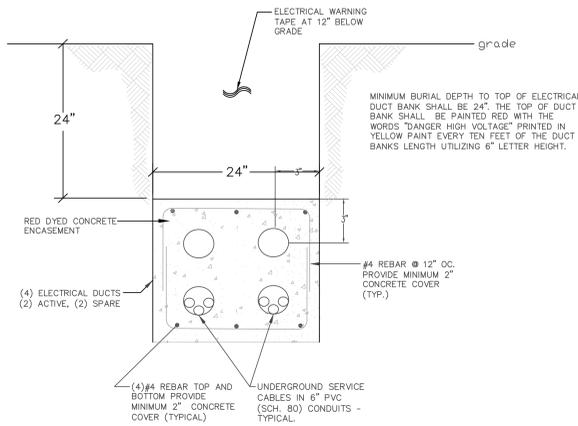


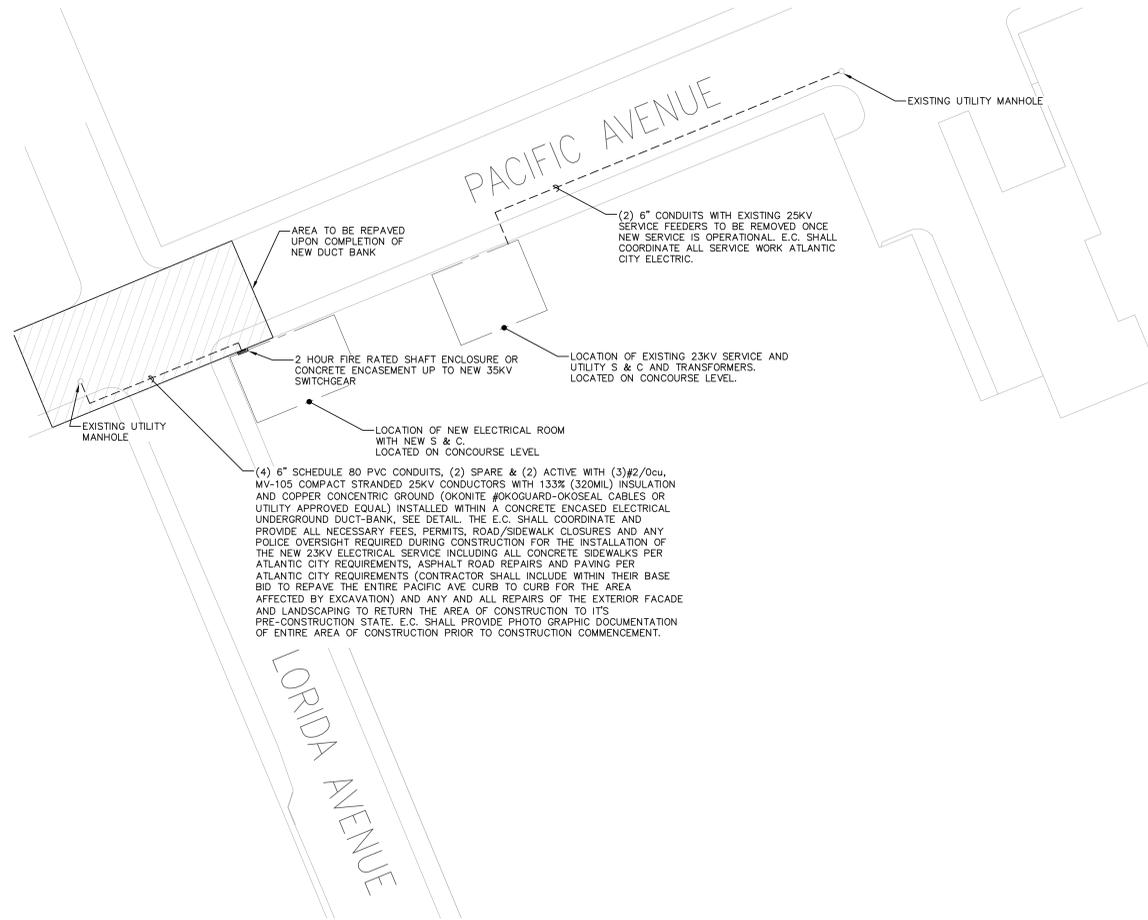
NOTES:

- WHERE CONDUITS PASS THRU FOUNDATION WALLS, FLOOR SLAB ON EARTH, ROOF, CONCRETE BEAM, BRICK WALL, OR WATER PROOF FLOORS, USE PIPE SLEEVES.



23KV MEDIUM VOLTAGE DUCT BANK DETAIL

N.T.S.

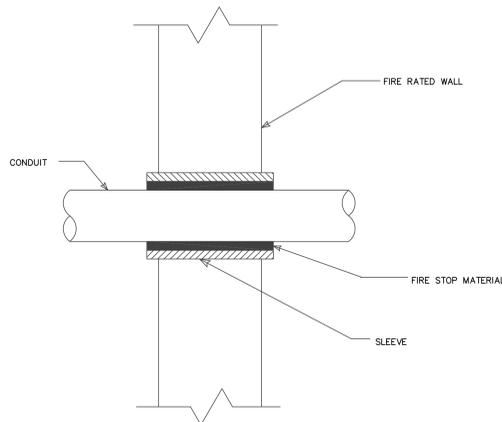


ELECTRICAL SITE PLAN

N.T.S.

NOTES:

- THIS DETAIL IS APPLICABLE WHERE CONDUITS PASS THRU FIRE RATED WALLS.
- WHERE CONDUITS PASS THRU FOUNDATION WALLS, FLOOR SLAB ON EARTH, ROOF, CONCRETE BEAM, BRICK WALL, OR WATER PROOF FLOORS, USE PIPE SLEEVES.
- FIRESTOPPING OF CONDUIT PENETRATIONS SHALL UTILIZE THE APPROVED UL STANDARD FOR THE SPECIFIC WALL/FLOOR/CEILING TYPES AND RATINGS.

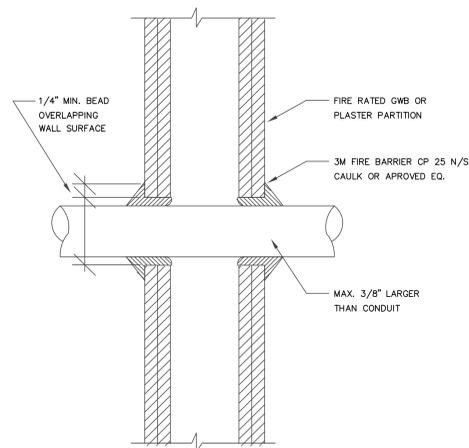


CONDUIT PENETRATION DETAIL

N.T.S.

NOTES:

- FIRESTOPPING OF CONDUIT PENETRATIONS SHALL UTILIZE THE APPROVED UL STANDARD FOR THE SPECIFIC WALL/FLOOR/CEILING TYPES AND RATINGS.

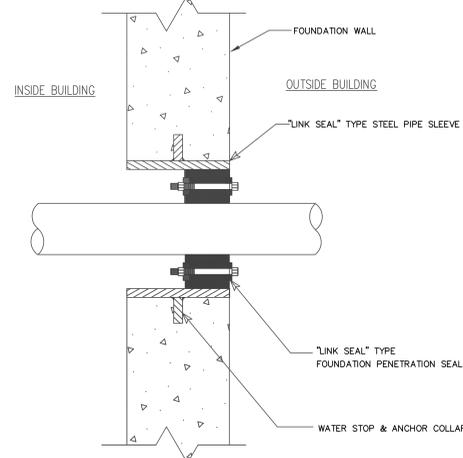


CONDUIT PENETRATION DETAIL

N.T.S.

NOTES:

- FOR SLEEVE DIAMETER USE MANUFACTURER'S SIZE RECOMMENDATION.
- FIRESTOPPING OF CONDUIT PENETRATIONS SHALL UTILIZE THE APPROVED UL STANDARD FOR THE SPECIFIC WALL/FLOOR/CEILING TYPES AND RATINGS.

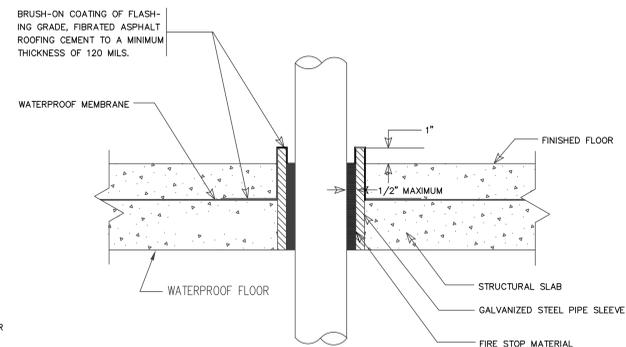


CONDUIT PENETRATION DETAIL

N.T.S.

NOTES:

- THIS DETAIL IS APPLICABLE WHERE CONDUITS PENETRATE A WATERPROOF SLAB, EG. TOILETS, BATHROOMS, KITCHENS JANITORS CLOSET, ETC.
- FIRESTOPPING OF CONDUIT PENETRATIONS SHALL UTILIZE THE APPROVED UL STANDARD FOR THE SPECIFIC WALL/FLOOR/CEILING TYPES AND RATINGS.



CONDUIT PENETRATION DETAIL

N.T.S.



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Woodsboro, New Jersey 08043
18561-427-5020

211 Atlantic Avenue
Atlantic City, New Jersey 08401
18561-427-5020

3020 Market Street, Suite 103
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Anthony H. Caucci
Professional Engineer
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**Boardwalk Hall
Switch Gear
Replacement**

2301 Boardwalk
Atlantic City, NJ

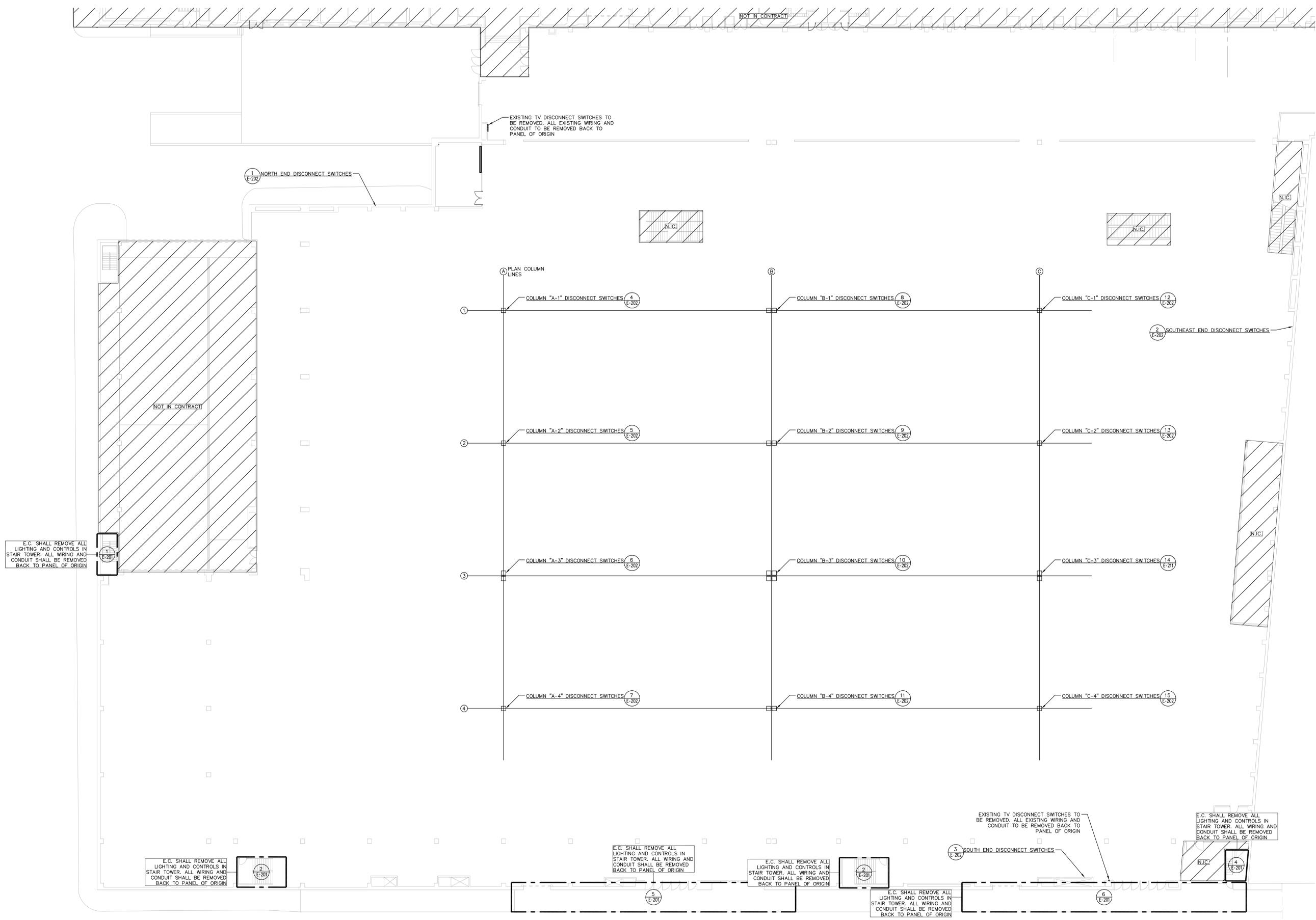
1/3/20	ISSUED FOR BID
REV. DATE	DESCRIPTION
SCALE N.T.S.	PROJECT NO. BC17453

DWG. NAME

**ELECTRICAL
SITE
PLAN**

DATE 01/3/20
DRAWN BY ZRT
CHECKED BY ET

EC-003



ELECTRICAL DEMOLITION PLAN – WEST HALL EVENT LEVEL
 NOT TO SCALE



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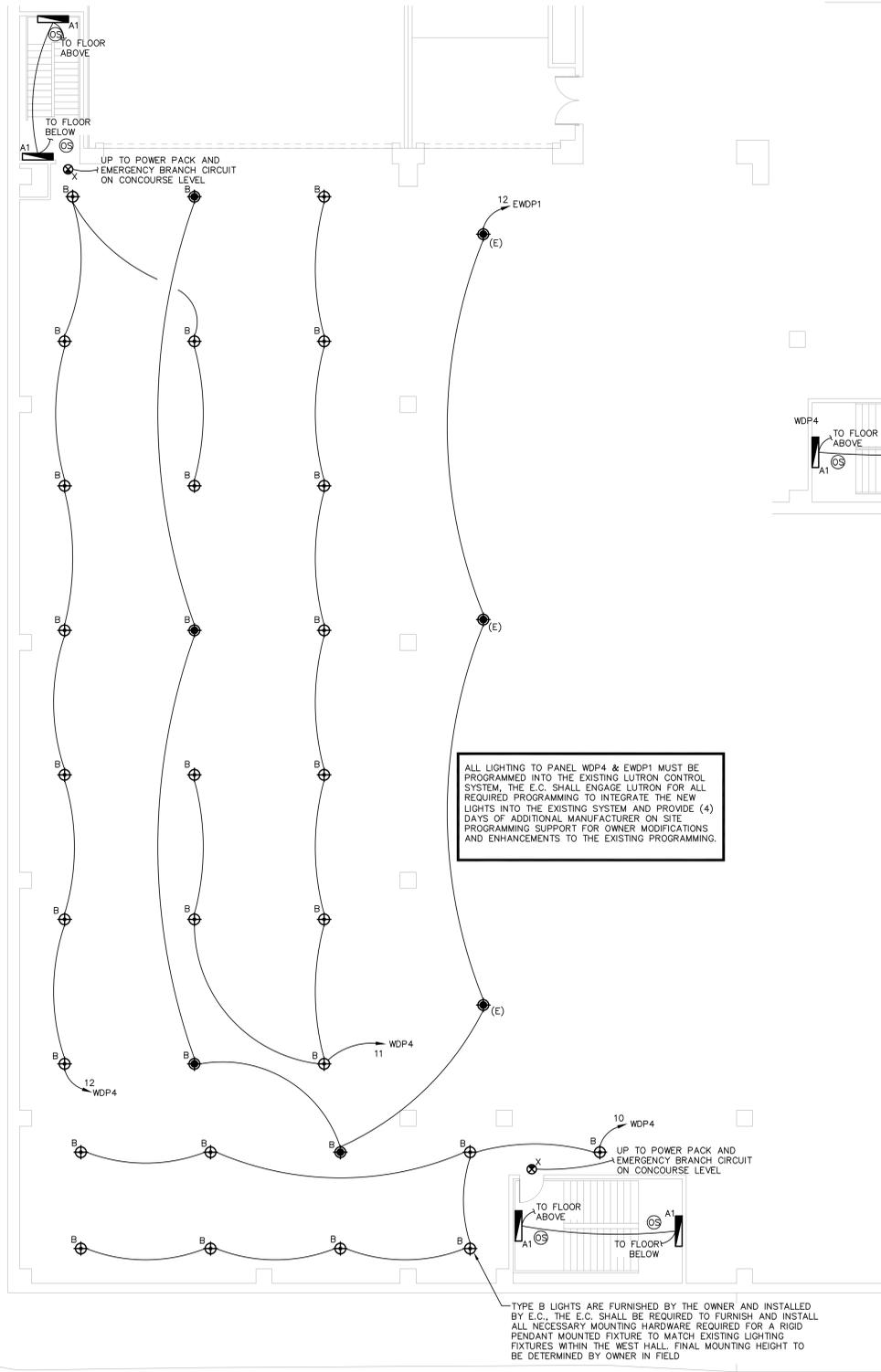
**Boardwalk Hall
 Switch Gear
 Replacement**
 2301 Boardwalk
 Atlantic City, NJ

REV.	DATE	DESCRIPTION
1/3/20		ISSUED FOR BID
SCALE N.T.S.		PROJECT NO. BC17453

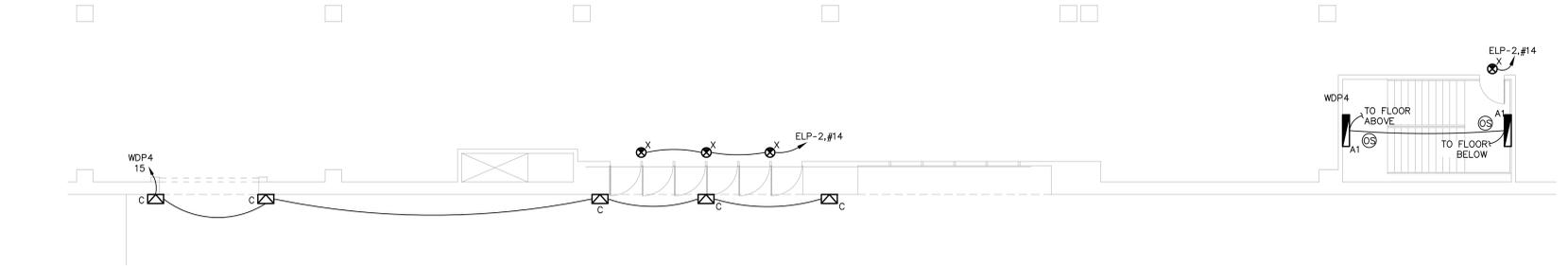
DWG. NAME
**ELECTRICAL
 EVENT
 LEVEL
 DEMOLITION PLAN**

DATE: 01/3/20
 DRAWN BY: ZRT
 CHECKED BY: ET

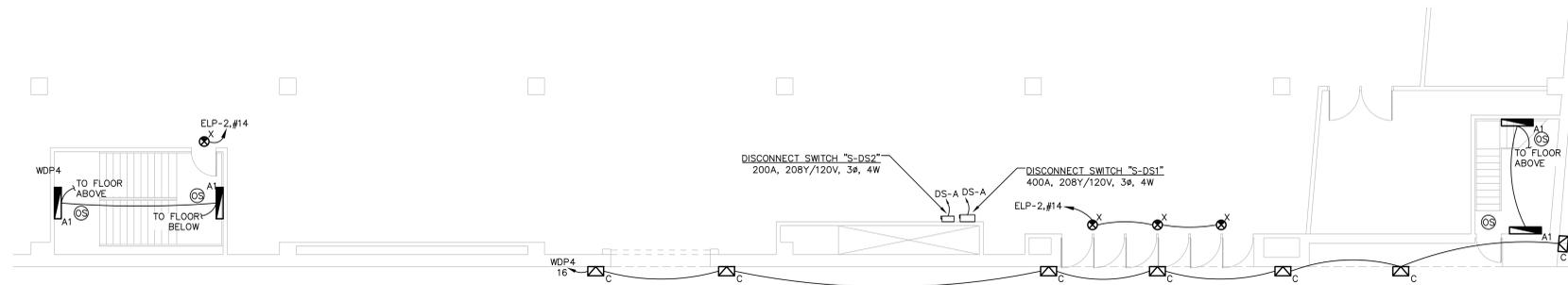
E-200



6
E-202 1/8"=1'-0"



6
E-202 1/8"=1'-0"



6
E-202 1/8"=1'-0"

ALL LIGHTING TO PANEL WDP4 & EWP1 MUST BE PROGRAMMED INTO THE EXISTING LUTRON CONTROL SYSTEM. THE E.C. SHALL ENGAGE LUTRON FOR ALL REQUIRED PROGRAMMING TO INTEGRATE THE NEW LIGHTS INTO THE EXISTING SYSTEM AND PROVIDE (4) DAYS OF ADDITIONAL MANUFACTURER ON SITE PROGRAMMING SUPPORT FOR OWNER MODIFICATIONS AND ENHANCEMENTS TO THE EXISTING PROGRAMMING.

CONCORD ENGINEERING

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18561-427-0020

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Anthony H. Caucci
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**Boardwalk Hall
Switch Gear
Replacement**

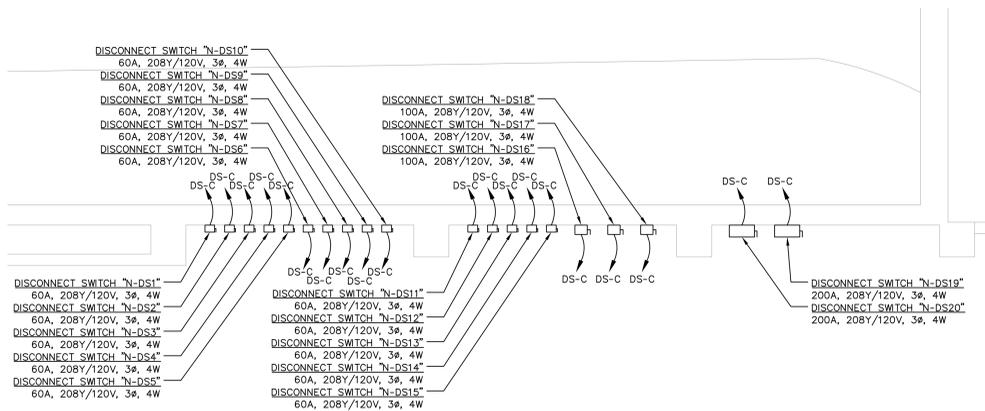
2301 Boardwalk
Atlantic City, NJ

1/3/20	ISSUED FOR BID	
REV.	DATE	DESCRIPTION
SCALE	N.T.S.	PROJECT NO. BC17453

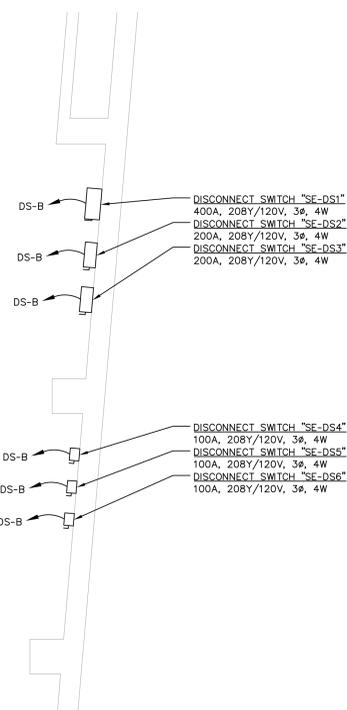
DWG. NAME
**ELECTRICAL
EVENT
LEVEL
NEW WORK
LIGHTING PLAN**

DATE: 01/3/20
DRAWN BY: ZRT
CHECKED BY: ET

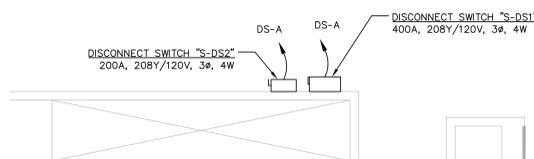
E-203



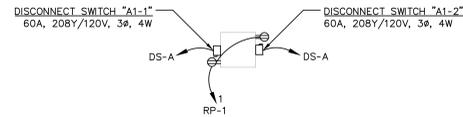
1 WEST HALL DISCONNECT SWITCHES-NORTH END
E-204 1/4"=1'-0"



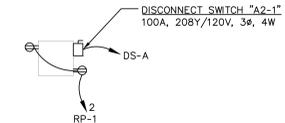
2 WEST HALL DISCONNECT SWITCHES-SOUTHEAST END
E-204 1/4"=1'-0"



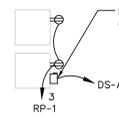
3 WEST HALL DISCONNECT SWITCHES-SOUTH END
E-204 1/4"=1'-0"



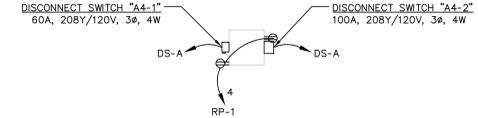
4 WEST HALL DISCONNECT SWITCHES-COLUMN A-1
E-204 1/4"=1'-0"



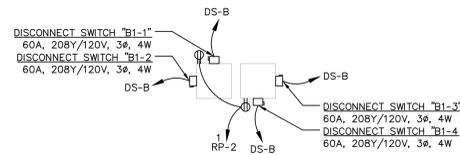
5 WEST HALL DISCONNECT SWITCHES-COLUMN A-2
E-204 1/4"=1'-0"



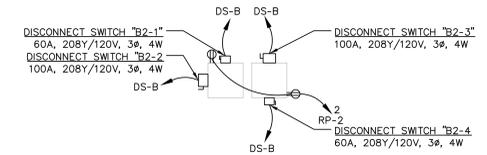
6 WEST HALL DISCONNECT SWITCHES-COLUMN A-3
E-204 1/4"=1'-0"



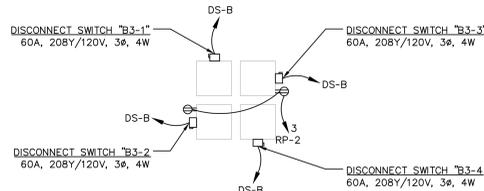
7 WEST HALL DISCONNECT SWITCHES-COLUMN A-4
E-204 1/4"=1'-0"



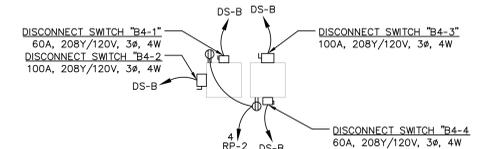
8 WEST HALL DISCONNECT SWITCHES-COLUMN B-1
E-204 1/4"=1'-0"



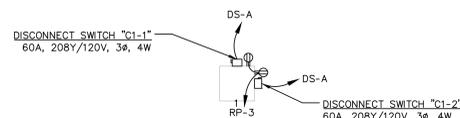
9 WEST HALL DISCONNECT SWITCHES-COLUMN B-2
E-204 1/4"=1'-0"



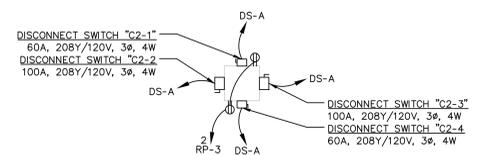
10 WEST HALL DISCONNECT SWITCHES-COLUMN B-3
E-204 1/4"=1'-0"



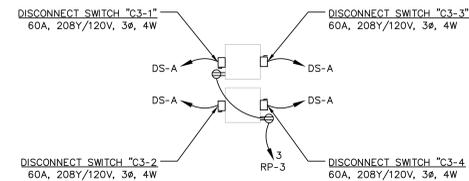
11 WEST HALL DISCONNECT SWITCHES-COLUMN B-4
E-204 1/4"=1'-0"



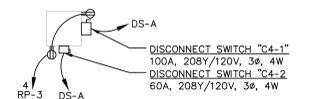
12 WEST HALL DISCONNECT SWITCHES-COLUMN C-1
E-204 1/4"=1'-0"



13 WEST HALL DISCONNECT SWITCHES-COLUMN C-2
E-204 1/4"=1'-0"



14 WEST HALL DISCONNECT SWITCHES-COLUMN C-3
E-204 1/4"=1'-0"



15 WEST HALL DISCONNECT SWITCHES-COLUMN C-4
E-204 1/4"=1'-0"



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(215) 381-1011
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Woodbury, New Jersey 08043
(856) 427-0020

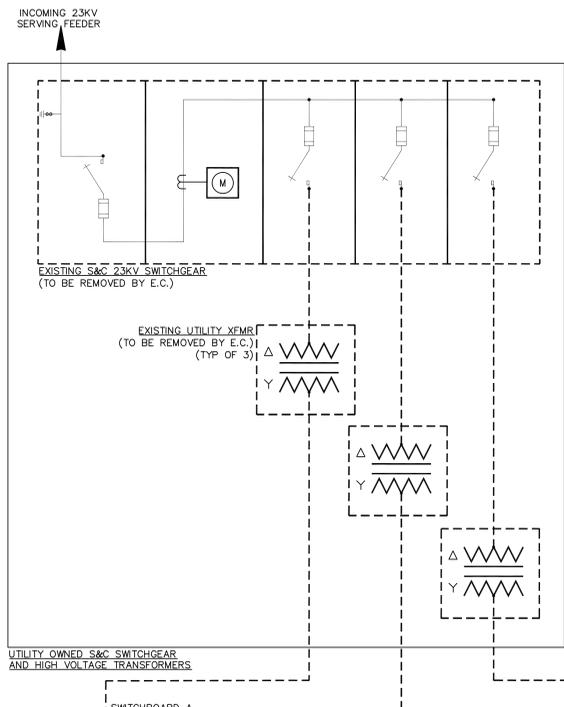
Boardwalk Hall
Switch Gear
Replacement

Anthony H. Caucci
Professional Engineer
New Jersey Lic. # 44506

1/3/20	ISSUED FOR BID
REV.	DATE DESCRIPTION
SCALE	N.T.S.
	PROJECT NO. BC17453

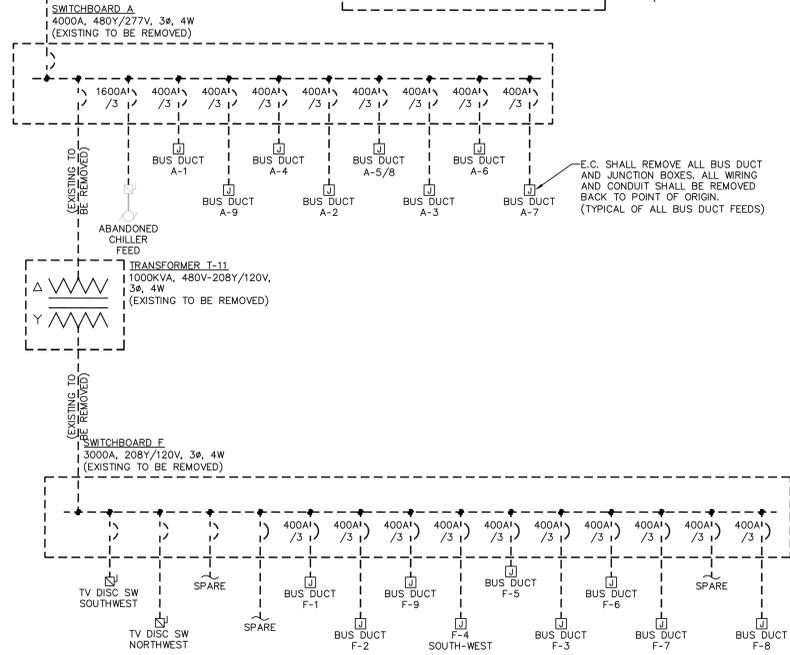
DWG. NAME
ELECTRICAL
EVENT
LEVEL
NEW WORK
POWER PLAN

DATE 01/3/20
DRAWN BY ZRT
CHECKED BY ET
E-204

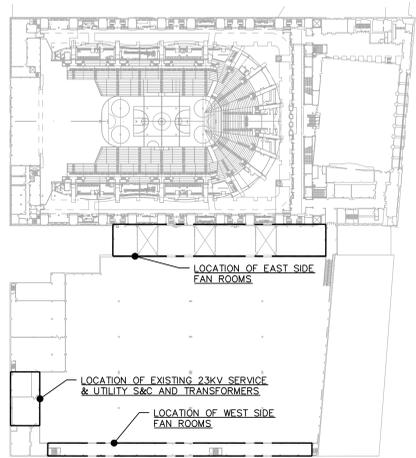


UTILITY OWNED S&C SWITCHGEAR AND HIGH VOLTAGE TRANSFORMERS

EXISTING 4000A BUS DUCT FROM UTILITY TRANSFORMERS TO OWNER SWITCHGEAR TO BE REMOVED, E.C. TO PATCH AND REPAIR ALL WALL PENETRATIONS. (TYPICAL OF ALL BUS DUCT FEEDS)



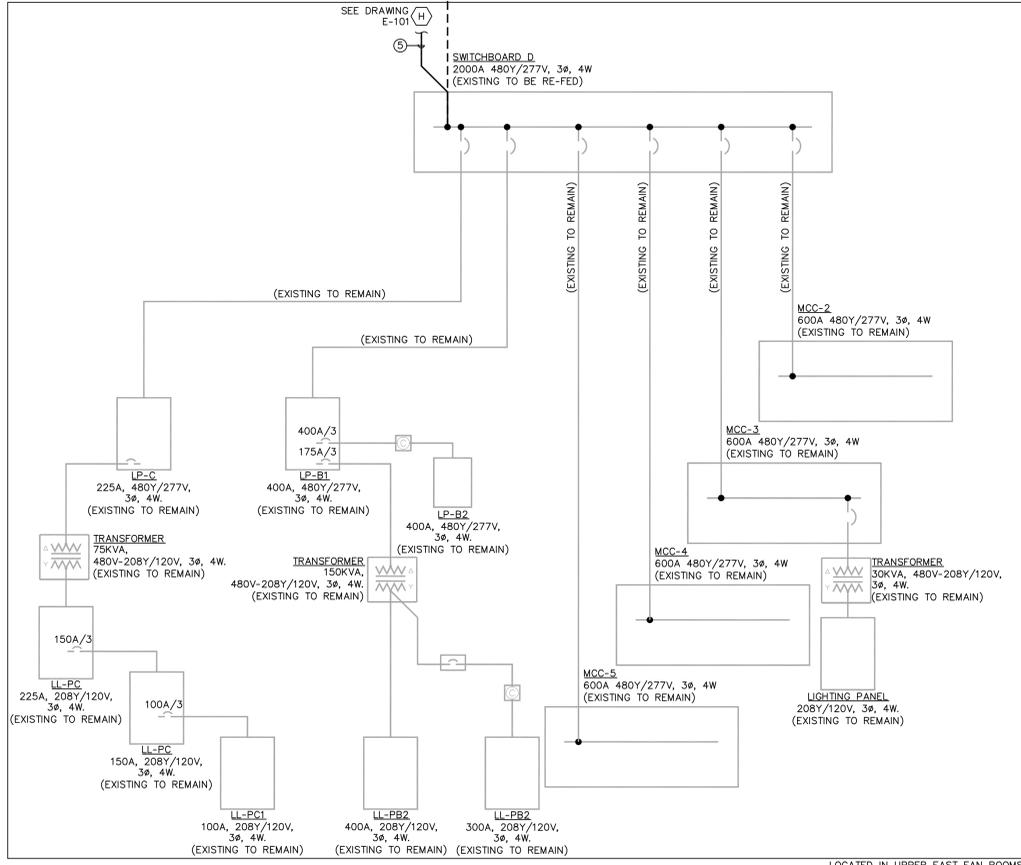
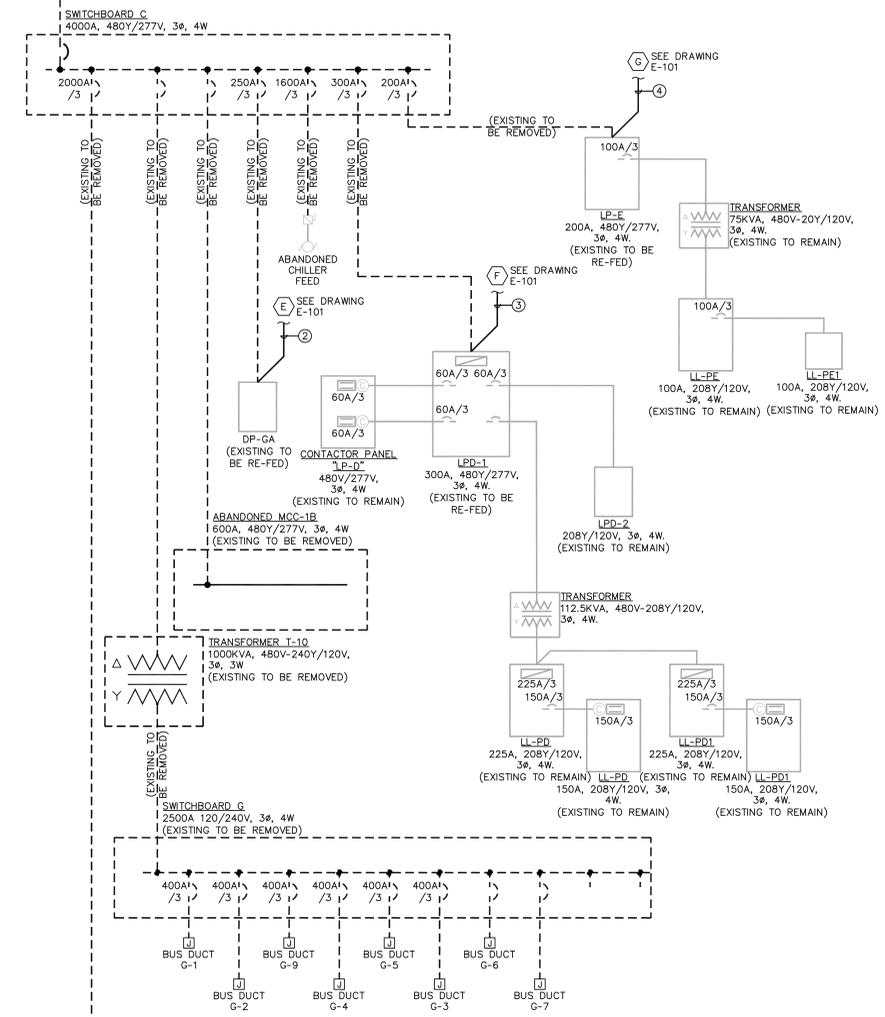
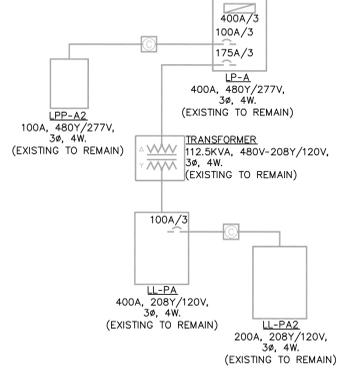
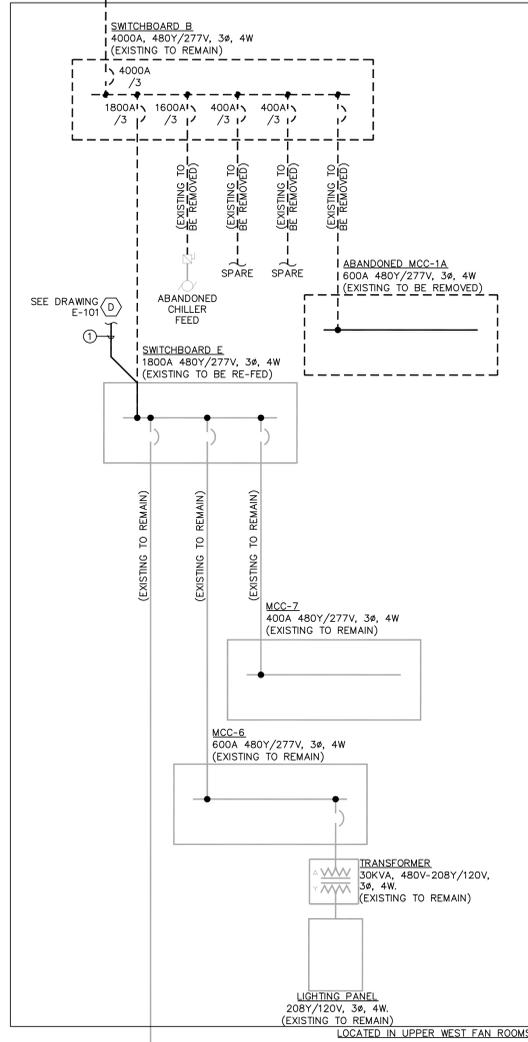
E.C. SHALL REMOVE ALL BUS DUCT AND JUNCTION BOXES. ALL WIRING AND CONDUIT SHALL BE REMOVED BACK TO POINT OF ORIGIN. (TYPICAL OF ALL BUS DUCT FEEDS)



ELECTRICAL KEY PLAN
N.T.S.

WIRE SIZING CHART

- ① = (5) PARALLEL SETS OF: (4)#500 CU & (1)#1/0 GRD IN 3" C.
- ② = (4)#250 CU & (1)#2 GRD IN 2-1/2" C.
- ③ = (4)#350 CU & (1)#2 GRD IN 2-1/2" C.
- ④ = (4)#3/0 CU & (1)#4 GRD IN 2" C.
- ⑤ = (5) PARALLEL SETS OF: (4)#600 CU & (1)#1/0 GRD IN 3" C.



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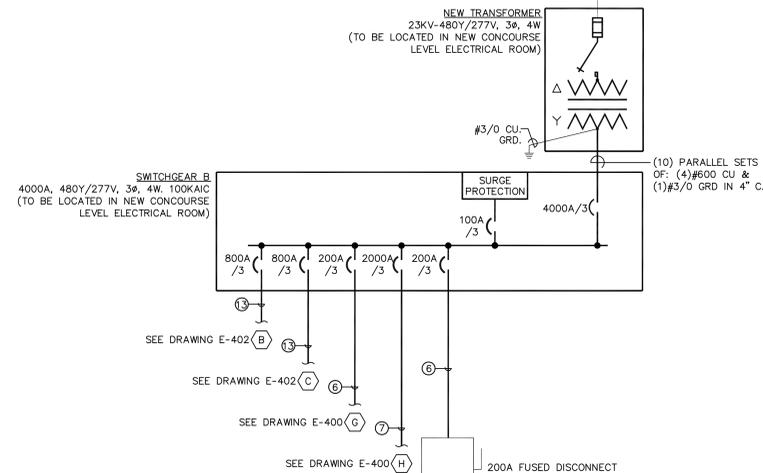
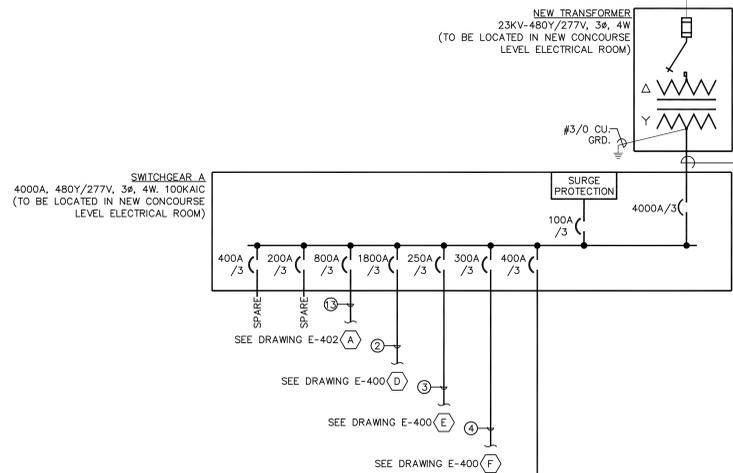
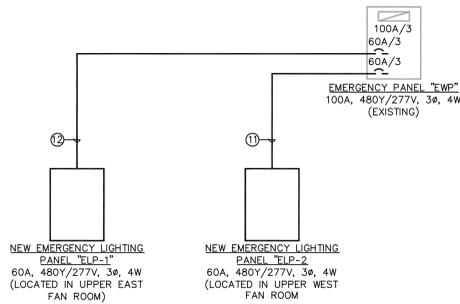
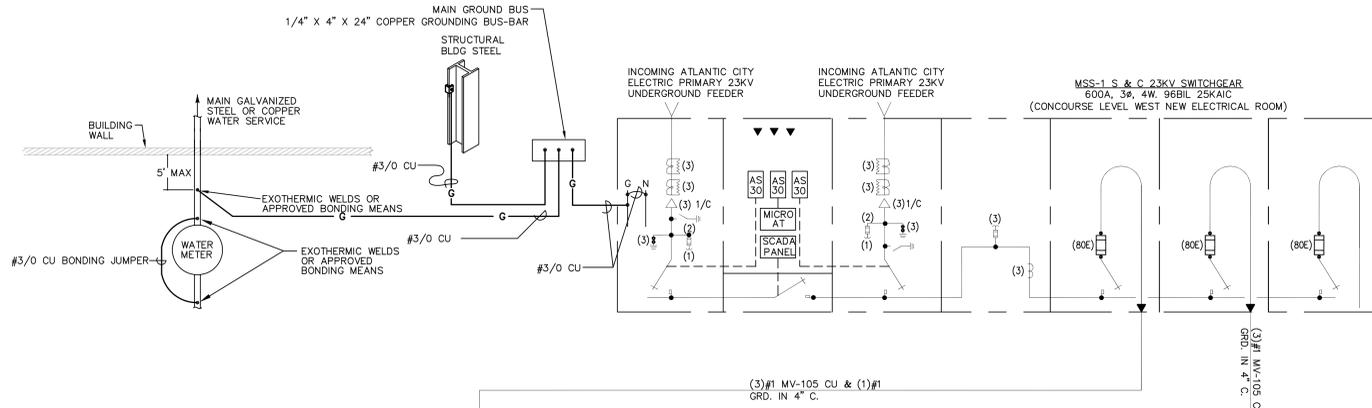
Anthony H. Caicedo
Professional Engineer
New Jersey Lic. # 44656

**Boardwalk Hall
Switch Gear
Replacement**
2301 Boardwalk
Atlantic City, NJ

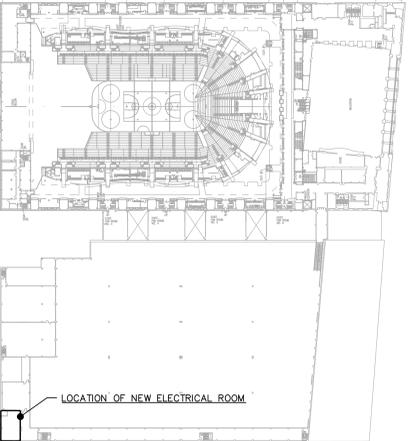
1/3/20	ISSUED FOR BID
REV. DATE	DESCRIPTION
SCALE N.T.S.	PROJECT NO. BC17453

DWG. NAME
**ELECTRICAL
SINGLE LINE
EXISTING
CONDITIONS**

DATE 01/3/20
DRAWN BY ZRT
CHECKED BY ET
E-400



- WIRE SIZING CHART**
- ① = (3) PARALLEL SETS OF: (4)#600 CU & (1)#1/0 GRD IN 3" C.
 - ② = (5) PARALLEL SETS OF: (4)#500 CU & (1)#1/0 GRD IN 3" C.
 - ③ = (4)#250 CU & (1)#2 GRD IN 2-1/2" C.
 - ④ = (4)#350 CU & (1)#2 GRD IN 2-1/2" C.
 - ⑤ = (4) PARALLEL SETS OF: (4)#600 CU & (1)#1/0 GRD IN 3" C.
 - ⑥ = (4)#3/0 CU & (1)#4 GRD IN 2" C.
 - ⑦ = (5) PARALLEL SETS OF: (4)#600 CU & (1)#1/0 GRD IN 3" C.
 - ⑧ = (4)#600 CU & (1)#1/0 GRD IN 3" C.
 - ⑨ = (4)#4 CU & (1)#8 GRD IN 1" C.
 - ⑩ = (4)#1 CU & (1)#6 GRD IN 1-1/4" C.
 - ⑪ = (4)#2 CU & (1)#8 GRD IN 1-1/4" C.
 - ⑫ = (4)#6 CU & (1)#8 GRD IN 3/4" C.
 - ⑬ = (2) PARALLEL SETS OF: (4)#600 CU & (1)#1/0 GRD IN 3" C.



ELECTRICAL KEY PLAN
N.T.S.

CONCORD ENGINEERING

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1856-427-0200

Anthony H. Caucci
Professional Engineer
New Jersey Lic. # 44506

**Boardwalk Hall
Switch Gear
Replacement**

2301 Boardwalk
Atlantic City, NJ

REV.	DATE	DESCRIPTION
1/3/20	ISSUED FOR BID	
SCALE	N.T.S.	PROJECT NO. BC17453

DWG. NAME
**ELECTRICAL
NEW WORK
SINGLE LINE**

DATE: 01/3/20
DRAWN BY: ZRT
CHECKED BY: ET

E-401

FIRE ALARM GENERAL NOTES

1. ALL ELECTRICAL WORK TO BE INSTALLED IN ACCORDANCE WITH THE 2014 EDITION OF THE NATIONAL ELECTRICAL CODE ADOPTED BY THE UNIFORM CONSTRUCTION CODE - STATE OF NEW JERSEY AND ANY OTHER PARTY HAVING JURISDICTION.
2. THE FIRE ALARM SYSTEM SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODE REQUIREMENTS AND ANY OTHER PARTY HAVING JURISDICTION.
3. ALL ELECTRICAL AND EQUIPMENT FOR THE PROJECT SHALL BE NEW AND APPROVED BY UNDERWRITERS LABORATORY (U.L.) OR ANY OTHER NATIONALLY RECOGNIZED TESTING AGENCY UNLESS NOTED OTHERWISE ON DRAWINGS.
4. ALL NECESSARY PERMITS, INSPECTIONS, AND LICENSES SHALL BE PROCURED AND ALL FEES PAID BY THE CONTRACTOR. SUBMIT TO THE OWNER DUPLICATE CERTIFICATES OF INSPECTION FROM THE APPROVED INSPECTION AGENCY.
5. UPON COMPLETION OF THE WORK, THE ENTIRE WIRING SYSTEM SHALL BE FREE FROM GROUNDS, SHORT CIRCUITS, OPENS, OVERLOADS AND IMPROPER VOLTAGES.
6. PRIOR TO FINAL ACCEPTANCE OF THE WORK, A WRITTEN STATEMENT SHALL BE SUBMITTED TO THE OWNER GUARANTEEING ALL EQUIPMENT AND SYSTEMS AGAINST DEFECTIVE MATERIAL AND WORKMANSHIP FOR ONE (1) YEAR FROM THE DATE OF ACCEPTANCE. UPON NOTICE ALL DEFECTIVE EQUIPMENT, MATERIALS AND SYSTEMS SHALL BE PROMPTLY REPAIRED AT NO EXPENSE TO THE OWNER.
7. THIS SET OF DRAWINGS IS DIAGRAMMATIC IN NATURE AND INDICATES THE GENERAL ARRANGEMENT OF THE SYSTEM AND APPROXIMATE LOCATIONS OF THE EQUIPMENT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THAT THERE IS ADEQUATE SPACE AT THE LOCATIONS INDICATED FOR ALL EQUIPMENT PRIOR TO INSTALLATION OF SAME. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL DIMENSIONS IN THE FIELD, PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
8. FIRE ALARM CONTRACTOR SHALL SECURE SHOP DRAWINGS FROM OTHER CONTRACTORS AND VERIFY EXACT ELECTRICAL CHARACTERISTICS OF EQUIPMENT TO BE WIRED PRIOR TO ROUGH-IN. IF DISCREPANCIES ARE NOTED BETWEEN THE FIRE ALARM CONTRACT DRAWINGS AND OTHER CONTRACTOR SHOP DRAWINGS, FIRE ALARM CONTRACTOR IS TO NOTIFY ENGINEER AT ONCE. FAILURE TO PERFORM THIS DUTY WILL NOT RELIEVE THE FIRE ALARM CONTRACTOR OF THE RESPONSIBILITY TO CORRECT WIRING DEFICIENCIES AT NO EXPENSE TO THE OWNER.
9. ALL DEVICES OR EQUIPMENT SHOWN IN SYMBOL FORM SHALL BE WIRED TO ITS RESPECTIVE PANEL.
10. ALL WIRING, CONNECTIONS AND DEVICES SHALL BE PROVIDED TO COMPLY WITH THE GROUNDING REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND THE DRAWINGS UNLESS NOTED OTHERWISE. ALL EXPOSED NON-CURRENT CARRYING ELECTRICAL EQUIPMENT METALLIC PARTS, RACEWAY SYSTEMS AND WIRING SYSTEM GROUNDING CONDUCTORS SYSTEM SHALL BE GROUNDED.
11. THE ELECTRICAL CONTRACTOR SHALL PAINT RED IN COLOR ALL JUNCTION BOXES AND CONDUIT ASSOCIATED WITH THE FIRE ALARM SYSTEM. LABEL WITH PERMANENT MARKER ALL JUNCTION BOXES AND OUTLET BOXES WITH CIRCUIT NUMBER, PANEL IDENTIFICATION OR ADDRESS AS REQUIRED.
12. ALL CUTTING AND PATCHING REQUIRED FOR THE FIRE ALARM WORK SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM CONTRACTOR.
13. ALL HOLES OR VOIDS CREATED TO ROUTE CONDUIT THROUGH FIRE RATED FLOORS AND WALLS SHALL BE SEALED WITH AN INTUMESCENT MATERIAL CAPABLE OF EXPANDING UP TO 8 TO 10 TIMES WHEN EXPOSED TO A TEMPERATURE OF 250 DEGREES FAHRENHEIT AND ABOVE. ACCEPTABLE SEALING MATERIALS SUCH AS 3M FIRE BARRIER CAULK, PUTTY, STRIP AND SHEET FORM SHALL HAVE I.C.B.O. AND BOCA APPROVED RATING OF 3 HOURS PER ASTM E-814 (U.L. 1479) AS PER NEC ART. 300-21.
14. A COMPLETE SET OF "AS-BUILT" DRAWINGS, (1) SET IN HARD COPY REPRODUCIBLE AND (1) SET OF ELECTRONIC FILES PRODUCED IN AUTOCAD FORMAT RELEASE 14 (MIN.) SHALL BE FURNISHED TO THE OWNER AND ENGINEER UPON PROJECT COMPLETION.
15. ALL EQUIPMENT, DEVICES AND CIRCUITS SHALL BE LABELED ACCORDING TO OWNER REQUIREMENTS.
16. PRIOR TO CONNECTING ANY NEW LOADS TO EXISTING PANEL BOARDS, THE FIRE ALARM CONTRACTOR SHALL VERIFY THE NEW LOADS PLUS THE EXISTING LOADS DO NOT EXCEED THOSE ALLOWED BY THE N.E.C.
17. ADDITIONAL BREAKERS FOR EXISTING PANEL BOARDS SHALL BE OF THE SAME MANUFACTURER AND TYPE, WITH AN EQUAL OR GREATER SHORT CIRCUIT RATING. BREAKERS FOR FIRE ALARM DEVICES SHALL HAVE A "LOCK-ON" FEATURE.
18. SYSTEM CABLE LOCATED ABOVE ACCESSIBLE CEILINGS SHALL BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE. CABLES SHALL NOT BE LAID ON CEILING PANELS.
19. ALL WIRING AND EQUIPMENT INSTALLED IN DUCTS, PLENUMS AND OTHER AIR HANDLING SPACES TO CONFORM TO NEC, ARTICLE 300-22.
20. DO NOT INSTALL ANY A.C. CURRENT CARRYING CONDUCTORS CLOSE TO OR IN THE SAME RACEWAY WITH FIRE ALARM SYSTEM CONDUCTORS.
21. THE FIRE ALARM CONTRACTOR SHALL ASSURE THAT ANY FIRE ALARM DEVICE OR PRODUCT WHICH IS TO BE RELOCATED OR REUSED IS IN PROPER WORKING CONDITION IN ACCORDANCE WITH INSTRUCTIONS INCLUDED IN ITS LISTING OR LABELING. ANY DEVICE OR PRODUCT FOUND TO BE DEFECTIVE OR DAMAGED SHALL BE REPLACED WITH NEW.
22. DETECTORS SHALL NOT BE INSTALLED UNTIL AFTER THE CONSTRUCTION CLEAN-UP IS COMPLETE AND FINAL. DETECTORS THAT HAVE BEEN INSTALLED PRIOR TO FINAL CLEAN-UP BY ALL TRADES SHALL BE CLEANED OR REPLACED.
23. THE FIRE ALARM SYSTEM SHALL NOT EXCEED 70% OF ITS RATED CAPACITY.
24. ALLOW FOR MINIMUM OF 50% EXPANSION OF THE FIRE ALARM SYSTEM.
25. SUBMIT FIRE ALARM SYSTEM SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL.
26. ALL FIRE ALARM CABLING SHALL BE "FPLP" RATED OR RUN IN A MINIMUM 3/4" CONDUIT.
27. ALL NEW, RELOCATED AND EXISTING TO REMAIN FIRE ALARM DEVICES THAT ARE WITHIN THE LIMITS OF THIS PROJECT SHALL BE IDENTIFIED ON THE UPDATED FIRE ALARM GRAPHICS.
28. CONTRACTOR SHALL PREPARE SHOP DRAWINGS, AT HIS OWN EXPENSE, SIGNED AND SEALED BY A QUALIFIED ENGINEER LICENSED IN THE STATE OF NEW JERSEY. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW TO THE ENGINEER AND APPROVING AUTHORITIES PRIOR TO PERFORMANCE.

FIRE ALARM LEGEND

-  HOME RUN ARROW INDICATES PANEL AND CIRCUIT NUMBER
-  FIRE ALARM MANUAL PULL STATION
-  FIRE ALARM COMBINATION AUDIBLE/STROBE
-  FIRE ALARM STROBE
-  TAMPER SWITCH
-  SMOKE DETECTOR - IONIZING
-  SMOKE DETECTOR - PHOTO ELECTRIC
-  CONTROL OUTPUT MODULE
-  ADDRESSABLE INPUT MODULE
-  TRANSIENT VOLTAGE SURGE SUPPRESSOR
-  FIRE ALARM CONTROL PANEL
-  WIRE GUARD
-  WEATHER PROOF

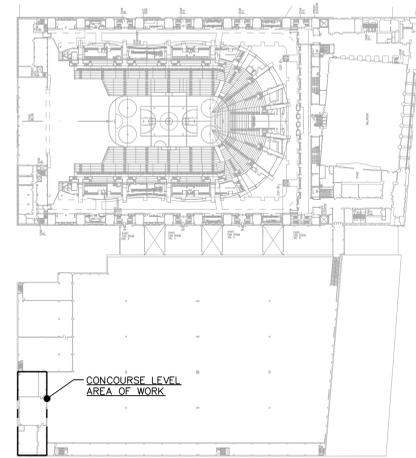
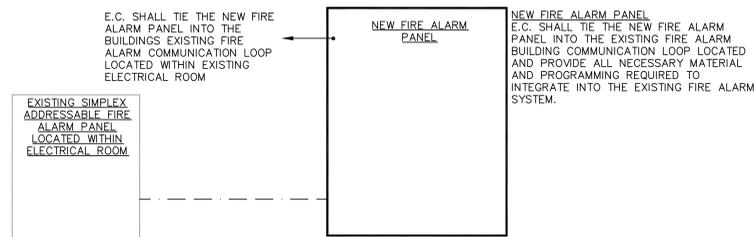
PREACTION SYSTEM SEQUENCE OF OPERATION

SINGLE INTERLOCK SEQUENCE OF OPERATION:

1. DETECTORS AND CONTROL PANEL SHALL BE WIRED FOR CROSS-ZONE OPERATION.
2. UPON ACTIVATION OF ONE ZONE DETECTOR, THE SYSTEM SHALL SOUND A LOCAL PANEL TROUBLE ALARM AND SEND A SUPERVISORY ALARM TO THE BUILDING FIRE ALARM CONTROL PANEL (FACP).
3. UPON ACTIVATION OF ANOTHER DETECTOR IN THE CROSS ZONE, THE SYSTEM SHALL GO INTO FULL ALARM CONDITION. THE FILL SOLENOID SHALL ENERGIZE ALLOWING THE SYSTEM TO FILL WITH WATER. A LOCAL ALARM SHALL SOUND ALONG WITH AN ALARM SIGNAL SENT BACK TO THE FACP TO SOUND THE BUILDING GENERAL ALARM.
4. IF FIRE IS PRESENT, WATER WILL RELEASE INTO THE AREA WHEN A LINK IS FUSED.
5. A MANUAL PULL STATION IN THE PREACTION SYSTEM AREA WILL PUT THE PANEL INTO A FULL ALARM CONDITION AS DESCRIBED IN ITEM #3.
6. IN THE EVENT OF A PIPE LEAK OR HEAD BREAKAGE, AIR WILL BE RELEASED FROM THE SYSTEM AND A SUPERVISORY ALARM CONDITION WILL RESULT. WATER WILL NOT RELEASE INTO THE SYSTEM.
7. THE SYSTEM WILL ALSO REPORT AND MECHANICAL OR ELECTRICAL SUPERVISORY OR TROUBLE CONDITIONS BACK TO THE FACP.

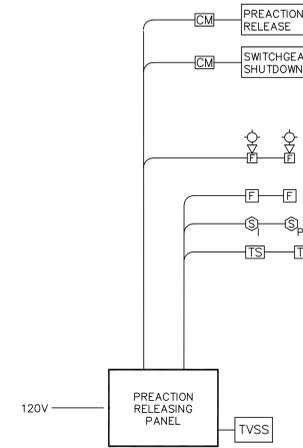
NOTE:

DETECTOR LAYOUT IS DIAGRAMMATIC ONLY. ACTUAL LOCATION AND SPACING SHALL COMPLY WITH MANUFACTURER'S REQUIREMENTS AND NFPA 72.



FIRE ALARM KEY PLAN

N.T.S.



FIRE ALARM RISER DIAGRAM

SCALE : NONE



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509 South Burrill Hill Road
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Boardwalk Hall Switch Gear Replacement

2301 Boardwalk
 Atlantic City, NJ

	1/3/20	ISSUED FOR BID
REV.	DATE	DESCRIPTION
SCALE	N.T.S.	PROJECT NO. 8C17453

DWG. NAME

FIRE ALARM SHEET SPECIFICATIONS

DATE: 01/3/20
 DRAWN BY: DHB
 CHECKED BY: ET
FA-000

FIRE PROTECTION NOTES

- THESE DRAWINGS ARE INTENDED TO SHOW APPROXIMATE AND RELATIVE LOCATIONS OF MATERIALS AND EQUIPMENT. DRAWINGS SHALL NOT BE SCALED TO DETERMINE EXACT POSITIONS AND CLEARANCES. BECAUSE OF DIAGRAMMATIC LAYOUT AND SMALL SCALE OF DRAWINGS, NOT ALL RISES, DROPS, OFFSETS AND RELATED SPECIALTIES ARE INDICATED. PROVIDE ALL SUCH PIPING, FITTINGS, VALVES AND SPECIALTIES REQUIRED IN SUCH CASES TO INSURE A COMPLETE AND PROPERLY OPERATING INSTALLATION IN ACCORDANCE WITH CODES AND WITHOUT EXTRA COST TO OWNER.
- THE ENTIRE FIRE SPRINKLER SYSTEM INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD INSTALLATION PRACTICES OF NFPA 13 - 2015 EDITION.
- CONTRACTOR SHALL PROVIDE AND PAY ALL FEES AND PERMITS.
- CONTRACTOR SHALL VISIT THE JOB SITE AND OBSERVE ALL EXISTING CONDITIONS.
- FURNISH AND INSTALL PIPE, SPRINKLER HEADS, EQUIPMENT, ETC., REQUIRED FOR THE PROPER FUNCTIONING OF THE WORK INDICATED ON THE PLAN.
- ALL WORK DONE AND ALL EQUIPMENT AND MATERIALS USED AND ALL TESTS SHALL BE DONE TO MEET THE APPROVAL OF THE INSURER AS WELL AS LOCAL AUTHORITIES HAVING JURISDICTION.
- ALL PIPING TO BE SCH 40 BLACK STEEL WITH SREWED OR FLANGED JOINTS; ALL FITTINGS TO BE CAST IRON-175 PSI W.W.P. APPROVED TYPE. ALL PREACTION SYSTEM PIPING TO BE GALVANIZED.
- FOR SREWED JOINTS, APPLY NON-CORROSIVE, NON-HARDENING TEFLON TAPE OR SUITABLE COMPOUND TO MALE THREADS ONLY. CAULKING AND PACKING OF THREADS IS PROHIBITED.
- PIPE SHALL BE SUPPORTED IN ACCORDANCE WITH MSS-SP-58, CLASS B, U.L. LISTED. HANGERS SHALL BE FEE AND MASON, GRINNELL, CRANE, WITCH.
- CONTRACTOR SHALL PREPARE SHOP DRAWINGS AND HYDRAULIC CALCULATION, AT HIS OWN EXPENSE, SIGNED AND SEALED BY A QUALIFIED ENGINEER LICENSED IN THE STATE OF NEW JERSEY. CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW TO THE ENGINEER AND APPROVING AUTHORITIES PRIOR TO PERFORMANCE OF ANY WORK.
- ALL WORK SHALL BE INSPECTED BY THE INSURER AND ANY LOCAL AUTHORITIES HAVING JURISDICTION. CERTIFIED COPIES OF THESE APPROVALS SHALL BE DELIVERED TO THE OWNER BEFORE FINAL PAYMENT. ALL TESTS SHALL BE WITNESSED BY OWNER'S REPRESENTATIVE.
- NEW SPRINKLER HEADS SHALL BE AS INDICATED:
UPRIGHT: VIKING VK100
ALL SPRINKLERS ARE TO BE U.L. LISTED AND/OR F.M. APPROVED.
- IT IS THE INTENT THAT ALL EXISTING PIPING, DUCTWORK AND OTHER EQUIPMENT AND MATERIALS THAT INTERFERE WITH THE ALTERED EXISTING BUILDING ARRANGEMENTS AND NEW SYSTEMS BE REMOVED, RELOCATED, REROUTED OR ABANDONED. THE DRAWINGS "GENERALLY" INDICATE LOCATIONS OF MAJOR ITEMS OR EXISTING EQUIPMENT.
- THE CONTRACTOR MUST SURVEY AND VERIFY LOCATIONS AND PHYSICAL SIZES OF ALL EXISTING ITEMS AND DETERMINE WHETHER RELOCATION OR REROUTING WILL BE REQUIRED. IF RELOCATION OR REROUTING IS REQUIRED, INCLUDING ALL THAT OF ALL RELATED ACCESSORIES, SPECIALTIES AND OTHER MINOR ITEMS, THE CONTRACTOR SHALL INCLUDE ALL NECESSARY WORK AS PART OF HIS CONTRACT AND IT SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
- SHOULD A CONTRACTOR REQUIRE REMOVAL, RELOCATION OR REROUTING OF ANOTHER TRADE'S WORK THAT IS NOT INDICATED ON DRAWINGS, THE CONTRACTOR REQUIRING SUCH WORK SHALL BE RESPONSIBLE FOR THAT WORK, AND PAY ALL REQUIRED COSTS.
- WORK SHALL BE PERFORMED BY MECHANICS SKILLED IN PARTICULAR TRADE INVOLVED, THAT IS, PLUMBING WORK SHALL BE PERFORMED BY PLUMBERS, ELECTRICAL WORK SHALL BE PERFORMED BY ELECTRICIANS, MECHANICAL WORKED PERFORMED BY STEAM FITTERS AND SHEET METAL MECHANICS.
- COREDRELLING SHALL BE ACCOMPLISHED BY MECHANICAL MEANS IN A MANNER THAT WILL NOT AFFECT THE INTEGRITY OF THE STRUCTURE. AFTER INSTALLATION OF PIPING THRU THE COREDRILL, PACK THE ANNULAR SPACE WITH OAKUM OR FIBROUS GLASS, LEAVING A MINIMUM OF TWO INCHES AT EACH END TO BE FILLED AND FINISHED WITH A "FIRE BARRIER" MATERIAL EQUAL TO 3M "PENETRATION SEALING SYSTEMS" SUCH AS "CP-25 CAULK", "303 PUTTY" OR "FS-195 WRAP". APPLICATION OF "FIRE BARRIER" MATERIAL SHALL BE IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND APPLICABLE CODES.
- CONNECTION TO EXIST MAIN: A VITACUAL MECHANICAL-T STYLE 920, GROOVED ENDS WILL BE ALLOWED FOR CONNECTION TO EXISTING SPRINKLER MAINS. SIMILAR FITTINGS HAVING BOLTED UPPER AND LOWER HOUSINGS AND A COLLAR TO FIT INTO THE OUTLET HOLE IN THE MAIN MAY BE APPROVED.
- CONTRACTOR RESPONSIBLE FOR PROVIDING SPRINKLER PROTECTION FOR AREA SHOWN WHILE AREA IS UNDER CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING MATERIAL SUBMITTALS FOR REVIEW IN ACCORDANCE WITH ARCHITECTUAL SPECIFICATIONS.
- COORDINATE ALL PIPING AND SPRINKLER HEAD LOCATIONS WITH ALL CONTRACTORS PRIOR TO INSTALLATION SO AS TO AVOID INTERFERENCES IN THIS AREA.
- FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE PREACTION SYSTEM INCLUDING CONTROL PANEL, ALARMS, DETECTORS, ETC. ALL CONTROL WIRING SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR UNDER THE SUPERVISION OF THE FIRE PROTECTION CONTRACTOR. PREACTION SYSTEM SHALL BE RELIABLE "SUPERTRON" SINGLE INTERLOCK SYSTEM WITHWHICH SHALL INCLUDE AS A MINIMUM, TRIM KIT, DRAIN MANIFOLD TRIM, RELIABLE MODEL RP-1001 CONTROL PANEL, DELUGE VALVE, ISOLATING VALVE, WATER FLOW ALARM, ALARM & TROUBLE ANNUNCIATORS, ETC.
- CONTROL PANEL SHALL CONTAIN SUFFICIENT CONTACTS TO SHUT DOWN ALL ELECTRICAL EQUIPMENT.(REF: ELECTRICAL DRAWINGS)

DESIGN NOTE:

SPRINKLER LOCATIONS SHOWN ON THESE DRAWINGS ARE SUGGESTED LOCATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE DESIGN USING ARCHITECTURAL, STRUCTURAL, INTERIOR DESIGN AND ALL OTHER APPLICABLE DOCUMENTS AS REQUIRED TO PROVIDE A FULLY SPRINKLERED BUILDING IN ACCORDANCE WITH NFPA SPECIFICATIONS.

SUBMITTAL NOTE:

- CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL PIPING, VALVES, EQUIPMENT, ETC IN ACCORDANCE WITH ARCHITECTURAL SPECIFICATIONS. NO WORK SHALL BEGIN UNTIL APPROVAL HAS BEEN OBTAINED FROM ARCHITECT/ENGINEER.
- CONTRACTOR SHALL SUBMIT COORDINATION DRAWINGS 1/4" SCALE MINIMUM FOR REVIEW AND APPROVAL AS STATED IN NOTE 1 ABOVE.

"AS BUILT" CONSTRUCTION DRAWINGS NOTES:

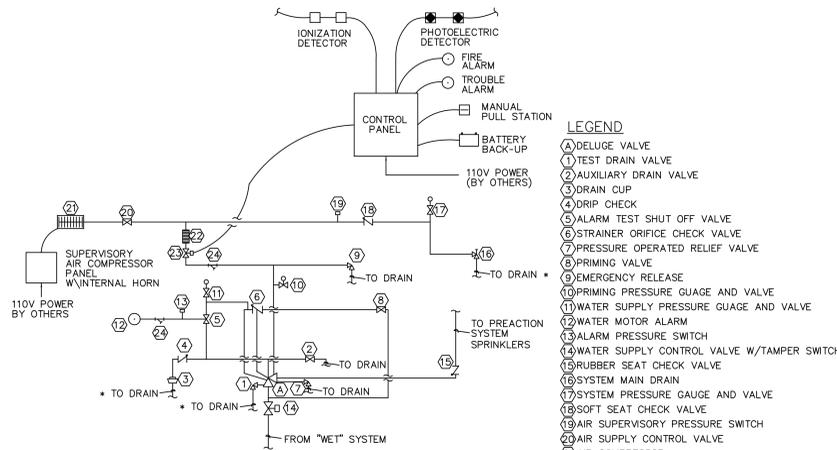
- A COMPLETE SET OF "AS-BUILT" DRAWINGS, (1) SET ON DISC IN PDF FORMAT AND (1) SET OF ELECTRONIC FILES PRODUCED IN AUTOCAD FORMAT RELEASE 2009, SHALL BE FURNISHED TO THE OWNER AND ENGINEER UPON PROJECT COMPLETION.

LEGEND

- FIRE PROTECTION MAIN - NEW
- - - F - - - FIRE PROTECTION MAIN - EXISTING
- F --- FIRE PROTECTION MAIN - DEMO
- PIPING DOWN/DROP ● ELBOW
- PIPING DOWN/DROP ● TEE
- PIPING RISE/UP ● ELBOW
- PIPING RISE/UP ● TEE
- CAPPED OFF PIPE
- CHECK VALVE
- SHUT - OFF VALVE (SUPERVISED W/TAMPER SWITCH)
- PREACTION VALVE
- PIPE SLEEVE
- FLOW SWITCH
- ⊕ POINT OF CONNECTION TO EXISTING
- ◆ POINT OF DEMOLITION TO EXISTING
- NEW UPRIGHT TO BE INSTALLED

ABBREVIATIONS

- ABV CLG ABOVE CEILING
- AFF ABOVE FINISHED FLOOR
- BLW FLR BELOW FLOOR
- CONN CONNECTION
- CP CONTROL PANEL
- DN DOWN
- DR DRAIN
- EC ELECTRICAL CONTRACTOR
- FACP FIRE ALARM CONTROL PANEL
- FD FIRE DEPARTMENT
- FS FLOW SWITCH
- FSEC FOOD SERVICE EQUIPMENT CONTRACTOR
- FP FIRE PROTECTION
- FPC FIRE PROTECTION CONTRACTOR
- GC GENERAL CONTRACTOR
- GPM GALLONS PER MINUTE
- HV HOSE VALVE
- HVC HOSE VALVE CABINET
- LO LOCKED OPEN
- MC MECHANICAL CONTRACTOR
- NC NORMALLY CLOSED
- NO NORMALLY OPEN
- PC PLUMBING CONTRACTOR
- PCV PRESSURE CONTROL VALVE
- PRV PRESSURE RELIEF VALVE
- RH ROOF HYDRANT
- SP STANDPIPE
- SV SOLENOID VALVE
- TS TAMPER SWITCH
- TYP TYPICAL
- UNO UNLESS NOTED OTHERWISE
- W/ WITH



LEGEND

- ① DELUGE VALVE
- ② TEST DRAIN VALVE
- ③ AUXILIARY DRAIN VALVE
- ④ DRAIN CUP
- ⑤ DRIP CHECK
- ⑥ ALARM TEST SHUT OFF VALVE
- ⑦ STRAINER ORIFICE CHECK VALVE
- ⑧ PRESSURE OPERATED RELIEF VALVE
- ⑨ PRIMING VALVE
- ⑩ EMERGENCY RELEASE
- ⑪ PRIMING PRESSURE GAUGE AND VALVE
- ⑫ WATER SUPPLY PRESSURE GAUGE AND VALVE
- ⑬ WATER MOTOR ALARM
- ⑭ ALARM PRESSURE SWITCH
- ⑮ WATER SUPPLY CONTROL VALVE W/TAMPER SWITCH
- ⑯ RUBBER SEAT CHECK VALVE
- ⑰ SYSTEM MAIN DRAIN
- ⑱ SYSTEM PRESSURE GAUGE AND VALVE
- ⑲ SOFT SEAT CHECK VALVE
- ⑳ AIR SUPERVISORY PRESSURE SWITCH
- ㉑ AIR SUPPLY CONTROL VALVE
- ㉒ AIR COMPRESSOR
- ㉓ PNEUMATIC ACTUATOR
- ㉔ SOLENOID VALVE
- ㉕ STRAINER
- ㉖ ACCELERATOR

* RUN DRAINS TO NEAREST MOP SINK, STORM DRAIN PIPE, OR NEAREST OUTSIDE WALL. COORDINATE DRAINS TO STORM DRAIN PIPE WITH PC. COORDINATE PIPES TO OUTSIDE WALLS WITH ARCH.

PREACTION SYSTEM OPERATIONAL SEQUENCE

ON FIRST DETECTION, ACTIVATION BY EITHER PHOTO-ELECTRIC OR IONIZATION DETECTOR, TROUBLE ALARM WILL SOUND. ON SECOND DETECTION, ACTIVATION OF BOTH PHOTO-ELECTRIC AND IONIZATION DETECTORS, FIRE ALARM WILL SOUND. THE PREACTION SYSTEM SOLENOID VALVE WILL OPEN RELEASING AIR INTO THE CHAMBER OF THE DELUGE VALVE, WHICH IN TURN WILL LOWER THE PRESSURE AND ALLOW CLAPPER TO OPEN, CHARGING THE SYSTEM WITH WATER. IF FIRE IS PRESENT, SPRINKLER WILL OPEN WHEN LINK IS RELEASED.

THE MANUAL PULL STATION, WHEN ACTIVATED, WILL OVERRIDE FIRST DETECTION AND PUT SYSTEM INTO SECOND DETECTION MODE. SYSTEM IS TO BE SUPERVISED FOR BOTH MECHANICAL AND ELECTRICAL TROUBLE. ANY FAULT IN EITHER SHALL INITIATE THE TROUBLE ALARM.

IN THE EVENT OF PIPING BREAKAGE, OR RELEASE OF AIR FROM SYSTEM WITHOUT PREVIOUS DETECTION, TROUBLE ALARM WILL SOUND, SOLENOID VALVE WILL RETAIN AIR PRESSURE TO DELUGE VALVE PREVENTING WATER RELEASE INTO SYSTEM.

1 DETAIL- PREACTION SYSTEM

FP-001 NOT TO SCALE



509 South Burrill Hill Road
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18561-427-0000

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Anthony H. Caicedo
Professional Engineer
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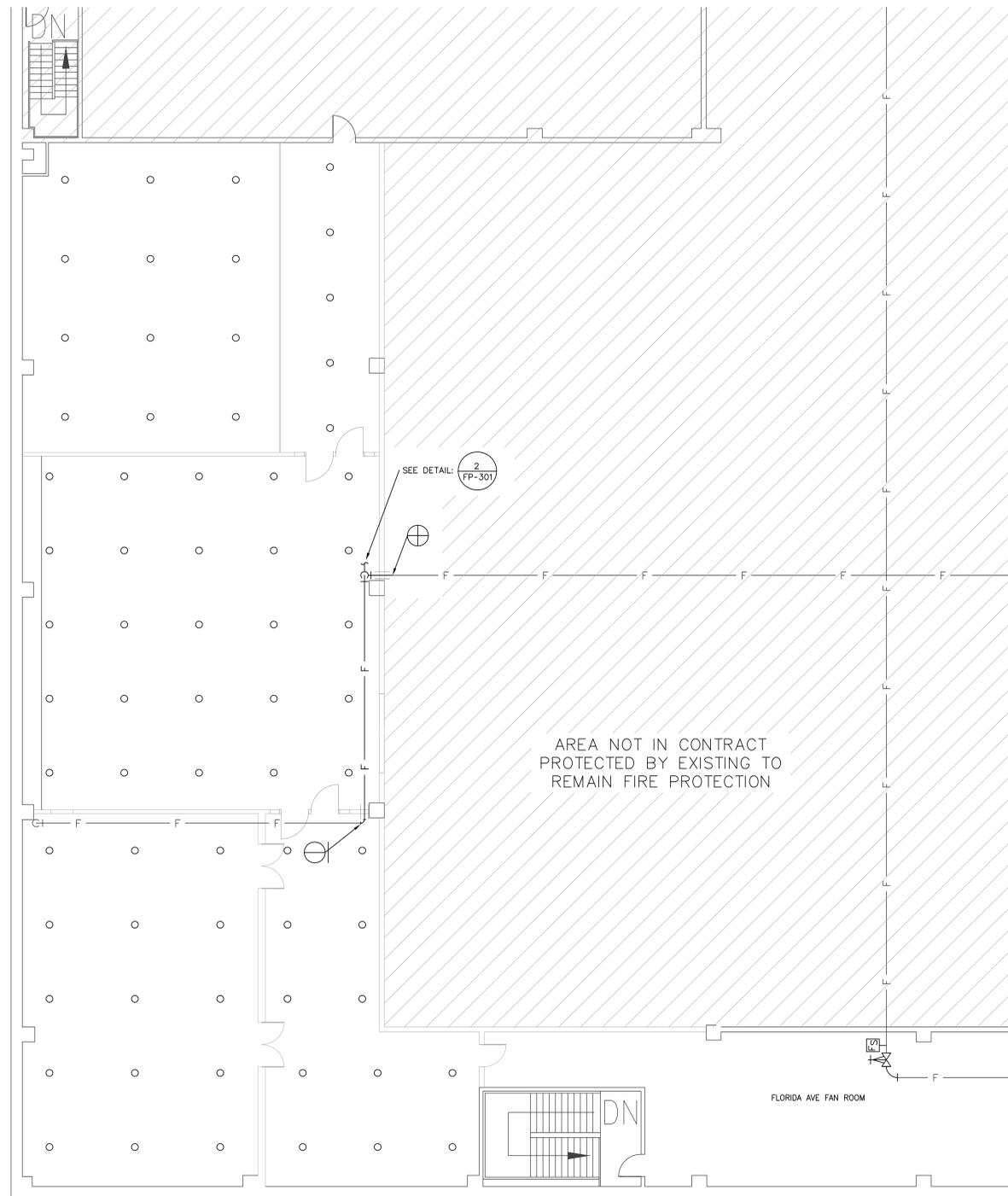
**Boardwalk Hall
Switch Gear
Replacement**

2301 Boardwalk
Atlantic City, NJ

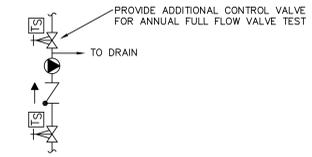
1/3/20	ISSUED FOR BID
REV.	DATE DESCRIPTION
SCALE NONE	PROJECT NO. BC17453

DWG. NAME
**FIRE PROTECTION
SYMBOL LEGEND,
NOTES, &
ABBREVIATIONS**

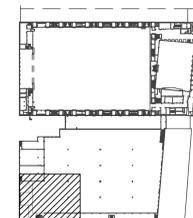
DATE 01/3/20
DRAWN BY DB
CHECKED BY PL
FP-001



1
FP-301 **FIRE PROTECTION – WEST HALL CONCOURSE PLAN**
SCALE : 1/8" = 1'-0"



2
FP-301 **PREACTION VALVE CONNECTION DETAIL**
SCALE : NTS



Anthony H. Caucci
Professional Engineer
New Jersey Lic. # 44606

**Boardwalk Hall
Switch Gear
Replacement**
2301 Boardwalk
Atlantic City, NJ

REV.	DATE	DESCRIPTION
1/3/20		ISSUED FOR BID
AS NOTED		PROJECT NO. BC17453

DWG. NAME
FIRE PROTECTION CONCOURSE LEVEL NEW WORK PLAN

DATE: 01/3/20
DRAWN BY: DB
CHECKED BY: PL

FP-301

BASIC MECHANICAL REQUIREMENTS

GENERAL

- GENERAL NOTES, SYMBOL LISTS AND DETAILS ARE APPLICABLE TO ALL MECHANICAL DRAWINGS LABELED "M".
- THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS AND LABOR TO PROVIDE COMPLETE AND WORKING MECHANICAL SYSTEMS WHETHER SPECIFIED OR IMPLIED.
- ALL NECESSARY PERMITS AND INSPECTIONS SHALL BE PROCURED BY THE CONTRACTOR AND ALL FEES PAID BY THE CONTRACTOR. ALL LICENSES REQUIRED BY CONTRACTOR SHALL BE PROCURED AND PAID BY THE CONTRACTOR. SUBMIT TO THE OWNER DUPLICATE CERTIFICATES OF INSPECTION FROM THE APPROVED INSPECTION AGENCIES.
- THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO THE LOCAL CODE, STATE LAWS, 2015 IMC, 2015 IBC, AGA, NFPA, NSFC, ASME, IFCC AND ALL OTHER GOVERNING AUTHORITIES.
- DO NOT SCALE THE DRAWINGS FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, DIMENSIONS, ETC., AT THE JOB SITE.
- CONTRACTOR SHALL GUARANTEE THE COMPLETE INSTALLATION AGAINST DEFECTS IN THE WORKMANSHIP AND MATERIALS.
- THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO PREVENT INTERFERENCE BETWEEN BEAMS, STRUCTURES, PIPING, CONDUITS, LIGHTING FIXTURES, FIRE ALARM DEVICES, FIRE SPRINKLERS, ETC.
- ALL MECHANICAL EQUIPMENT SHALL BE LOCATED AT A MINIMUM FLOOR ELEVATION ABOVE THE AREA'S FEMA BASE FLOOR ELEVATION. PROVIDE ALL NECESSARY STRUCTURES. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
- ALL MATERIALS USED IN CONSTRUCTION SHALL HAVE A FLAME SPREAD RATING OF 25 OR LESS, A SMOKE DEVELOPMENT RATING OF 50 OR LESS, AND A FUEL CONTRIBUTED RATING OF 25 OR LESS. ALL MATERIALS SHALL BE "SELF-EXTINGUISHING".
- ALL PIPING, CONDUIT AND DUCT PENETRATIONS OF "FIRE RATED BUILDING CONSTRUCTION" SHALL BE SLEEVED AND SEALED WITH A FIRE BARRIER MATERIAL EQUAL TO 3M "PENETRATION SEALING SYSTEMS". REFER TO ARCHITECTURAL DRAWINGS FOR FIRE RATING OF BUILDING CONSTRUCTION.
- INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.
- CONTRACTOR SHALL PROVIDE COMPLETE SETS OF BOUND OPERATING AND MAINTENANCE INSTRUCTIONS. CONTRACTOR SHALL INSTRUCT THE OWNER OR HIS AGENT WITH REGARD TO THE PROPER USE OF THE SYSTEM UNTIL SUCH INSTRUCTION IS COMPLETE TO THE OWNER'S SATISFACTION. OPERATION AND MAINTENANCE MANUAL SHALL INCLUDE A VALVE SCHEDULE IF VALVES ARE INSTALLED AS PART OF THE NEW WORK.
- MECHANICAL CONTRACTOR SHALL LABEL ALL NEW MECHANICAL EQUIPMENT, PIPING AND VALVES (INDOORS AND OUTDOORS) IN A PERMANENT MANNER. MECHANICAL PIPING SHALL BE LABELED IN ACCORDANCE WITH ASME A13.1 FOR LETTERING SIZE, LENGTH OF COLOR FIELD, COLORS, AND VIEWING ANGLES OF IDENTIFICATION. DIRECTION OF FLOW SHALL BE IDENTIFIED WITH DIRECTIONAL ARROW TAPE. VALVES SHALL BE IDENTIFIED WITH BRASS VALVE TAGS, ATTACHED WITH SOLID BRASS CHAINS AND "S" HOOKS. VALVE TAGS SHALL BE COORDINATED WITH VALVE SCHEDULE PROVIDED IN OPERATION AND MAINTENANCE MANUAL. MECHANICAL EQUIPMENT SHALL BE LABELED WITH ENGRAVED PLASTIC TAGS WITH MOUNTING HOLES AND STAINLESS STEEL STAPLES. ALL LABELING SHALL HAVE HIGH CONTRAST BETWEEN LETTER AND BACKGROUND COLORS AND SHALL BE LOCATED FOR EASY VISIBILITY.
- ALL MECHANICAL EQUIPMENT AND APPLIANCES INSTALLED SHALL BEAR THE LABEL OF AN APPROVED AGENCY.
- THE ENTIRE MECHANICAL INSTALLATION SHALL BE MADE IN ACCORDANCE WITH THE 2015 INTERNATIONAL MECHANICAL CODE (IMC) AND ANY ADOPTED SUPPLEMENTS, AS ADOPTED BY THE STATE OF NEW JERSEY.
- PROVIDE VIBRATION ISOLATION MOUNTINGS FOR ALL MOTOR OPERATED EQUIPMENT AND AS RECOMMENDED BY THE MANUFACTURER.
- ALL EXTERIOR WALL OPENINGS SHALL BE SLEEVED, PROPERLY CAULKED AND SEALED WITH A HIGH QUALITY SEALANT TO PREVENT INFILTRATION OF MOISTURE AND OUTSIDE AIR.
- MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR ALL POWER REQUIREMENTS OF MECHANICAL EQUIPMENT. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING TO ALL MECHANICAL EQUIPMENT. MECHANICAL CONTRACTOR SHALL FURNISH LOOSE MOTOR STARTERS AND DISCONNECT SWITCHES FOR INSTALLATION AND WIRING BY THE ELECTRICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL PROVIDE ALL CONTROL AND INTERLOCK WIRING AND ALL THERMOSTATS AND ACCESSORIES.
- ALL DUCT MOUNTED SMOKE OR HEAT DETECTORS SHALL BE FURNISHED AND WIRED BY THE FIRE ALARM CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR. THE FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR THE WIRING OF ALL DUCT MOUNTED DETECTORS TO ENSURE A COMPLETE OPERATING SYSTEM. THE FIRE ALARM CONTRACTOR SHALL REFER TO THE MECHANICAL DRAWINGS FOR THE LOCATIONS OF ALL DUCT MOUNTED DETECTORS. ALL DUCT MOUNTED DETECTORS AND THEIR ASSOCIATED WIRING SHALL CONFORM TO ARTICLE 300-22 OF THE 2011 EDITION OF THE NATIONAL ELECTRIC CODE. MECHANICAL CONTRACTOR'S SUBCONTRACTOR IS RESPONSIBLE FOR ALL DEDICATED WIRING (AND ASSOCIATED CONTROLS PROGRAMMING) BETWEEN DUCT SMOKE AND HEAT DETECTORS REQUIRED FOR AIR HANDLING UNITS' SMOKE CONTROL OPERATIONS.
- ROOFTOP GUARDS: CONTRACTOR SHALL PROVIDE MINIMUM 42" HIGH SAFETY GUARDRAILS WHERE APPLIANCES, EQUIPMENT, FANS OR OTHER COMPONENTS THAT REQUIRE SERVICE ARE LOCATED WITHIN 10 FEET OF A ROOF EDGE, (OR OPEN SIDE OF A WALKING SURFACE), AND MORE THAN 30 INCHES ABOVE THE FLOOR, ROOF, OR GRADE BELOW. GUARD LOCATIONS AND CONSTRUCTION SHALL BE AS DESCRIBED PER THE 2015 INTERNATIONAL MECHANICAL CODE (IMC), SECTION 304.11, AS ADOPTED BY THE STATE OF NEW JERSEY.
- PROVIDE BALANCING OF ALL AIR SYSTEMS PER AABC, NEBB OR TABB STANDARDS. SUBMIT TEST DATA AND DEMONSTRATE IN FIELD. INCLUDE SOUND TESTING.
- PROVIDE BALANCING OF ALL WATER SYSTEMS PER AABC, NEBB OR TABB STANDARDS. SUBMIT TEST DATA AND DEMONSTRATE IN THE FIELD.
- EQUIPMENT ACCESS: CONTRACTOR SHALL PROVIDE ACCESS FOR CONTROL DEVICES, HEAT EXCHANGERS AND HVAC SYSTEMS THAT UTILIZE ENERGY AND ARE LOCATED IN CONCEALED PLACES. ACCESS SHALL BE PROVIDED FOR INSPECTION, REPAIR, SERVICE AND REPLACEMENT WITHOUT THE NEED FOR DISMANTLING ANY PERMANENT CONSTRUCTION INCLUDING WALLS, DUCTS, PIPING, ETC. CONSTRUCTION SHALL BE AS DESCRIBED PER THE 2015 INTERNATIONAL MECHANICAL CODE (IMC), SECTION 306.1, AS ADOPTED BY THE STATE OF NEW JERSEY.
- PRIOR TO CONSTRUCTION, MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO PREPARE ELECTRONIC COORDINATION DRAWINGS FOR ALL TRADES, WHICH SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW. MECHANICAL CONTRACTOR SHALL COORDINATE THIS EFFORT WITH ALL OTHER TRADES PERFORMING WORK ON THE PROJECT. ANY CONFLICTS BETWEEN TRADES MUST BE RESOLVED PRIOR TO CONSTRUCTION.
- SUBMIT 3/8" SCALE SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION. COORDINATE WITH ALL TRADES. SUBMIT TO THE ARCHITECT FOR APPROVAL, DUPLICATE SPECIFICATION SHEETS OF ALL EQUIPMENT SUPPLIED OR INSTALLED, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - INDOOR AIR HANDLING UNITS
 - CONDENSING UNITS
 - GRILLES, REGISTERS & DIFFUSERS
 - PIPING & DUCTWORK LAYOUTS
 - DUCTWORK SPECIALTIES & APPURTENANCES
 - COORDINATION DRAWINGS.
 - "AS-BUILT" DRAWINGS.

DUCTWORK

- UNLESS OTHERWISE NOTED, ALL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL G90 GRADE PER SMACNA. ALL DUCTS CONSTRUCTED OF GALVANIZED STEEL SHEET METAL SHALL HAVE MINIMUM GAGE THICKNESS AS FOLLOWS:

MAXIMUM SIDE (IN.)	GAGE
THROUGH 12	26
13 - 30	24
31 - 54	22
55 - 84	20
OVER 84	18

DIAMETER (IN.)	GAGE
THROUGH 12	26
13 - 18	24
19 - 28	22
29 - 36	20
37 - 52	18

PROVIDE ALL NECESSARY CROSS-BREAKING AND DUCT REINFORCING AS REQUIRED PER SMACNA RECOMMENDATIONS.

- ALL DUCTWORK SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED PER SMACNA STANDARDS.
- ALL JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), MASTIC-PLUS-EMBEDDED-FABRIC SYSTEMS, LIQUID SEALANTS OR TAPES, CLOSURE SYSTEMS, TAPES AND MASTICS USED TO SEAL METALLIC AND FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181B-FX" FOR PRESSURE-SENSITIVE TAPE OR "181B-M" FOR MASTIC. DUCT CONNECTIONS TO FLANGES OF AIR DISTRIBUTION SYSTEM EQUIPMENT SHALL BE SEALED AND MECHANICALLY FASTENED. MECHANICAL FASTENERS FOR USE WITH FLEXIBLE NONMETALLIC AIR DUCTS SHALL COMPLY WITH UL 181B AND SHALL BE MARKED "181B-C" CLOSURE SYSTEMS USED TO SEAL METAL ALL DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR DIMENSIONS.
- COORDINATE LOCATION OF DUCTWORK, PIPING, AND DIFFUSERS WITH ALL OTHER TRADES.
- ALL DUCTWORK AND PIPING ABOVE CEILING AND IN AREAS WITHOUT CEILINGS SHALL BE INSTALLED AS HIGH AS POSSIBLE.
- PROVIDE VOLUME DAMPERS AT ALL DUCT BRANCHES AND RUNOUTS. PROVIDE OPPOSED BLADE VOLUME DAMPERS AT ALL REGISTERS, GRILLES AND DIFFUSER NECKS IN SUPPLY, RETURN AND EXHAUST DUCTWORK WHETHER SHOWN ON DRAWINGS OR NOT.
- PROVIDE AT MINIMUM 10 GAUGE STEEL SLEEVES FOR ALL DUCT PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS AND PARTITIONS. PROVIDE PIPE SLEEVES FOR ALL MECHANICAL PIPING PENETRATING THROUGH FIRE RATED WALLS, FLOORS AND PARTITIONS. SEAL ALL ANNULAR SPACE BETWEEN SLEEVES AND DUCTWORK OR PIPING WITH A FIRE BARRIER MATERIAL EQUAL TO 3M "PENETRATION SEALING SYSTEM".
- THE INSIDE OF ALL DUCTWORK VISIBLE THROUGH A GRILLE OR DIFFUSER SHALL BE PAINTED FLAT BLACK.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF MASONRY RETURN AIR OPENINGS AND RECESSED EQUIPMENT WITH THE GENERAL CONTRACTOR. PROVIDE GALVANIZED STEEL LINTELS ABOVE ALL MASONRY AND CONCRETE WALL PENETRATIONS MADE BY DUCTS AND/OR PIPING.
- ALL RETURN AIR OPENINGS SHALL BE ABOVE CEILING UNLESS NOTED OTHERWISE. PROVIDE AND FINISH WIRE MESH SCREENS ON ALL OPENINGS.
- ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASES OR SUSPENDED CEILING.
- PROVIDE RETURN AIR OPENINGS AS REQUIRED. OPENING SHALL BE SIZED FOR REQUIRED CFM AT A VELOCITY NOT TO EXCEED 400 FEET PER MINUTE. PROVIDE LINTELS AS REQUIRED.
- SUPPORTS FOR DUCTS SHALL BE INSTALLED AT INTERVALS OF NOT MORE THAN 10 FEET.
- DUCT SMOKE DETECTORS AND ASSOCIATED AUDIO/VISUAL DEVICES SHALL BE FURNISHED AND WIRED BY FIRE ALARM CONTRACTOR. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL ALL DUCT SMOKE DETECTORS AND INSTALL ALL REQUIRED CONTROL WIRING TO AUTOMATICALLY SHUT DOWN FANS AS OUTLINED IN SPECIFICATION.
- COORDINATE ALL ROOF PENETRATIONS WITH WORK OF OTHER TRADES AND WITH FLASHING REQUIREMENTS. COORDINATE IF NECESSARY TO COMPLY W/OWNER'S ROOF WARRANTY.

INSULATION

DUCTWORK INSULATION

- ALL RIGID ROUND AND RECTANGULAR SUPPLY AND RETURN SHEET METAL DUCT "CONCEALED FROM VIEW" SHALL BE WRAPPED WITH 1-1/2" THICK FIBERGLASS DUCT INSULATION HAVING A CONDUCTIVITY OF .26 AT MEAN TEMPERATURE OF 75 DEGREES F. AND A DENSITY OF 1/5 PCF. INSULATION SHALL BE SCHULLER "MICRO-LITE" OR APPROVED EQUAL. THIS INCLUDES DUCTWORK BEYOND 25' OF AN AIR HANDLER.
- ALL RIGID ROUND AND RECTANGULAR SUPPLY AND RETURN SHEET METAL DUCTWORK "EXPOSED TO VIEW" SHALL BE DOUBLE WALL (INTERNAL AND EXTERNAL METAL) WITH INTERSTITIAL INSULATION. INNER DUCT SHALL BE SOLID SHEET STEEL. INSULATION SHALL BE (1") INCH THICK FLEXIBLE ELASTOMERIC DUCT LINER COMPLYING WITH ASTM C 534, TYPE II FOR SHEET MATERIALS, AND NFPA 90A OR NFPA 90B. INSULATION MAXIMUM THERMAL CONDUCTIVITY OF 0.25 AT MEAN TEMPERATURE OF 75 DEGREES F.
- ALL SUPPLY AND RETURN SHEET METAL SUPPLY AIR DUCTWORK WITHIN 25' OF AN AIR HANDLER SHALL BE LINED WITH ONE (1") THICK FIBERGLASS DUCT THERMAL/ACOUSTIC LINING HAVING A CONDUCTIVITY OF .23 AND R-VALUE OF 4.3 AT MEAN TEMPERATURE OF 75°F. INSULATION SHALL BE JOHNS-MANVILLE "LINACOUSTIC RC-HP" OR APPROVED EQUAL.
- INSULATION MUST BE FIRE RATED FOR FLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPED FOR 50 OR LESS.
- ALL INSULATION SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- "CONCEALED" DUCTS SHALL BE INSULATED WITH DUCT WRAP AS FOLLOWS:

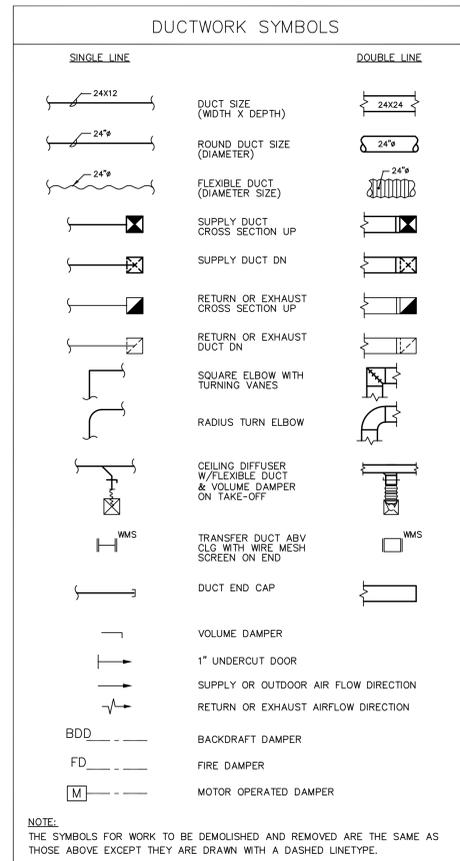
OUTSIDE AIR DUCTS	2" THICK
RIGID ROUND DUCTS	1-1/2" THICK
ALL RECTANGULAR SUPPLY AND RETURN DUCTS	1-1/2" THICK

REFRIGERANT PIPING

- REFRIGERANT PIPING SHALL BE TYPE "L" OR TYPE "ACR" HARD DRAWN COPPER WITH WROUGHT COPPER FITTINGS, JOINED USING 45% SILVER BRAZING LIQUID AND SILVER BRAZING FLUX.
- PROVIDE LIQUID LINE REFRIGERANT SIGHT GLASS/MOISTURE INDICATOR.
- PROVIDE LIQUID AND SUCTION LINE FILTER/DRYERS AS REQUIRED.
- INSULATE REFRIGERANT SUCTION LINE WITH 1/2" THICK ARMAFLEX INSULATION.
- REFRIGERANT ACCESS PORTS SHALL BE PROTECTED IN ACCORDANCE WITH IMC 2015 SECTION 1101.10.

CONDENSATE PIPING

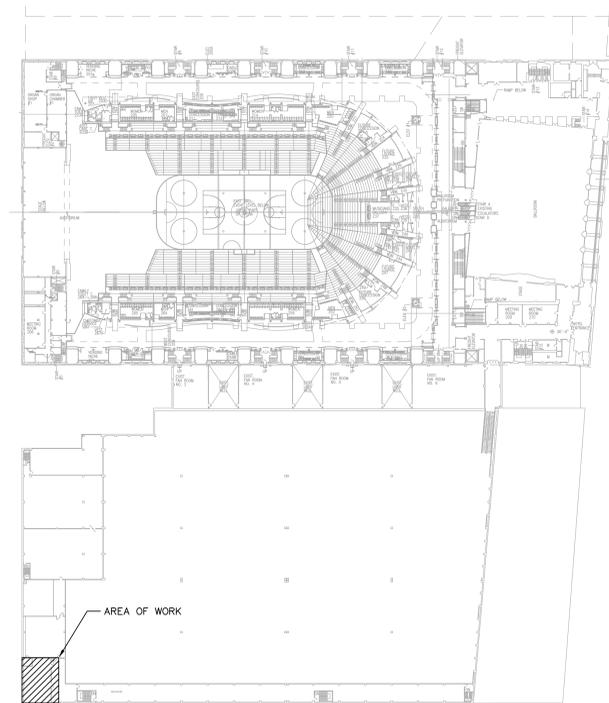
- PIPING SHALL BE RIGIDLY SUPPORTED AT INTERVALS OF NOT MORE THAN 10 FEET.
- PROVIDE DIELECTRIC UNIONS IN PIPING WHERE DISSIMILAR METALS ARE JOINED TOGETHER.
- THE SIZE OF ALL PIPING SHALL BE AS SHOWN ON THE DRAWINGS, OR WHERE NOT SHOWN, AS REQUIRED.
- ALL COPPER PIPING SHALL BE JOINED USING 95-5 TIN/ANTIMONY SOLDER.
- ALL CONDENSATE DRAIN LINES SHALL BE PIPED TO FULL SIZE OF THE UNITS DRAIN OUTLET AND PROVIDED WITH A "P" TRAP SIZED AT MINIMUM TO EXCEED FAN STATIC PRESSURE. CONNECT CONDENSATE DRAINS TO PLUMBING LINES AS INDICATED ON DRAWINGS.
- CONDENSATE DRAINAGE: DWV COPPER TUBING, PITCHED DOWN A MINIMUM OF 1/8" PER FOOT AWAY FROM UNIT.
- INSULATION SHALL CARRY THROUGH ALL WALL AND FLOOR PENETRATIONS AND PIPE HANGERS.
- PROVIDE GALVANIZED METAL SHIELDS FORMED TO FIT THE INSULATION BETWEEN HANGERS AND FINISHED INSULATIONS.
- INSULATE CONDENSATE PIPING WITH 1/2" THICK "MICRO-LOK" AP INSULATION (PROVIDE ZESTON PVC FITTING COVERS)



ABBREVIATIONS

ABV	ABOVE
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
DEMO	DEMOLISH AND REMOVE
(D)	DEMOLISH AND REMOVE
DN	DOWN
EG	EXHAUST GRILLE
EXIST.	EXISTING
(E)	EXISTING TO REMAIN
LD	LINEAR DIFFUSER
MIN.	MINIMUM
(N)	NEW
NK	NECK
OPD	OPPOSED BLADE DAMPER
R/A	RETURN AIR
(R)	EXISTING SHOWN RELOCATED
(RE)	RELOCATE EXISTING
RG	RETURN GRILLE
S/A	SUPPLY AIR
SG	SUPPLY GRILLE
S.P.	STATIC PRESSURE
TD	TRANSFER DUCT
TSTAT	THERMOSTAT OR TEMPERATURE SENSOR
TYP	TYPICAL
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
WMS	WIRE MESH SCREEN

NOTE:
ALL SYMBOLS OR ABBREVIATIONS ARE NOT NECESSARILY USED ON THE CONTRACT DRAWINGS.



MECHANICAL SYMBOLS

▲	REVISION NUMBER
⊙	THERMOSTAT
⊠	CEILING DIFFUSER
⊞	RETURN REGISTER OR EXHAUST GRILLE
⊕	CONNECTION POINT
⊖	DISCONNECT POINT
⊗	DUCT SMOKE DETECTOR

**Boardwalk Hall
Switch Gear
Replacement**

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1/3/20	ISSUED FOR BID	
REV.	DATE	DESCRIPTION
SCALE	N.T.S.	PROJECT NO. BC17453

DWG. NAME

MECHANICAL NOTES, LEGEND, SYMBOLS, ABBREVIATIONS & KEY PLAN

DATE: 01/3/20

DRAWN BY: WFH

CHECKED BY: BTR

M-000

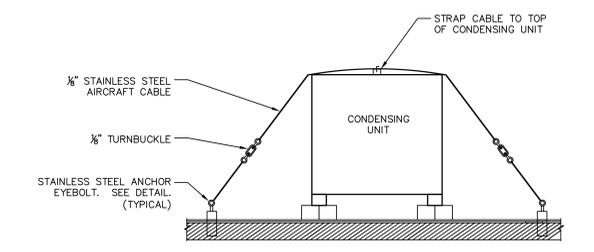
AIR HANDLING UNIT SCHEDULE																																
SYMBOL	LOCATION	SERVICE	TOTAL CFM	DESIGN MIN O.A. CFM	ESP (IN WC)	MAX FAN RPM	FAN HP	FAN BHP	FAN RPM	MAX FACE VEL(FPM)	AIR FILTERS		DIRECT EXPANSION COOLING COIL					ELECTRIC HEATING COIL					ELECTRICAL		BASIS OF DESIGN							
											TYPE	EFF%	REF TYPE	NO. OF CIRCUITS	MIN NET CAP (MBH) TOTAL	SENS	DB	WB	LAT(F) DB	WB	MODEL NO.	CAPACITY (MBH)	EAT (°F) DB	LAT (°F) DB	KW	NO. OF STEPS	V/PH/Hz	MCA	MOCp	OPER WEIGHT	MANUFACTURER	MODEL NUMBER
AHU-1 & 2	WEST HALL	ELEC RM	4000	0	0.75	1725	2	1.83	774	500	TA	30	410A	2	100.8	100.8	75	60	52	51	BAYHTRL405	17.1	70	74	5	1	480/3/60	12	15	450	TRANE	TWE120

- NOTES:**
- HORIZONTAL CONFIGURATION:**
HORIZONTAL SUB-BASE WITH RETURN AIR SECTION WITH WMS
FILTER
DX COIL DUAL CIRCUIT WITH TXV'S
ACCESS SECTION
SUPPLY FAN
HEATING SECTION
 - PROVIDE ZINC COATED INSULATED CASING, DUAL CIRCUIT DX COOLING COIL WITH LANCED ALUMINUM FINNS, DOUBLE WIDTH FAN FORWARD CURVE BELT DRIVEN FAN WITH ADJUSTABLE SHEAVES.
 - DISCONNECT FOR EACH AHU BY ELECTRICAL CONTRACTOR.
 - PROVIDE SPRING VIBRATION ISOLATION SUPPORTS.
 - AHU'S SHALL BE UL CERTIFIED.
 - PROVIDE 2 SETS OF MERV RATED FILTER FOR EACH AHU.
 - PROVIDE BACNET CONTROLLER COMPATIBLE W/FACILITY BMS SYSTEM
 - PROVIDE DRAIN PAN UNDER THE UNIT.
 - PROVIDE WATER LEVEL DETECTION DEVICE CONFORMING TO UL 508 IN AUXILIARY DRAIN PAN PER IMC 307.2.3 THAT SHUTS DOWN THE EQUIPMENT BEFORE THE PEN OVERFLOWS.

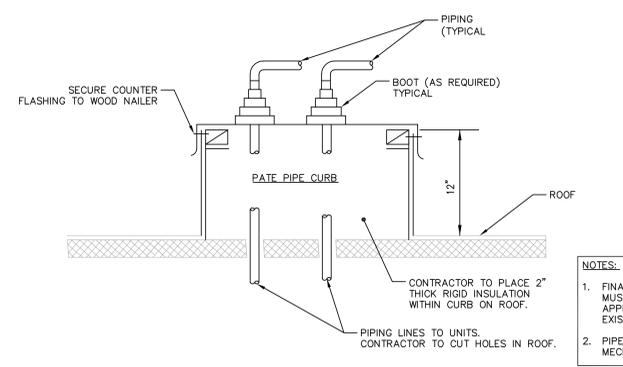
SCHEDULE OF AIR DEVICES	
SG-1	DOUBLE DEFLECTION CEILING/SIDEWALL SUPPLY GRILLE EQUAL TO KRUEGER MODEL 5880H, ALUMINUM WITH 1-1/4" BORDER ON ALL SIDES AND A MINIMUM BORDER THICKNESS OF 0.040 INCHES. GRILLE SHALL HAVE 3/4" BLADE SPACING. BORDER TYPE AS REQUIRED. PROVIDE WITH ALUMINUM OPPOSED BLADE DAMPER. FINISH SHALL BE BAKED ON ACRYLIC COLOR AS SELECTED BY ARCHITECT. NECK SIZE AS SHOWN ON DRAWINGS.

SPLIT SYSTEM AIR COOLED CONDENSING UNIT SCHEDULE																	
SYMBOL	LOCATION	SERVICE	TYPE	REFRIG TYPE	QTY. OF REF CIRCUITS	NOM CAP (MBH)	EAT		FANS		ELECTRICAL EA.CU.		NOISE RATING DBA	OPER WEIGHT (LBS)	BASIS OF DESIGN		
							°F DB	°F WB	QTY	HP	V/PH/Hz	MCA			MOCp	MANUFACTURER	MODEL NUMBER
CU-1 & 2	ON ROOF	AHU-1 & 2	AIR COOLED	R-410A	2	120	95	78	1	1	480/3/60	20	25	91	450	TRANE	TTA120

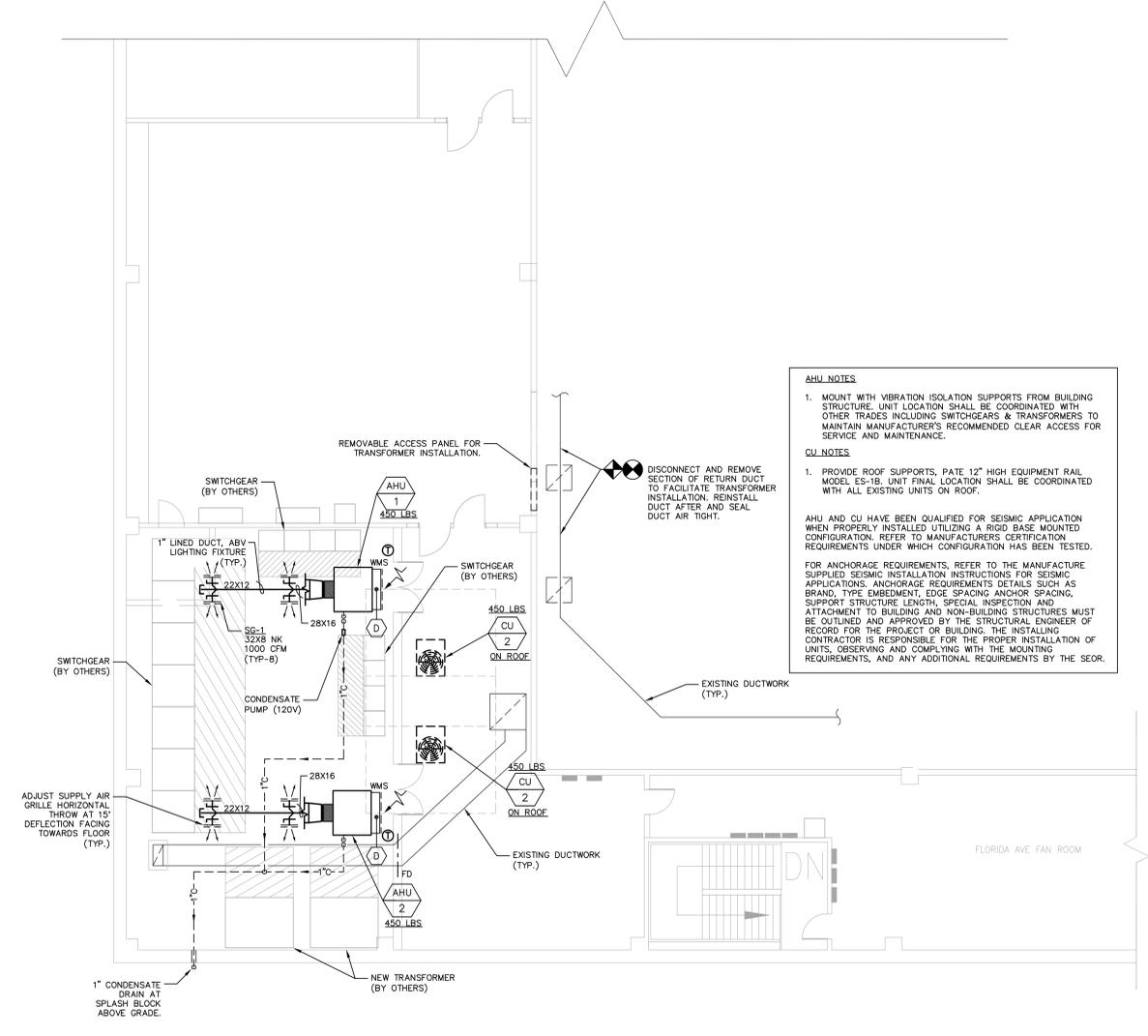
- NOTES:**
- PROVIDE TXV VALVE AND REFRIGERANT LINE SET AND REQUIRED ACCESSORIES SIZE PER MFG'S RECOMMENDATION
 - DISCONNECT FOR EACH CU BY ELECTRICAL CONTRACTOR
 - PROVIDE NEOPRENE VIBRATION PADS AND FOUR CORNERS ON CONDENSING UNIT
 - PROVIDE 5-YEAR COMPRESSOR PARTS WARRANTY
 - NOISE DATA: SOUND POWER AT 100% FAN SPEED, A-WEIGHTED SCALE.
 - PROVIDE 2 CIRCUITS, DUAL COMPRESSORS.
 - PROVIDE COMPLETE COATED CONDENSER COILS (MCH) AND SEACOAST CONSTRUCTION ALL UNITS.
 - MODULATING LOW AMBIENT CONTROL, CRANKCASE HEATER, ANTI-SHORT CYCLE TIME AND TIME DELAY RELAY. INTEGRATE WITH AHU TO OPERATE ONLY WHEN AHU IS IN OPERATION.
 - PROVIDE PERFORATED STEEL HAIL GUARDS.
 - PROVIDE FACTORY INSTALLED LIQUID LINE FILTER DRIERS, EXTERNAL LOW AND HIGH PRESSURE CUTOUT DEVICES, EVAPORATOR FROST CONTROL & LOSS OF CHARGE PROTECTION (DISCH. TEMP. LIMIT)
 - PROVIDE HURRICANE TIE-DOWNS.
 - PROVIDE BACNET CONTROLLER COMPATIBLE W/FACILITY BMS SYSTEM.



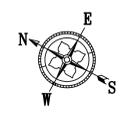
ROOFTOP CONDENSING UNIT TIE-DOWN DETAIL
NOT TO SCALE



PATE PIPE CURB INSTALLATION DETAIL
NOT TO SCALE



MECHANICAL PARTIAL NEW WORK PLAN - CONCOURSE LEVEL
1/8" = 1'-0"



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REV.	DATE	DESCRIPTION
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DWG. NAME
MECHANICAL CONCOURSE LEVEL NEW WORK PLAN SCHEDULES & DETAILS

DATE: 01/3/20
DRAWN BY: WPH
CHECKED BY: BTR

M-100