SYSTEM FLOW SWITCH.
- TS — SPRINKLER SYSTEM TAMPER SWITCH.
- DH — MAGNETIC DOOR HOLDER, PROVIDED BY ELECTRICAL CONTR, INSTALLED BY ELEC. CONTR. PROVIDE A SMOKE DETECTOR WITHIN 5 FT. OF BOTH SIDES OF DOORS TO LOCALLY ACTIVATE DOOR UPON SMOKE SIGNAL.
- F — ADA COMPLIANT WALL MOUNT FIRE ALARM SPEAKER WITH STROBE LIGHT, 15CD UNLESS OTHERWISE NOTED. WHITE FINISH.
- S — ADA COMPLIANT WALL MOUNT FIRE ALARM STROBE LIGHT, 15CD UNLESS OTHERWISE NOTED. WHITE FINISH.
- F — ADA COMPLIANT CEILING MOUNTED FIRE ALARM SPEAKER STROBE LIGHT, 15cd, UNLESS OTHERWISE NOTED. WHITE FINISH.
- S — ADA COMPLIANT CEILING MOUNTED FIRE ALARM STROBE LIGHT, 15cd, UNLESS OTHERWISE NOTED. WHITE FINISH.
- FSD — FIRE SMOKE DAMPER. SEE DETAIL #2/E-004.
- RTS — ROOM TEMPERATURE SPRINKLER SYSTEM SWITCH. NORMALLY OPEN NFPA 13/72 COMPLIANT SWITCH TO CLOSE AT 40 DEGREES OR LESS

SPECIAL SYSTEMS

- S — FLUSH-MOUNTED CEILING SPEAKER.. 3/4" CONDUIT TO LOCAL CABLE TRAY.
- WALL-MOUNTED SPEAKER.3/4" CONDUIT TO LOCAL CABLE TRAY
- WP — EXTERIOR WEATHERPROOF SPEAKER;3/4" CONDUIT TO LOCAL CABLE TRAY PROVIDE WEATHERPROOF J-BOX
- S SS — GYM SOUND SYSTEM SPEAKER. SEE DETAIL
- V — VOLUME CONTROL; SINGLE GANG BOX AND 3/4"C CONDUIT TO ABOVE CEILING WITH PULL STRING. SEE APPLICABLE DETAIL AND/OR SPECIFICATIONS FOR ADDITIONAL CONDUIT AND CABLING REQUIREMENTS.
- M1 — MICROPHONE JACK; 1" CONDUIT TO LOCAL SOUND SYSTEM CLOSET
- TV — SEE TV DETAIL FOR TYPE AND REQUIREMENTS. MINIMUM 1" CONDUIT FOR CABLING AND 3/4" CONDUIT FOR POWER. PROVIDE PULL STRING FOR LOW VOLTAGE CABLING TO ACCESSIBLE CEILING.
- A_M — ELEVATOR TWO WAY MASTER STATION. LOCATE AS DIRECTED BY THE AHJ.
- A — ELEVATOR TWO WAY CALL STATION. MOUNT SIGN ON WALL ABOVE.
- IC — INTERCOM STATION. PROVIDE SINGLE GANG BOX AND PLASTER RING. PROVIDE (1) 3/4"C TO ABOVE CEILING JUNCTION BOX AND CONTINUE (1) 3/4"C TO CABLE TRAY.
- D — ACCESSIBLE DOOR OPENER PUSH BUTTON. PROVIDE MINIMUM (2) GANG BOX WITH SINGLE GANG OPENING. 3/4"C TO DOOR OPERATOR. COORDINATE WITH EQUIPMENT PROVIDED. SEE DETAIL.
- ANT — ANTENNA - SEE FIRST RESPONDER SYSTEM BOOSTING RISER
- SPLIT — SPLITTER - SEE FIRST RESPONDER SYSTEM BOOSTING RISER

TELECOMMUNICATIONS

- TELE/DATA OUTLET ABOVE COUNTER OR HEIGHT SPECIFIED. 1" EC TO ABOVE NEAREST ACCESSIBLE CEILING FOR J-HOOK SYSTEM OR TO LOCAL CABLE TRAY (WITHIN 6") AS APPLICABLE WITH PULL STRING. 4" SQUARE BOX WITH A SINGLE-GANG OPENING AND PLASTER RING.
- TELE/DATA OUTLET. 1" EC TO ABOVE NEAREST ACCESSIBLE CEILING FOR J-HOOK SYSTEM OR TO LOCAL CABLE TRAY (WITHIN 6") AS APPLICABLE WITH PULL STRING. 4" SQUARE BOX WITH A SINGLE-GANG OPENING AND PLASTER RING.
- BASKET STYLE CABLE TRAY 12" WIDE X 4" DEEP SUSPENDED FROM CEILING STRUCTURE UNLESS OTHERWISE NOTED CABLE TRAY SHALL BE COORDINATED WITH MECHANICAL DUCTWORK IN FIELD PRIOR TO INSTALLATION; CONTRACTOR SHALL PRODUCE COORDINATION DRAWINGS AND FIELD ADJUST AS REQUIRED TO MEET INTENT OF DRAWINGS
- WAP — ABOVE CEILING, STRUCTURE MOUNTED JUNCTION BOX FOR WIRELESS ACCESS LOW VOLTAGE CABLING. 4" SQUARE BOX WITH A TWO-GANG OPENING. STUB 1" EC FROM BOX TO J-HOOKS OR CABLETRAY ABOVE ACCESSIBLE CEILING. PROVIDE CABLING, TERMINATIONS, AND FACEPLATE PER SPECIFICATIONS.

LIGHTING (SEE FIXTURE SCH.)

- LED LIGHTING FIXTURE. SEE FIXTURE SCHEDULE. SUSPEND FOUR CORNERS WITH WIRE TO STRUCTURE. DO NOT ALLOW GRID ALONE TO SUPPORT FIXTURE.
- LED STRIP FIXTURE.
- LED LIGHTING FIXTURE.
- WALL MOUNTED LED LIGHTING FIXTURE.
- LED FIXTURE WITH EMERGENCY BATTERY DRIVER. PROVIDE 1100 LUMEN INVERTER RATED FOR 90 MINUTE OPERATION. SEE FIXTURE SCHEDULE FOR FIXTURE TYPE, EMERGENCY DEVICE SHALL SUPPLEMENT FIXTURE.
- LED DOWNLIGHT WITH AN EMERGENCY BATTERY DRIVER. BASED ON 1100 LUMEN INVERTER (SEE SCHEDULE FOR FIXTURE LUMEN MAXIMUM.) EMERGENCY DEVICE SHALL SUPPLEMENT FIXTURE.
- EXIT LIGHT WITH ARROWS AND NUMBERS OF FACES AS INDICATED ON PLANS. 90 MIN BATTERY BACKUP. SEE LIGHTING FIXTURE SCHEDULE.
- EMERGENCY BATTERY PACK FIXTURE. 90 MINUTE EMERGENCY INTEGRAL BATTERY. SEE LIGHTING FIXTURE SCHEDULE
- EMERGENCY BATTERY PACK/EXIT COMBO FIXTURE WITH 90 MINUTE BATTERY BACKUP, SEE FIXTURE SCHEDULE.
- EXTERIOR EMERGENCY FIXTURE WITH EMERGENCY DRIVER. PROVIDE 1100 LUMEN INVERTER RATED FOR 90 MINUTE OPERATION. SEE FIXTURE SCHEDULE FOR FIXTURE TYPE, EMERGENCY DEVICE SHALL SUPPLEMENT FIXTURE.
- S — SINGLE POLE SWITCH, 20 AMP, 120/277 VOLT, COOPER AH 1221, OR EQUAL BY HUBBELL, LEVITON, AND PASS & SEYMOUR.
- S_2 — DOUBLE POLE SWITCH, 20 AMP, 120/277 VOLT, COOPER 1222, OR EQUAL.
- S_3 — THREE WAY SWITCH, 20 AMP, 120/277 VOLT, COOPER 1223, THREE WAY SWITCH, 20 AMP, 120/277 VOLT, COOPER 1223, OR EQUAL BY HUBBELL, LEVITON, AND PASS & SEYMOUR.
- S_K — KEY OPERATED SWITCH
- S_D — DIMMER SWITCH. LUTRON SERIES, OR EQUAL. VERIFY LOAD ON CIRCUIT AND MATCH DIMMER SIZE TO LOAD AND DEVICE QUANTITY. PROVIDE DOUBLE GANG J-BOX WITH SINGLE GANG TRIM PLATE. PROVIDE DIMMING SWITCH AS RECOMMENDED BY LIGHTING MANUFACTURER. MATCH SWITCH TYPE TO SOURCE (LED, FLUORESCENT, OR INCANDESCENT,) WATTAGE, AND QUANTITY.
- S S — INDICATES TWO LEVEL SWITCHING. SWITCH OUTER TWO LAMPS OF FIXTURES TOGETHER AND THE INNER LAMP(S) TOGETHER.
- S_{VS} — WALL MOUNTED VACANCY SENSOR AND SWITCH (MANUAL ON/AUTOMATIC OFF). INFRARED TECHNOLOGY, SENSOR SWITCH WSX, WATT STOPPER PW-301, LEVITON OR EQUAL.
- S_{OC} — WALL MOUNTED OCCUPANCY SENSOR AND SWITCH. INFRARED TECHNOLOGY WITH NEUTRAL, WATT STOPPER #WS-250, OR EQUAL BY SENSOR SWITCH, AND LEVITON.
- S_{OC2} — WALL MOUNTED OCCUPANCY SENSOR AND SWITCH. INFRARED TECHNOLOGY, WATT STOPPER #PW-200, SENSOR SWITCH, COOPER CONTROLS OR EQUAL. FOR INBOARD/OUTBOARD SWITCHING OR STEP BALLAST. SWITCH SHALL BE INSTALLED IN SINGLE GANG BOX.
- OC DT — CEILING MOUNTED OCCUPANCY SENSOR, DUAL TECHNOLOGY. SENSOR SWITCH CM PDT 10, WATT STOPPER #DT-300, COOPER OAC-DT OR EQUAL.
- OC HB — HIGH BAY CEILING MOUNTED OCCUPANCY SENSOR, ULTRASONIC WATT STOPPER HB3X0-LX SERIES OR EQUAL.
- VC DT — CEILING MOUNTED VACANCY SENSOR, DUAL TECHNOLOGY. SENSOR SWITCH, WATT STOPPER , COOPER OR EQUAL.
- VC DTC — CORNER MOUNTED VACANCY SENSOR, DUAL TECHNOLOGY. SENSOR SWITCH, WATT STOPPER , COOPER OR EQUAL.
- PP — CEILING MOUNTED OCCUPANCY SENSOR POWER PACK. SENSOR SWITCH PP-20, WATT STOPPER #BZ-100, COOPER SP-20, OR EQUAL.
- 1 — GENERATOR TRANSFER DEVICE FOR NORMAL LIGHTING CONTROL, SEE EMERG. LTG RELAY DETAIL. CONNECT TO LOCAL LIFE SAFETY BRANCH LIGHTING CIRCUIT. WHERE BI-LEVEL SWITCH CIRCUITING IS SHOWN FOR LIGHTING FIXTURE, PROVIDE A MINIMUM OF TWO GTD'S FOR LIGHTING FIXTURE(S). BASED ON BODINE GTD, EQUALS BY: DUAL LITE, IOTA, CHLORIDE, SCHNEIDER ELECTRIC.
- 2 — GENERATOR TRANSFER DEVICE FOR NORMAL LIGHTING CONTROL, SEE EMERG. LTG RELAY DETAIL. CONNECT TO LOCAL LIFE SAFETY BRANCH LIGHTING CIRCUIT. BASED ON BODINE GTD20A, EQUALS BY: DUAL LITE, IOTA, CHLORIDE, SCHNEIDER ELECTRIC.

CONDUCTOR TABLE

EC SHALL FOLLOW AND APPLY THE TABLE BELOW, REGARDLESS WHAT THE PANEL SCHEDULE INDICATES, FOR SIZING ALL 120V AND 277V, 20 AMP BRANCH CIRCUIT COPPER CONDUCTORS TO ALLOW A MAXIMUM OF 3% VOLTAGE DROP ACROSS THE ENTIRE BRANCH CIRCUIT:

VOLTS	CONDUCTOR LENGTH**	HOMERUN/BRANCH CIRCUIT
120	0' - 85'	#12
120	85' - 135'	#10
120	135' - 200'	#8
120	200' - 320'	#6
277	0' - 180'	#12
277	180' - 300'	#10
277	300' - 420'	#8
277	420' - 600'	#6

**THE LENGTH IS MEASURED FROM THE CIRCUIT BREAKER TO THE MIDDLE OF THE MULTI-DEVICE BRANCH CIRCUIT BETWEEN THE FIRST AND LAST DEVICE FOR WHICH THE CIRCUIT SERVES.

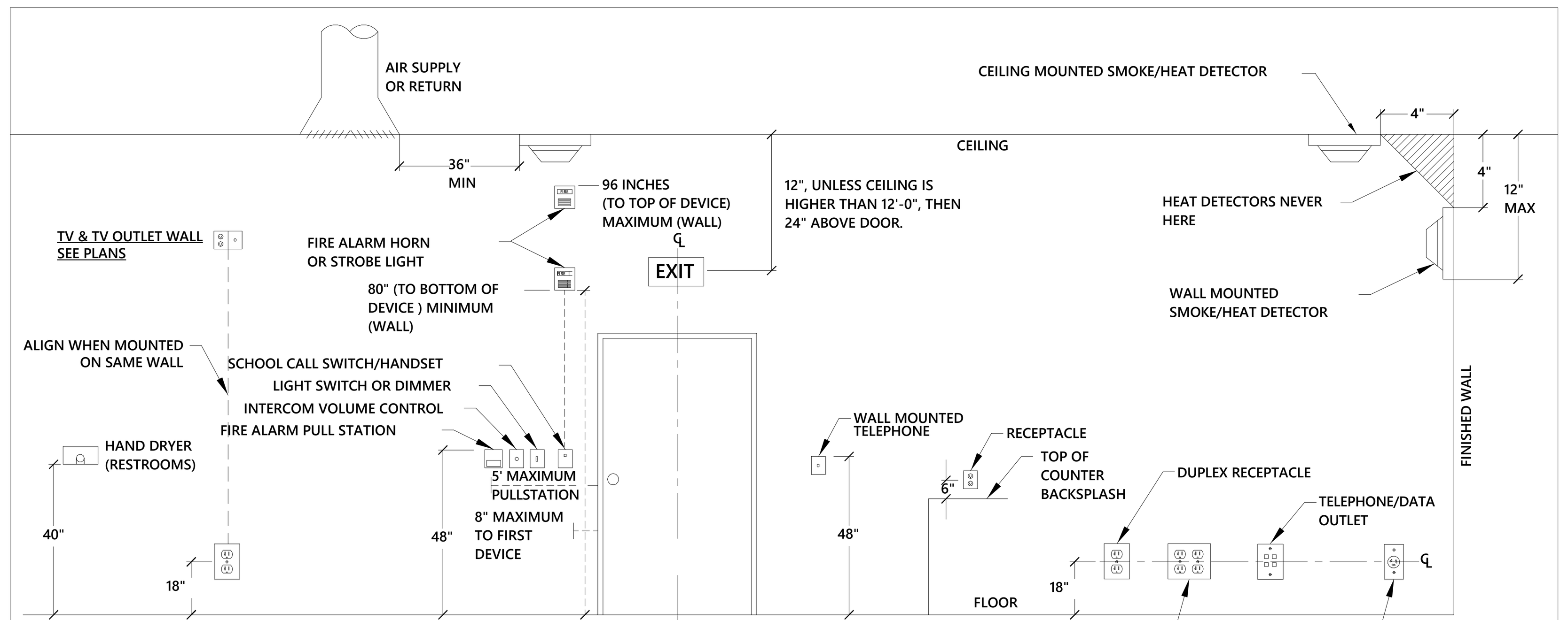
ALTERNATES

CLASSROOM ADDITION ALTERNATE - SEE RESPECTIVE SHEETS DETAILING "ALTERNATE".

GENERAL TELECOM SYSTEM NOTES

NOTES:

1. ALL CONDUIT RACEWAYS AND CABLE TRAY SHALL BE PROVIDED BY EC. FOR ALL SYSTEMS.
2. LOW VOLTAGE CABLING AND EQUIPMENT FOR DATA, PHONE, CABLE TV, INTERCOM, SMALL SOUND SYSTEMS , INTRUSION DETECTION, CARD ACCESS, ASSISTED LISTENING, AND SECURITY CAMERAS ACCESS ARE NOT IN THIS CONTRACT. CABLING AND EQUIPMENT WILL BE BY OTHERS.
3. TURN KEY FIRE ALARM, TWO WAY ELEVATOR COMMUNICATION, AND BOOSTING RADIO SYSTEM ARE BY THE EC. (INCLUDING ALL CABLING, COMPONENTS AND PATHWAYS.)
4. ALL CONDUIT RACEWAYS SHALL BE INSTALLED CONCEALED ABOVE CEILINGS OR IN WALLS. NO LOW VOLTAGE CABLING PATHWAY SHALL BE UNDERGROUND/BELOW SLAB OTHER THAN THE SERVICE ENTRANCE CONDUITS AND PATHWAYS FEEDING FLOORBOXES.
5. CABLE TRAY AND CABLE TRAY SUPPORTS SHALL NOT SUPPORT ELECTRICAL CONDUITS OR CABLES NOR SHALL ELECTRICAL CONDUCTORS BE ROUTED IN CABLE TRAY. ELECTRICAL CONDUITS SHALL BE A MINIMUM OF 12" AWAY FROM CABLE TRAY TO MINIMIZE ELECTRICAL MAGNETIC INTERFERENCE.



NOTES:
1. LOCATIONS WHERE TV MOUNT IS BACK TO BACK ON SAME WALL, AN OFFSET OF 8-12" WILL BE NEEDED FOR INSTALLATION OF JACK/RECEPTACLE.
2. DEVICES ABOVE COUNTER TOPS SHALL BE A MAXIMUM OF 48" TO TOP OF DEVICE.

1 MOUNTING HEIGHTS OF DEVICES - ELEVATION

NO SCALE

DRAWING LIST - ELECTRICAL

Sheet Number	Sheet Name
E-001	ELECTRICAL NOTES AND LEGENDS
E-002	ELECTRICAL PENETRATION DETAILS
E-003	ELECTRICAL DETAILS
E-004	ELECTRICAL DETAILS
E-005	ELECTRICAL DETAILS
E-006	ELECTRICAL DETAILS
E-007	ELECTRICAL DETAILS
E-010	ELECTRICAL SITE PLAN
E-011	SITE SPORTS LIGHTING
E-100	OVERALL EXTERIOR LIGHTING
E-101A	FIRST FLOOR LIGHTING PLAN AREA A
E-101A.1	FIRST FLOOR LIGHTING PLAN AREA A ALTERNATE
E-101B	FIRST FLOOR LIGHTING PLAN AREA B
E-101C	FIRST FLOOR LIGHTING PLAN AREA C
E-102A	SECOND FLOOR LIGHTING PLAN AREA A
E-102A.1	SECOND FLOOR LIGHTING PLAN AREA A ALTERNATE
E-102B	SECOND FLOOR LIGHTING PLAN AREA B
E-103C	MEZZANINE LIGHTING PLAN
E-200	OVERALL ELECTRICAL PLAN
E-201A	FIRST FLOOR POWER PLAN AREA A
E-201A.1	FIRST FLOOR POWER PLAN AREA A ALTERNATE
E-201B	FIRST FLOOR POWER PLAN AREA B
E-201C	FIRST FLOOR POWER PLAN AREA C
E-202A	SECOND FLOOR POWER PLAN AREA A
E-202A.1	SECOND FLOOR POWER PLAN AREA A ALTERNATE
E-202B	SECOND FLOOR POWER PLAN AREA B
E-203C	MEZZANINE POWER PLAN
E-251	OVERALL ROOF PLAN
E-300	OVERALL SPECIAL SYSTEMS PLAN
E-301A	FIRST FLOOR SYSTEMS PLAN AREA A
E-301A.1	FIRST FLOOR SYSTEMS PLAN AREA A ALTERNATE
E-301B	FIRST FLOOR SYSTEMS PLAN AREA B
E-301C	FIRST FLOOR SYSTEMS PLAN AREA C
E-302A	SECOND FLOOR SYSTEMS PLAN AREA A
E-302A.1	SECOND FLOOR SYSTEMS PLAN AREA A ALTERNATE
E-302B	SECOND FLOOR SYSTEMS PLAN AREA B
E-303C	MEZZANINE SYSTEMS PLAN
E-401	ENLARGED CLASSROOM PLANS
E-402	ENLARGED ELECTRICAL AND DATA ROOMS
E-403	ENLARGED KITCHEN PLAN - POWER
E-404	ENLARGED CONCESSIONS
E-501	POWER RISER
E-601	LIGHTING SCHEDULE
E-602	COMCHECK
E-603	MECHANICAL SCHEDULE
E-701	PANEL SCHEDULES
E-702	PANEL SCHEDULES
E-703	PANEL SCHEDULES
E-704	PANEL SCHEDULES
E-705	PANEL SCHEDULES

SULLIVAN COUNTY SCHOOLS

SULLIVAN EAST MIDDLE SCHOOL

Cain Rash West Architects

LS3P

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KEITH G. PEHL REGISTERED ENGINEER AGRICULTURE COMMERCE No. 21,137 STATE OF TENNESSEE

11/14/2017

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

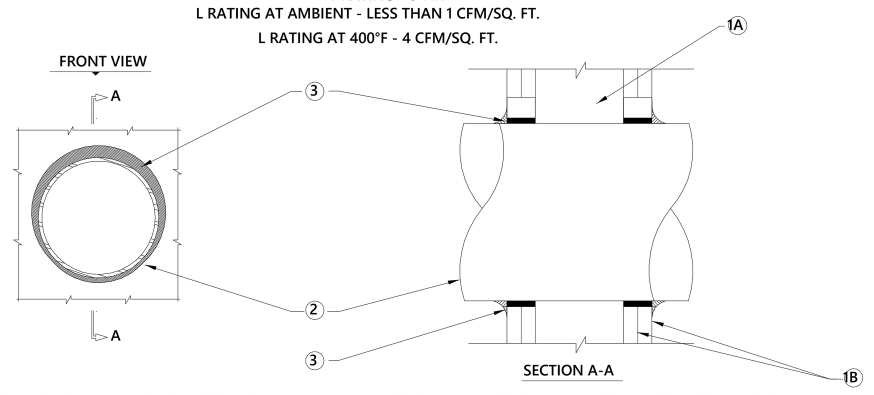
ELECTRICAL NOTES AND LEGENDS

E-001

UPDATED 4.8.2010

EMT THROUGH 1-HR. OR 2-HR. GYPSUM WALL ASSEMBLY

U.L. SYSTEM NO. W-L-1085
F RATING - 1-HR OR 2-HR (SEE ITEM 1B)
T RATING - 0-HR
L RATING AT AMBIENT - LESS THAN 1 CFM/SQ. FT.
L RATING AT 400°F - 4 CFM/SQ. FT.



1. WALL ASSEMBLY - THE 1 OR 2 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 2-1/2 IN. WIDE AND SPACED MAX 24 IN. OC.

B. GYPSUM BOARD* - 5/8 IN. THICK, 4 FT WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX DIA OF OPENING IS 13-1/4 IN.

DIA OF CIRCULAR OPENING CUT THROUGH GYPSUM WALLBOARD OF EACH SIDE OF WALL ASSEMBLY TO BE MIN 1/4 IN. TO MAX 1/2 IN. LARGER THAN OUTSIDE DIA OF THROUGH PENETRANT (ITEM 2). THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.

2. THROUGH PENETRANTS - ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE ANNUIAR SPACE BETWEEN THE THROUGH-PENETRANT AND THE PERIPHERY OF THE OPENING SHALL BE MIN 0 IN. TO MAX 1/4 IN. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:

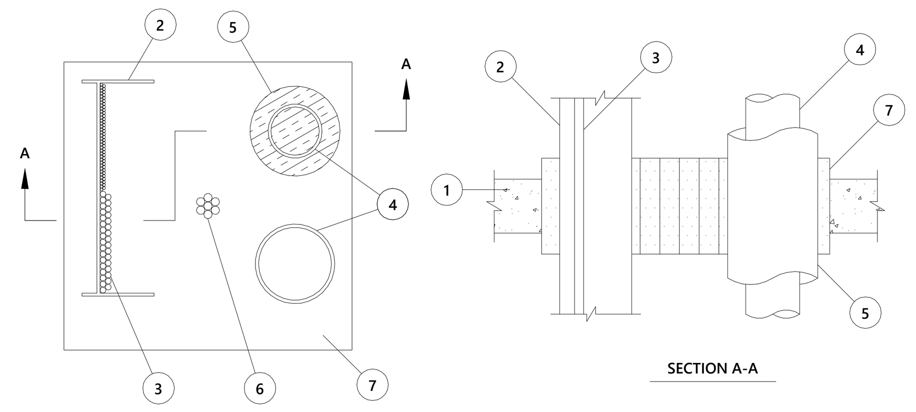
A. STEEL PIPE - NOM 12 IN. DIA (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
B. IRON PIPE - NOM 12 IN. DIA (OR SMALLER) CAST OR DUCTILE IRON PIPE.
C. CONDUIT - NOM 6 IN. DIA (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR STEEL CONDUIT.
D. COPPER TUBING - NOM 5 IN. DIA (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
E. COPPER TUBING - NOM 6 IN. DIA (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

3. FILL, VOID, OR CAVITY MATERIAL* - SEALANT - FILL MATERIAL TO BE FORCED INTO THE ANNULUS TO MAXIMUM EXTENT POSSIBLE. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN 1/2 IN. CROWN IS FORMED AROUND THE PENETRATING ITEM AND LAPPING 1/4 IN. BEYOND THE PERIPHERY OF THE OPENING.

HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC - FS-ONE SEALANT
*BEARING THE UL CLASSIFICATION MARK

UPDATED 4.8.2010

System No. C-AJ-8056
F Rating -- 3 Hr
T Rating -- 0 Hr
L Rating At Ambient -- 5 CFM/sq ft
L Rating At 400 F -- 2 CFM/sq ft

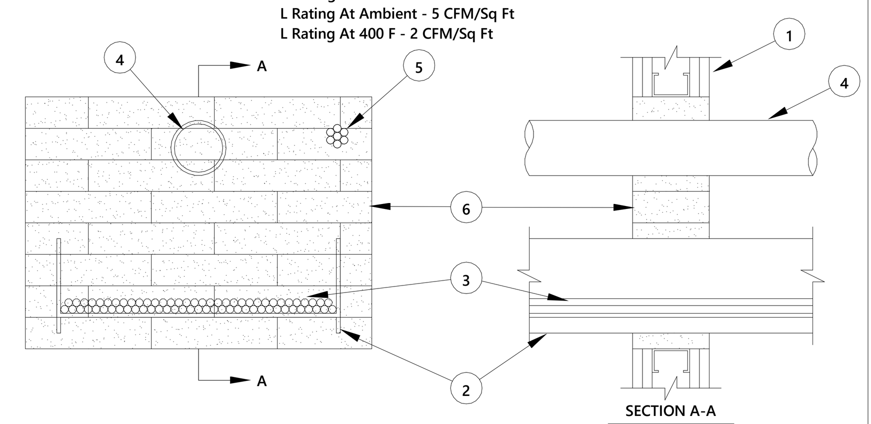


1. FLOOR OR WALL ASSEMBLY -- 4-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX AREA OF OPENING IS 1296 IN. SQ WITH MAX DIMENSION OF 36 IN.
SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
2. CABLE TRAY* -- MAX 18 IN. WIDE BY MAX 6 IN. DEEP OPEN-LADDER OR SOLID-BACK CABLE TRAY WITH CHANNEL-SHAPED SIDE RAILS FORMED OF 0.060 IN. THICK ALUMINUM OR STEEL AND WITH 1-1/2 IN. WIDE BY 1 IN. CHANNEL SHAPE RUNGS SPACED 9 IN. OC OR A 0.029 IN. THICK STEEL SOLID BACK, RESPECTIVELY. ONE CABLE TRAY TO BE INSTALLED IN THE OPENING. THE MAX ANNULAR SPACE BETWEEN THE CABLE TRAYS IS 9 IN. AND BETWEEN THE PERIPHERY OF THE OPENING SHALL BE MIN 1-1/2 IN. TO MAX 4-1/2 IN. CABLE TRAY TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.
3. CABLES -- AGGREGATE CROSS-SECTIONAL AREA OF CABLES IN CABLE TRAY TO BE MAX 30 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CABLE TRAY BASED ON A MAX 3 IN. CABLE LOADING DEPTH WITHIN THE CABLE TRAY. ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF COPPER CONDUCTOR OR FIBER OPTIC CABLES MAY BE USED:
A. 7/C NO. 12 AWG WITH POLYVINYL CHLORIDE (PVC) INSULATION AND PVC JACKET.
B. 300 PAIR - NO. 24 AWG CABLE WITH PVC INSULATION AND JACKET.
C. 1/C, 350 KCMIL WITH CROSS-LINKED POLYETHYLENE (XLPE) INSULATION AND JACKET.
D. 1/C, 500 KCMIL WITH THERMO PLASTIC INSULATION AND POLYVINYL CHLORIDE (PVC) JACKET.
E. TWENTY FOUR FIBER OPTIC CABLE WITH PVC SUB UNIT AND JACKET.
4. THROUGH-PENETRANTS -- ONE OR MORE PIPE, CONDUIT OR TUBE TO BE INSTALLED WITHIN THE OPENING. THE TOTAL NUMBER OF THROUGH-PENETRANTS IS DEPENDENT ON THE SIZE OF THE OPENING AND TYPES AND SIZES OF THE PENETRANTS. ANY COMBINATION OF THE PENETRANTS DESCRIBED BELOW MAY BE USED PROVIDED THAT THE FOLLOWING PARAMETERS RELATIVE TO THE ANNULAR SPACES AND THE SPACING BETWEEN THE PIPES ARE MAINTAINED. THE SPACE BETWEEN PIPES, CONDUITS OR TUBING AND BETWEEN THE PERIPHERY OF THE OPENING AND THE PIPES OR CONDUITS SHALL BE MIN 1 IN. TO MAX 4-1/2 IN. PIPE, CONDUIT OR TUBE TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
A. NOM 6 IN. DIA (OR SMALLER) RIGID GALV STEEL CONDUIT.
B. NOM 4 IN. DIA (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.
C. NOM 4 IN. DIA (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
D. NOM 4 IN. DIA (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBE.
E. NOM 6 IN. DIA (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
F. NOM 6 IN. DIA (OR SMALLER) CAST OR DUCTILE IRON PIPE.
5. PIPE COVERING -- NOM 1-1/2 IN. THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN 3.5 PCF) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT TAPE SUPPLIED WITH THE PRODUCT.
SEE PIPE AND EQUIPMENT COVERING AND MATERIALS (BRGU) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 MAY BE USED.
6. CABLES -- MAX 2 IN. DIA TIGHT BUNDLE OF CABLES CENTERED IN OPENING AND RIGIDLY SUPPORTED ON BOTH SURFACES OF FLOOR AND WALL. ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF CABLES MAY BE USED:
A. 7/C NO. 12 AWG WITH POLYVINYL CHLORIDE (PVC) INSULATION AND PVC JACKET.
B. 25 PAIR - NO. 24 AWG CABLE WITH PVC INSULATION AND JACKET.
C. 2/C NO. 10 AWG WITH PVC INSULATION AND JACKET.
D. 3/C NO. 8 AWG ALUMINUM CLAD CABLE WITH CROSS-LINKED POLYETHYLENE (XLPE) INSULATION AND PVC JACKET.
E. TYPE RC - 62 A/U COAXIAL CABLE WITH AIR CORE AND PVC JACKET.
F. 24 FIBER OPTIC CABLE WITH PVC SUB UNIT AND OUTER JACKET.
7. FIRESTOP SYSTEM -- THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. FILL, VOID OR CAVITY MATERIAL* -- FIRE BLOCKS INSTALLED WITH LONG DIMENSION PASSED THROUGH THE OPENING EXTENDING MIN 1-1/2 IN. FROM EACH SURFACE. BLOCKS TO COMPLETELY FILL THE ENTIRE OPENING.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS-FIRE BLOCK
B. FILL, VOID OR CAVITY MATERIAL* -- FILL MATERIAL TO BE FORCED INTO INTERSTICES OF CABLES AND BETWEEN CABLES AND CABLE TRAYS TO MAX EXTENT POSSIBLE ON BOTH SURFACES OF THE PENETRATION.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS-ONE SEALANT
C. WIRE MESH (NOT SHOWN) -- WHEN THE ANNULAR SPACE EXCEEDS 4-1/2 IN. TO THE PERIPHERY, A NOM 2 IN. SQ WIRE FENCING SHALL BE USED TO KEEP THE FIRE BLOCKS IN PLACE. THE WIRE FENCING IS FABRICATED FROM MIN NO. 16 SWG (0.060 IN.) GALV STEEL WIRE. THE WIRE IS CUT TO FIT THE CONTOUR OF THE PENETRATING ITEM WITH A MIN 3 IN. LAP BEYOND THE PERIPHERY OF THE OPENING. WIRE FENCING SECURED TO TOP SURFACE OF FLOOR AND BOTH SURFACES OF WALL ASSEMBLY BY MEANS OF 1/4 IN. DIA BY 1 IN. LONG CONCRETE ANCHORS AND 1/4 IN. BY 1-1/2 IN. DIA FENDER WASHERS SPACED MAX 8 IN. OC.
*BEARING THE UL CLASSIFICATION MARK

HILTI FIRESTOP SYSTEMS

REPRODUCED BY HILTI, INC. COURTESY OF UNDERWRITERS LABORATORIES, INC.

System No. W-L-8013
F Ratings - 1 and 2 Hr (See Item 1)
T Rating - 0 Hr
L Rating At Ambient - 5 CFM/Sq Ft
L Rating At 400 F - 2 CFM/Sq Ft

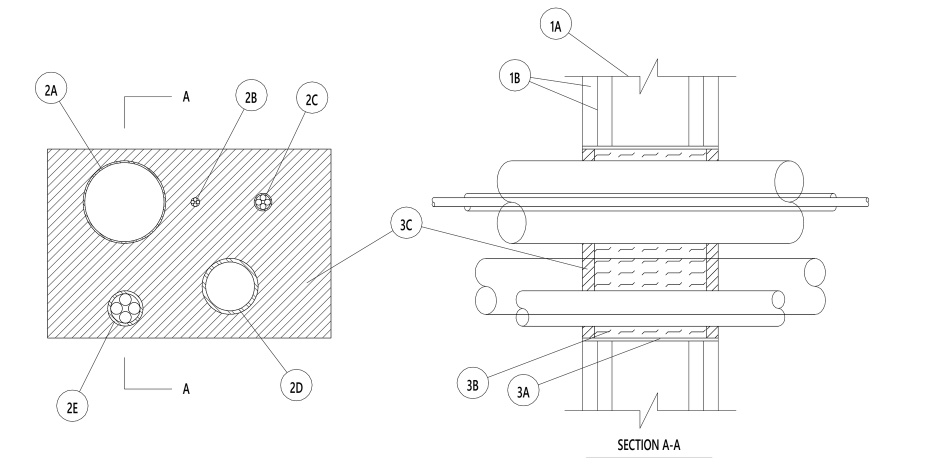


1. WALL ASSEMBLY — THE 1 OR 2 HR FIRE-RATED GYPSUM BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS — WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 IN. (51 MM) BY 4 IN. (102 MM) LUMBER SPACED 16 IN. (406 MM) OC. STEEL STUDS TO BE MIN 2-1/2 IN. (64 MM) WIDE AND SPACED MAX 24 IN. (610 MM) OC. ADDITIONAL STUDS INSTALLED TO COMPLETELY FRAME THE OPENING.
B. GYPSUM BOARD* — 5/8 IN. (16 MM) THICK, 4 FT (1219 MM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM BOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX AREA OF OPENING IS 352 SQ IN. (2271 SQ CM) WITH MAX DIMENSION OF 22 IN. (559 MM) WIDE.
THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED.
2. CABLE TRAY* — MAX 18 IN. (457 MM) WIDE BY MAX 6 IN. (152 MM) DEEP OPEN-LADDER OR SOLID-BACK CABLE TRAY WITH CHANNEL-SHAPED SIDE RAILS FORMED OF 0.065 IN. (1.65 MM) THICK ALUMINUM OR 0.060 IN. (1.52 MM) THICK STEEL AND WITH 1-1/2 IN. (38 MM) WIDE BY 1 IN. (25 MM) CHANNEL SHAPE RUNGS SPACED 9 IN. (229 MM) OC OR A 0.029 IN. (0.74 MM) THICK STEEL SOLID BACK, RESPECTIVELY. ONE CABLE TRAY TO BE INSTALLED IN THE OPENING. THE MAX ANNULAR SPACE BETWEEN THE CABLE TRAY AND THE PERIPHERY OF THE OPENING SHALL BE MIN 1 IN. (25 MM) TO MAX 7 IN. (178 MM) CABLE TRAY TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.
3. CABLES — AGGREGATE CROSS-SECTIONAL AREA OF CABLES IN CABLE TRAY TO BE MAX 30 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CABLE TRAY. ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF COPPER CONDUCTOR CABLES MAY BE USED:
A. 7/C NO. 12 AWG WITH POLYVINYL CHLORIDE (PVC) INSULATION AND PVC JACKET.
B. 100 PAIR - NO. 24 AWG CABLE WITH PVC INSULATION AND JACKET.
C. 1/C, 750 KCMIL (OR SMALLER) WITH PVC INSULATION AND JACKET.
4. THROUGH-PENETRANTS — ONE OR MORE PIPE OR TUBE TO BE INSTALLED WITHIN THE OPENING. THE TOTAL NUMBER OF THROUGH-PENETRANTS IS DEPENDENT ON THE SIZE OF THE OPENING AND TYPES AND SIZES OF THE PENETRANTS. ANY COMBINATION OF THE PENETRANTS DESCRIBED BELOW MAY BE USED PROVIDED THAT THE FOLLOWING PARAMETERS RELATIVE TO THE ANNULAR SPACES AND THE SPACING BETWEEN THE PIPES ARE MAINTAINED. THE SPACE BETWEEN THE PIPE OR TUBE AND THE PERIPHERY OF THE OPENING SHALL BE MIN 1-1/2 IN. (38 MM) TO MAX 9-1/4 IN. (235 MM). PIPE OR TUBE TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF NON-METALLIC OR METALLIC PIPES, OR TUBES MAY BE USED:
A. POLYVINYL CHLORIDE (PVC) PIPE — MAX 3 IN. (76 MM) DIA SCHEDULE 40 SOLID CORE PVC PIPE (OR SMALLER) FOR USE IN CLOSED (PROCESS OR SUPPLY) OR VENTED (DRAIN, WASTE OR VENT) PIPING SYSTEM.
B. STEEL PIPE — NOM 6 IN. (152 MM) DIA (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL PIPE.
C. CONDUIT — NOM 4 IN. (102 MM) DIA (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR 6 IN. (152 MM) DIA STEEL CONDUIT.
D. COPPER PIPE — NOM 4 IN. (102 MM) DIA (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
E. COPPER TUBE — NOM 4 IN. (102 MM) DIA (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBE.
4A. PIPE COVERING — (NOT SHOWN) NOM 1-1/2 IN. (38 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY (MIN 3.5 PCF) (56KG/M3) GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY APPLIED SELF-SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT TAPE SUPPLIED WITH THE PRODUCT.
SEE PIPE AND EQUIPMENT COVERING AND MATERIALS (BRGU) CATEGORY IN THE BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 MAY BE USED.
5. CABLES — MAX 1-1/2 IN. (38 MM) DIA TIGHT BUNDLE OF CABLES INSTALLED WITHIN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SURFACES OF WALL. THE SPACE BETWEEN THE CABLES AND PERIPHERY OF THE OPENING SHALL RANGE FROM 1-3/16 IN. (30.2 MM) MIN TO A MAX OF 1-1/2 IN. (38 MM). ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF CABLES MAY BE USED:
A. 7/C NO. 12 AWG WITH POLYVINYL CHLORIDE (PVC) INSULATION AND JACKET.
B. 25 PAIR — NO. 24 AWG CABLE WITH PVC INSULATION AND JACKET.
C. TYPE R GU/59 COAXIAL CABLE WITH PVC OUTER JACKET.
D. 24 FIBER OPTIC CABLE WITH PVC SUB UNIT AND OUTER JACKET.
6. FIRESTOP SYSTEM — THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. FILL, VOID OR CAVITY MATERIAL* — FIRE BLOCKS FOR WALLS INCORPORATING MAX 3-5/8 IN. (92 MM) STEEL STUDS OR MAX 2 (51 MM) BY 4 IN. (102 MM) WOOD STUDS, FIRE BLOCK INSTALLED WITH 5 IN. (127 MM) DIMENSION PROJECTING THROUGH AND CENTERED IN OPENING. FOR WALLS CONSTRUCTED OF LARGER STEEL OR WOOD STUDS, FIRE BLOCK INSTALLED WITH LONG DIMENSION PASSING THROUGH AND CENTERED IN OPENING. BLOCKS MAY OR MAY NOT BE CUT FLUSH WITH BOTH SURFACES OF WALL. WHEN MULTIPLE LAYERS OF GYPSUM BOARD ARE USED, BLOCKS MAY BE RECESSED 1/2 IN. (13 MM) FROM SURFACE OF WALL.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS 657 FIRE BLOCK
B. FILL, VOID OR CAVITY MATERIAL* — SEALANT OR PUTTY - FILL MATERIAL TO BE FORCED INTO INTERSTICES OF CABLES, BETWEEN CABLES AND CABLE TRAYS, AROUND EACH PENETRANT AND WHERE OBVIOUS VOIDS ARE OBSERVED TO MAX EXTENT POSSIBLE ON BOTH SURFACES OF THE PENETRATION.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE SEALANT, CP 618 PUTTY STICK OR CP620 FIRE FOAM
*BEARING THE UL CLASSIFICATION MARK

HILTI FIRESTOP SYSTEMS

REPRODUCED BY HILTI, INC. COURTESY OF UNDERWRITERS LABORATORIES, INC.

System No. W-L-8004
F Rating - 2 Hr
T Rating - 1/4 Hr



1. WALL ASSEMBLY THE FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 2-1/2 IN. WIDE AND SPACED MAX 24 IN. OC. ADDITIONAL FRAMING (NOT SHOWN) MAY BE INSTALLED AROUND THE PERIMETER OF THE OPENING IN LIEU OF THE STEEL WIRE MESH (ITEM NO. 3A).
B. GYPSUM BOARD* TWO LAYERS OF NOM 5/8 IN. THICK GYPSUM WALLBOARD, AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX AREA OF OPENING IS 96 SQ IN. WITH MAX DIMENSION OF 12 IN. MAX WIDTH OF OPENING IN WOOD STUD WALLS IS LIMITED TO 12 IN.
2. THROUGH PENETRANTS THE FOLLOWING TYPES AND SIZES OF PIPES, CONDUITS, TUBING OR CABLES MAY BE USED:
A. NOM 3 IN. DIA (OR SMALLER) ELECTRICAL METALLIC TUBING (EMT).
B. MAX 25 PAIR -- NO. 24 AWG (OR SMALLER) TELEPHONE CABLE WITH POLYVINYL CHLORIDE (PVC) INSULATION AND JACKET.
C. MAX 3/C WITH GROUND -- NO. 10 AWG (OR SMALLER) TYPE NM CABLE WITH PVC INSULATION AND JACKET.
D. NOM 2 IN. DIA (OR SMALLER) SCHEDULE 40 PVC PIPE FOR USE IN CLOSED (PROCESS OR SUPPLY) PIPING SYSTEMS ONLY.
E. MAX 300 KCMIL (OR SMALLER) POWER CABLE WITH PVC INSULATION AND NYLON JACKET. THE THROUGH PENETRATING ITEMS TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY AND LOCATED AS SHOWN IN THE TABLE BELOW:

ITEM NO.	MAX DISTANCE BETWEEN ADJACENT PEN. ITEM IN.	MIN DISTANCE BETWEEN ADJACENT PEN. ITEM IN.	MAX DISTANCE FROM THROUGH OPENING IN.	MIN DISTANCE FROM THROUGH OPENING IN.
2A	7-7/16	1-11/16	7-7/16	1/2
2B	7-7/16	1-11/16	7-7/16	1/2
2C	7-7/16	1-11/16	7-7/16	1/2
2D	7-7/16	1-11/16	7-7/16	1/2
2E	7-7/16	1-11/16	7-7/16	1-1/2

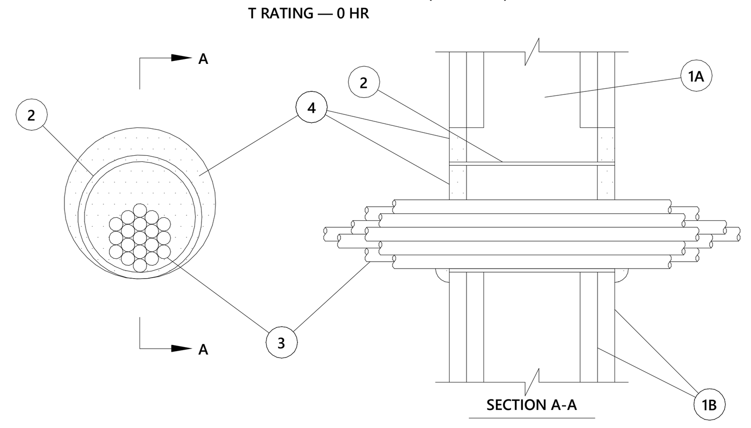
3. FIRESTOP SYSTEM THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. STEEL WIRE MESH NO. 8 STEEL WIRE MESH HAVING A MIN 1 IN. LAP ALONG THE LONGITUDINAL SEAM. LENGTH OF STEEL WIRE MESH TO BE 4-3/4 IN., CENTERED AND FORMED TO FIT PERIPHERY OF THROUGH OPENING. STEEL WIRE MESH IS NOT REQUIRED WHEN ADDITIONAL FRAMING MEMBERS (ITEM NO. 1A) ARE USED.
B. PACKING MATERIAL MIN 4.0 IN. THICKNESS OF MIN 3.5 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
C. FILL, VOID OR CAVITY MATERIAL* - SEALANT MIN 1/2 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF WALL.
HILTI CONSTRUCTION CHEMICALS, DIV OF
HILTI INC - FS-ONE SEALANT
*BEARING THE UL CLASSIFICATION MARKING

HILTI FIRESTOP SYSTEMS

REPRODUCED BY HILTI, INC. COURTESY OF UNDERWRITERS LABORATORIES, INC.

UPDATED 6.16.2011

SYSTEM NO. W-L-3065
F RATINGS — 1 AND 2 HR (SEE ITEM 1)
T RATING — 0 HR

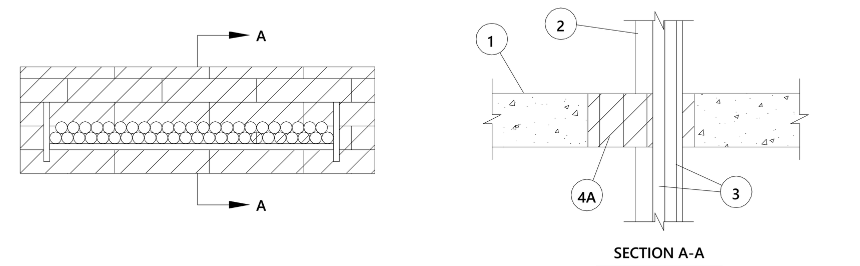


1. WALL ASSEMBLY — THE 1 OR 2 FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
A. STUDS — WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC. STEEL STUDS TO BE MIN 2-1/2 IN. (64 MM) WIDE AND SPACED MAX 24 IN. (610 MM) OC.
B. GYPSUM BOARD* — NOM 5/8 IN. (16 MM) THICK GYPSUM BOARD, WITH SQUARE OR TAPERED EDGES. THE GYPSUM BOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300, U400 OR V400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIA OF OPENING IS 5-1/2 IN. (138 MM) WHEN SLEEVE (ITEM 2) IS EMPLOYED. MAX DIA OF OPENING IS 4 IN. (102 MM) WHEN SLEEVE (ITEM 2) IS NOT EMPLOYED.
THE F RATING OF THE FIRESTOP SYSTEM IS EQUAL TO THE FIRE RATING OF THE WALL ASSEMBLY.
2. METALLIC SLEEVE — (OPTIONAL) - NOM 4 IN. (102 MM) DIA (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING (EMT) OR SCHEDULE 5 (OR HEAVIER) STEEL PIPE OR MIN 0.016 IN. THICK (0.41 MM, NO. 28 GA) GALV STEEL SLEEVE INSTALLED FLUSH WITH WALL SURFACES. THE ANNULAR SPACE BETWEEN STEEL SLEEVE AND PERIPHERY OF OPENING SHALL BE MIN 0 IN. (0 MM, POINT CONTACT) TO MAX 1 IN. (25MM). WHEN SCHEDULE 5 STEEL PIPE OR EMT IS USED, SLEEVE MAY EXTEND UP TO 18 IN. (457 MM) BEYOND THE WALL SURFACES.
3. CABLES — AGGREGATE CROSS-SECTIONAL AREA OF CABLE IN OPENING TO BE MAX 45 PERCENT OF THE CROSS-SECTIONAL AREA OF THE OPENING. THE ANNULAR SPACE BETWEEN THE CABLE BUNDLE AND THE PERIPHERY OF THE OPENING TO BE MIN 0 IN. (0 MM, POINT CONTACT) TO MAX 1 IN. (25 MM) CABLES TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE WALL ASSEMBLY. ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF COPPER CONDUCTOR CABLES MAY BE USED:
A. MAX 7/C NO. 12 AWG WITH POLYVINYL CHLORIDE (PVC) INSULATION AND JACKET.
B. MAX 25 PAIR NO. 24 AWG TELEPHONE CABLE WITH PVC INSULATION AND JACKET.
B1. MAX 4 PR NO. 22 AWG CAT 5 OR CAT 6 COMPUTER CABLES.
C. TYPE RG/U COAXIAL CABLE WITH POLYETHYLENE (PE) INSULATION AND PVC JACKET HAVING A MAX OUTSIDE DIAMETER OF ½ IN. (13 MM).
C1. MAX RG 6/U COAXIAL CABLE WITH FLUORINATED ETHYLENE INSULATION AND JACKETING.
D. MULTIPLE FIBER OPTICAL COMMUNICATION CABLE JACKETED WITH PVC AND HAVING A MAX OD OF 5/8 IN. (16 MM).
E. THROUGH PENETRATING PRODUCTS*— MAX THREE COPPER CONDUCTOR NO. 8 AWG . METAL-CLAD CABLE+.
AFC CABLE SYSTEMS INC
F. MAX 3/C (WITH GROUND)(OR SMALLER) NO. 8 AWG COPPER CONDUCTOR CABLE WITH PVC INSULATION AND JACKETING.
G. MAX 3/4 IN. (19 MM) DIA COPPER GROUND CABLE WITH OR WITHOUT A PVC JACKET.
H. FIRE RESISTIVE CABLES* - MAX 1-1/4 IN. (32 MM) DIA SINGLE CONDUCTOR OR MULTI CONDUCTOR TYPE MI CABLE. A MIN 1/8 IN. (3 MM) SEPARATION SHALL BE MAINTAINED BETWEEN MI CABLES AND ANY OTHER TYPES OF CABLE.
I. MAX 4/C WITH GROUND 300KCMIL (OR SMALLER) ALUMINUM SER CABLE WITH PVC INSULATION AND JACKET.
J. THROUGH PENETRATING PRODUCT* - ANY CABLES, METAL-CLAD CABLE+ OR ARMORED CABLE+ CURRENTLY CLASSIFIED UNDER THE THROUGH PENETRATING PRODUCTS CATEGORY.
SEE THROUGH PENETRATING PRODUCT (XHLY) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
4. FILL, VOID OR CAVITY MATERIAL*— SEALANT OR PUTTY — FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH EACH END OF THE STEEL SLEEVE OR WALL SURFACE. FILL MATERIAL INSTALLED SYMMETRICALLY ON BOTH SIDES OF THE WALL. A MIN 5/8 IN. (16 MM) THICKNESS OF SEALANT IS REQUIRED FOR THE 1 OR 2 HR F RATING . AN ADDITIONAL 1/2 IN. (13 MM) DIA BEAD OF FILL MATERIAL SHALL BE APPLIED AROUND THE PERIMETER OF SLEEVE ON BOTH SIDES OF THE WALL WHEN SLEEVE EXTENDS BEYOND SURFACE OF WALL.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S, CP606, FS-ONE SEALANTS OR CP618 PUTTY
*BEARING THE UL CLASSIFICATION MARK
+BEARING THE UL LISTING MARK

HILTI FIRESTOP SYSTEMS
DRAWING ORIGINATION DATE: 03-21, 2011

REPRODUCED BY HILTI, INC. COURTESY OF UNDERWRITERS LABORATORIES, INC.

SYSTEM NO. C-AJ-4035
F RATING - 3 HR.
T RATING = 0 HR.

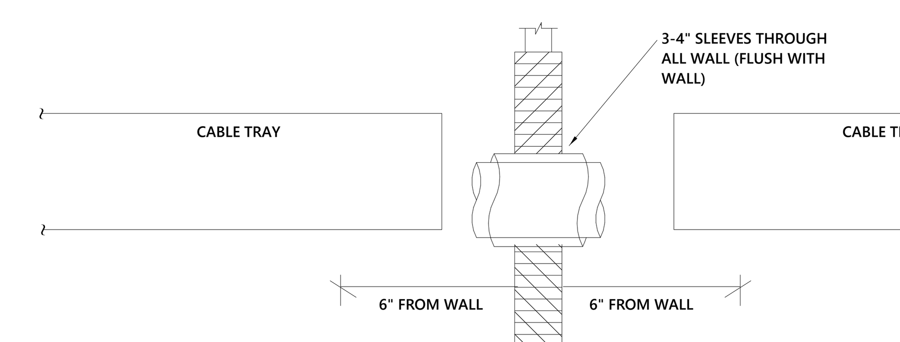


1. FLOOR OR WALL ASSEMBLY MIN 4-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX AREA OF OPENING IS 270 SQ IN WITH MAX DIMENSION OF 30 IN.
SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
2. CABLE TRAY* MAX 24 IN. WIDE BY MAX 4 IN. DEEP OPEN-LADDER OR SOLID-BACK CABLE TRAY WITH CHANNEL-SHAPED SIDE RAILS FORMED OF 0.10 IN. THICK ALUMINUM OR 0.060 IN. THICK GALV STEEL AND WITH 1-1/2 IN. WIDE BY 1 IN. CHANNEL SHAPE RUNGS SPACED 9 IN. OC OR A 0.029 IN. THICK STEEL SOLID BACK, RESPECTIVELY. THE ANNULAR SPACE BETWEEN THE CABLE TRAY AND THE PERIPHERY OF THE OPENING SHALL BE MIN 1 IN. TO MAX 4 IN. CABLE TRAY TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.
3. CABLES AGGREGATE CROSS-SECTIONAL AREA OF CABLES IN CABLE TRAY TO BE MAX 40 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CABLE TRAY. ANY COMBINATION OF THE FOLLOWING TYPES AND SIZES OF COPPER CONDUCTOR OR FIBER OPTIC CABLES MAY BE USED:
A. 1/C, 500 KCMIL WITH THERMOPLASTIC INSULATION AND PVC JACKET.
B. 300 PAIR -- NO. 24 AWG CABLE WITH PVC INSULATION AND JACKET.
C. 24 FIBEROPTIC CABLE WITH PVC SUBUNIT AND JACKET.
D. THREE 1/C NO. 12 AWG WIRE, INSULATED WITH POLYVINYL CHLORIDE, IN A NOMINAL 3/4 IN. FLEXIBLE METAL CONDUIT.
4. FIRESTOP SYSTEM THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. FILL, VOID OR CAVITY MATERIAL* FIRE BLOCKS INSTALLED WITH THE LONG DIMENSION PLACED HORIZONTALLY WITHIN THE OPENING, FLUSH WITH BOTTOM OF FLOOR ASSEMBLIES. BLOCKS TO COMPLETELY FILL THE ENTIRE WIDTH OF OPENING OF WALL ASSEMBLIES.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS-FIRE BLOCK
B. FILL, VOID OR CAVITY MATERIAL* -SEALANT ON PUTTY- NOT SHOWN FILL MATERIAL TO BE FORCED INTO INTERSTICES OF CABLES AND BETWEEN CABLES AND CABLE TRAYS TO MAX EXTENT POSSIBLE ON BOTH SURFACES OF THE PENETRATION.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS-ONE SEALANT OR CP618 FIRESTOP PUTTY STICK (NOTE: L RATING ONLY WHEN FS-ONE SEALANT IS USED)
*BEARING THE UL CLASSIFICATION MARK

HILTI FIRESTOP SYSTEMS

REPRODUCED BY HILTI, INC. COURTESY OF UNDERWRITERS LABORATORIES, INC.

CABLE TRAY WALL INTERSECTION DETAIL



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11/14/2017

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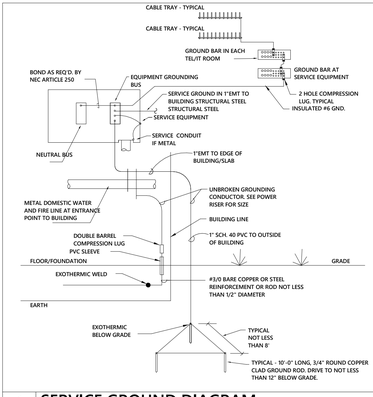
REVISIONS:

No.	Description	Date

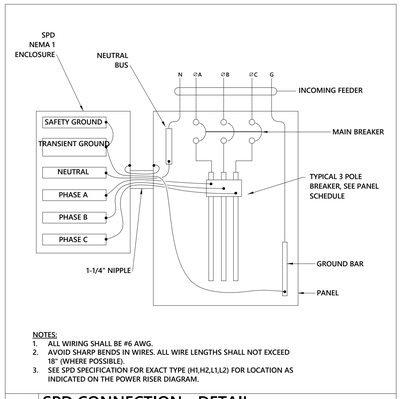
PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

ELECTRICAL PENETRATION DETAILS

E-002

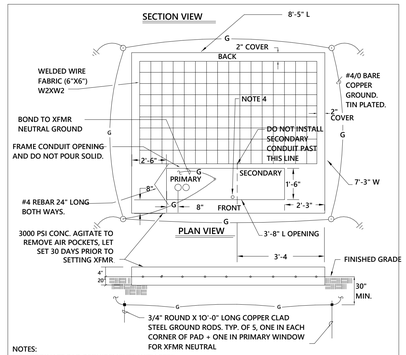


1 SERVICE GROUND DIAGRAM
NO SCALE



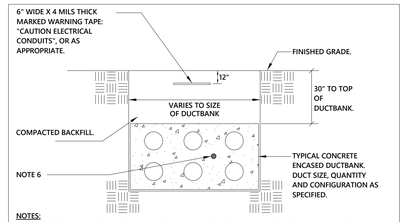
NOTES:
1. ALL WIRING SHALL BE #6 AWG.
2. AVOID SHARP BENDS IN WIRES. ALL WIRE LENGTHS SHALL NOT EXCEED 18" (WHERE POSSIBLE).
3. SEE SPD SPECIFICATION FOR EXACT TYPE (H1,H2,L1,L2) FOR LOCATION AS INDICATED ON THE POWER RISER DIAGRAM.

2 SPD CONNECTION - DETAIL
NO SCALE



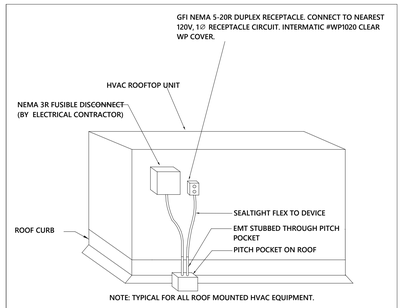
NOTES:
1. COORDINATE PAD REQUIREMENTS WITH BTES.
2. COORDINATE PRIMARY CONDUIT WITH BTES ENGINEER PRIOR TO ROUGH IN. MINIMUM PRICING (2)-6".
3. DO NOT EXTEND CONDUIT ABOVE THE LEVEL OF THE CONCRETE PAD.
4. INSTALL 1" PVC CONDUIT AND STUB OUT FRONT OF PAD BELOW GRADE LEVEL.

3 TRANSFORMER PAD DETAIL (BTES)
NO SCALE



NOTES:
1. DUCTS SHALL BE PITCHED TO DRAIN TOWARD MANHOLES AND HANDHOLES AND AWAY FROM BUILDINGS AND EQUIPMENT AS APPROPRIATE.
2. DUCT SPACERS SHALL BE INSTALLED AND COORDINATED WITH THE DUCT SIZE. SPACING SHALL BE AS REQUIRED BY THE MANUFACTURER AND TO PREVENT SAGGING/DEFORMING OF DUCTS. SPACERS SHALL BE SECURED BY NON-FERROUS MEANS TO PREVENT FLOATING DURING CONCRETE POUR.
3. ALL DUCTS SHALL BE SEALED AT TERMINATIONS WITH APPROVED SEALING COMPOUND AND PLUGS, RATED TO WITHSTAND MINIMUM 15 PSI HYDROSTATIC PRESSURE.
4. ALL DUCTS SHALL BE RODDED, CLEARED AND SWABBED TO REMOVE ALL OBSTRUCTIONS AFTER INSTALLATION AND HAVE A WATERPROOF PULL CORD INSTALLED (130 LB MINIMUM TENSILE TEST). CORD SHALL BE FACTORY MARKED AT MINIMUM ONE FOOT INTERVALS.
5. VIBRATE CONCRETE TO FILL VOIDS.
6. INSTALL 1#2 BARE COPPER GROUND WIRE WITHIN CONCRETE ALONG ENTIRE DUCTBANK LENGTH. EXOTHERMICALLY CONNECT TO GROUND TRIAD RING. THIS GROUND WIRE IS IN ADDITION TO ANY GROUNDED (NEUTRAL) AND GROUNDING CONDUCTORS INDICATED TO BE INSTALLED WITHIN THE CONDUITS. ALTERNATE THE POSITION OF THE GROUND WIRE THROUGH THE DUCT SPACERS TO PREVENT SAG. ELECTRICAL POWER DUCTBANKS ONLY.
7. CONCRETE STRENGTH SHALL BE 3000 PSI @ 28 DAYS MINIMUM.
8. CONCRETE THERMAL RESISTIVITY (RHO) SHALL BE 0.55 m-C/W OR LESS.

4 TYPICAL DUCTBANK TRENCH DETAIL
NO SCALE

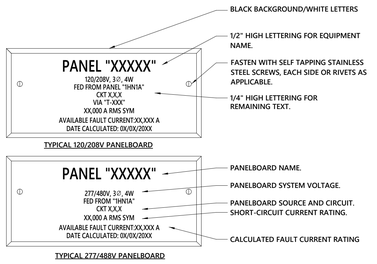


NOTE: TYPICAL FOR ALL ROOF MOUNTED HVAC EQUIPMENT.

GENERAL ROOF SUPPORT SPECIFICATIONS (CONDUITS ROUTED ACROSS ROOF):
PROVIDE CARLISLE SYNTHETIC PIPE SUPPORT OR APPROVED EQUAL.
CONDUIT DIAMETERS 2" TO 5" : 10' SPACING MAXIMUM
CONDUIT DIAMETERS 1 1/2" : 8' SPACING MAXIMUM
CONDUIT DIAMETERS SMALLER THAN 1 1/2" : 6' SPACING MAXIMUM

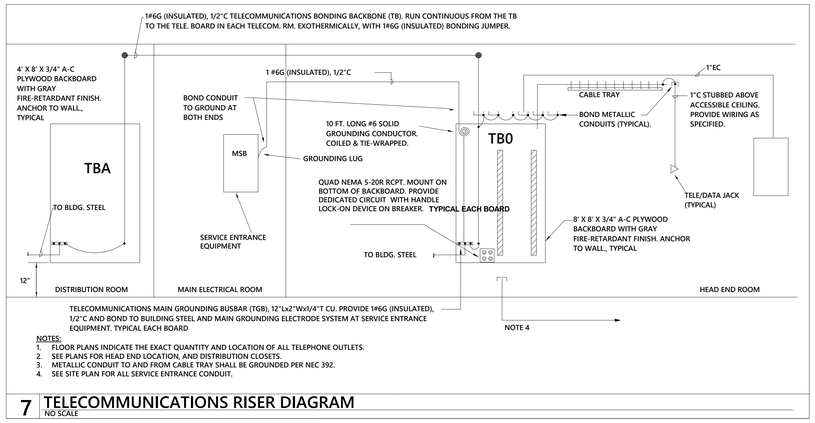
ALL UNIONS SHALL BE PROVIDED WITH AN ADDITIONAL SUPPORT.

5 ROOFTOP RECEPTACLE DETAIL
NO SCALE



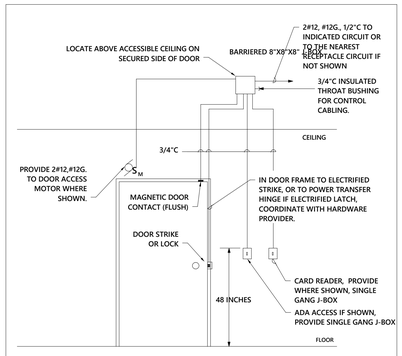
NOTES:
1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, COLORS, ETC.
2. PROVIDE SHORT-CIRCUIT CURRENT RATING AND AVAILABLE FAULT CURRENT ON EACH NON-DWELLING SERVICE EQUIPMENT NAMEPLATE.

6 TYPICAL NAMEPLATE DIAGRAM
NO SCALE

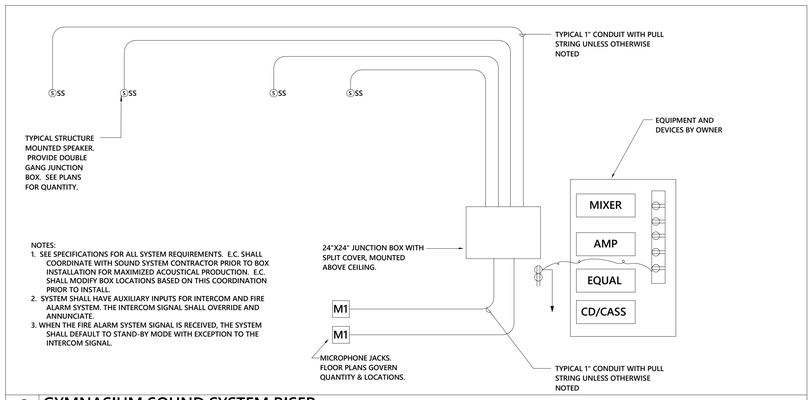


NOTES:
1. FLOOR PLANS INDICATE THE EXACT QUANTITY AND LOCATION OF ALL TELEPHONE OUTLETS.
2. SEE PLANS FOR HEAD END LOCATION, AND DISTRIBUTION CLOSETS.
3. METALLIC CONDUIT TO AND FROM CABLE TRAY SHALL BE GROUNDED PER NEC 392.
4. SEE SITE PLAN FOR ALL SERVICE ENTRANCE CONDUIT.

7 TELECOMMUNICATIONS RISER DIAGRAM
NO SCALE

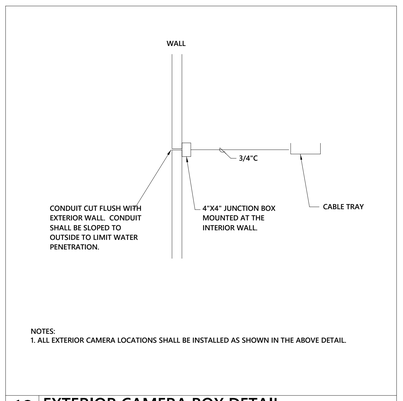


8 CARD READER/DOOR/ADA ACCESS
NO SCALE



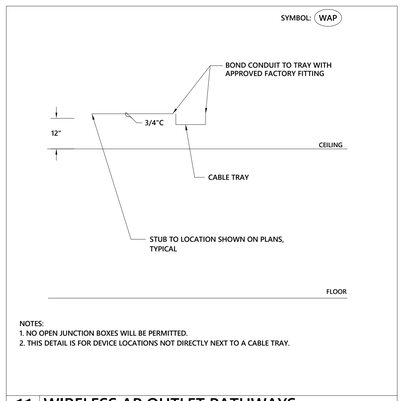
NOTES:
1. SEE SPECIFICATIONS FOR ALL SYSTEM REQUIREMENTS. E.C. SHALL COORDINATE WITH SOUND SYSTEM CONTRACTOR PRIOR TO BOX INSTALLATION FOR MAXIMIZED ACOUSTICAL PRODUCTION. E.C. SHALL MODIFY BOX LOCATIONS BASED ON THIS COORDINATION PRIOR TO INSTALL.
2. SYSTEM SHALL HAVE AUXILIARY INPUTS FOR INTERCOM AND FIRE ALARM SYSTEM. THE INTERCOM SIGNAL SHALL OVERRIDE AND ANNUNCIATE.
3. WHEN THE FIRE ALARM SYSTEM SIGNAL IS RECEIVED, THE SYSTEM SHALL DEFAULT TO STAND-BY MODE WITH EXCEPTION TO THE INTERCOM SIGNAL.

9 GYMNASIUM SOUND SYSTEM RISER
NO SCALE



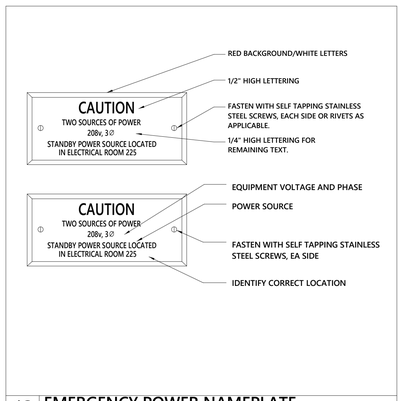
NOTES:
1. ALL EXTERIOR CAMERA LOCATIONS SHALL BE INSTALLED AS SHOWN IN THE ABOVE DETAIL.

10 EXTERIOR CAMERA BOX DETAIL
NO SCALE

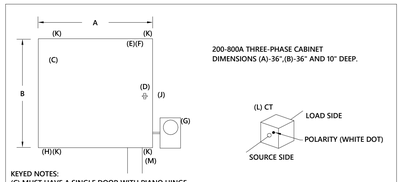


NOTES:
1. NO OPEN JUNCTION BOXES WILL BE PERMITTED.
2. THIS DETAIL IS FOR DEVICE LOCATIONS NOT DIRECTLY NEXT TO A CABLE TRAY.

11 WIRELESS AP OUTLET PATHWAYS
NO SCALE



12 EMERGENCY POWER NAMEPLATE
NO SCALE



200-800A THREE-PHASE CABINET DIMENSIONS (A)-36",(B)-36" AND 10" DEEP.

KEYED NOTES:
(C) MUST HAVE A SINGLE DOOR WITH PIANO HINGE.
(D) MUST HAVE NO-KEY HANDLE WITH HASP FOR LOCKING.
(E)&(F) THE CABINET MUST BE TYPE 3R, WHICH REQUIRES A LIP ON THE TOP AND A RAINPROOF SEAL ON THE DOOR. THE TOP MUST BE LEVEL.
(G) THE LOCATION OF THE METER BASE AND CABINET MUST BE APPROVED BY BTES PERSONNEL. THE CENTER OF THE METER BASE IS 5' ABOVE FINAL GRADE.
(H) BACK PANEL IN THE CABINET TO BE STEEL AS SPECIFIED OR ½" MINIMUM PLYWOOD.
(J) THE CABINET MUST BE LOCATED ON THE OUTSIDE OF THE BUILDING AT 6 FEET FROM THE CENTER TO THE FINAL GRADE.
(K) MUST HAVE MOUNTING FEET AT THE TOP AND BOTTOM.
(L) THE POLARITY MARKS ON THE CT'S SHOULD FACE THE SOURCE SIDE OF THE ENTRANCE CABLES.
(M) CABINET MUST BE BONDED TO CUSTOMER'S GROUND.

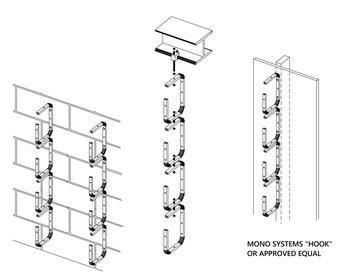
THE CUSTOMER IS RESPONSIBLE FOR PROVIDING AND INSTALLING THE CABINET AND CONDUIT. BTES WILL SUPPLY THE METER BASE, CT'S AND PT'S (IF REQUIRED). THE CUSTOMER IS RESPONSIBLE FOR INSTALLING THE METER BASE, CT'S AND PT'S (IF REQUIRED).

ANY CABINETS SUPPLIED MUST MEET THE SPECIFICATIONS OF THE AUSTIN COMPANY'S CABINET CATALOG # AB-24241OWL WITH AB-2424TB BACK PANEL (14 GAUGE STEEL) AND CATALOG # AB-36361OWL WITH AB-3636TB BACK PANEL (12 GAUGE STEEL).

GENERAL NOTES:
1. METERING CABINET FOR ONLY NON TRANSFORMER PAD LOCATIONS. (POLE MOUNTED)

13 METERING CABINET DETAIL (BTES)
NO SCALE

NOTES:
1. ELECTRICAL CONTRACTOR TO SUPPLY AND MOUNT ALL VOICE/DATA/SECURITY/CCTV SUPPORT HOOKS AND OR CABLE TRAY. EC IS RESPONSIBLE FOR PROVIDING SLEEVES THROUGH WALLS FOR VOICE/DATA/SECURITY/CCTV CABLING WHERE NECESSARY. FIRE STOPPING IS BY E.C. E.C. IS TO INSTALL SUPPORTS PER SPECIFICATIONS. MAXIMUM 48" BETWEEN SUPPORTS.



14 CABLE HOOK DETAILS & MOUNTING
NO SCALE

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11/14/2017

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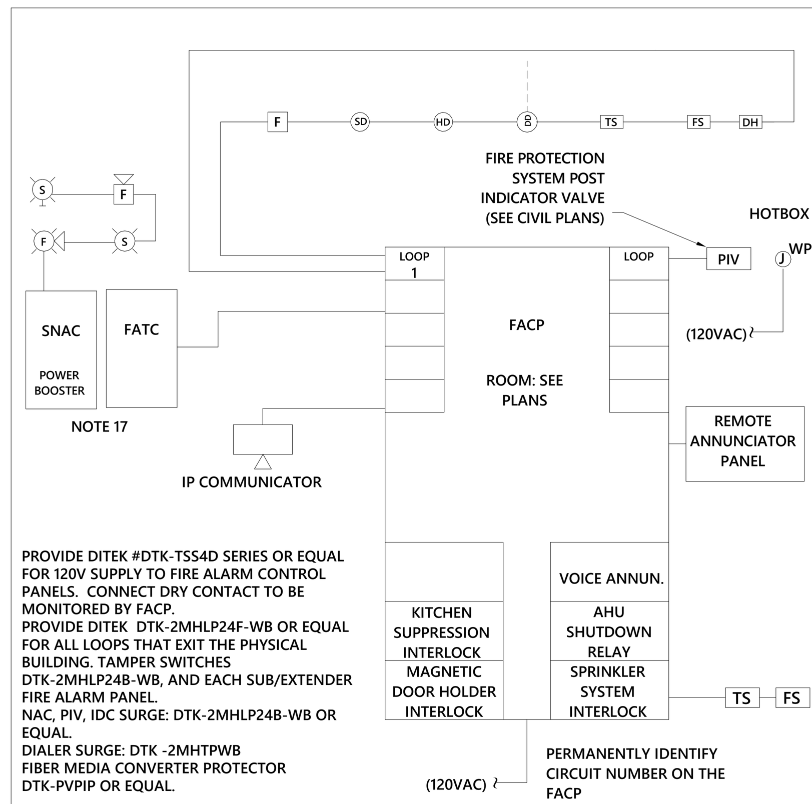
REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

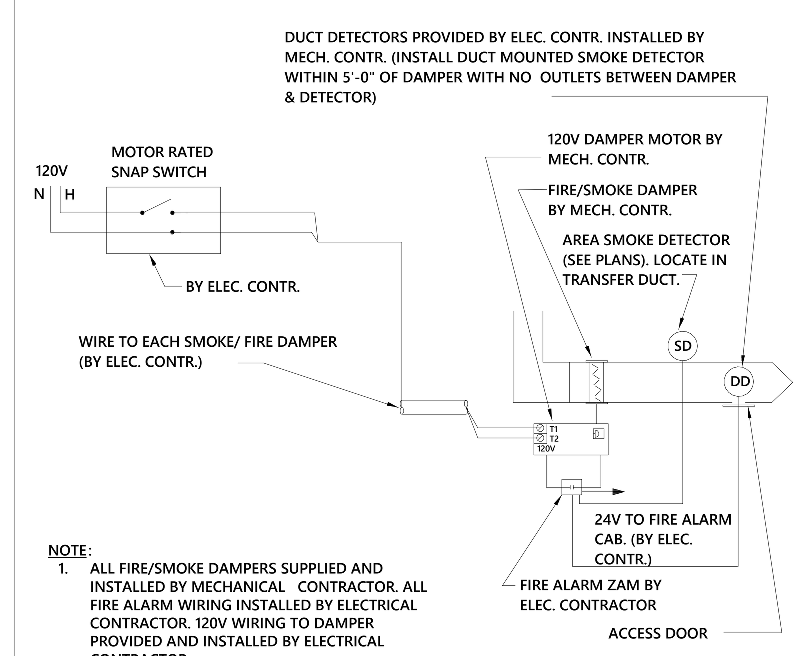
ELECTRICAL DETAILS

E-003



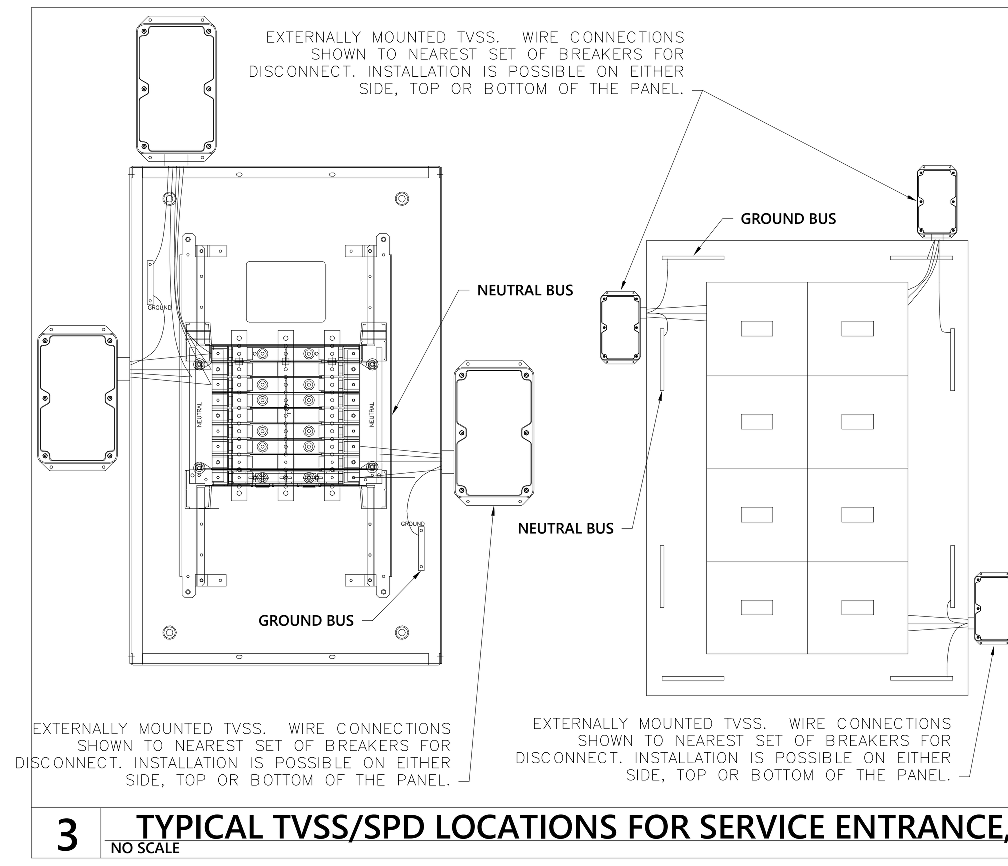
1. FACP SHALL HAVE A MINIMUM 24HR. BATTERY BACKUP.
2. FACP SHALL BE FULLY ANALOG ADDRESSABLE AND A VOICE EVACUATION SYSTEM.
3. FACP SHALL BE CONNECTED TO A UL APPROVED CENTRAL STATION.
4. ZONE PER NFPA 72, 2013 AND MANUFACTURER'S RECOMMENDATIONS WITH NO ONE ZONE EXCEEDING 15,000 S.F. PER FLOOR.
5. COORDINATE QUANTITY AND LOCATIONS OF DEVICES WITH CONTRACT DRAWINGS.
6. LOCATE SMOKE DETECTOR WITHIN 5' OF THE MAGNETIC HOLD OPEN DOORS. (TYPICAL)
7. LOCATE FIRE ALARM PULL STATION WITHIN 5' OF THE EXIT DOOR.
8. LOCATE SMOKE/HEAT DETECTOR WITHIN 5' OF THE FA EQUIPMENT (FACP, FATC).
9. LOCATION OF CEILING MOUNTED SMOKE/HEAT DETECTOR SHALL BE FIELD COORDINATED PRIOR TO ROUGH IN. THE DETECTOR SHALL BE A MINIMUM OF 2' AWAY FROM LIGHT FIXTURE AND A MINIMUM OF 3' AWAY FROM AIR DISTRIBUTION DEVICES.
10. AUTOMATIC DOOR CLOSING (AFTER A 10S DELAY) SHALL BE ACCOMPLISHED BY THE ACTIVATION OF THE LOCAL SMOKE DETECTORS AT THAT DOOR. SMOKE DETECTOR ACTIVATION SHALL ALERT THE BUILDING FIRE ALARM SYSTEM. THE FIRE ALARM SYSTEM SHALL CAUSE ALL HOLD OPEN DOORS TO CLOSE UPON ALARM ACTIVATION IN THE BUILDING.
11. ACTIVATION OF AN ALARM ZONE SHALL CAUSE ALL AIR HANDLING EQUIPMENT TO SHUT DOWN (ALL DAMPERS, AIR HANDLERS AND EXHAUST FANS MUST STOP).
12. ACTIVATION OF KITCHEN HOOD SUPPRESSION SYSTEM PROVIDES SIGNAL TO FACP WHICH IN TURN ACTIVATES ALL ANNUNCIATING ZONES & CUTS OFF AHU SUPPLY AIR.
13. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL FLOW, PRESSURE, & TAMPER SWITCHES WITH FIRE PROTECTION CONTRACTOR PRIOR TO INSTALLATION.
14. ALL VISUAL DEVICES WITHIN THE SAME AREA SHALL BE SYNCHRONIZED. IT SHALL BE A THREE BEAT TEMPORAL PATTERN.
15. ALL FIRE ALARM WIRING SHALL BE IN CONDUIT.
16. PROVIDE MULTI-TEMPORAL SOUNDING CAPABILITY AT ALL AUDIO DEVICES FOR EMERGENCY NOTIFICATION FOR NON VOICE SYSTEMS COMPONENTS.
17. THE FIRE ALARM SYSTEM MANUFACTURER SHALL PROVIDE NOTIFICATION APPLIANCE CIRCUIT (NAC) POWER EXTENDERS AS REQUIRED.
18. THE DUCT SMOKE DETECTORS SHALL COMPLY WITH IFC 907.12.
19. SLEEPING AREAS SHALL COMPLY WITH NPFA 72 2013 SECTION 18.4.5.3. WHERE AUDIBLE APPLIANCES ARE PROVIDED TO PRODUCT SIGNALS FOR SLEEPING AREAS, THEY SHALL PRODUCE A LOW FREQUENCY ALARM SIGNAL OF 520HZ SQUAREWAVE ALARM SIGNAL.
20. THE CIRCUIT FEEDING THE FIRE ALARM PANEL IS DEDICATED FOR THE FIRE ALARM ONLY. BREAKER SHALL BE PROVIDED WITH A LABEL "FIRE ALARM CIRCUIT" AND SHALL BE RED.
21. PROVIDE REMOTE LIGHT FOR DUCT SMOKE DETECTOR ON CEILING WHERE UNIT IS ABOVE CEILING.
22. CONTRACTOR SHALL INCLUDE IN BID LABOR AND MATERIAL FOR UP TO (2) DUCT DETECTORS. (5) ANNUNCIATION DEVICES, (2) SMOKE DETECTORS AND (2) PULL STATIONS 100' FROM LOCAL PANEL (IN WALL) AS REQUIRED BY LOCAL AHJ/ENGINEER.
23. CONTRACTOR RESPONSIBLE FOR SHOP DRAWINGS AS REQUIRED BY LOCAL AHJ.
24. DUCT DETECTORS SHALL BE VERIFIED WITH THE MECHANICAL DRAWINGS FOR QUANTITY AND LOCATION. TOTAL QUANTITY MINIMUM SHALL BE BASED ON BOTH MECHANICAL SCHEDULES AND MECHANICAL PLAN LOCATIONS AND ELECTRICAL PLANS. WHEN DEVICE QUANTITIES (ELECTRICAL VS. MECHANICAL) ARE IN CONFLICT, PROVIDE THE GREATER QUANTITY OF DETECTORS.
25. ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION,AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM.

1 FIRE ALARM RISER DIAGRAM
NO SCALE



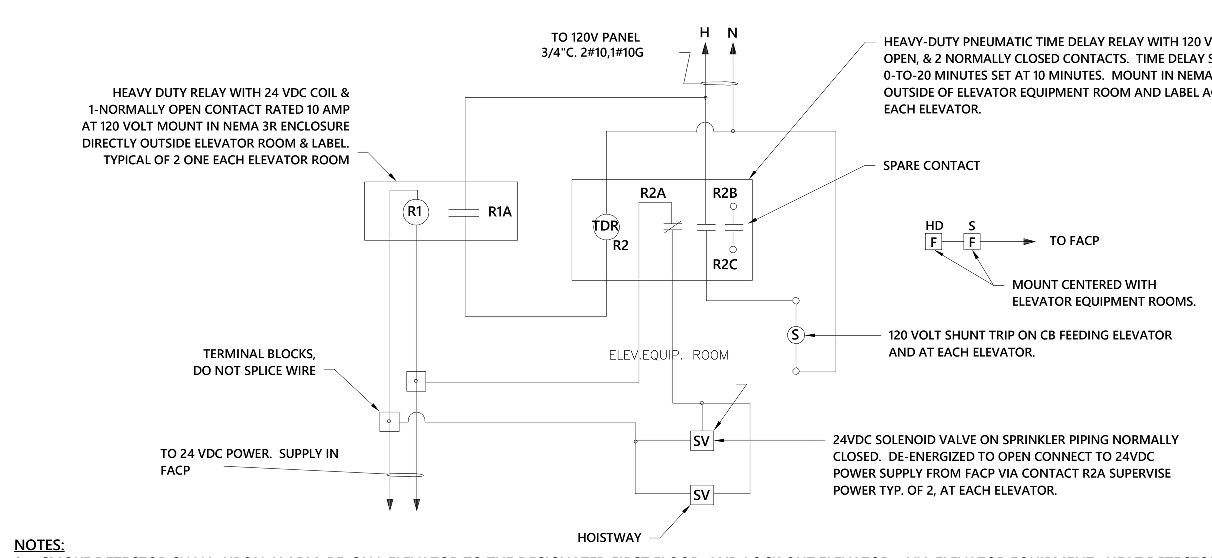
NOTE:
1. ALL FIRE/SMOKE DAMPERS SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR. ALL FIRE ALARM WIRING INSTALLED BY ELECTRICAL CONTRACTOR. 120V WIRING TO DAMPER PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

2 SMOKE/FIRE DAMPER WIRING DETAIL
NO SCALE



TRANSIENT VOLTAGE SURGE SUPPRESSION NOTES:
1. TVSS DEVICES SHALL BE UL 1283 (LISTED) "ELECTROMAGNETIC INTERFERENCE FILTERS," (TYPE 2 ONLY) AND UL 1449 3RD EDITION (LISTED) "TRANSIENT VOLTAGE SURGE SUPPRESSORS."
2. SPD SHALL BE TYPE 1, 20KA NOMINAL DISCHARGE CURRENT (SERVICE ENTRANCE)
3. SPD SHALL BE TYPE 2, 20KA NOMINAL DISCHARGE CURRENT (ALL OTHER PANELS)
4. INSTALL DEVICES WITH CONDUCTORS BETWEEN SUPPRESSOR AND POINTS OF ATTACHMENT AS SHORT AND STRAIGHT AS POSSIBLE.
5. PROVIDE A MULTIPOLE, 30 AMP CIRCUIT BREAKER AS A DEDICATED DISCONNECT FOR SUPPRESSOR, IN PROPER COORDINATION WITH VOLTAGE CONFIGURATION OF PROTECTED EQUIPMENT.
6. DEVICES SHALL INCORPORATE "DIRECTLY CONNECTED PROTECTION ELEMENTS" BETWEEN ALL POSSIBLE MODES IN EVERY GIVEN SERVICE RATING (I.E. LINE-TO-NEUTRAL, LINE-TO-LINE, LINE-TO-GROUND, NEUTRAL-TO-GROUND) "REDUCED-MODE" VARIATIONS WILL NOT BE ACCEPTED. LINE-TO-NEUTRAL-TO-LINE IS NOT ACCEPTABLE FOR LINE-TO-LINE.
7. WARRANTY: THE MANUFACTURER SHALL PROVIDE A STANDARD UNLIMITED FREE REPLACEMENT OF THE ENTIRE TVSS (NOT JUST MODULES, COMPONENTS OR SUB-ASSEMBLIES) FOR ALL INOPERABLE TVSS DURING THE WARRANTY PERIOD. MINIMUM WARRANTY PERIOD SHALL BE 25 (TWENTY FIVE) YEARS.
8. SEE SPECIFICATION AND PLANS FOR FURTHER DETAILS AND MODEL NUMBERS.
9. FOR SUPPLIER PLEASE CONTACT MIKE BARTON, CHRIS STORK OR IAIN KING AT: 888-987-8877 OR VIA EMAIL AT: BKS@SURGESUPPRESSION.COM

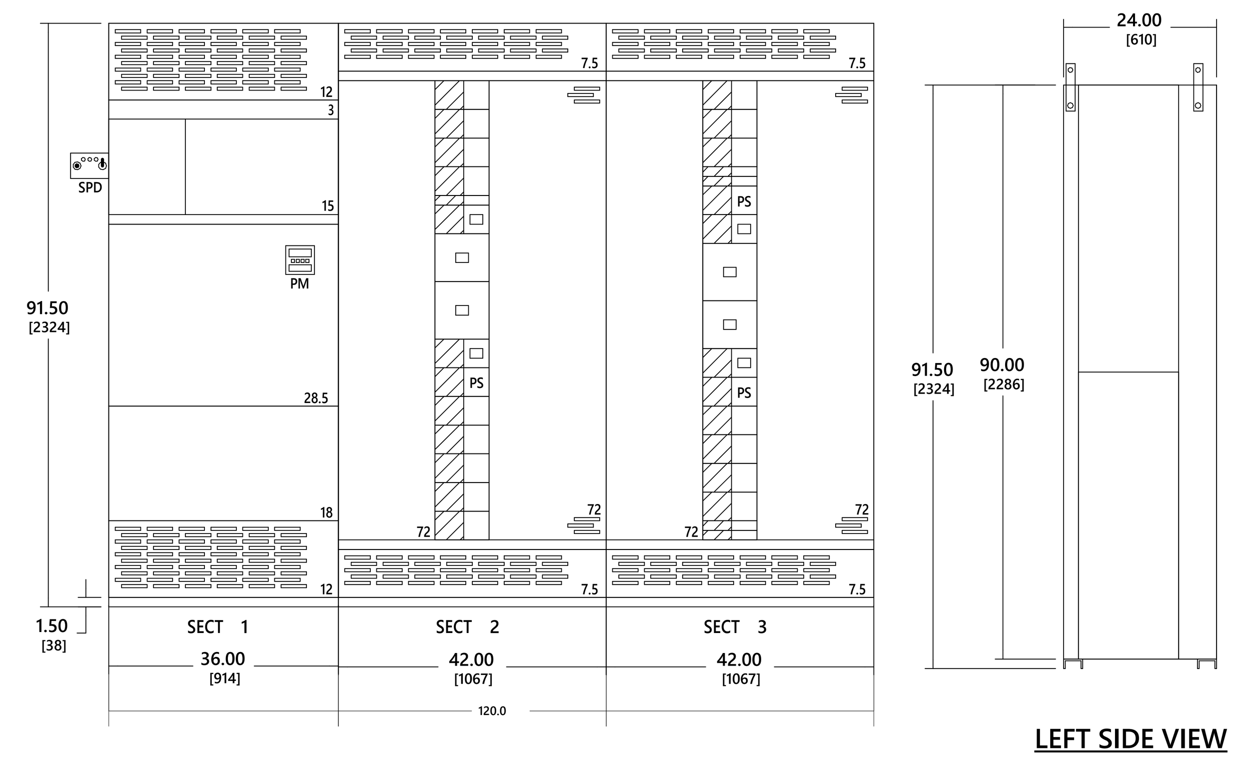
3 TYPICAL TVSS/SPD LOCATIONS FOR SERVICE ENTRANCE, DISTRIBUTION PANEL OR PANEL BOARD
NO SCALE



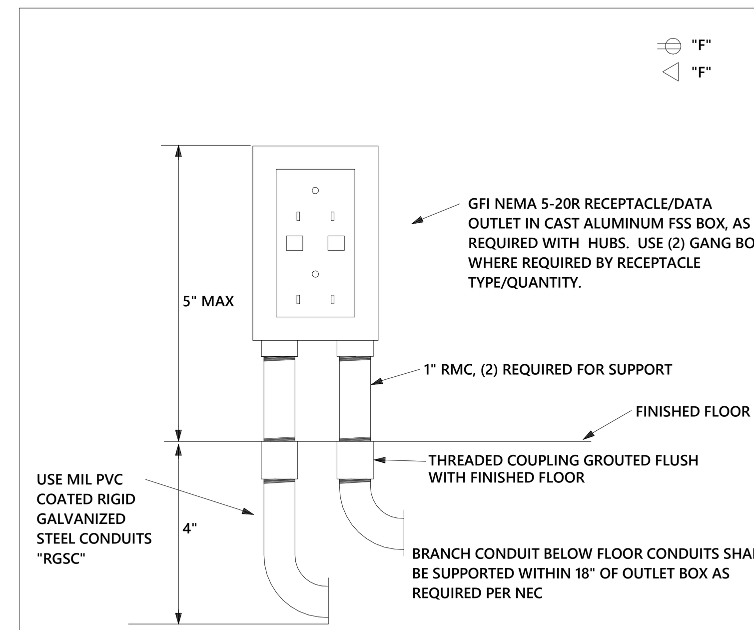
NOTES:
1. SMOKE DETECTOR SHALL, UPON ALARM, RE-CALL ELEVATOR TO THE DESIGNATED FIRST FLOOR, AND LOCK OUT ELEVATOR VIA ELEVATOR EQUIPMENT. HEAT DETECTOR SHALL BE FIXED TYPE WITH 135°F SETTING AND WHEN IN ALARM CAUSES FACP TO ACTIVATE RELAY R1, CLOSING CONTACT R1A, POWERING THE TIME DELAY RELAY R2. R2 STARTS 2 MINUTE COUNTDOWN AND UPON TIMING OUT, DE-ENERGIZES SOLENOID VALVE ALLOWING WATER INTO SPRINKLER PIPING AND ACTIVATED 120 VOLT SHUNT-TRIP TO ELEVATOR FEEDER BREAKER WITHIN PANEL. ALL DISCONNECTS SERVING ELEVATOR MOTOR CONTROLLER AND ELEVATOR CAB LIGHTS SHALL BE NEMA 3R CONSTRUCTION WITH EMBOSSED CONDUIT HUBS.
2. HEAT DETECTOR WITHIN ELEVATOR EQUIPMENT ROOM SHALL BE CONNECTED TO A DEDICATED FIRE ALARM ZONE SERVING THIS ROOM ONLY. THE SMOKE DETECTOR SHALL BE CONNECTED TO A SEPARATE DEDICATED FIRE ALARM ZONE.
3. WHERE A GENERATOR IS PROVIDED TO BACK UP THE ELEVATOR, PROVIDE 1" CONDUIT FROM THE EMERGENCY POWER TRANSFER SWITCH TO EACH RESPECTIVE ELEVATOR CONTROL PANEL. PROVIDE TWO NORMALLY OPEN DRY CONTACTS AS PART OF THE TRANSFER SWITCH, AND PROVIDE TWO PAIR CABLING WITH A GROUND WIRE AS RECOMMENDED BY THE ELEVATOR CONTRACTOR.

4 ELEVATOR FIRE ALARM SHUTDOWN CONTROL SCHEMATIC
NO SCALE

SWITCHBOARD NOTES: (BASED ON QED SWITCHBOARD, CUTLER HAMMER AND GE ARE TYPICAL APPROVED EQUALS)
1. PROVIDE WITH POWER MODULE FOR LOCAL METERING.
2. FRONT ACCESSIBLE ONLY.
3. SEE PANEL SCHEDULES FOR EXACT NUMBER OF BREAKERS AND SPACES.



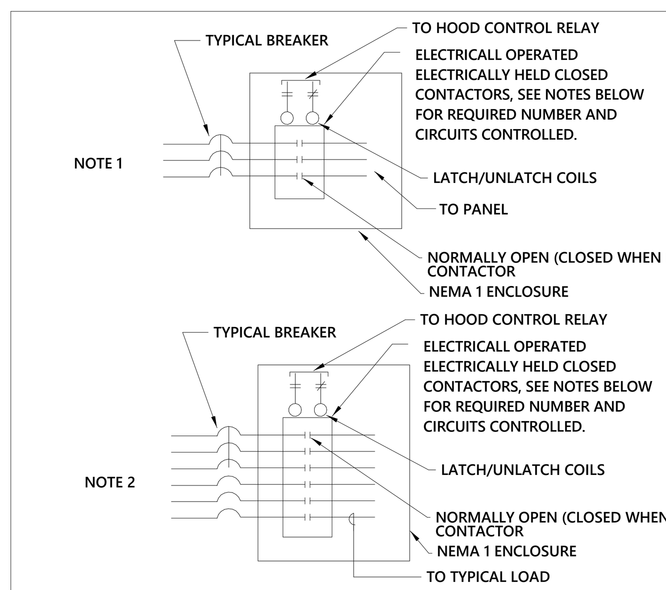
5 TYPICAL 1600-3000A SWITCHBOARD



NOTES:
1. COORDINATE HEIGHT OF RECEPTACLE/DATA BOX WITH FOOD SERVICE PLANS PRIOR TO INSTALLATION. FOOD SERVICE HEIGHT SHALL SUPERCEDE HEIGHT SHOWN.

6 KITCHEN FLOOR BOX DETAIL
NO SCALE

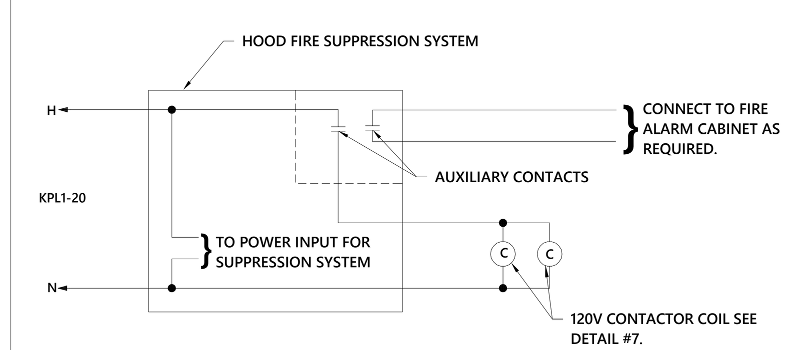
FIRE ALARM SYSTEM MATRIX	BUILDING SYSTEM OUTPUTS																	CENTRAL COMM			
	ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE AUDIBLE ALARM SIGNAL	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE AUDIBLE SUPERVISORY INDICATOR	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	ACTIVATE AUDIBLE TROUBLE SIGNAL	ACTIVATE GENERAL EVACUATION SIGNAL	DISPLAY CHANGE OF STATUS	ACTIVATE EXTERNAL HORNS/STROBES	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	RETURN ELEVATOR TO ALTERNATE FLOOR	RETURN ELEVATOR TO FIRST FLOOR	SHUNT TRIP AFTER ELEV. REACHES DESIGNATED FLOOR	SHUT DOWN RESPECTIVE HVAC	SHOW CHANGE OF STATUS ON ANNUNCIATOR	SHOW CHANGE OF STATUS ON CENTRAL PANEL	TRANSMIT FIRE ALARM SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION
MANUAL FIRE ALARM PULL BOXES	X	X					X	X	X	X							X	X	X		
BUILDING SMOKE DETECTOR	X	X					X	X	X	X							X	X	X		
DUCT SMOKE DETECTOR			X	X				X			X					X	X	X		X	
SPRINKLER WATER FLOW	X	X					X	X	X	X							X	X	X		
SPRINKLER TAMPER			X	X				X			X						X	X		X	
ELEV. EQ. ROOM SMOKE DETECTOR	X	X					X	X	X	X				X			X	X	X		
ELEV. EQ. ROOM HEAT DETECTOR	X	X					X	X	X	X				X	X		X	X	X		
ELEV. SHAFT HEAT DETECTOR	X	X					X	X	X	X					X		X	X	X		
1ST FLOOR ELEV. LOBBY SMOKE DET.	X	X					X	X	X	X			X				X	X	X		
UPPER FLR. ELEV. LOBBY SMOKE DET.	X	X					X	X	X	X				X			X	X	X		
HOOD SUPPRESSION SYSTEM	X	X					X	X	X	X							X	X	X		
NOTIFICATION DEVICE SHORT CIRCUIT					X	X		X				X					X	X			
OPEN CIRCUIT					X	X		X				X					X	X			X
GROUND FAULT					X	X		X				X					X	X			X
FIRE ALARM A.C. POWER FAILURE					X	X		X				X					X	X			X
FIRE ALARM SYSTEM LOW BATTERY					X			X				X					X	X			X



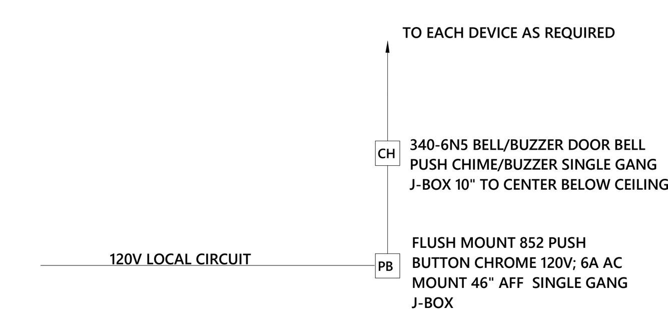
1. PROVIDE (1) 3-POLE CONTACTOR RATED FOR 480V 20A LOAD FOR SUPPLY FAN F-2. CONTACTOR SHALL BE NORMALLY OPEN (UPON LOSS OF POWER, CONTACTOR OPENS) CONTACTOR SHALL BE LOCATED ABOVE RESPECTIVE PANEL AND INTERCEPT CIRCUIT IN LOCAL AREA. CONTACTORS SHALL BE OPENED UPON HOOD SHUT DOWN OR HOOD ACTIVATION.

2. PROVIDE 1-(9) POLE CONTACTOR (OR EQUIVALENT AVAILABLE CONTACTORS) RATED FOR 208V 50A 3 POLE LOADS FOR CIRCUIT KPL1-34,36,38, KPL2-25,27,29, AND KPL1-31,33,35. (1)-3 POLE 100A FOR CIRCUIT KPL1-25,27,29. (1)-3 POLE 150A FOR CIRCUIT KPL1-28,30,32. (1)-3 POLE 60A FOR CIRCUIT KPL1-22,24,26. (1)-20A/1P CONTACTOR FOR KPL1-23. CONTACTORS SHALL BE LOCATED ABOVE RESPECTIVE PANEL AND INTERCEPT CIRCUIT IN LOCAL AREA. CONTACTORS SHALL BE OPENED UPON HOOD SHUT DOWN OR HOOD ACTIVATION.

7 HOOD SHUTDOWN CONTACTOR DETAIL
NO SCALE



8 HOOD SHUTDOWN WIRING DETAIL
NO SCALE



NOTES:
1. DEVICES ARE BASED ON EDWARDS SIGNALING SYSTEMS, OR APPROVED EQUAL.

9 DOOR BELL SYSTEM
NO SCALE

SULLIVAN COUNTY SCHOOLS

SULLIVAN EAST MIDDLE SCHOOL

Cain Rash West Architects

LS3P

[illegible]
WWW.LS3P.COM

KEITH G. PEHL REGISTERED ENGINEER No. 21137 STATE OF TENNESSEE
11/14/2017

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REVISIONS:

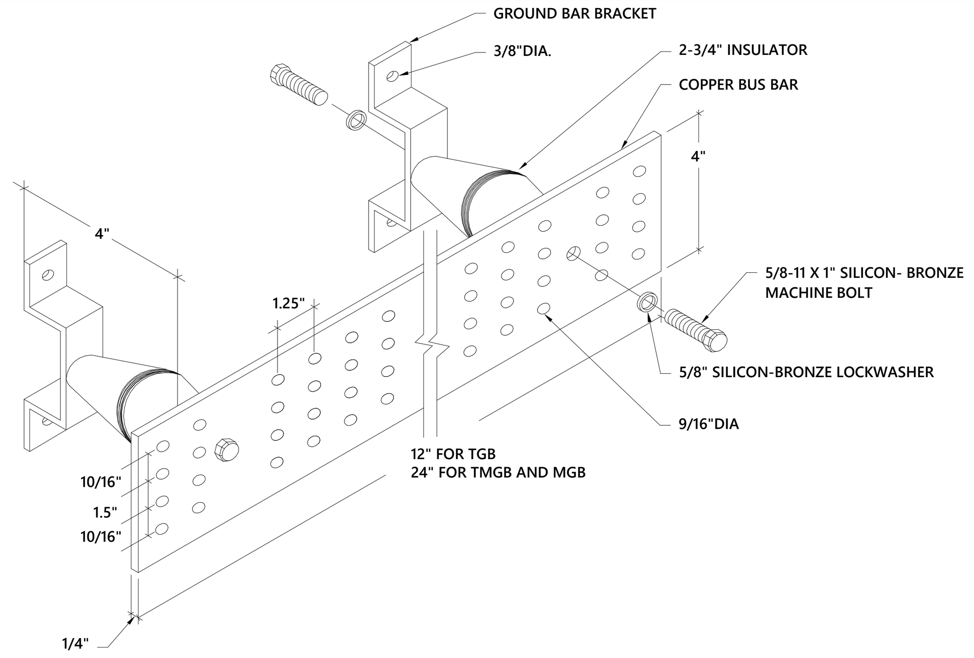
No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

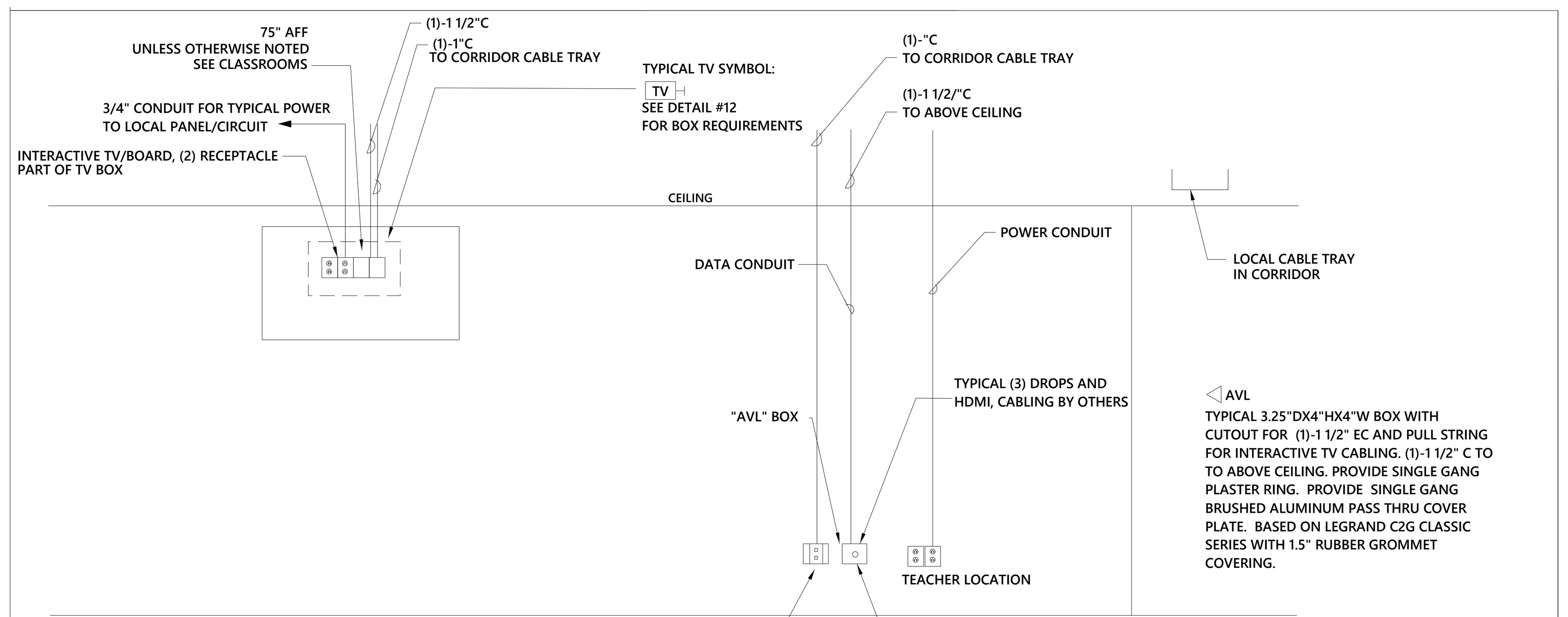
ELECTRICAL DETAILS

E-004

NOTES:
1. ALL GROUNDING AND BONDING SHALL BE IN ACCORDANCE WITH THE NEC AND UL STANDARDS.
2. ALL DIMENSIONING INDICATED IN THESE DOCUMENTS ARE FOR REFERENCE AND COORDINATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS IN THE FIELD.
3. ALL GRD ELECTRODES OR BONDING CONDUCTORS INSTALLED ALONE WITHIN A RACEWAY SHALL UTILIZE GRC WITH GROUNDING BUSHINGS AT EACH END. THIS GROUND CONDUCTOR SHALL LOOP THROUGH THE BUSHING LUG PRIOR TO TERMINATION.
4. LENGTH OF BUS BAR SHALL BE AS REQUIRED BY NUMBER OF CONDUCTOR CONNECTIONS PLUS 25% SPARE CAPACITY SPACE OR AS SPECIFIED OTHERWISE.
5. BUS BARS OVER 20" IN LENGTH REQUIRE AT LEAST ONE ADDITIONAL 2-3/4" INSULATOR SUPPORT OR AS SPECIFIED. BUS BARS OVER 152mm WIDE OR MORE REQUIRE INSULATORS AT ALL FOUR CORNERS OR AS REQUIRED.

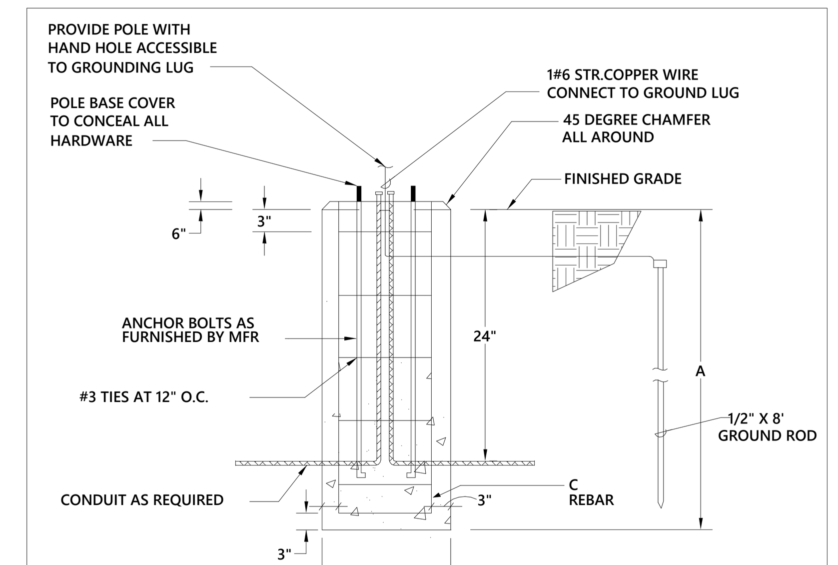


1 GROUNDING BAR DETAIL
NO SCALE



NOTES:
1. BACK TO BACK INSTALLATIONS SHALL NOT BE PERMITTED FOR POWER OR LOW VOLTAGE J-BOXES. BOX LOCATIONS SHALL BE MODIFIED AS REQUIRED PRIOR TO INSTALLATION.
2. COORDINATE ALL INSTALLATIONS WITH BLOCKING FOR TV MOUNT.

2 CLASSROOM TECHNOLOGY LAYOUT PROJECTOR
NO SCALE

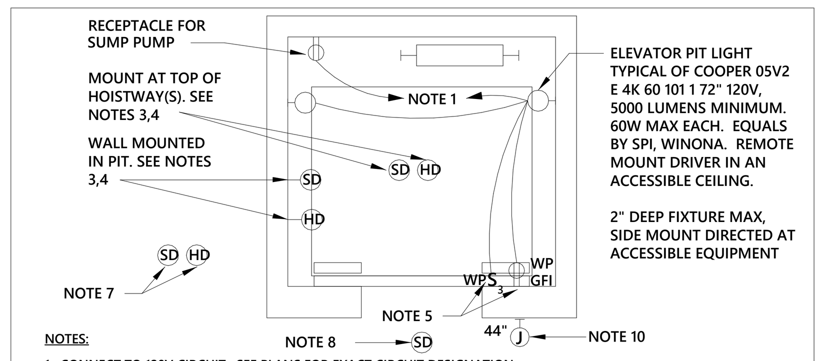


SECURITY POLE SCHEDULE				
	HT.	A	B	C
	20"	4'-0"	2'-0"	4#5

NOTE: ALL CONCRETE WORK SHALL CONFORM TO DIVISION 3 OF SPECIFICATIONS

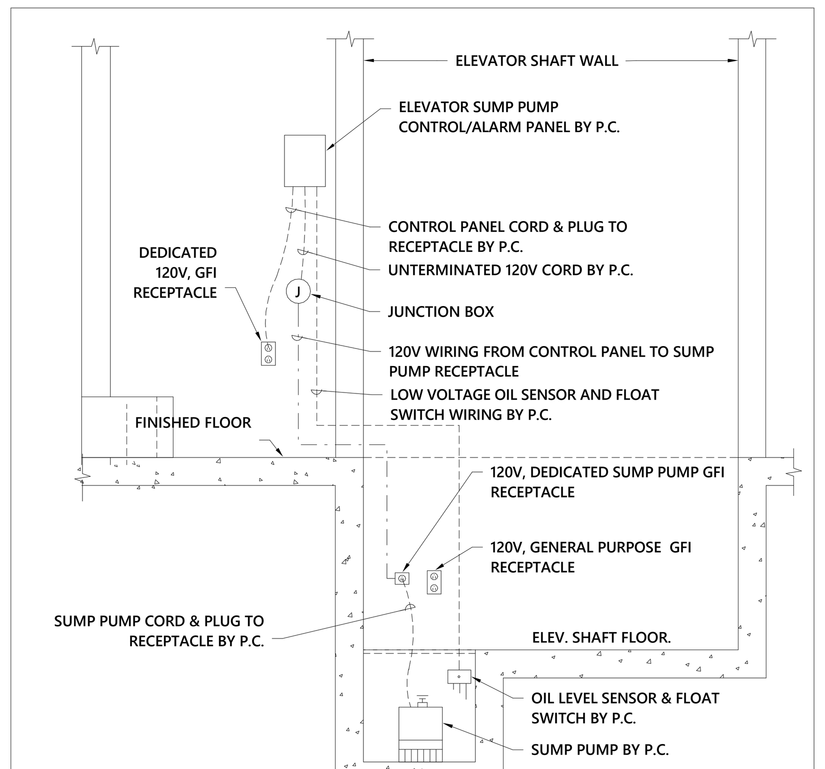
1. SECURITY 20' CAMERA POLE BY ELECTRICAL CONTRACTOR FOR SECURITY CAMERA BY SECURITY CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE POLE BASE, POLE, PATHWAY AND PULL WIRE. BASED ON TYPE HAPCO RTA20B6B4-CUST/TB2-17", OR SPECIFICATION EQUAL. SATIN GROUND FINISH. POLE TO HAVE TRANSFORMER BASE AND PAD FOR CAMERA MOUNTING.

11 SECURITY POLE BASE DETAIL
NO SCALE

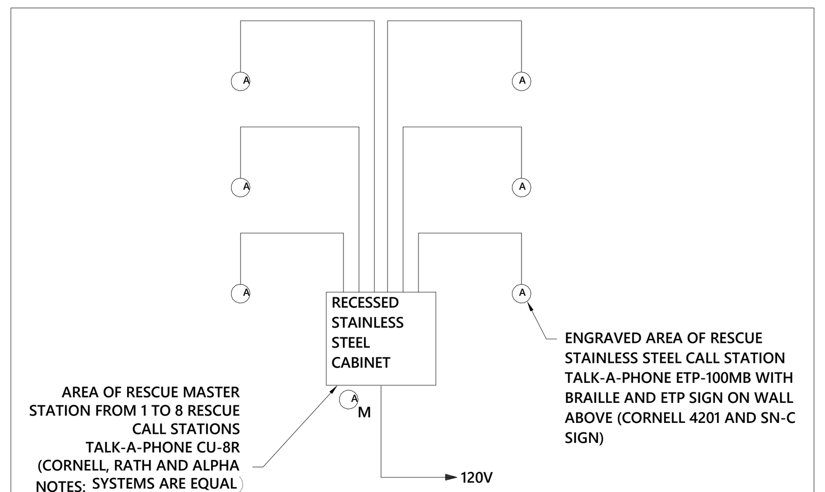


NOTES:
1. CONNECT TO 120V CIRCUIT. SEE PLANS FOR EXACT CIRCUIT DESIGNATION.
2. COORDINATE EXACT LOCATION OF ALL DEVICES WITH THE ELEVATOR SHOP DRAWINGS.
3. MOUNT SMOKE AND HEAT DETECTORS WITHIN 2'-0" OF SPRINKLER HEADS. SMOKE DETECTORS SHALL, UPON ALARM, RE-CALL ELEVATOR TO THE APPROPRIATE LEVEL, AND LOCK OUT ELEVATOR VIA ELEVATOR EQUIPMENT. HEAT DETECTORS SHALL CONTROL THE OPERATION OF THE SPRINKLER PIPING SOLENOID VALVE(S) AND THE SHUNTING OF MAIN ELEVATOR POWER. SEE ELEVATOR FIRE ALARM SHUTDOWN CONTROL SCHEMATIC. HEAT DETECTORS SHALL HAVE A LOWER RESPONSE TIME INDEX (135°F) COMPARED TO THE SPRINKLER HEADS IN THE HOISTWAY.
4. WHERE HOISTWAY IS NOT SPRINKLERED, DO NOT PROVIDE SMOKE OR HEAT DETECTORS IN THE HOISTWAY.
5. LOCATE PIT LIGHT SWITCH AND CONVENIENCE RECEPTACLE ADJACENT TO ACCESS DOOR (BOTTOM OF PIT) AND AT TOP ACCESS (TOP FLOOR). (2) TOTAL RECEPTS AND (4) LIGHTS, (2) SWITCHES.
6. LIGHTS SHALL NOT BE CONNECTED TO THE LOAD SIDE TERMINALS OF THE CONVENIENCE RECEPTACLE.
7. MOUNT CENTERED IN ELEVATOR MACHINE ROOM.
8. MOUNT IN ELEVATOR LOBBY AT EACH LEVEL WITHIN 15'-0" OF DOOR.
9. THE SMOKE DETECTOR(S) LOCATED IN THE DESIGNATED ELEVATOR RECALL LOBBY(S) SHALL ACTUATE THE FIRST ELEVATOR CONTROL CIRCUIT. THE SMOKE DETECTORS IN THE REMAINING ELEVATOR LOBBIES SHALL ACTUATE THE SECOND ELEVATOR CONTROL CIRCUIT. THE SMOKE DETECTORS IN THE HOISTWAY(S) AND ELEVATOR MACHINE ROOM(S) SHALL ACTUATE THE THIRD ELEVATOR CONTROL CIRCUIT, AND WHERE A MACHINE ROOM IS LOCATED AT THE DESIGNATED LEVEL, THAT ELEVATOR MACHINE ROOM SMOKE DETECTOR SHALL ALSO ACTUATE THE FIRST ELEVATOR CONTROL CIRCUIT.
10. PROVIDE FLUSH JUNCTION BOX FOR TWO-WAY COMMUNICATIONS BETWEEN EACH ELEVATOR LANDING PER 2012 NCBC 1007.8.

3 ELEVATOR HOISTWAY DETAIL
NO SCALE



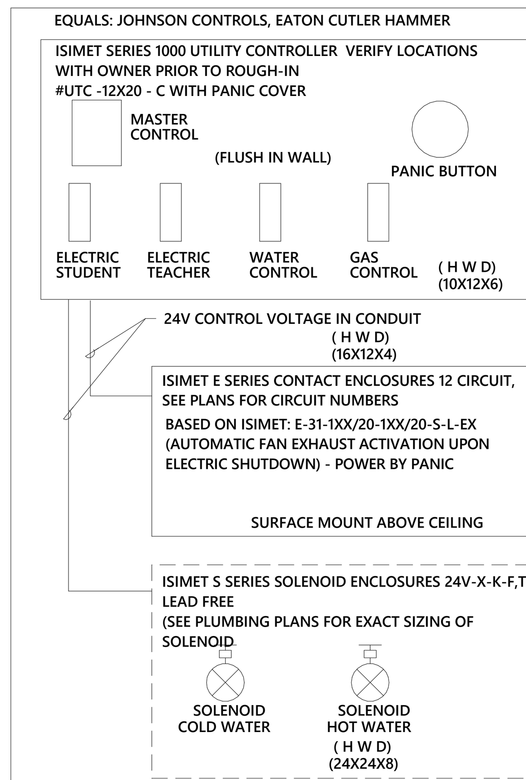
4 ELEVATOR SUMP PUMP DIAGRAM
NO SCALE



NOTES:
1. ALL EQUIPMENT SHALL BE OF THE SAME MANUFACTURER AND MEET THE REQUIREMENTS OF ADA AND ALL OTHER CODES AND REQUIREMENTS.
2. SYSTEM SHALL BE WIRED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED RECOMMENDATIONS IN MINIMUM OF 1/2" CONDUIT.
3. OPERATION OF SYSTEM SHALL BE HANDS FREE.
4. AREA STATIONS TO HAVE PANIC BUTTONS LABELED "PUSH FOR HELP" MOUNTED AT 44"A.F.F TO CENTER.
5. SEE PLANS FOR EXACT LOCATIONS AND QUANTITY. MASTER STATION LOCATION SHALL BE COORDINATED WITH FIRE MARSHAL BEFORE INSTALLATION.
6. PROVIDE (1) RJ11 MODULAR PHONE PORTS FOR MASTER STATION. UNIT SHALL BE PROGRAMMED TO CALL OUT TO 911 IN THE EVENT THE MASTER STATION IS NOT PICKED UP.
7. COMMAND UNIT SHALL HAVE BATTERY BACK UP FOR A MINIMUM OF (3) HOURS.

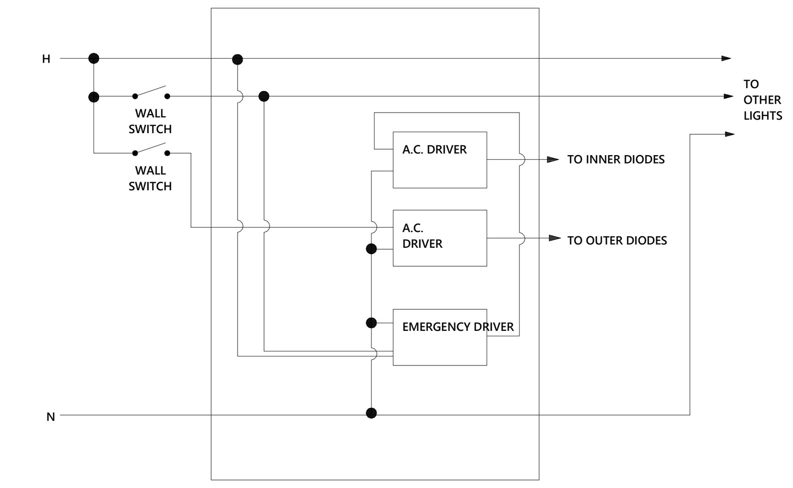
5 ELEVATOR TWO WAY COMMUNICATION SYSTEM DETAIL
NO SCALE

EQUALS: JOHNSON CONTROLS, EATON CUTLER HAMMER

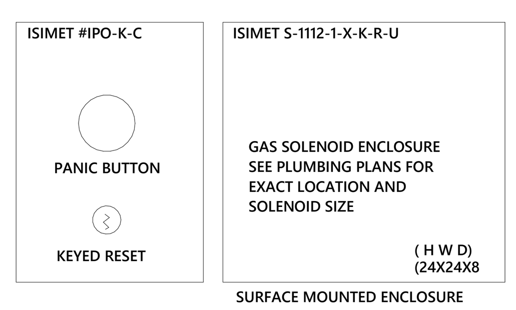


NOTES:
1. TYPICAL OF EACH CLASSROOM SEE PLANS.
2. PROVIDE (1) CIRCUIT FOR CONTROLLER AND CONTACTOR COIL.
3. ALL LOCATIONS OF CONTROL BOX, CONTACT ENCLOSURES, AND SOLENOID CONTROLLERS SHALL BE COORDINATED WITH P.C. AND OWNER BEFORE INSTALLATION.
4. CONTROLLER, CONTACTOR, AND SOLENOID CABINETS BY THE E.C. (PROVIDE AND INSTALL, SOLENOID CONNECTIONS BY P.C. COORDINATE WITH P.C)

6 SCIENCE CLASSROOM SHUT OFF
NO SCALE



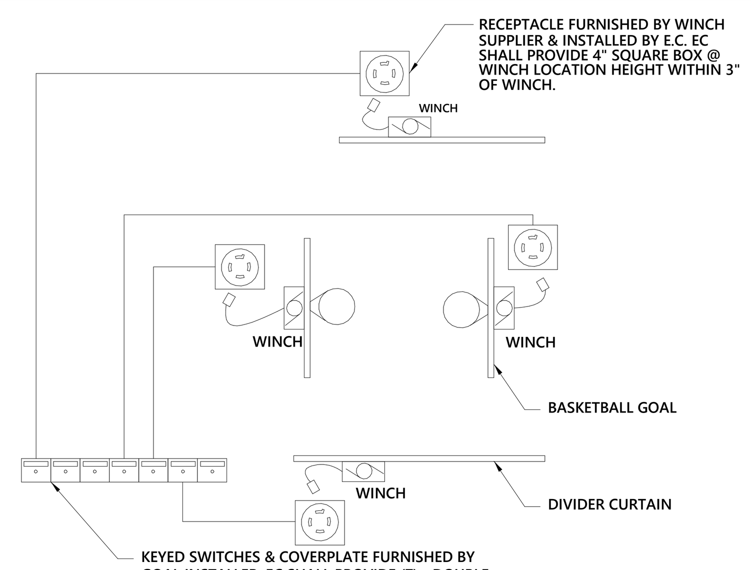
12 SWITCHED EMERGENCY LIGHTING WIRING
NO SCALE



NOTES:
1. PROVIDE PHENOLIC LABEL ABOVE PUSH BUTTON: EMERGENCY BOILER SHUT-OFF
2. PROVIDE REMOTE PANIC ASSEMBLY IPO-K-C WITH OPTION "C", PANIC BUTTON COVER.
3. CONNECT TO LOCAL 120V CIRCUIT FOR CONTROLLER.
4. SEE PLUMBING PLANS FOR EXACT SOLENOID SIZE REQUIREMENT.
5. 3/4" CONDUIT FROM PANIC BUTTON TO SOLENOID ENCLOSURE.

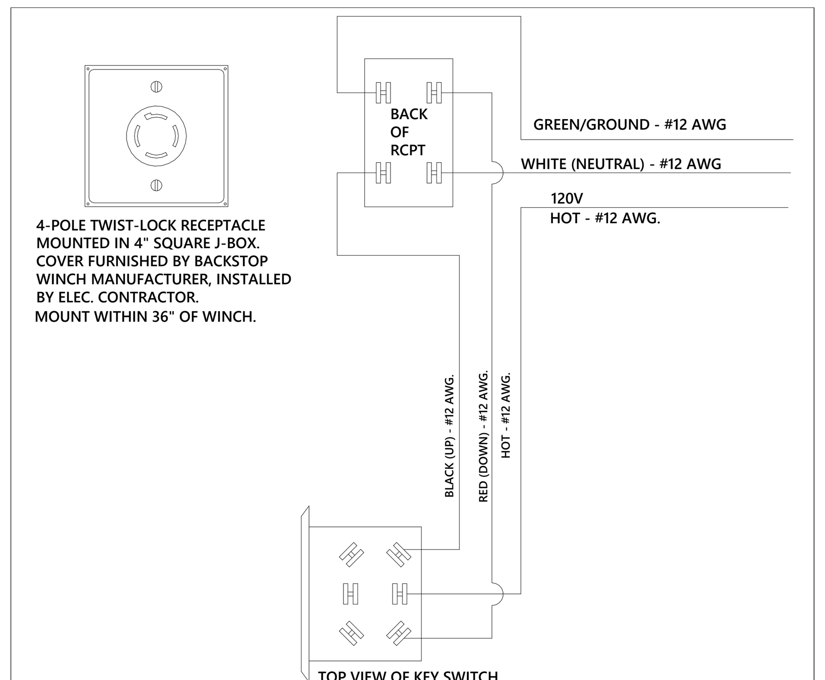
EQUALS: JOHNSON CONTROLS, EATON CUTLER HAMMER

7 EMERG. SHUT OFF CONTROL DETAIL (ISIMET)
NO SCALE



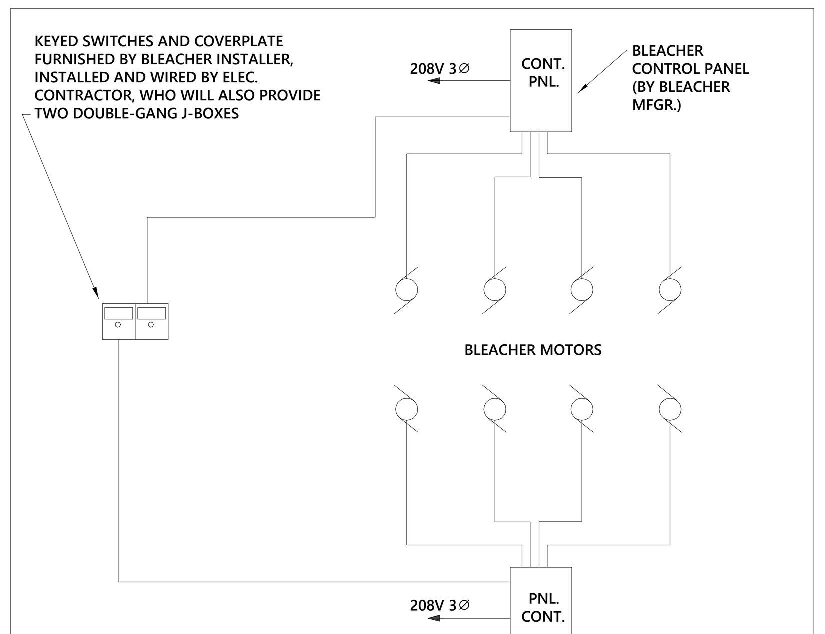
NOTES:
1. EC SHALL PROVIDE ALL ROUGH-IN BOXES CONDUITS & WIRING TO CONNECT THE WINCH RECEPTACLES & KEYED SWITCHES.
2. MINIMUM WIRE SIZE #12 AWG
3. SEE PLANS FOR NUMBER OF GOALS THAT REQUIRE ELECTRIC WINCH CONTROL.
3. COORDINATE LOCATION QUANTITY OF CURTAIN WINCH MOTORS WITH OWNER. PROVIDE AND INSTALL AS DIRECTED.

8 BASKETBALL GOAL
NO SCALE



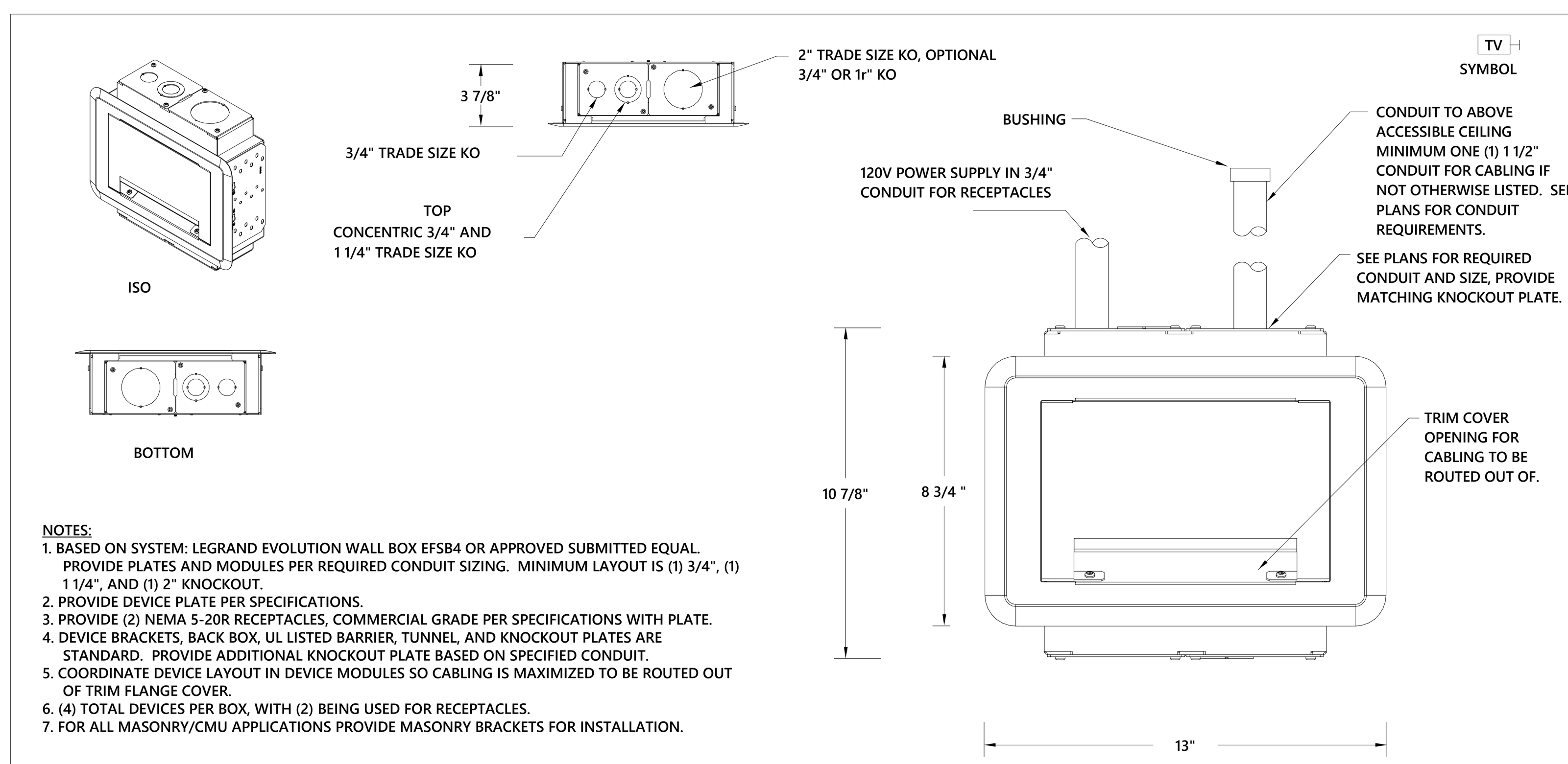
NOTES:
1. KEY SWITCHES AND COVERPLATE SHALL BE FURNISHED BY GOAL INSTALLER. ELEC. CONTRACTOR SHALL PROVIDE AND INSTALL ALL J-BOXES, CONDUIT, AND WIRING.
2. MINIMUM WIRE SIZE SHALL BE #12 AWG.

9 ELECT. BASKETBALL WINCH WIRING DETAIL
NO SCALE



NOTES:
1. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL ROUGH-IN J-BOXES, CONDUIT AND WIRING TO CONNECT THE BLEACHER CONTROL PANELS AND KEYED SWITCHES. PROVIDE A 16"X16"X4" MINIMUM J-BOX AT MAIN ROUGH-IN.
2. MINIMUM WIRE SIZE SHALL BE #12 AWG.
3. PROVIDE 3 PHASE DISCONNECT AT EACH PANEL CONTROLLER, 30A/3P.

10 BLEACHER CONNECTION RISER
NO SCALE



NOTES:
1. BASED ON SYSTEM: LEGRAND EVOLUTION WALL BOX EFSB4 OR APPROVED SUBMITTED EQUAL. PROVIDE PLATES AND MODULES PER REQUIRED CONDUIT SIZING. MINIMUM LAYOUT IS (1) 3/4", (1) 1 1/4", AND (1) 2" KNOCKOUT.
2. PROVIDE DEVICE PLATE PER SPECIFICATIONS.
3. PROVIDE (2) NEMA 5-20R RECEPTACLES, COMMERCIAL GRADE PER SPECIFICATIONS WITH PLATE.
4. DEVICE BRACKETS, BACK BOX, UL LISTED BARRIER, TUNNEL, AND KNOCKOUT PLATES ARE STANDARD. PROVIDE ADDITIONAL KNOCKOUT PLATE BASED ON SPECIFIED CONDUIT.
5. COORDINATE DEVICE LAYOUT IN DEVICE MODULES SO CABLING IS MAXIMIZED TO BE ROUTED OUT OF TRIM FLANGE COVER.
6. (4) TOTAL DEVICES PER BOX, WITH (2) BEING USED FOR RECEPTACLES.
7. FOR ALL MASONRY/CMU APPLICATIONS PROVIDE MASONRY BRACKETS FOR INSTALLATION.

12 TYPICAL TV/MONITOR AND POWER BACK BOX DIAGRAM FOR WALL MOUNTED FLAT SCREEN
NO SCALE

SULLIVAN COUNTY SCHOOLS

SULLIVAN EAST MIDDLE SCHOOL

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11/14/2017

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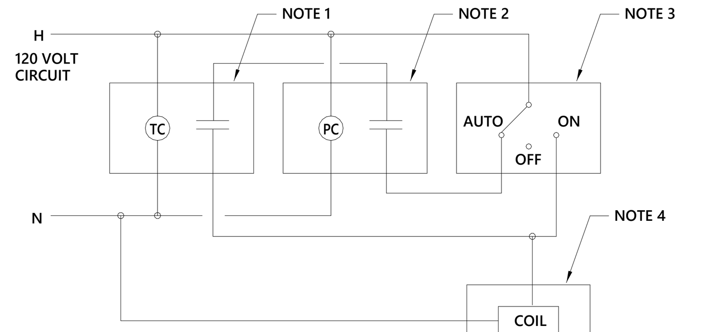
REVISIONS:

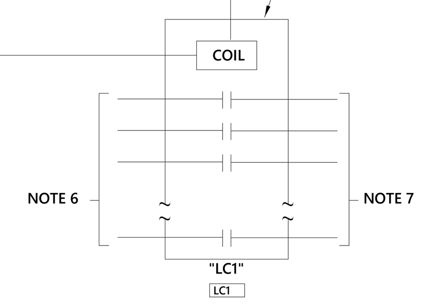
No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

ELECTRICAL DETAILS

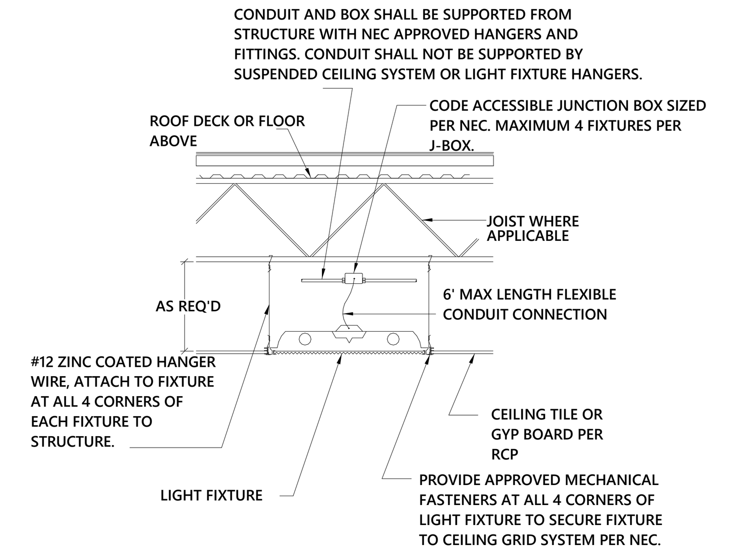
E-005





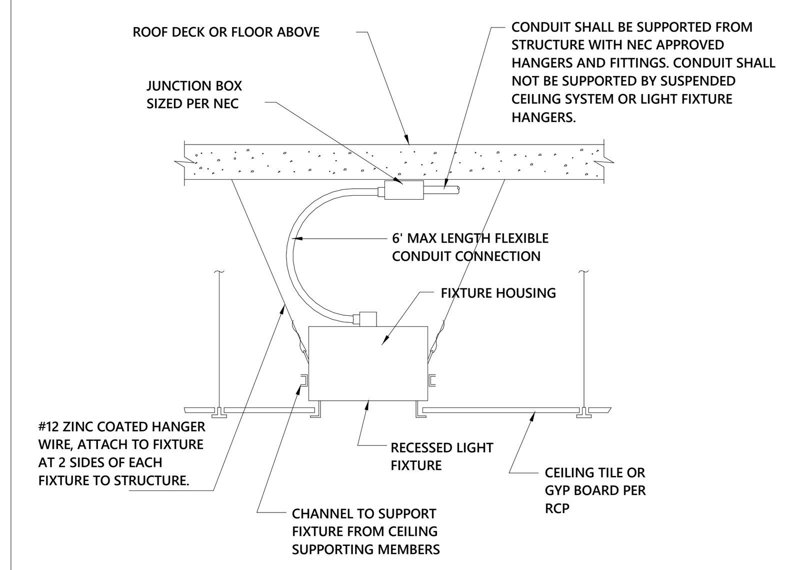
NOTES:
1. DIGITAL TIMECLOCK WITH 16 HR RESERVE
2. PHOTOELECTRIC CELL ON ROOF WITH EYE ORIENTED TOWARDS THE NORTH
3. HAND OFF AUTO SWITCH (HOA)
4. FOUR POLE LIGHTING CONTACTOR WITH 277V, 30A CONTACTS
5. PROVIDE A NEMA 1 ENCLOSURE FOR HOA SWITCH AND LIGHTING CONTACTOR. ENCLOSURE SHALL BE PROVIDED WITH HINGED DOOR AND KEY OPERATED LOCK. INSTALL HOA SWITCH ON FRONT COVER.
6. LIGHTING CIRCUITS FROM PANELBOARDS.
7. LIGHTING CIRCUITS TO BLDG/SITE, SEE PLANS.

1 EXTERIOR LIGHTING CONTROL DIAGRAM - EMERGENCY/NORMAL
NO SCALE



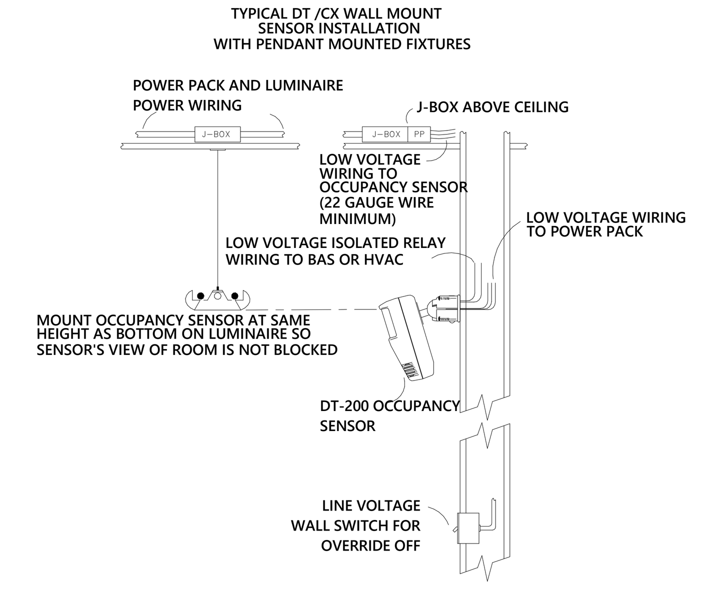
NOTES:
1. WHERE ROOF DECKING IS THE IS THE ALLOWABLE SUPPORT STRUCTURE, AND PATHWAY SYSTEM IS NOT IMC OR RMC, THE MINIMUM DISTANCE FROM ROOF DECKING SHALL BE 1.5" FOR ALL BOXES AND CONDUIT.

2 TYPICAL LAY-IN FIXTURE DIAGRAM
NO SCALE



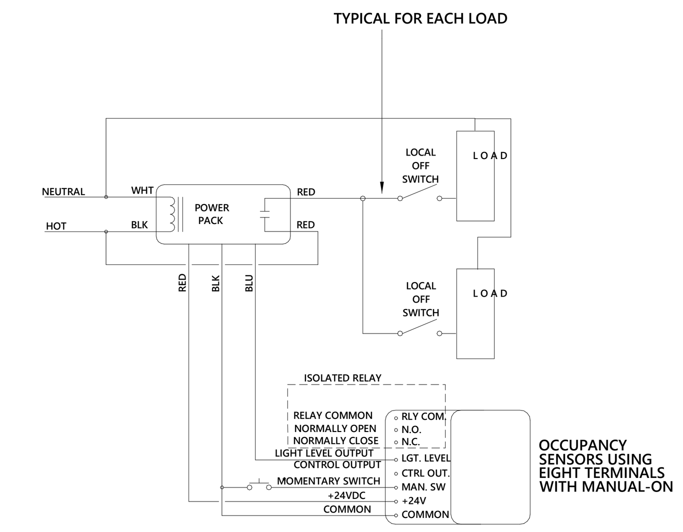
NOTES:
1. WHERE ROOF DECKING IS THE IS THE ALLOWABLE SUPPORT STRUCTURE, AND PATHWAY SYSTEM IS NOT IMC OR RMC, THE MINIMUM DISTANCE FROM ROOF DECKING SHALL BE 1.5" FOR ALL BOXES AND CONDUIT.

3 TYPICAL RECESSED DOWN LIGHT FIXTURE INSTALLATION DIAGRAM
NO SCALE

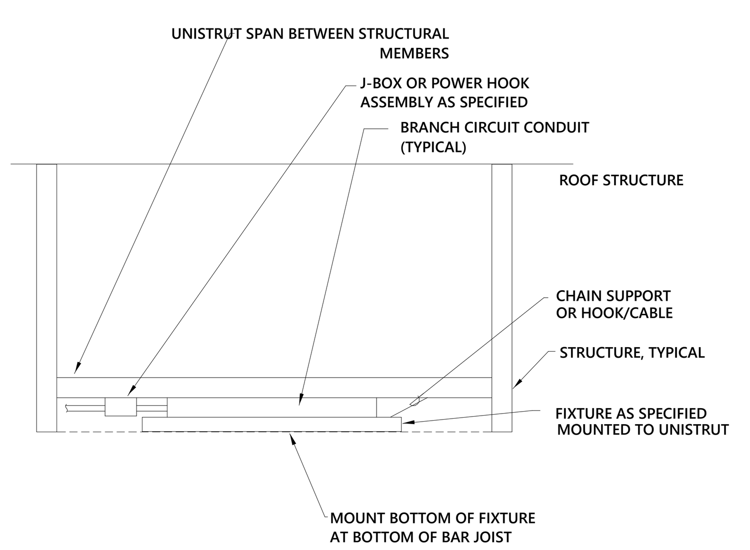


DT-200/CX SERIES MOUNTING DETAIL WITH PENDANT MOUNTED FIXTURES

4 DT-200 PENDANT FIXTURE
NO SCALE

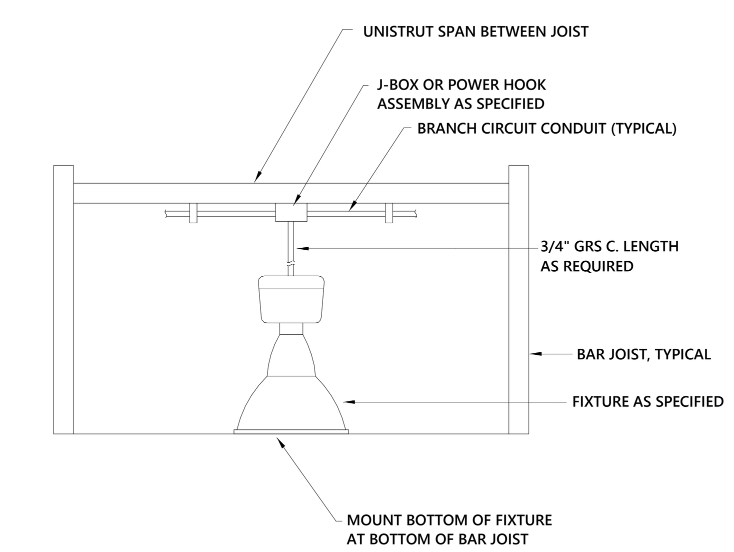


5 DT-200/300
NO SCALE



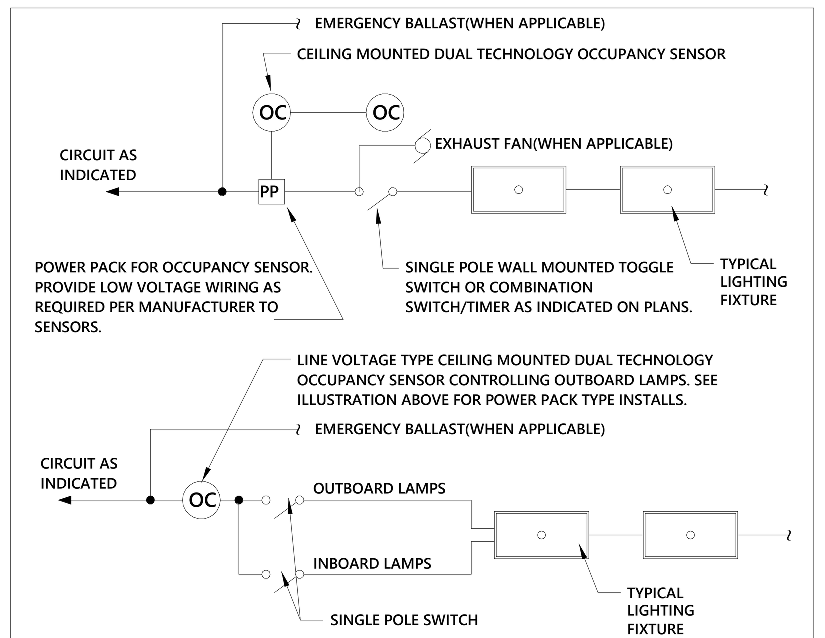
NOTES:
1. ORIENTATION SHOWN IS FOR PERPENDICULAR TO FLOOR APPLICATIONS. FOR SLOPED JOIST INSTALLATION, MATCH SLOPE OF JOIST AND MOUNT FLUSH WITH JOIST. ADJUST UNISTRUT AS REQUIRED.

6 HI-BAY FIXTURE (2X4)
NO SCALE



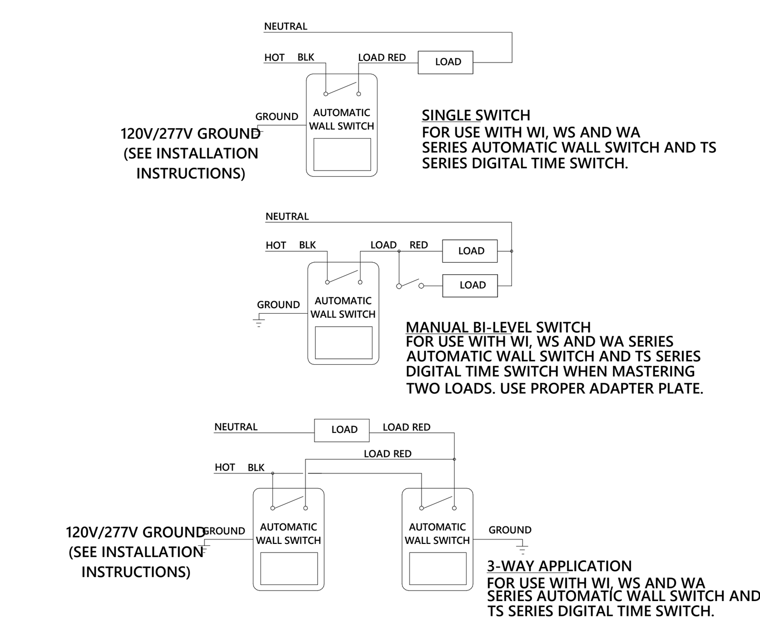
NOTES:
1. ORIENTATION SHOWN IS FOR PERPENDICULAR TO FLOOR APPLICATIONS. FOR SLOPED JOIST INSTALLATION, MATCH SLOPE OF JOIST AND MOUNT FLUSH WITH JOIST. ADJUST UNISTRUT AS REQUIRED.
2. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH LOCAL AREA.

7 HI-BAY FIXTURE PENDANT
NO SCALE



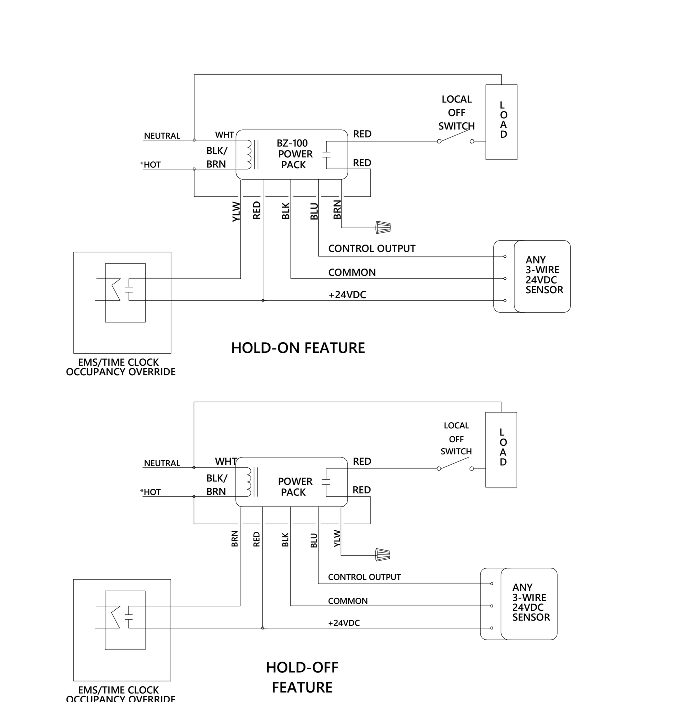
NOTES:
1. OCCUPANCY SENSORS SHALL BE SET TO TIME OUT AFTER 15 MINUTES AND THE TRIM POTENTIOMETER IS SET TO 90% FOR SENSITIVITY.
2. OCCUPANCY SENSORS SHALL BE PLACED AS TO NOT FUNCTION UPON SOMEONE JUST PASSING BY THE ROOM DOOR BUT BY ACTUALLY ENTERING THE ROOM IN AS MUCH AS POSSIBLE.

8 TYPICAL CEILING MOUNTED OCCUPANCY SENSOR WIRING DIAGRAMS
NO SCALE



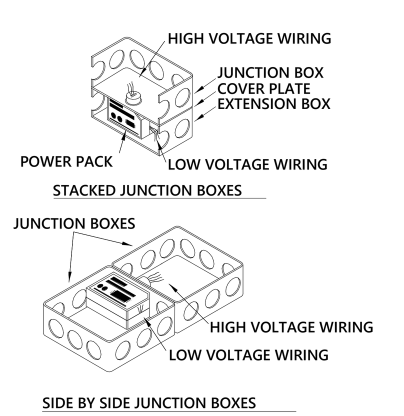
*WHEN THESE SWITCHES ARE WIRED IN A THREE-WAY WIRING CONFIGURATION THEY WILL ONLY OPERATE AS THREE-WAY SWITCHES IF THEY ARE LEFT IN AUTOMATIC MODE. IF ONE SWITCH IS TURNED OFF, THE LIGHTS WILL NOT COME AUTOMATICALLY ON UNTIL THAT SWITCH IS TURN BACK TO THE AUTOMATIC POSITION.

9 SINGLE POLE OCC. SENSOR SWITCH
NO SCALE



NOTE: CONNECT ONLY THE SUPPLY FOR THE VOLTAGE BEING USED.
CAP UNUSED POWER SUPPLY WIRE.

10 POWER PACK WIRING DIAGRAM
NO SCALE

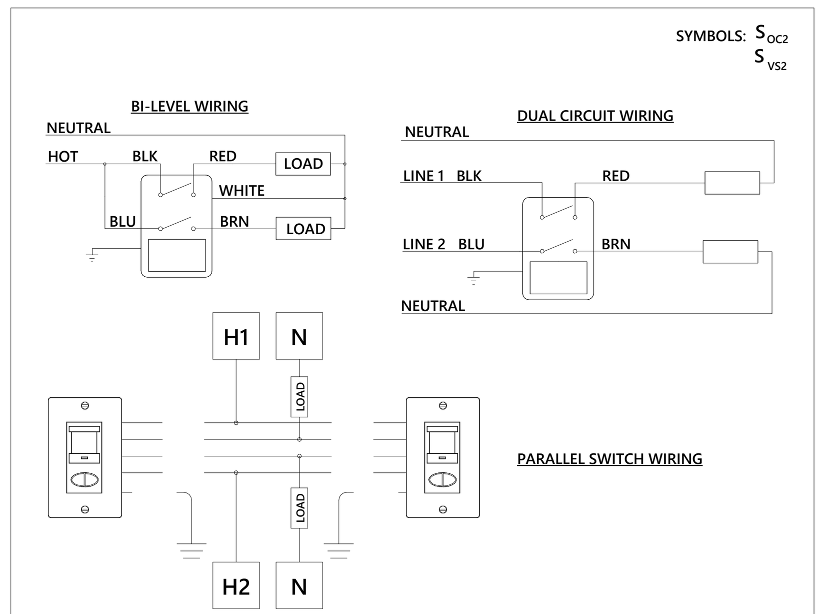


NOTE:
DO NOT MOUNT POWER PACKS CLOSER THAN 6-12 INCHES FROM SENSOR. PROVIDE DOUBLE STACKED JUNCTION BOX FOR MAXIMUM VENTILATION OF POWER PACK. PROVIDE BLANK COVER. WHERE PERMITTED BY CODE AND AHJ, LEAVE (2) OPENINGS IN CONDUIT KNOCKOUT FOR VENTING OF POWER PACK. VERIFY WITH AHJ PRIOR TO KNOCKOUT REMOVAL.

POWER PACK INSTALLED IN J-BOX

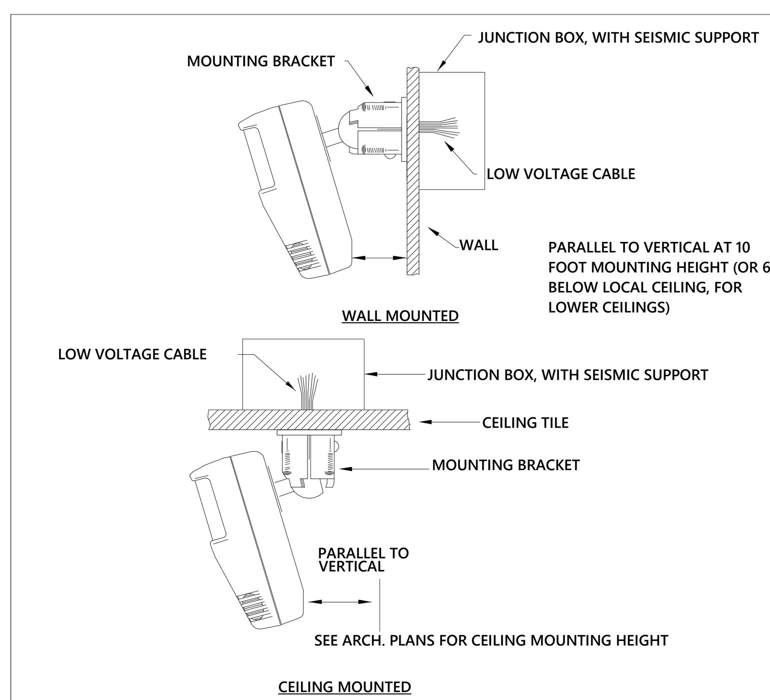
11 POWER PACK INSTALLATION

SYMBOLS: S_{OC2} S_{VS2}



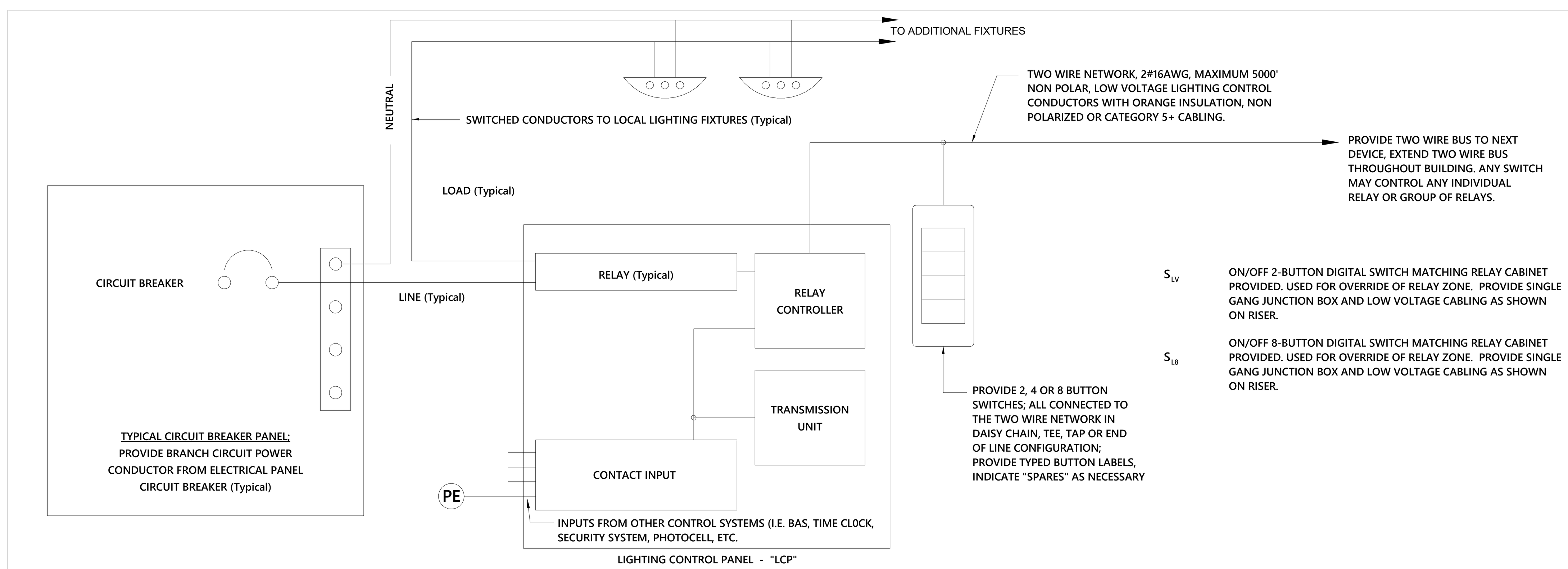
NOTES:
1. COLOR CODING AND WIRING MAY VARY PER MANUFACTURER.
2. IF SEQUENCE OF OPERATION PROVIDED, SEE SEQUENCE FOR SETTING REQUIREMENTS. OTHERWISE SET TIME AFTER NO OCCUPANCY DETECTED FOR 15 MINUTES.
3. OCCUPANCY AND/OR VACANCY SENSORS APPLY.
4. BOTH SENSORS MUST TIME OUT FOR LIGHTS TO TURN OFF.
5. SWITCHING IS LINE VOLTAGE.
6. WHEN REQUIRED CONNECT NEUTRAL TO WHITE LEAD (NEUTRAL OF SWITCH).

12 DUAL RELAY WALL SWITCH SENSORS
NO SCALE



NOTES:
1. TILT SENSOR TOWARD CENTER OF ROOM FOR MAXIMUM EFFECTIVENESS.
2. CALIBRATE SENSITIVITY AND DIRECTION AFTER INSTALLATION.
3. PROVIDE WALL MOUNT BRACKET AND INSTALL AT CORNER MOST SECTION OF ROOM. PATTERN IS BASED ON CONICAL SHAPE.

13 CORNER MOUNT SENSOR
NO SCALE



S_{LV} ON/OFF 2-BUTTON DIGITAL SWITCH MATCHING RELAY CABINET PROVIDED. USED FOR OVERRIDE OF RELAY ZONE. PROVIDE SINGLE GANG JUNCTION BOX AND LOW VOLTAGE CABLING AS SHOWN ON RISER.

S_{L8} ON/OFF 8-BUTTON DIGITAL SWITCH MATCHING RELAY CABINET PROVIDED. USED FOR OVERRIDE OF RELAY ZONE. PROVIDE SINGLE GANG JUNCTION BOX AND LOW VOLTAGE CABLING AS SHOWN ON RISER.

LIGHTING CONTROL SYSTEM NOTES

1. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, DEVICES, WIRING, CONNECTIONS, AND PROGRAMMING NEEDED IF ANY OTHER LIGHTING CONTROL SYSTEM IS USED.

2. ALL SWITCHES CONNECT TO THE FULL 2-WAY BUS, ARE DIGITALLY PROGRAMMABLE, AND CAN CONTROL ANY LOAD OR GROUP OF LOADS WITHIN THE SYSTEM. SENSORS FULLY PROGRAMMABLE WITH FOUR ADDRESSES.

3. FULL TWO-WAY BUS IS FREE TOPOLOGY AND CAN BE CONNECTED AS DESIRED (IE. STAR TAP, T-TAP, LOOP, GRID). BUS IS NON-POLARIZED, NON-TWISTED, AND DOES NOT REQUIRE SHIELDING OR SPECIAL CABLING. ALL WIRING SHALL BE INSTALLED IN CONDUIT.

4. SYSTEM SHALL HAVE MODULES AS REQUIRED TO INTERFACE WITH THE AV SYSTEM FOR OVERRIDE OF LIGHTING CONTROLS. COORDINATE WITH AV CONTRACTOR FOR ANY ADDITIONAL REQUIREMENTS AND PROVIDE ALL NECESSARY HARDWARE, PROGRAMMING AS REQUIRED.

5. ALL DEVICES ARE SHOWN TYPICAL, SEE DRAWINGS FOR ACTUAL DEVICE QUANTITY AND LOCATION(S).

6. SYSTEM PROGRAMMING GROUPS, PATTERNS, ETC. SHALL BE CONDUCTED BY CERTIFIED MANUFACTURER'S REPRESENTATIVE SUBJECT TO OWNER'S APPROVAL.

7. SIX COPIES OF DRAWINGS SHOWING THE COMPLETE LIGHTING CONTROL SYSTEM (RELAYS, PANELS, SWITCHES, DIMMER RELAYS, AMPLIFIERS, INTERCONNECTING CIRCUITRY, ETC.) SHALL BE SUBMITTED TO THE ENGINEER OF RECORD DURING THE SHOP DRAWING REVIEW. SUBMITTALS WILL BE REJECTED WITHOUT FULL DRAWINGS AND SPECIFICATIONS.

BASIS OF DESIGN: LC&D. APPROVED EQUAL PRODUCTS MAY BE CONSIDERED BY CRESTRON, SCHNEIDER ELECTRIC, COOPER LIGHTING CONTROLS AND LEVITON.

14 LOW VOLTAGE LIGHTING CONTROL SYSTEM
NO SCALE

SULLIVAN COUNTY SCHOOLS

SULLIVAN EAST MIDDLE SCHOOL

Cain Rash West Architects

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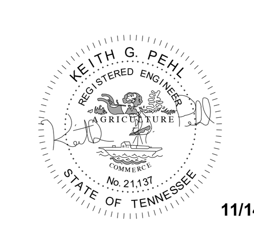

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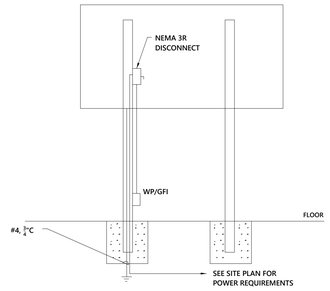
REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

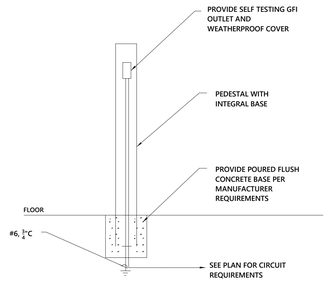
ELECTRICAL DETAILS

E-006



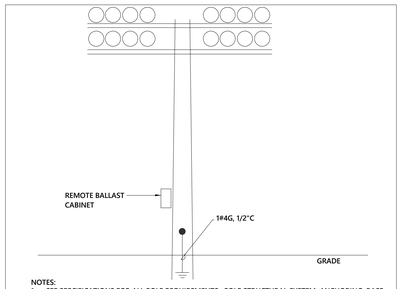
NOTES:
1. SCOREBOARD AND STRUCTURE PROVIDED BY ELECTRICAL CONTRACTOR, SEE SPECIFICATIONS FOR EXACT REQUIREMENTS.
2. CONCRETE BASE/STRUCTURE SHALL BE DESIGNED FOR 120 MPH WIND. STRUCTURE AND BASE SHALL BE BY THE SCOREBOARD MANUFACTURER.

1 SCOREBOARD AND STRUCTURE
NO SCALE



NOTES:
1. BASED ON PEDOC OUTLET BOX, INTEGRAL BASE AND PEDESTAL. APPROVE EQUALS SHALL BE UL LISTED.
2. STAINLESS STEEL WITH POWER COATING. NEMA 3R RATED. COLOR BASED ON GRAY, 30" HEIGHT.
3. DIMENSION BASED ON 30" HIGH, 5" WIDE AND 2.5" DEEP.

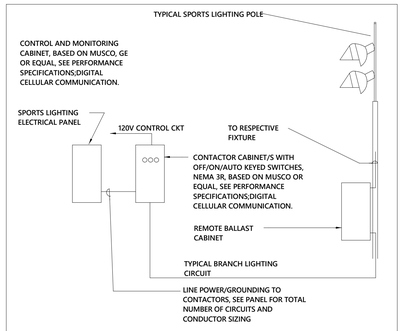
2 RECEPTACLE PEDESTAL
NO SCALE



NOTES:
1. SEE SPECIFICATIONS FOR ALL POLE REQUIREMENTS. POLE STRUCTURAL SYSTEM, ANCHORING, BASE, STRUCTURAL ARMS, MOUNTING, AND INSTALLATION ARE PART OF THE MANUFACTURER EQUIPMENT.

	HEIGHT	QTY	LAMP
A1,A2	70'	5	1500W MZ
A3,A4	60'	4	1500W MZ
B1,B2	80'	9	1500W MZ
B3,B4	70'	6	1500W MZ
C1,C2,D1,D2	70'	5	1500W MZ
F1,F2	90'	16	1500W MZ
F3,F4	70'	12	1500W MZ

3 SPORTS LIGHTING
NO SCALE



4 SPORTS LIGHTING CONTROL SYSTEM
NO SCALE

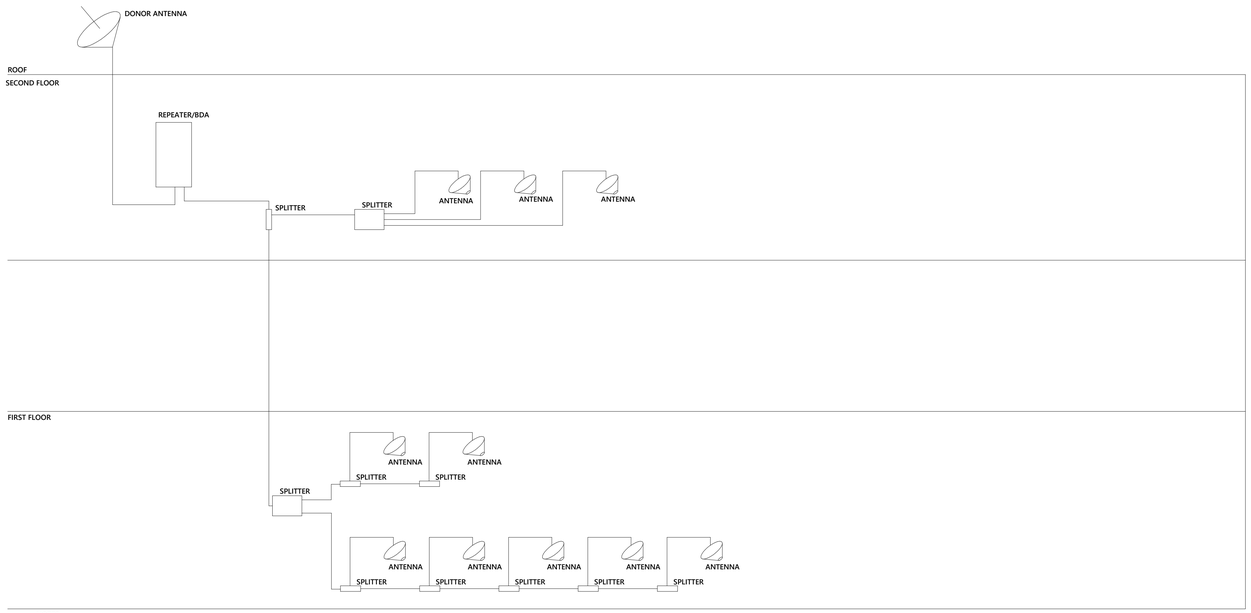
SEE DETAIL: #17 FOR TYPICAL CONTROL CABINET

CONTACTOR ZONING:
CABINET 1:
F1,F2,F3,F4 VIA RESPECTIVE CONTACTORS ZONE 1 (FOOTBALL/TRACK)
CABINET 2:
A1,A2,B1,B2,C1,C2,D1,D2 VIA RESPECTIVE CONTACTORS ZONE 1 (BASEBALL)
A3,A4,B3,B4 VIA RESPECTIVE CONTACTORS ZONE 2 (SOFTBALL)

CABINET 1:
F1: (16 FIXTURES) 40.7 AMPS
F2: (16 FIXTURES) 40.7 AMPS
F3: (12 FIXTURES) 29.6 AMPS
F4: (12 FIXTURES) 29.6 AMPS

CABINET 2:
A1/A2: (5 FIXTURES) 14.8 AMPS
B1/B2: (9 FIXTURES) 22.2 AMPS
C1/C2/D1/D2/A3/A4: (4 FIXTURES) 11.1 AMPS
B3/B4: (6 FIXTURES) 14.8AMPS (ALTERNATING DRAW)

5 SPORTS LIGHTING CONTROL ZONING
NO SCALE



NOTES:
1. SYSTEM IS BASED ON 800Mhz.
2. SEE SPECIFICATIONS FOR ALL EQUIPMENT AND CABLING REQUIREMENTS.
3. ALL CABLING TO BE INSTALLED IN 1 1/2" CONDUIT.
4. SYSTEM BASED ON DESIGN FROM HARRIS COMMUNICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS AND EQUALS.
5. PROVIDE BATTERY BACK UP (90 MINS.) FOR LOSS OF POWER.
6. SEE SPECIFICATIONS FOR CABLING REQUIREMENTS.

6 FIRST RESPONDER SYSTEM BOOSTING RISER
NTS

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SULLIVAN EAST MIDDLE SCHOOL

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KEITH G. PEHL
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11/14/2017

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REVISIONS:

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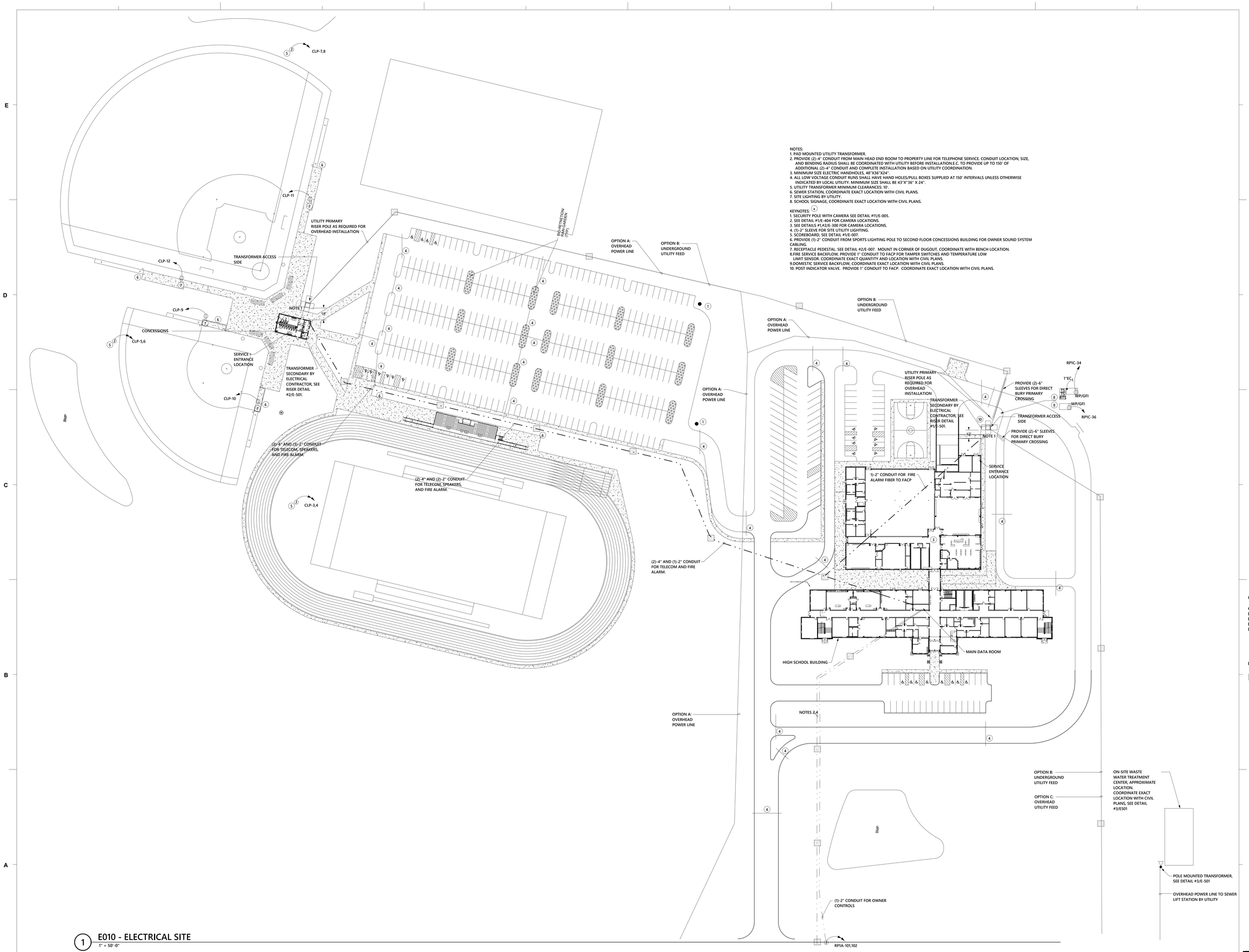
PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MIL
CHECKED BY: MM

ELECTRICAL DETAILS

E-007

NOTES:
1. PAD MOUNTED UTILITY TRANSFORMER.
2. PROVIDE (2)-4" CONDUIT FROM MAIN HEAD END ROOM TO PROPERTY LINE FOR TELEPHONE SERVICE. CONDUIT LOCATION, SIZE, AND BENDING RADIUS SHALL BE COORDINATED WITH UTILITY BEFORE INSTALLATION.E.C. TO PROVIDE UP TO 150' OF ADDITIONAL (2)-4" CONDUIT AND COMPLETE INSTALLATION BASED ON UTILITY COORDINATION.
3. MINIMUM SIZE ELECTRIC HANDHOLES, 48"X36"X24".
4. ALL LOW VOLTAGE CONDUIT RUNS SHALL HAVE HAND HOLES/PULL BOXES SUPPLIED AT 150' INTERVALS UNLESS OTHERWISE INDICATED BY LOCAL UTILITY. MINIMUM SIZE SHALL BE 43"X"36" X 24" .
5. UTILITY TRANSFORMER MINIMUM CLEARANCES: 10'.
6. SEWER STATION, COORDINATE EXACT LOCATION WITH CIVIL PLANS.
7. SITE LIGHTING BY UTILITY.
8. SCHOOL SIGNAGE, COORDINATE EXACT LOCATION WITH CIVIL PLANS.

KEYNOTES: (x)
1. SECURITY POLE WITH CAMERA SEE DETAIL #11/E-005.
2. SEE DETAIL #1/E-404 FOR CAMERA LOCATIONS.
3. SEE DETAILS #1,#2/E-300 FOR CAMERA LOCATIONS.
4. (1)-2" SLEEVE FOR SITE UTILITY LIGHTING.
5. SCOREBOARD, SEE DETAIL #1/E-007.
6. PROVIDE (1)-2" CONDUIT FROM SPORTS LIGHTING POLE TO SECOND FLOOR CONCESSIONS BUILDING FOR OWNER SOUND SYSTEM CABLING.
7. RECEPTACLE PEDESTAL. SEE DETAIL #2/E-007. MOUNT IN CORNER OF DUGOUT, COORDINATE WITH BENCH LOCATION.
8.FIRE SERVICE BACKFLOW, PROVIDE 1" CONDUIT TO FACP FOR TAMPER SWITCHES AND TEMPERATURE LOW LIMIT SENSOR. COORDINATE EXACT QUANTITY AND LOCATION WITH CIVIL PLANS.
9.DOMESTIC SERVICE BACKFLOW, COORDINATE EXACT LOCATION WITH CIVIL PLANS.
10. POST INDICATOR VALVE. PROVIDE 1" CONDUIT TO FACP. COORDINATE EXACT LOCATION WITH CIVIL PLANS.



1 E010 - ELECTRICAL SITE
1" = 50'-0"

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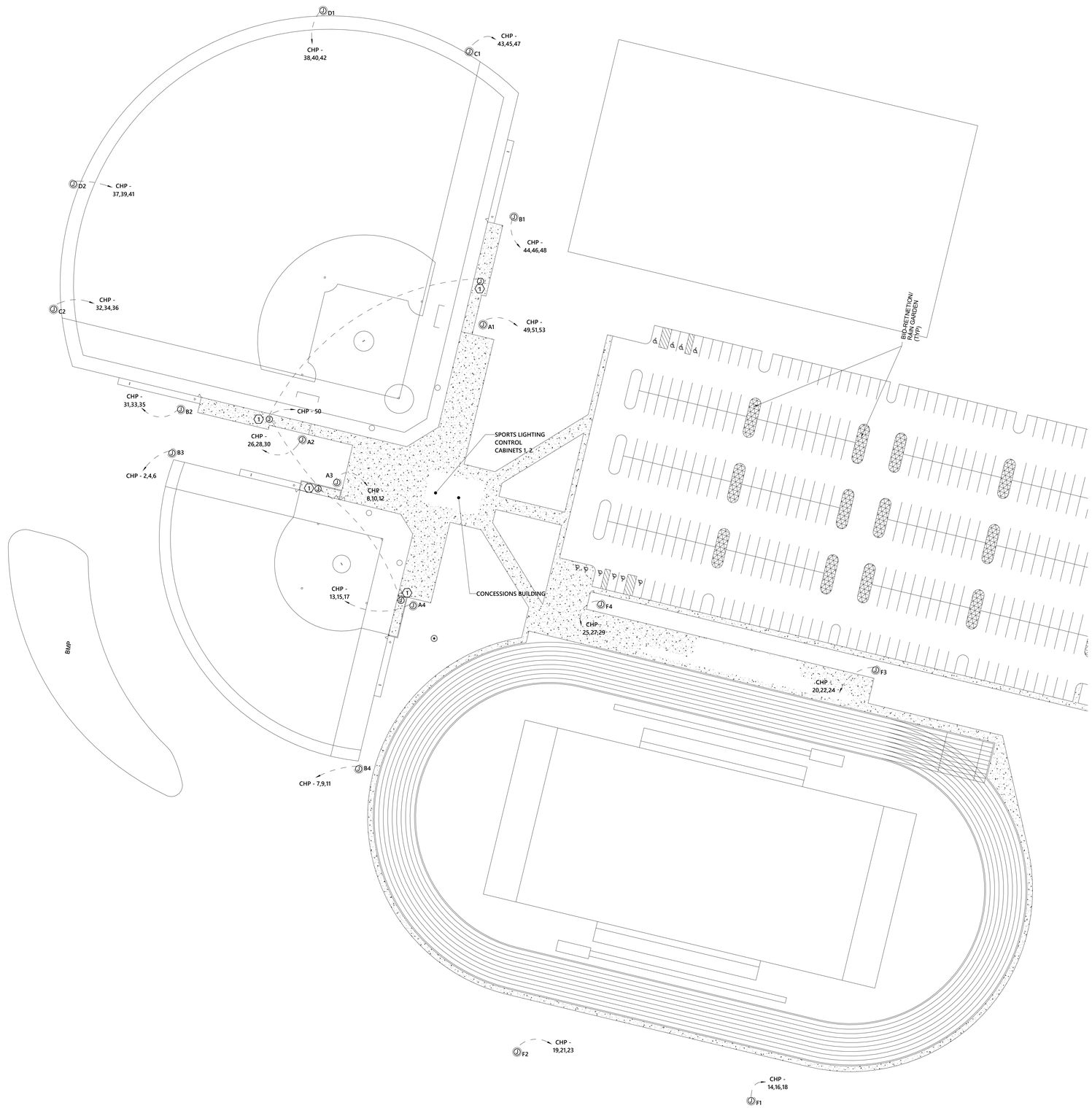
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

ELECTRICAL SITE PLAN

E-010

GENERAL NOTES:
1. ALL BRANCH CIRCUITS AND FEEDERS SHALL BE ROUTED AROUND SPORTS FIELDS.

KEYED NOTES:
1. PROVIDE (2) TYPE VRS1 FIXTURES IN DUGOUT. COORDINATE MOUNTING WITH ARCHITECT DUGOUT PLANS. PROVIDE 4 HOUR 277V MECHANICAL TIME SWITCH IN NEMA 3R SWITCH ENCLOSURE. MOUNT AT ENTRY OF EACH DUGOUT.



1 SPORTS LIGHTING
1" = 40'-0"

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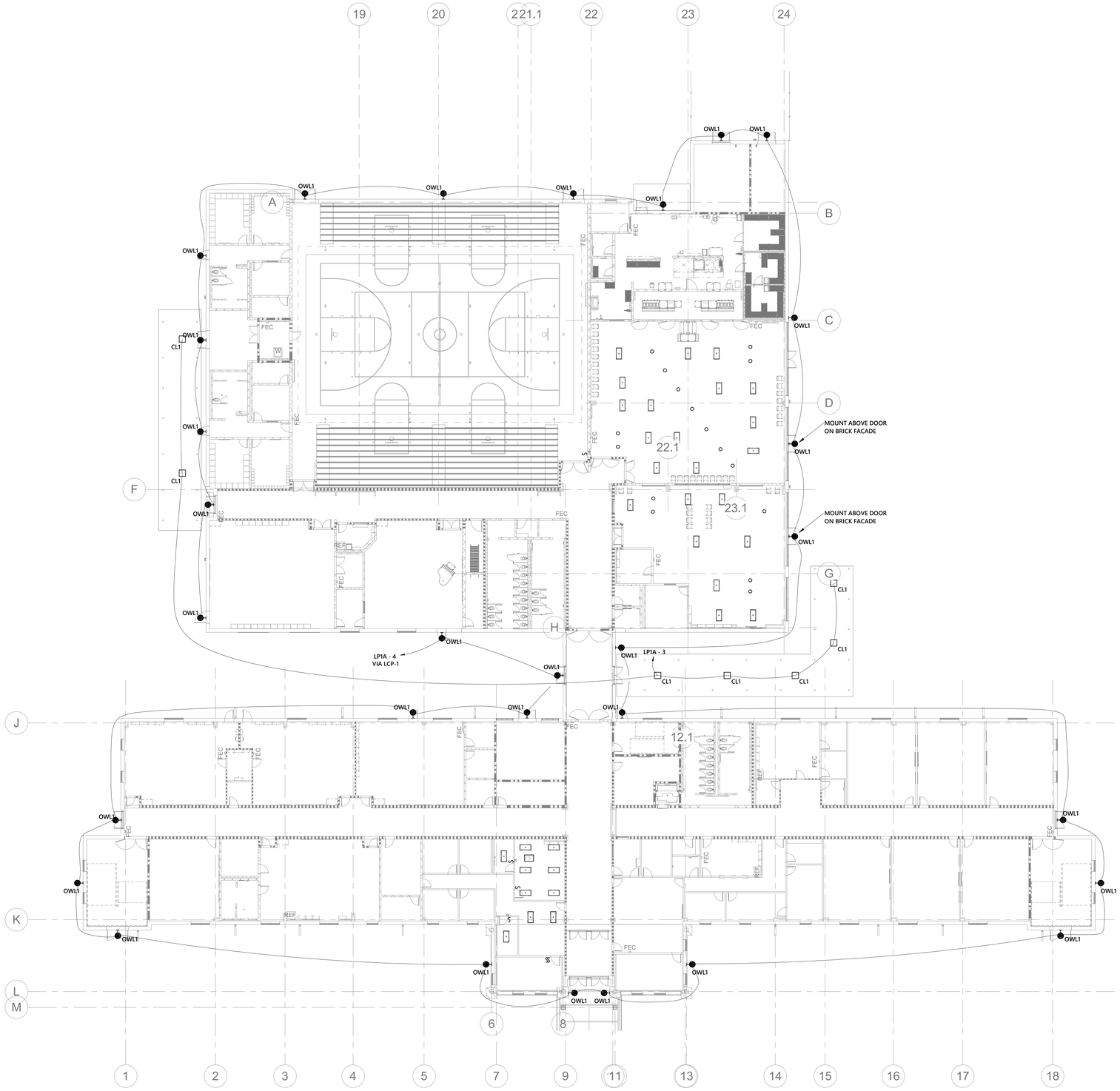
DRAWN BY: ML
CHECKED BY: MM

SITE SPORTS LIGHTING

E-011



1 FIRST FLOOR PLAN OVERALL

1/16" = 1'-0"

GENERAL NOTES:

1. COORDINATE ALL LOCATIONS OF EXTERIOR FIXTURES WITH ARCHITECTURAL DRAWINGS. FIXTURES MOUNTED ABOVE DOORS SHALL BE CENTERED ON DOOR FRAME.

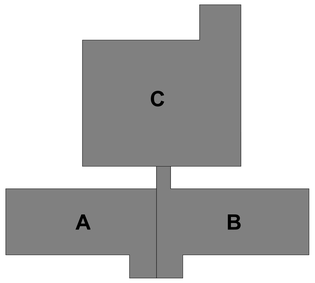
PARTITION LEGEND

1 HOUR RATED

2 HOUR RATED

SMOKE WALL

KEYPLAN



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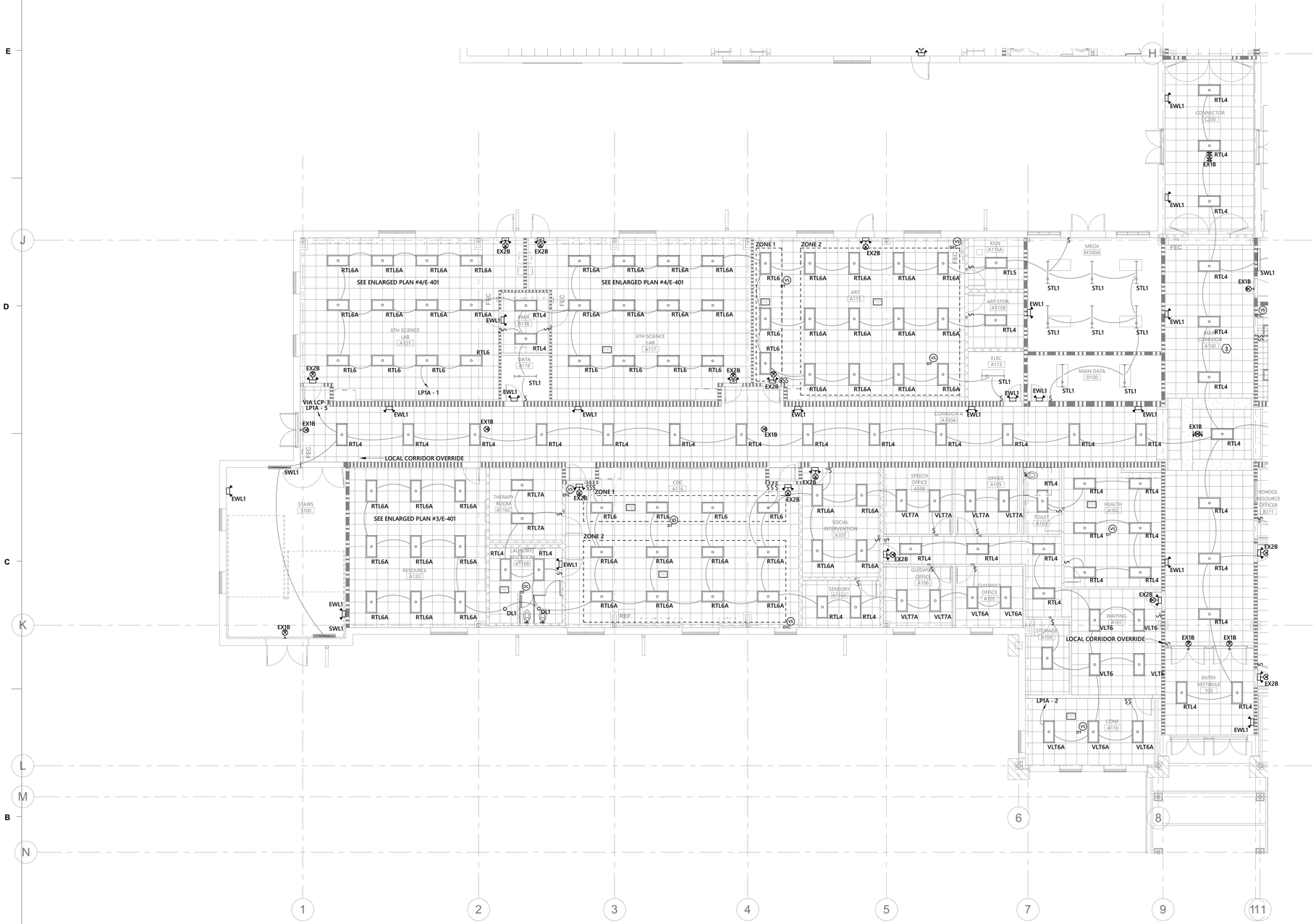
CHECKED BY: MM

OVERALL EXTERIOR LIGHTING

E-100

GENERAL NOTES:

1. ALL LOW VOLTAGE SWITCHES IN THE CORRIDORS TO CONTROL LOCAL CORRIDOR CIRCUIT VIA LIGHTING CONTROL PANEL RELAY.
2. CONNECT ALL EXIT SIGNS AND EMERGENCY FIXTURES TO LOCAL CIRCUIT AHEAD OF THE SWITCH, AS INDICATED FOR CHARGING. EMERGENCY LIGHTING FIXTURES SHALL BE SUPPLIED WITH 90-MINUTE, 1100 LUMEN MINIMUM BATTERY BACK-UP DRIVER. ALL EXIT SIGNS SHALL HAVE 90-MINUTE BATTERY BACK-UP. SEE DETAILS #1Z/E-006 FOR EMERGENCY FIXTURES THAT ARE SWITCHED WITH THE LOCAL CIRCUIT.

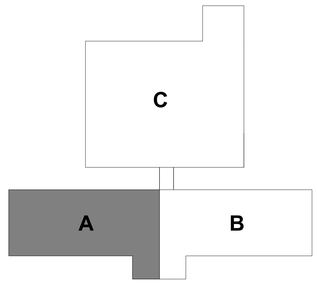


1 FIRST FLOOR PLAN LIGHTING AREA A
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED
2 HOUR RATED
SMOKE WALL

KEYPLAN



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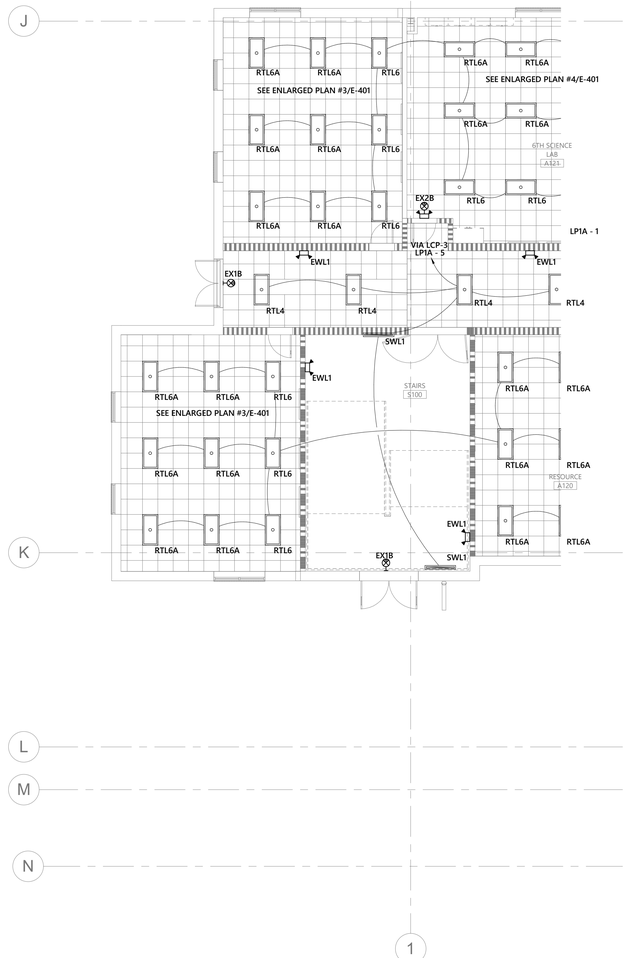
FIRST FLOOR LIGHTING PLAN AREA A

E-101A

GENERAL NOTES:

1. ALL LOW VOLTAGE SWITCHES IN THE CORRIDORS TO CONTROL LOCAL CORRIDOR CIRCUIT VIA LIGHTING CONTROL PANEL RELAY.
2. CONNECT ALL EXIT SIGNS AND EMERGENCY FIXTURES TO LOCAL CIRCUIT AHEAD OF THE SWITCH, AS INDICATED FOR CHARGING. EMERGENCY LIGHTING FIXTURES SHALL BE SUPPLIED WITH 90-MINUTE, 1100 LUMEN MINIMUM BATTERY BACK-UP DRIVER. ALL EXIT SIGNS SHALL HAVE 90-MINUTE BATTERY BACK-UP. SEE DETAILS #12/E-006 FOR EMERGENCY FIXTURES THAT ARE SWITCHED WITH THE LOCAL CIRCUIT.

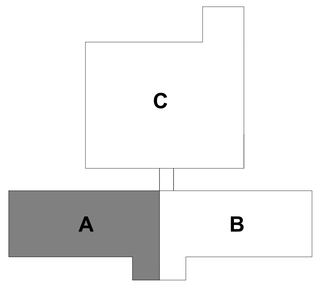


1 FIRST FLOOR PLAN LIGHTING AREA A - ALTERNATE
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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DRAWN BY: Author
CHECKED BY: Checker

FIRST FLOOR LIGHTING PLAN AREA A ALTERNATE

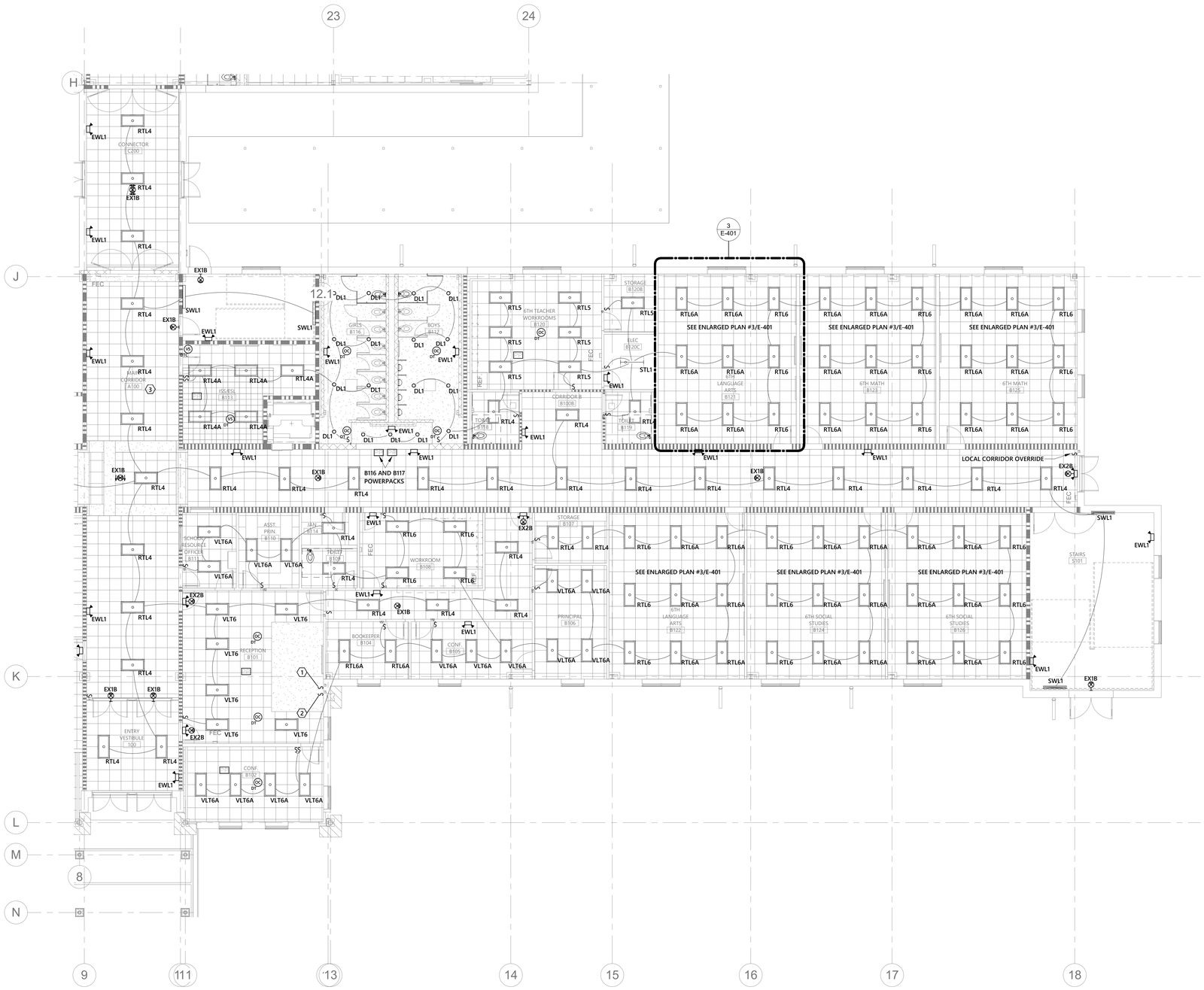
E-101A.1

GENERAL NOTES:

1. ALL LOW VOLTAGE SWITCHES IN THE CORRIDORS TO CONTROL LOCAL CORRIDOR CIRCUIT VIA LIGHTING CONTROL PANEL RELAY.
2. CONNECT ALL EXIT SIGNS AND EMERGENCY FIXTURES TO LOCAL CIRCUIT AHEAD OF THE SWITCH, AS INDICATED FOR CHARGING. EMERGENCY LIGHTING FIXTURES SHALL BE SUPPLIED WITH 90-MINUTE, 1100 LUMEN MINIMUM BATTERY BACK-UP DRIVER. ALL EXIT SIGNS SHALL HAVE 90-MINUTE BATTERY BACK-UP. SEE DETAILS #12/E-006 FOR EMERGENCY FIXTURES THAT ARE SWITCHED WITH THE LOCAL CIRCUIT.

KEYED NOTES: (X)

1. MASTER OVERRIDE TO CONTROL ALL LIGHTING RELAY CONTROLLED LIGHTING ZONES.
2. LOW VOLTAGE SWITCH TO CONTROL MAIN CORRIDOR LIGHTING.
3. MAIN CORRIDOR A100 TO BE CONTROLLED SEPARATELY FROM AREA A AND B CORRIDORS. CONTROL MAIN CORRIDOR A100 VIA LCP-4.

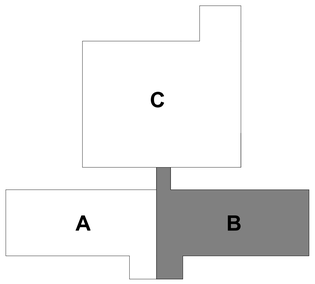


1 FIRST FLOOR PLAN LIGHTING AREA B
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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DATE: 11/14/2017
DRAWN BY: MFL
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FIRST FLOOR LIGHTING PLAN AREA B

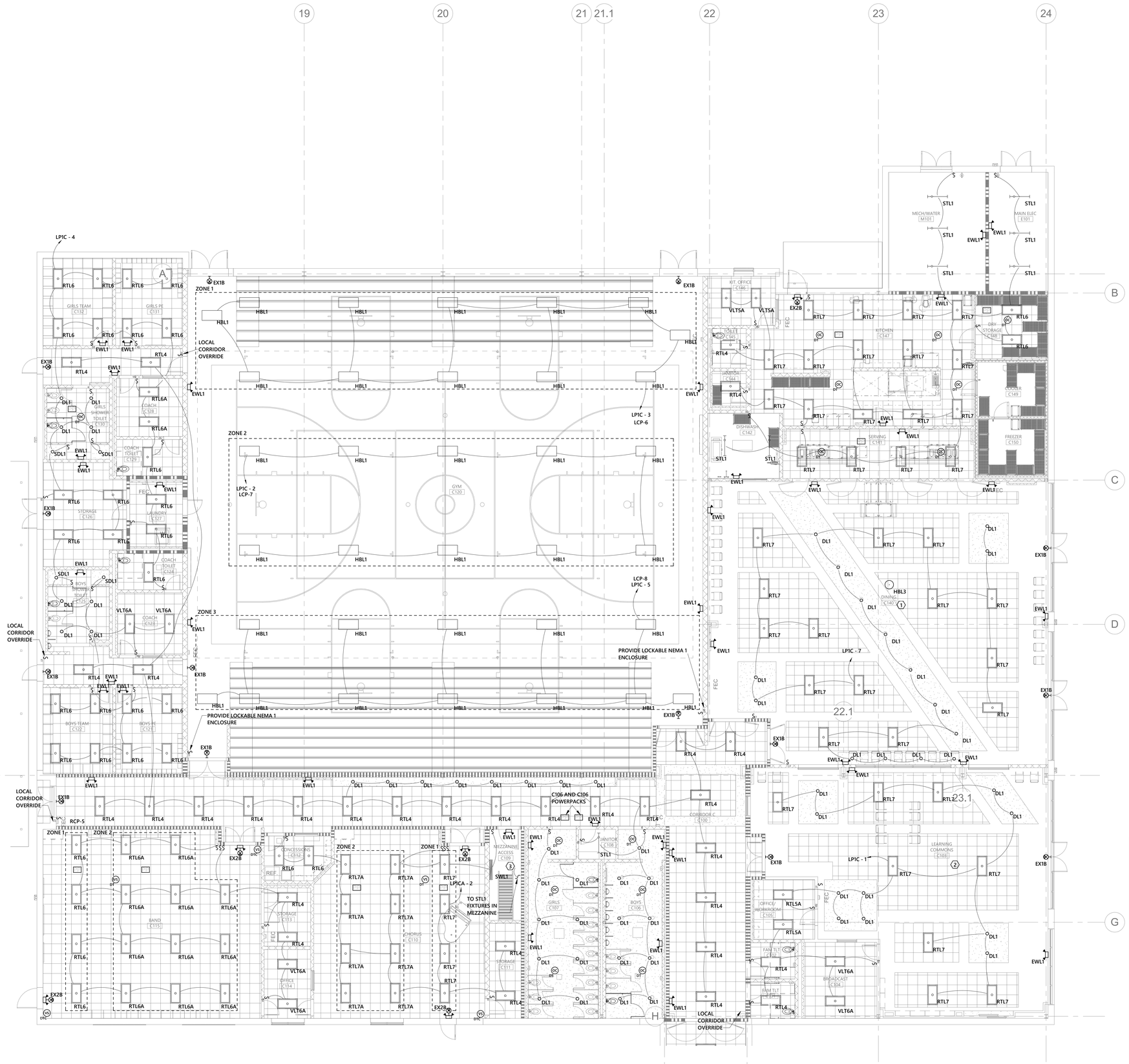
E-101B

GENERAL NOTES:

1. PROVIDE WIREGUARDS FOR ALL EXIT AND EMERGENCY LIGHTS IN GYM C120.
2. CONNECT ALL EXIT SIGNS AND EMERGENCY FIXTURES TO LOCAL CIRCUIT AHEAD OF THE SWITCH, AS INDICATED FOR CHARGING. EMERGENCY LIGHTING FIXTURES SHALL BE SUPPLIED WITH 90-MINUTE, 1100 LUMEN MINIMUM BATTERY BACK-UP DRIVER. ALL EXIT SIGNS SHALL HAVE 90-MINUTE BATTERY BACK-UP. SEE DETAILS #12/E-006 FOR EMERGENCY FIXTURES THAT ARE SWITCHED WITH THE LOCAL CIRCUIT.

KEYED NOTES: (X)

1. ALL FIXTURES IN DINING C140 TO BE CONTROLLED VIA LCP-9 WITH LOCAL OVERRIDE VIA LOW VOLTAGE SWITCH AT ENTRANCE.
2. ALL FIXTURES IN LEARNING COMMONS C103 TO BE CONTROLLED VIA LCP-10 WITH LOCAL OVERRIDE VIA LOW VOLTAGE SWITCH AT MAIN DESK.
3. THREE WAY SWITCH TO CONTROL LIGHTS ABOVE IN MEZZANINE. SECOND SWITCH LOCATED AT TOP OF STEPS; SEE PLAN E-103C FOR EXACT LOCATION.

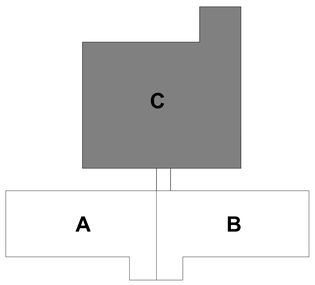


1 FIRST FLOOR PLAN - LIGHTING
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED
2 HOUR RATED
SMOKE WALL

KEYPLAN



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DATE: 11/14/2017
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FIRST FLOOR LIGHTING PLAN AREA C

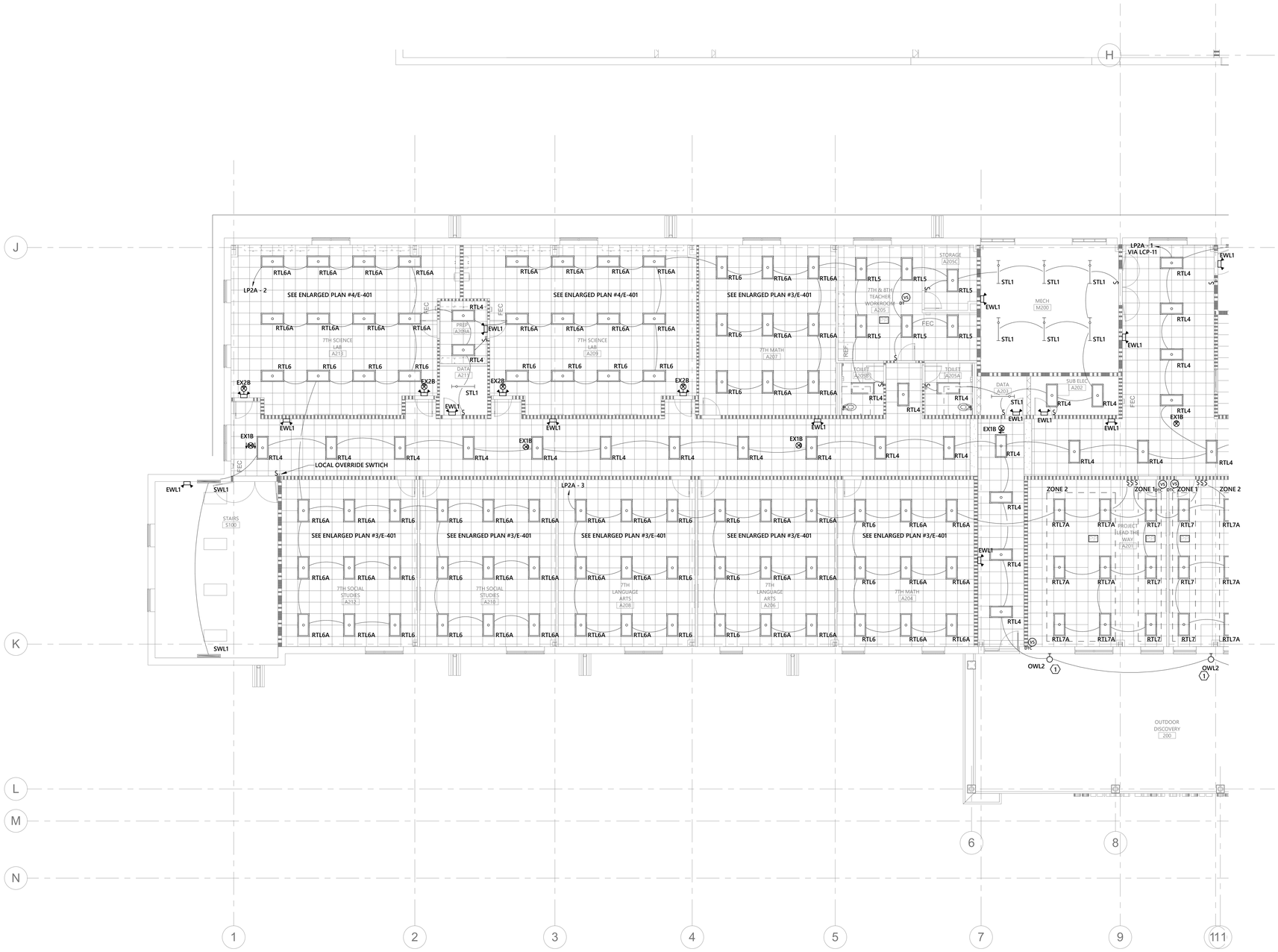
E-101C

GENERAL NOTES:

1. ALL LOW VOLTAGE SWITCHES IN THE CORRIDORS TO CONTROL LOCAL CORRIDOR CIRCUIT VIA LIGHTING CONTROL PANEL RELAY.
2. CONNECT ALL EXIT SIGNS AND EMERGENCY FIXTURES TO LOCAL CIRCUIT AHEAD OF THE SWITCH, AS INDICATED FOR CHARGING. EMERGENCY LIGHTING FIXTURES SHALL BE SUPPLIED WITH 90-MINUTE, 1100 LUMEN MINIMUM BATTERY BACK-UP DRIVER. ALL EXIT SIGNS SHALL HAVE 90-MINUTE BATTERY BACK-UP. SEE DETAILS #12/E-006 FOR EMERGENCY FIXTURES THAT ARE SWITCHED WITH THE LOCAL CIRCUIT.

KEYED NOTES: (X)

1. OUTDOOR FIXTURES LOCATED IN OUTDOOR DISCOVERY 200 TO BE CONTROLLED VIA INTERMATIC K4223C PHOTOCELL OR EQUAL. INSTALL ON NORTH FACING ROOF.

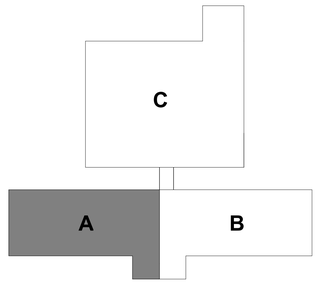


1 SECOND FLOOR PLAN LIGHTING AREA A
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED
2 HOUR RATED
SMOKE WALL

KEYPLAN



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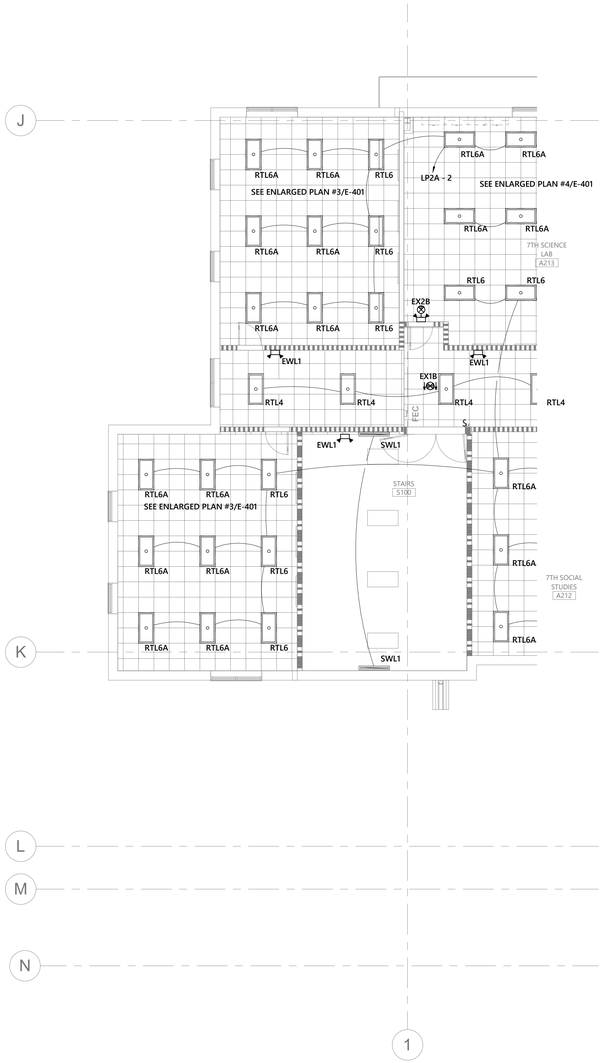
SECOND FLOOR LIGHTING PLAN AREA A

E-102A

GENERAL NOTES:

1. ALL LOW VOLTAGE SWITCHES IN THE CORRIDORS TO CONTROL LOCAL CORRIDOR CIRCUIT VIA LIGHTING CONTROL PANEL RELAY.
2. CONNECT ALL EXIT SIGNS AND EMERGENCY FIXTURES TO LOCAL CIRCUIT AHEAD OF THE SWITCH, AS INDICATED FOR CHARGING. EMERGENCY LIGHTING FIXTURES SHALL BE SUPPLIED WITH 90-MINUTE, 1100 LUMEN MINIMUM BATTERY BACK-UP DRIVER. ALL EXIT SIGNS SHALL HAVE 90-MINUTE BATTERY BACK-UP. SEE DETAILS #12/E-006 FOR EMERGENCY FIXTURES THAT ARE SWITCHED WITH THE LOCAL CIRCUIT.

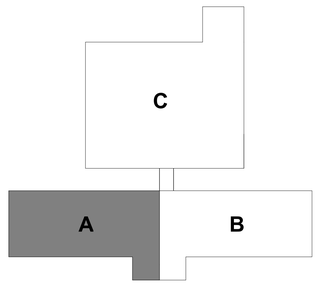


1 SECOND FLOOR PLAN LIGHTING AREA A - ALTERNATE
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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SECOND FLOOR LIGHTING PLAN AREA A ALTERNATE

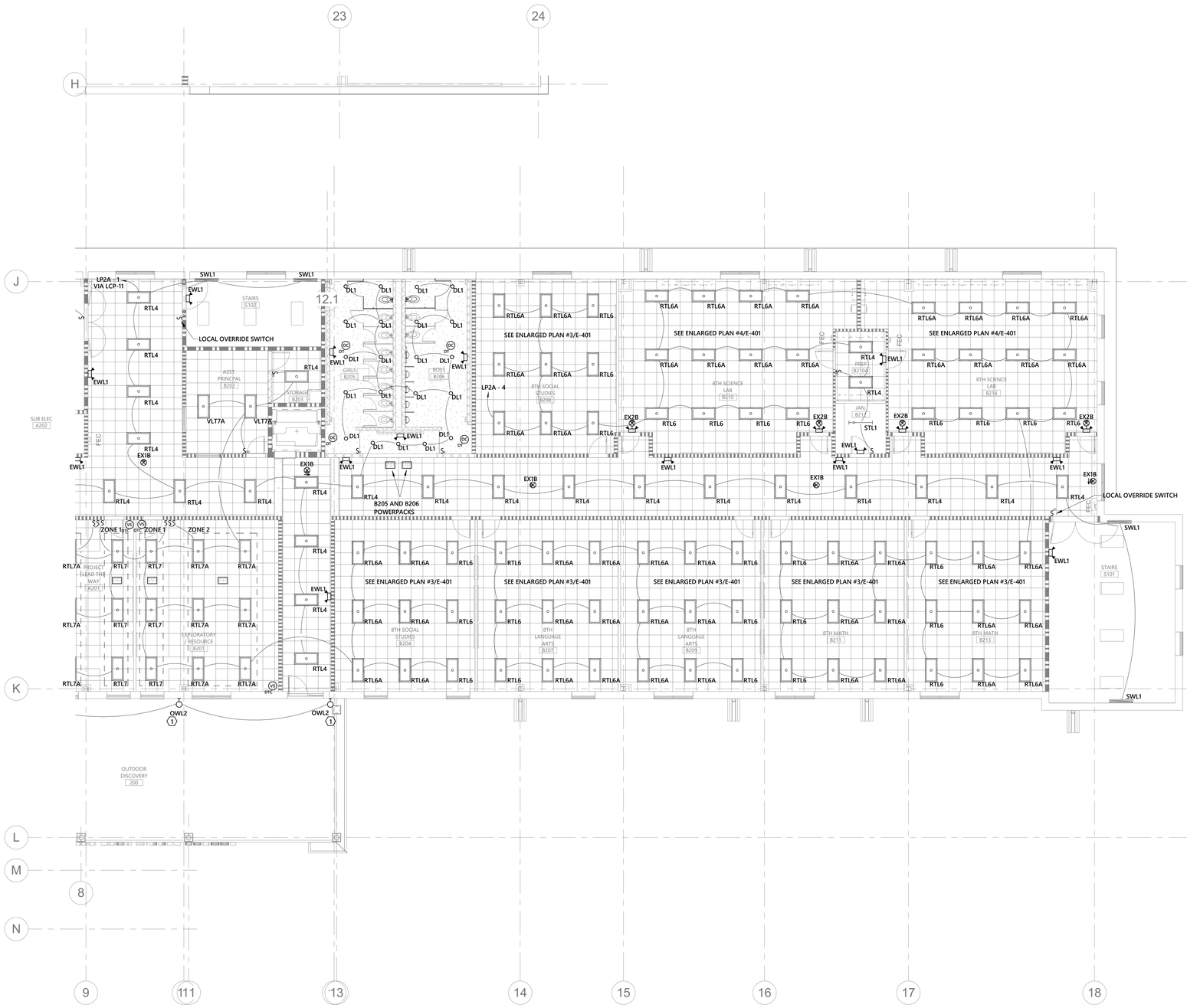
E-102A.1

GENERAL NOTES:

1. ALL LOW VOLTAGE SWITCHES IN THE CORRIDORS TO CONTROL LOCAL CORRIDOR CIRCUIT VIA LIGHTING CONTROL PANEL RELAY.
2. CONNECT ALL EXIT SIGNS AND EMERGENCY FIXTURES TO LOCAL CIRCUIT AHEAD OF THE SWITCH, AS INDICATED FOR CHARGING. EMERGENCY LIGHTING FIXTURES SHALL BE SUPPLIED WITH 90-MINUTE, 1100 LUMEN MINIMUM BATTERY BACK-UP DRIVER. ALL EXIT SIGNS SHALL HAVE 90-MINUTE BATTERY BACK-UP. SEE DETAILS #12/E-006 FOR EMERGENCY FIXTURES THAT ARE SWITCHED WITH THE LOCAL CIRCUIT.

KEYED NOTES: (X)

1. OUTDOOR FIXTURES LOCATED IN OUTDOOR DISCOVERY 200 TO BE CONTROLLED VIA INTERMATIC K4223C PHOTOCELL OR EQUAL. INSTALL ON NORTH FACING ROOF.

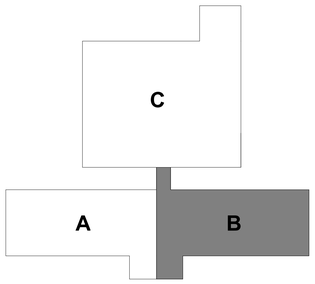


1 SECOND FLOOR PLAN LIGHTING AREA B
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED
2 HOUR RATED
SMOKE WALL

KEYPLAN



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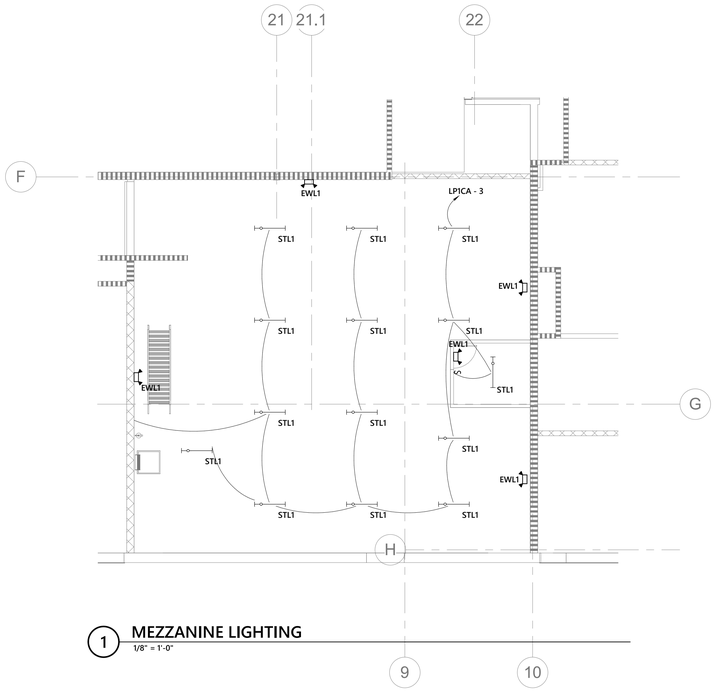
CHECKED BY: MM

SECOND FLOOR LIGHTING PLAN AREA B

E-102B

GENERAL NOTES:

1. CONNECT ALL EXIT SIGNS AND EMERGENCY FIXTURES TO LOCAL CIRCUIT AHEAD OF THE SWITCH, AS INDICATED FOR CHARGING. EMERGENCY LIGHTING FIXTURES SHALL BE SUPPLIED WITH 90-MINUTE, 1100 LUMEN MINIMUM BATTERY BACK-UP DRIVER. ALL EXIT SIGNS SHALL HAVE 90-MINUTE BATTERY BACK-UP. SEE DETAILS #12/E-006 FOR EMERGENCY FIXTURES THAT ARE SWITCHED WITH THE LOCAL CIRCUIT.

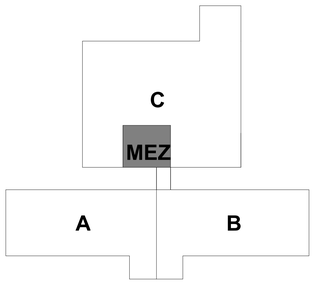


1 MEZZANINE LIGHTING
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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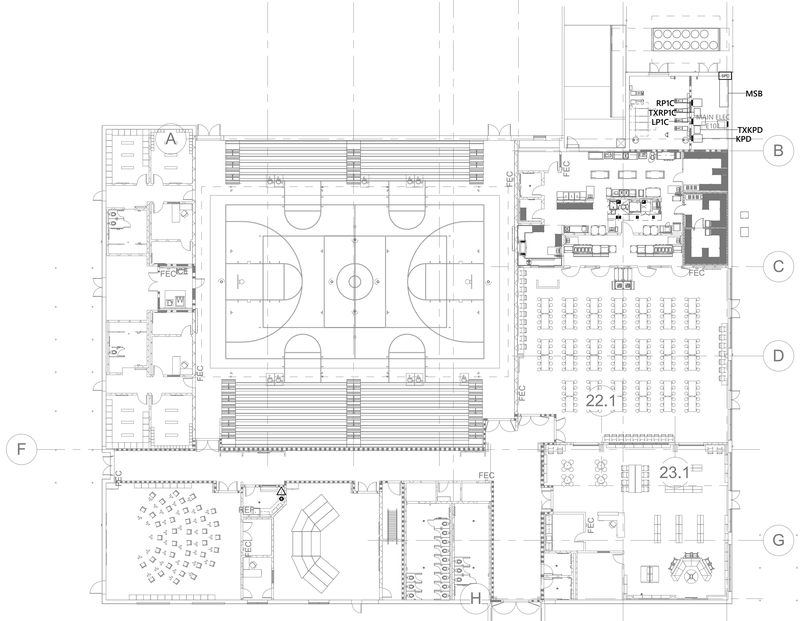
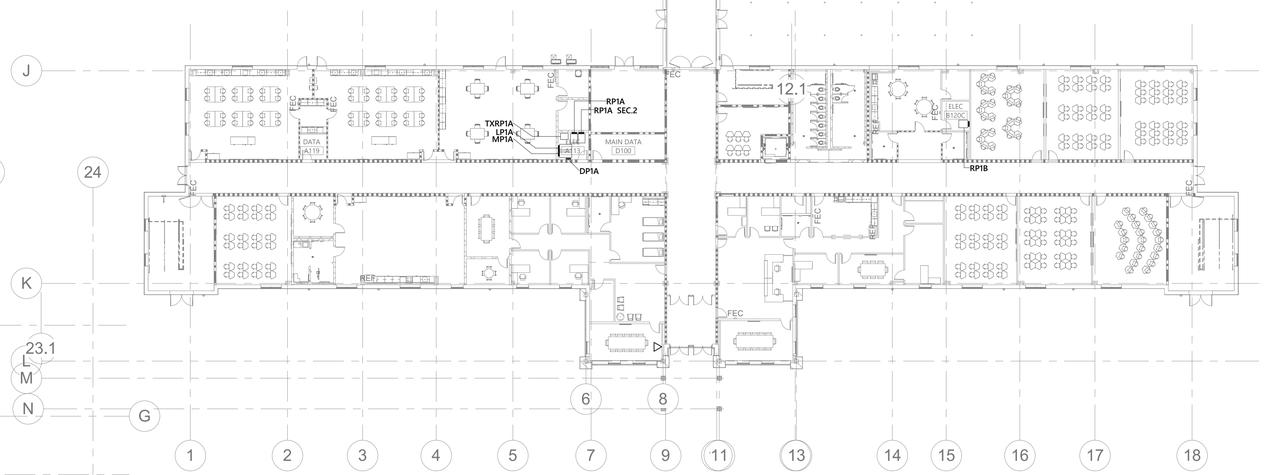
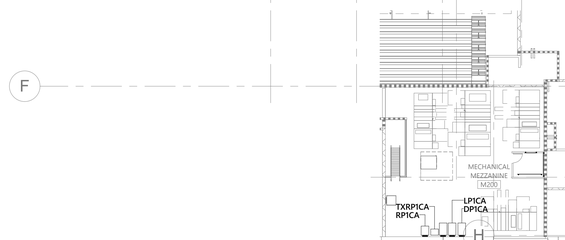
CHECKED BY: Checker

MEZZANINE LIGHTING PLAN

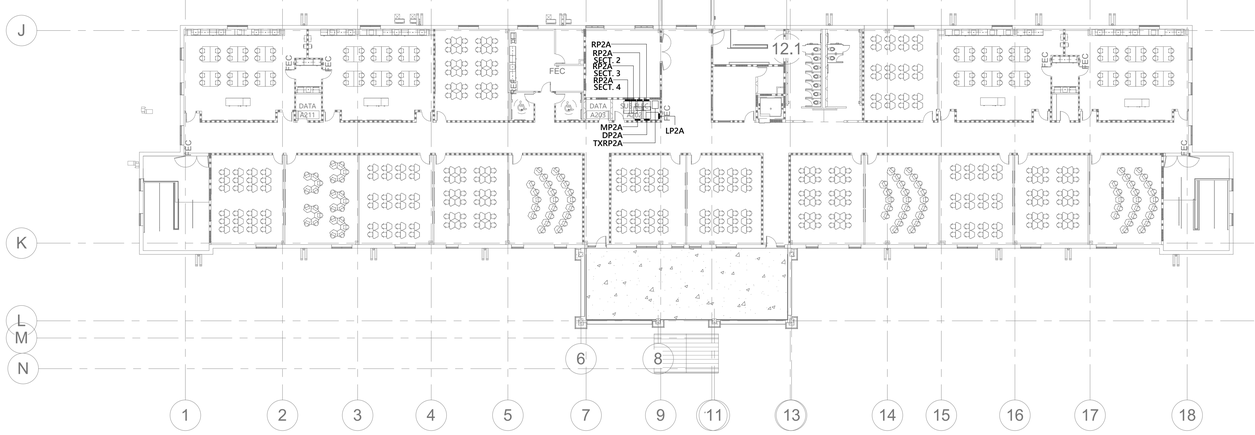
E-103C







1 OVERALL ELECTRICAL - FIRST
1" = 20'-0"

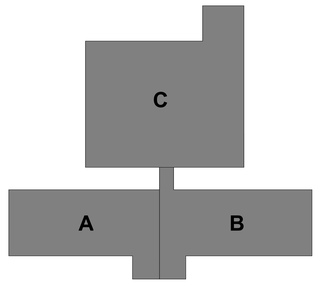


2 OVERALL ELECTRICAL - SECOND
1" = 20'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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DATE: 11/14/2017
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OVERALL ELECTRICAL PLAN

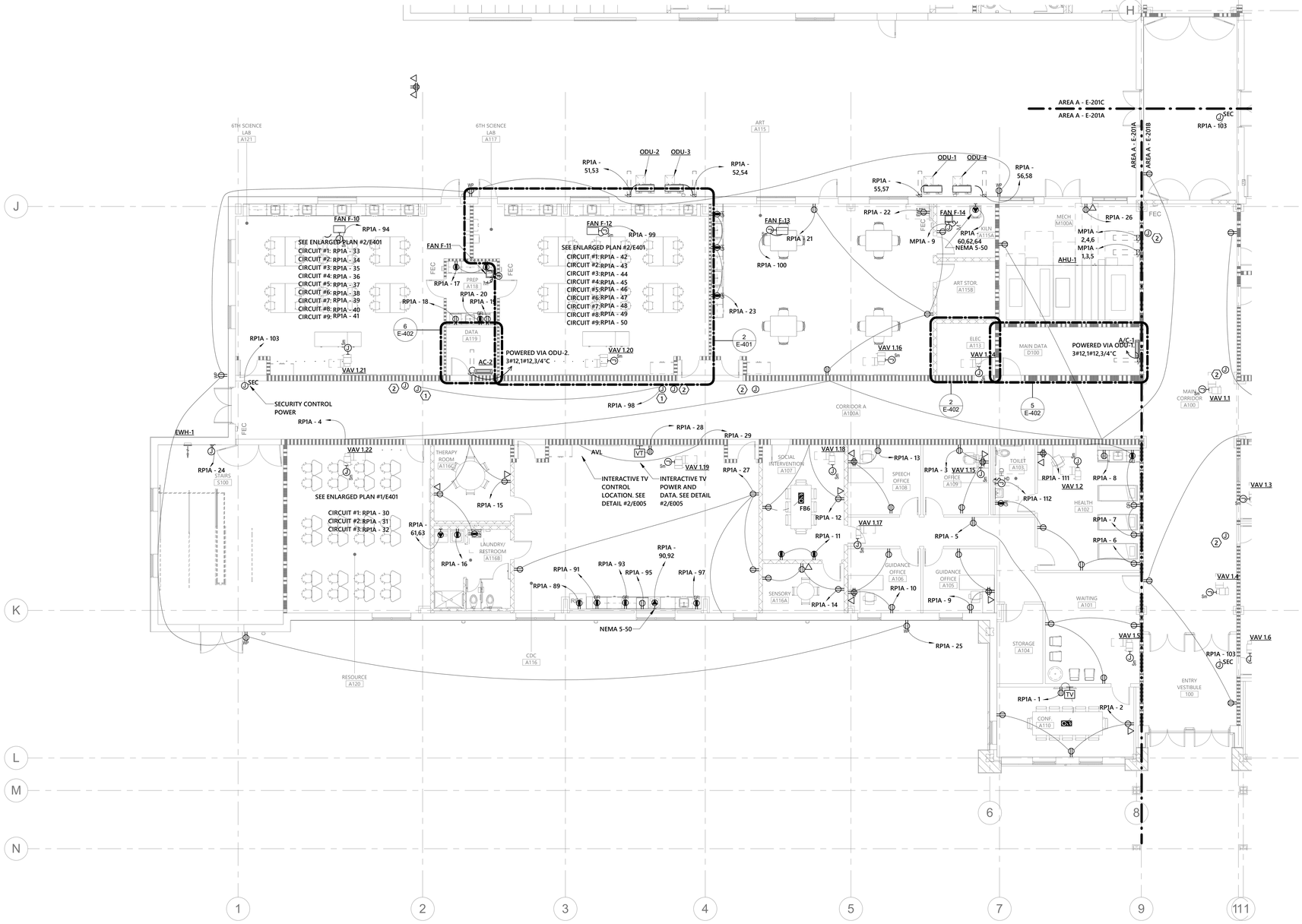
E-200

GENERAL NOTES:

1. ALL VAV'S SHOW IN AREA A TO BE CIRCUITED TO RP1A - 101

KEYED NOTES:

1. SOLENOID SHUTDOWN POWER. SEE DETAIL #6/E-005.
2. JUNCTION BOX FOR FIRE-SMOKE DAMPER. ALL DAMPERS ON FIRST FLOOR, AREAS A AND B TO BE POWERED VIA RP1A-96. COORDINATE LOCATION WITH M.C.

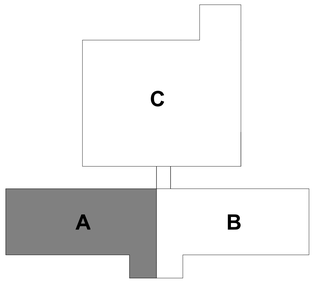


1 1ST FLOOR PLAN - LOWER - POWER - AREA A
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED
2 HOUR RATED
SMOKE WALL

KEYPLAN



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PROJECT: 9201-170630
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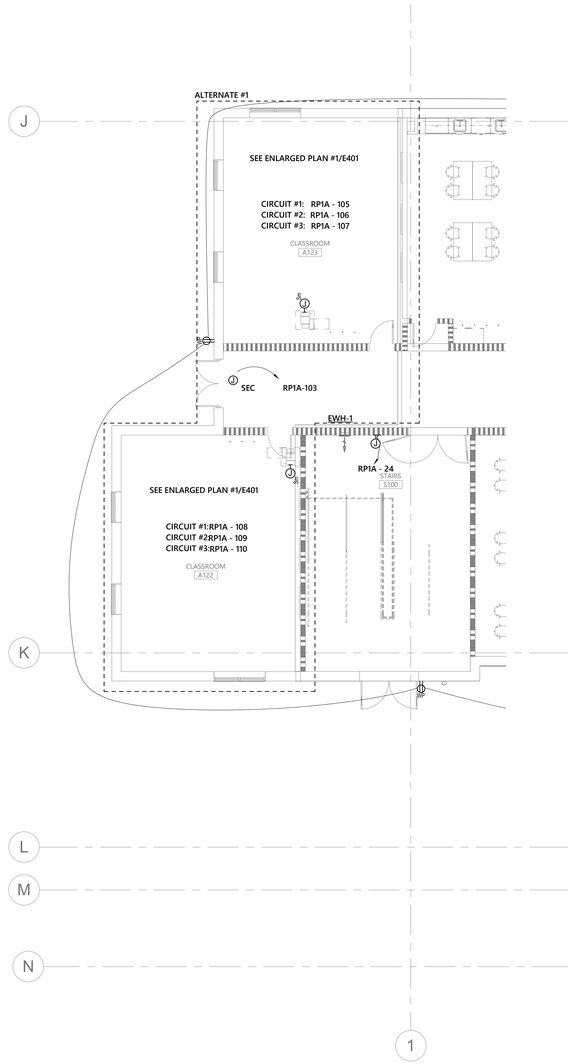
CHECKED BY: MM

FIRST FLOOR POWER PLAN AREA A

E-201A

GENERAL NOTES:

1. ALL VAV'S SHOW IN AREA A TO BE CIRCUITED TO RP1A - 101

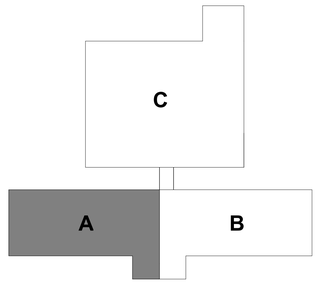


1 1ST FLOOR PLAN - LOWER - POWER - AREA A.1
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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FIRST FLOOR POWER PLAN AREA A ALTERNATE

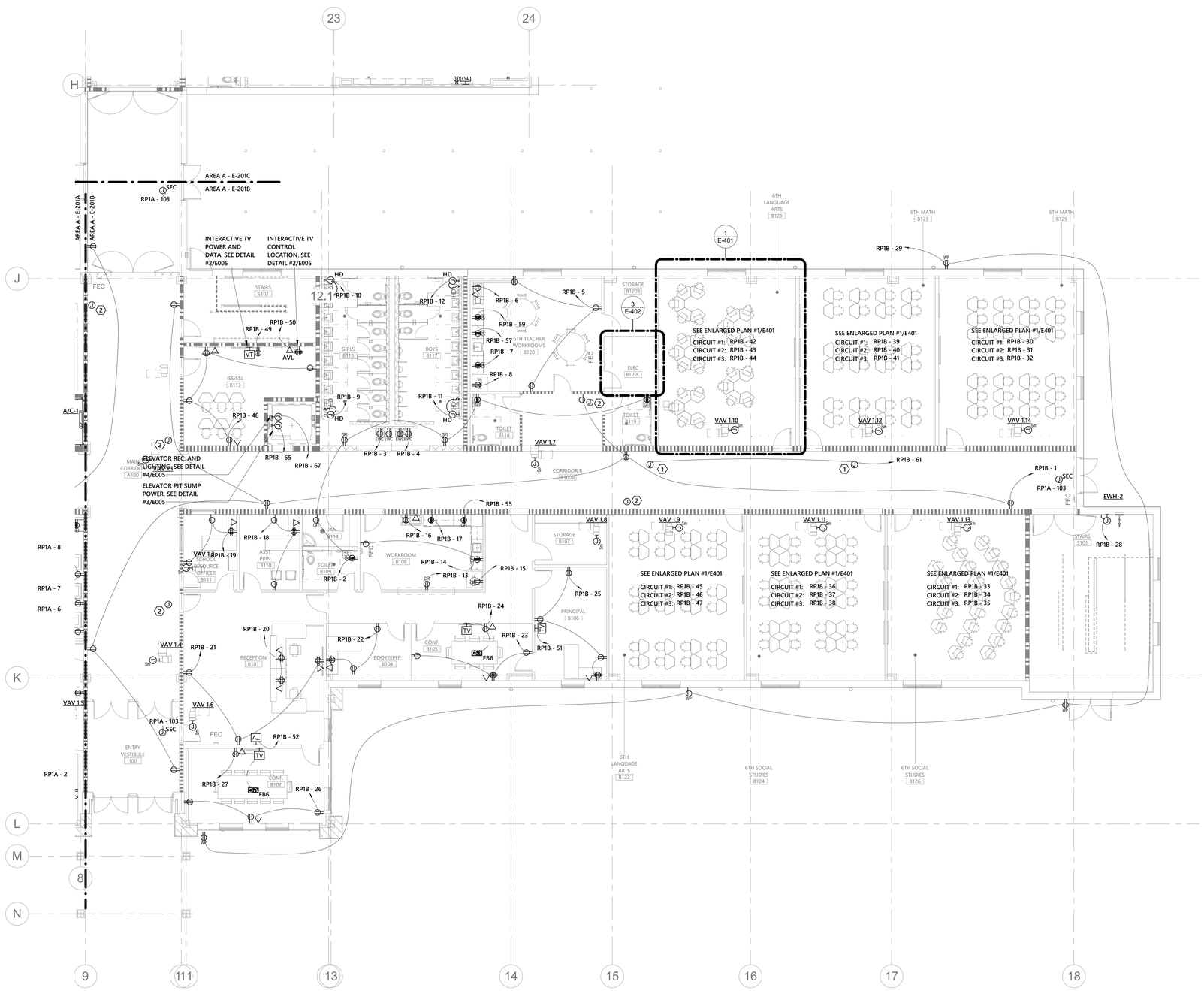
E-201A.1

GENERAL NOTES:

1. ALL VAV'S SHOWN IN AREA B TO BE CIRCUITED TO RP1B - 63

KEYED NOTES:

1. HOT AND COLD WATER SOLENOID POWER. SEE DETAIL #6/E-005.
2. JUNCTION BOX FOR FIRE-SMOKE DAMPER. ALL DAMPERS ON FIRST FLOOR, AREAS A AND B TO BE POWERED VIA RP1A-96. COORDINATE LOCATION WITH M.C.

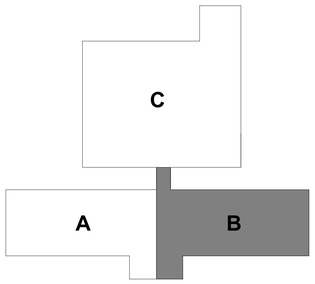


1 1ST FLOOR PLAN - LOWER - POWER - AREA B
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED
2 HOUR RATED
SMOKE WALL

KEYPLAN



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PROJECT: 9201-170630
DATE: 11/14/2017
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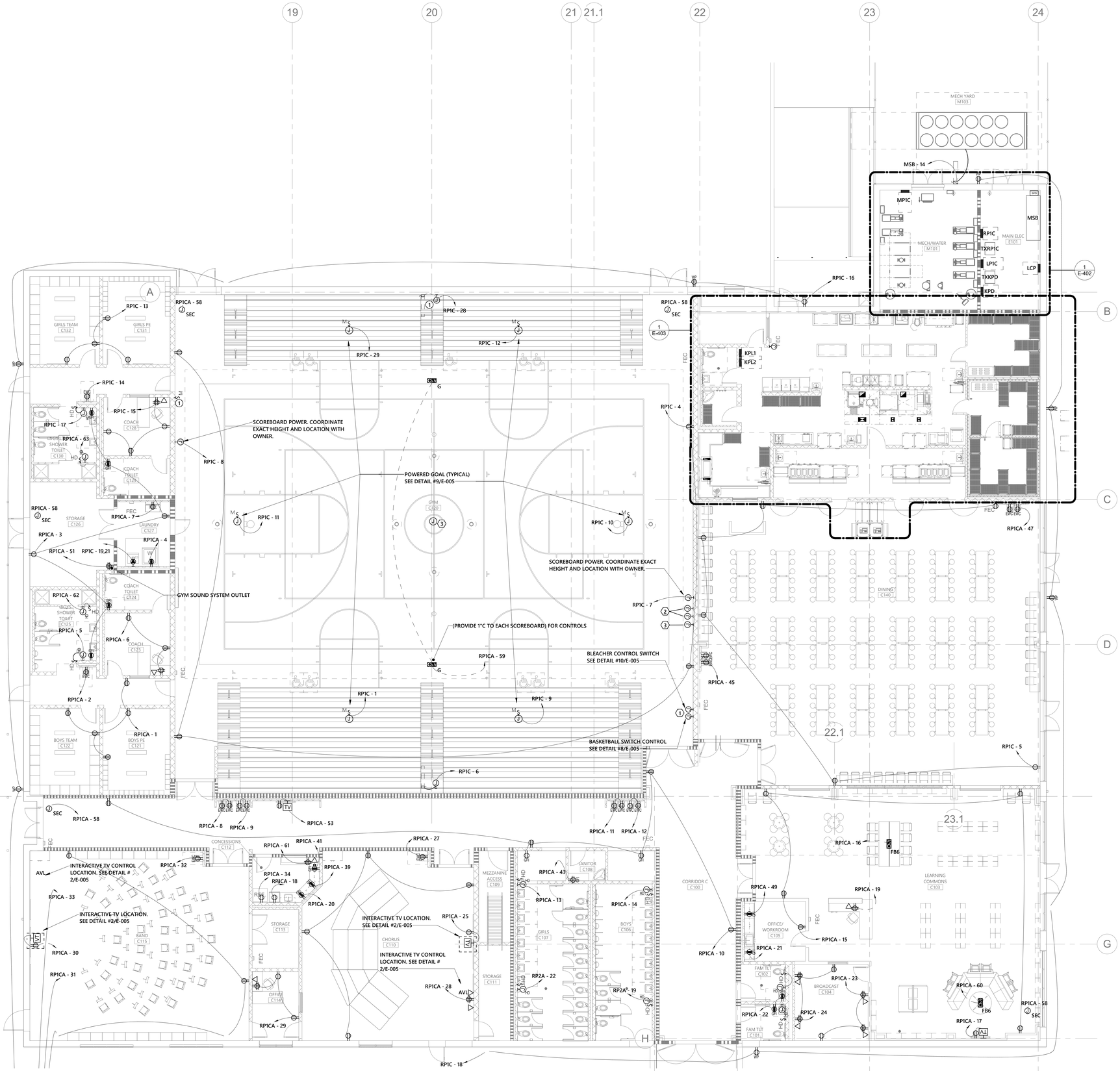
FIRST FLOOR POWER PLAN AREA B

E-201B

KEYED NOTES:

1. PROVIDE INTERLOCKING SWITCH SO THAT SECONDARY GOALS ARE NOT SUSPENDED WHILE BLEACHERS ARE EXTENDED.
2. PROVISIONS FOR FUTURE PROJECTOR SCREEN MOTOR. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE (1)-4" JUNCTION BOX FOR SCREEN MOTOR POWER AND (1)-4" BOX FOR CONTROLS.
3. PROVISIONS FOR FUTURE PROJECTOR. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE (1)-4" BOX FOR PROJECTOR POWER AND (1)-4" BOX FOR PROJECTOR CONTROL SWITCH.

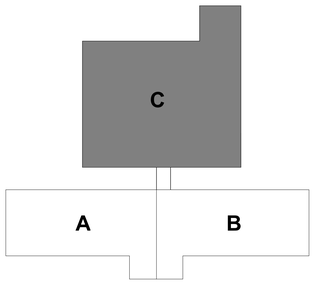


1 1ST FLOOR PLAN - POWER AREA C
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED
2 HOUR RATED
SMOKE WALL

KEYPLAN



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FIRST FLOOR POWER PLAN AREA C

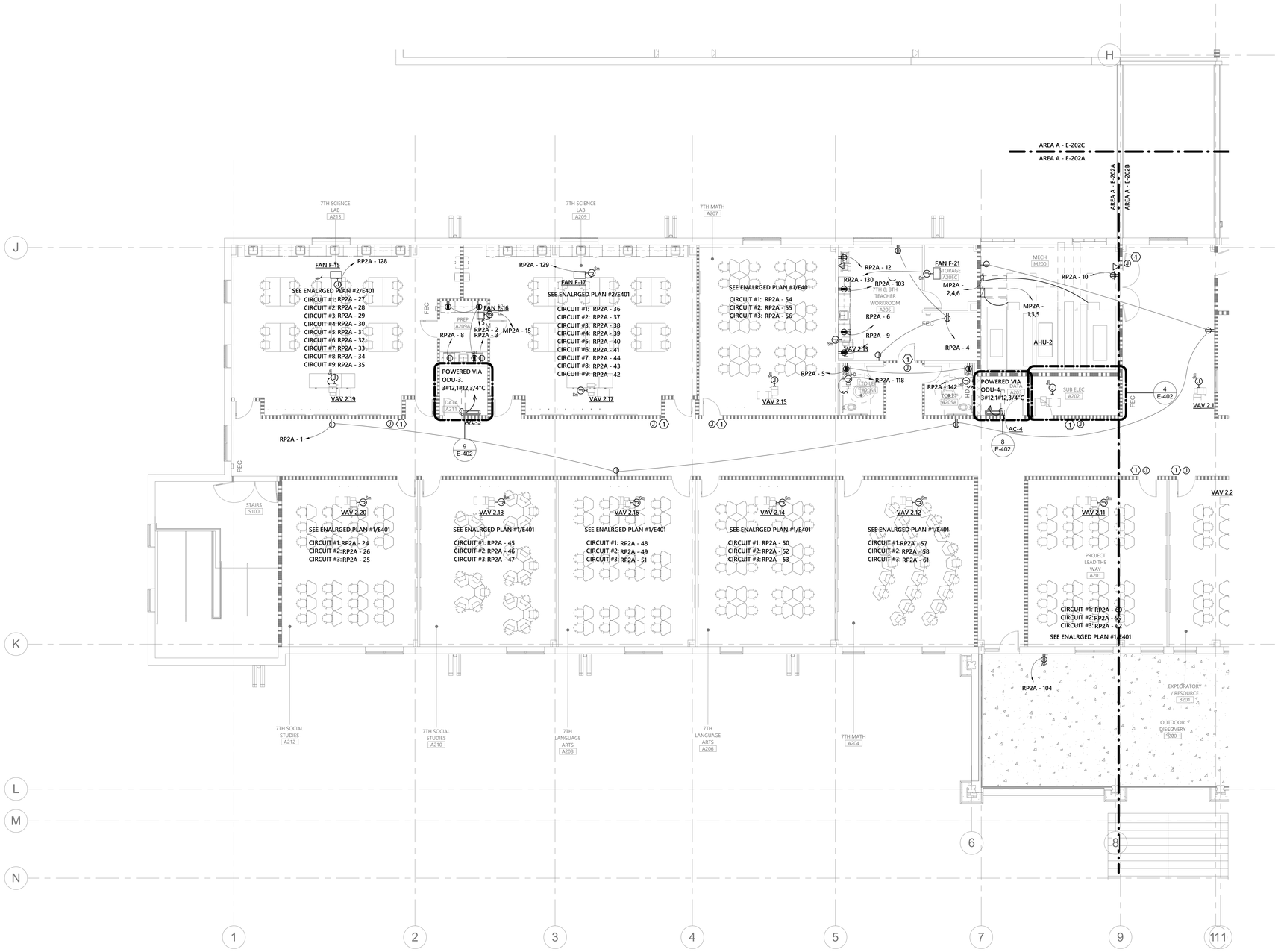
E-201C

GENERAL NOTES:

1. ALL VAV'S SHOWN IN SECOND FLOOR - AREA A TO BE CIRCUITED TO RPC2A - 134

KEYED NOTES:

1. JUNCTION BOX FOR FIRE-SMOKE DAMPER. ALL DAMPERS ON SECOND FLOOR, AREAS A AND B TO BE POWERED VIA RP2A-127. COORDINATE LOCATION WITH M.C.

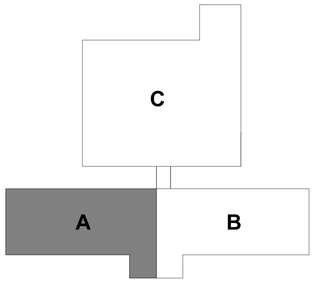


1 2ND FLOOR-POWER - AREA A
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED
2 HOUR RATED
SMOKE WALL

KEYPLAN



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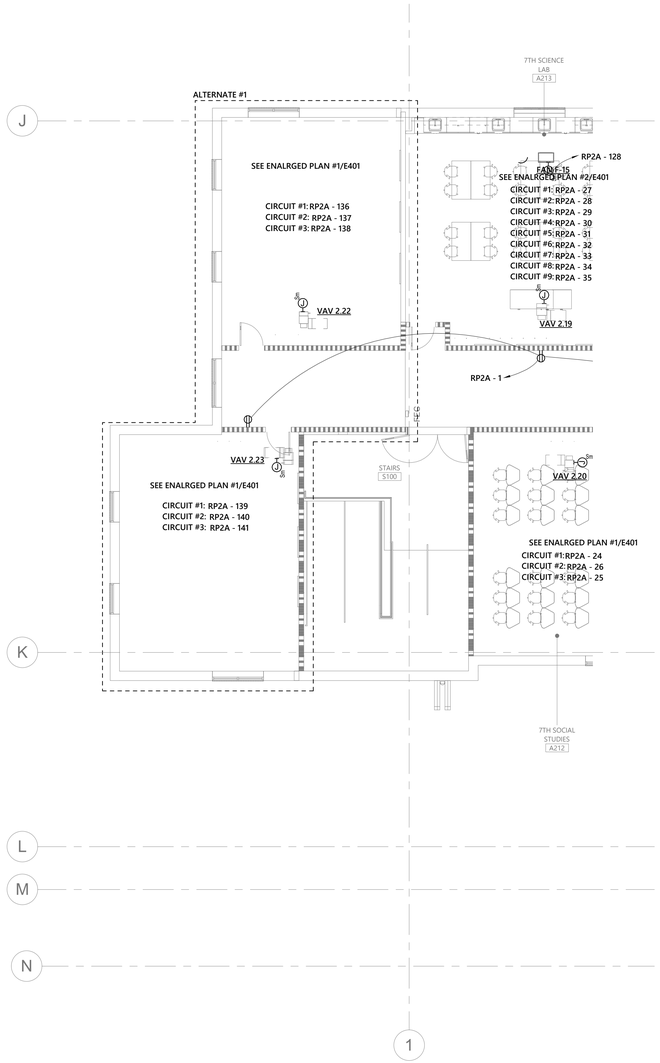
SECOND FLOOR POWER PLAN AREA A

E-202A

GENERAL NOTES:

1. ALL VAV'S SHOWN IN SECOND FLOOR - AREA A TO BE CIRCUITED TO RPC2A - 134

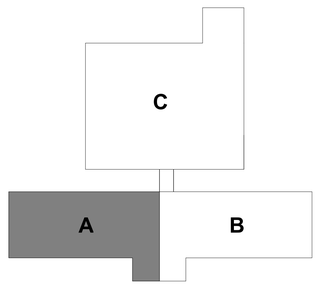


1 2ND FLOOR-POWER - AREA A.1
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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SECOND FLOOR POWER PLAN AREA A ALTERNATE

E-202A.1

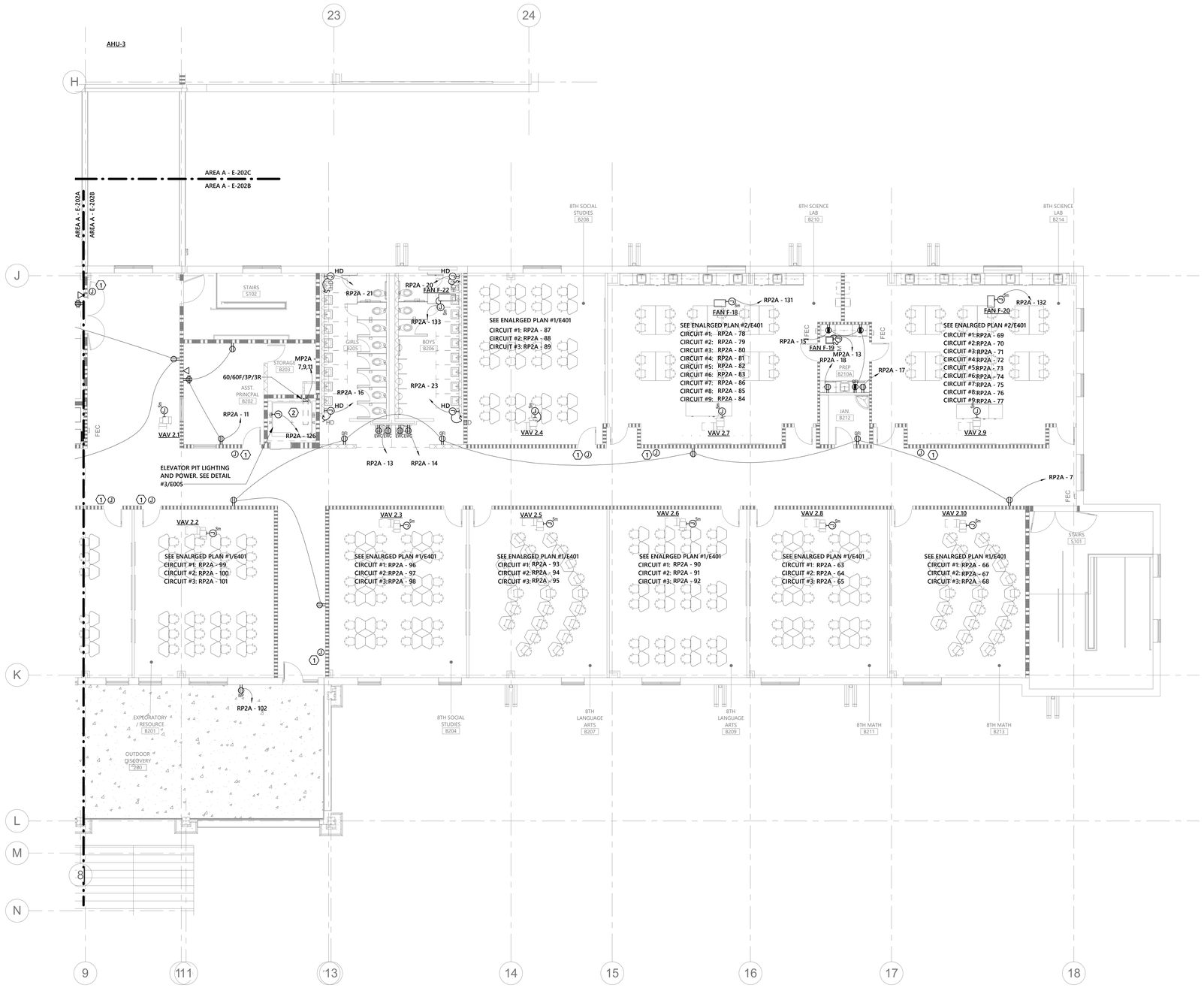
[redacted]

GENERAL NOTES:

1. ALL VAV'S SHOWN IN SECOND FLOOR - AREA B TO BE CIRCUITED TO RP2A - 135

KEYED NOTES:

1. JUNCTION BOX FOR FIRE-SMOKE DAMPER. ALL DAMPERS ON SECOND FLOOR, AREAS A AND B TO BE POWERED VIA RP2A-127. COORDINATE LOCATION WITH M.C.
2. ELEVATOR PIT LIGHTING AND RECEPTACLE POWER. REFER TO #3/E-005 FOR PIT AND HOISTWAY DETAILS.

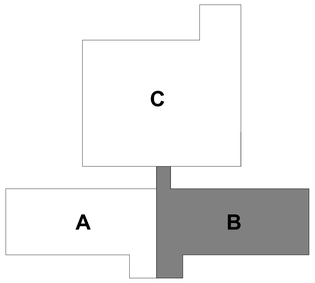


1 2ND FLOOR-POWER - AREA B
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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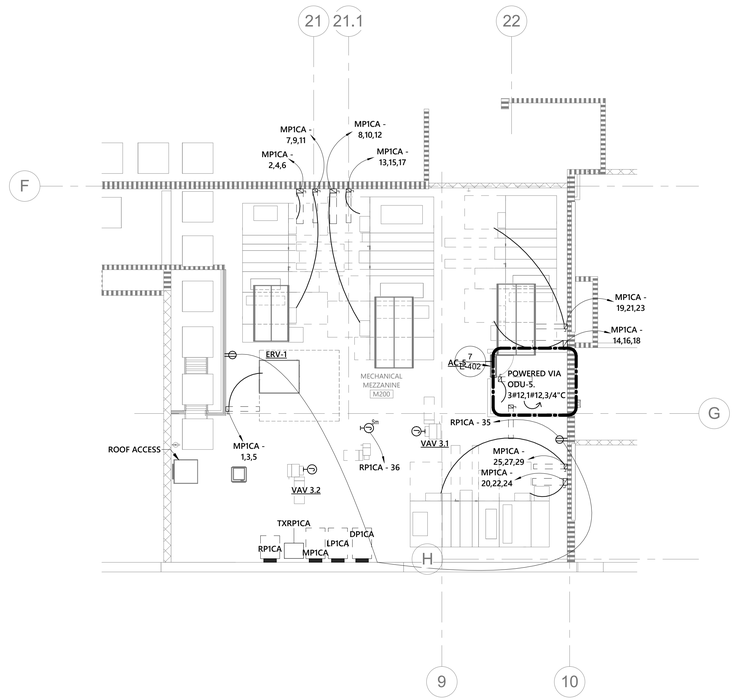
SECOND FLOOR POWER PLAN AREA B

E-202B

GENERAL NOTES:

1. ALL VAV'S SHOWN IN MEZZ. TO BE CIRCUITED TO RPC1A - 37



1 MEZZANINE FLOOR PLAN - POWER - AREA C

1/8" = 1'-0"

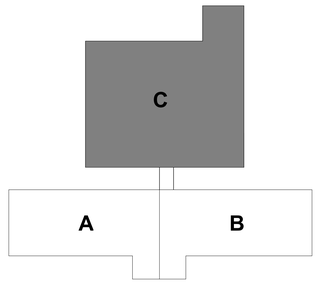
PARTITION LEGEND

1 HOUR RATED

2 HOUR RATED

SMOKE WALL

KEYPLAN



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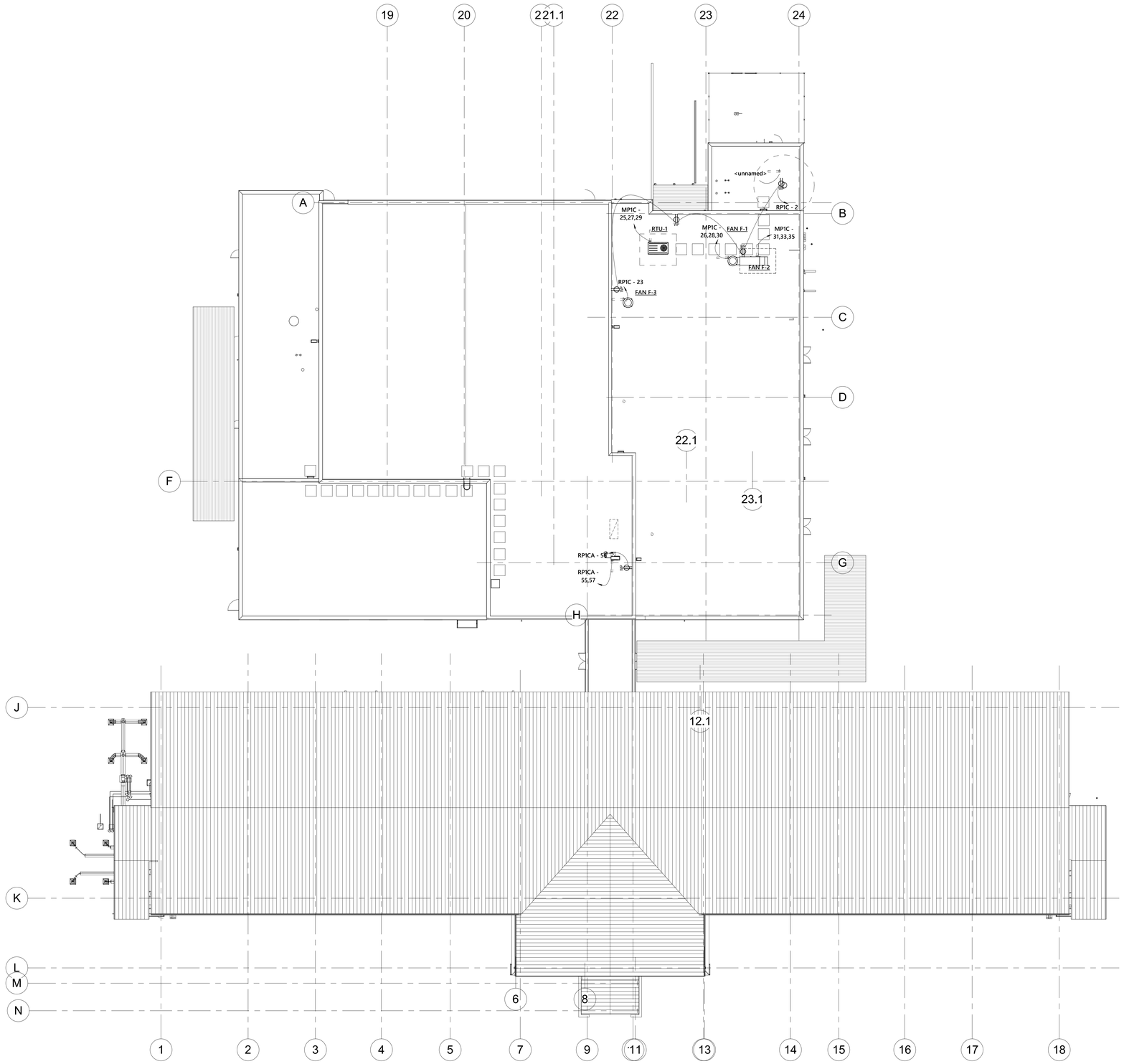
MEZZANINE POWER PLAN

E-203C

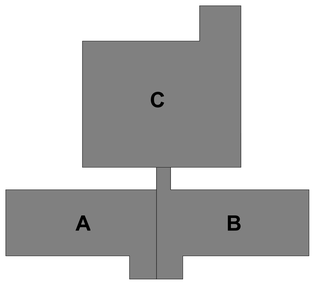


1 OVERALL ROOF PLAN - ELECTRICAL
1/16" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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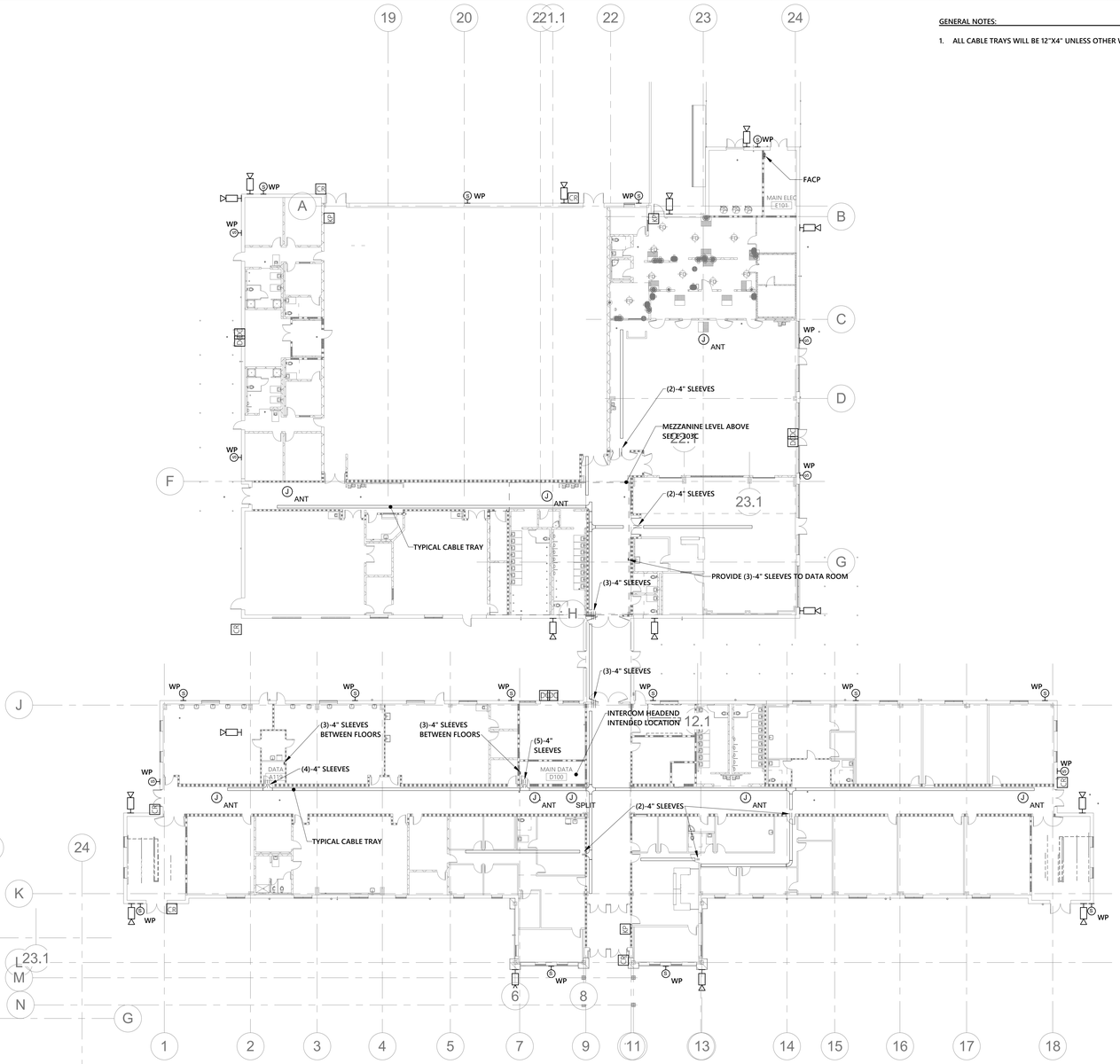
CHECKED BY: Checker

OVERALL ROOF PLAN

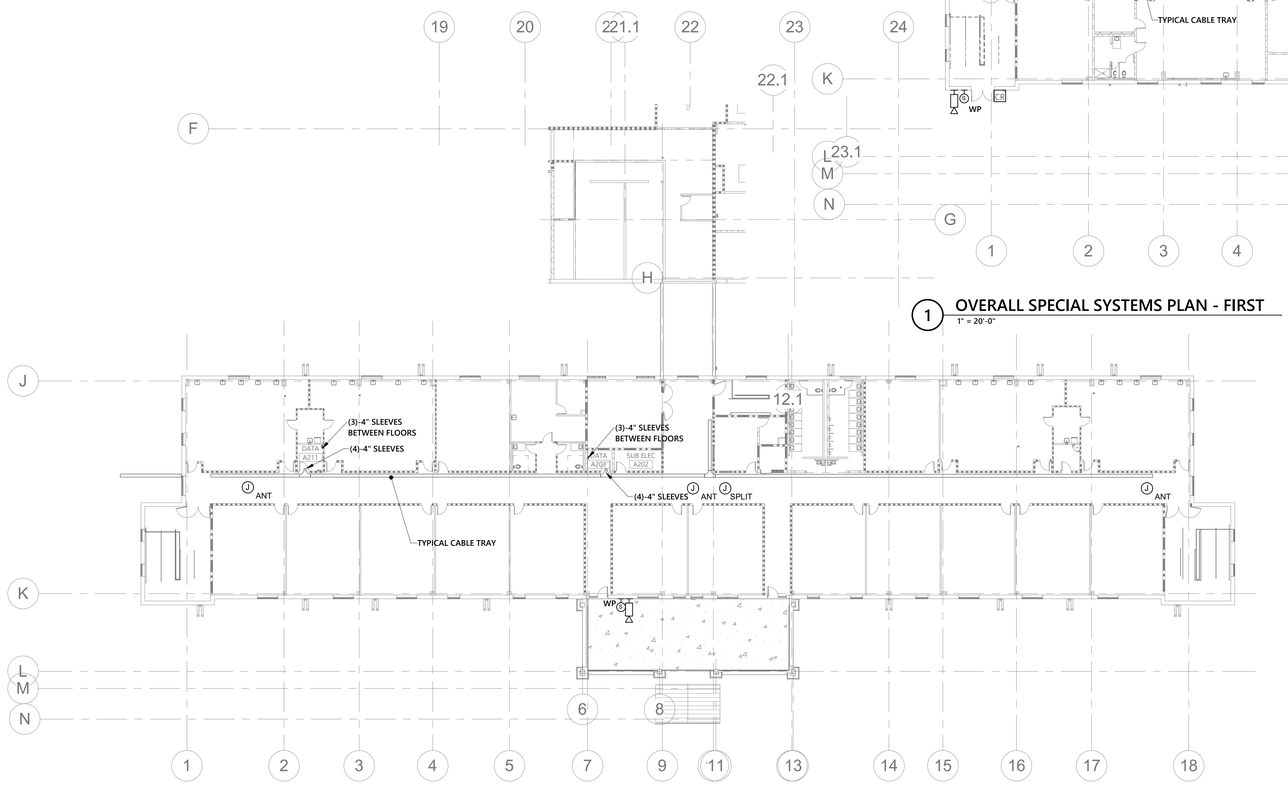
E-251

GENERAL NOTES:

1. ALL CABLE TRAYS WILL BE 12"X4" UNLESS OTHER WISE NOTED.



1 OVERALL SPECIAL SYSTEMS PLAN - FIRST
1" = 20'-0"

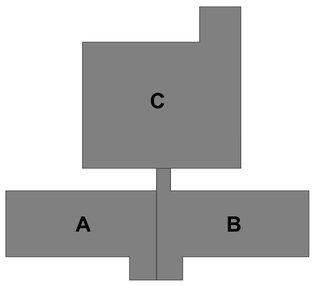


2 OVERALL SPECIAL SYSTEMS PLAN - SECOND
1" = 20'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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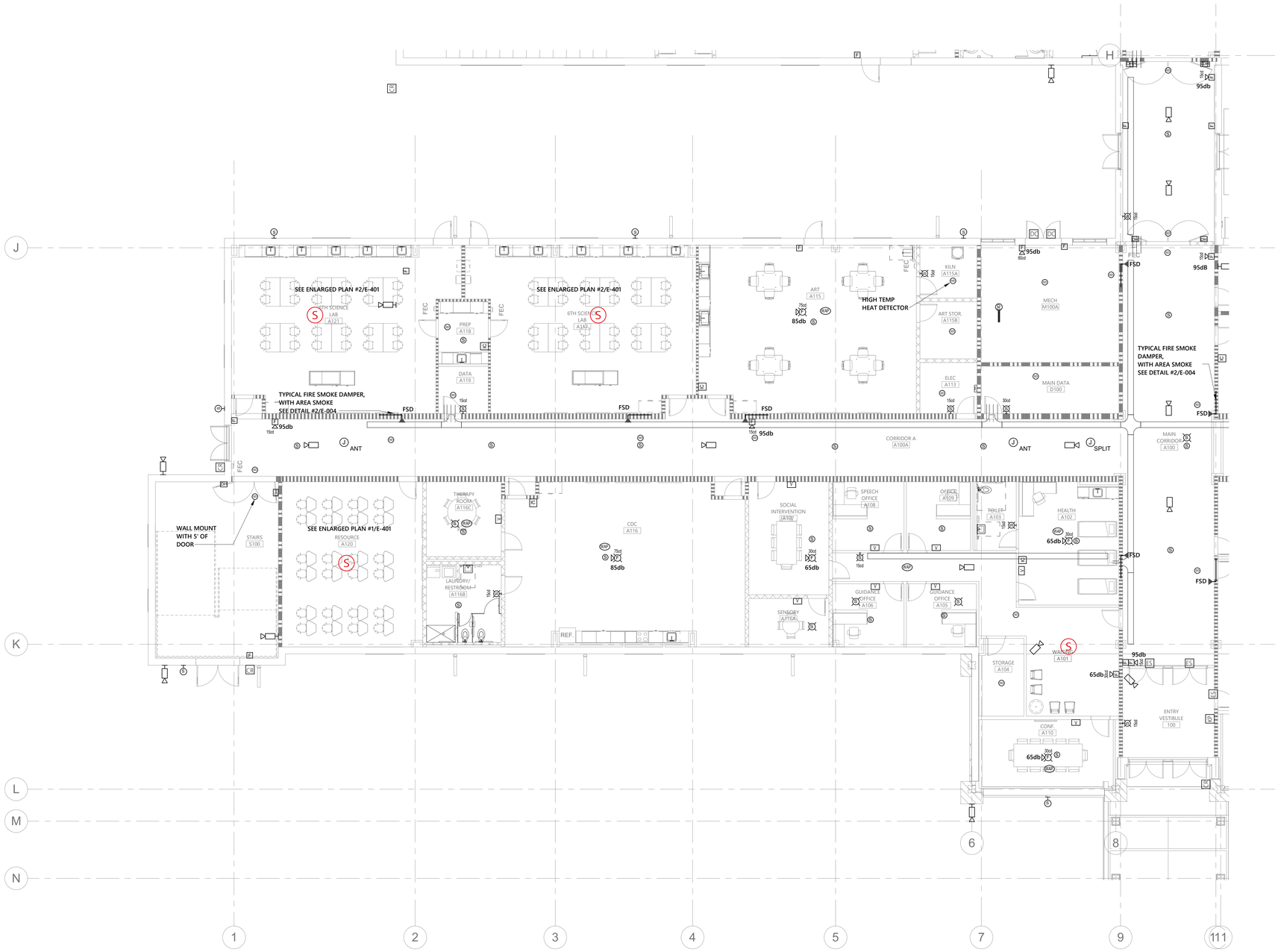
CHECKED BY: Checker

OVERALL SPECIAL SYSTEMS PLAN

E-300

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE A FULLY OPERATIONAL FIRE ALARM SYSTEM COMPLIANT WITH NFPA 72 AND IBC 907. AS PART OF THE SUBMITTALS, CONTRACTOR SHALL PROVIDE DECIBEL (dBA) RATING FOR ALL AUDIBLE NOTIFICATION DEVICES AND CANDELA (CD) RATING FOR ALL VISIBLE NOTIFICATION DEVICES ON DRAWINGS NEXT TO EACH SIGNALING DEVICE. LISTED DECIBEL RATINGS SHOWN ON PLANS ARE BASED ON 15dB ABOVE AMBIENT LEVELS. CONTRACTOR SHALL MEET OR EXCEED SHOWN LEVELS.

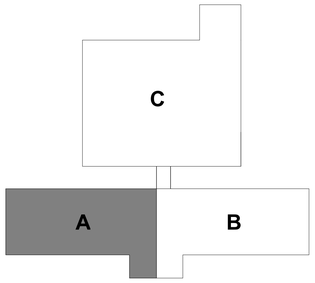


1 1ST FLOOR PLAN - LOWER - SPECIAL - AREA A
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED
2 HOUR RATED
SMOKE WALL

KEYPLAN



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11/14/2017

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PROJECT: 9201-170630
DATE: 11/14/2017
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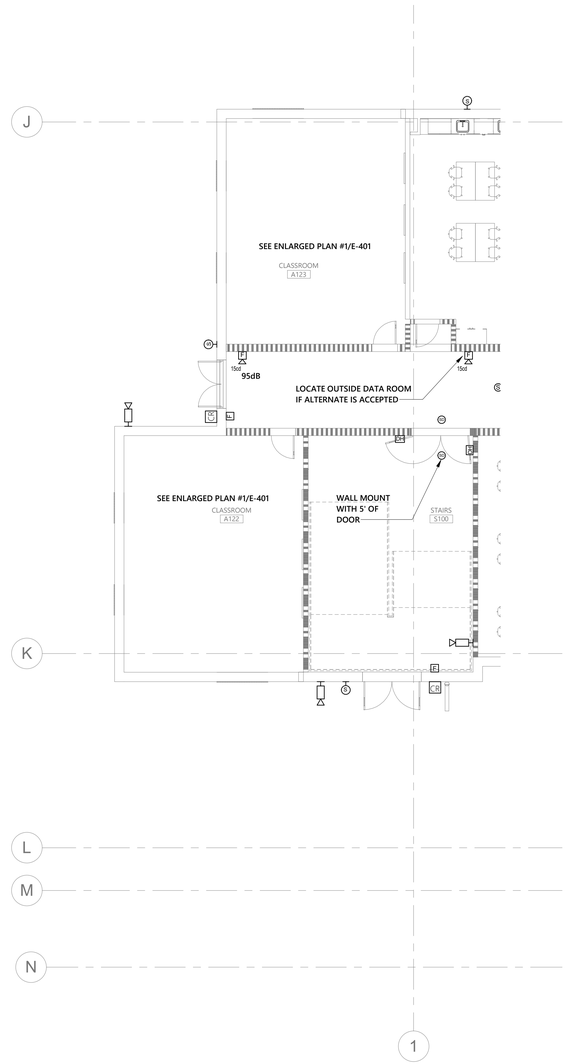
CHECKED BY: MM

FIRST FLOOR SYSTEMS PLAN AREA A

E-301A

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE A FULLY OPERATIONAL FIRE ALARM SYSTEM COMPLIANT WITH NFPA 72 AND IBC 907. AS PART OF THE SUBMITTALS, CONTRACTOR SHALL PROVIDE DECIBEL (dBA) RATING FOR ALL AUDIBLE NOTIFICATION DEVICES AND CANDELA (CD) RATING FOR ALL VISIBLE NOTIFICATION DEVICES ON DRAWINGS NEXT TO EACH SIGNALING DEVICE. LISTED DECIBEL RATINGS SHOWN ON PLANS ARE BASED ON 15dB ABOVE AMBIENT LEVELS. CONTRACTOR SHALL MEET OR EXCEED SHOWN LEVELS.

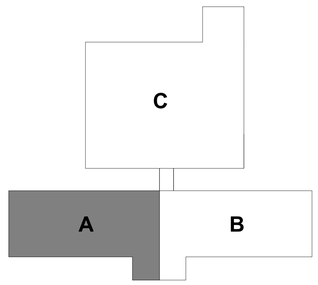


1 1ST FLOOR PLAN - SPECIAL - AREA A.1
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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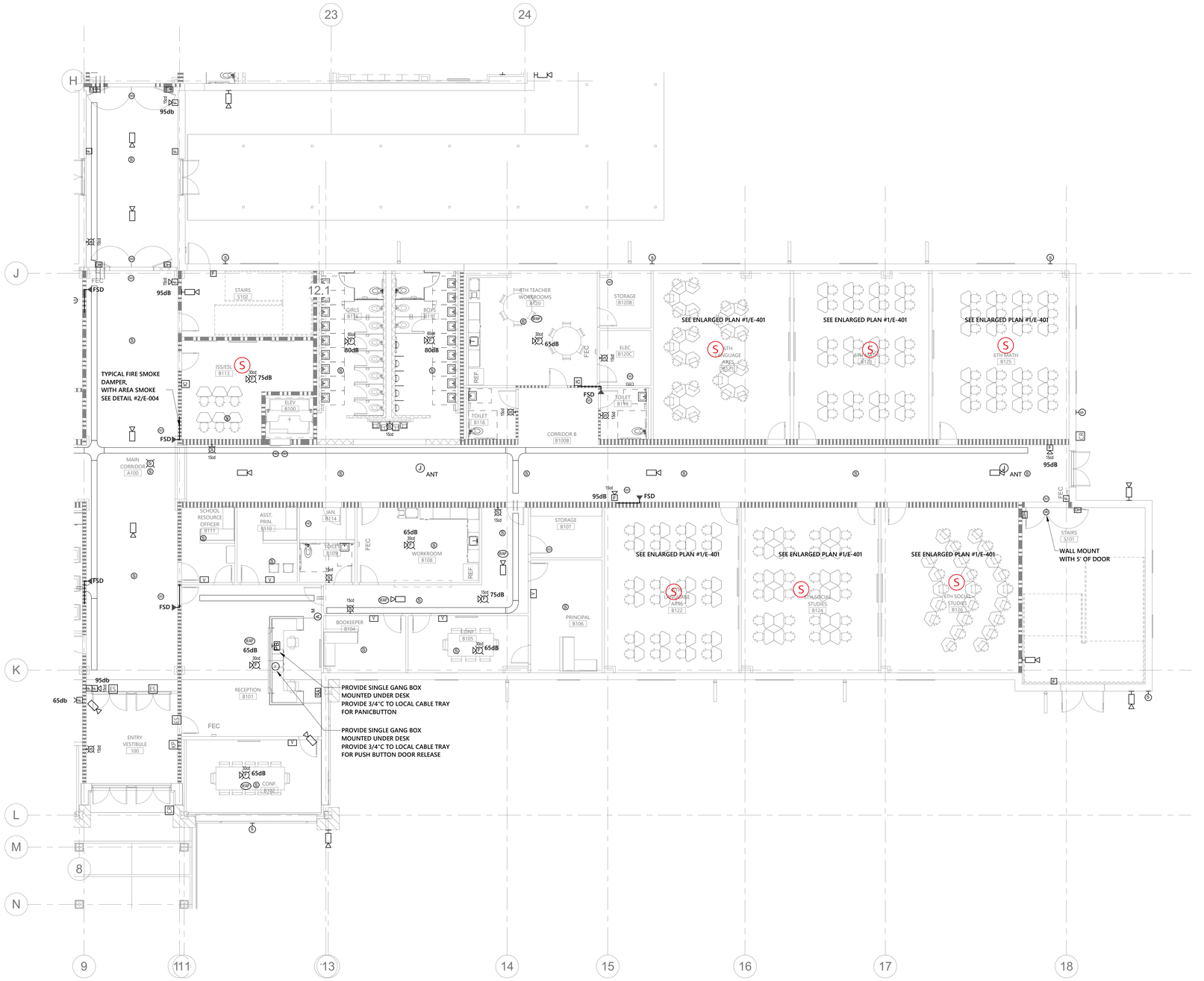
FIRST FLOOR SYSTEMS PLAN AREA A ALTERNATE

E-301A.1

[redacted]

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE A FULLY OPERATIONAL FIRE ALARM SYSTEM COMPLIANT WITH NFPA 72 AND IBC 907. AS PART OF THE SUBMITTALS, CONTRACTOR SHALL PROVIDE DECIBEL (dBA) RATING FOR ALL AUDIBLE NOTIFICATION DEVICES AND CANDELA (CD) RATING FOR ALL VISIBLE NOTIFICATION DEVICES ON DRAWINGS NEXT TO EACH SIGNALING DEVICE. LISTED DECIBEL RATINGS SHOWN ON PLANS ARE BASED ON 15dB ABOVE AMBIENT LEVELS. CONTRACTOR SHALL MEET OR EXCEED SHOWN LEVELS.

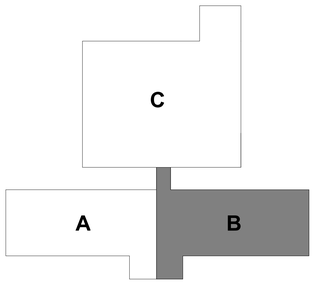


1 1ST FLOOR PLAN - LOWER - SPECIAL - AREA B
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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PROJECT: 9201-170630
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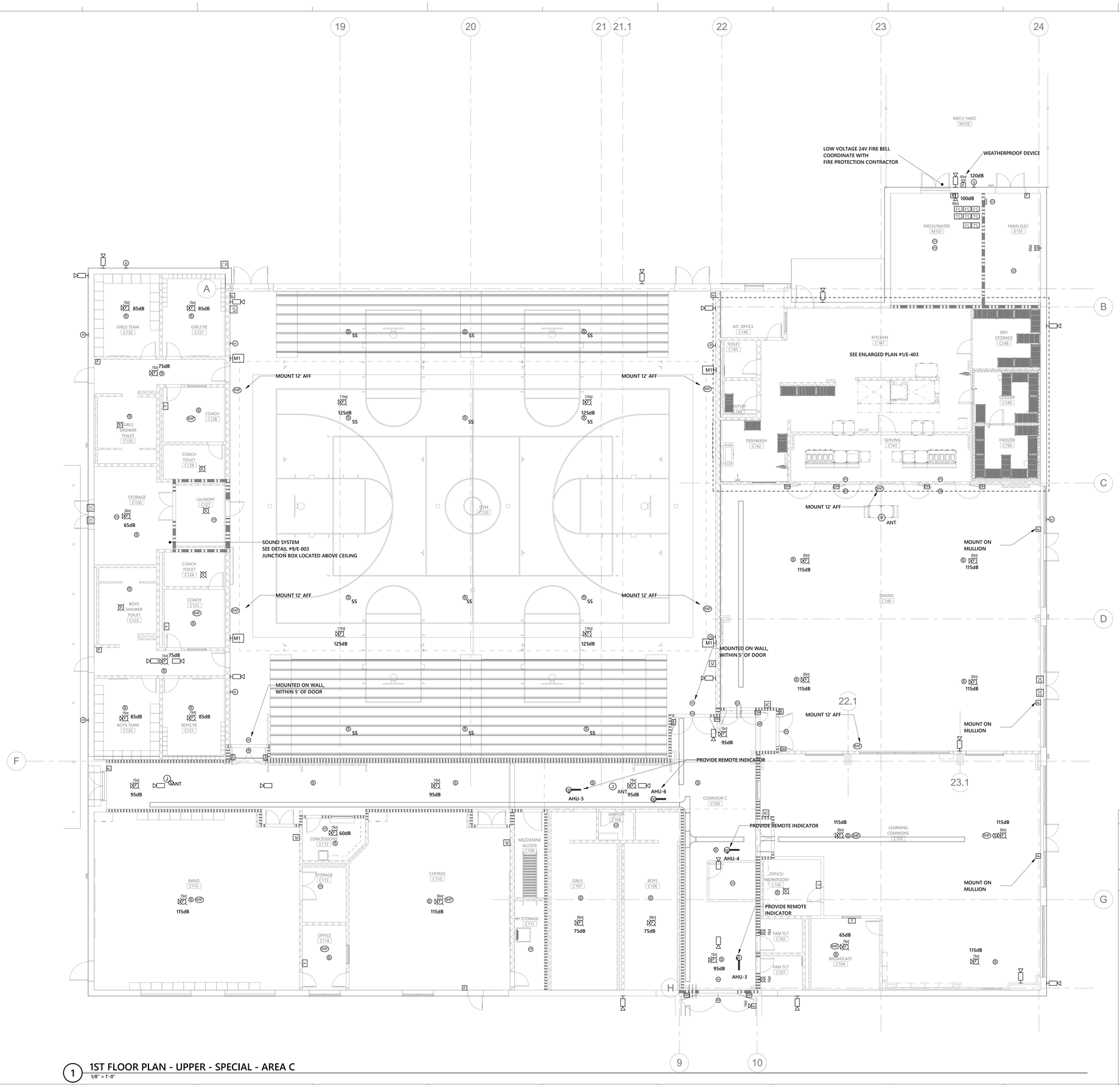
FIRST FLOOR SYSTEMS PLAN AREA B

E-301B

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE A FULLY OPERATIONAL FIRE ALARM SYSTEM COMPLIANT WITH NFPA 72 AND IBC 907. AS PART OF THE SUBMITTALS, CONTRACTOR SHALL PROVIDE DECIBEL (dBA) RATING FOR ALL AUDIBLE NOTIFICATION DEVICES AND CANDELA (CD) RATING FOR ALL VISIBLE NOTIFICATION DEVICES ON DRAWINGS NEXT TO EACH SIGNALING DEVICE. LISTED DECIBEL RATINGS SHOWN ON PLANS ARE BASED ON 15dB ABOVE AMBIENT LEVELS. CONTRACTOR SHALL MEET OR EXCEED SHOWN LEVELS.
2. PROVIDE PROTECTIVE WIRE CAGES ON SPEAKER/STROBE, AND SMOKE DETECTOR FIRE ALARM DEVICES.



1 1ST FLOOR PLAN - UPPER - SPECIAL - AREA C

1/8" = 1'-0"

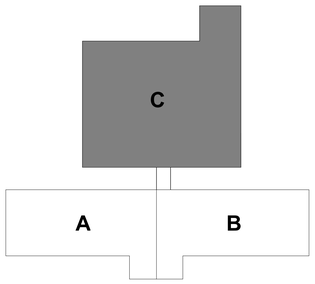
PARTITION LEGEND

1 HOUR RATED

2 HOUR RATED

SMOKE WALL

KEYPLAN



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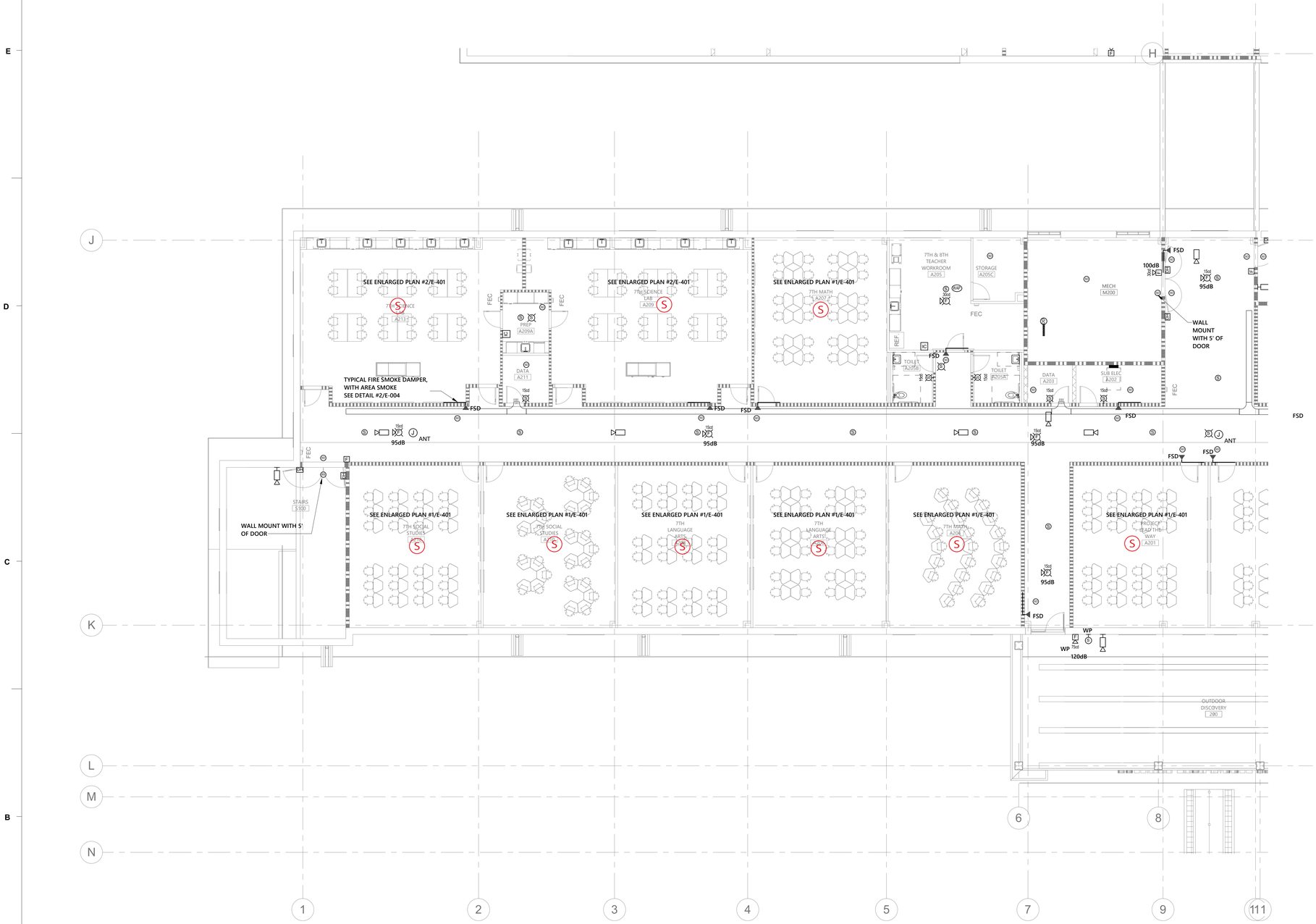
CHECKED BY: MM

FIRST FLOOR SYSTEMS PLAN AREA C

E-301C

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE A FULLY OPERATIONAL FIRE ALARM SYSTEM COMPLIANT WITH NFPA 72 AND IBC 907. AS PART OF THE SUBMITTALS, CONTRACTOR SHALL PROVIDE DECIBEL (dBA) RATING FOR ALL AUDIBLE NOTIFICATION DEVICES AND CANDELA (CD) RATING FOR ALL VISIBLE NOTIFICATION DEVICES ON DRAWINGS NEXT TO EACH SIGNALING DEVICE. LISTED DECIBEL RATINGS SHOWN ON PLANS ARE BASED ON 15dB ABOVE AMBIENT LEVELS. CONTRACTOR SHALL MEET OR EXCEED SHOWN LEVELS.

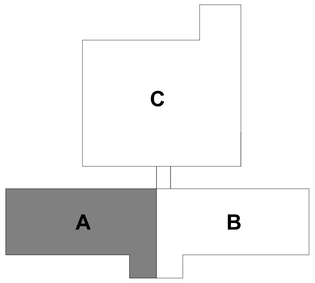


1 2ND FLOOR PLAN - SPECIAL - AREA A
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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PROJECT: 9201-170630
DATE: 11/14/2017
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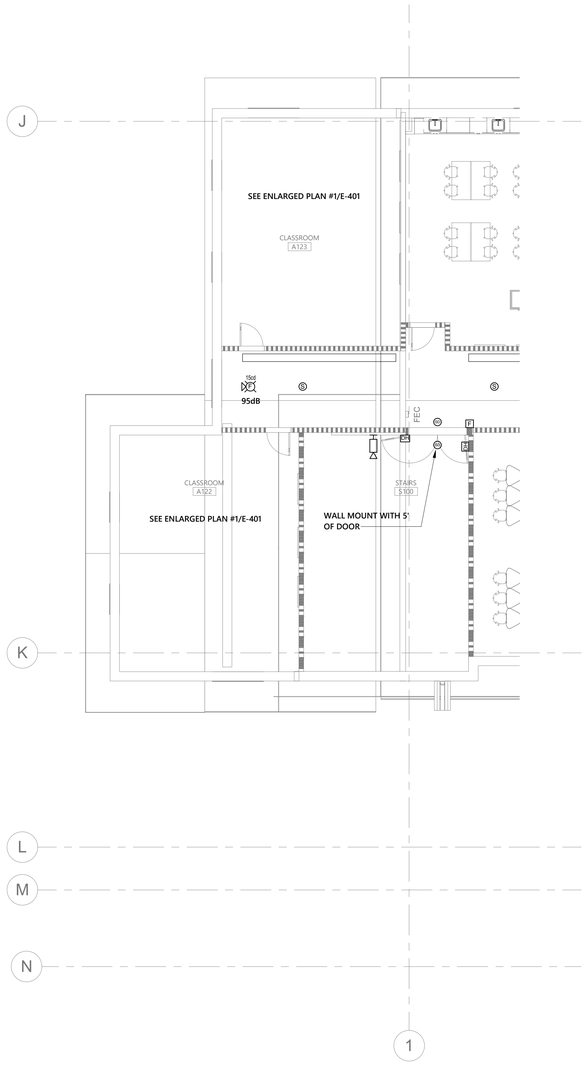
CHECKED BY: MM

SECOND FLOOR SYSTEMS PLAN AREA A

E-302A

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE A FULLY OPERATIONAL FIRE ALARM SYSTEM COMPLIANT WITH NFPA 72 AND IBC 907. AS PART OF THE SUBMITTALS, CONTRACTOR SHALL PROVIDE DECIBEL (dBA) RATING FOR ALL AUDIBLE NOTIFICATION DEVICES AND CANDELA (CD) RATING FOR ALL VISIBLE NOTIFICATION DEVICES ON DRAWINGS NEXT TO EACH SIGNALING DEVICE. LISTED DECIBEL RATINGS SHOWN ON PLANS ARE BASED ON 15dB ABOVE AMBIENT LEVELS. CONTRACTOR SHALL MEET OR EXCEED SHOWN LEVELS.



1 2ND FLOOR PLAN - SPECIAL - AREA A.1
1/8" = 1'-0"

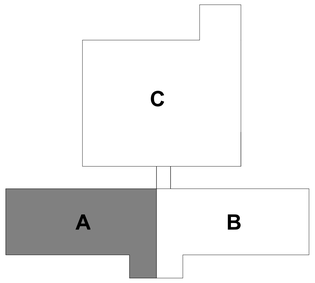
PARTITION LEGEND

1 HOUR RATED

2 HOUR RATED

SMOKE WALL

KEYPLAN



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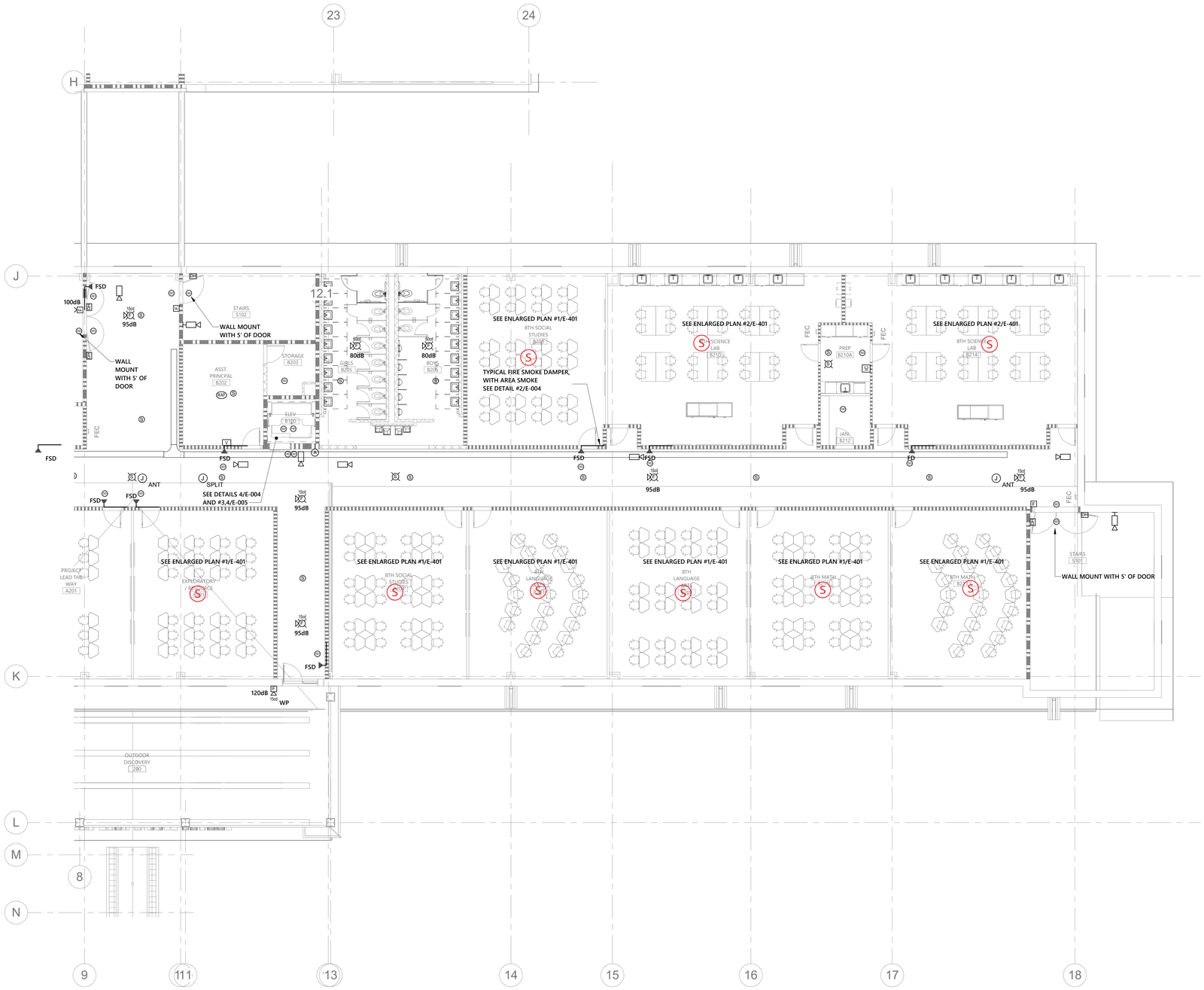
CHECKED BY: MM

SECOND FLOOR SYSTEMS PLAN AREA A ALTERNATE

E-302A.1

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE A FULLY OPERATIONAL FIRE ALARM SYSTEM COMPLIANT WITH NFPA 72 AND IBC 907. AS PART OF THE SUBMITTALS, CONTRACTOR SHALL PROVIDE DECIBEL (dBA) RATING FOR ALL AUDIBLE NOTIFICATION DEVICES AND CANDELA (CD) RATING FOR ALL VISIBLE NOTIFICATION DEVICES ON DRAWINGS NEXT TO EACH SIGNALING DEVICE. LISTED DECIBEL RATINGS SHOWN ON PLANS ARE BASED ON 15dB ABOVE AMBIENT LEVELS. CONTRACTOR SHALL MEET OR EXCEED SHOWN LEVELS.

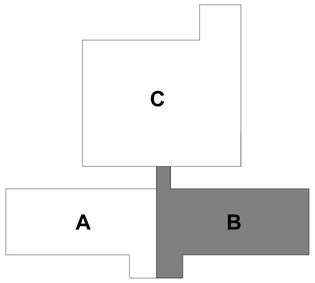


1 2ND FLOOR PLAN - SPECIAL - AREA B
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED
2 HOUR RATED
SMOKE WALL

KEYPLAN



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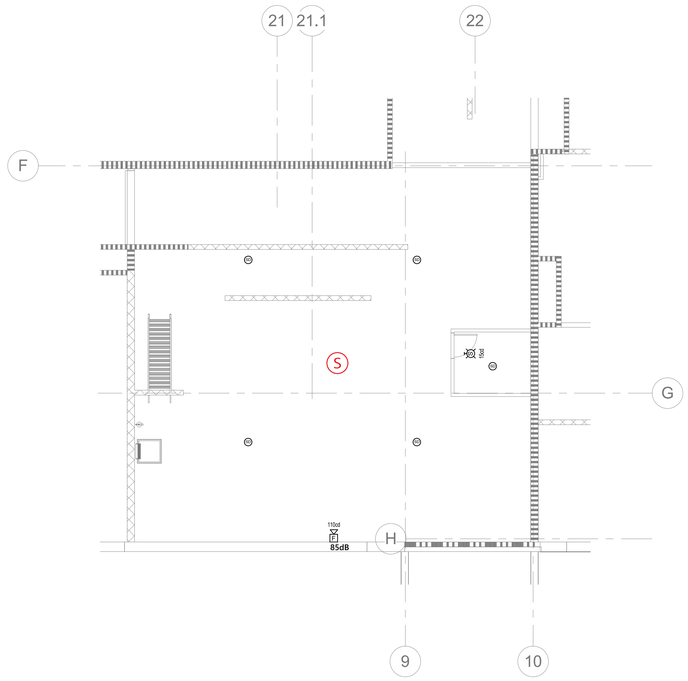
SECOND FLOOR SYSTEMS PLAN AREA B

E-302B

GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE A FULLY OPERATIONAL FIRE ALARM SYSTEM COMPLIANT WITH NFPA 72 AND IBC 907. AS PART OF THE SUBMITTALS, CONTRACTOR SHALL PROVIDE DECIBEL (dBA) RATING FOR ALL AUDIBLE NOTIFICATION DEVICES AND CANDELA (CD) RATING FOR ALL VISIBLE NOTIFICATION DEVICES ON DRAWINGS NEXT TO EACH SIGNALING DEVICE. LISTED DECIBEL RATINGS SHOWN ON PLANS ARE BASED ON 15dB ABOVE AMBIENT LEVELS. CONTRACTOR SHALL MEET OR EXCEED SHOWN LEVELS.

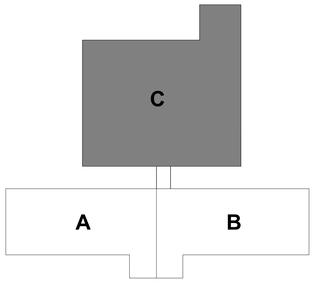


1 MEZZANINE SPECIAL SYSTEMS PLAN
1/8" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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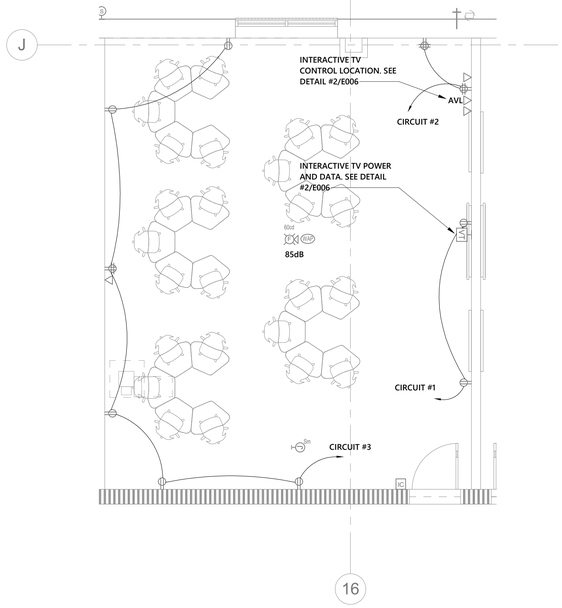
DRAWN BY: Author
CHECKED BY: Checker

MEZZANINE SYSTEMS PLAN

E-303C

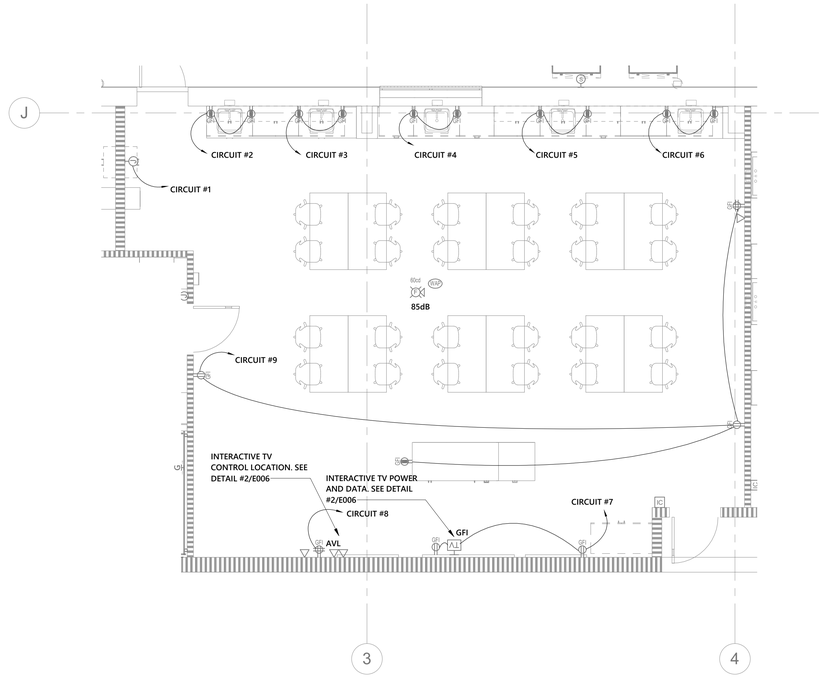


GENERAL NOTES:

1. BACK TO BACK BOX INSTALLATION SHALL NOT BE ALLOWED. WHERE DEVICES ARE SHOWN BACK TO BACK, DEVICE SHALL BE OFFSET 3".
2. TYPICAL IS SHOWN AND SHALL BE ROTATED, MIRRORED, ETC. TO FIT EACH RESPECTIVE CLASSROOM, TOILET, AND WORKROOMS IN A SIMILAR MANNER.
3. ALL DEVICES SHALL BE FLUSH MOUNTED, UNLESS NOTED OTHERWISE, WITH NO EXPOSED CONDUIT.

1 ENLARGED 6, 7, AND 8 CLASSROOM - POWER

1/4" = 1'-0"



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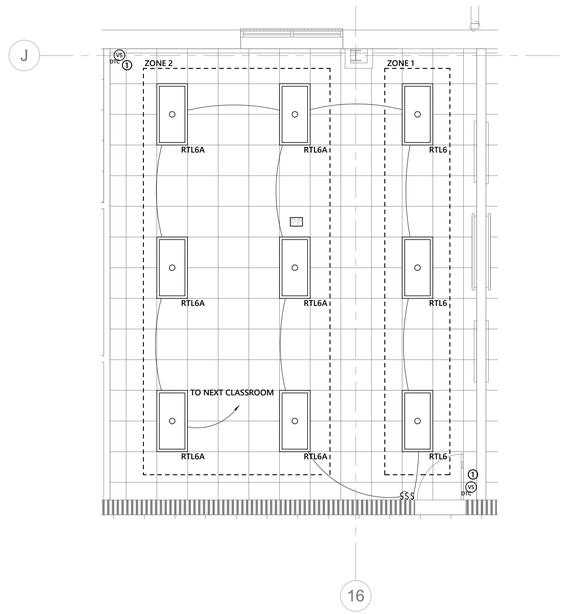
2. TYPICAL IS SHOWN AND SHALL BE ROTATED, MIRRORED, ETC. TO FIT EACH RESPECTIVE CLASSROOM, TOILET, AND WORKROOMS IN A SIMILAR MANNER.
3. ALL DEVICES SHALL BE FLUSH MOUNTED, UNLESS NOTED OTHERWISE, WITH NO EXPOSED CONDUIT.

2 ENLARGED SCIENCE LAB - POWER

1/4" = 1'-0"



GENERAL NOTES:

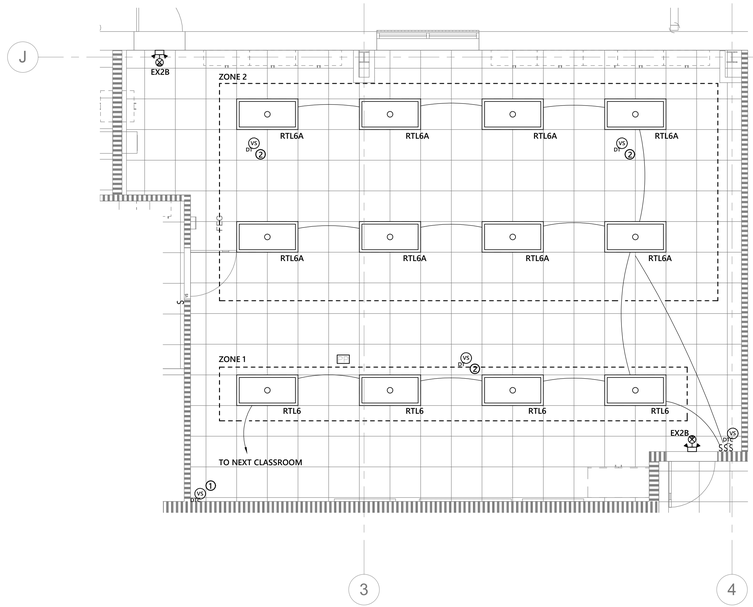
1. SEE MANUFACTURER SUBMITTED DRAWINGS FOR EXACT DEVICE AND CABLING LAYOUTS.
2. CLASSROOM ZONING CONSISTS OF TWO ZONES:
   ZONE 1: TEACHER WALL CONTROLLED BY ONE SWITCH LEG (ON/OFF)
   ZONE 2: CLASSROOM AREA CONTROLLED BY DOUBLE SWITCH FOR STEP LEVEL DIMMING (0/50/100%)
3. SEE FLOOR PLANS FOR ACTUAL CIRCUIT DESIGNATIONS.
4. TYPICAL SHOWN SHALL BE ROTATED, MIRRORED, ETC. TO FIT EACH RESPECTIVE CLASSROOM, TOILET, AND WORKROOM IN A SIMILAR MANNER.

KEYED NOTES:

1. CORNER MOUNTED LOW VOLTAGE VACANCY SENSOR WITH 'CONE' ANGLED COVERAGE.

3 ENLARGED LIGHTING PLAN - CLASSROOM

1/4" = 1'-0"



GENERAL NOTES:

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2. CLASSROOM ZONING CONSISTS OF TWO ZONES:
   ZONE 1: TEACHER WALL CONTROLLED BY ONE SWITCH LEG (ON/OFF)
   ZONE 2: CLASSROOM AREA CONTROLLED BY DOUBLE SWITCH FOR STEP LEVEL DIMMING (0/50/100%)
3. SEE FLOOR PLANS FOR ACTUAL CIRCUIT DESIGNATIONS.
4. TYPICAL SHOWN SHALL BE ROTATED, MIRRORED, ETC. TO FIT EACH RESPECTIVE CLASSROOM, TOILET, AND WORKROOM IN A SIMILAR MANNER.

KEYED NOTES:

1. CORNER MOUNTED LOW VOLTAGE VACANCY SENSOR WITH 'CONE' ANGLED COVERAGE.
2. CEILING MOUNTED LOW VOLTAGE VACANCY SENSOR WITH 360 DEGREE COVERAGE.

4 ENLARGED LIGHTING PLAN - SCIENCE LAB

1/4" = 1'-0"

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DATE: 11/14/2017
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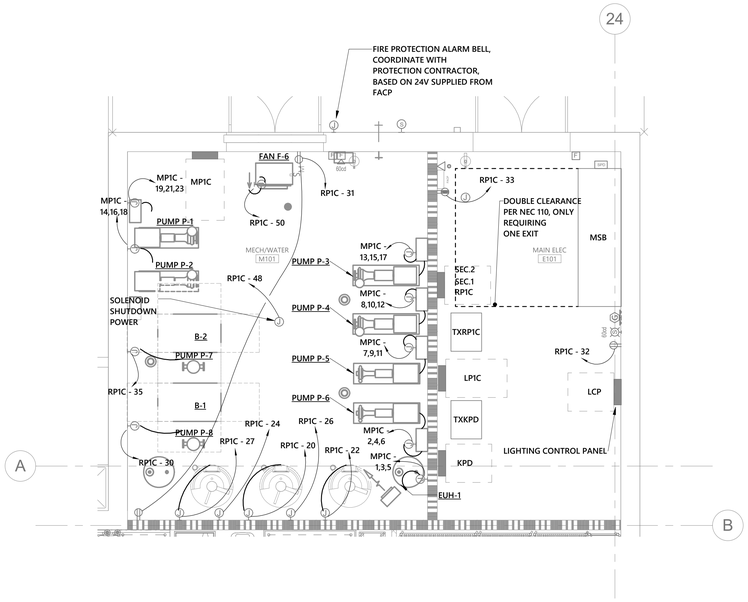
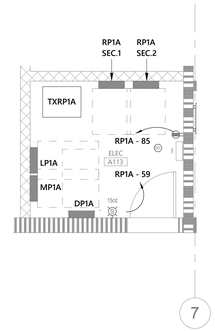
CHECKED BY: MM

ENLARGED CLASSROOM PLANS

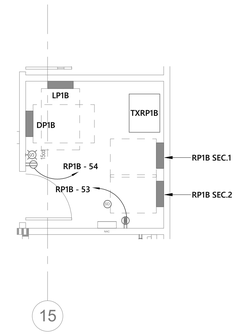
E-401



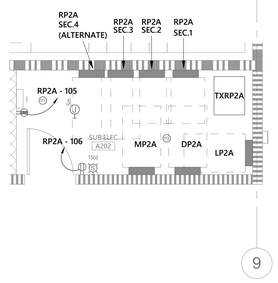
1 ENLARGED PLAN - MAIN ELECTRICAL AND MECHANICAL ROOM
1/4" = 1'-0"



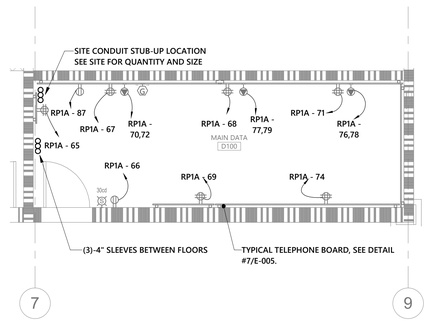
2 ENLARGED PLAN - FIRST FLOOR ELECTRICAL ROOM AREA A
1/4" = 1'-0"



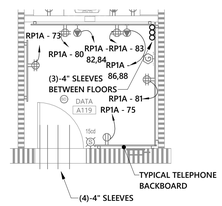
3 ENLARGED PLAN - FIRST FLOOR ELECTRICAL ROOM AREA B
1/4" = 1'-0"



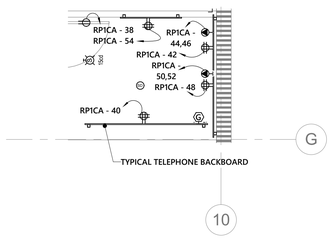
4 ENLARGED PLAN - SECOND FLOOR ELECTRICAL ROOM AREA B
1/4" = 1'-0"



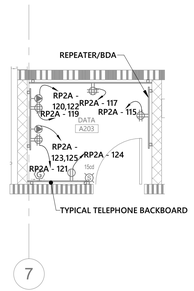
5 ENLARGED PLAN - MDF ROOM
1/4" = 1'-0"



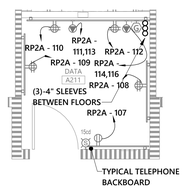
6 ENLARGED PLAN - DATA A119
1/4" = 1'-0"



7 MEZZANINE FLOOR PLAN - POWER - AREA C - DATA D200
1/4" = 1'-0"



8 ENLARGED PLAN - DATA A203
1/4" = 1'-0"



9 ENLARGED PLAN - DATA A211
1/4" = 1'-0"

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

ENLARGED ELECTRICAL AND DATA ROOMS

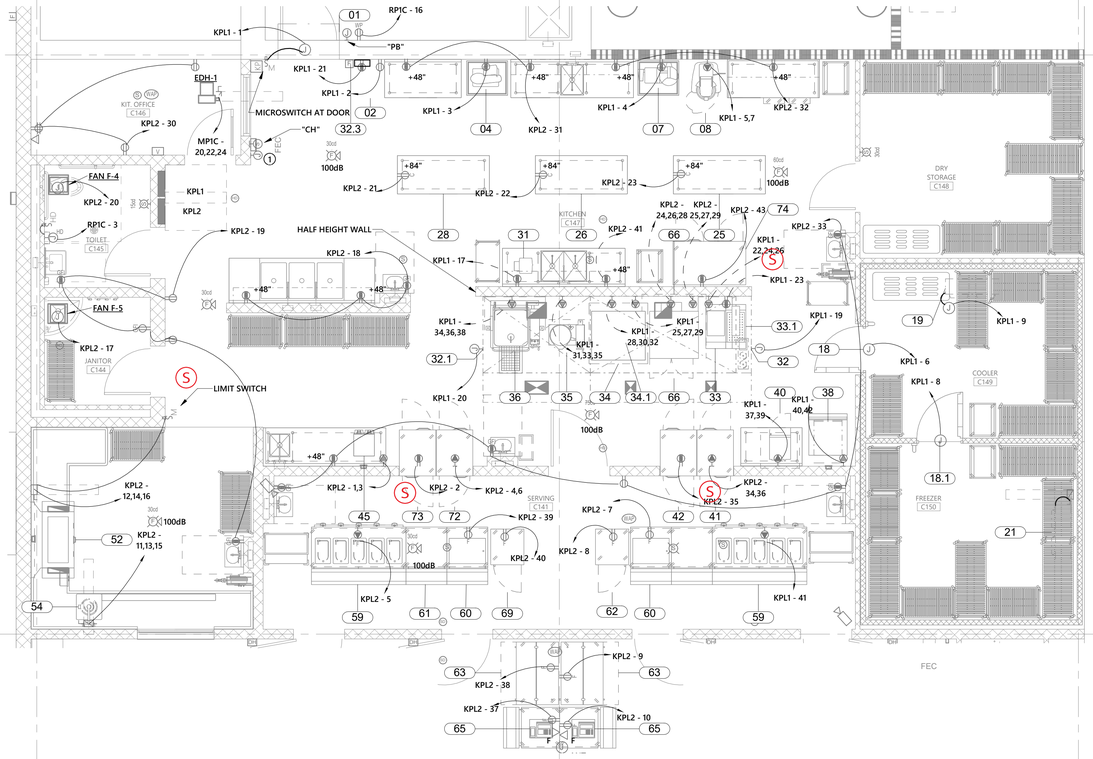
E-402

FOODSERVICE ELECTRICAL SCHEDULE

ITEM NO.	COUNT	DESCRIPTION	AMPS	HP	KW	VOLTS	PHASE	CONN. TYPE	NEMA	ELEC. CONN. HEIGHT	REMARKS	CIRCUIT
	1	PRE-WIRED AUTOMATIC REVERSING CONTROL PANEL	0		0	120	1			0"	COORDINATE LOCATION WITH FOOD SERVICE PLANS.	KPL2 - 45
01	1	AIR CURTAIN		1/4		120	1	DIRECT		90"	MICROSWITCH AT DOOR.	KPL1 - 1
02	1	SCALE	5			120	1	CORD & PLUG	5-15P	48"		KPL1 - 2
04	1	SLICER	4			120	1	CORD & PLUG	5-15P	48"		KPL1 - 3
07	1	FOOD CUTTER		1/2		120	1	CORD & PLUG	5-15P	48"		KPL1 - 4
08	1	30QT MIXER	2.8			208	1	DIRECT		18"		KPL1 - 5,7
18	1	WALK-IN COOLER	15			120	1	DIRECT		102"	LIGHTING CIRCUIT	KPL1 - 6
18.1	1	WALK-IN FREEZER	15			120	1	DIRECT		102"	LIGHTING CIRCUIT AND DOOR HEAT	KPL1 - 8
19	1	EVAPORATOR COIL, COOLER	2.3			120	1	DIRECT		102"		KPL1 - 9
20	1	CONDENSING UNIT, COOLER	6.6			208	3	DIRECT		18"		KPL1 - 11,13,15
21	1	EVAPORATOR COIL, FREEZER	10.3			208	1	DIRECT		102"		KPL1 - 10,12
22	1	CONDENSING UNIT, FREEZER	13.1			208	3	DIRECT		18"		KPL1 - 14,16,18
31	1	FOOD PROCESSOR	12			120	1	CORD & PLUG	5-15P	48"		KPL1 - 17
32	1	EXHAUST HOOD	20			120	1	DIRECT		104"		KPL1 - 19
32.1	1	EXHAUST HOOD	20			120	1	DIRECT		104"		KPL1 - 20
32.3	1	CONTROL PANEL	10			120	1	DIRECT		48"		KPL1 - 21
33	1	FRYER	48			208	3	DIRECT		18"		KPL1 - 22,24,26
33.1	1	FRYER DUMP STATION	6.3			120	1	CORD & PLUG	5-15P	18"		KPL1 - 23
34	1	COMBI OVEN, 10-PAN			37	208	3	DIRECT		1"		KPL1 - 25,27,29
34.1	1	COMBI OVEN, 6-PAN			22.1	208	3	DIRECT		1"		KPL1 - 28,30,32
35	1	KETTLE, 40 QT.	30			208	3	DIRECT		24"		KPL1 - 34,36,38
36	1	TILT SKILLET	32			208	3	DIRECT		24"		KPL1 -31,33,35
38	1	ICE MACHINE, CUBE	7.2			208	1	DIRECT		66"		KPL1 - 40,41
40	1	MICROWAVE OVEN	15.4			208	1	CORD & PLUG	6-20P	48"		KPL1 - 37,39
41	1	PASS THRU HEATED CABINET	7.8			120/208	1	DIRECT		90"		KPL2 - 1,3
42	1	PASS THRU REFRIGERATOR	7.2			120	1	CORD & PLUG	5-15P	90"		KPL2 - 12,14,16
45	1	COFFEE BREWER, AIRPOT	25.8			120/208	1	DIRECT		48"		KPL2 - 11,13,15
52	1	DISHMACHINE, CONVEYOR TYPE	131			208	3	DIRECT		64"		KPL1 - 41
54	1	DISPOSER		3		208	3	DIRECT		18"		KPL1 - 43
59	2	HOT FOOD COUNTER	31.3			120	1		L6-30			KPL2 - 7 & 39
60	2	COLD FOOD COUNTER	4.2			120	1	CORD & PLUG	5-15P	6"		KPL2 - 8
62	1	REFRIGERATOR, GLASS DOOR	8.1			120	1	CORD & PLUG	5-15P	48"		KPL2 - 9 & 38
63	2	MILK COOLER	5.6			120	1	CORD & PLUG	5-15p	6"		
65	2	P.O.S.	10			120	1	CORD & PLUG	5-15P	18"		KPL2 - 10 & 37
66	1	CONVECTION OVEN	31			208	3	DIRECT		24"		KPL2 - 24,26,28
66	1	CONVECTION OVEN - CONTINUED	31			208	3	DIRECT		48"		KPL2 - 25,27,29
69	1	REFRIGERATOR, GLASS DOOR	8.1			120	1	CORD & PLUG	5-15P	48"		KPL2 - 40
72	1	PASS THRU REFRIGERATOR	7.2			120	1	CORD & PLUG	5-15P	90"		KPL2 - 4,6
73	1	PASS THRU HEATED CABINET	7.8			120/208	1	DIRECT		90"		KPL2 - 2
74	1	REFRIGERATOR	6.5			120	1	CORD & PLUG	5-15P	48"		KPL2 - 43

NOTES:
1. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL DISCONNECT SWITCHES, RECEPTACLE, ETC. TO MECHANICAL/PLUMBING AND KITCHEN EQUIPMENT AS REQUIRED. THE ELECTRICAL CONTRACTOR SHALL ALSO PROVIDE ALL CORDS, PLUGS, CABLES, ETC. ON EQUIPMENT REQUIRING SUCH ITEMS.
2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FINAL CONNECTIONS TO ALL MECHANICAL/PLUMBING AND KITCHEN EQUIPMENT AS REQUIRED.
3. ALL DISCONNECT SWITCHES, FUSE SIZES, PLUG CONFIGURATIONS, BREAKER SIZES, ETC., SHALL BE COORDINATED WITH SHOP DRAWINGS PRIOR TO INSTALLING. ANY EQUIPMENT INSTALLED INCORRECTLY BECAUSE OF LACK OF COORDINATION WILL BE REMOVED AND INSTALLED CORRECTLY AT THE ELECTRICAL CONTRACTOR'S EXPENSE.
4. ELEC. CONTRACTOR SHALL PULL A GROUND AND A NEUTRAL WITH ALL CIRCUITS, WHETHER SO DESIGNATED OR NOT.
5. ALL 15 AND 20 AMP RECEPTACLES IN KITCHEN AND SERVING AREA SHALL BE GFI. (THIS APPLIES TO ACCESSIBLE RECEPTACLES ONLY, THAT ARE NOT PROTECTED BY GFI BREAKER.)
6. EXTEND FOUR 1"EC FROM KITCHEN PANEL TO ABOVE ACCESSIBLE CEILING FOR FUTURE.
7. SEE KITCHEN EQUIPMENT SHUTDOWN DETAIL FOR CONTROL OF ITEMS LOCATED UNDER KITCHEN HOOD.
8. PROVIDE A POWER FAILURE ALARM MODULE INLINE WITH GFCI FOR MONITORING. LOCATE ALARM MODULE IN KITCHEN SPACE ADJACENT TO FREEZER.

	ELECTRICAL SYMBOLS
	J-BOX, FLUSH IN WALL
	J-BOX FROM ABOVE
	WATERPROOF CONDUIT STUB
	DUPLEX RECEPTACLE OUTLET
C	KITCHEN CEILING BOX OUTLET BY E.C.
F	KITCHEN FLOOR BOX OUTLET BY E.C.
	SPECIAL RECEPTACLE TO MATCH EQUIPMENT
UC	UTILITY CHASE MOUNTED OUTLET
UDS	UTILITY DISTRIBUTION SYSTEM
F.S.E.C.	FOOD SERVICE EQUIPMENT CONTRACTOR



GENERAL NOTES:

1. COORDINATE ALL DEVICE LOCATIONS WITH KITCHEN CONSULTANT PLANTS.
2. COORIDNATE FINAL KITCHEN DEVICE POWER CONNECTIONS WITH KITCHEN CONSULTANT AND SCHEDULE.
3. DEVICES WILL BE MOUNTED AT HEIGHT SPECIFIED IN SCHEDULE UNLESS OTHERWISE NOTED.

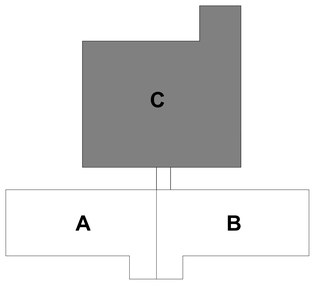
KEYED NOTES:
1. PROVIDE FLUSH MOUNTED DOUBLE GANG JUNCTION BOX, PULL STRING AND 1" CONDUIT TO HOOD FOR HOOD PULL STATION(BY OTHERS).

1 ENLARGED PLAN - KITCHEN
1/4" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

KEYPLAN



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11/14/2017

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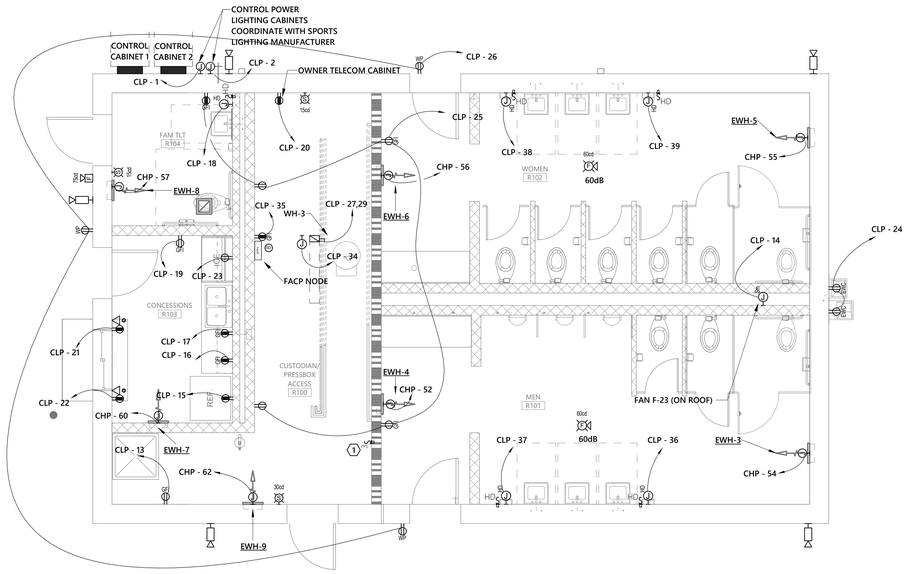
REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

ENLARGED KITCHEN PLAN - POWER

E-403

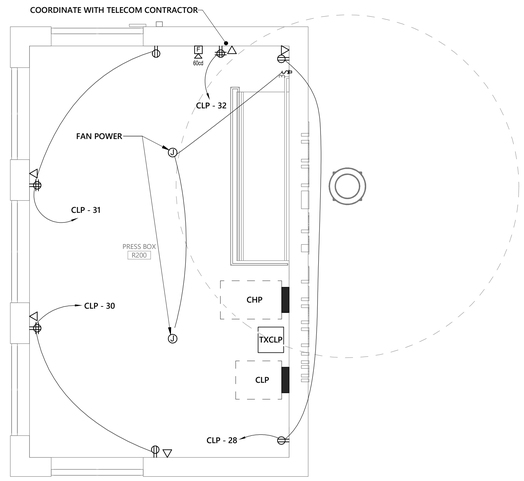


KEYED NOTES:

1. SECOND FLOOR CEILING FANS CONTROL. TIE IN WITH THREE-WAY SWITCH ABOVE.

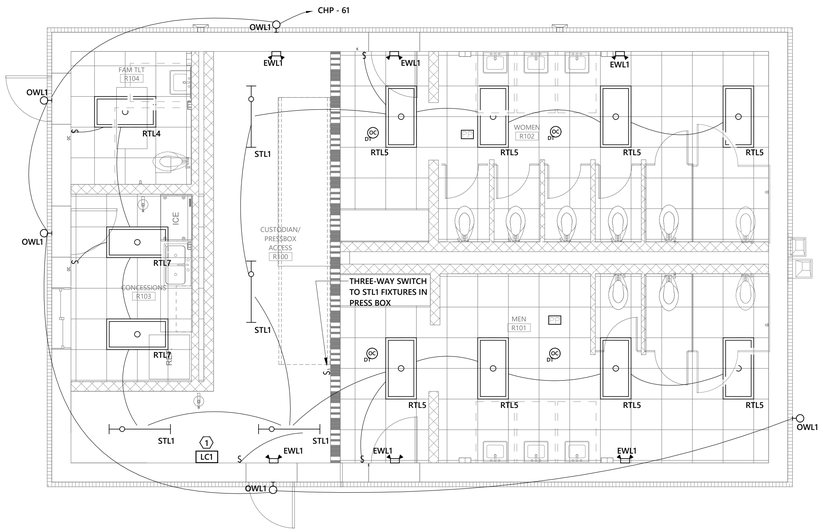
1 CONCESSIONS PLAN - ELECTRICAL

1/4" = 1'-0"



3 SECOND FLOOR CONCESSIONS POWER AND SYTEMS

1/4" = 1'-0"



GENERAL NOTES:

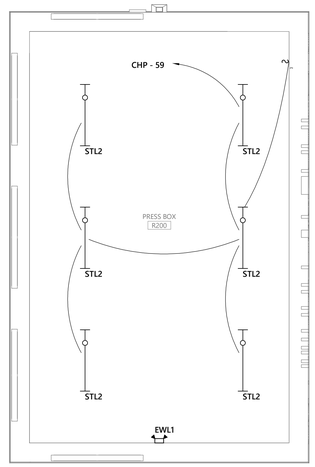
1. PROVIDE EMERGENCY FIXTURE WITH 90 MINUTE, 1100 LUMEN EMERGENCY BATTERY DRIVER. INSTALL ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
2. PROVIDE EXIT SIGNS WITH 90 MINUTE EMERGENCY BATTERY.
3. ALL OWL3 FIXTURES AT CONCESSIONS BUILDING TO BE CONTROLLED VIA KINEMATIC K4223C PHOTOCEL OR EQUAL. MOUNT ON NORTH FACING ROOF. SEE DETAIL #1/E-007 FOR MORE CONTROLS DETAIL.
4. CONNECT EMERGENCY FIXTURES, EWL1, TO LOCAL LIGHTING CIRCUIT AHEAD OF ALL SWITCHING FOR VOLTAGE SENSING.
5. COORDINATE ALL LOCATIONS OF EXTERIOR FIXTURES WITH ARCHITECTURAL DRAWINGS. FIXUTRES MOUNTED ABOVE DOORS SHALL BE CENTERED ON DOOR FRAME.

KEYED NOTES:

1. CONCESSIONS BUILDING LIGHTING CONTACTOR. SEE DETAIL #1/E-007.

2 CONCESSIONS - LIGHTING

1/4" = 1'-0"



GENERAL NOTES:

1. CONNECT EMERGENCY FIXTURES, EWL1, TO LOCAL LIGHTING CIRCUIT AHEAD OF ALL SWITCHING FOR VOLTAGE SENSING.

4 SECOND FLOOR CONCESSIONS LIGHTING

1/4" = 1'-0"

PARTITION LEGEND

1 HOUR RATED	
2 HOUR RATED	
SMOKE WALL	

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

ENLARGED CONCESSIONS

E-404

FEEDER SCHEDULE FOR COPPER CONDUCTORS TO SPECIFIC BREAKER SIZE

BREAKER SIZE	THREE PHASE (COPPER) WIRE/CONDUIT SIZE	BREAKER SIZE	THREE PHASE (COPPER) WIRE/CONDUIT SIZE
20 A	4#12,1#12 G 3/4"C	225 A	4#4/0,1#4G,2-1/2"C.
25 A	4#10,1#10G 3/4"C	250 A	4-250KCMIL,1#4G,2-1/2"C.
30 A	4#10,1#10 G 3/4"C	300 A	4-350KCMIL,1#4G,3"C.
35 A	4#8,1#10 G 3/4"C	350 A	4-500KCMIL,1#3G,3-1/2"C.
40 A	4#8,1#10 G 3/4"C	400 A	(2) 4#3/0,1#3G,2"C.
45 A	4#6,1#10 G 1"C	450 A	(2) 4#4/0,1#2G,2-1/2"C.
50 A	4#6,1#10 G 1"C	500 A	(2) 4-250KCMIL,1#2G,2-1/2"C.
60 A	4#4,1#10 G 1-1/4"C	600 A	(2) 4-350 KCMIL,1#1G,3"C.
70 A	4#4,1#8 G 1-1/4"C	700 A	(2) 4-500 KCMIL,1#1/0G,3-1/2"C.
80 A	4#3,1#8 G 1-1/4"C	800 A	(3) 4-300 KCMIL,1#1/0G,3"C.
90 A	4#2,1#8 G 1-1/4"C.	1000 A	(3) 4-400 KCMIL,1#2/0G,3-1/2"C.
100 A	4#1,1#8 G 1-1/2"C.	1200 A	(4) 4-350 KCMIL,1#3/0G,3"C.
110 A	4#1,1#6 G 1-1/2"C.	1600 A	(5) 4-400 KCMIL,1#4/0G,3-1/2"C.
125 A	4#1,1#6 G 1-1/2"C.	2000 A	(6) 4-400 KCMIL,1#250 KCMIL G, 3-1/2"C.
150 A	4#1/0,1#6 G, 2"C.	2500 A	(7) 4-500 KCMIL,1#350 KCMIL G,3-1/2"C.
175 A	4#2/0,1#6 G, 2"C	3000 A	(8) 4-500 KCMIL,1#400 KCMIL G,3-1/2"C.
200 A	4#3/0,1#6 G, 2-1/2"C	3500 A	(10) 4-500 KCMIL, 2#500 KCMIL G, 4"C
		4000 A	(10) 4-600 KCMIL,1#600 KCMIL G, 4"C.

DRY-TYPE TRANSFORMER SCHEDULE

TRANSF. TYPE	PRIMARY VOLTAGE	SECONDARY VOLTAGE	KVA	SQUARE "D"	PRIMARY	SECONDARY	GROUNDING ELECTRODE CONDUCTOR	SIZE
T-5	480	208/120 Y	30		(3)-#8, #10 Gnd. -3/4 "C. 50 AMP	(4)-#3, #8 Gnd. -1 1/2" C. 100 A	#8	25/14
T-6	480	208/120 Y	45		(3)-#4, #8 Gnd. -1 1/4" C. 70 AMP	(4)-#1/0, #6 Gnd. -2" C. 150 A	#6	30/20
T-7	480	208/120 Y	75		(3)-#1, #6 Gnd. -1 1/2" C. 125 AMP	(4)-#4/0, #2 Gnd. -2 1/2" C. 225 A	#2	30/20
T-8	480	208/120 Y	112.5		(3)-#2/0, #6 Gnd. -1 1/2" C. 175 AMP	(2) SETS(4)-#3/0, #1/0 Gnd. - 2"C. 400 A	#1/0	35/29
T-10	480	208/120 Y	225		(3) #500kcmil, #3 Gnd. 3" C. 350 AMP	(3)-SETS (4)-#300kcmil, #2/0 Gnd. -3" C. EA. / 800 AMP	#2/0	48/30
T-11	480	208/120 Y	300		(2)-SETS (3)-#250kcmil, #2 Gnd. -2 1/2"C. EA. / 500 AMP	(3)-SETS (4)-#400kcmil, #3/0 Gnd. -3" C. EA. / 1000 AMP	#3/0	56/36

NOTE: NOT ALL SIZES OR TYPES MAY BE USED.
NOTE: NOT ALL SIZES OR TYPES MAY BE USED.

$$Building\ Size = 82186\ ft^2$$

$$Connected\ Load = 1094\ KVA = 1094000\ VA$$

$$\frac{VA}{ft^2} = \frac{1094000VA}{82186ft^2} = 13.31\frac{VA}{ft^2}$$

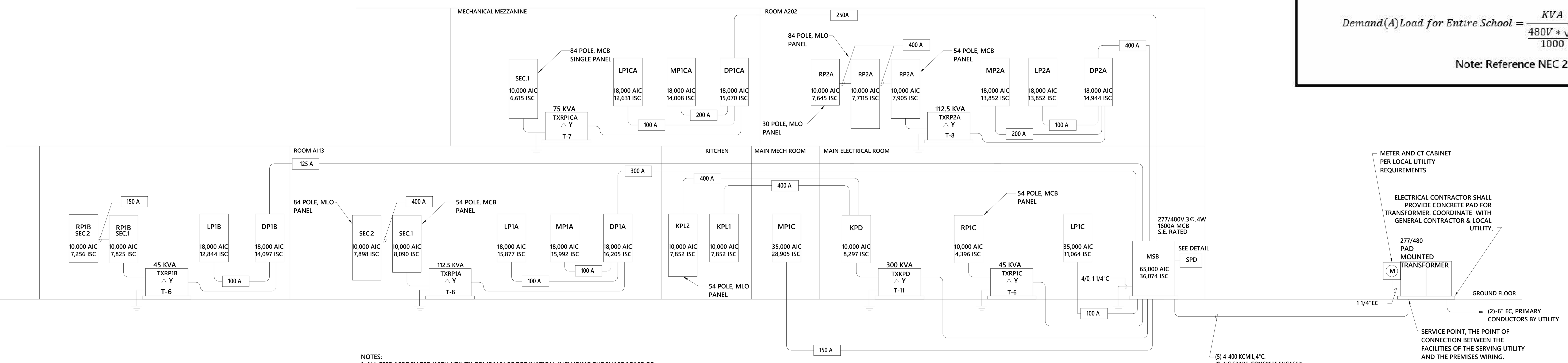
$$First\ 3\frac{VA}{ft^2}@100\% = 3\frac{VA}{ft^2} * 82186ft^2 * \frac{1KVA}{1000VA} * 100\% = 246.56\ KVA$$

$$Remaining\frac{VA}{ft^2}@75\% = 10.31\frac{VA}{ft^2} * 82186\ ft^2 * \frac{1KVA}{1000VA} * 75\% = 635.58KVA$$

$$Demand\ (KVA)\ Load\ for\ Entire\ School = Demand@100\% + Demand@75\% = 246.56KVA + 635.58KVA = 882.14KVA$$

$$Demand(A)Load\ for\ Entire\ School = \frac{KVA}{\frac{480V*\sqrt{3}}{1000}} = \frac{882.14KVA}{\frac{480V*\sqrt{3}}{1000}} = 1061.54A$$

Note: Reference NEC 220.86



NOTES:
1. ALL FEES ASSOCIATED WITH UTILITY COMPANY COORDINATION, INCLUDING PURCHASE/LEASE OF UTILITY TRANSFORMER, TRANSFORMER PRIMARY FEES, PAD, AND ALL ADMINISTRATIVE FEES SHALL BE INCLUDED AS PART OF THE E.C. CONTRACT. AT MINIMUM $10,000.00 SHALL BE ESTIMATED FOR THE UNDERGROUND TRANSFORMER SERVICE FEE.
2. PROVIDE 1 1/4"C FROM GAS METER TO EMS (BAS) CONTROL PANEL WITH #18 AWG STRANDED PAIR WIRE. COORDINATE FINAL CONNECTION WITH LOCAL GAS UTILITY.
3. PROVIDE 4" HIGH FORMED CONCRETE HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED ELECTRICAL GEAR.
4. PER UTILITY RESTRICTIONS A MAXIMUM OF 400A PER CONDUCTOR FOR UTILITY SECONDARY.

1 POWER RISER DIAGRAM

NO SCALE

PANEL: PUMP MDP — 10,000AIC
480/277V, 3 PHASE, 4 WIRE — SURFACE MOUNTING — MAINS: 70A MLO

LOAD	LOAD SERVED	WIRE	TRIP	FRAME	CKT NO	CKT NO	FRAME	TRIP	WIRE	LOAD SERVED	LOAD (KVA)
2.9		10			1	2			10		2.9
2.9	PUMP	10	30		3	4		30	10	PUMP	2.9
2.9		10			5	6			10		2.9
4		10			7	8			-	SPACE ONLY	0.0
3.6	TRANSFORMER (PANEL PUMPL)	10	25		9	10			-	SPACE ONLY	0.0
4		10			11	12			-	SPACE ONLY	0.0
0.0		8			13	14			-	SPACE ONLY	0.0
0.0	SPD	8	30		15	16			-	SPACE ONLY	0.0
0.0		8			17	18			-	SPACE ONLY	0.0

LOAD	KVA
SUB PANEL	12.3
HEATING	0.0
MOTORS	17.4
RECEPTACLES	0.0
SPARE	0.0
TOTAL	29.7

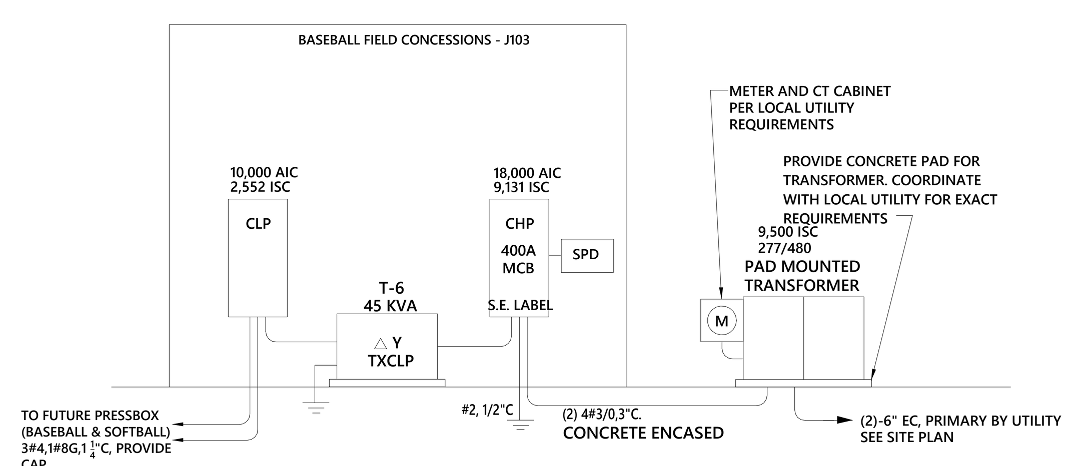
NOTES
1. PROVIDE FEED THRU LUGS TO CONTROL PANEL.
2. PROVIDE THRU LUGS WITH 60A SUB FED BREAKER FOR CIVIL PROVIDED CONTROL PANEL. COORDINATE REQUIREMENT IN FIELD FOR CONNECTION OF PUMPS AND CONTROL PANEL.
3. PROVIDE MINIMUM 9" WIRING GUTTER ON FEED SIDE.

PANEL: PUMPL — 10,000AIC
208/120, 3 PHASE, 4 WIRE — SURFACE MOUNTING — MAINS: 60A MCB

LOAD	LOAD SERVED	WIRE	TRIP	FRAME	CKT NO	CKT NO	FRAME	TRIP	WIRE	LOAD SERVED	LOAD (KVA)
0.1	EXTERIOR LIGHTING	12	15		1	2		20	12	CONTROLS	1.0
0.4	RECEPTACLES	12	20		3	4		20	12	BACKFLOW HEAT	1.0
1.5	SPARE		20		5	6		15	12	INTERIOR LIGHTING	.12
1.0	ENGINE BLOCK HEATER	12	20		7	8		35	8	UNIT HEATER	2.5
0.5	BATTERY CHARGER	12	20		9	10			8		2.5
1.0	HEAT TAPE (GFI BREAKER)	12	20		11	12			-	SPACE ONLY	0.0
0.7	EXHAUST FANS	12	20		13	14			-	SPACE ONLY	0.0

LOAD	KVA
LIGHTS	0.2
HEATING	8.0
RECEPTACLES	1.9
SPARE	1.5
VENTILATION	0.7
TOTAL	12.3

NOTES
1. PROVIDE FEED THRU LUGS TO CONTROL PANEL.

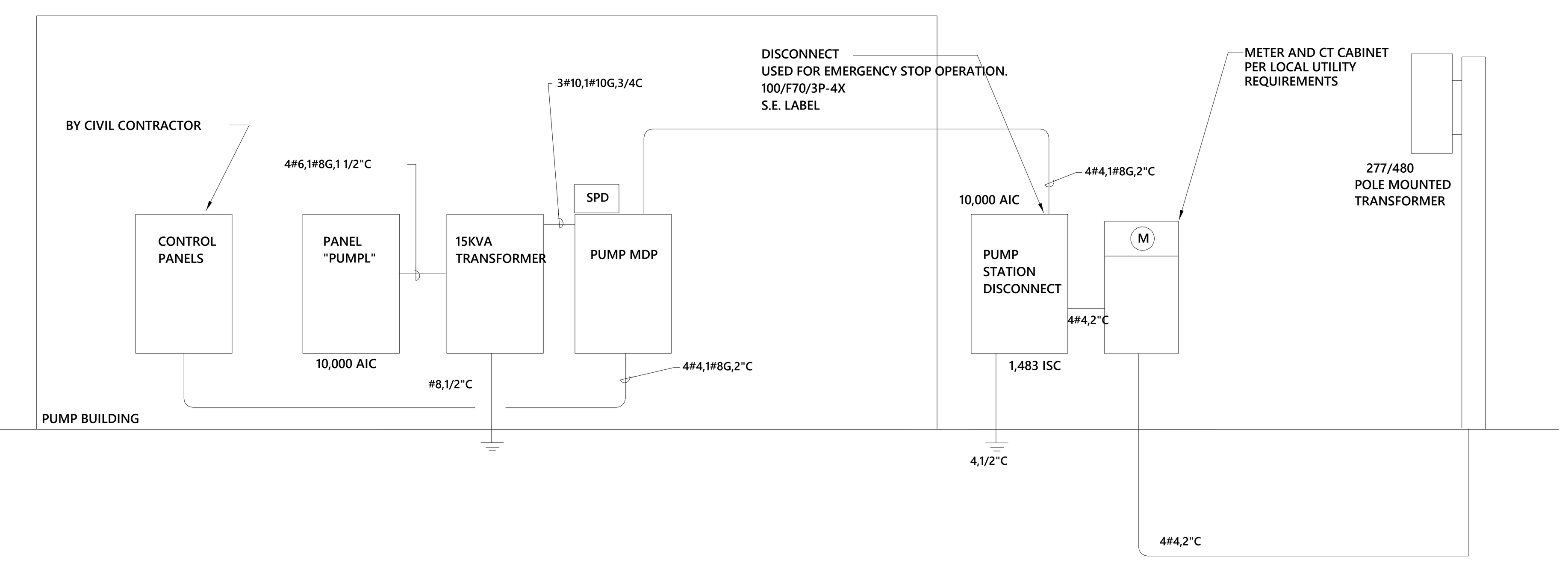


2 ATHLETIC POWER RISER DIAGRAM

NO SCALE

LOAD INFORMATION:
(2) - 7 HP PUMPS
(2) - INTERIOR LIGHTS, (2) EXTERIOR - .064KW
(2) - RECEPTACLES (0.4KW)
(1) - HEAT TAPE - 1KW
(1) - BACKFLOW HEAT 1.0 KW
(1) - BUILDING HEATER 5.0 KW
(1) - CONTROLS 1.0 KW
(1) - CHARGER (.5) KW
(2) - EXHAUST FANS (.7KW)

TOTAL LOAD: 29.7KW



NOTES:
1. SEE CIVIL PLANS FOR COORDINATION OF PUMPS, CONDUIT, GENERATOR, SERVICE, AND DEVICE LOCATIONS.
2. COORDINATE ALL REQUIREMENTS WITH PUMP STATION PACKAGE PROVIDER BEFORE INSTALLATION. THIS SHALL INCLUDE LOCATION AND CONDUIT/FEEDER REQUIREMENTS. EC RESPONSIBLE FOR ALL CONNECTIONS FROM PANEL TO LOAD. PROVIDE BRANCH CIRCUITS, INSTALLATION, ETC. FOR AT MINIMUM EXTERIOR LIGHTING, INTERIOR RECEPTACLES, CONTROLS, BACKFLOW HEAT, EXHAUST FANS< INTERIOR LIGHTING, AND UNIT HEATER.

3 POWER RISER DIAGRAM - PUMP STATION

NO SCALE

SULLIVAN COUNTY SCHOOLS

SULLIVAN EAST MIDDLE SCHOOL

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11/14/2017

MEMBERS OF THE AMERICAN INSTITUTE OF ARCHITECTS

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

POWER RISER

E-501

LIGHTING FIXTURE SCHEDULE

Type Mark	DESCRIPTION	Lamp	Wattage	Driver	Voltage	Manufacturer	Model	Remarks
CL1	SURFACE MOUNTED LED CANOPY LIGHT	LED	20W	INTEGRAL LED DRIVERS (2)	UNIV	KENALL LUMINAIRE BROWNLEE LUMUX	MS11FL PP CC 20L40K SCC 277 FS SWP1212LEDHO 7155 WH B12LED 40K WSS40-LED-40K277-CC-FS-IBP	4000K 1300 LUMEN COLOR CHOSEN BY ARCHITECT 4" DEEP X 12" SQUARE CONDUIT SHALL PENETRATE FROM THE TOP OF THE CANOPY UL LISTED WET LOCATION
DL1	6" RECESSED LED DOWNLIGHT	LED	12W	INTEGRAL LED DRIVER (STANDARD 0-10V DIMMING)	UNIV	GOTHAM PATHWAY JUNO COOPER SPECTRUM	EVO 14 6AR LS MVOLT 6VLED 1500 INDY L6 13 35 U G2 L600P LD6A 15 1500D010TE ERM6A15 8 35 6LM0 LI SGE6LEDGI 20W 35K MD	
EWL1	LED EXIT AND EMERGENCY LIGHT COMBO	LED	3.5W	INTEGRAL LED DRIVER	UNIV	LITHONIA HUBBELL JUNO	ELM2 LED HO APPROVED EQUAL APPROVED EQUAL	
EX1B	BATTERY THERMOPLASTIC LED EXIT SIGN	LED	1W	INTEGRAL LED DRIVER	UNIV	LITHONA HUBBELL JUNO COOPER PHILIPS	QUANTUM LQM S W R 120/277 EL N DUAL LITE LX U R W E NAVILLITE NXPBA R WH SURE-LITES LPX 7 CHLORIDE VE	NICKEL CADMIUM BATTERY EXIT SIGN 90 MINUTE OPERATION; RED TEST SWITCH PROVIDED UL LISTED FOR DAMP LOCATIONS
EX2B	LED EXIT AND EMERGENCY LIGHT COMBO	LED	3.5W	INTEGRAL LED DRIVER	UNIV	LITHONIA HUBBELL JUNO COOPER	ECR LED HO M6 APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	NICKEL CADMIUM BATTERY EXIT SIGN 90 MINUTE OPERATION, RED TEST SWITCH PROVIDED UL LISTED FOR DAMP LOCATIONS
HBL1	LED LOW BAY (LOW PROFILE)	LED	142W	INTEGRAL LED DRIVER (STANDARD 0-10V DIMMING)	UNIV	LITHONIA WILLIAMS CORONET COOPER	IBH 18000LM SD080 MD MVOLT GZ10 40K 80 CRI GLR LLHV 4 40 V W ST E U CP HBA LED 4FT 30000 UNV FL HBLED	SURFACE MOUNT BRACKET DIFFUSING ACRYLIC 4000K WIRE GUARD 30,000 LUMENS AIRCRAFT CABLE FOR SAFETY AND CONDUIT STEM, PROVIDE UNISTRUT BETWEEN STRUCTURAL BRACING
HBL3	LED ROUND HIGH BAY	LED	160W	INTEGRAL LED DRIVER (STANDARD 0-10V DIMMING)	UNIV	CREE COOPER CORONET	CXB A UV M 40K 8 UL 10V APPROVED EQUAL APPROVED EQUAL	SURFACE MOUNT BRACKET DIFFUSING ACRYLIC 4000K WIRE GUARD 30,000 LUMENS AIRCRAFT CABLE FOR SAFETY AND CONDUIT STEM, PROVIDE UNISTRUT BETWEEN STRUCTURAL BRACING
OWL1	WALL PACK TRAPEZOID LED	2-MODULE LED	47W	INTEGRAL LED DRIVERS (2)	UNIV	LITHONIA HUBBELL JUNO COOPER PHILLIPS	WST LED 2 700 mA SR2 MVOLT TRPC-13LU 5K BZ DT A032 MCGRAW IST B02 LED E1 GZW GARDCO 101L-DCC-2-55LA NW-UNV-OC	COLOR CHOSEN BY ARCHITECT LS 101 EMERGENCY COMPLIANT 7"HX16"WX9"D 3900 LUMENS (WIDE ANGLE) SEALED 90 MINUTE BATTERY
RTL4	2X4 LED LAY-IN TROFFER	LED	31W	INTEGRAL LED DRIVER (STANDARD 0-10V DIMMING)	UNIV	LITHONIA WILLIAMS CORONET COOPER	2GTL 4 40L EZ1 LP840 APPROVED EQUAL APPROVED EQUAL	4000K 4000 MINIMUM LUMENS UL LISTED DAMP LOCATIONS PROVIDE FLANGE KIT FOR GYP BOARD APPLICATIONS
RTL4A	2X4 LED LAY-IN TROFFER	LED	31W	INTEGRAL STEP-LEVEL DIMMING DRIVER	UNIV	LITHONIA WILLIAMS CORONET COOPER	2GTL 4 40L SLD LP840 APPROVED EQUAL APPROVED EQUAL	0/50/100% STEP DIMMING 4000K 4000 MINIMUM LUMENS UL LISTED DAMP LOCATIONS PROVIDE FLANGE KIT FOR GYP BOARD APPLICATIONS
RTL5	2X4 LED LAY-IN TROFFER	LED	38W	INTEGRAL LED DRIVER (STANDARD 0-10V DIMMING)	UNIV	LITHONIA WILLIAMS CORONET COOPER	2GTL 4 48L EZ1 LP840 APPROVED EQUAL APPROVED EQUAL	4000K 4800 MINIMUM LUMENS UL LISTED DAMP LOCATIONS PROVIDE FLANGE KIT FOR GYP BOARD APPLICATIONS
RTL5A	2X4 LED LAY-IN TROFFER	LED	38W	INTEGRAL STEP-LEVEL DIMMING DRIVER	UNIV	LITHONIA WILLIAMS CORONET COOPER	2GTL 4 48L SLD LP840 APPROVED EQUAL APPROVED EQUAL	4000K 4800 MINIMUM LUMENS UL LISTED DAMP LOCATIONS PROVIDE FLANGE KIT FOR GYP BOARD APPLICATIONS
RTL6	2X4 LED LAY-IN TROFFER	LED	48W	INTEGRAL LED DRIVER (STANDARD 0-10V DIMMING)	UNIV	LITHONIA WILLIAMS CORONET COOPER	2GTL 4 60L EZ1 LP840 APPROVED EQUAL APPROVED EQUAL	4000K 5800 MINIMUM LUMENS UL LISTED DAMP LOCATIONS PROVIDE FLANGE KIT FOR GYP BOARD APPLICATIONS
RTL6A	2X4 LED LAY-IN TROFFER	LED	48W	INTEGRAL STEP-LEVEL DIMMING DRIVER	UNIV	LITHONIA WILLIAMS CORONET COOPER	2GTL 4 60L SLD LP840 APPROVED EQUAL APPROVED EQUAL APPROVED EQUAL	0/50/100% STEP DIMMING 4000K 5800 MINIMUM LUMENS UL LISTED DAMP LOCATIONS STEP DIMMING PROVIDE FLANGE KIT FOR GYP BOARD APPLICATION
RTL7	2X4 LED LAY-IN TROFFER	LED	53W	INTEGRAL LED DRIVER (STANDARD 0-10V DIMMING)	UNIV	LITHONIA WILLIAMS COOPER	2GTL 4 72L EZ1 LP840 APPROVED EQUAL APPROVED EQUAL	4000K 7000 MINIMUM LUMENS UL LISTED DAMP LOCATIONS PROVIDE FLANGE KIT FOR GYP BOARD APPLICATION
RTL7A	2X4 LED LAY-IN TROFFER	LED	53W	INTEGRAL STEP-LEVEL DIMMING DRIVER	UNIV	LITHONIA WILLIAMS COOPER	2GTL 4 72L SLD LP840 APPROVED EQUAL APPROVED EQUAL	0/50/100% STEP DIMMING 4000K 7000 MINIMUM LUMENS UL LISTED DAMP LOCATIONS STEP DIMMING PROVIDE FLANGE KIT FOR GYP BOARD APPLICATION
SDL1	6" RECESSED LED SHOWER DOWNLIGHT	LED	14W	INTEGRAL LED DRIVER	UNIV	GOTHAM PATHWAY JUNO COOPER SPECTRUM	EVO 14 6AR LS MVOLT 6VLED 1500 INDY L6 13 35 U G2 L600P LD6A 15 1500D010TE ERM6A15 8 35 6LM0 LI SGE6LEDGI 20W 35K MD	UL LISTED FOR WET LOCATIONS
VLT5A	2X4 VOLUMETRIC LED TROFFER 0-10V DIMMING	LED	40W	INTEGRAL STEP-LEVEL DIMMING DRIVER	UNIV	LITHONIA COLUMBIA -- COOPER	2VTL4 48L ADP SLD LP840 APPROVED EQUAL APPROVED EQUAL	0/50/100% STEP DIMMING MINIMUM 4800 LUMENS 4000K
VLT6	2X4 VOLUMETRIC LED TROFFER 0-10V DIMMING	LED	44W	INTEGRAL 0-10V DIMMING DRIVER	UNIV	LITHONIA COLUMBIA COOPER	2VTL4 60L ADP EZ1 LP840 APPROVED EQUAL APPROVED EQUAL	0-10V DIMMING MINIMUM 6000 LUMENS 4000K
VLT6A	2X4 VOLUMETRIC LED TROFFER 0-10V DIMMING	LED	44W	INTEGRAL STEP-LEVEL DIMMING DRIVER	UNIV	LITHONIA COLUMBIA -- COOPER	2VTL4 60L ADP SLD LP840 APPROVED EQUAL APPROVED EQUAL	0/50/100% STEP DIMMING MINIMUM 6000 LUMENS 4000K
VLT7A	2X4 VOLUMETRIC LED TROFFER 0-10V DIMMING	LED	72W	INTEGRAL STEP-LEVEL DIMMING DRIVER	UNIV	LITHONIA COLUMBIA -- COOPER	2VTL4 72L ADP SLD LP840 APPROVED EQUAL APPROVED EQUAL	0/50/100% STEP DIMMING MINIMUM 7200 LUMENS 4000K
VRS1	VANDAL RESISTANT OUTDOOR LED STRIP LIGHT	LED	42W	INTEGRAL LED DRIVER	UNIV	LITHONIA WILLIAMS COOPER	VAP 4000 FST MD MVOLT GZ10 40K 80CRI 96 LED FAIL SAFE	WET LOCATION LABEL 4000+ LUMENS SURFACE MOUNT WITH BRACKETS 4' SECTION

LIGHTING FIXTURE SCHEDULE NOTES:

1. LAMPS BASED ON OSRAM/SYLVANIA UNLESS OTHERWISE NOTED. ALL DIODES SHALL BE 4000K ULESS OTHERWISE SPECIFIED. SUBMITTAL SHEETS SHALL BE SUBMITTED WITH FIXTURE SUBMITTALS. DRIVER AND DIODE BOARD WARRANTY SHALL BE COMPLETED BY CONTRACTOR AND TURNED OVER TO OWNER AT THE END OF PROJECT.
2. LED DRIVERS SHALL BE PROVIDED FROM MANUFACTURERE RECOMMENDATIN. AS PART OF THIS RECOMMENDATION COORDINATE THE REQUIRED WAVE OUTPUT SO THEY ARE COMPATIBLE. THIS INCLUDES EMERGENCY DRIVERS.
3. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT FIXTURE LOCATIONS.
4. FIXTURES SHALL BE FIRE RATED.
5. PROVIDE LOW-TEMP (0 DEGREES F MINIMUM DRIVERS FOR ALL FIXTURES INSTALLED IN EXTERIOR LOCATIONS OR OTHER AREAS SUBJECT TO COLD WEATHER.
6. SUSPEND ALL FOUR CORNERS WITH WIRE TO STRUCTURE. DO NOT ALLOW GRID ALONE TO SUPPORT FIXTURE.
7. FIXTURES WITH EMERGENCY BATTERY PACKS SHALL BE SUPPLIED WITH 1100 LUMEN INVERTERS.
8. PROVIDE INTEGRAL SURGE PROTECTION ON ALL EXTERIOR LED DRIVER FIXTURE TYPES.
9. DIMMING OF FIXTURES SHALL BE WITH A SWITCH AS RECOMMENDED BY DDRIVER MANUFACTURER.
10. THE CONTRACTOR SHALL VERIFY THE LEAD TIME OF ALL PRODUCTS SPECIFIED IN THIS SCHEDULE AT THE TIME OF PACKAGE QUOTE.
11. DURING THE BID PROCESS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DELIVERY /SCHEDULING ISSUES.
12. NO SUBSTITUTIONS WILL BE ALLOWED DUE TO LACK OF COORDINATION OF DELIVERY DATES AND CONSTRUCTION SCHEDULE AFTER BID.
13. ALL EXPIDITED EXPENSES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
14. FIXTURES TO BE INSTALLED IN CEILINGS, INDICATED ON ARCHITECTURAL PLANS AS HAVING INSULATION IN CONTACT WITH CEILING SURFACE, SHALL BE IC RATED BY MANUFACTURER.
15. LED DRIVERS LOCATED IN UNCONDITIONED SPACES SHALL BE RATED FOR 90 DEGREES F.
16. WALL MOUNTED EMERGENCY LIGHTS SHALL BE SUPPLIED WITH 90-MINUTE BATTERY BACK UP. EMERGENCY BACK UP SHALL BE BASED ON TYPE OF FIXTURE. EMERGENCY BACKUP SHALL BE DUAL INPUT FOR BOTH SWITCHING AND CHARGING. PROVIDE UNSWITCHED "HOT" FROM LOCAL CIRCUIT UNLESS OTHERWISE INDICATED ON PLANS FOR VOLTAGE SENSING. PROVIDE WITH INDICATOR LIGHT. INSTALL INDICATOR LIGHT ON FIXUTRE.
17. POLES PROVIDED FOR LED FIXTURES SHALL BE METAL, REGARDLESS OF SPECIFICATION FOR GROUNDING PURPOSES.

LCP SCHEDULE

RELAY #	PANEL DESIGNATION/ DESCRIPTION	VOLTAGE/PHASE	FUNCTION	LAMP TYPE	NOTES
1	LP1A-4 / EXTERIOR WALL PACKS	277/1	ON/OFF	LED	1,2,4
2	LP1A-5 / EXTERIOR CANOPY	277/1	ON/OFF	LED	1,2,4
3	LP1A-1/1ST FLOOR AREA A AND B CORR.	277/1	ON/OFF	LED	1
4	LP1A-1 / MAIN CORRIDOR A100	277/1	ON/OFF	LED	1
5	LP1CA-1 / CORRIDOR C100	277/1	ON/OFF	LED	1
6	LP1C-3 / GYM	277/1	ON/OFF	LED	1
7	LP1C-4 / GYM	277/1	ON/OFF	LED	1
8	LP1C-5 / GYM	277/1	ON/OFF	LED	1
9	LP1C-1 / DINING C140	277/1	ON/OFF	LED	1
10	LP1C-1 / LEARNING COMMONS C103	277/1	ON/OFF	LED	1
11	LP2B-1/2ND FLOOR AREAS AND B CORR.	277/1	ON/OFF	LED	1
12	SPARE				
13	SPARE				

REMARKS:

1. PROGRAM NORMAL ON/OFF, COORDINATE AUTOMATED SCHEDULE WITH OWNER.
2. LIGHTING FIXTURES WITH EMERGENCY BATTERY PACKS AND EXIT SIGNS SHALL BE CONNECTED WITH A CONSTANT UNSWITCHED HOT LEG OF CIRCUIT.
3. BLINK FLASH ALERT SIGNAL, LOCAL LOW VOLTAGE SWITCH SHALL OVERRIDE.
4. OL - OUTSIDE LIGHT: ASTRONOMICAL CLOCK ON/OFF. COORDINATE SCHEDULE WITH OWNER.
5. PROVIDE A UL LISTED BARRIER TO SEPARATE 120V CIRCUITS FROM 277 CIRCUITS.

LIGHTING SEQUENCE OF OPERATION

A COMPLETE AND OPERATIONAL LIGHTING CONTROL SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS (SECTION 260923) AND AS INTENDED ON THESE PLANS. ALL CONTROL POINTS AND EQUIPMENT SEQUENCES OF OPERATION LISTED IN SPECIFICATION SECTION 260923 SHALL BE CONSIDERED IN ADDITION TO THOSE LISTED HERE. IN THE EVENT THAT THE VERBIAGE IS IN CONFLICT OR CONTRADICTS THE REQUIREMENTS LISTED HERE, THE QUESTION SHALL BE ASKED PRIOR TO BIDDING OR THE MORE STRINGENT SHALL APPLY.

SYSTEM DESCRIPTION:
LIGHTING CONTROLS AR BASED ON FREE TOPOLOGY. RELAY CONTROLS SHALL BE INTEGRATED WITH THE BAS SYSTEM. INDEPENDENT OF THE LIGHTING CONTROLS SYSTEM ARE WALL AND CEILING MOUNTED SENSORS. THESE SHALL BE INDEPENDENT AND NOT TIED INTO THE FACILITY BUILDING AUTOMATION SYSTEM (BAS) SOFTWARE. (NOTE: BAS IS PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR)

OCCUPANCY SENSORS
1. CEILING MOUNTED OCCUPANCY SENSORS SHALL OPERATE INDEPENDENT OF LIGHTING CONTROL SYSTEM.
2. ALL OCCUPANCY SENSORS SHALL BE PROGRAMMED FOR AUTOMATIC ON (FULL LEVELS) AND AUTOMATIC OFF. ALL VACANCY SENSORS SHALL BE PROGRAMMED FOR MANUAL ON (FULL LEVELS) AND AUTOMATIC OFF).

TIMER SETTINGS :
A. WALL SWITCH PASSIVE INFRARED: 2 MINUTES FOR INDIVIDUAL RESTROOMS AND STORAGE ROOMS.
B. CLASSROOMS OCCUPANCY: 15 MINS.
C. WALL SWITCH OCCUPANCY SENSORS OFFICES: 5 MINS.
D. WALL SWITCH OCCUPANCY SENSORS CONFERENCE: 10 MINS

BAS INTEGRATION :
A. EXTERIOR LIGHTING ZONE, TIME SCHEDULE CONTROL. (3) ZONES.
B. INTERIOR LIGHTING:
- UNDERCOUNTER LIGHTING ZONE.
- CORRIDORS
- MAIN CORRIDOR
- GYM
- GROUP RESTROOMS
- DINING
- LEARNING COMMONS
- STAIRWELLS

COMMISSIONING AND COORDINATION OF BAS :
1. BAS CONTROL SHALL BE THE PRIORITY SYSTEM.
2. LIGHTING SYSTEM SHALL ALSO BE INDEPENDENTLY CONTROLLED BY A SOFTWARE BASED SYSTEM.
3. LIGHTING SYSTEM IS CONNECTED TO THE BAS VIA BACNET PROTOCOL OR EQUAL. COORDINATE LANGUAGE REQUIREMENTS WITH MECHANICAL CONTROLS CONTRACTOR SUPPLYING BUILDING AUTOMATION SYSTEM.

LIGHTING COORDINATION AND QUALITY CONTROL :
1. ELECTRICAL CONTRACTOR SHALL HAVE A PRE-CONSTRUCTION MEETING WITH CONTROLS SUPPLIER PRIOR TO CONDUIT ROUGH-IN TO VERIFY BOXES, CONDUIT PATHS, AND GENERAL LIGHTING CONTROL STRATEGY FOR INSTALLATION.
2. ELECTRICAL CONTRACTOR SHALL HAVE A POST-SUBMITTAL MEETING WITH CONTROLS SUPPLIER TO IDENTIFY LINE AND LOW VOLTAGE ROUTING, INTENT OF LIGHTING CONTROL DESIGN, AND GENERAL CONSTRUCTION STRATEGIES.

EXTERIOR LIGHTING CONTROL:
A. EXTERIOR LIGHTING CONTROL IS VIA SCHEDULED TIME CONTROL.
B. EXTERIOR LIGHTING IS BROKEN UP INTO (3) SCHEDULED ZONES:
1. WALL PACKS
2. CANOPY LIGHTS
3. SIGNAGE

EMERGENCY LIGHTING CONTROL:
A. EXTERIOR LIGHTING IS VIA SCHEDULED TIME CONTROL.
B. EXTERIOR EMERGENCY LIGHTING IS VIA BATTERY BACK-UP.
C. MULTIPLE FIXTURES ARE USED TO MEET REQUIRED EGRESS PATH ILLUMINATION.
D. INDIVIDUAL BATTERY BACK-UP IS USED.
E. INTERIOR EMERGENCY LIGHTING IS VIA 90-MINUTE, 1100 LUMEN MINIMUM, BATTERY BACK-UP.
F. INTERIOR AND EXTERIOR EMERGENCY LIGHTING IS VIA EMERGENCY WALL PACKS. UPON LOSS OF NORMAL POWER FIXTURE WILL TRANSFER TO INTERNAL BATTERY SOURCE.
G. MULTIPLE FIXTURES OR LISTED FIXTURES ARE USED TO MEET REQUIRED EGRESS PATH ILLUMINATION.

TIME SCHEDULES:
A. TIME SCHEDULES ARE TO BE DETERMINED BY THE OWNER. THIS SHALL BE COORDINATED AND DIRECTED BY OWNER AND INPUT BY THE LIGHTING PROGRAMMER AND THE BAS PROGRAMMER.

INDIVIDUAL AREAS INTENT OF CONTROL:
- GROUP RESTROOMS: TIME SCHEDULE ZONED WITH CORRIDOR CONTROL. EMERGENCY LIGHTING SHALL SUPPLEMENT THIS AREA VIA WALL MOUNTED EMERGENCY LIGHTS POWERED VIA BATTERY BACK-UP. MANUAL LOW VOLTAGE OVERRIDE IN LOCAL CORRIDOR. CORRIDOR SWITCHES SHALL BE LOCKED OUT DURING "NORMAL OPERATING HOURS."
- CORRIDORS/HALLWAYS: TIME SCHEDULE ZONED. EMERGENCY LIGHTING SHALL SUPPLEMENT THIS AREA VIA WALL MOUNTED EMERGENCY LIGHTS POWERED VIA BATTERY BACK-UP. MANUAL LOW VOLTAGE OVERRIDE IN LOCAL CORRIDOR. CORRIDOR SWITCHES SHALL BE LOCKED OUT (PUBLIC AREAS) DURING "NORMAL OPERATING HOURS."
- MAIN CORRIDOR: TIME SCHEDULE ZONED. EMERGENCY LIGHTING SHALL SUPPLEMENT THIS AREA VIA WALL MOUNTED EMERGENCY LIGHTS POWERED VIA BATTERY BACK-UP. MANUAL LOW VOLTAGE OVERRIDE IN RECEPTION.
- INDIVIDUAL RESTROOMS: ON/OFF WALL SWITCH OCCUPANCY SENSORS (PASSIVE INFRARED.)
- ELECTRICAL ROOMS, BOILER ROOMS, ETC.: MANUAL ON/OFF SWITCH ONLY FOR PERSONNEL SAFETY.
- STORAGE ROOMS: ON/OFF WALL SWITCH VACANCY SENSORS (PASSIVE INFRARED.) NOT TIED INTO THE TIME MANAGEMENT.
- OFFICES/WORKROOMS: STEP DIMMING, 0/50%/100% TYPICALLY VIA ON/OFF SWITCHES WITH INTEGRAL VACANCY SENSORS. NOT TIED INTO THE TIME MANAGEMENT.
- SMALL STORAGE/UTILITY ROOMS: ON/OFF WALL SWITCH VACANCY SENSORS (PASSIVE INFRARED.) NOT TIED INTO THE TIME MANAGEMENT.
- EXTERIOR PARKING LOT LIGHTING:ON/OFF MANUAL SWITCH AND TIME SCHEDULE CONTROL.
- EXTERIOR CANOPY LIGHTING:ON/OFF MANUAL SWITCH AT RECEPTION DESK AND TIME SCHEDULE CONTROL.
- EXTERIOR WALL PACKS: ON/OFF MANUAL SWITCH AT RECEPTION DESK AND TIME SCHEDULE CONTROL.
-CLASSROOMS: (1) SINGLE POLE SWITCH AND (1) DOUBLE SWITCH FOR (2) ZONES OF SWITCHING:
ZONE 1: TEACHING WALL ZONE (ON/OFF)
ZONE 2: CLASSROOM ZONE (INBOARD/OUTBOARD/OFF)
- DINING: ALL FIXTURES ON/OFF VIA LOW VOLTAGE SWITCH, TIME CONTROL.

LIGHTING SYSTEM NOTES:
1. SYSTEM ARCHITECTURE SHALL BE DESIGNED BY RESPECTIVE CONTROLS PROVIDER. SYSTEM SHALL BE PROVIDED WITH 25% ADDITIONAL CAPACITY FOR ENTIRE SYSTEM.

FIXTURE NOTES (ADDITIONAL, ALL DEVICES AND INSTALLATION BELOW SHALL NOT BE SUPPLIED OR INSTALLED UNTIL DIRECTION FROM OWNER OR ENGINEER. THE BELOW SHALL BE PART OF THE BASE BID):
A. E.C. TO PROVIDE (5) ADDITIONAL TYPE 'RTL4' FIXTURES AND INSTALLATION OF UP TO 100' (EACH FIXTURE) FROM LOCAL PANEL.
B. E.C. TO PROVIDE (5) ADDITIONAL "DL1" FIXTURES AND INSTALLATION OF UP TO 200' (EACH) FROM LOCAL PANEL.
C. E.C. TO PROVIDE (5) ADDITIONAL EXIT SIGNS AND INSTALLATION OF UP TO 100' (EACH EXIT SIGN) FROM LOCAL PANEL.
D. E.C. TO PROVIDE (2) SWITCHES ADDITIONAL AND RE-LOCATE (2) SWITCHES A TOTAL DISTANCE OF 10' (EACH) FROM EXISTING LOCATION POST INSTALLATION AS REQUIRED BY OWNER.
E. ARCHITECT TO APPROVE ALL EXTERIOR FIXTURE LOCATIONS. E.C. TO MARK OFF LOCATIONS WITH TEMPORARY "CHALK" OUTLINE AND PLAN FOR ARCHITECT ON-SITE APPROVAL OF LOCATIONS BEFORE INSTALLATION. E.C. TO CONTACT ARCHITECT WITH (1) WEEK PRIOR NOTICE.
F. E.C. TO PROVIDE (5) ADDITIONAL POWER PACKS AND INSTALLATION OF UP TO 200' (EACH) FROM LOCAL PANEL.
G. E.C. TO PROVIDE (2) ADDITIONAL SWITCHES OF EACH TYPE SPECIFIED FROM PROJECT.

SULLIVAN COUNTY SCHOOLS

SULLIVAN EAST MIDDLE SCHOOL

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KEITH G. PEHL REGISTERED ENGINEER AGRICULTURE COMMERCE No. 21,137 STATE OF TENNESSEE
11/14/2017

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

LIGHTING SCHEDULE

E-601

COM*check* Software Version 4.0.5.1

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2012 IECC
Project Title:
Project Type: New Construction

Construction Site:
4500 Weaver Pike
Bluff City, TN 37618

Owner/Agent:
Evelyn Rafalowski
Sullivan County Schools
154 Blountville Bypass
Blountville, TN 37617
4233541000
evel.rafalowski@sullivank12.net

Designer/Contractor:
David Bellamy
LS3P
227 W.Trade Street
Charlotte, NC 28202
7043336686
davidbellamy@ls3p.com

Additional Efficiency Package

Reduced interior lighting power. Requirements are implicitly enforced within interior lighting allowance calculations.

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-SCMS (School/university)	59149	0.99	58558
		Total Allowed Watts =	58558

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-SCMS (School/university)				
LED 1: DL1: DOWNLIGHT: LED Other Fixture Unit 13W:	1	98	13	1274
LED 2: HBL1: HIGH BAY LED: LED Other Fixture Unit 125W:	1	17	305	5185
LED 3: RTL4: 2X4 LAY IN TROFFER: LED Other Fixture Unit 28W:	1	150	31	4650
LED 4: RTL4A: 2X4 LAY IN TROFFER: LED Other Fixture Unit 28W:	1	12	31	372
LED 5: RTL5: 2X4 LAY IN TROFFER: LED Other Fixture Unit 36W:	1	20	38	760
LED 6: RTL5A: 2X4 LAY IN TROFFER: LED Other Fixture Unit 36W:	1	2	38	76
LED 7: RTL6: 2X4 LAY IN TROFFER: LED Other Fixture Unit 46W:	1	171	48	8208
LED 8: RTL6A: 2X4 LAY IN TROFFER: LED Other Fixture Unit 46W:	1	204	48	9792
LED 9: RTL7: 2X4 LAY IN TROFFER: LED Other Fixture Unit 50W:	1	28	53	1484
LED 10: RTL7A: 2X4 LAY IN TROFFER: LED Other Fixture Unit 50W:	1	22	53	1166
LED 11: SDL1: DOWNLIGHT: LED Other Fixture Unit 13W:	1	12	13	156
LED 12: VTL4A: 2X4 LAY IN TROFFER: LED Other Fixture Unit 36W:	1	4	33	132
LED 13: VTL5A: 2X4 LAY IN TROFFER: LED Other Fixture Unit 40W:	1	2	40	80
LED 14: VTL6: 2X4 LAY IN TROFFER: LED Other Fixture Unit 46W:	1	8	44	352
LED 15: VTL6A: 2X4 LAY IN TROFFER: LED Other Fixture Unit 46W:	1	25	44	1100
LED 16: LED Other Fixture Unit 50W:	1	8	72	576
		Total Proposed Watts =		35363

Interior Lighting PASSES: Design 40% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2012 IECC requirements in COM*check* Version 4.0.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Matt Lewis - Electrical Designer — Name - Title
Signature
11/2/2017 — Date

COM*check* Software Version 4.0.5.1

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2012 IECC
Project Title:
Project Type: New Construction
Exterior Lighting Zone 2 (Residential mixed use area)

Construction Site:
4500 Weaver Pike
Bluff City, TN 37618

Owner/Agent:
Evelyn Rafalowski
Sullivan County Schools
154 Blountville Bypass
Blountville, TN 37617
4233541000
evel.rafalowski@sullivank12.net

Designer/Contractor:
David Bellamy
LS3P
227 W.Trade Street
Charlotte, NC 28202
7043336686
davidbellamy@ls3p.com

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Exterior (Illuminated length of facade wall or surface)	1700 ft	2.5	No	4250
Canopies (Entry canopy)	3399 ft2	0.25	Yes	850
			Total Tradable Watts (a) =	850
			Total Allowed Watts =	5100
			Total Allowed Supplemental Watts (b) =	600

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Exterior (Illuminated length of facade wall or surface 1700 ft): Non-tradable Wattage				
LED 1: OWL1: EXTERIOR WALL PACK: LED Other Fixture Unit 46W:	1	33	47	1551
Canopies (Entry canopy 3399 ft2): Tradable Wattage				
LED 2: CL1: CANOPY LIGHT: LED Other Fixture Unit 16W:	1	7	20	140
			Total Tradable Proposed Watts =	140

Exterior Lighting PASSES: Design 90% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2012 IECC requirements in COM*check* Version 4.0.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Matt Lewis - Electrical Designer — Name - Title
Signature
11/2/2017 — Date

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11/14/2017

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: Author
CHECKED BY: Checker

COMCHECK

E-602

AHU-1ALT(*)	MECHANICAL ROOM	2 @ 10	2 @ 7i	460	3	60	TRANE CSAA-40	VAV	7700 LBS	C2,D,E,G,K,L,Q,R	AHU-1ALT

AIR HANDLING UNIT UNIT SCHEDULE

SYMBOL	LOCATION	ELECTRICAL DATA					ASSIGNED CIRCUIT		DISCONNECT	
		SUPPLY FAN (H.P)	RETURN FAN (H.P)	VOLTS	PHASE	Hz	SUPPLY FAN	RETURN FAN	SUPPLY FAN	RETURN FAN
AHU-1	MECHANICAL ROOM	2 @ 10	2 @ 5	460	3	60	MP1A - 1,3,5	MP1A - 2,4,6	60/FPN/3P/1	30/FPN/3P/1
AHU-2	MECHANICAL ROOM	2 @ 15	2 @ 7 1/2	460	3	60	MP1A - 1,3,5	MP1A - 2,4,6	60/FPN/3P/1	30/FPN/3P/1
AHU-3	MECH MEZZANINE	2 @ 5	2 @ 1 1/2	460	3	60	MP1CA - 20,22,24	MP1CA - 25,27,29	30/FPN/3P/1	30/FPN/3P/1
AHU-4	MECH MEZZANINE	2 @ 5	2 @ 2	460	3	60	MP1CA - 14,16,18	MP1CA - 19,21,23	30/FPN/3P/1	30/FPN/3P/1
AHU-5	MECH MEZZANINE	2 @ 5	2 @ 1 1/2	460	3	60	MP1CA - 2,4,6	MP1CA - 7,9,11	30/FPN/3P/1	30/FPN/3P/1
AHU-6	MECH MEZZANINE	2 @ 7 1/2	2 @ 3	460	3	60	MP1CA - 8,10,12	MP1CA - 13,15,17	30/FPN/3P/1	30/FPN/3P/1
AHU-1ALT*	MECHANICAL ROOM	2 @ 10	2 @ 7 1/2	460	3	60	MP1A - 1,3,5	MP1A - 2,4,6	60/FPN/3P/1	60/FPN/3P/1

1. ALL UNITS ARE INDIVIDUAL VARIABLE FREQUENCY DRIVES (NO BYPASS) FOR EACH SET OF MULTIPLE SUPPLY/RETURN FAN(S) WITH SINGLE POINT ELECTRICAL CONNECTION FOR EACH SET OF FANS

2. IONIZATION TYPE SMOKE DETECTORS SHALL BE PROVIDED WITH EACH UNIT. DUCT DETECTORS WILL BE FURNISHED BY THE ELECTRICAL CONTRACTOR, INSTALLED IN DUCT BY THE MECHANICAL CONTRACTOR, AND WIRED FOR UNIT SHUT DOWN AND FIRE ALARM INTERFACE BY THE ELECTRICAL CONTRACTOR. DUCT DETECTORS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

(*) - PROVIDE AHU-1ALT INSTEAD OF AHU-1 IF CLASSROOM ALTERNATE IS ACCEPTED. AHU-2 REMAIN UNCHANGED.

ELECTRIC DUCT HEATER SCHEDULE

SYMBOL	LOCATION	K.W.	STEPS	VOLTAGE	ASSIGNED CIRCUIT	DISCONNECT
EDH-1	KITCHEN OFFICES	2.0	1	460V-3Ø	MP1C - 20,22,24	MMS

CHILLER SCHEDULE

SYMBOL	ELECTRICAL DATA				
	VOLTAGE	MCA	MOCP	ASSIGNED CIRCUIT	DISCONNECT
CHILLER-1	460V-3P	385	500	MSB - 14	500/500F/3P/3R

PUMP SCHEDULE

SYMBOL	SERVICE	MOTOR H.P.	VOLTAGE	ASSIGNED CIRCUIT	DISCONNECT
P-1	CHILLER #1	5	460V-3Ø	MP1C - 19,21,23	30/20F/3P/1
P-2	CHILLER #1	5	460V-3Ø	MP1C - 14,16,18	30/20F/3P/1
P-3	CHILLED WATER LOOP	5	460V-3Ø	MP1C - 13,15,17	30/20F/3P/1
P-4	CHILLED WATER LOOP	5	460V-3Ø	MP1C - 8,10,12	30/20F/3P/1
P-5	HOT WATER LOOP	2	460V-3Ø	MP1C - 7,9,11	30/20F/3P/1
P-6	HOT WATER LOOP	2	460V-3Ø	MP1C - 2,4,6	30/20F/3P/1
P-7	BOILER B-1	5	120V-1Ø	RP1C - 35	MMS
P-8	BOILER B-2	5	120V-1Ø	RP1C - 34	MMS

ENERGY RECOVERY VENTILATOR SCHEDULE

SYMBOL	LOCATION	SUPPLY AIR	EXHAUST AIR		ELECTRICAL DATA			
		FAN HP	FAN HP	MCA	MOCP	VOLTAGE	ASSIGNED CIRCUIT	DISCONNECT
ERV-1	MECH MEZZANINE	1	1	5.1	15	460V-3Ø	MP1CA - 1,3,5	30/15F/3P/1

ROOFTOP UNIT SCHEDULE

SYMBOL	LOCATION	COMBO FAN AIR		ELECTRICAL DATA					
		FAN HP	RLA	LRA	MCA	MOCP	VOLTAGE	ASSIGNED CIRCUIT	DISCONNECT
RTU-1	ROOF	1	9.6/7.1	75/46	22.7	30	460V-3Ø	MP1C - 25,27,29	30/30F/3P/3R

DUCTLESS SPLIT SYSTEMS (DX COOLING ONLY)

INDOOR UNIT							OUTDOOR UNIT									
SYMBOL	CFM	ELECTRICAL DATA					SYMBOL	COMPRESSOR		FAN ELECTRICAL DATA						
		FAN FLA	MCA	VOLTAGE	ASSIGNED CIRCUIT	DISCONNECT		LRA	RLA	FLA	MCA	FUSE	VOLTAGE	ASSIGNED CIRCUIT	DISCONNECT
A/C-1		0.36	1.0	208V-1Ø	POWERED VIA ODU-1	MMS	ODU-1	17.5	12	0.75	25	40	208V-1Ø	RP1A - 55,57	60/40F/2P/3R
A/C-2		0.33	1.0	208V-1Ø	POWERED VIA ODU-2	MMS	ODU-2	14	12	0.35	13	15	208V-1Ø	RP1A - 51,53	30/15F/2P/3R
A/C-3		0.33	1.0	208V-1Ø	POWERED VIA ODU-3	MMS	ODU-3	14	12	0.35	13	15	208V-1Ø	RP1A - 52,54	30/15F/2P/3R
A/C-4		0.33	1.0	208V-1Ø	POWERED VIA ODU-4	MMS	ODU-4	14	12	0.35	13	15	208V-1Ø	RP1A - 56,58	30/15F/2P/3R
A/C-5		0.33	1.0	208V-1Ø	POWERED VIA ODU-5	MMS	ODU-5	14	12	0.35	13	15	208V-1Ø	RP1CA - 55,57	30/15F/2P/3R

FAN SCHEDULE

SYMBOL	LOCATION	ELECTRICAL DATA			ASSIGNED CIRCUIT	DISCONNECT	CONTROLS
		WATTS	H.P.	VOLTAGE			
F-1	KITCHEN HOOD	--	1.5	460V-3Ø	MP1C - 26,28,30	30/20F/3P/3R	7
F-2	KITCHEN HOOD	--	1.5	460V-3Ø	MP1C - 31,33,35	30/20F/3P/3R	7
F-3	DISHWASHER	--	1/4	120V-1Ø	RP1C - 23	30/20F/1P/3R	8
F-4	KITCHEN TOILET	50	--	120V-1Ø	KPL2 - 20	MMS	2
F-5	KITCHEN JANITOR	50	--	120V-1Ø	KPL2 - 17	MMS	2
F-6	MECHANICAL	--	1/4	120V-1Ø	RP1C - 22	MMS	1
F-7	ELECTRICAL	--	1/4	120V-1Ø	RP1C - 25	30/20F/1P/3R	1
F-8	N/A						
F-9	TOILETS	--	1/4	120V-1Ø	RP1CA - 36	MMS	5
F-10	SCIENCE	769	--	120V-1Ø	RP1A - 17	MMS	4
F-11	PREP	129	--	277V-1Ø	MP1A - 7	MMS	3
F-12	SCIENCE	769	--	120V-1Ø	RP1A - 99	MMS	4
F-13	ART	769	--	120V-1Ø	RP1A - 100	MMS	4
F-14	ART KILN	129	--	277V-1Ø	MP1A - 9	MMS	1
F-15	SCIENCE	769	--	120V-1Ø	RP2A - 128	MMS	4
F-16	PREP	129	--	277V-1Ø	MP2A - 15	MMS	3
F-17	SCIENCE	769	--	120V-1Ø	RP2A - 129	MMS	4
F-18	SCIENCE	769	--	120V-1Ø	RP2A - 131	MMS	4
F-19	PREP	129	--	277V-1Ø	MP2A - 13	MMS	3
F-20	SCIENCE	769	--	120V-1Ø	RP2A - 132	MMS	4
F-21	TOILETS	--	1/4	120V-1Ø	RP2A - 130	MMS	5
F-22	TOILETS	--	1/4	120V-1Ø	RP2A - 133	MMS	5
F-23	CONCESSION	--	1/4	120V-1Ø	XXX - XXX	MMS	5

CONTROLS

1: WALL MOUNTED THERMOSTAT (REVERSE ACTING, SET FOR 80°)

2: INTERLOCK WITH ROOM LIGHT SWITCH (FAN SHALL OPERATE WHEN LIGHT IS ON IN ANY ROOM SERVED BY FAN)

3: WALL MOUNTED TWIST TIMER WITH 0-3 HOUR RANGE WITH IDENTIFICATION LABEL

4: WALL MOUNTED TWIST TIMER WITH 0-30 MINUTE RANGE WITH IDENTIFICATION LABEL

5: CONTROLLED BY BUILDING AUTOMATION SYSTEM

6: CONTINUOUS OPERATION

7: INTERLOCK WITH KITCHEN HOOD CONTROLS

8: INTERLOCK WITH DISHWASHER

9: INTERLOCK WITH RANGE HOOD

ELECTRIC HEATER SCHEDULE

SYMBOL	LOCATION	ELECTRICAL DATA			ASSIGNED CIRCUIT	DISCONNECT
		KW	H.P.	VOLTAGE		
EUH-1	BOILER ROOM	3.3	1/125	277V-1Ø	MP1C - 1,3,5	BY M.C.
EWH-1	HS STAIR	2.0	--	277V-1Ø	RP1A - 24	BY M.C.
EWH-2	HS STAIR	2.0	--	277V-1Ø	RP1B - 28	BY M.C.
EWH-3	CONCESSIONS	2.0	--	277V-1Ø	CHP - 54	BY M.C.
EWH-4	CONCESSIONS	2.0	--	277V-1Ø	CHP - 52	BY M.C.
EWH-5	CONCESSIONS	2.0	--	277V-1Ø	CHP - 55	BY M.C.
EWH-6	CONCESSIONS	2.0	--	277V-1Ø	CHP - 56	BY M.C.
EWH-7	CONCESSIONS	2.0	--	277V-1Ø	CHP - 58	BY M.C.
EWH-8	CONCESSIONS	2.0	--	277V-1Ø	CHP - 57	BY M.C.

WATER HEATER SCHEDULE

SYMBOL	LOCATION	K.W.	VOLTAGE	ASSIGNED CIRCUIT	DISCONNECT
WH-1	MECH 003	.5	120V-1P	RP1C-20 & 22	MMS
WH-2	MECH 003	.5	120V-1P	RP1C-27	MMS
WH-3	MECH 003	4.5	208V-2P	CLP-27,29	30/20F/2P/1

RECIRCULATION PUMP SCHEDULE

SYMBOL	LOCATION	K.W.	VOLTAGE	ASSIGNED CIRCUIT	DISCONNECT
RCP1	MECH 003	.656	120V-1P	RP1C-26	MMS
RCP2	MECH 003	.05	120V-1P	RP1C-24	MMS
SP1	MECH 003	1.127	120V-1P	RP1B-65	MMS

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11/14/2017

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: Author
CHECKED BY: Checker

MECHANICAL SCHEDULE

E-603

SWITCHBOARD: MSB

VOLTAGE: 480/277 Wye **PHASE:** 3 **WIRE:** 4 **MANUFACTURER:**
MOUNTING: FLOOR **TYPE:**
MAIN: 1600 A **AIC:** 65,000

MAIN CB NOTES: 5,6,9

CKT/ID	LOAD SERVED	FRAME	TRIP	POLE	FEEDER	NOTES	Load
1	PANEL LP1C	100 A	100 A	3	SR, NOTE 5	SR, NOTE 5	10.70 kVA
2	PANEL RP1C (VIA TXRP1C)	100 A	70 A	3	SR, NOTE 5	SR, NOTE 5	27.45 kVA
3	PANEL MP1C	200 A	150 A	3	SR, NOTE 5	SR, NOTE 5	38.64 kVA
4	PANEL DP1A	400 A	300 A	3	SR, NOTE 5	SR, NOTE 5	149.66 kVA
5	PANEL DP1B	200 A	125 A	3	SR, NOTE 5	SR, NOTE 5	42.18 kVA
6	PANEL DP2A	400 A	400 A	3	SR, NOTE 5	SR, NOTE 5	182.07 kVA
7	PANEL KPD (VIA TXKPD)	600 A	500 A	3	SR, NOTE 5	SR, NOTE 5	228.01 kVA
8	DP1CA	400 A	250 A	3	SR, NOTE 5	SR, NOTE 5	123.53 kVA
9	SPD	100 A	60 A	3	NOTE 6, SEE DETAIL	NOTE 6, SEE DETAIL	0.00 kVA
10	SPARE	--	400 A	1			0.00 kVA
11	SPARE	--	200 A	1			0.00 kVA
12	SPACE ONLY (400A)	--	--	--	--	--	0.00 kVA
13	SPACE ONLY (400A)	--	--	--	--	--	0.00 kVA
14	CHILLER	600 A	500 A	3	(2) 3-250KCMIL, 1#2G	(2) 3-250KCMIL, 1#2G	318.00 kVA
15							
16							
17							
18							
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36							
37							
38							
39							
40							
41							
42							

Total Conn. Load: 1115.66...
Total Amps: 1342 A

Load Classification	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	44.82 kVA	125.00%	56.02 kVA	1. THIS SWBD SHALL BE U.L. LISTED FOR USE AS S.E. EQUIP.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. ALL BRKRS SHALL BE FULLY RATED - NO SERIES RATINGS.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	40.48 kVA	100.00%	40.48 kVA	4. ALL INCOMING BUSSING AND BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	67.55 kVA	107.99%	72.95 kVA	5. PROVIDE BRKR WITH ADJUSTABLE LSI AND GFP TRIP FUNCTIONS.
KITCHEN	19.73 kVA	80.00%	15.79 kVA	6. PROVIDE EMERGENCY-REDUCING MAINTENANCE SWITCH WITH STATUS INDICATOR.
RECEPTACLES	267.74 kVA	51.87%	138.87 kVA	7. PROVIDE SWBD WITH POWER METEr, SQ-D PM820 OR EQUAL.
WATER HEATER	1.50 kVA	100.00%	1.50 kVA	8. PROVIDE BREAKER WITH SHUNT TRIP.
MISC.	49.28 kVA	100.00%	49.28 kVA	9. 100% RATED MAIN.
Spare	0.00 kVA	0.00%	0.00 kVA	SR -- SEE RISER

TOTAL LOAD PER PHASE (CONNECTED)

1385 A	1340 A	1310 A

TOTAL LOAD PER PHASE @125% (CONNECTED)

1731 A	1675 A	1638 A
TOTAL DEMAND:		999.25 kVA
TOTAL DEMAND:		1202 A

PANEL: LP1A

VOLTAGE: 480/277 Wye **MAIN TYPE:** MLO **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 100 A **WIRE:** 4 **AIC:** 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLE S	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLE S	CKT NO	TRIP	Wire Size	LOAD SERVED
LTG-1ST FLOOR AREA A	10	20 A	1	1	2.9	3.1					1	2	20 A	10	LTG-1ST FLOOR AREA A
LTG-EXTERIOR CANOPY	10	20 A	3	1			1.5	1.8			1	4	20 A	6	LTG-EXTERIOR WALL PACKS
LTG-1ST FLOOR AREA A CORR.	12	20 A	5	1					3.3	0.0	--	6	--	--	SPACE ONLY
SPARE	--	20 A	7	1	0.0	0.0					--	8	--	--	SPACE ONLY
SPARE	--	20 A	9	1			0.0	0.0			--	10	--	--	SPACE ONLY
SPARE	--	20 A	11	1					0.0	0.0	--	12	--	--	SPACE ONLY
SPARE	--	20 A	13	1	0.0	0.0					--	14	--	--	SPACE ONLY
SPARE	--	20 A	15	1			0.0	0.0			--	16	--	--	SPACE ONLY
SPACE ONLY	--	--	17	--					0.0	0.0	--	18	--	--	SPACE ONLY
SPACE ONLY	--	--	19	--	0.0	0.0					--	20	--	--	SPACE ONLY
SPACE ONLY	--	--	21	--			0.0	0.0			--	22	--	--	SPACE ONLY
			23									24			
			25									26			
			27									28			
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	12.25 kVA	125.00%	15.31 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.00 kVA	0.00%	0.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	0.00 kVA	0.00%	0.00 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	0.00 kVA	0.00%	0.00 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	12.5 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	15.6 kVA	21 A	12 A	12 A
TOTAL AMP. (CONNECTED):	15 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	19 A	27 A	15 A	15 A

PANEL: DP1A

VOLTAGE: 480/277 Wye **MAIN TYPE:** MCB **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 300 A **WIRE:** 4 **AIC:** 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLE S	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLE S	CKT NO	TRIP	Wire Size	LOAD SERVED
			1		5.9	0.0					1	2	20 A	--	SPARE
PANEL LP1A	SR	100 A	3	3			3.3	11.0				4			
			5						3.3	11.0	3	6	100 A	SR	PANEL MP1A
SPARE	--	20 A	7	1	0.0	10.9						8			
SPARE	--	20 A	9	1			0.0	0.0				10			
			11						34.1	0.0	3	12	20 A	--	SPARE
PANEL RP1A (VIA TXRP1A)	SR	175 A	13	3	37.0	0.0						14			
			15				34.7	0.0			1	16	20 A	--	SPARE
SPARE	--	20 A	17	1					0.0	0.0	1	18	20 A	--	SPARE
SPARE	--	20 A	19	1	0.0	0.0					1	20	20 A	--	SPARE
SPACE ONLY	--	--	21	--			0.0	0.0			--	22	--	--	SPACE ONLY
SPACE ONLY	--	--	23	--					0.0	0.0	--	24	--	--	SPACE ONLY
SPACE ONLY	--	--	25	--	0.0	0.0					--	26	--	--	SPACE ONLY
SPACE ONLY	--	--	27	--			0.0	0.0			--	28	--	--	SPACE ONLY
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	12.25 kVA	125.00%	15.31 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	32.58 kVA	100.00%	32.58 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	3.39 kVA	105.68%	3.58 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	10.81 kVA	100.00%	10.81 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	63.95 kVA	57.82%	36.98 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	SR – SEE RISER
MISC.	16.44 kVA	100.00%	16.44 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	149.7 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	125.9 kVA	193 A	175 A	173 A
TOTAL AMP. (CONNECTED):	180 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	151 A	241 A	219 A	216 A

PANEL: MP1A

VOLTAGE: 480/277 Wye **MAIN TYPE:** MLO **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 100 A **WIRE:** 4 **AIC:** 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLE S	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLE S	CKT NO	TRIP	Wire Size	LOAD SERVED
			1		7.2	3.7						2			
AHU - 1S	6	50 A	3	3			7.2	3.7			3	4	30 A	8	AHU - 1R (NOTE 7)
			5						7.2	3.7		6			
FAN F-11	12	20 A	7	1	0.1	0.0						8			
FAN F-14	12	20 A	9	1			0.1	0.0			3	10	30 A	--	SPARE
SPARE	--	20 A	11	1					0.0	0.0		12			
SPACE ONLY	--	--	13	--	0.0	0.0					--	14	--	--	SPACE ONLY
SPACE ONLY	--	--	15	--			0.0	0.0			--	16	--	--	SPACE ONLY
SPACE ONLY	--	--	17	--					0.0	0.0	--	18	--	--	SPACE ONLY
SPACE ONLY	--	--	19	--	0.0	0.0					--	20	--	--	SPACE ONLY
SPACE ONLY	--	--	21	--			0.0	0.0			--	22	--	--	SPACE ONLY
SPACE ONLY	--	--	23	--					0.0	0.0	--	24	--	--	SPACE ONLY
SPACE ONLY	--	--	25	--	0.0	0.0					--	26	--	--	SPACE ONLY
SPACE ONLY	--	--	27	--			0.0	0.0			--	28	--	--	SPACE ONLY
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	32.58 kVA	100.00%	32.58 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.00 kVA	0.00%	0.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	0.00 kVA	0.00%	0.00 kVA	7. PROVIDE 50A/3-POLE BREAKER IF CLASSROOM ALTERNATE IS ACCEPTED.
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	SEE "AHU-1ALT" ON MECHANICAL SCHEDULE FOR MORE DETAIL.
MISC.	0.26 kVA	100.00%	0.26 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	32.8 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	32.8 kVA	40 A	40 A	39 A
TOTAL AMP. (CONNECTED):	40 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	40 A	50 A	50 A	49 A

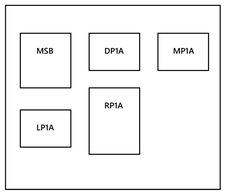
PANEL: RP1A

VOLTAGE: 120/208 Wye **MAIN TYPE:** MCB **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 400 A **WIRE:** 4 **AIC:** 10,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLE S	A		B		C		POLE S	CKT NO	TRIP	Wire Size	LOAD SERVED
REC - CONF. A110	10	20 A	1	1	0.7	0.5					1	2	20 A	10	REC - CONF A110
REC - OFFICE A109	10	20 A	3	1			0.9	0.9			1	4	20 A	10	REC - CORR A100A
REC - A101	10	20 A	5	1					0.7	0.7	1	6	20 A	10	REC - HEALTH A102
REC - HEALTH A102	10	20 A	7	1	0.7	0.2					1	8	20 A	10	REFRIG - HEALTH A102 (NOTE 7)
REC - A105	10	20 A	9	1			0.9	0.9			1	10	20 A	10	REC - A106
REC - A107	10	20 A	11	1					0.4	0.7	1	12	20 A	10	REC - A107
REC - A108	10	20 A	13	1	0.9	0.5					1	14	20 A	10	REC - A116A
REC - A116C	10	20 A	15	1			0.7	0.2			1	16	20 A	10	WASHER - A116B (NOTE 7)
REC - A118	10	20 A	17	1					0.4	0.2	1	18	20 A	10	DISHWASHER - A118 (NOTE 7)
REFRIGERATOR A118 (NOTE 7)	10	20 A	19	1	0.2	0.2					1	20	20 A	10	REC - PREP A118
REC - ART A115	10	20 A	21	1			0.7	0.6			1	22	20 A	10	EWC - ART A115 (NOTE 7)
REC - ART A115	10	20 A	23	1					0.5	0.2	1	24	20 A	10	EWH-1
EXTERIOR REC	6	20 A	25	1	1.1	0.2					1	26	20 A	10	AHU-1 CONTROLLER
REC - CDC A116	10	20 A	27	1			0.7	0.5			1	28	20 A	10	REC - CDC A116
REC - CDC A116	10	20 A	29	1					0.7	0.7	1	30	20 A	10	REC - RES. A120 - CRT#1
REC - RES. A120 - CRT#2	10	20 A	31	1	0.4	0.7					1	32	20 A	10	REC - RES. A120 - CRT#3
REC - SCIENCE A121 - CRT#1	10	20 A	33	1			0.4	0.4			1	34	20 A	10	REC - SCIENCE A121 - CRT#2
REC - SCIENCE A121 - CRT#3	10	20 A	35	1					0.4	0.4	1	36	20 A	10	REC - SCIENCE A121 - CRT#4
REC - SCIENCE A121 - CRT#5	10	20 A	37	1	0.4	0.4					1	38	20 A	10	REC - SCIENCE A121 - CRT#6
REC - SCIENCE A121 - CRT#7	10	20 A	39	1			0.9	0.4			1	40	20 A	10	REC - SCIENCE A121 - CRT#8
REC - SCIENCE A121 - CRT#9	10	20 A	41	1					0.5	0.4	1	42	20 A	10	REC - SCIENCE A117 - CRT#1
REC - SCIENCE A117 - CRT#2	10	20 A	43	1	0.4	0.4					1	44	20 A	10	REC - SCIENCE A117 - CRT#3
REC - SCIENCE A117 - CRT#4	10	20 A	45	1			0.4	0.4			1	46	20 A	10	REC - SCIENCE A117 - CRT#5
REC - SCIENCE A117 - CRT#6	10	20 A	47	1					0.4	0.9	1	48	20 A	10	REC - SCIENCE A117 - CRT#7
REC - SCIENCE A117 - CRT#8	10	20 A	49	1	0.4	0.5					1	50	20 A	10	REC - SCIENCE A117 - CRT#9
ODU-2	12	15 A	51	2			1.4	1.4			2	52	15 A	12	ODU-3
			53						1.4	1.4		54			
ODU-1	8	40 A	55	2	2.6	1.4					2	56	15 A	12	ODU-4
			57				2.6	1.4				58			
REC - ELEC A113	12	20 A	59	1					0.2	2.4		60			
LAUNDRY A116B - DRYER	8	20 A	61	2	3.6	2.4					3	62	50 A	8	KILN A115A - KILN
			63				3.6	2.4				64			
REC - MAIN DATA D100	12	20 A	65	1					0.5	0.2	1	66	20 A	12	REC - MAIN DATA D100
REC - MAIN DATA D100	12	20 A	67	1	0.5	0.5					1	68	20 A	12	REC - MAIN DATA D100
REC - MAIN DATA D100	12	20 A	69	1			0.5	3.6			2	70	20 A	10	REC - MAIN DATA D100
REC - MAIN DATA D100	12	20 A	71	1					0.5	3.6		72			
REC - A119	12	20 A	73	1	0.5	0.5					1	74	20 A	12	REC - MAIN DATA D100
REC - A119	12	20 A	75	1			0.2	3.6			2	76	20 A	10	REC - MAIN DATA D100
REC - MAIN DATA D100	10	20 A	77	2					3.6	3.6		78			
			79		3.6	0.5					1	80	20 A	12	REC - A119
REC - A119	12	20 A	81	1			0.5	1.8			2	82	20 A	12	REC - A119
REC - A119	12	20 A	83	1					0.5	1.8		84			
ELEC A113 - NAC (NOTE 9)	12	20 A	85	1	0.2	1.8					2	86	20 A	12	REC - A119
REC - MAIN DATA D100	12	20 A	87	1			0.2	1.8				88			
REC - REFRIG A116 (NOTE 7)	10	20 A	89	1					0.2	5.4	2	90	50 A	6	RANGE - CDC A116
REC - CDC A116	10	20 A	91	1	0.2	5.4						92			
REC - CDC A116	10	20 A	93	1			0.2	0.8			1	94	20 A	12	FAN F-10
DISHWASHER - A116 (NOTE 7)	10	20 A	95	1					0.2	0.7	1	96	20 A	8	FIRE SMOKE DAMPER POWER
REC - CDC A116	10	20 A	97	1	0.2	1.0					1	98	20 A	10	SCIENCE A117 SOLENOID PWR
FAN F - 12	12	20 A	99	1			0.8	0.8			1	100	20 A	12	FAN F-13
LED SITE SIGN	6	20 A	101	1					0.5	0.5	1	102	20 A	8	LED SITE SIGN
SECURITY CONTROL POWER	10	20 A	103	1	0.4	1.1					1	104	20 A	10	VAV'S - AREA A
REC - A123 (ALTERNATE)	12	20 A	105	1			0.7	0.4			1	106	20 A	12	REC - A123 (ALTERNATE)
REC - A122 (ALTERNATE)	12	20 A	107	1					0.7	0.7	1	108	20 A	12	REC - A122 (ALTERNATE)
REC - A122 (ALTERNATE)	12	20 A	109	1	0.4	0.7					1	110	20 A	12	REC - A122 (ALTERNATE)
REC - HEALTH A102	12	20 A	111	1			0.5	0.5			1	112	20 A	12	HAND DRYER - TOILET A103
MISC.		20 A	113	1					0.1			114			
SPARE	--	20 A	115	1	0.0	0.0					1	116	20 A	--	SPARE
SPARE	--	20 A	117	1			0.0	0.0			1	118	20 A	--	SPARE
SPARE	--	20 A	119	1					0.0	0.0	1	120	20 A	--	SPARE
SPARE	--	20 A	121	1	0.0	0.0					1	122	20 A	--	SPARE
SPARE	--	20 A	123	1			0.0	0.0			1	124	20 A	--	SPARE
SPARE	--	20 A	125	1					0.0	0.0	1	126	20 A	--	SPARE
SPARE	--	20 A	127	1	0.0	0.0					1	128	20 A	--	SPARE
SPACE ONLY	--	--	129	--			0.0	0.0			--	130	--	--	SPACE ONLY
SPACE ONLY	--	--	131	--					0.0	0.0	--	132	--	--	SPACE ONLY
SPACE ONLY	--	--	133	--	0.0	0.0					--	134	--	--	SPACE ONLY
SPACE ONLY	--	--	135	--			0.0	0.0			--	136	--	--	SPACE ONLY
SPACE ONLY	--	--	137	--					0.0	0.0	--	138	--	--	SPACE ONLY

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	3.39 kVA	105.68%	3.58 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	10.81 kVA	100.00%	10.81 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	63.95 kVA	57.82%	36.98 kVA	7. PROVIDE CLASS A GFI (6mA-PERSONNEL) BRKR (250' MAX).
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	8. PROVIDE FEED-THRU LUGS.
MISC.	16.22 kVA	100.00%	16.22 kVA	9. PROVIDE BREAKER WITH HANDLE LOCK-ON DEVICE. BREAKER TO BE RED.
Spare	0.00 kVA	0.00%	0.00 kVA	10. MAIN TO BE 100% RATED.

TOTAL KVA (CONNECTED):	105.7 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	79.0 kVA	284 A	309 A	290 A
TOTAL AMP. (CONNECTED):	293 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	219 A	355 A	386 A	363 A



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11/14/2017

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

PANEL SCHEDULES

E-701

PANEL: DP1B

VOLTAGE: 480/277 Wye **MAIN TYPE:** MCB **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 125 A **WIRE:** 4 **AIC:** 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A		B		C		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
			1		11.8	5.1						2			
PANEL RP1B (VIA TXRP1B)	SR	70 A	3	3			12.7	0.0			3	4	100 A	SR	PANEL LP1B
			5						13.1	0.0		6			
			7		0.0	0.0						8			
SPARE	--	20 A	9	3			0.0	0.0			3	10	20 A	--	SPARE
			11						0.0	0.0		12			
SPACE ONLY	--	--	13	--	0.0	0.0					--	14	--	--	SPACE ONLY
SPACE ONLY	--	--	15	--			0.0	0.0			--	16	--	--	SPACE ONLY
SPACE ONLY	--	--	17	--					0.0	0.0	--	18	--	--	SPACE ONLY
SPACE ONLY	--	--	19	--	0.0	0.0					--	20	--	--	SPACE ONLY
SPACE ONLY	--	--	21	--			0.0	0.0			--	22	--	--	SPACE ONLY
			23									24			
			25									26			
			27									28			
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	5.02 kVA	125.00%	6.28 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	1.20 kVA	102.08%	1.23 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	36.17 kVA	63.82%	23.09 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	SR -- SEE RISER
MISC.	0.20 kVA	100.00%	0.20 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	42.2 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	30.3 kVA	60 A	46 A	47 A
TOTAL AMP. (CONNECTED):	51 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	36 A	75 A	57 A	59 A

PANEL: LP1B

VOLTAGE: 480/277 Wye **MAIN TYPE:** MLO **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 100 A **WIRE:** 4 **AIC:** 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
LTG-1ST FLOOR AREA B	10	20 A	1	1	2.6	2.5					1	2	20 A	10	LTG-1ST FLOOR AREA B
SPARE	--	20 A	3	1			0.0	0.0			--	4	--	--	SPACE ONLY
SPARE	--	20 A	5	1					0.0	0.0	--	6	--	--	SPACE ONLY
SPARE	--	20 A	7	1	0.0	0.0					--	8	--	--	SPACE ONLY
SPARE	--	20 A	9	1			0.0	0.0			--	10	--	--	SPACE ONLY
SPARE	--	20 A	11	1					0.0	0.0	--	12	--	--	SPACE ONLY
SPACE ONLY	--	--	13	--	0.0	0.0					--	14	--	--	SPACE ONLY
SPACE ONLY	--	--	15	--			0.0	0.0			--	16	--	--	SPACE ONLY
SPACE ONLY	--	--	17	--					0.0	0.0	--	18	--	--	SPACE ONLY
			19									20			
			21									22			
			23									24			
			25									26			
			27									28			
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	5.02 kVA	125.00%	6.28 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.00 kVA	0.00%	0.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	0.00 kVA	0.00%	0.00 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	0.00 kVA	0.00%	0.00 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	5.1 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	6.3 kVA	18 A	0 A	0 A
TOTAL AMP. (CONNECTED):	6 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	8 A	23 A	0 A	0 A

PANEL: RP1B

VOLTAGE: 120/208 Wye **MAIN TYPE:** MCB **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 150 A **WIRE:** 4 **AIC:** 10,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A		B		C		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
REC - B100B	10	20 A	1	1	1.3	1.1					1	2	20 A	10	REC - TOILET B118
EWCs - CORR B100B (NOTE 8)	10	20 A	3	1			1.2	1.2			1	4	20 A	10	EWCs - CORR B100B (NOTE 8)
REC - B120	12	20 A	5	1					0.5	0.2	1	6	20 A	12	COPIER B120 (NOTE 8)
REC - WORKROOMS B120	12	20 A	7	1	0.2	0.2					1	8	20 A	12	REFRIGERATOR B120 (NOTE 8)
HAND DRYER GIRLS B116	10	20 A	9	1			1.0	1.0			1	10	20 A	10	HAND DRYER - GIRLS B116
HAND DRYER - BOYS B117	10	20 A	11	1					1.0	1.0	1	12	20 A	10	HAND DRYER - BOYS B117
REC - WORKROOM B108	10	20 A	13	1	0.2	0.4					1	14	20 A	10	REC - WORKROOM B108
REFRIGERATOR - B108 (NOTE 8)	10	20 A	15	1			0.2	0.2			1	16	20 A	10	REC - WORKROOM B108
COPIER B108 (NOTE 8)	10	20 A	17	1					0.2	0.9	1	18	20 A	10	REC - B110
REC - B111	10	20 A	19	1	0.9	1.0					1	20	20 A	10	REC - B101
REC - B101	10	20 A	21	1			0.9	0.9			1	22	20 A	10	REC - B104
REC - B105	10	20 A	23	1					0.9	0.7	1	24	20 A	10	REC - B105
REC - B106	10	20 A	25	1	1.0	0.5					1	26	20 A	10	REC - CONF B102
REC - CONF B102	10	20 A	27	1			0.7	0.2			1	28	20 A	10	EWH-2
EXTERIOR REC	6	20 A	29	1					0.7	0.7	1	30	20 A	10	REC - 6TH MATH B125 - CRT#1
REC - 6TH MATH B125 - CRT#2	10	20 A	31	1	0.4	0.7					1	32	20 A	10	REC - 6TH MATH B125 - CRT#3
REC - 6TH MATH B126 - CRT#1	10	20 A	33	1			0.7	0.4			1	34	20 A	10	REC - 6TH MATH B126 - CRT#2
REC - 6TH MATH B126 - CRT#1	10	20 A	35	1					0.7	0.7	1	36	20 A	10	REC - 6TH MATH B124 - CRT#1
REC - 6TH MATH B124 - CRT#2	10	20 A	37	1	0.4	0.7					1	38	20 A	10	REC - 6TH MATH B124 - CRT#3
REC - 6TH MATH B123 - CRT#1	10	20 A	39	1			0.7	0.4			1	40	20 A	10	REC - 6TH MATH B124 - CRT#2
REC - 6TH MATH B124 - CRT#3	10	20 A	41	1					0.7	0.7	1	42	20 A	10	REC - 6TH MATH B121 - CRT#1
REC - 6TH MATH B121 - CRT#2	10	20 A	43	1	0.4	0.7					1	44	20 A	10	REC - 6TH MATH B121 - CRT#3
REC - 6TH MATH B122 - CRT#1	10	20 A	45	1			0.7	0.4			1	46	20 A	10	REC - 6TH MATH B122 - CRT#2
REC - 6TH MATH B122 - CRT#3	10	20 A	47	1					0.7	1.0	1	48	20 A	10	REC - ISS B113
REC - ISS B113	10	20 A	49	1	0.5	0.5					1	50	20 A	10	REC - ISS B113
REC - TV - PRINCIPAL B106	12	20 A	51	1			0.4	0.4			1	52	20 A	10	REC - TV - B101
NAC (NOTE 7)	12	20 A	53	1					0.2	0.2	1	54	20 A	12	REC - ELEC B120C
REC - 6TH TEACHER B120	12	20 A	55	1	0.2	0.0					1	56	20 A	--	SPARE
REC - 6TH TEACHER B120	12	20 A	57	1			0.2	0.0			1	58	20 A	--	SPARE
REC - 6TH TEACHER B120	12	20 A	59	1					0.2	0.0	1	60	20 A	--	SPARE
SOLENOID POWER	10	20 A	61	1	0.2	0.0					1	62	20 A	--	SPARE
VAV'S - AREA B	10	20 A	63	1			1.2	0.0			1	64	20 A	--	SPARE
SP1 - ELEVATOR SUMP.	8	20 A	65	1					1.1	0.0	1	66	20 A	--	SPARE
ELEVATOR REC & LIGHTING	12	20 A	67	1	0.5	0.0					1	68	20 A	--	SPARE
SPARE	--	20 A	69	1			0.0	0.0			1	70	20 A	--	SPARE
SPACE ONLY	--	--	71	--					0.0	0.0	--	72	--	--	SPACE ONLY
SPACE ONLY	--	--	73	--	0.0	0.0					--	74	--	--	SPACE ONLY
SPACE ONLY	--	--	75	--			0.0	0.0			--	76	--	--	SPACE ONLY
SPACE ONLY	--	--	77	--					0.0	0.0	--	78	--	--	SPACE ONLY
SPACE ONLY	--	--	79	--	0.0	0.0					--	80	--	--	SPACE ONLY
SPACE ONLY	--	--	81	--			0.0	0.0			--	82	--	--	SPACE ONLY
SPACE ONLY	--	--	83	--					0.0	0.0	--	84	--	--	SPACE ONLY

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	1.20 kVA	102.08%	1.23 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	36.17 kVA	63.82%	23.09 kVA	7. PROVIDE BREAKER WITH HANDLE LOCK-ON DEVICE. BREAKER TO BE RED.
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	8. PROVIDE CLASS A GFI (6mA-PERSONNEL) BRKR (250' MAX).
MISC.	0.20 kVA	100.00%	0.20 kVA	9. PROVIDE FEED-THRU LUGS.
Spare	0.00 kVA	0.00%	0.00 kVA	10. MAIN TO BE 100% RATED.

TOTAL KVA (CONNECTED):	37.6 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	24.5 kVA	98 A	107 A	110 A
TOTAL AMP. (CONNECTED):	104 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	68 A	123 A	134 A	138 A

PANEL: LP1C

VOLTAGE: 480/277 Wye **MAIN TYPE:** MLO **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 100 A **WIRE:** 4 **AIC:** 35,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
LTG-1ST FLOOR AREA C DINING	10	20 A	1	1	0.9	1.6					1	2	20 A	10	LTG-GYM C120
LTG-GYM C120	10	20 A	3	1			1.9	1.7			1	4	20 A	10	LTG-AREA C
LTG-GYM C120	10	20 A	5	1					1.9	1.4	1	6	20 A		SPARE
LTG- DINING C140	10	20 A	7	1	1.3	0.0					--	8	--	--	SPACE ONLY
SPARE	--	20 A	9	1			0.0	0.0			--	10	--	--	SPACE ONLY
SPARE	--	20 A	11	1					0.0	0.0	--	12	--	--	SPACE ONLY
SPARE	--	20 A	13	1	0.0	0.0					--	14	--	--	SPACE ONLY
SPARE	--	20 A	15	1			0.0	0.0			--	16	--	--	SPACE ONLY
SPARE	--	20 A	17	1					0.0	0.0	--	18	--	--	SPACE ONLY
SPARE	--	20 A	19	1	0.0	0.0					--	20	--	--	SPACE ONLY
			21									22			
			23									24			
			25									26			
			27									28			
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	10.48 kVA	125.00%	13.10 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.00 kVA	0.00%	0.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	0.00 kVA	0.00%	0.00 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	0.00 kVA	0.00%	0.00 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	10.7 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	13.3 kVA	14 A	13 A	12 A
TOTAL AMP. (CONNECTED):	13 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	16 A	17 A	17 A	15 A

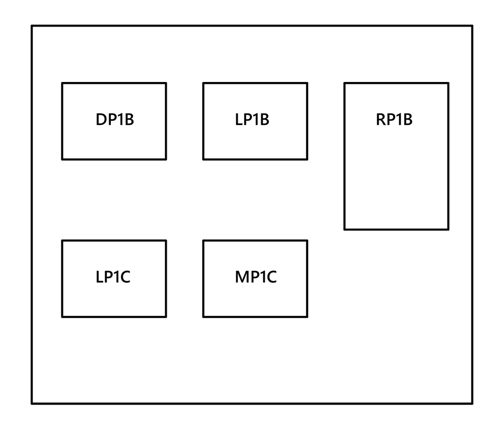
PANEL: MP1C

VOLTAGE: 480/277 Wye **MAIN TYPE:** MCB **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 150 A **WIRE:** 4 **AIC:** 35,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
			1		1.1	0.9						2			
EUH-1	12	20 A	3	3			1.1	0.9			3	4	20 A	12	PUMP P-6
			5						1.1	0.9		6			
			7		0.9	2.0						8			
PUMP P-5	12	20 A	9	3			0.9	2.0			3	10	20 A	12	PUMP P-4
			11						0.9	2.0		12			
			13		2.0	2.0						14			
PUMP P-3	12	20 A	15	3			2.0	2.0			3	16	20 A	12	PUMP P-2
			17						2.0	2.0		18			
			19		2.0	0.7						20			
PUMP P-1	12	20 A	21	3			2.0	0.7			3	22	20 A	12	EDH-1
			23						2.0	0.7		24			
			25		0.0	0.7						26			
RTU - 1	10	30 A	27	3			0.0	0.7			3	28	20 A	12	FAN F -1
			29						0.0	0.7		30			
			31		0.7	0.0						32			
FAN F - 2	12	20 A	33	3			0.7	0.0			3	34	20 A	--	SPARE
			35						0.7	0.0		36			
SPACE ONLY	--	--	37	--	0.0	0.0					--	38	--	--	SPACE ONLY
SPACE ONLY	--	--	39	--			0.0	0.0			--	40	--	--	SPACE ONLY
SPACE ONLY	--	--	41	--					0.0	0.0	--	42	--	--	SPACE ONLY

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	3.96 kVA	100.00%	3.96 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	32.70 kVA	104.59%	34.20 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	0.00 kVA	0.00%	0.00 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	0.00 kVA	0.00%	0.00 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	38.6 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	40.1 kVA	46 A	46 A	46 A
TOTAL AMP. (CONNECTED):	46 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	48 A	58 A	58 A	58 A



SULLIVAN COUNTY SCHOOLS

SULLIVAN EAST MIDDLE SCHOOL

Cain Rash West Architects

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KEITH G. PEHL REGISTERED ENGINEER AGRICULTURE COMMERCE No. 21137 STATE OF TENNESSEE
11/14/2017

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

PANEL SCHEDULES

E-702

PANEL: RP1C

VOLTAGE: 120/208 Wye **MAIN TYPE:** MCB **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 150 A **WIRE:** 4 **AIC:** 10,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A		B		C		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
GYM - BASKETBALL MOTOR	8	20 A	1	1	0.5	0.7					1	2	20 A	10	REC - ROOF
HAND DRYER - C145	12	20 A	3	1			1.0	0.7			1	4	20 A	8	REC - GYM
REC - DINING	10	20 A	5	1					1.1	0.2	1	6	20 A	8	GYM - BLEACHERS MOTOR
SCOREBOARD POWER	10	20 A	7	1	0.2	0.2					1	8	20 A	8	SCOREBOARD POWER
GYM - BASKETBALL MOTOR	8	20 A	9	1			0.5	0.5			1	10	20 A	8	GYM - BASKETBALL MOTOR
GYM - BASKETBALL MOTOR	8	20 A	11	1					0.5	0.5	1	12	20 A	8	GYM - BASKETBALL MOTOR
REC - GIRLS PE C131	6	20 A	13	1	0.7	0.6					1	14	20 A	6	EWC - (NOTE 9)
REC - COACH C128	6	20 A	15	1			1.0	1.1			1	16	20 A	6	EXTERIOR REC
HAND DRYER - C130	6	20 A	17	1					1.0	1.1	1	18	20 A	4	EXTERIOR REC
LAUNDRY C127 -DRYER	10	20 A	19	2	3.6	0.5					1	20	20 A	12	WH-1
			21				3.6	0.5			1	22	20 A	12	WH-1
FAN F-3	10	20 A	23	1					0.7	0.1	1	24	20 A	12	RCP2
			25			0.7					1	26	20 A	12	RCP1
WH-2	12	20 A	27	1			0.5	0.2			1	28	20 A	8	GYM - BLEACHERS MOTOR
GYM - BASKETBALL MOTOR	8	20 A	29	1					0.5	1.6	1	30	20 A	12	PUMP P-8
REC - MECH M101	12	20 A	31	1	0.4	0.2					1	32	20 A	12	REC - ELEC E101
FIRE ALARM CIRCUIT (NOTE 7)	10	20 A	33	1			0.2	0.5			1	34	20 A	10	FIRE - BACKFLOW
PUMP P-7	12	20 A	35	1					1.6	0.5	1	36	20 A	10	BACKFLOW - DOMESTIC
SPARE	--	20 A	37	1	0.0	0.0					1	38	20 A	--	SPARE
SPARE	--	20 A	39	1			0.0	0.0			1	40	20 A	--	SPARE
SPARE	--	20 A	41	1					0.0	0.0	1	42	20 A	--	SPARE
SPARE	--	20 A	43	1	0.0	0.0					1	44	20 A	--	SPARE
SPARE	--	20 A	45	1			0.0	0.0			1	46	20 A	--	SPARE
SPACE ONLY	--	--	47	--					0.0	0.2	1	48	20 A	12	SOLENOID SHUTDOWN POWER
SPACE ONLY	--	--	49	--	0.0	0.7					1	50	20 A	12	FAN F-6
SPACE ONLY	--	--	51	--			0.0	0.0			--	52	--	--	SPACE ONLY
SPACE ONLY	--	--	53	--					0.0	0.0	--	54	--	--	SPACE ONLY

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	1.34 kVA	100.00%	1.34 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	3.83 kVA	110.18%	4.22 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	11.47 kVA	93.58%	10.74 kVA	7. PROVIDE BREAKER WITH HANDLE LOCK-ON DEVICE.
WATER HEATER	1.50 kVA	100.00%	1.50 kVA	8. PROVIDE CLASS B GFI (30mA-EQUIPMENT) BRKR.
MISC.	9.95 kVA	100.00%	9.95 kVA	9. PROVIDE CLASS A GFI (6mA-PERSONNEL) BRKR (250' MAX).
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	27.4 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	27.1 kVA	70 A	83 A	79 A
TOTAL AMP. (CONNECTED):	76 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	75 A	88 A	104 A	99 A

PANEL: DP1CA

VOLTAGE: 480/277 Wye **MAIN TYPE:** MCB **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 250 A **WIRE:** 4 **AIC:** 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A		B		C		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
			1		3.5	24.8						2			
PANEL LP1CA	SR	100 A	3	3			0.4	24.8			3	4	200 A	SR	PANEL MP1CA
			5						0.0	24.8		6			
			7		15.4	0.0						8			
PANEL RP1CA (VIA TXRP1CA)	SR	125 A	9	3			15.6	0.0			3	10	20 A	--	SPARE
			11						14.8	0.0		12			
SPACE ONLY	--	--	13	--	0.0	0.0					--	14	--	--	SPACE ONLY
SPACE ONLY	--	--	15	--			0.0	0.0			--	16	--	--	SPACE ONLY
SPACE ONLY	--	--	17	--					0.0	0.0	--	18	--	--	SPACE ONLY
SPACE ONLY	--	--	19	--	0.0	0.0					--	20	--	--	SPACE ONLY
SPACE ONLY	--	--	21	--			0.0	0.0			--	22	--	--	SPACE ONLY
SPACE ONLY	--	--	23	--					0.0	0.0	--	24	--	--	SPACE ONLY
			25									26			
			27									28			
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	3.50 kVA	125.00%	4.37 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	2.60 kVA	100.00%	2.60 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.65 kVA	125.00%	0.81 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	36.49 kVA	63.70%	23.25 kVA	SR -- SEE RISER
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	7.21 kVA	100.00%	7.21 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	123.5 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	111.3 kVA	157 A	148 A	143 A
TOTAL AMP. (CONNECTED):	149 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	134 A	196 A	184 A	179 A

PANEL: LP1CA

VOLTAGE: 480/277 Wye **MAIN TYPE:** MLO **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 100 A **WIRE:** 4 **AIC:** 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
LTG-1ST FLOOR AREA C CORR.	10	20 A	1	1	1.9	1.7					1	2	20 A	10	LTG-1ST FLOOR AREA A CLASSROOM
MEZZANINE LTG	12	20 A	3	1			0.4	0.0			1	4	20 A	--	SPARE
SPACE ONLY	--	--	5	--					0.0	0.0	1	6	20 A	--	SPARE
SPACE ONLY	--	--	7	--	0.0	0.0					1	8	20 A	--	SPARE
SPACE ONLY	--	--	9	--			0.0	0.0			1	10	20 A	--	SPARE
SPACE ONLY	--	--	11	--					0.0	0.0	1	12	20 A	--	SPARE
SPACE ONLY	--	--	13	--	0.0	0.0					1	14	20 A	--	SPARE
			15									16			
			17									18			
			19									20			
			21									22			
			23									24			
			25									26			
			27									28			
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	3.50 kVA	125.00%	4.37 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.00 kVA	0.00%	0.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	0.00 kVA	0.00%	0.00 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	0.00 kVA	0.00%	0.00 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	3.9 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	4.8 kVA	13 A	2 A	0 A
TOTAL AMP. (CONNECTED):	5 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	6 A	16 A	2 A	0 A

PANEL: MP1CA

VOLTAGE: 480/277 Wye **MAIN TYPE:** MLO **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 200 A **WIRE:** 4 **AIC:** 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
			1		1.3	3.7						2			
ERV-1	12	20 A	3	3			1.3	3.7			3	4	20 A	10	AHU-5 S
			5						1.3	3.7		6			
			7		1.3	5.5						8			
AHU-5 R	12	20 A	9	3			1.3	5.5			3	10	30 A	8	AHU-6 S
			11						1.3	5.5		12			
			13		2.5	3.7						14			
AHU-6 R	12	20 A	15	3			2.5	3.7			3	16	20 A	10	AHU-4 S
			17						2.5	3.7		18			
			19		1.8	3.7						20			
AHU-4 R	12	20 A	21	3			1.8	3.7			3	22	20 A	10	AHU-3 S
			23						1.8	3.7		24			
			25		1.3	0.0						26			
AHU-3 R	12	20 A	27	3			1.3	0.0			3	28	20 A	--	SPARE
			29						1.3	0.0		30			
SPARE	--	20 A	31	1	0.0	0.0					--	32	--	--	SPACE ONLY
SPARE	--	20 A	33	1			0.0	0.0			--	34	--	--	SPACE ONLY
SPARE	--	20 A	35	1					0.0	0.0	--	36	--	--	SPACE ONLY
SPARE	--	20 A	37	1	0.0	0.0					--	38	--	--	SPACE ONLY
SPARE	--	20 A	39	1			0.0	0.0			--	40	--	--	SPACE ONLY
SPARE	--	20 A	41	1					0.0	0.0	--	42	--	--	SPACE ONLY

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.00 kVA	0.00%	0.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	0.00 kVA	0.00%	0.00 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	0.00 kVA	0.00%	0.00 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	74.3 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	74.3 kVA	89 A	89 A	89 A
TOTAL AMP. (CONNECTED):	89 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	89 A	112 A	112 A	112 A

PANEL: RP1CA

VOLTAGE: 120/208 Wye **MAIN TYPE:** MCB **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 225 A **WIRE:** 4 **AIC:** 10,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A		B		C		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
REC - BOYS PE C121	6	20 A	1	1	0.9	0.6					1	2	20 A	6	EWC - (NOTE 7)
REC - LAUNDRY C127	6	20 A	3	1			1.1	0.2			1	4	20 A	6	WASHER - C127
HAND DRYER C125	6	20 A	5	1					1.0	0.9	1	6	20 A	6	REC - COACH C123
ICE MACHINE C127	6	20 A	7	1	0.2	1.2					1	8	20 A	10	EWC - CORR C100 (NOTE 7)
EWC - CORR C100 (NOTE 7)	10	20 A	9	1			1.2	1.1			1	10	20 A	10	REC - CORR C100
EWC - CORR C100 (NOTE 7)	10	20 A	11	1					1.2	1.2	1	12	20 A	10	EWC - CORR C100 (NOTE 7)
HAND DRYER - GIRLS C107	10	20 A	13	1	1.0	1.0					1	14	20 A	10	HAND DRYER - BOYS C106
REC - COMMONS C103	10	20 A	15	1			0.9	0.2			1	16	20 A	10	FLOORBOX - COMMONS C103
REC - LEARNING C103	10	20 A	17	1					0.5	0.2	1	18	20 A	10	REC - CONCESSIONS C112 (NOTE 7)
REC - LEARNING C103	10	20 A	19	1	0.5	0.2					1	20	20 A	10	REC - CONCESSIONS C112
REFRIGERATOR C105 (NOTE 7)	10	20 A	21	1			0.2	0.4			1	22	20 A	10	REC - TOILET C102
REC - BROADCAST C104	10	20 A	23	1					1.2	1.2	1	24	20 A	10	REC - BROADCAST C104
REC - CHORUS C110	10	20 A	25	1	0.5	0.7					1	26	20 A	10	REC - CHORUS C110
EWC - CHORUS C110 (NOTE 7)	10	20 A	27	1			0.6	0.5			1	28	20 A	10	REC - CHORUS C110
REC - OFFICE C114	10	20 A	29	1					0.9	0.5	1	30	20 A	8	REC - BAND C115
REC - BAND C115	8	20 A	31	1	0.9	0.6					1	32	20 A	8	EWC - BAND C115 (NOTE 7)
REC - BAND C115	8	20 A	33	1			0.5	0.2			1	34	20 A	12	REF - CONCESSIONS C112 (NOTE 7)
REC - MECH ROOM	12	20 A	35	1					0.5	0.7	1	36	20 A	12	FAN F-9
VAV'S MEZZ.	12	20 A	37	1	0.2	0.2					1	38	20 A	12	REC - DATA D200
REC - CONCESSIONS C112	10	20 A	39	1			0.2	0.5			1	40	20 A	12	REC - DATA D200
REC - CONCESSIONS C112	10	20 A	41	1					0.2	0.5	1	42	20 A	12	REC - DATA D200
REC - JAN C108	10	20 A	43	1	0.5	1.8					2	44	20 A	12	REC - DATA D200
EWC - DINING C140 (NOTE 7)	10	20 A	45	1			1.2	1.8				46			
EWC - DINING C140 (NOTE 7)	10	20 A	47	1					1.2	0.5	1	48	20 A	12	REC - DATA D200
REC - WORKROOM C105	10	20 A	49	1	0.2	1.8					2	50	20 A	12	REC - DATA D200
GYM SOUND SYSTEM	10	20 A	51	1			0.5	1.8				52			
CORRIDOR C100 TV	10	20 A	53	1					0.5	0.5	1	54	20 A	12	REC - DATA D200
ODU - 5	10	20 A	55	2	1.3	0.2					1	56	20 A	12	REC - ROOF
			57				1.3	0.0			1	58	20 A	10	SECURITY CONTROL POWER
GYM FLOOR BOXES	10	20 A	59	1					0.4	0.2	1	60	20 A	12	LEARNING COMMONS FLOORBOX
REC - CONCESSIONS C112	10	20 A	61	1	0.5	1.0					1	62	20 A	8	HAND DRYER - C125
HAND DRYER - C130	8	20 A	63	1			1.0	1.0			1	64	20 A	10	HAND DRYER - C102
HAND DRYER - C101	10	20 A	65	1					1.0	0.0	1	66	20 A	--	SPARE
SPARE	--	20 A	67	1	0.0	0.0					1	68	20 A	--	SPARE
SPARE	--	20 A	69	1			0.0	0.0			1	70	20 A	--	SPARE
SPARE	--	20 A	71	1					0.0	0.0	1	72	20 A	--	SPARE
SPARE	--	20 A	73	1	0.0	0.0					1	74	20 A	--	SPARE
SPARE	--	20 A	75	1			0.0	0.0			1	76	20 A	--	SPARE
SPARE	--	20 A	77	1					0.0	0.0	1	78	20 A	--	SPARE
SPARE	--	20 A	79	1	0.0	0.0					1	80	20 A	--	SPARE
SPARE	--	20 A	81	1			0.0	0.0			1	82	20 A	--	SPARE
SPARE	--	20 A	83	1					0.0	0.0	1	84	20 A	--	SPARE

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	2.60 kVA	100.00%	2.60 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.65 kVA	125.00%	0.81 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	36.49 kVA	63.70%	23.25 kVA	7. PROVIDE CLASS A GFI (6mA-PERSONNEL) BRKR (250' MAX).
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	7.21 kVA	100.00%	7.21 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	45.7 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	32.7 kVA	129 A	131 A	123 A
TOTAL AMP. (CONNECTED):	127 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	91 A	161 A	164 A	154 A

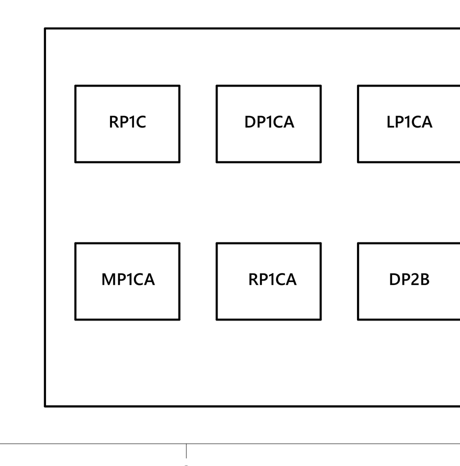
PANEL: DP2A

VOLTAGE: 480/277 Wye **MAIN TYPE:** MCB **MFR:**
MOUNTING: SURFACE **PHASE:** 3 **TYPE:**
MAIN: 400 A **WIRE:** 4 **AIC:** 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
			1		7.4	0.0					1	2	20 A	--	SPARE
PANEL LP2A	SR	100 A	3	3			6.4	0.0			1	4	20 A	--	SPARE
			5						0.0	23.6		6			
			7		32.8	23.6					3	8	200 A	SR	PANEL MP2A
PANEL RP2A (VIA TXRP2A)	SR	175 A	9	3			31.7	23.4				10			
			11						34.8	0.0	--	12	--	--	SPACE ONLY
SPACE ONLY	--	--	13	--	0.0	0.0					--	14	--	--	SPACE ONLY
SPACE ONLY	--	--	15	--			0.0	0.0			--	16	--	--	SPACE ONLY
SPACE ONLY	--	--	17	--					0.0	0.0	--	18	--	--	SPACE ONLY
SPACE ONLY	--	--	19	--	0.0	0.0					--	20	--	--	SPACE ONLY
			21									22			
			23									24			
			25									26			
			27									28			
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	13.57 kVA	125.00%	16.96 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	25.78 kVA	120.95%	31.18 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	90.22 kVA	55.54%	50.11 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	SR -- SEE RISER
MISC.	5.20 kVA	100.00%	5.20 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	182.1 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	150.6 kVA	230 A	222 A	209 A
TOTAL AMP. (CONNECTED):	219 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	181 A	288 A	277 A	261 A



SULLIVAN COUNTY SCHOOLS

SULLIVAN EAST MIDDLE SCHOOL

Cain Rash West Architects

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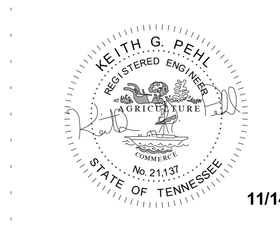

11/14/2017

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: MFL
CHECKED BY: MM

PANEL SCHEDULES

E-703

PANEL: LP2A

VOLTAGE: 480/277 Wye | MAIN TYPE: MLO | MFR:
MOUNTING: SURFACE | PHASE: 3 | TYPE:
MAIN: 100 A | WIRE: 4 | AIC: 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A		B		C		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
LITES - 2ND FLR AREA A CORR	10	20 A	1	1	3.1	4.3					1	2	20 A	10	LITES - 2ND FLR AREA A
LITES - 2ND FLR AREA A	10	20 A	3	1			3.8	2.7			1	4	20 A	10	LITES - 2ND FLR AREA B
SPACE ONLY	--	--	5	--					0.0	0.0	1	6	20 A	--	SPARE
SPACE ONLY	--	--	7	--	0.0	0.0					1	8	20 A	--	SPARE
SPACE ONLY	--	--	9	--			0.0	0.0			1	10	20 A	--	SPARE
SPACE ONLY	--	--	11	--					0.0	0.0	1	12	20 A	--	SPARE
SPACE ONLY	--	--	13	--	0.0	0.0					1	14	20 A	--	SPARE
SPACE ONLY	--	--	15	--			0.0	0.0			--	16	--	--	SPACE ONLY
SPACE ONLY	--	--	17	--					0.0	0.0	--	18	--	--	SPACE ONLY
			19									20			
			21									22			
			23									24			
			25									26			
			27									28			
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	13.57 kVA	125.00%	16.96 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.00 kVA	0.00%	0.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	0.00 kVA	0.00%	0.00 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	0.00 kVA	0.00%	0.00 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	13.8 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	17.2 kVA	30 A	27 A	0 A
TOTAL AMP. (CONNECTED):	17 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	21 A	38 A	33 A	0 A

PANEL: MP2A

VOLTAGE: 480/277 Wye | MAIN TYPE: MLO | MFR:
MOUNTING: SURFACE | PHASE: 3 | TYPE:
MAIN: 200 A | WIRE: 4 | AIC: 18,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
			1		10.6	5.6						2			
AHU-2S	8	50 A	3	3			10.6	5.6			3	4	30 A	10	AHU-2R
			5						10.6	5.6		6			
			7		7.2	0.0						8			
ELEVATOR (20HP)	6	60 A	9	3			7.2	0.0			3	10	30 A	--	SPARE
			11						7.2	0.0		12			
FAN F -19	12	20 A	13	1	0.2	0.0					1	14	20 A	--	SPARE
FAN F -16	12	20 A	15	1			0.2	0.0			1	16	20 A	--	SPARE
SPARE	--	20 A	17	1					0.0	0.0	1	18	20 A	--	SPARE
SPACE ONLY	--	--	19	--	0.0	0.0					--	20	--	--	SPACE ONLY
SPACE ONLY	--	--	21	--			0.0	0.0			--	22	--	--	SPACE ONLY
SPACE ONLY	--	--	23	--					0.0	0.0	--	24	--	--	SPACE ONLY
SPACE ONLY	--	--	25	--	0.0	0.0					--	26	--	--	SPACE ONLY
SPACE ONLY	--	--	27	--			0.0	0.0			--	28	--	--	SPACE ONLY
SPACE ONLY	--	--	29	--					0.0	0.0	--	30	--	--	SPACE ONLY
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	21.60 kVA	125.00%	27.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	0.00 kVA	0.00%	0.00 kVA	
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	0.34 kVA	100.00%	0.34 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	70.5 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	75.9 kVA	85 A	85 A	84 A
TOTAL AMP. (CONNECTED):	85 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	91 A	106 A	106 A	106 A

PANEL: RP2A

VOLTAGE: 120/208 Wye | MAIN TYPE: MCB | MFR:
MOUNTING: SURFACE | PHASE: 3 | TYPE:
MAIN: 400 A | WIRE: 4 | AIC: 10,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A		B		C		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
REC - 2ND FLOOR AREA A CORR	8	20 A	1	1	0.9	0.5					1	2	20 A	10	REC - PREP A209A
REFRIGERATOR A209A (NOTE 7)	10	20 A	3	1			0.2	0.5			1	4	20 A	12	REC - WORKROOM A205
REC - TOILET A205B	12	20 A	5	1					0.4	0.2	1	6	20 A	10	REC - WORKROOM A205
REC - 2ND FLOOR AREA B CORR	8	20 A	7	1	1.3	0.2					1	8	20 A	10	DISHWASHER - A209A (NOTE 7)
REFRIGERATOR A205 (NOTE 7)	10	20 A	9	1			0.2	0.5			1	10	20 A	12	AHU-2 CONTROLLER
REC - B202	10	20 A	11	1					0.9	0.5	1	12	20 A	10	COPIER - A205 (NOTE 7)
EWC - (NOTE 7)	10	20 A	13	1	1.2	1.2					1	14	20 A	10	EWC - (NOTE 7)
REC - PREP B210A	8	20 A	15	1			0.5	1.0			1	16	20 A	10	HAND DRYER - GIRLS B205
REFRIGERATOR B210A (NOTE 7)	8	20 A	17	1					0.2	0.2	1	18	20 A	10	DISHWASHER - B210A (NOTE 7)
HAND DRYER - BOYS C106	10	20 A	19	1	1.0	1.0					1	20	20 A	10	HAND DRYER - BOYS B206
HAND DRYER - GIRLS B205	10	20 A	21	1			1.0	1.0			1	22	20 A	10	HAND DRYER - GIRLS C107
HAND DRYER - BOYS B206	10	20 A	23	1					1.0	0.7	1	24	20 A	10	REC - 7TH - A212
REC - 7TH - A212	10	20 A	25	1	0.7	0.4					1	26	20 A	10	REC - 7TH - A212
REC. - 7TH SCIENCE - A213 - CRT#1	10	20 A	27	1			0.4	0.4			1	28	20 A	10	REC. - 7TH SCIENCE - A213 - CRT#2
REC. - 7TH SCIENCE - A213 - CRT#3	10	20 A	29	1					0.4	0.4	1	30	20 A	10	REC. - 7TH SCIENCE - A213 - CRT#4
REC. - 7TH SCIENCE - A213 - CRT#5	10	20 A	31	1	0.4	0.4					1	32	20 A	10	REC. - 7TH SCIENCE - A213 - CRT#6
REC. - 7TH SCIENCE - A213 - CRT#7	10	20 A	33	1			0.7	0.4			1	34	20 A	10	REC. - 7TH SCIENCE - A213 - CRT#8
REC. - 7TH SCIENCE - A213 - CRT#9	10	20 A	35	1					0.5	0.4	1	36	20 A	10	REC. - 7TH SCIENCE - A209 - CRT#1
REC. - 7TH SCIENCE - A209 - CRT#2	10	20 A	37	1	0.4	0.4					1	38	20 A	10	REC. - 7TH SCIENCE - A209 - CRT#3
REC. - 7TH SCIENCE - A209 - CRT#4	10	20 A	39	1			0.4	0.4			1	40	20 A	10	REC. - 7TH SCIENCE - A209 - CRT#5
REC. - 7TH SCIENCE - A209 - CRT#6	10	20 A	41	1					0.4	0.5	1	42	20 A	10	REC. - 7TH SCIENCE - A209 - CRT#9
REC. - 7TH SCIENCE - A209 - CRT#8	10	20 A	43	1	0.4	0.7					1	44	20 A	10	REC. - 7TH SCIENCE - A209 - CRT#7
REC. - 7TH SOCIAL - A210 - CRT#2	10	20 A	45	1			0.7	0.4			1	46	20 A	10	REC. - 7TH SOCIAL - A210 - CRT#2
REC. - 7TH SOCIAL - A210 - CRT#3	10	20 A	47	1					0.7	0.7	1	48	20 A	10	REC. - 7TH SOCIAL - A208 - CRT#1
REC. - 7TH SOCIAL - A208 - CRT#2	10	20 A	49	1	0.4	0.7					1	50	20 A	10	REC. - 7TH SOCIAL - A206 - CRT#1
REC. - 7TH SOCIAL - A208 - CRT#3	10	20 A	51	1			0.7	0.4			1	52	20 A	10	REC. - 7TH SOCIAL - A206 - CRT#2
REC. - 7TH SOCIAL - A206 - CRT#3	10	20 A	53	1					0.7	0.7	1	54	20 A	10	REC. - 7TH SOCIAL - A207 - CRT#1
REC. - 7TH SOCIAL - A207 - CRT#2	10	20 A	55	1	0.4	0.7					1	56	20 A	10	REC. - 7TH SOCIAL - A207 - CRT#3
REC. - 7TH SOCIAL - A204 - CRT#1	12	20 A	57	1			0.7	0.4			1	58	20 A	12	REC. - 7TH SOCIAL - A204 - CRT#2
REC. - 7TH SOCIAL - A201 - CRT#2	12	20 A	59	1					0.4	0.7	1	60	20 A	12	REC. - 7TH SOCIAL - A201 - CRT#1
REC. - 7TH SOCIAL - A204 - CRT#3	12	20 A	61	1	0.7	0.7					1	62	20 A	12	REC. - 7TH SOCIAL - A201 - CRT#3
REC. - 8TH MATH -B211 - CRT#1	10	20 A	63	1			0.7	0.4			1	64	20 A	10	REC. - 8TH MATH -B211 - CRT#2
REC. - 8TH MATH -B211 - CRT#3	10	20 A	65	1					0.7	0.7	1	66	20 A	10	REC. - 8TH MATH -B213 - CRT#1
REC. - 8TH MATH -B213 - CRT#2	10	20 A	67	1	0.4	0.7					1	68	20 A	10	REC. - 8TH MATH -B211 - CRT#3
REC. - 8TH SCIENCE -B214 - CRT#1	10	20 A	69	1			0.4	0.4			1	70	20 A	10	REC. - 8TH SCIENCE -B214 - CRT#2
REC. - 8TH SCIENCE -B214 - CRT#3	10	20 A	71	1					0.4	0.4	1	72	20 A	10	REC. - 8TH SCIENCE -B214 - CRT#4
REC. - 8TH SCIENCE -B214 - CRT#5	10	20 A	73	1	0.4	0.4					1	74	20 A	10	REC. - 8TH SCIENCE -B214 - CRT#6
REC. - 8TH SCIENCE -B214 - CRT#7	10	20 A	75	1			0.7	0.4			1	76	20 A	10	REC. - 8TH SCIENCE -B214 - CRT8
REC. - 8TH SCIENCE -B214 - CRT#9	10	20 A	77	1					0.5	0.4	1	78	20 A	10	REC. - 8TH SCIENCE -B210 - CRT#1
REC. - 8TH SCIENCE -B210 - CRT#2	10	20 A	79	1	0.4	0.4					1	80	20 A	10	REC. - 8TH SCIENCE -B210 - CRT#3
REC. - 8TH SCIENCE -B210 - CRT#4	10	20 A	81	1			0.4	0.4			1	82	20 A	10	REC. - 8TH SCIENCE -B210 - CRT#5
REC. - 8TH SCIENCE -B210 - CRT#6	10	20 A	83	1					0.4	0.5	1	84	20 A	10	REC. - 8TH SCIENCE -B210 - CRT#9
REC. - 8TH SCIENCE -B210 - CRT#8	10	20 A	85	1	0.4	0.7					1	86	20 A	10	REC. - 8TH SCIENCE -B210 - CRT#7
REC. - 8TH MATH -B208 - CRT#1	10	20 A	87	1			0.7	0.4			1	88	20 A	10	REC. - 8TH MATH -B208 - CRT#2
REC. - 8TH MATH -B208 - CRT#3	10	20 A	89	1					0.7	0.7	1	90	20 A	10	REC. - 8TH MATH -B209 - CRT#1
REC. - 8TH MATH -B209 - CRT#2	10	20 A	91	1	0.4	0.7					1	92	20 A	10	REC. - 8TH MATH -B209 - CRT#3
REC. - 8TH MATH -B207 - CRT#1	10	20 A	93	1			0.7	0.4			1	94	20 A	10	REC. - 8TH MATH -B207 - CRT#2
REC. - 8TH MATH -B207 - CRT#1	10	20 A	95	1					0.7	0.7	1	96	20 A	12	REC. - 8TH MATH -B204 - CRT#1
REC. - 8TH MATH -B204 - CRT#2	12	20 A	97	1	0.4	0.7					1	98	20 A	12	REC. - 8TH MATH -B204 - CRT#3
REC. - 8TH MATH -B201 - CRT#1	12	20 A	99	1			0.7	0.4			1	100	20 A	12	REC. - 8TH MATH -B201 - CRT#2
REC. - 8TH MATH -B201 - CRT#3	12	20 A	101	1					0.7	0.2	1	102	20 A	12	REC -EXTERIOR
REC - WORKROOM A205	12	20 A	103	1	0.2	0.2					1	104	20 A	12	REC - EXTERIOR
SUB ELEC A202 - NAC (NOTE 9)	12	20 A	105	1			0.2	0.2			1	106	20 A	12	REC - SUB ELEC A202
REC - DATA A211	12	20 A	107	1					0.2	0.5	1	108	20 A	12	REC - DATA A211
REC - DATA A211	12	20 A	109	1	0.5	0.5					1	110	20 A	12	REC - DATA A211
REC - DATA A211	12	20 A	111	2			3.6	0.5			1	112	20 A	12	REC - DATA A211
			113						3.6	3.6	2	114	20 A	12	REC - DATA A211
REC - DATA A203	12	20 A	115	1	0.5	3.6						116			
REC - DATA A203	12	20 A	117	1			0.5	1.0			1	118	20 A	12	HAND DRYER - A205B
REC - DATA A203	12	20 A	119	1					0.5	3.6	2	120	20 A	12	REC - DATA A203
REC - DATA A203	12	20 A	121	1	0.5	3.6						122			
REC - DATA A203	12	20 A	123	2			3.6	0.2			1	124	20 A	12	REC - DATA A203
			125						3.6	0.2	1	126	20 A	10	ELEVATOR LTG POWER
FIRE SMOKE DAMPER POWER	8	20 A	127	1	0.0	0.7					1	128	20 A	12	FAN F - 15
FAN F -17	12	20 A	129	1			0.7	0.7			1	130	20 A	12	FAN F - 21
FAN F - 18	12	20 A	131	1					0.8	0.8	1	132	20 A	12	FAN F - 20
FAN F - 22	22	20 A	133	1	0.7	1.8					1	134	20 A	10	VAV'S - AREA A
VAV'S - AREA B	10	20 A	135	1			1.8	0.7			1	136	20 A	10	REC - CLASS A223 (ALTERNATE)
REC - CLASS A223 (ALTERNATE)	10	20 A	137	1					0.4	0.7	1	138	20 A	10	REC - CLASS A223 (ALTERNATE)
REC - CLASS A222 (ALTERNATE)	10	20 A	139	1	0.7	0.4					1	140	20 A	10	REC - CLASS A222 (ALTERNATE)
REC - CLASS A222 (ALTERNATE)	10	20 A	141	1			0.7	1.0			1	142	20 A	10	HAND DRYER - A205A
			143									144			
			145									146			
SPARE	--	20 A	147	1			0.0	0.0			1	148	20 A	--	SPARE
SPARE	--	20 A	149	1					0.0	0.0	1	150	20 A	--	SPARE
SPARE	--	20 A	151	1	0.0	0.0					1	152	20 A	--	SPARE
SPARE	--	20 A	153	1			0.0	0.0			1	154	20 A	--	SPARE
SPARE	--	20 A	155	1					0.0	0.0	1	156	20 A	--	SPARE
SPARE	--	20 A	157	1	0.0	0.0					1	158	20 A	--	SPARE
SPARE	--	20 A	159	1			0.0	0.0			1	160	20 A	--	SPARE
SPACE ONLY	--	--	161	--					0.0	0.0	--	162	--	--	SPACE ONLY
SPACE ONLY	--	--	163	--	0.0	0.0					--	164	--	--	SPACE ONLY
SPACE ONLY	--	--	165	--			0.0	0.0			--	166	--	--	SPACE ONLY
SPACE ONLY	--	--	167	--					0.0	0.0	--	168	--	--	SPACE ONLY

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	4.18 kVA	104.61%	4.37 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	90.22 kVA	55.54%	50.11 kVA	7. PROVIDE CLASS A GFI (6mA-PERSONNEL) BRKR (250' MAX).
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	8. PROVIDE FEED-THRU LUGS.
MISC.	4.86 kVA	100.00%	4.86 kVA	9. PROVIDE BREAKER WITH HANDLE LOCK-ON DEVICE.
Spare	0.00 kVA	0.00%	0.00 kVA	10. MAIN TO BE 100% RATED.

TOTAL KVA (CONNECTED):	99.1 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	59.2 kVA	275 A	264 A	291 A
TOTAL AMP. (CONNECTED):	275 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	164 A	344 A	330 A	364 A

PANEL: KPD

VOLTAGE: 120/208 Wye | MAIN TYPE: MCB | MFR:
MOUNTING: SURFACE | PHASE: 3 | TYPE:
MAIN: 1000 A | WIRE: 4 | AIC: 10,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
			1		43.8	33.0						2			
PANEL KPL1 (NOTE 8)	SR	400 A	3	3			43.9	33.0			3	4	400 A	SR	KPL2 (NOTE 8)
			5						41.5	33.0		6			
			7		0.0	0.0						8			
SPARE	--	100 A	9	3			0.0	0.0			3	10	100 A	--	SPARE
			11						0.0	0.0		12			
SPACE ONLY	--	--	13	--	0.0	0.0					--	14	--	--	SPACE ONLY
SPACE ONLY	--	--	15	--			0.0	0.0			--	16	--	--	SPACE ONLY
SPACE ONLY	--	--	17	--					0.0	0.0	--	18	--	--	SPACE ONLY
			19									20			
			21									22			
			23									24			
			25									26			
			27									28			
			29									30			
			31									32			
			33									34			
			35									36			
			37									38			
			39									40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.00 kVA	0.00%	0.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	9.99 kVA	90.00%	8.99 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	31.11 kVA	66.07%	20.56 kVA	7. MAIN TO BE 100% RATED
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	8. BREAKER TO BE 100% RATED
MISC.	11.08 kVA	100.00%	11.08 kVA	SR -- SEE RISER
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	228.0 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	216.7 kVA	642 A	644 A	621 A
TOTAL AMP. (CONNECTED):	633 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	601 A	803 A	805 A	776 A

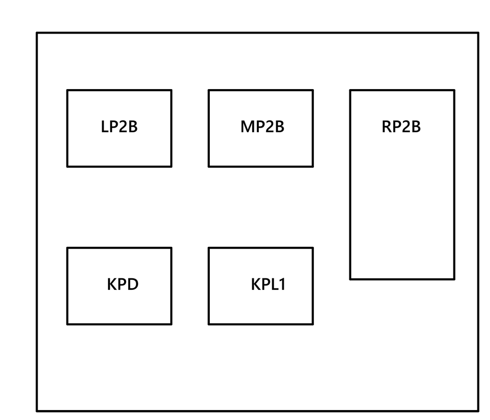
PANEL: KPL1

VOLTAGE: 120/208 Wye | MAIN TYPE: MLO | MFR:
MOUNTING: RECESSED | PHASE: 3 | TYPE:
MAIN: 400 A | WIRE: 4 | AIC: 10,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A		B		C		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
01 - AIR CURTAIN	12	20 A	1	1	0.7	0.6					1	2	20 A	12	02 - SCALE
03 - SLICER	12	20 A	3	1			0.5	1.1			1	4	20 A	12	07 - FOOD CUTTER
08 - 30 QT MIXER	12	20 A	5	2					0.5	0.2	1	6	20 A	12	18 - WALK IN FREEZER
			7		0.5	1.2					1	8	20 A	12	18.1 - WALK IN FREEZER
19 - EVAPORATOR COIL, COOLER	12	15 A	9	1			2.0	0.9			2	10	20 A	12	21 - EVAPORATOR COIL, FREEZER
			11						0.7	0.9		12			
20 - CONDENSING UNIT, COOLER	12	15 A	13	3	0.7	2.0						14			
			15				0.7	2.0			3	16	30 A	10	22 - CONDENSING UNIT, FREEZER
31 - FOOD PROCESSOR	12	20 A	17	1					0.2	2.0		18			
32 - EXHAUST HOOD	8	30 A	19	1	2.4	1.0					1	20	30 A	8	32.1 - EXHAUST HOOD
32.3 - CONTOL PANEL	10	20 A	21	1			1.2	5.7				22			
33.1 - FRYER DUMP STATION	12	20 A	23	1					0.8	5.7	3	24	60 A	4	33 - FRYER
			25		7.3	5.7						26			
34.1 - COMBI OVEN, 10-PAN	1	100 A	27	3			7.3	12.3				28			
			29						7.3	12.3	3	30	150 A	1/0	34 - COMBI OVEN, 10-PAN
			31		3.6	12.3						32			
35 - KETTLE, 40QT	6	40 A	33	3			3.6	3.6				34			
			35						3.6	3.6	3	36	40 A	6	36 - TILT SKILLET
40 - MICROWAVE	10	20 A	37	2	2.8	3.6						38			
			39				2.8	0.7			2	40	20 A	10	38 - ICE MACHINE, CUBE
59 - HOT FOOD COUNTER	8	50 A	41	1					3.8	0.7		42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.00 kVA	0.00%	0.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	9.99 kVA	90.00%	8.99 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	10.99 kVA	95.50%	10.49 kVA	7. PROVIDE BREAKER WITH SHUNT TRIP.
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	8. PROVIDE CLASS A GFI (6mA-PERSONNEL) BRKR (250' MAX).
MISC.	10.15 kVA	100.00%	10.15 kVA	9. MAIN TO BE 100% RATED
Spare	0.00 kVA	0.00%	0.00 kVA	

TOTAL KVA (CONNECTED):	129.2 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	127.7 kVA	368 A	369 A	346 A
TOTAL AMP. (CONNECTED):	359 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	355 A	459 A	461 A	433 A



SULLIVAN COUNTY SCHOOLS

SULLIVAN EAST MIDDLE SCHOOL

Cain Rash West Architects

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REVISIONS:

No.	Description	Date

PROJECT: 9201-170630
DATE: 11/14/2017
DRAWN BY: Author
CHECKED BY: Checker

PANEL SCHEDULES

E-704

PANEL: KPL2

VOLTAGE: 120/208 Wye
MOUNTING: RECESSED
MAIN: 400 A
MAIN TYPE: MCB
PHASE: 3
WIRE: 4
MFR:
TYPE:
AIC: 10,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A		B		C		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
45 - COFFEE BREWER, AIRPOT	10	20 A	1	2	2.6	0.9					1	2	20 A	12	42 - PASS THRU REFRIGERATOR
			3				2.6	1.4			2	4			
59 - HOT FOOD COUNTER	8	50 A	5	1					3.8	1.4		6	20 A	12	41 - PASS THRU HEATED CABNIET
60 - COLD FOOD COUNTER	12	20 A	7	1	0.5	1.0					1	8	20 A	12	62 - REFRIGERATOR
63 - MILK COOLER	12	20 A	9	1			0.6	0.2			1	10	20 A	12	65 - P.O.S
54 - DISPOSER	12	20 A	11	3					1.3	15.7	3	12	20 A	1/0	52 - DISHMACHINE, CONVEYOR TYPE
			13		1.3	15.7						14			
			15				1.3	15.7				16			
FAN F-5	12	20 A	17	1					0.5	0.5	1	18	20 A	12	REC - KITCHEN C147
REC - KITCHEN C147	12	20 A	19	1	0.9	0.5					1	20	20 A	12	FAN F-4
REC - KITCHEN C147	12	20 A	21	1			0.2	0.2			1	22	20 A	12	REC - KITCHEN C147
REC - KITCHEN C147	12	20 A	23	1					0.2	3.7		24			
66 - CONVECTION OVEN	6	40 A	25	3	3.7	3.7					3	26	40 A	6	66 - CONVECTION OVEN
			27				3.7	3.7				28			
			29						3.7	0.9	1	30	20 A	12	REC - KIT OFFICE
REC - KITCHEN C147	12	20 A	31	1	0.4	0.4					1	32	20 A	12	REC - KITCHEN C147
REC - KITCHEN C147	12	20 A	33	1			1.1	1.4			2	34	20 A	12	41 - PASS THRU HEATED CABNIET
42 - PASS THRU REFRIGERATOR	12	20 A	35	1					0.9	1.4		36			
65 - P.O.S	12	20 A	37	1	0.2	0.6					1	38	20 A	12	63 - MILK COOLER
60 - COLD FOOD COUNTER	12	20 A	39	1			0.5	1.0			1	40	20 A	12	62 - REFRIGERATOR
REC - KITCHEN C147	12	20 A	41	1					0.2	0.0	1	42	20 A	--	SPARE
74 - REFRIDGERATOR	12	20 A	43	1	0.8	0.0					1	44	20 A	--	SPARE
AUTO REVESE CONTROL PANEL	12	20 A	45	1			0.0	0.0			1	46	20 A	--	SPARE
SPARE	--	20 A	47	1					0.0	0.0	1	48	20 A	--	SPARE
SPARE	--	20 A	49	1	0.0	0.0					1	50	20 A	--	SPARE
SPARE	--	20 A	51	1			0.0	0.0			1	52	20 A	--	SPARE
SPARE	--	20 A	53	1					0.0	0.0	1	54	20 A	--	SPARE

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	0.00 kVA	0.00%	0.00 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	20.14 kVA	74.82%	15.07 kVA	7. MAIN TO BE 100% RATED
WATER HEATER	0.00 kVA	0.00%	0.00 kVA	
MISC.	1.00 kVA	100.00%	1.00 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	
TOTAL KVA (CONNECTED):	98.8 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	93.8 kVA	275 A	275 A	275 A
TOTAL AMP. (CONNECTED):	274 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	260 A	344 A	343 A	343 A

PANEL: CHP

VOLTAGE: 480/277 Wye
MOUNTING: SURFACE
MAIN: 400 A
MAIN TYPE: MCB
PHASE: 3
WIRE: 4
MFR: SQD
TYPE:
AIC: 65,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A		B		C		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
			1		10.3	4.1						2			
PANEL CLP VIA TXCLP	SR	125 A	3	3			9.5	4.1			3	4	20 A	10	SOFTBALL FIELD LIGHTS B3
			5						9.7	4.1		6			
			7		4.1	3.1						8			
SOFTBALL FIELD LIGHTS B4	10	20 A	9	3			4.1	3.1			3	10	15 A	12	SOFTBALL FIELD LIGHTS A3
			11						4.1	3.1		12			
			13		3.1	11.3						14			
SOFTBALL FIELD LIGHTS A4	12	15 A	15	3			3.1	11.3			3	16	60 A	3	FOOTBALL FIELDLIGHTS F1
			17						3.1	11.3		18			
			19		11.3	8.2						20			
FOOTBALL FIELDLIGHTS F2	3	60 A	21	3			11.3	8.2			3	22	40 A	6	FOOTBALL FIELDLIGHTS F3
			23						11.3	8.2		24			
			25		8.2	4.1						26			
FOOTBALL FIELDLIGHTS F4	6	40 A	27	3			8.2	4.1			3	28	20 A	12	BASEBALL FIELDLIGHTS A2
			29						8.2	4.1		30			
			31		6.5	3.1						32			
BASEBALL FIELDLIGHTS B2	8	30 A	33	3			6.5	3.1			3	34	15 A	10	BASEBALL FIELDLIGHTS C2
			35						6.5	3.1		36			
			37		3.1	3.1						38			
BASEBALL FIELDLIGHTS D2	10	15 A	39	3			3.1	3.1			3	40	15 A	10	BASEBALL FIELDLIGHTS D1
			41						3.1	3.1		42			
			43		3.1	6.2						44			
BASEBALL FIELDLIGHTS C1	10	15 A	45	3			3.1	6.2			3	46	30 A	8	BASEBALL FIELDLIGHTS B1
			47						3.1	6.2		48			
			49		4.1	0.0					1	50	20 A	12	DUGOUT LIGHTS
BASEBALL FIELDLIGHTS A1	12	20 A	51	3			4.1	2.0			1	52	20 A	10	EWH - 4
			53						4.1	2.0	1	54	20 A	10	EWH - 3
EWH - 5	10	20 A	55	1	2.0	2.0					1	56	20 A	10	EWH - 6
EWH - 8	10	20 A	57	1			2.0	0.7			1	58	20 A	12	LIGHTS - PRESS BOX R105
LIGHTS - PRESS BOX R200	12	20 A	59	1					0.2	2.0	1	60	20 A	10	EWH - 7
LIGHTS - PRESS BOX R105	12	20 A	61	1	0.3	2.0					1	62	20 A	10	EWH-9
			63									64			
			65									66			
			67									68			
			69									70			
			71									72			
			73									74			
			75									76			
			77									78			
			79									80			
			81									82			
			83									84			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	260.80 kVA	125.00%	326.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	1.00 kVA	112.50%	1.13 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	20.01 kVA	74.99%	15.00 kVA	7. PROVIDE FEED-THRU LUGS
WATER HEATER	4.50 kVA	100.00%	4.50 kVA	8. PROVIDE "ALL MODES" SPD (40kA/MODE, 80kA/PHASE)
MISC.	18.00 kVA	100.00%	18.00 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	
TOTAL KVA (CONNECTED):	304.6 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	364.9 kVA	373 A	364 A	363 A
TOTAL AMP. (CONNECTED):	366 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	439 A	466 A	455 A	454 A

PANEL: CLP

VOLTAGE: 120/208 Wye
MOUNTING: SURFACE
MAIN: 150 A
MAIN TYPE: MCB
PHASE: 3
WIRE: 4
MFR: SQD
TYPE:
AIC: 10,000 AMPS SYMMETRICAL

LOAD SERVED	Wire Size	TRIP	CKT NO	POLES	A (LOAD KVA)		B (LOAD KVA)		C (LOAD KVA)		POLES	CKT NO	TRIP	Wire Size	LOAD SERVED
SPORTS LIGHTING CONTROL POWER	12	20 A	1	1	2.0	2.0					1	2	20 A	12	SPORTS LIGHTING CONTROL POWER
SCOREBOARD - FOOTBALL	6	20 A	3	1			1.0	1.0			1	4	20 A	6	SCOREBOARD - FOOTBALL
SCOREBOARD - SOFTBALL	8	20 A	5	1					1.0	1.0	1	6	20 A	8	SCOREBOARD - SOFTBALL
SCOREBOARD - BASEBALL	6	20 A	7	1	1.0	1.0					1	8	20 A	6	SCOREBOARD - BASEBALL
DUGOUT RECEPTS	10	20 A	9	1			1.0	1.0			1	10	20 A	10	DUGOUT RECEPTS
BASEBALL DUGOUT RECEPTS	10	20 A	11	1					1.0	1.0	1	12	20 A	10	BASEBALL DUGOUT RECEPTS
REC - CUSTODIAN R101A	12	20 A	13	1	0.2	0.2					1	14	20 A	12	FAN F-23
REFRIDGERATOR - CON. R105 (NOTE 7)	12	20 A	15	1			0.2	0.2			1	16	20 A	12	REC - CON. R105
REC - CON. R105	12	20 A	17	1					0.2	0.5	1	18	20 A	12	RECEPTACLES
REC - CON. R105	12	20 A	19	1	0.2	0.2					1	20	20 A	12	REC - CON. R105
POS - CON. R105	12	20 A	21	1			0.5	0.5			1	22	20 A	12	POS - CON. R105
ICE MACHINE (NOTE 7)	12	20 A	23	1					0.2	1.2	1	24	20 A	12	EWC - (NOTE 7)
REC - CON. R105	12	20 A	25	1	0.9	0.5					1	26	20 A	12	REC - CON. R105
WH-3	10	20 A	27	2			2.3	0.4			1	28	20 A	12	REC - PRESS BOX R200
			29						2.3	0.7	1	30	20 A	12	REC - PRESS BOX R200
REC - PRESS BOX R200	12	20 A	31	1	0.7	0.5					1	32	20 A	12	REC - PRESS BOX R200
FANS - PRESS BOX R200	12	20 A	33	1			1.0	0.1			1	34	20 A	12	RCP2 - RECIR. PUMP - CUST. R101A
FACP - CONCESSIONS BLDG (NOTE 9)	12	20 A	35	1					0.2	0.5	1	36	20 A	12	HAND DRYER - MEN R101
HAND DRYER - MEN R101	12	20 A	37	1	0.5	0.5					1	38	20 A	12	HAND DRYER - WOMEN R102
HAND DRYER WOMEN R102	12	20 A	39	1			0.5					40			
			41									42			

LOAD	Connected Load	Demand Factor	Estimated Demand	NOTES:
LIGHTS	0.00 kVA	0.00%	0.00 kVA	1. BREAKER FRAME SHALL BE AS REQ'D PER PANEL AIC RATING.
HEATING	0.00 kVA	0.00%	0.00 kVA	2. SHALL BE FULLY RATED - SERIES RATINGS NOT ALLOWED.
COOLING	0.00 kVA	0.00%	0.00 kVA	3. ALL BUSSING, INCL GND AND NEUTRAL, SHALL BE COPPER.
VENTILATION	0.00 kVA	0.00%	0.00 kVA	4. ALL INCOMING PANEL & BRKR LUGS SHALL MATCH FEEDERS.
MOTORS	1.00 kVA	112.50%	1.13 kVA	5. PROVIDE HINGED DOOR-IN-DOOR WITH OUTER DOOR LOCK.
KITCHEN	0.00 kVA	0.00%	0.00 kVA	6. PROVIDE METAL DIRECTORY FRAME.
RECEPTACLES	20.01 kVA	74.99%	15.00 kVA	7. PROVIDE CLASS B GFI (30mA-EQUIPMENT) BRKR.
WATER HEATER	4.50 kVA	100.00%	4.50 kVA	8. THIS PANEL SHALL BE U.L. LISTED FOR USE AS S.E. EQUIP.
MISC.	4.00 kVA	100.00%	4.00 kVA	
Spare	0.00 kVA	0.00%	0.00 kVA	
TOTAL KVA (CONNECTED):	29.5 kVA	TOTAL PER PHASE: (CONNECTED)		
TOTAL KVA (DEMAND):	24.6 kVA	86 A	79 A	81 A
TOTAL AMP. (CONNECTED):	82 A	TOTAL PER PHASE: (CONNECTED @ 125%)		
TOTAL AMP. (DEMAND):	68 A	108 A	99 A	101 A

KPL2 CHP CLP

SULLIVAN COUNTY SCHOOLS

SULLIVAN EAST MIDDLE SCHOOL

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REVISIONS:

No.	Description	Date

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DATE: 11/14/2017
DRAWN BY: Author
CHECKED BY: Checker

PANEL SCHEDULES

E-705