

GENERAL NOTES:

- A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER.
- B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY OPENINGS LEFT IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING SURFACE IN COLOR, TEXTURE AND QUALITY SO THAT PATCH IS INDISTINGUISHABLE FROM ORIGINAL SURFACE.
- C. ALL PENETRATIONS THROUGH DRAFT STOPS AND OTHER FIRE-RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND LOCAL CODES.
- D. ALL MECHANICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY HAVING JURISDICTION.
- E. THE MECHANICAL DRAWINGS SHOW GENERAL ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID INTERFERENCE WITH ELECTRICAL EQUIPMENT & REQUIRED ELECTRICAL CLEARANCES.
- F. CONTRACTOR SHALL COORDINATE ALL WORK WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, AND STRUCTURAL DRAWINGS.
- G. FRESH AIR INTAKES TO BE MINIMUM 25' FROM ANY EXHAUST TERMINATION.
- H. ALL FLOOR EQUIPMENT SHALL BE SET ON 4" HIGH CONCRETE BASES FURNISHED BY THIS CONTRACTOR.
- I. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E IMMEDIATELY OF ANY DISCREPANCIES.
- J. COORDINATE NEW SERVICES WITH LOCAL UTILITIES.
- K. PLUMBING CONTRACTOR TO PROVIDE VENTING FOR ALL FLOOR DRAINS, AND FLOOR SINKS AS SHOWN OR AS REQUIRED BY CODE.

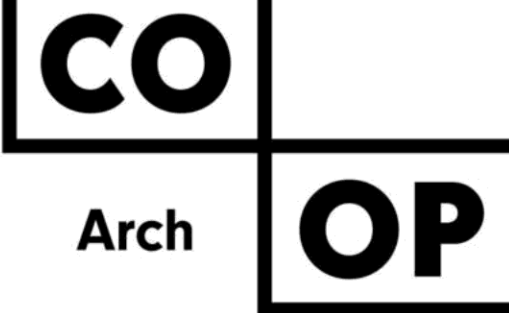
KEYNOTES:

1. TYPICAL - ALL COOLING CONDENSATE PIPING TO BE BY THIS CONTRACTOR. SEE SHEET M17 NOTE 1 OF FAN COIL SCHEDULE REGARDING CONDENSATE PUMPS PROVIDED WITH V.C.'S EQUIPMENT.
2. SEE DETAILS ON SHEET M13 - MECHANICAL DETAILS: INDIRECT CONDENSATE PIPING DIAGRAMS, AIR GAP FITTING IN ISLAND DIAGRAM.
3. SEE DETAILS ON SHEET M13 - MECHANICAL DETAILS: INDIRECT CONDENSATE PIPING DIAGRAMS, AIR GAP FITTING DIAGRAM.
4. PC TO PROVIDE & INSTALL PROVISIONS FOR BALANCING THE DOMESTIC HOT WATER. SEE DHWR THERMOSTATIC CONTROLLED RECIRCULATION VALVE (TRV) PIPING DETAIL.

SPECIAL NOTES:

1. SLOPE OF ALL STORM DRAINAGE SHALL BE 1/8" PER FOOT UNLESS OTHERWISE NOTED.
2. ALL EXPOSED PIPING TO BE PAINTABLE SURFACES. PAINTING BY GC.

Takeoff By: Tushar  
Checked By: AB  
Date: 11-03-2016



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MSE PROJECT NO: 140900437ME



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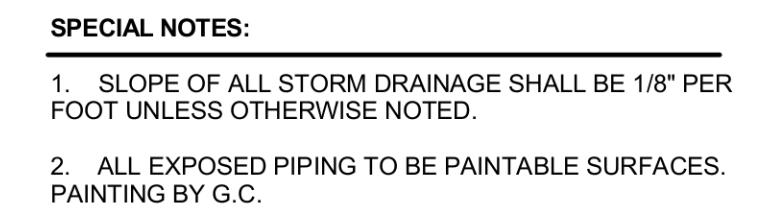
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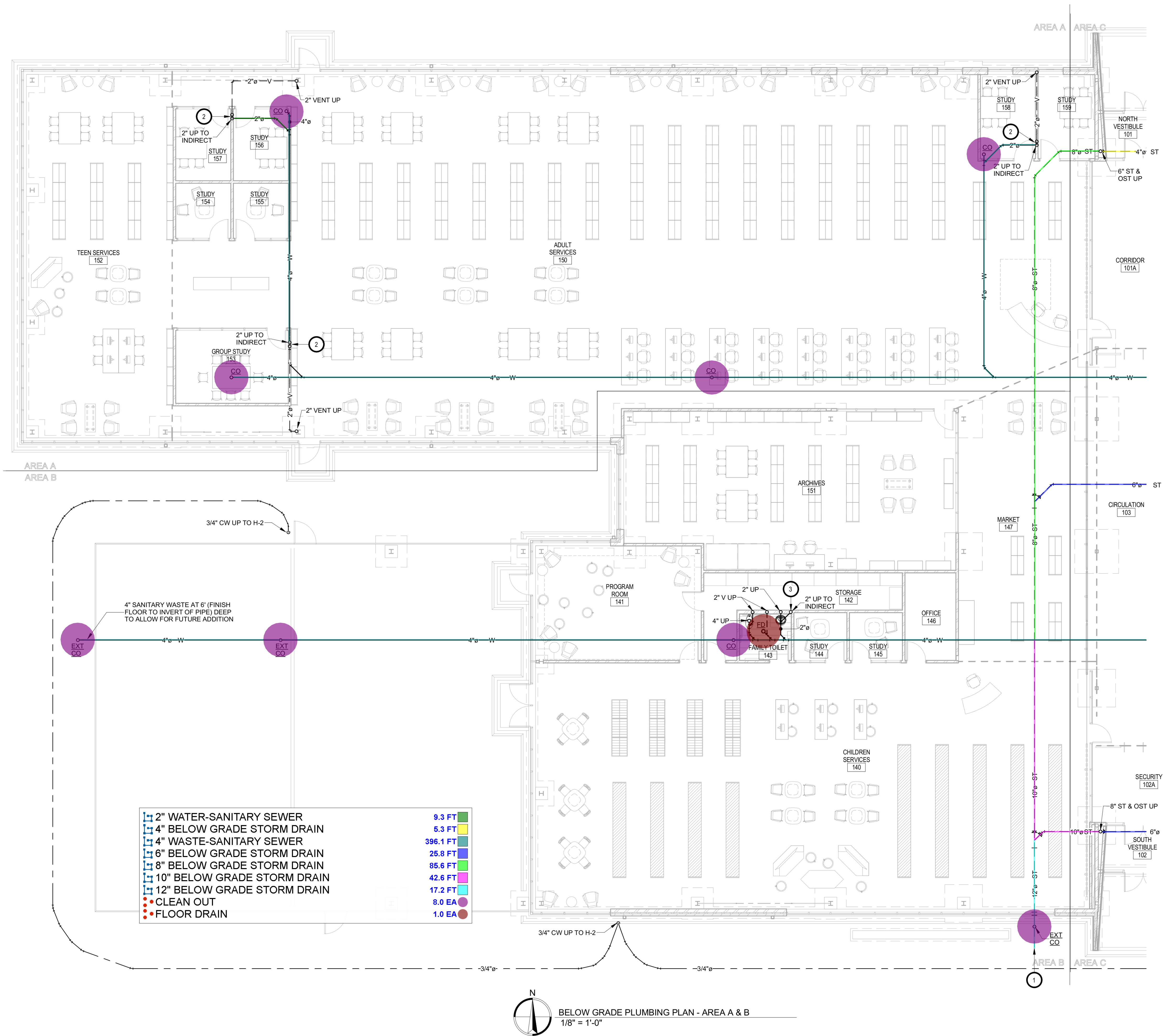
ABOVE GRADE PLUMBING PLAN  
- AREA A & B

M6

OF-17



OF-17



GENERAL NOTES:

- A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER.
- B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY OPENINGS LEFT IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING SURFACE IN COLOR, TEXTURE AND QUALITY SO THAT PATCH IS INDISTINGUISHABLE FROM ORIGINAL SURFACE.
- C. ALL PENETRATIONS THROUGH DRAFT STOPS AND OTHER FIRE-RATED PARTITIONS SHALL BE FIRE STOPPED AS PER SPECIFICATIONS AND LOCAL CODES.
- D. ALL MECHANICAL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NATIONAL PLUMBING REGULATIONS, AND THE AUTHORITY HAVING JURISDICTION.
- E. THE MECHANICAL DRAWINGS SHOW GENERAL ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID INTERFERENCE WITH ELECTRICAL EQUIPMENT & REQUIRED ELECTRICAL CLEARANCES.
- F. CONTRACTOR SHALL COORDINATE ALL WORK WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, CIVIL, AND STRUCTURAL DRAWINGS.
- G. FRESH AIR INTAKES TO BE MINIMUM 25' FROM ANY EXHAUST TERMINATION.
- H. ALL FLOOR EQUIPMENT SHALL BE SET ON 4" HIGH CONCRETE BASES FURNISHED BY THIS CONTRACTOR.
- I. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E IMMEDIATELY OF ANY DISCREPANCIES.
- J. COORDINATE NEW SERVICES WITH LOCAL UTILITIES.
- K. PLUMBING CONTRACTOR TO PROVIDE VENTING FOR ALL FLOOR DRAINS, AND FLOOR SINKS AS SHOWN OR AS REQUIRED BY CODE.

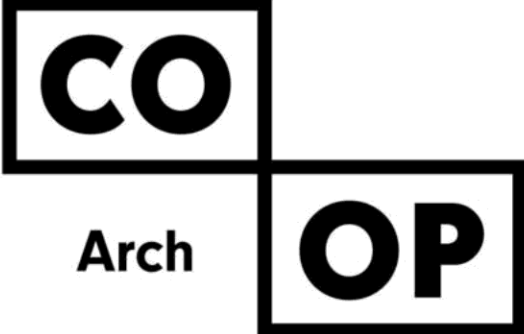
KEYNOTES:

1. PLUMBING CONTRACTOR TO CONNECT NEW 12" STORM SEWER TO NEW 12" STORM SEWER SERVICE INSTALLED BY SITE UTILITY CONTRACTOR AT THIS LOCATION 5' OUTSIDE OF BUILDING. PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION, & INVERT.
2. SEE DETAILS ON SHEET M13 - MECHANICAL DETAILS: INDIRECT CONDENSATE PIPING DIAGRAMS, AIR GAP FITTING IN ISLAND DIAGRAM.
3. SEE DETAILS ON SHEET M13 - MECHANICAL DETAILS: INDIRECT CONDENSATE PIPING DIAGRAMS, AIR GAP FITTING DIAGRAM.

SPECIAL NOTES:

1. SLOPE OF ALL STORM DRAINAGE SHALL BE 1/8" PER FOOT UNLESS OTHERWISE NOTED.

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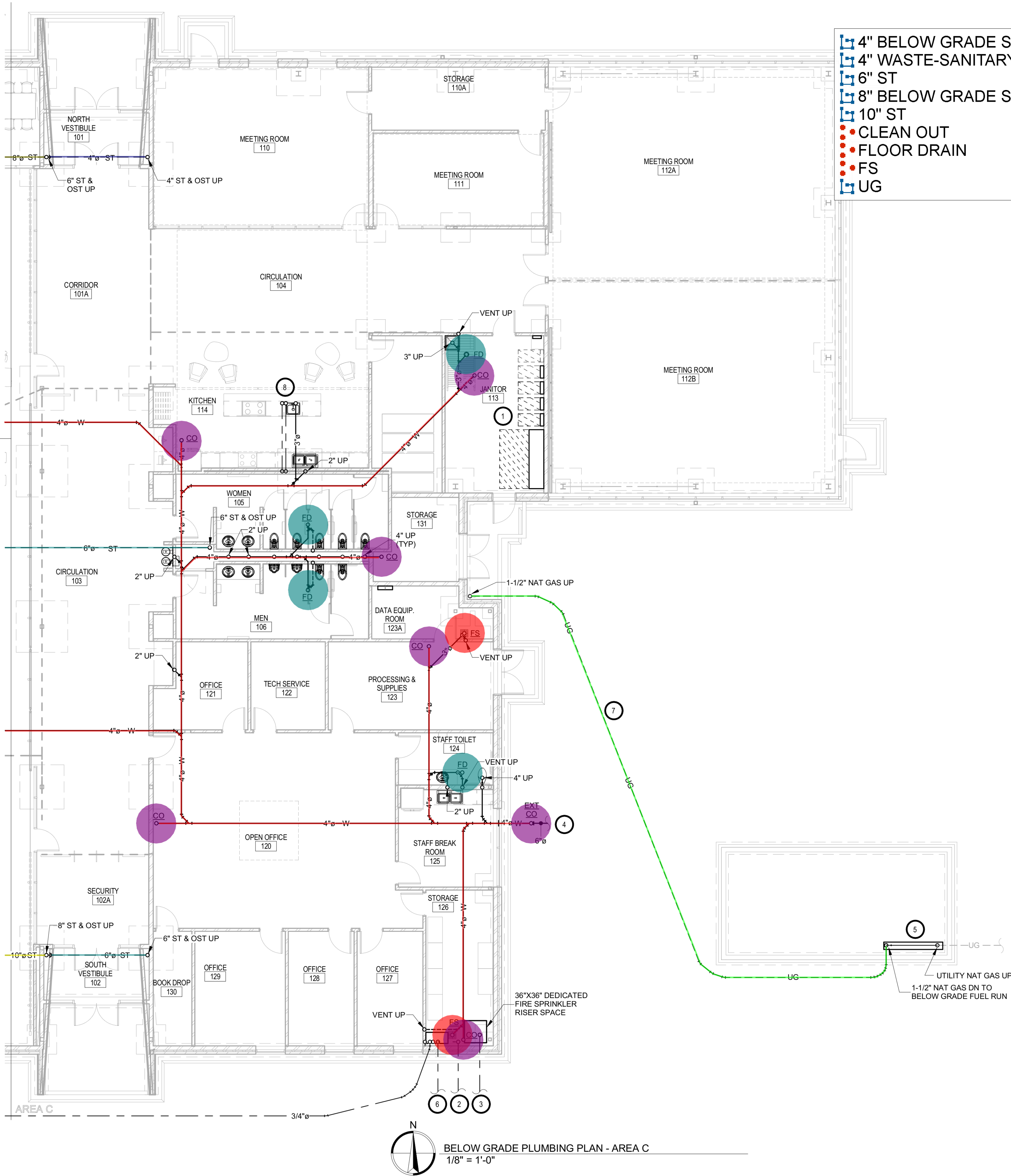
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SHEET TITLE:

BELOW GRADE PLUMBING PLAN  
- AREA A & B

M4

OF-17



GENERAL NOTES:

- A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER.
- B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY OPENINGS LEFT IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING SURFACE IN COLOR, TEXTURE AND QUALITY SO THAT PATCH IS INDISTINGUISHABLE FROM ORIGINAL SURFACE.
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- I. CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E IMMEDIATELY OF ANY DISCREPANCIES.
- J. COORDINATE NEW SERVICES WITH LOCAL UTILITIES.
- K. PLUMBING CONTRACTOR TO PROVIDE VENTING FOR ALL FLOOR DRAINS, AND FLOOR SINKS AS SHOWN OR AS REQUIRED BY CODE.

KEYNOTES:

1. THIS SPACE IS RESERVED FOR ELECTRICAL GEAR. PIPING AND EQUIPMENT SHALL NOT BE LOCATED IN FRONT OF OR ROUTED ABOVE ELECTRICAL PANELS. COORDINATE WITH DIVISION 16.
2. PLUMBING CONTRACTOR TO CONNECT NEW 4" DOMESTIC WATER SERVICE TO NEW 4" DOMESTIC WATER SERVICE INSTALLED BY SITE UTILITY CONTRACTOR AT THIS LOCATION 5' OUTSIDE THE BUILDING. FURNISH AND INSTALL THRUST BLOCKS AND/OR TIE-RODS IN ACCORDANCE WITH THE LOCAL WATER DEPARTMENT STANDARDS AND REGULATIONS. PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION, AND INVERT.
3. PLUMBING CONTRACTOR TO CONNECT NEW 6" FIRE PROTECTION WATER SERVICE TO NEW 6" FIRE PROTECTION WATER SERVICE INSTALLED BY SITE UTILITY CONTRACTOR AT THIS LOCATION 5' OUTSIDE OF BUILDING. PLUMBING CONTRACTOR TO EXTEND INTO BUILDING, FURNISH AND INSTALL THRUST BLOCKS AND/OR TIE-RODS IN ACCORDANCE WITH THE LOCAL WATER DEPARTMENT STANDARDS AND REGULATIONS, AND PROVIDE 6" FLANGED CONNECTION FOR SPRINKLER CONTRACTOR'S USE. AS-BUILTS AND REQUIRED UNDERGROUND FIRE PROTECTION PIPING TESTING/TEST CERTIFICATE SHALL BE SUBMITTED TO ENGINEER AND FIRE PROTECTION CONTRACTOR FROM THE PLUMBING CONTRACTOR.
4. PLUMBING CONTRACTOR TO CONNECT NEW 6" SANITARY SEWER TO NEW 6" SANITARY SEWER SERVICE INSTALLED BY SITE UTILITY CONTRACTOR AT THIS LOCATION 5' OUTSIDE OF BUILDING. PLUMBING CONTRACTOR SHALL VERIFY EXACT LOCATION, & INVERT.
5. PLUMBING CONTRACTOR TO COORDINATE WITH MONTE OF NWE @ 605-226-4170 TO PROVIDE & INSTALL UTILITY'S UNDERGROUND GAS SERVICE & METER FIT TO THIS LOCATION. GAS PRESSURE TO BE 2 PSI AFTER NWE METER FIT. PLUMBING CONTRACTOR TO PROVIDE & INSTALL COMPLETE GAS DISTRIBUTION SYSTEM FROM THE METERFIT AS SHOWN. PC TO PREPARE, PRIME, AND PAINT EXPOSED EXTERIOR GAS PIPING TO MATCH UTILITY METER FIT.
6. PLUMBING CONTRACTOR TO PROVIDE 1-1/2" STUB OUT WITH LOCATE WIRE FOR LAWN IRRIGATION CONTRACTOR. SEE WATER HEADER DIAGRAM.
7. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL 1-1/2" UNDERGROUND NATURAL GAS FUEL RUN WITH LOCATION WIRE. PROVIDE & INSTALL WITH ANODELESS RISERS & LOCKABLE VALVES.
8. EACH FEED TO BE ENCASED WITHIN 2" SCH 40 PVC WITH LONG SWEEP ELBOWS. SEE ABOVE FLOOR PLUMBING PLAN FOR CONTINUATION. (1) 1/2" HW SUPPLY AND (1) 1/2" CW SUPPLY.

SPECIAL NOTES:

1. SLOPE OF ALL STORM DRAINAGE SHALL BE 1/8" PER FOOT UNLESS OTHERWISE NOTED.



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MSE PROJECT NO: 140900437ME



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SHEET TITLE:

BELOW GRADE PLUMBING PLAN  
- AREA C

M5

OF-17

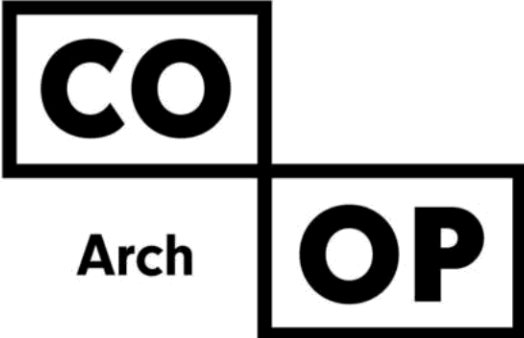
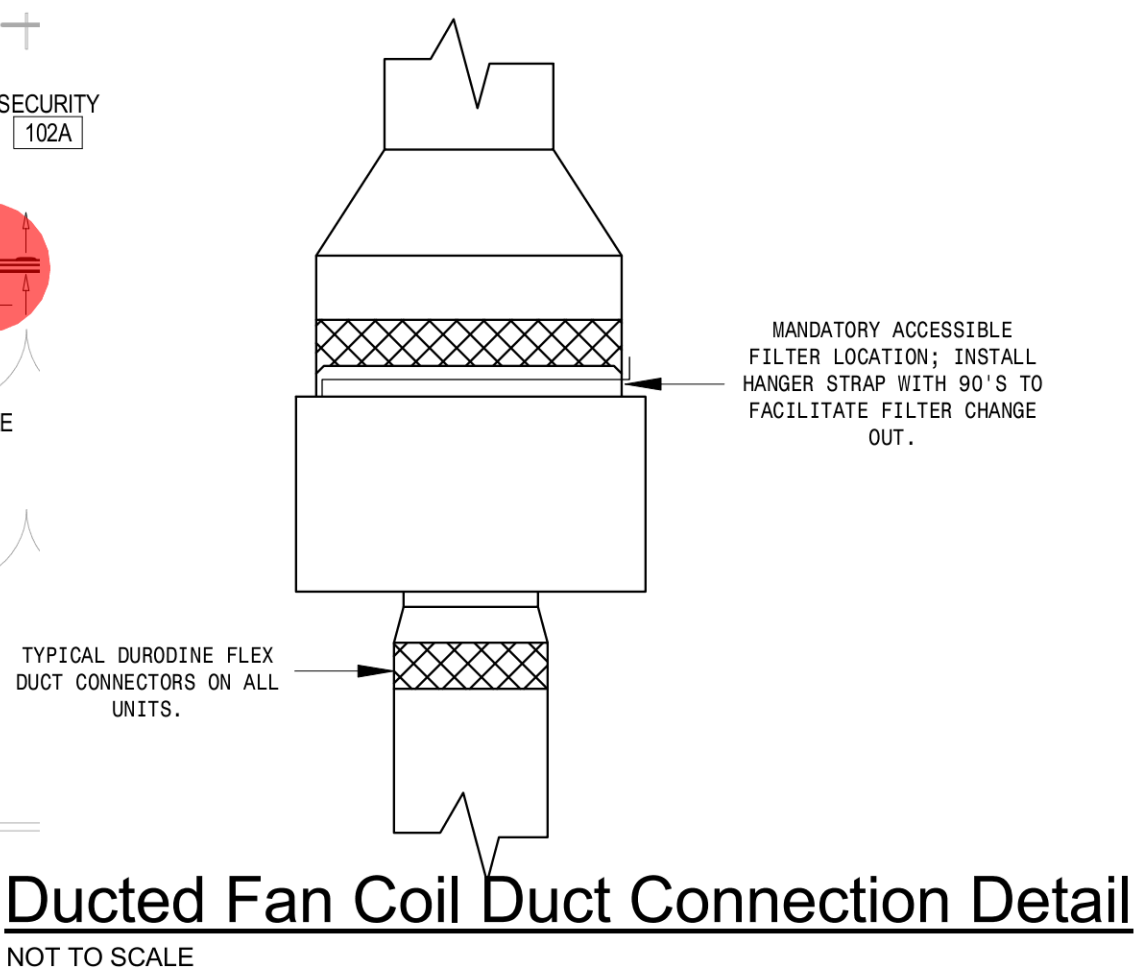
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Checked By: AB  
Date: 11-03-2016

BELOW GRADE PLUMBING PLAN - AREA C  
1/8" = 1'-0"



- HVAC GENERAL NOTES**
- A. ALL WORK SHALL BE PERFORMED IN A CLEAN AND WORKMANLIKE MANNER.
- B. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ANY OPENINGS LEFT IN FLOORS, WALLS, AND CEILINGS THAT WERE CAUSED BY HIS/HER ACTIONS. PATCHING SHALL MATCH EXISTING SURFACE IN COLOR, TEXTURE AND QUALITY SO THAT PATCH IS INDISTINGUISHABLE FROM ORIGINAL SURFACE.
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- E. THE MECHANICAL DRAWINGS SHOW GENERAL ARRANGEMENT ONLY. EXACT LOCATION SHALL AVOID INTERFERENCE WITH ELECTRICAL EQUIPMENT & REQUIRED ELECTRICAL CLEARANCES.
- F. COORDINATE INSTALLATION OF ALL HVAC WITH PLUMBING, LIGHT FIXTURES, FIRE SPRINKLER, AND STRUCTURE TO ACCOMMODATE LIMITED CEILING SPACE.
- G. PROVIDE & INSTALL VIBRATION ISOLATION ON ALL HANGING EQUIPMENT. PROVIDE & INSTALL VIBRATION ABSORPTION MOUNTING PADS ON ALL EQUIPMENT MOUNTED ON FLOOR.
- H. PROVIDE AND INSTALL DURODINE FLEX DUCT CONNECTORS AT ALL EQUIPMENT CONNECTIONS.
- I. ALL DUCTWORK TO BE SEALED AIRTIGHT.
- J. FRESH AIR INTAKES TO BE MINIMUM 10' FROM ANY EXHAUST TERMINATION.
- K. ALL EXPOSED DUCTWORK TO BE PAINTGRIP, PAINTED BY G.C.

- KEYNOTES**
1. TYPICAL - MULTIPLE LOCATIONS - SEE TYPICAL DIFFUSER CONNECTION DETAIL FOR RIGID FITTING, AND TAKE OFF BALANCING DAMPER, ETC.
2. TYPICAL - MULTIPLE LOCATIONS - SEE INSULATED RETURN ELBOW FOR DUCT SIZING, ETC.
3. TYPICAL - FULL SIZE & LINED RETURN AIR ELBOW UP WITH TURNING VANES.



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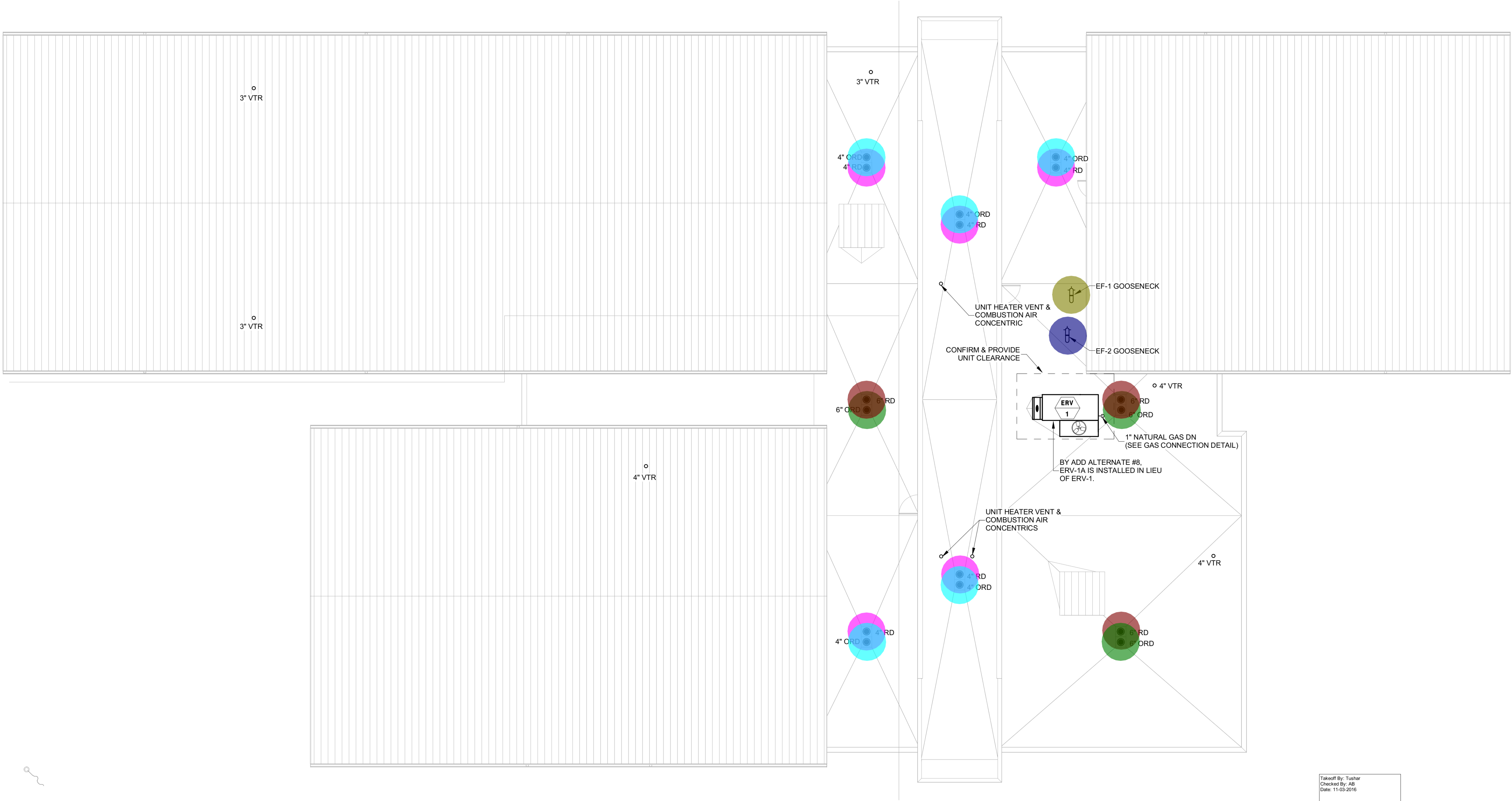
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HVAC PLAN - AREA A & B

**M10**

OF-17



|          |        |
|----------|--------|
| • 4" ORD | 5.0 EA |
| • 4" RD  | 5.0 EA |
| • 6" ORD | 3.0 EA |
| • 6" RD  | 3.0 EA |
| • EF-1   | 1.0 EA |
| • EF-2   | 1.0 EA |

N

MECHANICAL ROOF PLAN

3/32" = 1'-0"

Takeoff By: Tushar  
Checked By: AB  
Date: 11-03-2016

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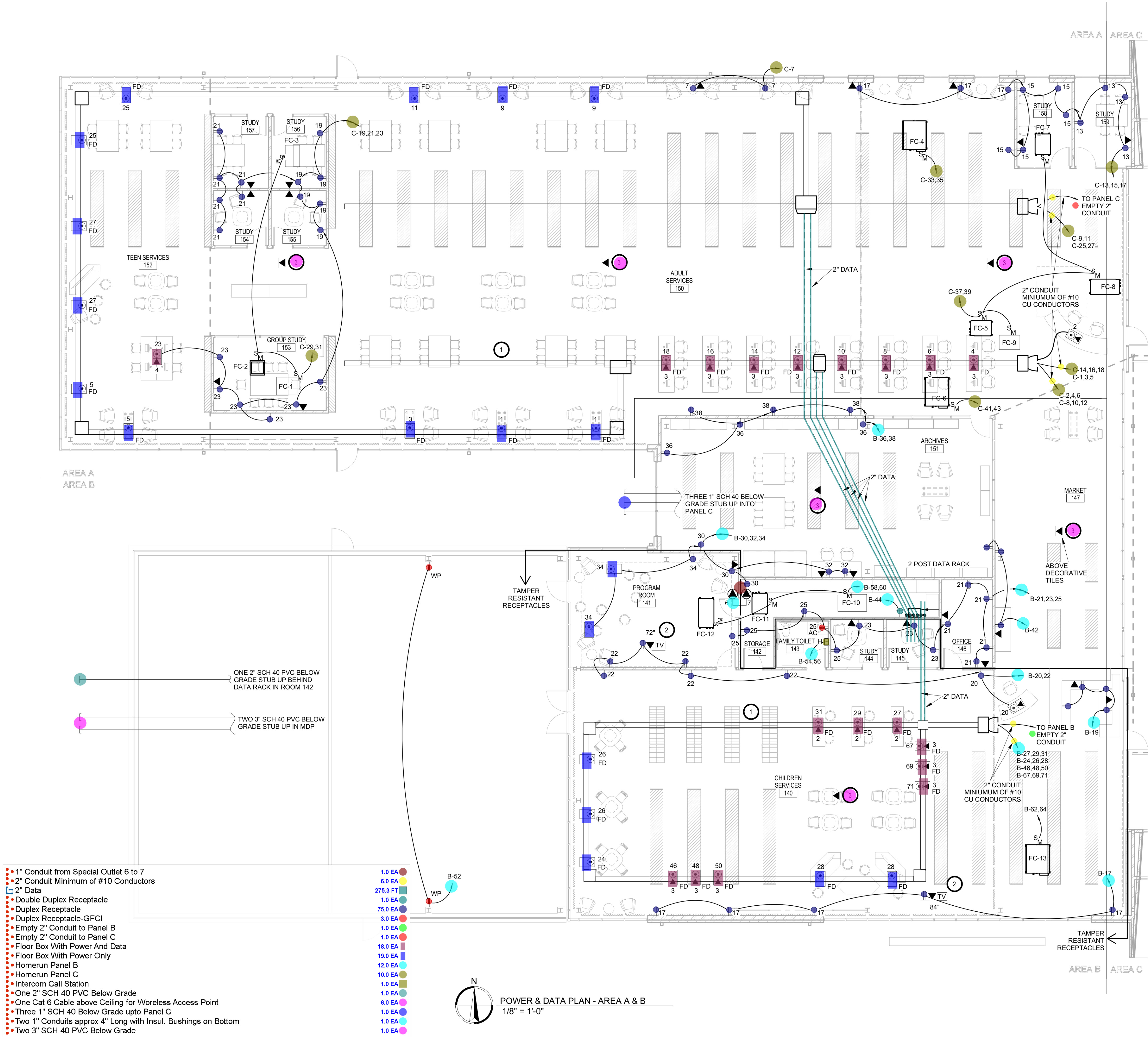
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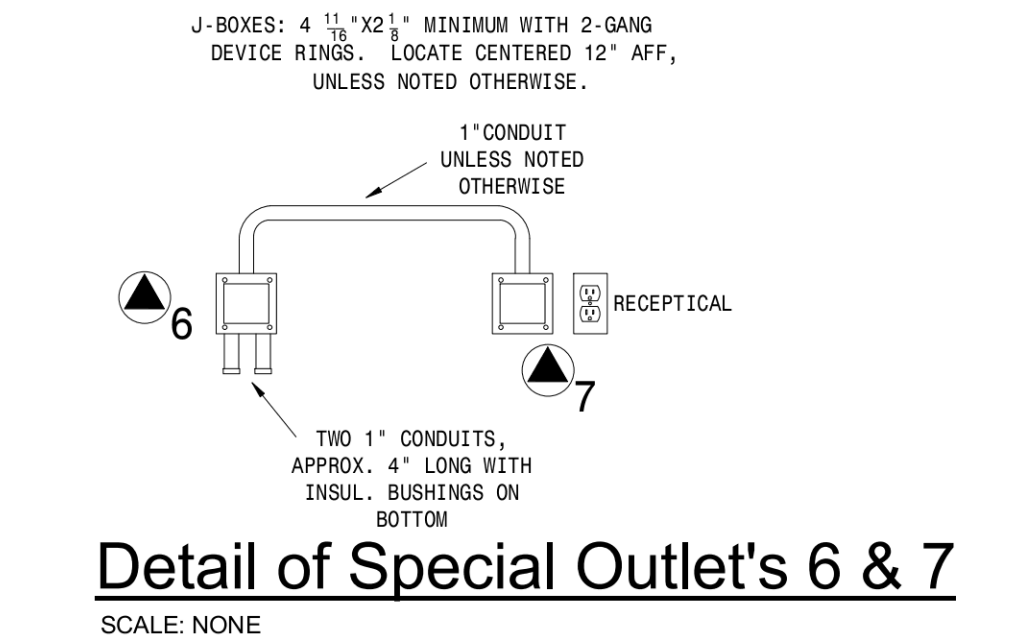
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MECHANICAL ROOF PLAN

M3

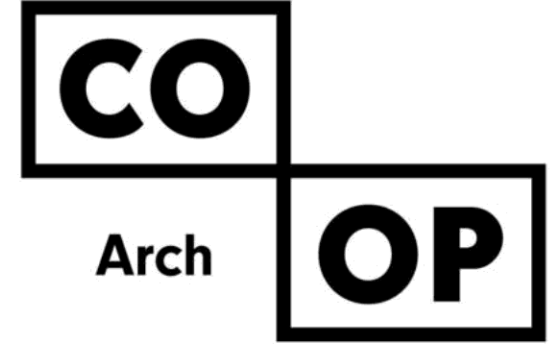
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- KEYNOTES**
- FLOORDUCT FILGES 202F-3-24, OR PRE-APPROVED EQUAL.
  - ARLINGTON TVB810, INCLUDE COVERS, TRIM RING AND ALL ACCESSORIES.
  - INSTALL ONE CAT6 CABLE TO THIS LOCATION ABOVE CEILING TO BE USED FOR OWNER PROVIDED WIRELESS ACCESS POINT.
  - NOT USED
  - NOT USED
  - FOR HEARING LOOP, SEE DETAIL.
  - FOR HEARING LOOP, SEE DETAIL.
- SPECIAL OUTLETS**
- FOR HEARING LOOP, SEE DETAIL.
  - FOR HEARING LOOP, SEE DETAIL.
- GENERAL NOTES:**
- IN ROOMS WITH EXPOSED STRUCTURAL CEILING PANELS, NOTHING CAN BE ATTACHED DIRECTLY TO THE PANELS. ALL ELECTRICAL ITEMS MUST BE ATTACHED EITHER TO THE I-BEAMS OR THE TUBE STEEL PROVIDED BY G.C.



Takeoff By- AB  
Checked By- Sen  
Date : 11 Mar, 2016



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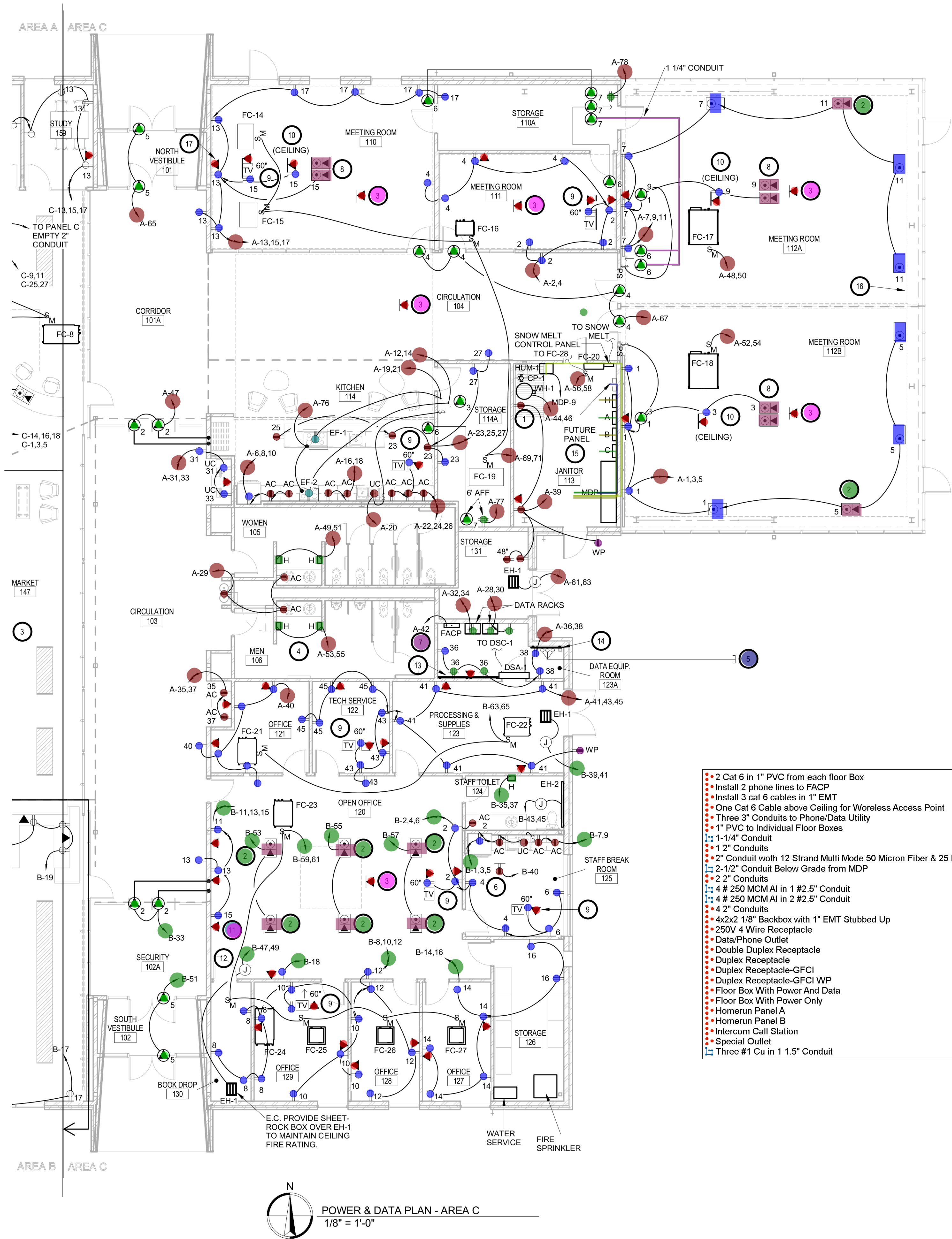
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SHEET TITLE:  
POWER & DATA PLAN - AREA A & B

E3

OF-11

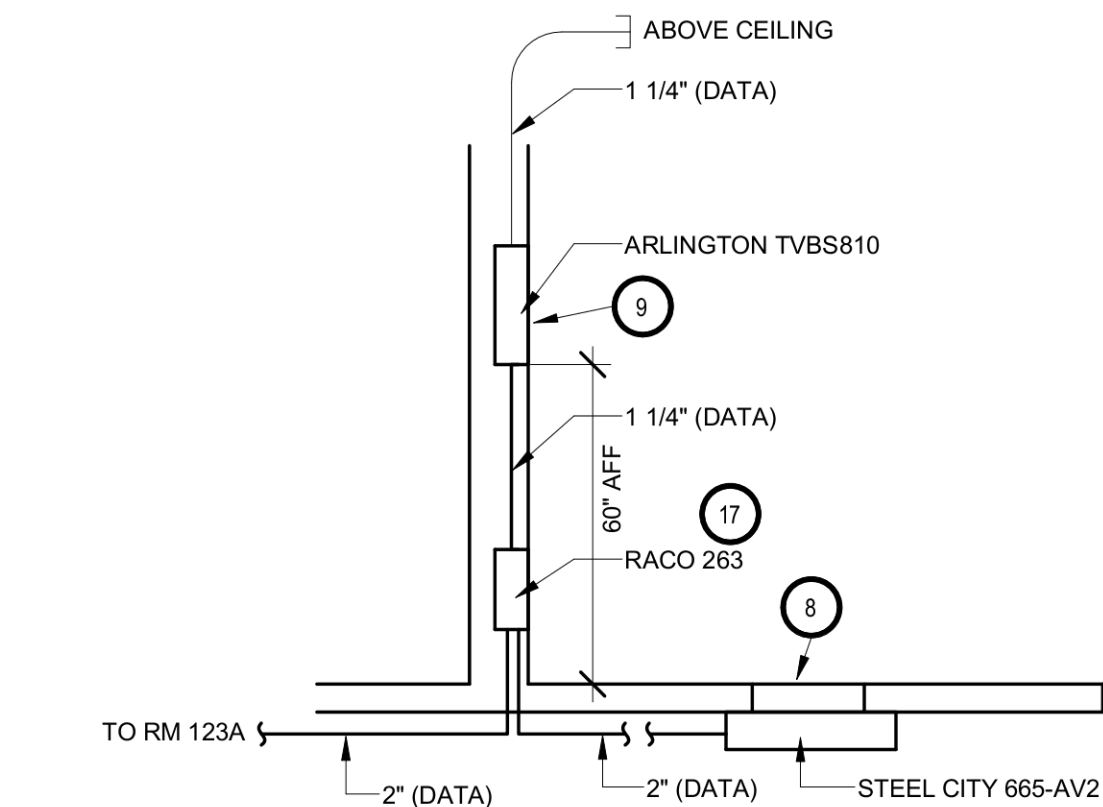


#### KEYNOTES

1. POSITION OUTLET SO CP-1 CAN BE CORD CONNECTED.
2. TYPICAL FOR ALL FLOOR BOXES WITH DATA, UNLESS OTHERWISE MARKED, INSTALL 1" PVC FROM EACH FLOOR BOX & STUB UP EITHER IN ROOM 123A OR 142, INSTALL TWO CAT6, UNLESS OTHERWISE MARKED, AND TERMINATE.
3. INSTALL ONE CAT6 CABLE TO THIS LOCATION ABOVE CEILING TO BE USED FOR OWNER PROVIDED WIRELESS ACCESS POINT.
4. TYPICAL FOR HAND DRYERS - USE XLERATOR MODEL XL-XX (COLOR BY ARCHITECT), 208V AND INCLUDE ADA RECESS KIT. IN EACH RESTROOM MOUNT ONE DRYER AT MENS OR LADIES HEIGHT, RESPECTIVELY, MOUNT THE SECOND HAND DRYER AT ADA HEIGHT. FOLLOW MANUFACTURERS SUGGESTED MOUNTING HEIGHTS.
5. THREE 3" CONDUITS TO PHONE/DATA UTILITY LOCATED INSIDE OF TRANSFORMER FENCING.
6. COORDINATE LOCATION FOR MICROWAVE SHELF.
7. INSTALL TWO PHONE LINES TO FACP.
8. STEEL CITY 665-AV2 WITH (1) 665-RP DUPLEX PLATE, (1) 665-6RJ, (1) 665-GP, (1) 665-CST-SW-XX COVER, COLOR BY ARCHITECT.
9. ARLINGTON TVB810, INCLUDE COVERS, TRIM RING AND ALL ACCESSORIES.
10. POWER AND DATA FOR CEILING PROJECTOR. PROVIDE AND INSTALL PREMIER MOUNT FALSE CEILING PLATE #344188 WITH FINE TUNE MOUNT FOR PROJECTOR #2147036, OR APPROVED EQUAL.
11. TYPICAL - 4x4x2 1/8" BACKBOX WITH SINGLE GANG DEVICE RING. 1" EMT STUBBED UP TO ACCESSIBLE CEILING SPACE. INSTALL 3-CAT6 CABLES TO EACH LOCATION, UNLESS OTHERWISE MARKED. TERMINATE WITH PANDUIT RJ-45 JACKS.
12. TYPICAL - INSTALL J-BOX IN ACCESSIBLE CEILING FOR T.C. TO ADD RELAY FOR CONTROL.
13. PROVIDE 8x8x3/4 GRAY PAINTED PLYWOOD ON ALL SIDES. MOUNT DOOR ACCESS EQUIPMENT AND CCTV ON THIS WALL.
14. PROVIDE 8x4x3/4 GRAY PAINTED PLYWOOD ON ALL SIDES.
15. LEAVE OPEN WALL SPACE FOR FUTURE PANELBOARD, INSTALL 2 1/2" CONDUIT BELOW GRADE FROM MDP.
16. DASHED LINE INDICATES HEARING LOOP. COORDINATE PLACEMENT OF FLOOR BOXES SO AS NOT TO INTERFERE WITH HEARING LOOP.
17. RACO 263 WITH THREE GANG DEVICE PLATE.

#### SPECIAL OUTLETS

1. POWER AND ROCKER SWITCH FOR MOTORIZED PROJECTOR SCREEN.
2. INSTALL 120V CONNECTION AND 1" EMPTY CONDUIT TO EACH ANTI-THEFT DETECTOR. ROUGH-INS WILL BE IN THE FLOOR, EXACT LOCATIONS TO BE DETERMINED BY SECURITY EQUIPMENT PROVIDER.
3. INSTALL TWO 3 POLE 60A CONTACTORS WITH ON/OFF SWITCH IN THE COVER TO TURN OFF THE RANGE CIRCUITS. INSTALL A SINGLE POLE SWITCH TO DISABLE THE DISPOSAL CIRCUIT.
4. INSTALL J-BOX ABOVE CEILING WITH 120V CIRCUIT TO BE USED FOR DOOR SECURITY POWER SUPPLY AND HANDICAPPED OPERATORS.
5. INSTALL J-BOX ABOVE THE CEILING IN ADJACENT ROOM AND ROUTE 120V CIRCUIT THROUGH ALUMINUM DOOR FRAME TO POWER HANDICAPPED OPERATORS. ROUTE DOOR SECURITY WIRING THROUGH ALUMINUM DOOR FRAME. ADD A RELAY TO DISABLE HANDICAPPED DOOR OPERATOR WHEN DOOR SECURITY HAS THE DOOR LOCKED.
6. FOR HEARING LOOP, SEE DETAIL ON SHEET E3.
7. FOR HEARING LOOP, SEE DETAIL ON SHEET E3.

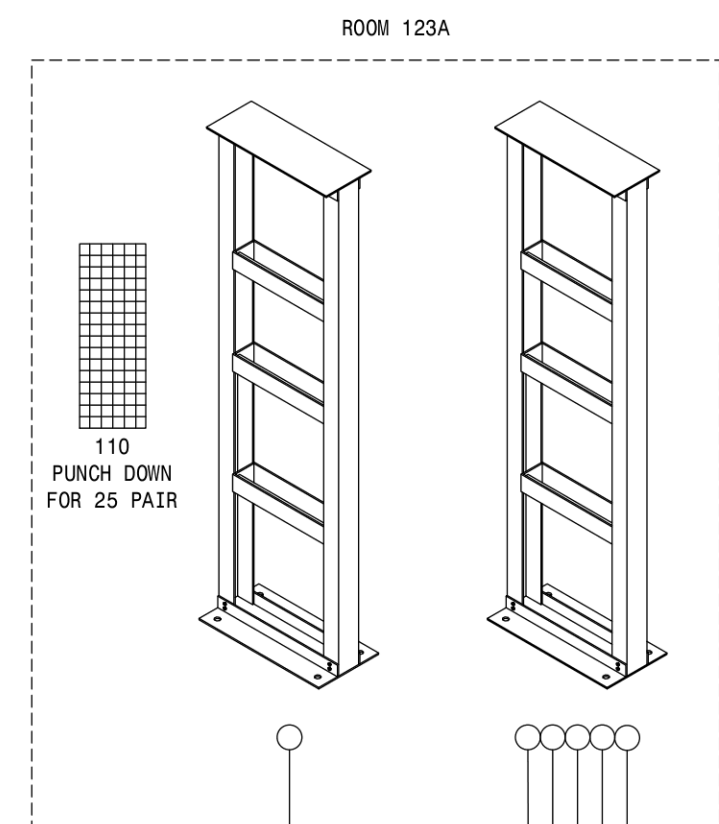
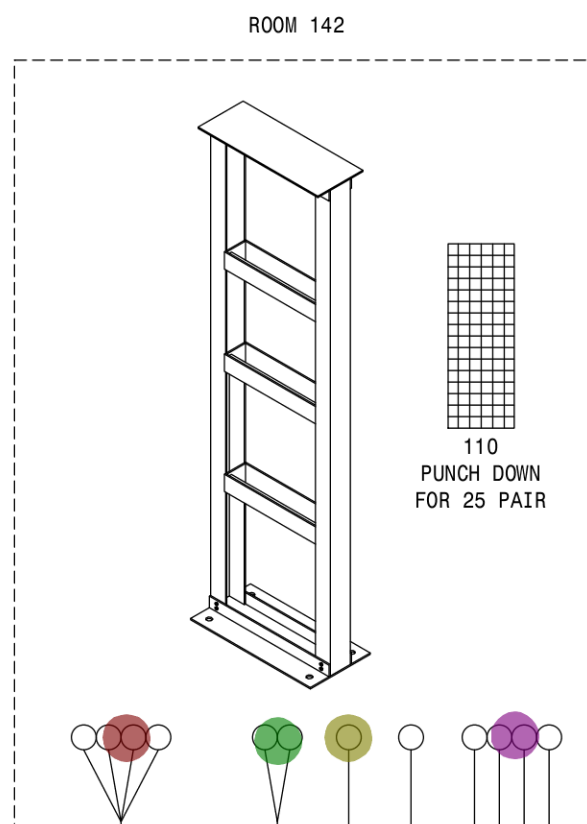


#### ROOM 110 FRONT OF ROOM DETAIL

NO SCALE

- 2 Cat 6 in 1" PVC from each floor Box
- Install 2 phone lines to FACP
- Install 3 cat 6 cables in 1" EMT
- One Cat 6 Cable above Ceiling for Wireless Access Point
- Three 3" Conduits to Phone/Data Utility
- 1" PVC to Individual Floor Boxes
- 1-1/4" Conduit
- 1 1/4" Conduit
- 2" Conduit woth 12 Strand Multi Mode 50 Micron Fiber & 25 Pair Cat 5E
- 2-1/2" Conduit Below Grade from MDP
- 2 2" Conduits
- 4 # 250 MCM Al in 1 #2.5" Conduit
- 4 # 250 MCM Al in 2 #2.5" Conduit
- 4 2" Conduits
- 4x2x2 1/8" Backbox with 1" EMT Stubbed Up
- 250V 4 Wire Receptacle
- Data/Phone Outlet
- Double Duplex Receptacle
- Duplex Receptacle
- Duplex Receptacle-GFCI
- Duplex Receptacle-GFCI WP
- Floor Box With Power And Data
- Floor Box With Power Only
- Homerun Panel A
- Homerun Panel B
- Intercom Call Station
- Special Outlet
- Three #1 Cu in 1 1.5" Conduit

TO ROOM 150 FLOOR DUCT  
TO ROOM 140 FLOOR DUCT  
STUB OUT TO WEST OF CHILDREN'S AREA



2" CONDUIT WITH 12 STRAND MULTI MODE 50 MICRON FIBER AND 25 PAIR CAT 5E

1" PVC TO INDIVIDUAL FLOOR BOXES

#### Data Detail

NOT TO SCALE

Takeoff By- AB  
Checked By- Sen  
Date : 11 Mar, 2016



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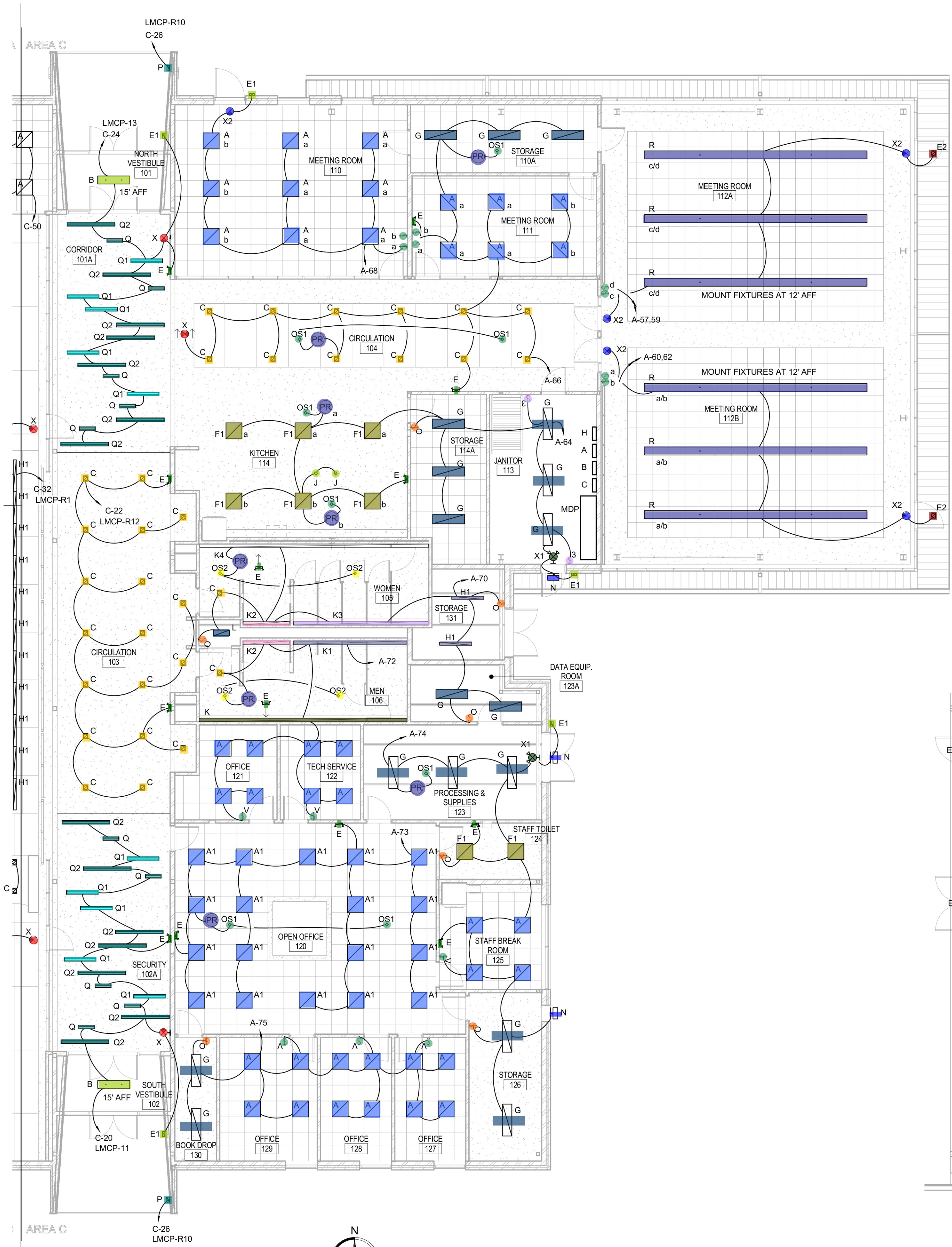
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SHEET TITLE:  
POWER & DATA PLAN - AREA C

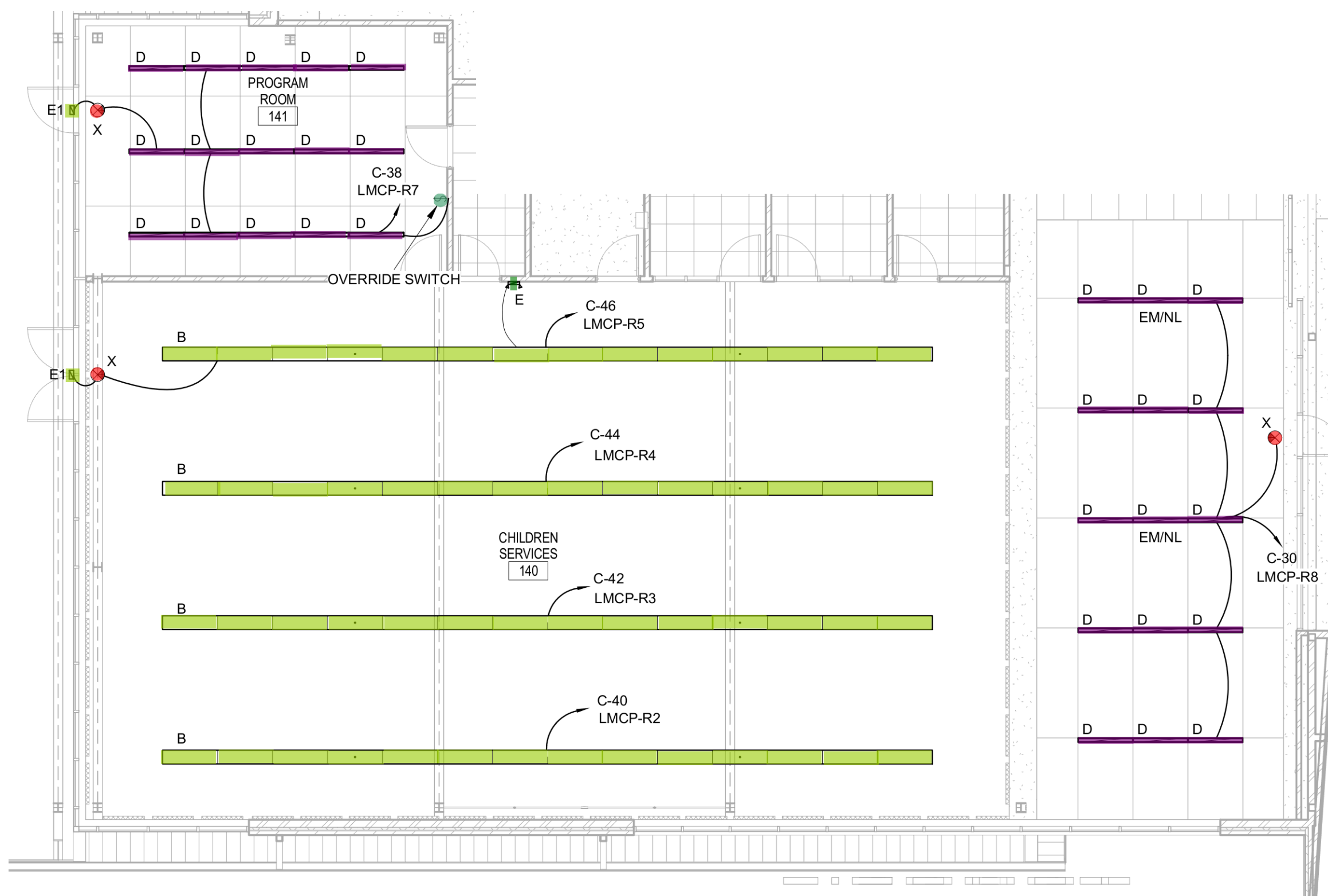
E4

OF-11



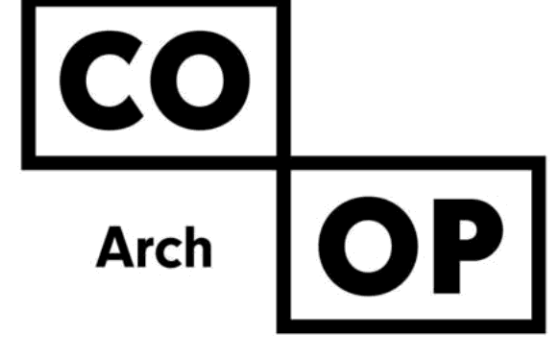
N  
LIGHTING PLAN - AREA C  
1/8" = 1'-0"

- A\_2X2 Center Basket, Instant Start Ballast\_2-BX40/41K
  - B\_Direct /Indirect cable suspended fixture\_3-f32t8/41k
  - C\_Recessed 6-inch LED lens downlight\_29.5W LED 4000K
  - D\_2-F32T8/41K
  - E1\_Remote emergency fixture\_LED
  - E2\_Custom Colour\_mule lighting ELD-BB-10L2-X-DG-DP
  - E\_LED
  - Emergency Wall Pack
  - F1\_2X2 Troffer with programmed start ballast for use with occupancy sensors\_2-BX40/41K
  - G\_Chain hang where necessary\_4-F32T8/41K
  - H1\_LED striplight\_LED 4000k
  - J\_Architect to verify colour and length\_LED 4000K
  - K1\_Field verify length before ordering\_2-F32T8/41K
  - K2\_Field verify length before ordering\_LED 4000K
  - K3\_Field verify length before ordering\_LED 4000K
  - K\_Field verify length before ordering\_2-F32T8/41K
  - L\_Chain hang where necessary\_23W LED 4000K
  - N\_47W LED 4000K
  - OS1\_Occupancy Sensor -Ceiling Mounted
  - OS2\_Occupancy Sensor
  - P\_Fixture consists of three sections left/top/right\_LED 4000K
  - PR\_Power Pack For Low Voltage Occupancy Sensor
  - Q1\_LED 4000K
  - Q2\_LED 4000K
  - Q\_LED 4000K
  - R\_Inboard/Outboard switching\_3-F32T8/41K
  - Single Pole Switch
  - Three Way Switch
  - Wall Occupancy Sensor
  - X1\_Exit Light\_Combo Unit\_LED
  - X2\_Exit Light\_Combo Unit, Mount with White Pendant to Lower Exit Over Door
  - X\_Exit Light\_Universal Mounting/Face\_LED
- 57.0 EA  
58.0 EA  
32.0 EA  
30.0 EA  
7.0 EA  
2.0 EA  
14.0 EA  
NAN EA  
8.0 EA  
18.0 EA  
2.0 EA  
2.0 EA  
1.0 EA  
2.0 EA  
1.0 EA  
1.0 EA  
1.0 EA  
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10.0 EA  
14.0 EA  
10.0 EA  
6.0 EA  
15.0 EA  
2.0 EA  
7.0 EA  
2.0 EA  
5.0 EA  
8.0 EA



N  
LIGHTING CHILDRENS AREA ALTERNATE  
1/8" = 1'-0"

Takeoff By- Nishikant  
Checked By- Sen  
Date : 11 Mar, 2016



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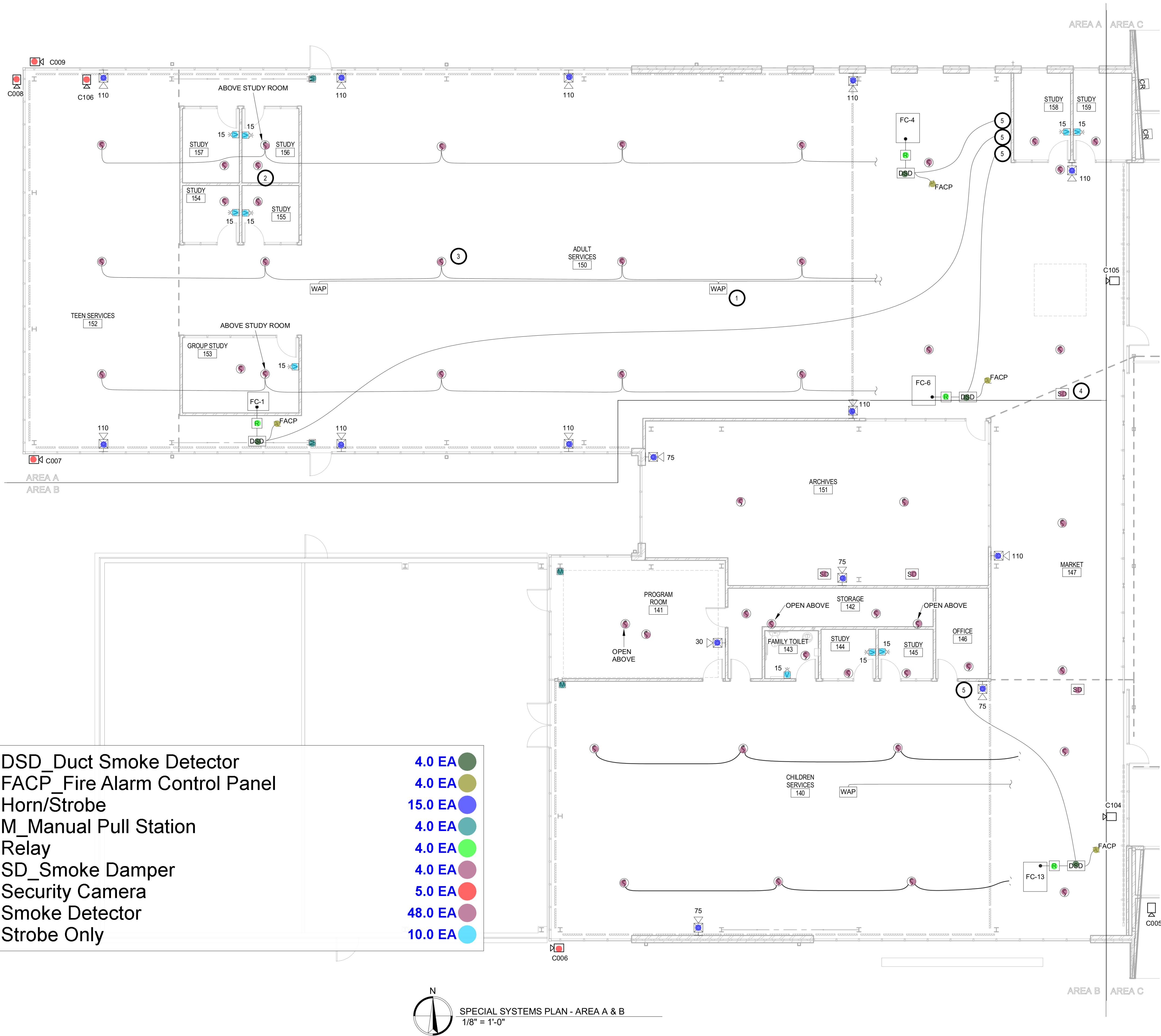
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SHEET TITLE:  
LIGHTING PLAN - AREA C

E6

OF-11

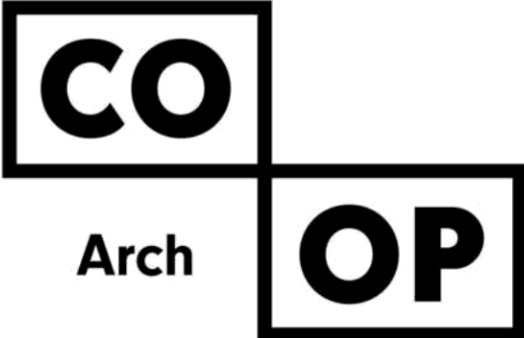


#### KEYNOTES

1. TYPICAL - WIRELESS ACCESS POINT, INSTALL ONE CAT. 6 CABLE TO THIS LOCATION TO BE USED FOR OWNER-PROVIDED WIRELESS HUB.
2. TYPICAL - SMOKE DETECTORS & HORNS IN THE STUDY ROOMS WILL NEED ROUGH-IN BELOW SLAB. THERE IS NOT A PATH FOR CONDUITS FROM THE STUDY ROOM CEILING & WALLS TO THE UPPER CEILING OF RM. 150.
3. TYPICAL - INSTALL CONDUITS ON THE PURLINS. COME OUT AT RIGHT ANGLES TO THE PURLINS WHERE NECESSARY TO GET PROPER LOCATIONS.
4. TYPICAL - SMOKE DAMPERS ARE 120V CONTROLLED FROM FIRE ALARM PANEL.
5. DUCT DETECTOR TEST/RESET SWITCH. 72" AFF.

#### GENERAL NOTES:

1. IN ROOMS WITH EXPOSED STRUCTURAL CEILING PANELS, NOTHING CAN BE ATTACHED DIRECTLY TO THE PANELS. ALL ELECTRICAL ITEMS MUST BE ATTACHED EITHER TO THE I-BEAMS OR THE TUBE STEEL PROVIDED BY G.C.



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#### SHEET TITLE:

SPECIAL SYSTEMS PLAN - AREA  
A & B

# E7

OF-11

Takeoff By- Nishikant  
Checked By- Sen  
Date : 11 Mar, 2016

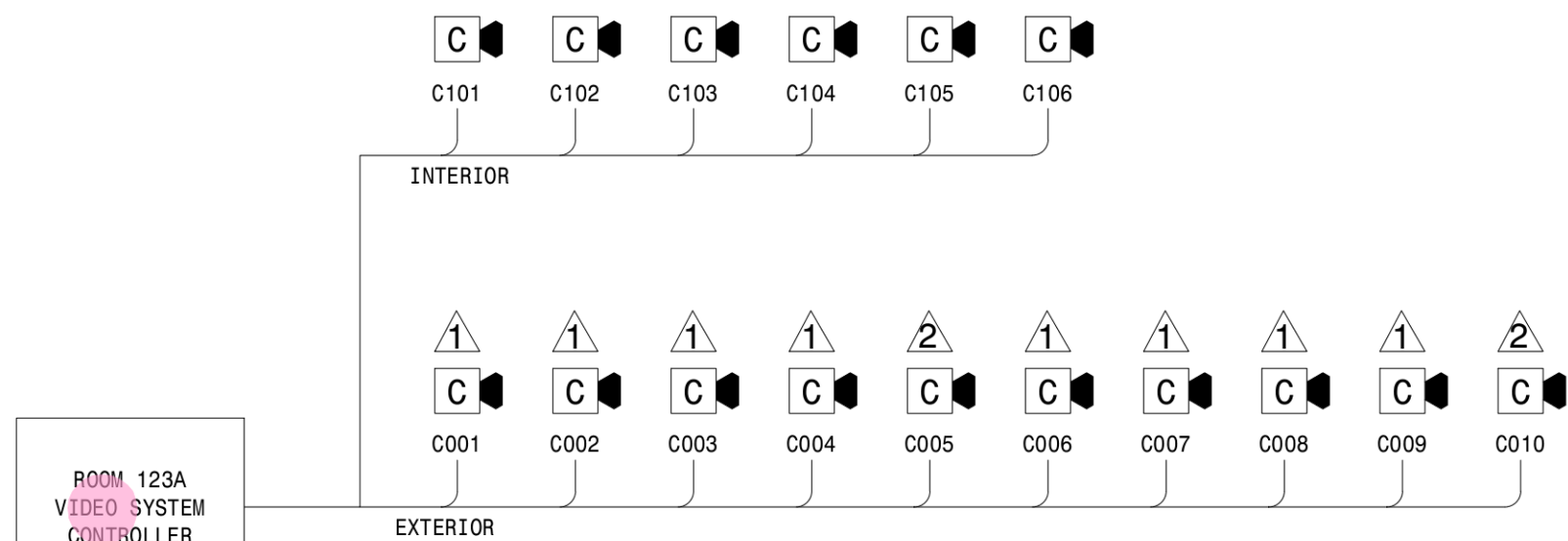


SPECIAL SYSTEMS PLAN - AREA C  
1/8" = 1'-0"

$$1/8'' = 1'-0''$$

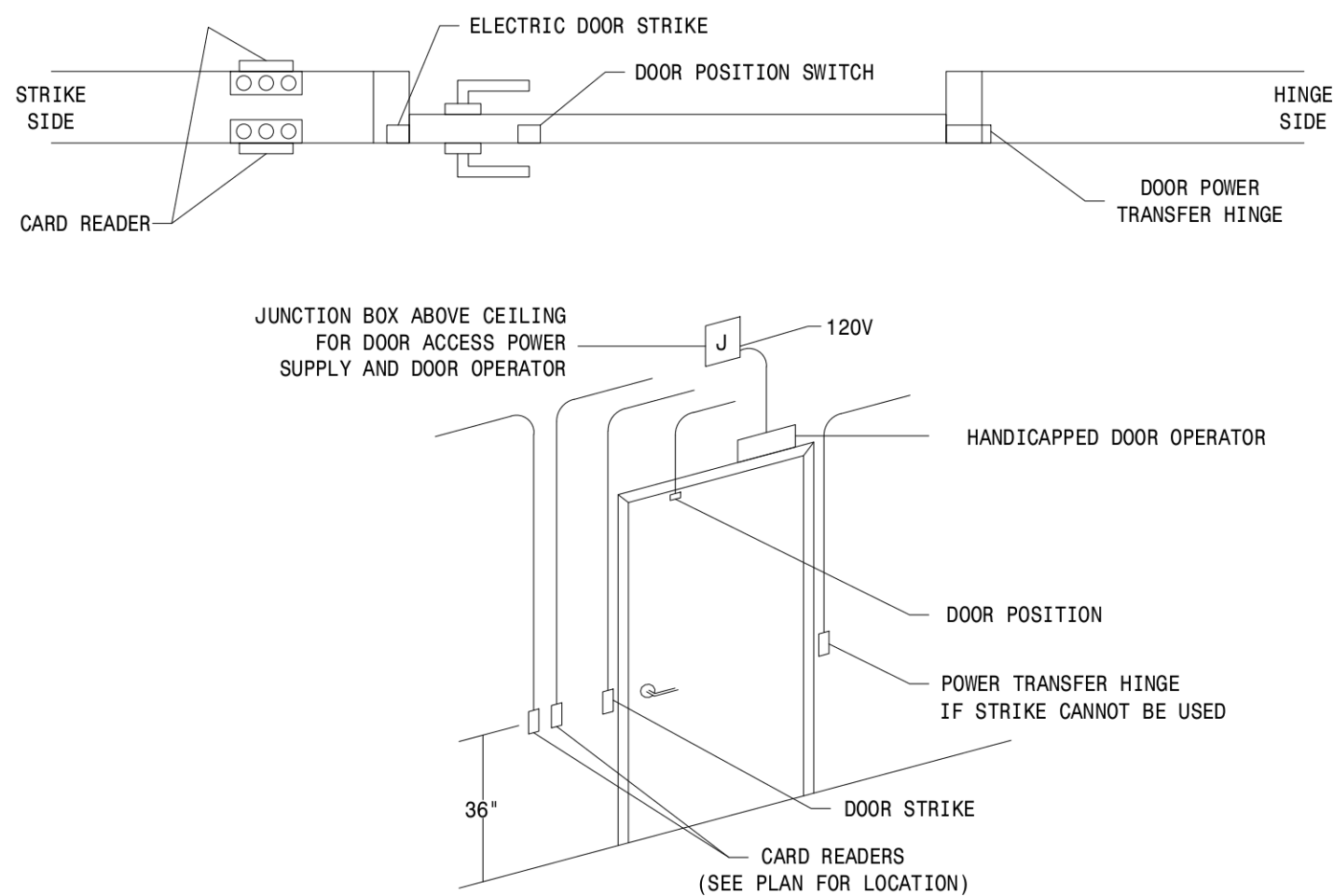
## KEYNOTES

1. POST INDICATOR VALVE (PIV) - SEE CIVIL SITE PLAN FOR LOCATION.
2. DUCT DETECTOR TEST/RESET SWITCH. 72" AFF.



## Security Camera System Riser

NO SCALE



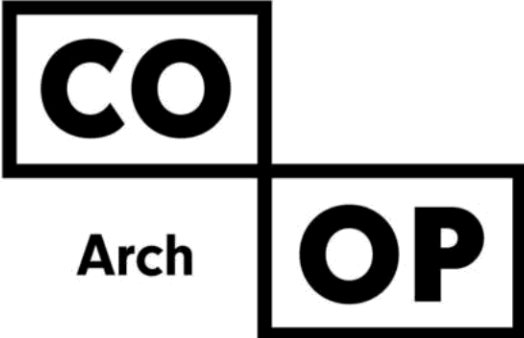
## TYPICAL DOOR WIRING ROUGH-IN

| DEVICE               |                             | EC PROVIDE  |
|----------------------|-----------------------------|---|
| DOOR STRIKE          | <input type="checkbox"/> DS | 1/2" CONDUIT FROM STRIKE TO ACCESSIBLE CEILING ABOVE DOOR   |
| DOOR POSITION SWITCH | <input type="checkbox"/> DC | 1/2" CONDUIT FROM FRAME TO ACCESSIBLE CEILING ABOVE DOOR AND PROVIDE AND INSTALL EDWARDS 44 DOOR SWITCH WITH CONDUCTORS INSTALLED ABOVE CEILING |
| POWER TRANSFER HINGE |                             | 1/2" CONDUIT FROM FRAME TO ACCESSIBLE CEILING ABOVE DOOR  |
| CARD READERS         | <input type="checkbox"/> CR | 3/4" CONDUIT TO ACCESSIBLE CEILING, AND EIGHT (8) TIES TO SYSTEM  |
| DOOR OPERATOR        |                             | 120V CONNECTION TO OPERATOR, AND EIGHT (8) TIES TO SYSTEM ABOVE CEILING FOR SECURITY CONTRACTOR   |
| JUNCTION BOX         |                             | 120V CIRCUIT TO J-BOX ABOVE DOOR FOR SECURITY CONTRACTOR, DOOR LOCK POWER SUPPLY  |

# Takeoff By- Nishikant

Checked By: Sen

Date: 11 Mar, 2016



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MSE PROJECT NO: 140900437ME



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SHEET TITLE:

SPECIAL SYSTEMS PLAN - AREA  
C

# E8

OF-11



| Panel: A  |                                  |         |       |                    |     |     |       |                        |                                  |     |
|---|----------------------------------|---------|-------|--------------------|-----|-----|-------|------------------------|----------------------------------|-----|
| Location: JANITOR 113                           |                                  |         |       | Volts: 120/208 Wye |     |     |       | A.I.C. Rating: 22 KAIC |                                  |     |
| Mounting: Surface                               |                                  |         |       | Phases: 3          |     |     |       | Mains Type: MLO        |                                  |     |
|   |                                  |         |       | Wires: 4           |     |     |       | Rating: 400 A          |                                  |     |
| CKT   | LOAD                             | CKT BRK | POLES | A                  | B   | C   | POLES | CKT BRK                | LOAD                             | CKT |
| 1   | Rm 112B Outlets                  | 20 A    | 1     | ...                |     |     | 1     | 20 A                   | Receptacle Rm 111, 104           | 2   |
| 3   | Rm 112B Media Outlets            | 20 A    | 1     |                    | ... |     | 1     | 20 A                   | Receptacle Rm 110, 111           | 4   |
| 5   | Rm 112B Floor boxes              | 20 A    | 1     |                    |     | ... | 1     | 20 A                   | Refrigerator Rm 114 - GFCI BRK   | 6   |
| 7   | Rm 112A Outlets                  | 20 A    | 1     | ...                |     |     | 1     | 20 A                   | Receptacle Rm 114                | 8   |
| 9   | Rm 112A Media Outlets            | 20 A    | 1     |                    | ... |     | 1     | 20 A                   | Receptacle Rm 114                | 10  |
| 11  | Rm 112A Floor boxes              | 20 A    | 1     |                    |     | ... | 2     | 50 A                   | Range                            | 12  |
| 13  | Receptacle Rm 110, 101A          | 20 A    | 1     | ...                |     |     | --    | --                     |                                  | 14  |
| 15  | Receptacle Rm 110                | 20 A    | 1     |                    | ... |     | 1     | 20 A                   | Receptacle Rm 114                | 16  |
| 17  | Receptacle Rm 110                | 20 A    | 1     |                    |     | ... | 1     | 20 A                   | Receptacle Rm 114                | 18  |
| 19  | Range                            | 50 A    | 2     | ...                |     |     | 1     | 20 A                   | Disposal/Dishwasher - GFCI BRK   | 20  |
| 21  | --                               | --      | --    |                    | ... |     | 1     | 20 A                   | Receptacle Rm 114                | 22  |
| 23  | Receptacle Rm 114A, 114          | 20 A    | 1     |                    | ... |     | 1     | 20 A                   | Receptacle Rm 114                | 24  |
| 25  | Receptacle Rm 114                | 20 A    | 1     | ...                |     |     | 1     | 20 A                   | Receptacle Rm 114                | 26  |
| 27  | Receptacle Rm 104, 114A          | 20 A    | 1     |                    | ... |     | 1     | 20 A                   | Receptacle Rm 123A               | 28  |
| 29  | Receptacle Rm 103, 105, 106      | 20 A    | 1     |                    |     | ... | 1     | 20 A                   | Receptacle Rm 123A               | 30  |
| 31  | Receptacle Rm 103                | 20 A    | 1     | ...                |     |     | 1     | 20 A                   | Receptacle Rm 123A               | 32  |
| 33  | Receptacle Rm 103                | 20 A    | 1     |                    | ... |     | 1     | 20 A                   | Receptacle Rm 123A               | 34  |
| 35  | Coffee Receptacle Rm 103         | 20 A    | 1     |                    |     | ... | 1     | 20 A                   | Receptacle Rm 123A               | 36  |
| 37  | Coffee Receptacle Rm 103         | 20 A    | 1     | ...                |     |     | 1     | 20 A                   | Receptacle Rm 123A               | 38  |
| 39  | Receptacle Rm 113, 131           | 20 A    | 1     |                    | ... |     | 1     | 20 A                   | Receptacle Rm 121, 120           | 40  |
| 41  | Receptacle Rm 123                | 20 A    | 1     |                    |     | ... | 1     | 20 A                   | FACP                             | 42  |
| 43  | Receptacle Rm 122, 120           | 20 A    | 1     | ...                |     |     | 2     | 30 A                   | WH-1                             | 44  |
| 45  | Receptacle Rm 121, 122           | 20 A    | 1     |                    | ... |     | --    | --                     |                                  | 46  |
| 47  | Security Power                   | 20 A    | 1     |                    |     | ... | 2     | 30 A                   | FC-17                            | 48  |
| 49  | Women's Hand Dryers              | 20 A    | 2     | ...                |     |     | --    | --                     |                                  | 50  |
| 51  | --                               | --      | --    |                    | ... |     | 2     | 30 A                   | FC-18                            | 52  |
| 53  | Men's Hand Dryers                | 20 A    | 2     |                    | ... |     | --    | --                     |                                  | 54  |
| 55  | --                               | --      | --    |                    | ... |     | 2     | 30 A                   | FC-20,28                         | 56  |
| 57  | Lighting Room 112A               | 20 A    | 1     |                    | ... |     | --    | --                     |                                  | 58  |
| 59  | Lighting Room 112A               | 20 A    | 1     |                    |     | ... | 1     | 20 A                   | Lighting Room 112B               | 60  |
| 61  | Elec Heat Rm 131                 | 30 A    | 2     | ...                |     |     | 1     | 20 A                   | Lighting Room 112B               | 62  |
| 63  | --                               | --      | --    |                    | ... |     | 1     | 20 A                   | Lighting Room 114, 114A, 113     | 64  |
| 65  | Door Power                       | 20 A    | 1     |                    |     | ... | 1     | 20 A                   | Lighting Room 111, 104, 110A     | 66  |
| 67  | Door Power                       | 20 A    | 1     | ...                |     |     | 1     | 20 A                   | Lighting Room 110                | 68  |
| 69  | FC-14,15,16,19                   | 20 A    | 2     |                    | ... |     | 1     | 20 A                   | Lighting Room 123A, 105, 131     | 70  |
| 71  | --                               | --      | --    |                    | ... |     | 1     | 20 A                   | Lighting Room 122, 121, 106      | 72  |
| 73  | OPEN OFFICE 120                  | 20 A    | 1     | ...                |     |     | 1     | 20 A                   | Lighting Room 123, 126, 124, 125 | 74  |
| 75  | Lighting Room 130, 129, 128, 127 | 20 A    | 1     |                    | ... |     | 1     | 20 A                   | EF-1 & EF-2                      | 76  |
| 77  | Receptacle STORAGE 114A          | 20 A    | 1     |                    |     | ... | 1     | 20 A                   | Receptacle STORAGE 110A          | 78  |
| 79  | SPARE                            | 20 A    | 1     | ...                |     |     | 1     | 20 A                   | SPARE                            | 80  |
| 81  | SPARE                            | 20 A    | 1     |                    | ... |     | 1     | 20 A                   | SPARE                            | 82  |
| 83  | SPARE                            | 20 A    | 1     |                    |     | ... | 1     | 20 A                   | SPARE                            | 84  |
| Notes:<br>USE SEPARATE NEUTRAL FOR ALL CIRCUITS |                                  |         |       |                    |     |     |       |                        |                                  |     |

Panel: D

Location: MECHANICAL 201

Mounting: Surface

Volts: 120/208 Wye










Phases: 3

Wires: 4

A.I.C. Rating: 22 KAIC

Mains Type: MLO

Rating: 125 A

| CKT | LOAD                   | CKT<br>BRK | POLES   | A   | B   | C   | POLES | CKT<br>BRK   | LOAD                        | CKT |
|-----|------------------------|------------|---|-----|-----|-----|-------|--|-----------------------------|-----|
| 1   | UH-1                   | 20 A       |  1 | ... | ... |     |       | 2  30 A | DSC-1 & DSA-1               | 2   |
| 3   | UH-2                   | 20 A       |  1 |     | ... | ... |       | -- --  | --                          | 4   |
| 5   | UH-3                   | 20 A       |  1 |     |     | ... |       | 1  20 A | Receptacle Room 201         | 6   |
| 7   | Lighting Room 200, 201 | 20 A       |  1 | ... | ... |     |       | 1  20 A | Receptacle Room 200         | 8   |
| 9   |                        |            |   |     |     |     |       | 1  20 A | EH-3 UNDER HP-1 - EGFCI BRK | 10  |
| 11  |                        |            |   |     |     |     |       | 1  20 A | EH-3 UNDER HP-2 - EGFCI BRK | 12  |
| 13  |                        |            |   |     |     |     |       |  |                             | 14  |
| 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  |

Notes:

USE SEPARATE NEUTRAL FOR ALL CIRCUITS

Panel: B

Location: JANITOR 113

Mounting: Surface

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KAIC

Mains Type: MLO

Rating: 225 A

| CKT | LOAD                             | CKT BRK | POLES | A   | B   | C   | POLES | CKT BRK | LOAD                             | CKT |
|-----|----------------------------------|---------|-------|-----|-----|-----|-------|---------|----------------------------------|-----|
| 1   | Rm 125 Refrigerator - GFCI BRK   | 20 A    | 1     | ... | ... |     | 1     | 20 A    | Receptacle Rm 124, 120           | 2   |
| 3   | Receptacle Rm 125                | 20 A    | 1     |     | ... |     | 1     | 20 A    | Receptacle Rm 125                | 4   |
| 5   | Dishwasher/Disposal - GFCI BRK   | 20 A    | 1     |     |     | ... | 1     | 20 A    | Receptacle Rm 125                | 6   |
| 7   | Receptacle Rm 125                | 20 A    | 1     | ... | ... |     | 1     | 20 A    | Receptacle Rm 129, 130           | 8   |
| 9   | Receptacle Rm 125                | 20 A    | 1     |     |     | ... | 1     | 20 A    | Receptacle Rm 128, 129           | 10  |
| 11  | Receptacle Rm 120                | 20 A    | 1     |     | ... | ... | 1     | 20 A    | Receptacle Rm 128, 120           | 12  |
| 13  | Receptacle Rm 120                | 20 A    | 1     | ... | ... |     | 1     | 20 A    | Receptacle Rm 127                | 14  |
| 15  | Receptacle Rm 120                | 20 A    | 1     |     | ... | ... | 1     | 20 A    | Receptacle Rm 126                | 16  |
| 17  | Receptacle Rm 140                | 20 A    | 1     |     |     | ... | 1     | 20 A    | Receptacle Rm 120                | 18  |
| 19  | Receptacle Rm 140                | 20 A    | 1     | ... | ... |     | 1     | 20 A    | Receptacle Rm 140                | 20  |
| 21  | Receptacle Rm 146                | 20 A    | 1     |     | ... | ... | 1     | 20 A    | Receptacle Rm 141, 140           | 22  |
| 23  | Receptacle Rm 145, 144, 142      | 20 A    | 1     |     | ... | ... | 1     | 20 A    | Receptacle Rm 140                | 24  |
| 25  | Receptacle Rm 144, 143, 142, 141 | 20 A    | 1     | ... | ... |     | 1     | 20 A    | Receptacle Rm 140                | 26  |
| 27  | Receptacle Rm 140                | 20 A    | 1     |     | ... | ... | 1     | 20 A    | Receptacle Rm 140                | 28  |
| 29  | Receptacle Rm 140                | 20 A    | 1     |     |     | ... | 1     | 20 A    | Receptacle Rm 151, 147, 141      | 30  |
| 31  | Receptacle Rm 140                | 20 A    | 1     | ... | ... |     | 1     | 20 A    | Receptacle Rm 151                | 32  |
| 33  | Security Power                   | 20 A    | 1     |     | ... | ... | 1     | 20 A    | Receptacle Rm 141                | 34  |
| 35  | Hand Dryer STAFF TOILET 124      | 20 A    | 2     |     | ... | ... | 1     | 20 A    | Receptacle Rm 151                | 36  |
| 37  | --                               | --      | --    |     | ... | ... | 1     | 20 A    | Receptacle Rm 150                | 38  |
| 39  | Elec Heat Rm 123                 | 30 A    | 2     |     | ... | ... | 1     | 20 A    | Microwave Rm 125                 | 40  |
| 41  | --                               | --      | --    |     | ... | ... | 1     | 20 A    | Receptacle Rm 147                | 42  |
| 43  | Elec Heat Rm 124                 | 20 A    | 2     | ... | ... |     | 1     | 20 A    | Data Outlet Rm 142               | 44  |
| 45  | --                               | --      | --    |     | ... | ... | 1     | 20 A    | Receptacle Rm 140                | 46  |
| 47  | Elec Heat Rm 130                 | 30 A    | 2     |     | ... | ... | 1     | 20 A    | Receptacle Rm 140                | 48  |
| 49  | --                               | --      | --    |     | ... | ... | 1     | 20 A    | Receptacle Rm 140                | 50  |
| 51  | Door Power                       | 20 A    | 1     |     | ... | ... | 1     | 20 A    | Outdoor Receptacles & Flag Light | 52  |
| 53  | Floor Box OPEN OFFICE 120        | 20 A    | 1     |     | ... | ... | 2     | 30 A    | Hand Dryer FAMILY TOILET 143     | 54  |
| 55  | Floor Box OPEN OFFICE 120        | 20 A    | 1     | ... | ... |     | --    | --      | --                               | 56  |
| 57  | Floor Box OPEN OFFICE 120        | 20 A    | 1     |     | ... | ... | 2     | 30 A    | FC-10,11,12                      | 58  |
| 59  | FC-23,24,25,26,27                | 20 A    | 2     |     | ... | ... | --    | --      | --                               | 60  |
| 61  | --                               | --      | --    |     | ... | ... | 2     | 30 A    | FC-13                            | 62  |
| 63  | FC-21,22                         | 20 A    | 2     |     | ... | ... | --    | --      | --                               | 64  |
| 65  | --                               | --      | --    |     | ... | ... | 1     | 20 A    | SPARE                            | 66  |
| 67  | Receptacle Rm 140                | 20 A    | 1     | ... | ... |     | 1     | 20 A    | SPARE                            | 68  |
| 69  | Receptacle Rm 140                | 20 A    | 1     |     | ... | ... | 1     | 20 A    | SPARE                            | 70  |
| 71  | Receptacle Rm 140                | 20 A    | 1     |     | ... | ... | 1     | 20 A    | SPARE                            | 72  |
| 73  | SPARE                            | 20 A    | 1     | ... | ... |     | 1     | 20 A    | SPARE                            | 74  |
| 75  | SPARE                            | 20 A    | 1     |     | ... | ... | 1     | 20 A    | SPARE                            | 76  |
| 77  | SPARE                            | 20 A    | 1     |     | ... | ... | 1     | 20 A    | SPARE                            | 78  |
| 79  | SPARE                            | 20 A    | 1     | ... | ... |     | 1     | 20 A    | SPARE                            | 80  |
| 81  | SPARE                            | 20 A    | 1     |     | ... | ... | 1     | 20 A    | SPARE                            | 82  |
| 83  | SPARE                            | 20 A    | 1     |     | ... | ... | 1     | 20 A    | SPARE                            | 84  |

Notes:  
USE SEPARATE NEUTRAL FOR ALL CIRCUITS

Panel: H

Location: JANITOR 113

Mounting: Surface

Volts: 120/208 Wye

Phases: 3

Wires: 4

A.I.C. Rating: 22 KAIC

Mains Type: MLO

Rating: 225 A

| CKT | LOAD      | CKT<br>BRK | POLES | A   | B   | C   | POLES | CKT<br>BRK | LOAD      | CKT |
|-----|-----------|------------|-------|-----|-----|-----|-------|------------|-----------|-----|
| 1   | SNOW MELT | 20 A       | 2     | ... | ... |     | 2     | 20 A       | SNOW MELT | 2   |
| 3   | --        | --         | --    |     | ... |     | --    | --         | --        | 4   |
| 5   | SNOW MELT | 20 A       | 2     |     |     | ... | 2     | 20 A       | SNOW MELT | 6   |
| 7   | --        | --         | --    |     | ... |     | --    | --         | --        | 8   |
| 9   | SNOW MELT | 20 A       | 2     |     | ... |     | 2     | 20 A       | SNOW MELT | 10  |
| 11  | --        | --         | --    |     | ... |     | --    | --         | --        | 12  |
| 13  |           |            |       |     | ... |     | 2     | 20 A       | SNOW MELT | 14  |
| 15  |           |            |       |     |     | ... | --    | --         | --        | 16  |
| 17  |           |            |       |     |     | ... | 2     | 20 A       | SNOW MELT | 18  |
| 19  |           |            |       |     |     |     | --    | --         | --        | 20  |
| 21  |           |            |       |     |     | ... | 2     | 20 A       | SNOW MELT | 22  |
| 23  |           |            |       |     |     |     | --    | --         | --        | 24  |
| 25  |           |            |       |     |     | ... | 2     | 20 A       | SNOW MELT | 26  |
| 27  |           |            |       |     |     |     | --    | --         | --        | 28  |
| 29  |           |            |       |     |     |     |       |            |           | 30  |
| 31  |           |            |       |     |     |     |       |            |           | 32  |
| 33  |           |            |       |     |     |     |       |            |           | 34  |
| 35  |           |            |       |     |     |     |       |            |           | 36  |
| 37  |           |            |       |     |     |     |       |            |           | 38  |
| 39  |           |            |       |     |     |     |       |            |           | 40  |
| 41  |           |            |       |     |     |     |       |            |           | 42  |

Notes:

USE SEPARATE NEUTRAL FOR ALL CIRCUITS

\*ALL SNOW MELT CIRCUITS ARE GFCI EQUIPMENT PROTECTION BREAKERS

ELECTRIC HEATER SCHEDULE

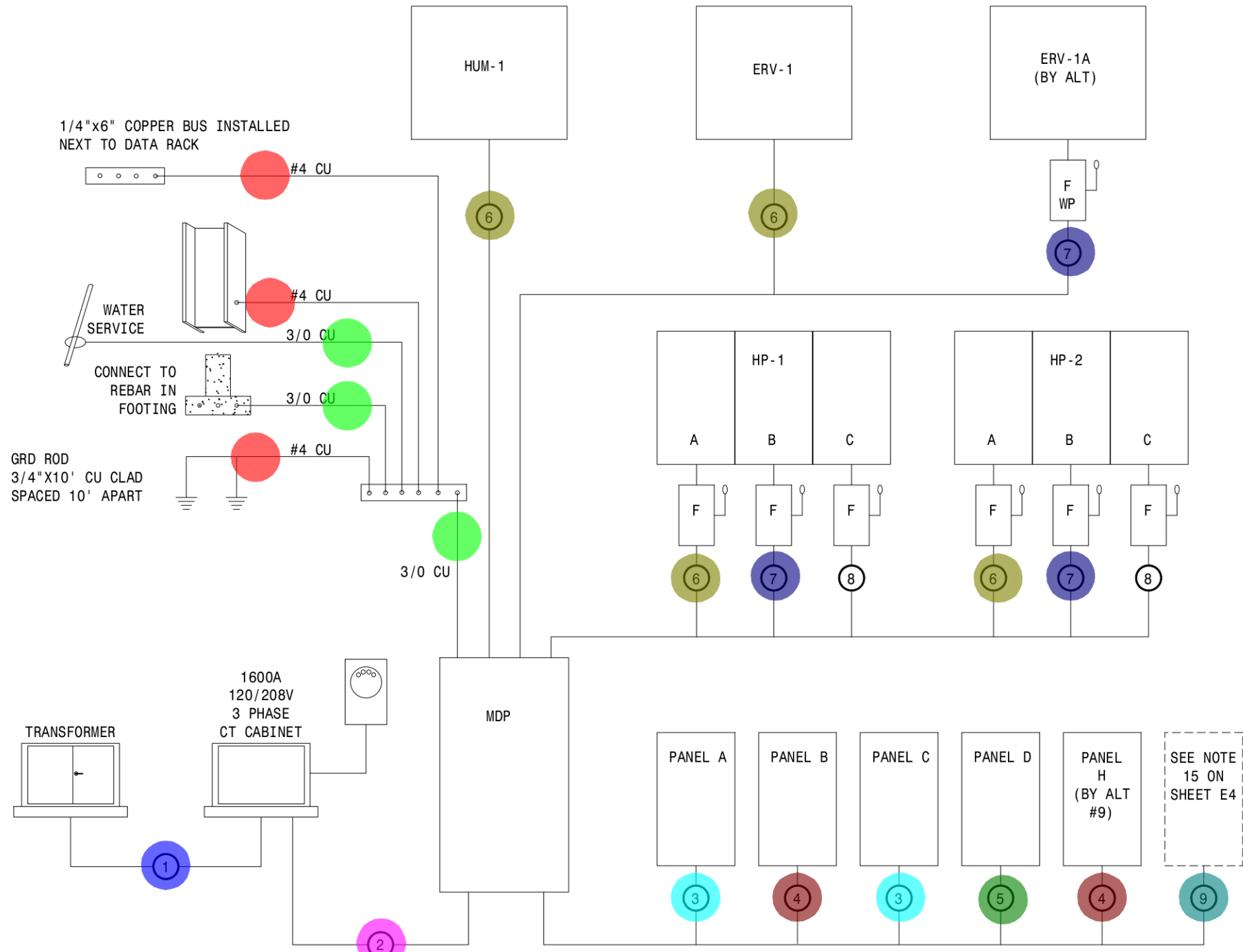
| EQUIP. NO. | MANUFACTURER & MODEL | VOLTS/PHASE  | WATTS | NOTES   |
|------------|----------------------|--------------|-------|---|
| EH-1       | BERKO QFF4004        | 208V/1 PHASE | 3000W | CONTROL WILL BE PROVIDED BY T.C.  |
| EH-2       | BERKO RCC9008C       | 208V/1 PHASE | 900W  | CONTROL WILL BE PROVIDED BY T.C.  |
| EH-3       | EASYHEAT SR51J       | 120V/1 PHASE | 5W/FT | SELF-REGULATING HEATING CABLE, INSTALL 330 FT. IN THE DRAIN PAN BELOW EACH HEAT PUMP. |
| NOTES:     |                      |              |       |   |

OCCUPANCY SENSOR SWITCH SCHEDULE

| TYPE           | MANUFACTURER           | CAT. NO.         | REMARKS  |
|----------------|------------------------|------------------|--|
| OS1            | WATT STOPPER, OR EQUAL | CI-200           | PASSIVE INFRARED CEILING SENSOR, EXTENDED RANGE LENS INCLUDE POWER PACK                          |
| OS2            | WATT STOPPER, OR EQUAL | WT-2200          | ULTRASONIC CEILING SENSOR INCLUDE POWER PACK   |
| S <sup>0</sup> | WATT STOPPER, OR EQUAL | PW-101-COLOR     | PASSIVE INFRARED WALL SWITCH SENSOR, AUTOMATIC ON/OFF OPERATION.                                 |
| S <sup>V</sup> | WATT STOPPER, OR EQUAL | RS-150BA-N-COLOR | PASSIVE INFRARED WALL SWITCH VACANCY SENSOR WITH NIGHTLIGHT, MANUAL ON, AUTOMATIC OFF OPERATION. |
| NOTES:         |                        |                  |  |

FEEDER SIZES

| FEEDER NO. | AMPACITY | PHASE | VOLTAGE | NO. OF CONDUITS                    | CONDUIT SIZE (INCHES)              | PHASE AND NEUTRAL CONDUCTORS   | EQUIPMENT GROUNDING CONDUCTOR |
|------------|----------|-------|---------|------------------------------------|------------------------------------|--|-------------------------------|
| 1          | N/A      | 3     | 120/208 | AS REQUIRED BY THE UTILITY COMPANY | AS REQUIRED BY THE UTILITY COMPANY | EC TO PROVIDE THE TRANSFORMER PAD AND INSTALL UTILITY PROVIDED CONDUITS BETWEEN THE TRANSFORMER AND CT CABINET. PROVIDE AND INSTALL A 13 TERMINAL CT RATED METER SOCKET. | N/A                           |
| 2          | 1600     | 3     | 120/208 | 5                                  | 4                                  | FOUR 750 MCM AL  | N/A                           |
| 3          | 400      | 3     | 120/208 | 2                                  | 2.5                                | FOUR 250 MCM AL  | #3 CU                         |
| 4          | 200      | 3     | 120/208 | 1                                  | 2.5                                | FOUR 250 MCM AL  | #6 CU                         |
| 5          | 125      | 3     | 120/208 | 1                                  | 1.5                                | FOUR #1 CU   | #6 CU                         |
| 6          | 125      | 3     | 120/208 | 1                                  | 1.5                                | THREE #1 CU  | #6 CU                         |
| 7          | 100      | 3     | 120/208 | 1                                  | 1.25                               | THREE #3 CU  | #6 CU                         |
| 8          | 80       | 3     | 120/208 | 1                                  | 1.25                               | THREE #4 CU  | #6 CU                         |
| 9          | N/A      | N/A   | N/A     | 1                                  | 2.5                                | EMPTY CONDUIT INSTALLED BELOW GRADE SET IN POSITION FOR FUTURE PANEL.  |                               |



NOTE: NOT ALL MDP LOADS ARE SHOWN ON RISER

Power Riser Diagram

NOT TO SCALE

LMCP PANEL SCHEDULE

| CIRCUIT NUMBER | RELAY | LOAD                    | CONTROL FUNCTION    |
|----------------|-------|-------------------------|---------------------|
| C-32           | 1     | RM 147                  | ON/OFF TIME OF DAY  |
| C-40           | 2     | RM 140                  | ON/OFF TIME OF DAY  |
| C-42           | 3     | RM 140                  | ON/OFF TIME OF DAY  |
| C-44           | 4     | RM 140                  | ON/OFF TIME OF DAY  |
| C-46           | 5     | RM 140                  | ON/OFF TIME OF DAY  |
| C-48           | 6     | RM 140                  | ON/OFF TIME OF DAY  |
| C-38           | 7     | RM 141                  | ON/OFF TIME OF DAY  |
| C-30           | 8     | RM 140                  | ON/OFF TIME OF DAY  |
| C-28           | 9     | NEON SIGN               | DUSK TO DAWN        |
| C-26           | 10    | ENTRANCE LED            | DUSK TO DAWN        |
| C-20           | 11    | RM 102 & 102A           | ON/OFF TIME OF DAY  |
| C-22           | 12    | RM 103                  | ON/OFF TIME OF DAY  |
| C-24           | 13    | RM 101 & 101A           | ON/OFF TIME OF DAY  |
| C-45           | 14    | BOLLARDS & NORTH LIGHTS | DUSK TO TIME OF DAY |
| C-47           | 15    | PARKING LOT             | DUSK TO TIME OF DAY |
| C-49           | 16    | RM 150                  | ON/OFF TIME OF DAY  |
| C-51           | 17    | RM 150                  | ON/OFF TIME OF DAY  |
| C-53           | 18    | RM 150                  | ON/OFF TIME OF DAY  |
| C-55           | 19    | RM 150                  | ON/OFF TIME OF DAY  |
| C-57           | 20    | RM 150                  | ON/OFF TIME OF DAY  |
| C-59           | 21    | RM 150                  | ON/OFF TIME OF DAY  |
| C-61           | 22    | RM 150                  | ON/OFF TIME OF DAY  |
| C-63           | 23    | RM 150                  | ON/OFF TIME OF DAY  |
| C-65           | 24    | RM 150                  | ON/OFF TIME OF DAY  |
| C-67           | 25    | RM 150                  | ON/OFF TIME OF DAY  |
| C-69           | 26    | RM 150                  | ON/OFF TIME OF DAY  |
| C-71           | 27    | RM 150                  | ON/OFF TIME OF DAY  |
| C-73           | 28    | RM 150                  | ON/OFF TIME OF DAY  |
| C-75           | 29    | RM 150                  | ON/OFF TIME OF DAY  |
| C-77           | 30    | RM 150                  | ON/OFF TIME OF DAY  |
| C-79           | 31    | RM 150                  | ON/OFF TIME OF DAY  |
| C-81           | 32    | RM 150                  | ON/OFF TIME OF DAY  |
|                | 33    | SPARE                   |                     |
|                | 34    | SPARE                   |                     |
|                | 35    | SPARE                   |                     |
|                | 36    | SPARE                   |                     |
|                | 37    | SPARE                   |                     |
|                | 38    | SPARE                   |                     |
|                | 39    | SPARE                   |                     |
|                | 40    | SPARE                   |                     |
|                | 41    | SPACE                   |                     |
|                | 42    | SPACE                   |                     |
|                | 43    | SPACE                   |                     |
|                | 44    | SPACE                   |                     |
|                | 45    | SPACE                   |                     |
|                | 46    | SPACE                   |                     |
|                | 47    | SPACE                   |                     |
|                | 48    | SPACE                   |                     |

NOTES:  
LMCP PANEL IS WATTSTOPPER LMCP48, OR PRE-APPROVED EQUAL.  
ON-SITE FACTORY STARTUP IS REQUIRED.

FIXTURE SCHEDULE

| TYPE       | MANUFACTURERS                                       | CAT. NO.  | LAMPS            | REMARKS  |
|------------|---|---|------------------|--|
| A          | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX 2R01-2BX40-RP-UNV   | 2-BX40/41K       | 2X2 CENTER BASKET, INSTANT START BALLAST   |
| A1         | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX 2R01-2BX40-RP-UNV   | 2-BX40/41K       | 2X2 CENTER BASKET WITH PROGRAMMED START BALLAST FOR USE WITH OCCUPANCY SENSORS   |
| A & A1 ALT | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX 22EN LD1 43 UNV L840 CD1  | 47.4W LED 4000K  |  |
| B          | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 230IP (CABLE LENGTH 144") - 1X2 T8 RXX-U EM S93S  | 3-F32T8/41K      | DIRECT/INDIRECT CABLE SUSPENDED FIXTURE, CONTINUOUS RUN, SEE PLAN FOR LENGTHS. NOT ALL FIXTURES HAVE EMERGENCY OPERATION, SEE PLAN FOR LOCATIONS. PROVIDE FIXTURE SUPPORT LOCATIONS IN THE SHOP DRAWINGS.                  |
| B ALT      | COLUMBIA, LITHONIA, METALUX, LSI                    | CORELITE DS1-WS-3L40-1E-UNV-AC120"-XX   | 56.9W LED 4000K  | DIRECT/INDIRECT CABLE SUSPENDED FIXTURE, CONTINUOUS RUN, SEE PLAN FOR LENGTHS. NOT ALL FIXTURES HAVE EMERGENCY OPERATION, SEE PLAN FOR LOCATIONS. PROVIDE FIXTURE SUPPORT LOCATIONS IN THE SHOP DRAWINGS.                  |
| B1         | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 230IP (CABLE LENGTH 144") - 1X2 T8 RXX-U DB EM S93S   | 3-F32T8/41K      | DIRECT/INDIRECT CABLE SUSPENDED FIXTURE, CONTINUOUS RUN, SEE PLAN FOR LENGTHS. NOT ALL FIXTURES HAVE EMERGENCY OPERATION, SEE PLAN FOR LOCATIONS. DIMMING FIXTURE. PROVIDE FIXTURE SUPPORT LOCATIONS IN THE SHOP DRAWINGS. |
| B1 ALT     | COLUMBIA, LITHONIA, METALUX, LSI                    | CORELITE DS1-WS-3L40-10E-UNV-AC120"-XX  | 56.9W LED 4000K  | DIRECT/INDIRECT CABLE SUSPENDED FIXTURE, CONTINUOUS RUN, SEE PLAN FOR LENGTHS. NOT ALL FIXTURES HAVE EMERGENCY OPERATION, SEE PLAN FOR LOCATIONS. DIMMING FIXTURE. PROVIDE FIXTURE SUPPORT LOCATIONS IN THE SHOP DRAWINGS. |
| C          | COLUMBIA, LITHONIA, METALUX, LSI                    | HALO COMMERCIAL P06 16 ED010 PDM6 840 61V WB  | 29.5W LED 4000K  | RECESSED 6-INCH LED LENS DOWNLIGHT   |
| D          | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2T8 4" UDDSI S93S - EM  | 2-F32T8/41K      | NOT ALL FIXTURES HAVE EMERGENCY OPERATION, SEE PLAN.   |
| D ALT      | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 4" UDDSI S93S - EM   | LED 4000K        | NOT ALL FIXTURES HAVE EMERGENCY OPERATION, SEE PLAN.   |
| E          | DUAL-LITE, SURE-LITES, LITHONIA, LSI, MULE LIGHTING | SURE-LITES LEM-SD   | LED              |  |
| E1         | DUAL-LITE, SURE-LITES, LITHONIA, LSI, MULE LIGHTING | MULE LIGHTING MAKO-LED EM XX 1H   | LED              | REMOTE EMERGENCY FIXTURE WITH BATTERY HEATER TO -22 DEG F. & SELF DIAGNOSTICS. COLOR BY ARCHITECT.   |
| E2         | MULE LIGHTING, OR APPROVED EQUAL                    | MULE LIGHTING ELD-BB-10L2-X-06-0P   | LED              | X-CUSTOM COLOR   |
| F1         | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX 2FC8-38X40A125-UNV-EBR1-U   | 2-BX40/41K       | 2X2 TROFFER WITH PROGRAMMED START BALLAST FOR USE WITH OCCUPANCY SENSORS   |
| F1 (ALT)   | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX 22EN LD1 43 UNV L840 CD1  | 47.4W LED 4000K  | INCLUDE FLANGE KIT   |
| G          | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX W432A-UNV-EBR1-U  | 4-F32T8/41K      | CHAIN HANG WHERE NECESSARY, PROGRAMMED START BALLAST FOR USE WITH OCCUPANCY SENSORS  |
| G ALT      | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX 4SLWP4040ND-UNV   | 46.5W LED 4000K  | CHAIN HANG WHERE NECESSARY   |
| H          | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX SSF-232-UNV-EBR1-U  | 2-F32T8/41K      | CHAIN HANG WHERE NECESSARY   |
| H ALT      | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX 4SLSTP40400D-UNV  | LED 4000K        | CHAIN HANG WHERE NECESSARY   |
| H1         | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX 4SLSTP40400D-UNV  | LED 4000K        | LED STRIPLIGHT. CHAIN HANG WHERE NECESSARY   |
| J          | SHAPER, OR APPROVED EQUAL                           | 461-A L0/840 UNV NA XX  | LED 4000K        | ARCHITECT TO VERIFY COLOR AND LENGTH   |
| K          | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 79PF 232T8 26"1 U EB SI   | 2-F32T8/41K      | FIELD VERIFY LENGTH BEFORE ORDERING. PROGRAMMED START BALLAST FOR USE WITH OCCUPANCY SENSORS   |
| K ALT      | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 79PF 2L40 26"1 UNV STD 1 W  | LED 4000K        | FIELD VERIFY LENGTH BEFORE ORDERING  |
| K1         | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 79PF 232T8 14"3 U EB SI   | 2-F32T8/41K      | FIELD VERIFY LENGTH BEFORE ORDERING. PROGRAMMED START BALLAST FOR USE WITH OCCUPANCY SENSORS   |
| K1 ALT     | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 79PF 2L40 14"3 UNV STD 1 W  | LED 4000K        | FIELD VERIFY LENGTH BEFORE ORDERING  |
| K2         | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 79PF 232T8 5"10 U EB SI   | 2-F32T8/41K      | FIELD VERIFY LENGTH BEFORE ORDERING. PROGRAMMED START BALLAST FOR USE WITH OCCUPANCY SENSORS   |
| K2 ALT     | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 79PF 2L40 5"10 UNV STD 1 W  | LED 4000K        | FIELD VERIFY LENGTH BEFORE ORDERING  |
| K3         | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 79PF 232T8 16"11 U EB SI  | 2-F32T8/41K      | FIELD VERIFY LENGTH BEFORE ORDERING. PROGRAMMED START BALLAST FOR USE WITH OCCUPANCY SENSORS   |
| K3 ALT     | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 79PF 2L40 16"11 UNV STD 1 W   | LED 4000K        | FIELD VERIFY LENGTH BEFORE ORDERING  |
| K4         | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 79PF 232T8 28"9 U EB SI   | 2-F32T8/41K      | FIELD VERIFY LENGTH BEFORE ORDERING. PROGRAMMED START BALLAST FOR USE WITH OCCUPANCY SENSORS   |
| K4 ALT     | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY 79PF 2L40 28"9 UNV STD 1 W  | LED 4000K        | FIELD VERIFY LENGTH BEFORE ORDERING  |
| L          | COLUMBIA, LITHONIA, METALUX, LSI                    | METALUX 2SLWP2040ND-120V  | 23W LED 4000K    | CHAIN HANG WHERE NECESSARY   |
| M          | COLUMBIA, LITHONIA, METALUX, LSI                    | MOGRAV-EDISON GLEON AE 03 LED E1 SL3 BZ (SINGLE HEAD)   | 1-157W LED 4000K | MOUNT ON 25' POLE RSSM25SF (ONE HEAD)  |
| M1         | COLUMBIA, LITHONIA, METALUX, LSI                    | MOGRAV-EDISON GLEON AE 03 LED E1 SL3 BZ (DOUBLE HEAD)   | 2-157W LED 4000K | MOUNT ON 25' POLE RSSM25SF (TWO HEADS)   |
| N          | COLUMBIA, LITHONIA, METALUX, LSI                    | MOGRAV-EDISON ISS-ED2-LED-E1-BL3-BZ-P   | 47W LED 4000K    |  |
| N1         | COLUMBIA, LITHONIA, METALUX, LSI                    | MOGRAV-EDISON ISS-ED2-LED-E1-BL3-BZ   | 47W LED 4000K    |  |
| P          | COLUMBIA, LITHONIA, METALUX, LSI                    | VANESSA LEFT: VAN-LED-400-HL0-40-CR25' -DR-IM-EFX-FINISH-FW-120-EB TOP-VAN-LED-400-HL0-40-CR14' -DR-ON-EF2-FINISH-FW-120-EB RIGHT: VAN-LED-400-HL0-40-CR25' -DR-IM-EFX-FINISH-FW-120-EB | LED 4000K        | THIS FIXTURE CONSISTS OF THREE SECTIONS LEFT, TOP AND RIGHT. IT LOOKS CONTINUOUS WITH NO VISIBLE BREAKS. DIMENSIONS MUST BE FIELD VERIFIED BEFORE ORDERING.  |
| Q          | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 SR 2" UDD SI S93SW   | LED 4000K        |  |
| Q1         | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 SR 4" UDD SI S93SW   | LED 4000K        |  |
| Q2         | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 SR 6" UDD SI S93SW   | LED 4000K        |  |
| R          | COLUMBIA, LITHONIA, METALUX, LSI                    | CORELITE 10S83T8 2C UNV AC 120" X 28'   | 3-F32T8/41K      | INBOARD/OUTBOARD SWITCHING   |
| R (ALT)    | COLUMBIA, LITHONIA, METALUX, LSI                    | CORELITE DS1-WS-3L40-10-UNV-AC120"-X-28'  | 56.9W LED 4000K  | AS PART OF ALT. IN ROOMS 112A & 112B REPLACE SWITCHES WITH DIMMER SWITCH FOR EACH.   |
| T          | COLUMBIA, LITHONIA, METALUX, LSI                    | LITHONIA LIGHTING   | LED 4000K        |  |
| W          | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 SR 2" UDD SI S93SW   | LED 4000K        |  |
| W (ALT)    | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 SR 4" UDD SI S93SW   | LED 4000K        |  |
| Y          | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 SR 6" UDD SI S93SW   | LED 4000K        |  |
| Y (ALT)    | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 SR 8" UDD SI S93SW   | LED 4000K        |  |
| X          | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 SR 10" UDD SI S93SW  | LED 4000K        |  |
| X1         | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 SR 12" UDD SI S93SW  | LED 4000K        |  |
| X2         | COLUMBIA, LITHONIA, METALUX, LSI                    | NEO-RAY S23OR 2L40 SR 14" UDD SI S93SW  | LED 4000K        |  |

Takeoff By- AB  
Checked By- Sen  
Date : 11 Mar, 2016

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