

ADDENDUM #2



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Date:	03.05.2014	Addendum No:	2
Project:	York General Health Care Services Hospital Addition And Remodel	Project No:	24902
To:	Jake Kulhanek	Firm:	Sampson

NOTICE

THIS ADDENDUM IS ISSUED BY THE ARCHITECT TO ALL PARTIES WHO HAVE RECEIVED BIDDING DOCUMENTS FOR THE ABOVE LISTED PROJECT. THIS ADDENDUM SHALL BECOME PART OF THE CONTRACT DOCUMENTS AS A REVISION TO THE ORIGINAL DOCUMENTS.

SPECIFICATIONS:

Section 06 41 10 - WOOD-BASED CASEWORK

1. 2.01 MANUFACTURERS/DESIGN: Add as approved manufacturer for OR casework only:
C. Steel Casework: Products based upon Anti-Microbial powder-coated steel casework as manufactured by **Steel Solutions USA**. Local Nebraska based contractor/contact is: Midwest Storage Solutions, Inc. of Omaha. Contact Taylor Gilbreath, at 402-935-0357.
2. 2.05 FABRICATION, PLASTIC LAMINATE CLAD CASEWORK: Delete paragraph 2.05.B.2.d

Section 12 24 90 - Manual Roller Shades:

Delete Section in entirety and replace with Section 12 24 92 – Manually Operated Roller Shades

SUBSTITUTIONS – Approved Substitutions

07 17 13 – Bentonite Panel Waterproofing
Tegraseal Tegratite-Plus

08 42 29 – Automatic Door Operators
Gyro Tech GT 8500

08 42 30 – Sliding Automatic Entrances
Gyro Tech GT 1175-02

08 42 43 – ICU/CCU Entrances
Gyro-Tech GT2100R and GT2100L

Section 08 43 13 – Aluminum-framed storefronts
Tubelite T14000

08 71 00 – Door Hardware
Stanley D-4550 door closers

CONSTRUCTION DOCUMENTS:

ARCHITECTURAL:

1. Sheet A0-1, DEMOLITION PLAN – LEVEL 1. (Reissue sheet in its entirety):
 - a. North end. Add partial floor removal.
2. Sheet A0-3, GUIDE PLAN – LEVEL 1. (Reissue sheet in its entirety):
 - a. Add “GENERAL FLOOR PLAN NOTES”
3. Sheet A1-3, FLOOR PLAN – AREA “C”. (Reissue sheet in its entirety):
 - a. OFFICE 1460. Modify plan to form stud wall chase at south end.
4. Sheet A3-1, ALUMINUM FRAME TYPES. (Reissue sheet in its entirety):
 - a. Modify type “W2”.
5. Sheet A3-1, COLOR AND MATERIAL SCHEDULE
 - a. Modify WB-2 to read as follows: “HUNTER DOUGLAS CONTRACT; MANUAL SINGLE SHADE RB 500 SERIES; SHEERWEAVE 2390, OYSTER BEIGE”.
6. Sheet A5-1, PLAN DETAILS.
 - a. Detail 13/A5-1. Note “EXISTING COLUMN & COVER MODIFY FOR NEW CASEWORK” add “PATCH COVER ABOVE AT DEMO'D CURTAINWALL SUPPORT”.
7. Sheet A6-3, REFLECTED CEILING PLAN – AREA “C”. (Reissue sheet in its entirety):
 - a. MINOR PROCEDURE 1428 & OR 2 1433. Add section reference “10/A6-5 SIM” thru center of light boom.
 - b. OFFICE 1460 & OB SUPPORT 1459. Modify ceiling for new chase.
8. Sheet A6-5, CEILING DETAILS.
 - a. Detail 10/A6-5. Delete note “MOUNTING PLATE – SEE STRUCTURAL FOR CONNECTION AND SIZE”.

MECHANICAL / ELECTRICAL: (See Attached)

Attachments: Specifications

Section 12 24 90 - Manual Roller Shades

Attachments: Drawings

A0-1, DEMOLITION PLAN – LEVEL 1
A0-3, GUIDE PLAN – LEVEL 1
A1-3, FLOOR PLAN – AREA “C”
A3-1, ALUMINUM FRAME TYPES
A6-3, REFLECTED CEILING PLAN – AREA “C”

By: Doug Swartz - Altus

Addendum 2



Date: 03/05/14

Project Name: York General Hospital Renovation and Addition

Project #: 13048

General Specification Items

GS1. The following manufacturers are approved to bid the project. Approval to bid does not constitute acceptance of the product for use in the building. Final approval must be obtained through the formal shop drawing submittal process. The list is presented by product application and not necessarily by specification reference.

A. Plumbing Fixtures, Faucets & Shower Valves:

1. T&S.

B. Metal Ducts, Ductwork:

1. Tangent Air.

C. Duct Accessories:

1. United Enertech.

D. HVAC Power Ventilators:

1. Captiveaire.

E. Relief Ventilators:

1. United Enertech.

F. Surgery Dehumidification Wheels:

1. Semco.

G. Unit Heaters, Cabinet Unit Heaters:

1. Sigma.

2. Zehnder/Rittling.

Mechanical Specification Items

MS1. Section 23 0995 – Variable Frequency Drives

A. This section is added in its entirety.

Mechanical Drawing Items

MD1. Sheet M0-0 – Mechanical Cover Sheet

A. Modify General Note O as follows:

“O. ALL SUPPLY CEILING DIFFUSERS AND RETURN/EXHAUST GRILLES TO BE D-1, D-2, G-1, G-2, AND G-3 UNLESS NOTED OTHERWISE. DUCT RUN-OUT SIZES FOR ALL CEILING AND WALL DIFFUSERS AND GRILLES TO BE NECK SIZE UNLESS NOTED OTHERWISE.”

MD2. Sheet M0-2 – Basement Level – Piping Demolition

A. Heating Water Piping in Corridor West of Main Mechanical Room:

1. Replace approximately 200 total feet of existing 3"Ø HWS/R piping originating in mechanical room routing south in corridor than east into maintenance shop area. Replace all piping, valves, and fittings with copper. Insulate all replaced piping. Coordinate with specifications for piping and insulation.

MD3. Sheet M0-3 – Basement Level – Plumbing Demolition

- A. Add Sheet Note 3 as follows.

“REMOVE EXISTING ELEVATOR PIT SUMP PUMP AND DRAIN. REMOVE PUMPED DRAIN LINE. PLUG EXISTING DRAIN CONNECTION. PATCH FLOOR.”
 - B. Existing Elevator Pit Near Column Lines xX and X11.7: Add Sheet Note 3 near elevator pit.
- MD4. Sheet M1-0 – Basement Level – HVAC
- A. Modify General Note 3 as follows:

“PROVIDE 18”X6” TRANSFER AIR DUCT BETWEEN G-1 CEILING GRILLE AND 18”X6” G-5 SIDEWALL GRILLE.
 - B. Supply/Return Ductwork Near Column Lines xK and x-B:
 - 1. To temporarily serve LDR space on 1st Level, provide 24”x18” supply and return ductwork from 38”x18 SA and 56”x18” RA ductwork. Route to the north in existing crawlspace. Refer to 1st Level HVAC Plan – Area “C”. After AHU-15 is placed in service and all ductwork has been connected to serve LDR space, remove temporary ductwork and match ductwork layout on sheet.
- MD5. Sheet M1-1 – Floor Plan – Level 1 – HVAC – Area “A”
- A. 1301 Elec: Modify exhaust grille to G-5; 8x8 neck.
 - B. 1302 Data:
 - 1. Modify supply grille to D-6.
 - 2. Locate VB-04-16 3’-0” east to avoid wall.
 - 3. Modify return grille to G-5.
 - C. 1341 Adult Gym: Modify supply grilles to D-10.
- MD6. Sheet M1-2 – Floor Plan – Level 1 – HVAC – Area “B”
- A. 1345 Elec: Modify exhaust grille to G-5; 8x8 neck.
 - B. 1360 EVS: Modify exhaust grille to G-5; 6x6 neck.
 - C. 1367 Cast: Slide up takeoff from main duct and add another elbow for attenuation purposes.
 - D. 1370 Exam: Slide up takeoff from main duct and add another elbow for attenuation purposes.
 - E. 1372 Exam: Slide up takeoff from main duct and add another elbow for attenuation purposes.
 - F. 1382 Exam: Slide up takeoff from main duct and add another elbow for attenuation purposes.
 - G. 1384 Exam: Slide up takeoff from main duct and add another elbow for attenuation purposes.
 - H. 1388 Exam: Slide up takeoff from main duct and add another elbow for attenuation purposes.
- MD7. Sheet M1-3 – Floor Plan – Level 1 – HVAC – Area “C”
- A. 1389 Elec: Modify exhaust grille to G-5; 8x8 neck.
 - B. 1394 Trash/1439 Decontam:
 - 1. Modify 24x24 supply diffusers to D-5.
 - 2. Modify 24x24 and 24x12 exhaust grilles to G-6 and G-7.
 - C. 1395 Data/Comp:
 - 1. Modify supply grille to D-6; 12x10.
 - 2. Modify return grille to G-5; 12x10.
 - D. 1420 EVS: Modify exhaust grille to G-5; 8x8 neck.
 - E. 1428 Minor Procedure:
 - 1. Modify 24x24 supply diffusers to D-9.
 - 2. Modify 24x48 supply diffusers to D-8.
 - 3. Modify return air grilles to G-4.
 - F. 1431 OR:

1. Modify 24x24 supply diffusers to D-9.
2. Modify 24x48 supply diffusers to D-8.
3. Modify 24x60 supply diffusers to D-7.
4. Modify return air grilles to G-4.

G. 1433 OR:

1. Modify 24x24 supply diffusers to D-9.
2. Modify 24x48 supply diffusers to D-8.
3. Modify 24x60 supply diffusers to D-7.
4. Modify return air grilles to G-4.

H. 1438 Storage:

1. Modify 24x24 supply diffusers to D-5.
2. Modify 24x24 and 24x12 return/exhaust grilles to G-6 and G-7.

I. 1443A Shower:

1. Modify 24x24 exhaust grille to G-6.
2. Modify 12x12 exhaust grille to G-8.

J. 1447 EVS: Modify exhaust grille to G-5. 8x8 neck.

K. 1448 Elec: Modify exhaust grille to G-5. 8x8 neck.

L. 1449A Shower:

1. Modify 24x24 exhaust grille to G-6.
2. Modify 12x12 exhaust grille to G-8.

M. 1456 Tlt/Shower: Modify exhaust grille to G-8.N. 1458 EVS: Modify exhaust grille to G-5. 8x8 neck.

O. 1460 Office: Route 24"x18" supply and return ductwork from crawlspace below up through chase in SW corner of office. Route temporary ductwork to existing ductwork connections to serve LDR space. After AHU-15 is brought online and new ductwork has been routed to serve LDR space, remove temporary ductwork. Temporarily relocate return grille to avoid chase.

MD8. Sheet M1-4 – Floor Plan – Level 2 – HVAC

A. 2004 Prep Area:

1. Modify supply diffusers to D-5.
2. Modify return/exhaust grilles to G-6.

B. 2005 Shell Space:

1. Modify supply grilles to D-6.
2. Provide 14x10 G-5 grille from main return duct. Provide volume damper. Balance to 600 CFM.

C. 2027 Elec: Modify exhaust grille to G-5; 8x8 neck.

MD9. Sheet M1-7 – Floor Plan – Level 1 – HVAC & Piping – Area "C" – East

A. New Piping Near Existing Elevator and Column Line xP.4: New 4"Ø HWS/R nor 4"Ø LPS/2"Ø LPR piping does not connect into existing heating water piping running east/west. Rename all existing HWS/R piping from LPS/LPR to HWS/R.

MD10. Sheet M2-3 – Floor Plan – Level 1 – Piping – Area "C"

A. 1403 Same Day 1:

1. Replace new 2"Ø LPS ball valve with gate valve on nearby steam piping.
2. Remove valve on 3/4"Ø LPR piping on nearby condensate piping.

MD11. Sheet M2-4 – Floor Plan – Level 2 – Piping

A. 2004 Prep Area: VB-13-01: Relocate thermostat to other side of door (north).

- B. 2008 Waiting: Rename thermostat to VB-13-09.

MD12. Sheet M3-0 – Basement Level – Plumbing San & Storm – Area “C”

- A. B148A Manifold Room: Reuse existing elevator sump drain and provide new Floor Drain FD-1 in center of room.

MD13. Sheet M3-1 - Basement Level – Plumbing San & Storm – Area “A”

- A. Column Lines C and XPP: Provide 2”Ø SAN piping to serve EWC-1 above. Connect to 6”Ø SAN.

MD14. Sheet M3-2 – Basement Level – Plumbing San & Storm – Area “B”

- A. Modify Sheet Note 1 to read as follows:

“REPLACE EXISTING WITHIN EXTENTS SHOWN. COORDINATE OUTAGE WITH OWNER. NEW PIPING SHALL SLOPE AT 1/8” PER FOOT TOWARD EXTERIOR OF BUILDING.”

MD15. Sheet M3-3 – Basement Level – Plumbing – Area “C”

- A. 6”Ø ST Piping near West Exterior Wall: Piping to show up as existing from cleanout to NEW/EXISTING connection note, and not demolished.

MD16. Sheet M3-4 – Floor Plan – Level 1 – Plumbing – Area “A”

- A. 1311 Mail Room:

- 1. Remove the following text:

“FOR FUTURE SERVING AREA ON SECOND FLOOR.”

- B. 1318 Tech Work:

- 1. South Wall: Add Hose Bibb HB-3 to each east and west hydroculator. Add Hose Bibb HB-2 to west hydroculator.

- C. 1341 Adult Gym: On adjoining wall with 1340 PT Storage, add tag for Electric Water Cooler EWC-1. Route 1/2”Ø CW, 1-1/2”Ø V from piping located in 1324 Speech down to serve EWC-1.

- D. All Lavatory Sinks: Modify all restroom Lavatories L-2 to be L-1.

MD17. Sheet M3-5 – Floor Plan – Level 1 – Plumbing – Area “B”

- A. 1356 Toilet:

- 1. Modify water closet tag to as follows: “WC-2”

- B. 1376 Clean/Meds: Provide Eye Wash EEW-2 west of Sink S-1.

- C. All Lavatory Sinks: Modify all restroom Lavatories L-2 to be L-1.

MD18. Sheet M3-6 – Floor Plan – Level 1 – Plumbing – Area “C”

- A. Sheet Notes:

- 1. Modify second word in Sheet Note 7 to as follows: “WASHER.”

- 2. Modify first word in Sheet Note 11 to as follows: “WASHER.”

- B. 1391 Sterilizer:

- 1. Route 1”Ø CW and 2”Ø V piping to the south of the room and enter from above to east. Piping shall not pass above sterilizer.

- 2. Relocate Floor Drain FD-2 under drain location for sterilizer. (Tag has been changed).

- 3. Modify floor drain near south wall to the following: “FD-2”

- C. 1398 Waiting:

- 1. Modify sink tag to as follows: “S-8”

- D. 1439 Decontam:

- 1. Locate Floor Drain FD-2 serving Neptune system approximately 2’-0” east. (Tag has been changed).

- 2. Provide Eye Wash EEW-2 west of west Sink S-7A. (Sink tag has been changed).

3. Rename east sink along south wall to S-7B.

E. 1451 Office: Modify pipe size of new cold water piping in corridor from "2" to "2-1/2".

F. All Lavatory Sinks: Modify all restroom Lavatories L-2 to be L-1.

MD19. Sheet M3-7 – Floor Plan – Level 2 – Plumbing

A. 2004 Prep Area:

1. Modify floor drain near southwest corner to the following: "FD-2"

B. All Lavatory Sinks: Modify all restroom Lavatories L-2 to be L-1.

MD20. Sheet M4-3 – Floor Plan – Level 1 – Medical Gas – Area "C"

A. Modify Sheet Note 8 to read:

"PROVIDE 1"Ø VAC, 1/2"Ø O, AND 1/2"Ø A FROM PIPING MAIN TO SERVE OUTLETS. CONNECT 3/4"Ø VAC, 1/2"Ø O, AND 1/2"Ø A TO OUTLETS/INLETS ON WALL. REFER TO ARCHITECTURAL INTERIOR ELEVATIONS FOR EXACT LOCATIONS AND HEIGHTS."

B. 1431 OR:

1. Relocate oxygen, vacuum, and medical air from west wall to north wall, just west of door. Provide Sheet Note 8.

2. Remove carbon dioxide, nitrous oxide, and nitrogen piping that extends to south wall. Only oxygen, vacuum, and medical air shall be routed to this location.

3. Relocate nitrogen panel 10'-0" south to avoid electrical panels.

C. 1431 OR: Remove carbon dioxide, nitrous oxide, and nitrogen piping that extends to south wall. Only oxygen, vacuum, and medical air shall be routed to this location.

MD21. Sheet M5-1 – Enlarged Plans

A. Plan 1:

1. Piping near Existing Chilled Water Expansion Tank: Connect 1-1/2"Ø CWS piping into existing 8"Ø CWS piping and not vacuum piping.

2. New gas piping for burner. Assign Sheet Note 2 for each boiler gas train.

3. DA-B-01: Add detail Reference 9/M6-0 to tank.

4. Add the following to Sheet Note 6.

"VERIFY THAT PUMP WILL RECIRCULATE MINIMUM 10 GPM AT ALL TIMES."

MD22. Sheet M5-2 – Enlarged Plans

A. Plan 2:

1. Southwest Area of Penthouse: Modify Hose Bibb HB-1 to HB-2.

2. Modify floor drain near AHU-15 to the following: "FD-3"

MD23. Sheet M5-3 – Enlarged Plans

A. Plan 1: Add the following to Sheet Note 1:

"EXISTING AH-13(E) TO REMAIN OPERATIONAL UNTIL NEW AHU-10 IS CONSTRUCTED."

B. Plan 2:

1. Northwest Area of Penthouse: Modify Hose Bibb HB-1 to HB-2.

2. Modify floor drain near Humidifier H-10 to the following: "FD-3"

MD24. Sheet M5-4 – Enlarged Plans

A. Plan 2:

1. Downstream ductwork of EF-17-02 to be changed from 12x12 EA to 40x24 EA, then connect to 50x30 EA.

2. Modify floor drain near AHU-17 to the following: "FD-3"

MD25. Sheet M5-5 – Enlarged Existing Penthouse 004 – Mech. Demolition

- A. Modify Sheet Note 1 to read:
“EXISTING AHU-06(E) TO REMAIN ABANDONED IN PLACE.”
- B. Remove Sheet Notes 2 through 6 in their entirety.
- C. Plan 3:
 - 1. Modify all floor drains in room to the following: “FD-3”

MD26. Sheet M5-6 – New Penthouse 001 – Mechanical Plans

- A. Modify Sheet Note 1 to read:
“INSTALL STEAM-TO-STEAM HUMIDIFIER ON A 24” HUMIDIFIER MANUFACTURER PROVIDED STAND. INSTALL ON TOP OF 4” CONCRETE PAD.”
- B. Plan 3:
 - 1. Near DU-01, provide new FD-3 to collect condensate from pool unit. Route 3” SAN from drain down to SP-04-01 in therapy pool mechanical pit.
 - 2. Southeast Area of Penthouse: Modify Hose Bibb HB-1 to HB-2.
- C. Plan 5:
 - 1. Insert Sound Attenuator SA-14-1S in missing location on supply duct for AHU-14.
 - 2. VB-14-04:
 - a. Modify airflow to read as follows: “600”
 - 3. VB-14-05:
 - a. Modify airflow to read as follows: “700”
- D. Tag AHU-13 in all six (6) plans.

MD27. Sheet M5-7 – Enlarged Plans – Pool & Pit

- A. Sheet Notes:
 - 1. Sheet Note 8:
 - a. Modify “1-1/2” to “2” for cold water piping.
 - 2. Sheet Note 9:
 - a. Modify second sentence to read as follows:
“PROVIDE GRILLE G-5, VOLUME DAMPER, AND BALANCE TO 300 CFM.
- B. Plan 1:
 - 1. Modify 24x24 exhaust grille in Therapy Pool to G-6.
 - 2. Modify 12x12 exhaust grilles in Therapy Pool Restrooms to G-8.
- C. Plan 3:
 - 1. 6” overflow piping extends from south and runs west to chase at SW corner of Therapy Pool. Piping continues vertically to DSN-1. Provide splashblock below downspout.
 - 2. Modify shower tags in pool restrooms to the following: “SH-2”
 - 3. Modify floor drains in pool area and restrooms to the following: “FD-1”
- D. Plan 4:
 - 1. Add Hose Bibb HB-2 on north wall near backflow preventer.
 - 2. Modify floor drains in pool pit to the following: “FD-3”
- E. Remove Plan 5 in its entirety.

MD28. Sheet M7-2 – Mechanical Schedules

A. Volume Box Schedule.

1. Delete Box VB-14-05 in its entirety.
2. Rename VB-14-06 to "VB-14-05".
3. Add the following information for VB-04-16:
"VB-04-16, 6, 66-450, -, 250, -, -, -, 0.05, 55, 55, -, -, -, (3), (3), PRICE, SDV5, (1) (2)"
4. Add the following information for VB-15-29:
"VB-15-29, 8, 132-800, -, 500, -, -, -, 0.05, 55, 55, -, -, -, (3), (3), PRICE, SDV5, (1) (2)"

MD29. Sheet M7-3 – Plumbing Fixture Schedule

A. Hose Bibb Schedule:

1. Copy HB-2 and add new HB-3. Piping connection to be 3/4" HW.

B. Eye Wash Schedule:

1. Add the following as EEW-2:
"EYEWASH: COMBINATION EYEWASH AND DRENCH HOSE. DECK MOUNTED. YELLOW PLASTIC SPRAY OUTLETS WITH FLIP-FLOP DUST CAPS AND AUTOMATIC FLOW CONTROL. PROVIDE WITH 3/8" NPT FEMALE BRASS, CHROME-PLATED VALVE, AND 6' FOOT HOSE. PROVIDE WITH UNDERCOUNTER MIXING VALVE. ANSI Z358.1 COMPLIANT. PIPING CONNECTIONS: 1/2" CW & 1/2" HW."

C. Water Closet Schedule:

1. Add the following as WC-2:
"BARIATRIC WATER CLOSET – FLOOR MOUNTED, BOTTOM DISCHARGE FLUSH VALVE TYPE, WHITE VITREOUS CHINA, SIPHON JET, EXTRA-LARGE ELONGATED BOWL, 1-1/2" TOP SPUD, BEDPAN LUGS BOLT CAPS. TOP OF SEAT AT 17" TO 19" ABOVE FINISHED FLOOR. INTERFACE WITH FLOOR AND WALL SHALL FORM A STRAIGHT EDGE FOR EASY CLEANING. ZURN MODEL Z5699 OR APPROVED EQUAL.

SEAT: WHITE BARIATRIC DUTY INJECTION MOLDED SOLID PLASTIC SEAT WITH CHECK HINGE AND STAINLESS STEEL OR PLATED STEEL POSTS AND NUTS AND ANTIMICROBIAL COATING. BEMIS OR APPROVED EQUAL.

FLUSH VALVE: (MATCH WC-1)."

D. Floor Drain Schedule:

1. Modify FD-1 to read as follows:
"FLOOR DRAIN – 7" SQUARE NICKEL BRONZE ADJUSTABLE TOP WITH SURFACE MEMBRANE CLAMP WHERE REQUIRED, BOTTOM OUTLET, CAST IRON BODY, FLASHING COLLAR, DEEP SEAL TRAP. J.R. SMITH MODEL 2005 OR APPROVED EQUAL. PIPING CONNECTIONS: 2"Ø SAN, 1-1/2"Ø V."
2. Modify FD-2 to read as follows:
"PIPING CONNECTIONS: 3"Ø SAN, 1-1/2"Ø V." (ALL OTHER SPEC REMAINS)
3. Modify FD-3 to read as follows:
"PIPING CONNECTIONS: 3"Ø SAN, 1-1/2"Ø V." (ALL OTHER SPEC REMAINS)

E. Sink Schedule:

1. S-1: Modify bowl description to as follows:
"BOWL – SINGLE COMPARTMENT BOWL INTEGRAL TO COUNTERTOP BY ARCHITECT."
2. Replace S-7 in its entirety with the following:
"S-7A. BOWL: STAINLESS STEEL, SINGLE COMPARTMENT WITH FAUCET DECK, 18 GAUGE, SELF-RIMMING, 25" (SIDE-TO-SIDE), X 22" (FRONT-TO-BACK) OVERALL SIZE, 21"X15.75" X 8.125" DEEP BOWL, COMPLETELY UNDERCOATED, 3-1/2"Ø DRAIN OUTLET, PERFORATED DRAIN GRATE. ELKAY MODEL LR2522 OR APPROVED EQUAL."

TRIM: (COPY TRIM FROM SINK S-3.)

PIPING CONNECTIONS TO MATCH SINK S-3."

S-7B. BOWL: STAINLESS STEEL, SINGLE COMPARTMENT WITH FAUCET DECK, 18 GAUGE, SELF-RIMMING, 25" (SIDE-TO-SIDE), X 22" (FRONT-TO-BACK) OVERALL SIZE, 21"X15.75" X 8.125" DEEP BOWL, COMPLETELY UNDERCOATED, 3-1/2"Ø DRAIN OUTLET, PERFORATED DRAIN GRATE. ELKAY MODEL LR2522 OR APPROVED EQUAL.

TRIM: (COPY TRIM FROM SINK S-4.)

PIPING CONNECTIONS TO MATCH SINK S-3."

3. Add the following sink to the Schedule S-8:

S-8. BOWL: STAINLESS STEEL, SINGLE COMPARTMENT UNDERMOUNT SINK, 18 GAUGE, SELF-RIMMING, 22.5" (SIDE-TO-SIDE), X 17.25" (FRONT-TO-BACK) OVERALL SIZE, 21"X15.75" X 7.5" DEEP BOWL, COMPLETELY UNDERCOATED, 3-1/2"Ø DRAIN OUTLET, PERFORATED DRAIN GRATE. ELKAY MODEL ELU2115 OR APPROVED EQUAL.

TRIM: (COPY TRIM FROM SINK S-5.)

PIPING CONNECTIONS TO MATCH SINK S-3."

MD30. The following sheets are reissued in their entirety:

- A. M7-0 – Mechanical Schedules
- B. M7-1 – Mechanical Schedules

Electrical Drawing Items

ED1. Sheet E0-0 – Floor Plan – Electrical Demolition – Basement

- A. Provide relocation of existing pull boxes at intersection of column lines x-B and xM.5 per Sheet Note 9 on Sheet E0-1.

ED2. Sheet E0-1 – Floor Plan – Electrical Demolition – Area A

- A. Add Sheet Note 8 to read as follows:

"EXISTING PANEL INDICATED CURRENTLY SERVES EXISTING LOADS IN AREAS OUTSIDE OF CONSTRUCTION. PROVIDE NEW BRANCH CIRCUITS IN NEW PANELS INDICATED BELOW TO SERVE EXISTING LOADS IN DEMOLISHED PANELS. CONTRACTOR SHALL PROVIDE MINIMAL OUTAGES FOR PANELS AND SHALL COORDINATE ALL OUTAGES WITH OWNER WITH WRITTEN NOTICE. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING IN RATING AND TYPE. QUANTITIES INDICATED AS APPROXIMATE AND SHALL BE CONFIRMED BY CONTRACTOR.

EC1A: SERVE LOADS FROM NEW PANEL CRL1F AND EXISTING PANEL CRL1B (ELECTRICAL ROOM 1067, APPROXIMATELY 40' NORTH OF PROJECT AREA). EXISTING LOADS QUANTITIES ARE THIRTY (30) 20A, 1 POLE AND ONE (1) 20A, 1 POLE GFCI BRANCH CIRCUITS.

L1A: SERVE LOADS FROM NEW PANEL L1F AND EXISTING PANEL L1B (ELECTRICAL ROOM 1067, APPROXIMATELY 40' NORTH OF PROJECT AREA). EXISTING LOADS QUANTITIES ARE TWENTY-NINE (29) 20A, 1 POLE AND TWO (2) 20A, 1 POLE GFCI BRANCH CIRCUITS.

EM1A: SERVE LOADS FROM NEW PANEL EQL1G. EXISTING LOADS QUANTITIES ARE THIRTEEN (13) 20A, 1 POLE BRANCH CIRCUITS.

E1A: SERVE LOADS FROM PANEL LSL1F (ELECTRICAL ROOM 1067, APPROXIMATELY 40' NORTH OF PROJECT AREA). EXISTING LOADS QUANTITIES ARE SIXTEEN (16) 20A, 1 POLE AND ONE (1) 50A, 2 POLE BRANCH CIRCUITS."

- B. Add Sheet Note 9 to read as follows:

"RELOCATE OR ABANDON EXISTING JUNCTION BOXES AND CONDUITS AS NECESSARY TO ACCOMMODATE NEW MECHANICAL DUCTWORK INSTALLATION. COORDINATE DEMOLITION AND RELOCATION WITH MECHANICAL CONTRACTOR AND OWNER."

- ED3. Sheet E0-2 – Floor Plan – Electrical Demolition – Area B and C
- A. Add Sheet Note 8 to the following existing panels: EC1A, L1A, EM1A, and E1A.
- ED4. Sheet E1-1 – Floor Plan – Lighting – Area A
- A. Electrical 1301: Remove Panel H1J.
- B. Label Panel H1E, located east of project area, south of Column Line 6. Refer to Sheet E0-1 for panel location. Revise the following lighting branch circuits to new branch circuits indicated:
1. H1J-6 shall be H1E-6.
 2. H1J-5 shall be H1E-4.
 3. H1J-4 shall be H1E-8.
 4. H1J-3 (PART) shall be H1E-10 (PART).
 5. H1J-1 shall be H1E-12.
 6. H1J-2 shall be H1E-14.
- C. Revise Sheet Note 7 to read:
- “PROVIDE NEW NOTIFIER NFS2-3030 FIRE ALARM CONTROL PANEL (FACP) WITH 3 LOOPS. FACP IS LOCATED APPROXIMATELY 104' EAST OF LOCATION SHOWN IN EXISTING VESTIBULE 1000A. REPLACE EXISTING FIRE ALARM ANNUNCIATOR (FAA) AT EXISTING ER NURSE STATION (APPROXIMATELY 80' EAST AND 42' NORTH OF LOCATION INDICATED) AND PATIENT ROOM WING NURSE STATION (APPROXIMATELY 30' EAST AND 105' NORTH OF LOCATION INDICATED). PATCH AND PAINT WALLS TO MATCH EXISTING AT REPLACEMENT PANEL LOCATIONS. REFER TO DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS. ALL FIRE ALARM DEVICES SHOWN ON THIS PROJECT SHALL BE SERVED FROM HOSPITAL FIRE ALARM PANEL.”
- ED5. E1-2 – Floor Plan – Lighting – Area B
- A. Electrical 1345: Remove Panel H1H.
- B. Revise the following lighting branch circuits to new branch circuits indicated: H1H-1 shall be H1E-16.
- ED6. E1-4 – Floor Plan – Lighting – Level 2
- A. Electrical 2027:
1. Remove Panels LSH2A and LSL2A.
 2. Remove Transformer T-LSL2A.
- ED7. E2-0 – Floor Plan – Power – Basement
- A. Space B148G: Add existing MCC EMCCB, located directly south of HWP-B-04.
- ED8. E2-1 – Floor Plan – Power – Area A
- A. Electrical 1301: Remove Panel H1J.
- ED9. E2-2 – Floor Plan – Power – Area B
- A. Electrical 1345: Remove Panel H1H.
- ED10. E2-4 – Floor Plan – Power – Level 2
- A. Electrical 2027:
1. Remove Panels LSH2A and LSL2A
 2. Remove Transformer T-LSL2A.
- ED11. E3-1 – Enlarged Floor Plans – Electrical
- A. Detail 1 – Floor Plan Pool Pit – Lighting:
1. Revise the following lighting branch circuits to new branch circuits indicated:
 - a. H1J-3 (PART) shall be H1E-10 (PART).
- ED12. Sheet E4-2 – Electrical Supplemental Symbol Legends
- A. Electrical Symbols:

1. Fire Alarm System:
 - a. "Horn – Ceiling": Revise device description to read "Chime – Ceiling".
 - b. "Horn & Strobe Combination – Ceiling": Revise device description to read: "Chime & Strobe Combination – Ceiling".

ED13. Sheet E4-3 – Electrical Schedules

A. Equipment Connection Schedule:

1. Mark "DA-B-01":
 - a. Revise MCA to read "12.8A".
 - b. Revise MOCP to read "20A".
 - c. Revise Load to read "10642 VA".
 - d. Revise Panel to read "EQHBA".
 - e. Revise Circuit Number to read "25, 27, 29".
 - f. Revise Gen to read "Yes".

ED14. Sheet E5-3 – Electrical Panel Schedules

A. Lighting Panel EQL1G:

1. Ckt 37, 39, 41: Revise Circuit Description, Rating, Poles, A, B, and C to be blank.

ED15. Sheet E5-5 – Electrical Panel Schedules

A. Distribution Panel DP1C:

1. Ckt 2: Revise Circuit Description, Rating, Poles, and Load to be blank.

B. Lighting Panel EQHBA:

1. Ckt 25,27,29:
 - a. Revise Circuit Description to read "DA-B-01".
 - b. Revise Rating to read "20 A".
 - c. Revise Poles to read "3".
 - d. Revise A to read "3547 VA".
 - e. Revise B to read "3547 VA".
 - f. Revise C to read "3547 VA".

C. Lighting Panel EQLBA: Revise Supply to read "EMCCB".

ED16. The following sheets are reissued in their entirety:

- A. E1-3 – Floor Plan – Lighting – Area C
- B. E2-3 – Floor Plan – Power – Area C
- C. E4-1 – Electrical One-Line Diagram
- D. E5-1 – Electrical Panel Schedules

Submitted By: Chris Hawk and Michael Fagan

SECTION 12 24 92
MANUALLY OPERATED ROLLER SHADES

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes
 - 1. Manually Operated Roller Shades
 - 2. Related work includes the following:
 - a. Section 06 10 00: Rough Carpentry
- B. REFERENCES
 - 1. National Fire Protection Association (NFPA) 701
 - 2. Department of Transportation Motor Vehicle Safety Standard 302 Flammability of Interior Materials
 - 3. California Administrative Code Title 19
 - 4. Federal Standard 191 Method 5903 (used by Port Authority of New York and New Jersey for drapery, curtain, and upholstery material)
 - 5. Boston Fire Department Teat BFD IX-1
 - 6. New York State Uniform Fire Prevention and Building Code
- C. SUBMITTALS
 - 1. Subject under provisions of Section 01330 - Submittal Procedures
 - 2. Product Data: Manufacturer's data sheets shall be submitted for each product specified, including:
 - a. Preparation instructions and recommendations
 - b. Finishes, material descriptions, dimensions of individual components
 - c. Construction and installation instructions
 - d. Manufacturers recommendations for maintenance and cleaning
 - 3. Drawings and Diagrams: Product details, installation details, working and assembly drawings shall be supplied as requested.
 - 4. Sample: Responsible contracting officer or agent shall supply one sample shade of each type specified in this contract for approval. Supplied units shall be furnished complete with all required components, mounting and associated hardware, instructions and warranty.
 - 5. Electric shade motors shall comply with UL standards. Copy of compliance available for submission upon request.
- D. QUALITY ASSURANCE
 - 1. Supplier: Manufacturer, subsidiary or licensed agent shall be approved to supply the products specified, and to honor any claims against product presented in accordance with warranty.
 - 2. Installer: Installer or agent shall be qualified to install specified products by prior experience, demonstrated performance and acceptance of requirements of manufacturer, subsidiary, or licensed agent. Installer shall be responsible for an acceptable installation.
 - 3. Uniformity: Provide Manual Roller Shades of only one manufacturer for entire project.
 - 4. Mock up: Provide (1) mock-up shade for each roller shade type/assembly specified.
- E. DELIVERY, STORAGE AND HANDLING
 - 1. Product shall be delivered to site in manufacturer's original packaging.
 - 2. Product shall be handled and stored to prevent damage to materials, finishes and operating mechanisms.
- F. JOB CONDITIONS
 - 1. Prior to shade installation, building shall be enclosed.
 - 2. Interior temperature shall be maintained between 60° F. and 90° F. during and after installation; relative humidity shall not exceed 80%. Wet work shall be complete and dry.
- G. WARRANTY

1. Lifetime Limited Warranty. Fabrics warranted for 5 years. Specific product warranties available from manufacturer or its authorized agent.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURER

- A. Hunter Douglas Contract 12250 Parkway Centre Dr. Poway, CA 92064 Phone: 800-727-8953 Fax: 800-205-9819 Website: www.hunterdouglascontract.com, or architect approved equivalent. Contact the following for project assistance and dealer referral @ 800-964-2580.
- B. Request for substitutions must be approved by architect minimum of 30 days prior to close of bid.
- C. **MANUAL ROLLER SHADES**
 1. **PRODUCT:** Hunter Douglas Contract "RB 500 Manual Roller Shades".
 2. **MATERIALS:**
 - a. **FABRICS:** Inherently anti-static, flame retardant, fade and stain resistant, light filtering, room darkening, and blackout fabrics providing 0% - 14% openness factors. Fabric weights to range between 6.00 oz/sq.yd. - 20.70 oz/sq.yd., containing fiberglass, PVC, polyester, acrylic, vinyl laminates, cotton, and vinyl coatings. Finish selected by architect from manufacturer's available contract colors.
 - b. **CONTROL SYSTEMS:**
 - c. **CLUTCH OPERATED:** Engineered heavy duty chain drive pulley operating system consisting of metal clutch housing and locking plug containing minimum 6 ribs and inserted at minimum of 2-1/4" into roller tube. Lift torque enhancement provided by Counter Balance System with integrated spring support module. Utilization of adjustment-free continuous qualified T304 stainless steel ball chain with 110 lbs breaking strength for precise control, smooth operation and ensuring a uniform look. Chain tensioner to be compliant with WCMA safety standard A100.1-2010 and must prevent the clutch system from moving the roller shade through lowering and raising if not properly installed as specified in ANSI Standard Section 6.5.2. Components will be maintenance free from adjustments or lubrication for trouble-free operation.
 - d. **ROLLER TUBE:** Circular-shaped aluminum tube extruded from alloy and temper 6063 T-6. 2" outside diameter extruded tube to have a .063" wall thickness (2.5" outside diameter to have a .079" wall thickness). Heavily reinforced with minimum six internal ribs providing additional tensile strength and allows for secure placement of clutch and end plug.
 - e. **HEAVY DUTY TUBE BEARING PLUG:** Die cast metal and reinforced idler assembly containing spring loaded end plug with positive locking wheel allows for up to 7/8" adjustment and provides for a secure installation and removal of shade. Locking tube bearing plug contains minimum 6 ribs and inserted a minimum of 2-3/8" into roller tube.
 - f. **BOTTOM BAR:** Sealed Hem Bar – Extruded aluminum weight in a sealed fabric hem pocket provides uniform look.
 - g. **MOUNTING HARDWARE:** Manufacturer's standard heavy duty bracket constructed of hardened 1/8" thick steel to support full weight of shade with bracket & screw hole covers to provide uniform look. Integrated leveling device for enhanced level adjustment of overall shade. Locking mechanism on bracket adapter provides for a secure installation and removal of the shade.
 - h. **FASCIA:** L shaped removable aluminum extrusion valance that attaches to brackets and conceals roller shade. Fascia must have a 2" return on 3" tall profile fascia boxes, and a 3" return on 4" tall profile fascia box. Maximum exposure is only 1" for the fabric to drop down from its enclosure.
 - i. **ADDITIONAL AVAILABLE OPTIONS:** RB 500 Bottom Bar, Reverse Roll, Detachable Spline, Internal Auto Stop Mechanism, Coupled and Banded.
- D. **FABRICATION**
 1. Shade measurements shall be accurate to within $\pm 1/8"$ or as recommended in writing by manufacturer.

- E. FABRICS
 - 1. Fabrics selected: SheerWeave 2390
 - 2. FABRIC COLOR: Finish selected by architect from manufacturer's available contract colors.

PART 3 - EXECUTION

3.01 INSPECTION

- A. SUBCONTRACTOR shall be responsible for inspection on site, approval of mounting surfaces, installation conditions and field measurement for this work.
- B. OTHER INTERACTING TRADES shall receive drawings of shade systems, dimensions, assembly and installation methods from subcontractor upon request.
- C. INSTALLATION
 - 1. INSTALLATION shall comply with manufacturer's specifications, standards and procedures as detailed on contract drawings.
 - 2. ADEQUATE CLEARANCE shall be provided to permit unencumbered operation of shade and hardware.
 - 3. CLEAN finish installation of dirt and finger marks. Leave work area clean and free of debris.
- D. DEMONSTRATION
 - 1. Demonstrate operation method and instruct owner's personnel in the proper operation and maintenance of the roller shades.
- E. SCHEDULE
 - 1. EXTERIOR WINDOWS
 - 2. INTERIOR RELIGHTS

END OF SECTION

SECTION 23 09 95
VARIABLE FREQUENCY DRIVES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This specification is to cover a complete Variable Frequency motor Drive (VFD) consisting of a pulse width modulated (PWM) inverter designed for use on a standard NEMA Design B induction motor. It is required that the drive manufacturer have an existing:
- B. All VFDs will be furnished and installed by the Temperature Controls Contractor.

1.2 QUALITY ASSURANCE

- A. Referenced Standards:
 - 1. Institute of Electrical and Electronic Engineers (IEEE)
 - a. Standard 519-1992, IEEE Guide for Harmonic Content and Control.
 - 2. Underwriters laboratories
 - a. UL508C
 - 3. National Electrical Manufacturer's Association (NEMA)
 - a. ICS 7.0, AC Adjustable Speed Drives
 - 4. IEC 16800 Parts 1 and 2
 - 5. International Building Code 2006
- B. Qualifications:
 - 1. VFDs and options shall be UL listed as a complete assembly. VFD's that require the customer to supply external fuses for the VFD to be UL listed are not acceptable. VFDs with requiring additional branch circuit protection are not acceptable, the base VFD shall be UL listed for 100 KAIC without the need for input fuses.
 - 2. CE Mark – The VFD shall conform to the European Union ElectroMagnetic Compatibility directive, a requirement for CE marking. The VFD shall meet product standard EN 61800-3 for the First Environment restricted level.
 - 3. Acceptable Manufactures
 - a. ABB ACH Series.

1.3 SUBMITTALS

- A. Submittals shall include the following information:
 - 1. Outline dimensions, conduit entry locations and weight.
 - 2. Customer connection and power wiring diagrams.
 - 3. Seismic Certification of Compliance that shows the submitted VFD, accessories, and components will withstand seismic forces as defined by IBC2006 with an importance factor of 1.5 for post event operation.
 - 4. Compliance to IEEE 519 – harmonic analysis for particular jobsite including total harmonic voltage distortion and total harmonic current distortion (TDD).
 - a. The VFD manufacturer shall provide calculations; specific to this installation, showing total harmonic voltage distortion is less than 5%. Input filters shall be sized and provided as required by the VFD manufacturer to ensure compliance with IEEE standard 519. All VFD's shall include a minimum of 5% impedance reactors, **no exceptions**.

PART 2 - PRODUCTS

2.1 VARIABLE FREQUENCY DRIVES

- A. The VFD package as specified herein shall be enclosed in a UL Listed Type enclosure, (NEMA rated enclosures are not acceptable) completely assembled and tested by the manufacturer in an ISO9001 facility. The VFD tolerated voltage window shall allow the VFD to operate from a line of +30% nominal, and -35% nominal voltage as a minimum.
1. Environmental operating conditions: 0-40C continuous. Altitude 0 to 3300 feet above sea level, up to 95% humidity, non-condensing.
 2. Enclosure shall be rated UL type 12 and shall be UL listed as a plenum rated VFD. VFD's without these ratings are not acceptable.
- B. All VFDs shall have the following features:
1. All VFDs shall have the same customer interface, including digital display, and keypad, regardless of horsepower rating. The keypad shall be removable, capable of remote mounting and allow for uploading and downloading of parameter settings as an aid for start-up of multiple VFDs.
 2. The keypad shall include Hand-Off-Auto selections and manual speed control. There shall be fault reset and "Help" buttons on the keypad. The Help button shall include "on-line" assistance for programming and troubleshooting.
 3. There shall be a built-in time clock in the VFD keypad. The clock shall have a battery back up with 10 years minimum life span. The clock shall be used to date and time stamp faults and record operating parameters at the time of fault. If the battery fails, the VFD shall automatically revert to hours of operation since initial power up. The clock shall also be programmable to control start/stop functions, constant speeds, PID parameter sets and output relays. The VFD shall have a digital input that allows an override to the time clock (when in the off mode) for a programmable time frame. There shall be four (4) separate, independent timer functions that have both weekday and weekend settings. Capacitor backup is not acceptable.
 4. The VFD shall be capable of starting into a coasting load (forward or reverse) up to full speed and accelerate or decelerate to setpoint without safety tripping or component damage (flying start).
 5. The overload rating of the drive shall be 110% of its normal duty current rating for 1 minute every 10 minutes, 130% overload for 2 seconds. The minimum FLA rating shall meet or exceed the values in the NEC/UL table 430-150 for 4-pole motors.
 6. The VFD shall have 5% impedance reactors to reduce the harmonics to the power line and to add protection from AC line transients. The 5% impedance may be from dual (positive and negative DC bus) reactors, or 5% AC line reactors. VFD's with only one DC reactor shall add AC line reactors.
 7. The VFD shall include a coordinated AC transient protection system consisting of 4-120 joule rated MOV's (phase to phase and phase to ground), a capacitor clamp, and 5% impedance reactors.
 8. The VFD shall provide a programmable proof of flow form c relay output (broken belt / broken coupling). The drive shall be programmable to signal this condition via a keypad warning, relay output and/or over the serial communications bus. Relay outputs shall include programmable time delays that will allow for drive acceleration from zero speed without signaling a false underload condition.
- C. All VFDs to have the following adjustments:
1. Three (3) programmable critical frequency lockout ranges to prevent the VFD from operating the load continuously at an unstable speed.
 2. Two (2) PID Setpoint controllers shall be standard in the drive, allowing pressure or flow signals to be connected to the VFD, using the microprocessor in the VFD for the closed loop control. The VFD shall have 250 ma of 24 VDC auxiliary power and be capable of loop powering a transmitter supplied by others. There shall be two parameter sets for the first PID that allow the sets to be switched via a digital input, serial communications or from the keypad for night setback, summer/winter setpoints, etc. There shall be an independent, second PID loop that can utilize the second analog input and modulate one of the analog outputs to maintain setpoint of an independent process (ie. valves, dampers, etc.). All setpoints, process variables, etc. to be accessible from the serial communication network.

3. Two (2) programmable analog inputs shall accept current or voltage signals.
 4. Two (2) programmable analog outputs (0-20ma or 4-20 ma). The outputs may be programmed to output proportional to Frequency, Motor Speed, Output Voltage, Output Current, Motor Torque, Motor Power (kW), DC Bus voltage, Active Reference, and other data.
 5. Six (6) programmable digital inputs.
 6. Three (3) programmable digital Form-C relay outputs. The relays shall include programmable on and off delay times and adjustable hysteresis. The relays shall be rated for maximum switching current 8 amps at 24 VDC and 0.4 A at 250 VAC; Maximum voltage 300 VDC and 250 VAC; continuous current rating 2 amps RMS. Outputs shall be true form C type contacts; open collector outputs are not acceptable.
 7. Run permissive circuit - There shall be a run permissive circuit for damper or valve control. Regardless of the source of a run command (keypad, time-clock control, or serial communications) the VFD shall provide a dry contact closure that will signal the damper to open (VFD motor does not operate). When the damper is fully open, a normally open dry contact (end-switch) shall close. The closed end-switch is wired to a VFD digital input and allows motor operation. Two separate safety interlock inputs shall be provided. When either safety is opened, the motor shall be commanded to coast to stop, and the damper shall be commanded to close.
 8. Two independently adjustable accel and decel ramps with 1 – 1800 seconds adjustable time ramps.
 9. The VFD shall include a motor flux optimization circuit that will automatically reduce applied motor voltage to the motor to optimize energy consumption and audible motor noise.
 10. The VFD shall include a carrier frequency control circuit that reduces the carrier frequency based on actual VFD temperature that allows higher carrier frequency without derating the VFD or operating at high carrier frequency only at low speeds.
 11. The VFD shall include password protection against parameter changes.
- D. The Keypad shall include a backlit LCD display. The display shall be in complete English words for programming and fault diagnostics (LED and alpha-numeric codes are not acceptable). All VFD faults shall be displayed in English words.
- E. All applicable operating values shall be capable of being displayed in engineering (user) units. A minimum of three operating values from the list below shall be capable of being displayed at all times. The display shall be in complete English words (alpha-numeric codes are not acceptable):
1. Output Frequency
 2. Motor Speed (RPM, %, or Engineering units)
 3. Motor Current
 4. Drive Temperature
 5. DC Bus Voltage
 6. Output Voltage
- F. The VFD shall include a fireman's override input. Upon receipt of a contact closure from the fireman's control station, the VFD shall operate in one of two modes: 1) Operate at a programmed predetermined fixed speed or operate in a specific fireman's override PID algorithm that automatically adjusts motor speed based on override setpoint and feedback. The mode shall override all other inputs (analog/digital, serial communication, and all keypad commands), except customer defined safety run interlock, and force the motor to run in one of the two modes above. "Override Mode" shall be displayed on the keypad. Upon removal of the override signal, the VFD shall resume normal operation.
- G. Serial Communications
1. The VFD shall have an RS-485 port as standard. The standard protocols shall be Modbus, BACnet, Johnson Controls N2 bus, and Siemens Building Technologies FLN. Each individual drive shall have the protocol in the base VFD. The use of third party gateways and multiplexers is not acceptable. All protocols shall be "certified" by the governing authority (ie BTL Listing for BacNet). Use of non-certified protocols is not allowed.
 2. The BACnet connection shall be an RS485, MSTP interface operating at 9.6, 19.2, 38.4, or 76.8 Kbps. The connection shall be tested by the BACnet Testing Labs (BTL) and be BTL Listed. The BACnet interface shall conform to the BACnet standard device type of an Applications Specific

- Controller (B-ASC). The interface shall support all BIBBs defined by the BACnet standard profile for a B-ASC including, but not limited to:
- a. Data Sharing – Read Property – B.
 - b. Data Sharing – Write Property – B.
 - c. Device Management – Dynamic Device Binding (Who-Is; I-AM).
 - d. Device Management – Dynamic Object Binding (Who-Has; I-Have).
 - e. Device Management – Communication Control – B.
3. Serial communication capabilities shall include, but not be limited to; run-stop control, speed set adjustment, proportional/integral/derivative PID control adjustments, current limit, accel/decel time adjustments, and lock and unlock the keypad. The drive shall have the capability of allowing the DDC to monitor feedback such as process variable feedback, output speed / frequency, current (in amps), % torque, power (kW), kilowatt hours (resettable), operating hours (resettable), and drive temperature. The DDC shall also be capable of monitoring the VFD relay output status, digital input status, and all analog input and analog output values. "Pass thru I/O" All diagnostic warning and fault information shall be transmitted over the serial communications bus. Remote VFD fault reset shall be possible.
- H. EMI / RFI filters. All VFD's shall include EMI/RFI filters. The VFD shall comply standard EN 61800-3 for the First Environment, restricted level with up to 100' of motor cables. No Exceptions. Certified test lab test reports shall be provided with the submittals
 - I. All VFD's through 60HP shall be protected from input and output power mis-wiring. The VFD shall sense this condition and display an alarm on the keypad. The VFD shall not be damaged by this condition.
 - J. OPTIONAL FEATURES – Optional features to be furnished and mounted by the drive manufacturer. All optional features shall be UL Listed by the drive manufacturer as a complete assembly and carry a UL508 label. The bypass enclosure door and VFD enclosure must be interlocked such that input power is turned off before either enclosure can be opened. The VFD and Bypass as a package shall have a UL listed short circuit rating of 100,000 amps and shall be indicated on the data label.
 1. A complete factory wired and tested bypass system consisting of an output contactor and bypass contactor, service (isolation) switch and VFD input fuses are required. Bypass designs, which have no VFD only fuses, or that incorporate fuses common to both the VFD and the bypass will not be accepted
 2. Door interlocked, padlockable circuit breaker that will disconnect all input power from the drive and all internally mounted options.

2.2 BYPASS CONTROLLER

- A. The following operators shall be provided:
 1. Bypass Hand-Off-Auto
 2. Drive mode selector and light
 3. Bypass mode selector and light
 4. Bypass fault reset
 5. Bypass LDC display, 2 lines, for programming and status / fault / warning indications
- B. Motor protection from single phase power conditions- The Bypass system must be able to detect a single phase input power condition while running in bypass, disengage the motor in a controlled fashion, and give a single phase input power indication. Bypass systems not incorporating single phase protection in Bypass mode are not acceptable.
- C. The system (VFD and Bypass) tolerated voltage window shall allow the system to operate from a line of +30%, -35% nominal voltage as a minimum. The system shall incorporate circuitry that will allow the drive or bypass contactor to remain "sealed in" over this voltage tolerance at a minimum.

- D. The Bypass system shall NOT depend on the VFD for bypass operation. The bypass shall be completely functional in both Hand and Automatic modes even if the VFD has been removed from the enclosure for repair / replacement.
- E. Serial communications – the bypass and VFD shall be capable of being monitored and / or controlled via serial communications. Provide communications protocols for ModBus; Johnson Controls N2; Siemens Building Technologies FLN (P1) and BacNet.
- F. BACnet Serial communication bypass capabilities shall include, but not be limited to; bypass run-stop control; the ability to force the unit to bypass; and the ability to lock and unlock the keypad. The bypass shall have the capability of allowing the DDC to monitor feedback such as, bypass current (in amps), bypass kilowatt hours (resettable), bypass operating hours (resettable), and bypass logic board temperature. The DDC shall also be capable of monitoring the bypass relays output status, and all digital input status. “Pass thru I/O” All bypass diagnostic warning and fault information shall be transmitted over the serial communications bus. Remote bypass fault reset shall be possible. The following additional bypass status indications and settings shall be transmitted over the serial communications bus – keypad “Hand” or “Auto” selected, and bypass selected. The DDC system shall also be able to monitor if the motor is running under load in both VFD and bypass (proof of flow) in the VFD mode over serial communications or Form C relay output. A minimum of 40 field parameters shall be capable of being monitored in the bypass mode.
- G. Run permissive circuit - There shall be a run permissive circuit for damper or valve control. Regardless of the source of a run command (keypad, time-clock control, or serial communications) the VFD and bypass shall provide a dry contact closure that will signal the damper to open (VFD motor does not operate). When the damper is fully open, a normally open dry contact (end-switch) shall close. The closed end-switch is wired to a VFD system input and allows motor operation. Two separate safety interlock inputs shall be provided. When either safety is opened, the motor shall be commanded to coast to stop, and the damper shall be commanded to close.
- H. The bypass control shall monitor the status of the VFD and bypass contactors and indicate when there is a welded contactor contact or open contactor coil. This failed contactor operation shall be indicated on the Bypass LCD display as well as over the serial communications protocol.
- I. The bypass control shall include a programmable time delay for bypass start and keypad indication that this time delay is in process. This will allow VAV boxes to be driven open before the motor operates at full speed in the bypass mode. The time delay shall be field programmable from 0 – 120 seconds.
- J. The bypass control shall be programmable for manual or automatic transfer to bypass. The user shall be able to select via keypad programming which drive faults will generate an automatic transfer to bypass and which faults require a manual transfer to bypass.
- K. There shall be an adjustable motor current sensing circuit for the bypass and VFD mode to provide proof of flow indication. The condition shall be indicated on the keypad display, transmitted over the building automation protocol and on a relay output contact closure.
- L. The bypass controller shall have six programmable digital inputs, and five programmable form C relay outputs.
- M. The relay outputs from the bypass shall be programmable for any of the following indications.
 - 1. System started
 - 2. System running
 - 3. Bypass override enabled
 - 4. Drive fault
 - 5. Bypass fault
 - 6. Bypass H-O-A position

7. Motor proof of flow (broken belt)
 8. Overload
 9. Bypass selected
 10. Bypass run
 11. System started (damper opening)
 12. Bypass alarm
 13. Over temperature
- N. The digital inputs for the system shall accept 24VAC or 24VDC. The bypass shall incorporate internally sourced power supply and not require an external control power source. The bypass power board shall supply 250 ma of 24 VDC for use by others to power external devices.
- O. Customer Interlock Terminal Strip – provide a separate terminal strip for connection of freeze, fire, smoke contacts, and external start command. All external safety interlocks shall remain fully functional whether the system is in VFD or Bypass mode. The remote start/stop contact shall operate in VFD and bypass modes. The terminal strip shall allow for independent connection of up to four (4) unique safety inputs.
- P. The user shall be able to select the text to be displayed on the keypad when the safety opens. Example text display indications include “Firestat”, “Freezstat”, “Over pressure” and “Low pressure”. The user shall also be able to determine which of the four (4) safety contacts is open over the serial communications connection.
- Q. Class 10, 20, or 30 (selectable) electronic motor overload protection shall be included.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Installation shall be the responsibility of the mechanical contractor. The contractor shall install the drive in accordance with the requirements of the VFD manufacturer's installation manual.

3.2 START-UP

- A. Certified factory start-up shall be provided for each drive by a factory certified service center. A certified start-up form shall be filled out for each drive with a copy provided to the owner, and a copy kept on file at the manufacturer.

3.3 PRODUCT SUPPORT

- A. Factory trained application engineering and service personnel that are thoroughly familiar with the VFD products offered shall be locally available at both the specifying and installation locations. A toll free 24/365 technical support line shall be available.
- B. A computer based training CD or 8-hour professionally generated video (VCR format) shall be provided to the owner at the time of project closeout. The training shall include installation, programming and operation of the VFD, bypass and serial communication.

3.4 WARRANTY

- A. Warranty shall be 24 months from the date of certified start-up, not to exceed 30 months from the date of shipment. The warranty shall include all parts, labor, travel time and expenses.

END OF SECTION 23 09 95

**YORK GENERAL
HEALTH CARE
SERVICES**

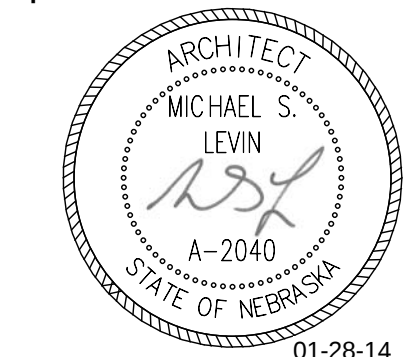
Project Title:

HOSPITAL ADDITION AND REMODEL

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Rev	Date	Description
1	02/25/2014	Addm No.1
2	03/05/2014	Addm No.2

Stamp: _____



Drawn By:	Project Manager:
Author	Approver

Project Number:	24902
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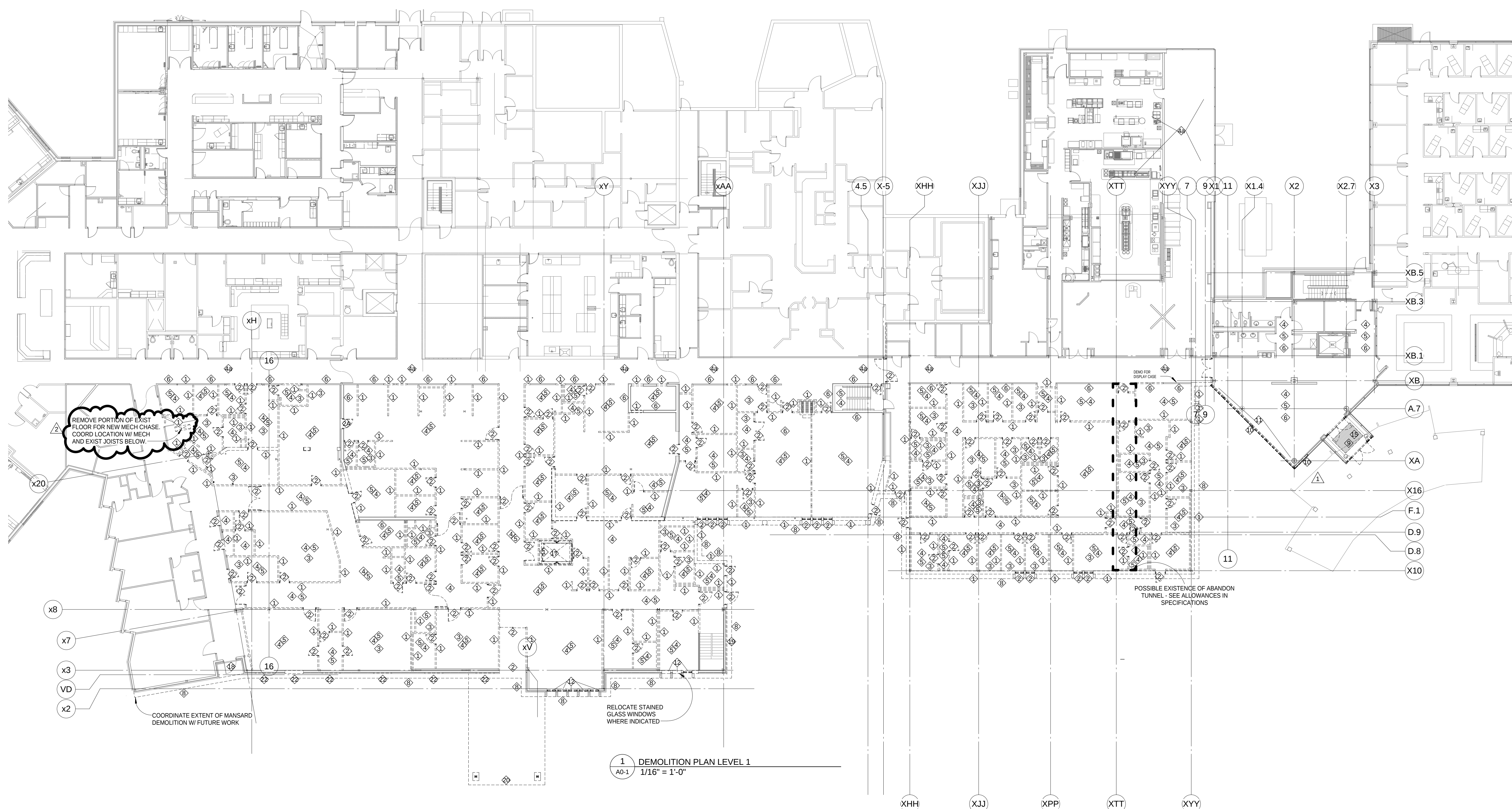
Date: 01/28/2014

Sheet Title:

**DEMOLITION
PLAN - LEVEL 1**

Sheet Number: _____

A0-1



INFECTION CONTROL NOTES

- 1 SPECIFY NEGATIVE AIR MACHINES WITH HEPA
2 FILTER BE PROVIDED ON THE PROJECT WITH A
3 SCHEDULED, DOCUMENTED, FILTER CHANGE.
- 4 SPECIFY THAT THE CONSTRUCTION PROJECT
5 BE COMPLETELY SEPARATED BY A SEALED
6 WALL WITH A FIRE-RATED BARRIER FROM THE
7 ADJACENT FUNCTIONING SPACES.
- 8 SPECIFY PREDETERMINED CONSTRUCTION
9 ROUTES AND TEMPORARY PARTITIONS TO
10 PROMOTE CONSTRUCTION PATH
11 SEGREGATION.
- 12 PROVIDE STICKY MATS AND WET MATS WITH A
13 SPECIFIC CHANGE OUT SCHEDULE.
- 14 CONTRACTOR TO TRANSPORT MATERIALS
15 (SPECIFICALLY DEMOLISHED MATERIAL) IN
16 CLOSED CONTAINERS ONLY. THE WHEELS OF
17 THE TRUCK ARE TO BE THOROUGHLY WIPED DOWN
18 BEFORE LEAVING THE CONSTRUCTION ZONE.
- 19 IF CEILING TILES OUTSIDE OF THE PROJECT
20 PERIMETER NEED TO BE ACCESSED, A
21 TEMPORARY BARRIER SHALL BE PLACED AND
22 SEALED AROUND IT. THE CONTRACTOR MUST
23 BRING A VACUUM INTO THE SEALED AREA
24 TO REMOVE DUST AND VACUUM UP THE AREA
25 AND HIMSELF BEFORE LEAVING THE ENCLOSURE.

GENERAL DEMOLITION NOTES

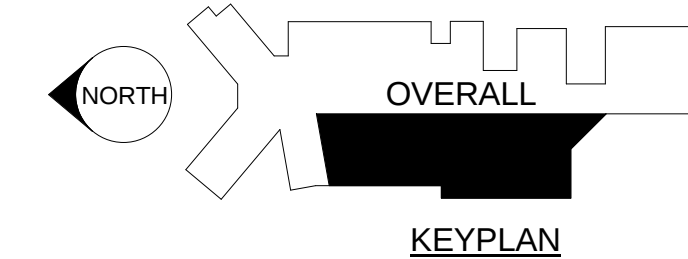
- 1 DEMOLITION PLANS ARE GENERAL AND DIAGRAMMATIC IN NATURE. THE PLANS ARE NOT INTENDED TO REPRESENT THE TOTAL SCOPE OF WORK. THESE PLANS DO NOT SHOW EACH ITEM THAT IS REQUIRED TO BE REMOVED. EACH CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE ACTUAL CONDITIONS AS THEY EXIST IN THE FIELD THROUGH SITE INSPECTION AND REVIEW OF THESE DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND COORDINATE THE REMOVAL AND DEMOLITION WORK AS REQUIRED TO ACHIEVE THE FINAL PRODUCT AS INDICATED IN THESE DOCUMENTS.
- 2 REFER TO ROOM FINISH SCHEDULE AND FINISH LEGEND FOR NEW FINISHES. REMOVE, CLEAN, PATCH/REPAIR EXISTING SURFACE FINISHES AS NECESSARY FOR THE INSTALLATION OF NEWLY SCHEDULED FINISHES.
- 3 THE OWNER AND HIS DESIGNATED REPRESENTATIVES HAVE FIRST RIGHT OF REFUSAL REGARDING SALVAGEABLE ITEMS. CONTRACTOR SHALL COORDINATE WITH OWNER.
- 4 THE PLANS FOR THE EXISTING BUILDING MAY BE REVIEWED UPON REQUEST. THESE PLANS SHALL NOT BE CONSIDERED ACCURATE AND COMPLETE AS TO THE CONDITIONS AS THEY EXIST IN THE FIELD.
- 5 MODIFY THE EXISTING STRUCTURAL SYSTEM ONLY AS SHOWN ON THE STRUCTURAL DRAWINGS. MODIFICATIONS TO THE FIRE PROTECTION AND FIRE RESISTIVE WALL OR FLOOR SYSTEMS SHALL BE RESTORED TO MAINTAIN THE REQUIRED RATING.
- 6 ALL FLOORS OF THE BUILDING SHALL REMAIN OCCUPIED DURING THE DEMOLITION AND CONSTRUCTION. COORDINATE AND PROVIDE TEMPORARY INSTALLATIONS AND ENCLOSURES AS NECESSARY TO SEPARATE/PROTECT THE OCCUPIED AREAS FROM DEMOLITION AND CONSTRUCTION ACTIVITIES.
- 7 REMOVE ALL EXISTING FLOOR FINISHES WHERE NEW FINISHES ARE SCHEDULED. PREP EXISTING FLOOR SURFACE AS NECESSARY FOR NEWLY SCHEDULED FINISHES.
- 8 REMOVE EXISTING ITEMS AS REQUIRED FOR REUSE IN THE NEW BUILDING. NEW FLOOR, CEILING AND STORE ITEMS IN A SAFE STORAGE AREA SUBJECT TO THE OWNER'S APPROVAL UNTIL THE TIME OF REINSTALLATION. LOST ITEMS SHALL BE REPLACED WITH COMPARABLE NEW ITEM AT NO COST TO THE OWNER.

CODED DEMOLITION NOTES

- 1 REMOVE WALL OR PARTITION AS SHOWN. REMOVE ALL ANCHORS, FASTENERS, ADHESIVES AND OTHER MISCELLANEOUS ITEMS ASSOCIATED WITH THE WALL.
- 2 REMOVE DOOR (OR WINDOW), FRAME, HARDWARE AND ANCHORS.
- 3 REMOVE PLUMBING FIXTURE AND ASSOCIATED PIPING. PATCH HOLES IN CONSTRUCTION TO REMAIN.
- 4 REMOVE ACOUSTICAL TILE CEILING AND SUSPENSION SYSTEM LIGHTS, DIFFUSERS, RETURN AIR GRILLES AND ALL OTHER CEILING MOUNTED ITEMS INCLUDING MISCELLANEOUS CLIPS AND FASTENERS (TYPICAL CEILING UNLESS OTHERWISE NOTED)
- 4a REMOVE EXISTING CEILING AS REQUIRED (INCLUDING CEILING MOUNTED DEVICES) FOR INSTALLATION OF NEW MEP WORK IN CORRIDOR AND ELSEWHERE SHOWN OR REQUIRED. REINSTALL CEILING & DEVICES IN CORRIDOR TO MATCH EXISTING LAYOUT. (REUSE OF EXISTING MATERIAL THAT ARE IN GOOD CONDITION IS ACCEPTABLE). REPLACE DAMAGED ITEMS WITH NEW.
- 5 REMOVE EXISTING FLOORING, INCLUDING ADHESIVE, TACK STRIPS, TRANSITION STRIPS, BASE AND ASSOCIATED SETTING MATERIAL. PREPARE SUB FLOOR FOR SCHEDULED SURFACE FINISH (TYPICAL UNLESS OTHERWISE NOTED)
- 6 REMOVE EXISTING FLOORING, INCLUDING ADHESIVE, TACK STRIPS, TRANSITION STRIPS, BASE AND ASSOCIATED SETTING MATERIAL. PREPARE SUB FLOOR FOR SCHEDULED SURFACE (TYPICAL UNLESS OTHERWISE NOTED).
- 6 REMOVE ALL WALL COVERINGS ON WALLS TO REMAIN AND PREPARE WALL FOR NEW FINISH.
- 7 REMOVE / REROUTE / RELOCATE ALL ITEMS ABOVE CEILING TO BE STRUCTURAL STEEL SUPPORT TO BE INSTALLED, NOT REFERENCED - SEE MANUSCRIPT.
- 8 REMOVE EXISTING MANUARD ROOF / FASCIA ABOVE, IN ITS ENTIRETY, INCLUDING BUT NOT LIMITED TO: STANDING SEAM, SHEATHING, METAL STUDS, TRIM, COPING AND SOFFIT.
- 9 REMOVE EXISTING DOORS AND STOREFRONT AS NECESSARY FOR NEW WORK.
- 10 REMOVE EXISTING CURTAIN WALL AND STUD WALL AS NECESSARY FOR NEW CONSTRUCTION
- 11 CUT BACK CEILING, FLOOR AND WALL FINISHES TO LOCAL POINT AT ENTRY IN PREPARATION OF TYING IN NEW SCHEDULED FINISHES.

CODED DEMOLITION NOTES

- 12 REMOVE EXISTING STOREFRONT. SALVAGE STAINED GLASS AS NOTED. FRAME SUPPORT AND BLOCKING TO REMAIN. PREPARE OPENING FOR NEW STOREFRONT.
- 13 REMOVE BALLAST, MEMBRANE, INSULATION, ADHESIVES AND ALL OTHER ROOFING MATERIAL TO ROOF SLAB. - PREPARE SLAB FOR NEW CONSTRUCTION. COORDINATE WITH STRUCTURE AS REQ'D.
- 14 REMOVE BOTH LAYERS OF EXISTING SIDING TO STUDS. INSTALL ADDITIONAL NEW STUDS AND SHEATHING FOR NEW MEMBRANE ADHESION. SEE SECTION.
- 15 REMOVE FILL MAT WELL - FILL WITH SELF LEVELING CONCRETE MATCH SURROUNDING FLOOR HEIGHT
- 16 REMOVE GLASS HANDRAIL, BASE SHOE AND CLADDING TO REPAIR
- 17 REMOVE HYDRAULIC ELEVATOR COMPLETELY INCLUDING CAB, EQUIPMENT, RAILS, DOORS, SILLS AND ASSOCIATED STRUCTURE AND MEP. INFILL THE ELEVATOR OPENING ON FIRST FLOOR WITH A SLAB TO MATCH EXISTING AND AS DETAILED. PROVIDE A ONE-HOUR RATED PARTITION TO ENCLOSE THE SHAFT OPENING AT THE LOWER LEVEL.
- 18 REMOVE EXTERIOR SOFFIT TO ACCOMMODATE INSTALLATION OF ADDITIONAL STRUCTURE.
- 19 REMOVE EXISTING CLADDING - PREPARE WALL TO RECEIVE GWB PER WALL TYPE CALLED ON PLANS
- 20 REMOVE CANOPY AND ALL RELATED SYSTEMS INCLUDING, BUT NOT LIMITED TO, STAIRS, COLUMNS, CURBING - SEE STRUC AND CIVIL - PREPARE EXISTING WALL AT ENTRANCE FOR NEW CONSTRUCTION
- 21 MODIFY TOP OF WALL AS SHOWN ON DRAWINGS.
- 22 REMOVE PORTION OF EXISTING WALL FOR NEW STOREFRONT.
- 23 REMOVE EXISTING DUCTS ABOVE ROOF IN THEIR ENTIRETY SEE MFCH



GENERAL NOTES

- 1 THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CHECKING CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS FOR ACCURACY AND CONFIRMING WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH CONSTRUCTION. IF THERE ARE ANY QUESTIONS REGARDING THESE OR OTHER COORDINATION QUESTIONS THE GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING WITH WORK OR RELATED WORK IN QUESTION.
- 2 THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY DEFECTS FOUND IN EXISTING BASE BUILDING CONSTRUCTION WHICH INTERFERES WITH ANY CONSTRUCTION. THIS INCLUDES BUT IS NOT LIMITED TO UNEVEN SURFACES AND FINISHES AT PLASTER OR GYPSUM BOARD. THE GENERAL CONTRACTOR SHALL PATCH AND REPAIR SURFACE TO MATCH ADJACENT ADJOINING SURFACES.
- 3 GENERAL CONTRACTOR SHALL INFORM THE ARCHITECT OF ANY CONFLICTS PRIOR TO CONSTRUCTION THAT EXISTS IN LOCATIONS OF ANY AND ALL MECHANICAL, TELEPHONE, ELECTRICAL, LIGHTING, PLUMBING AND SPRINKLER EQUIPMENT (TO INCLUDE ALL PIPING, DUCTWORK AND CONDUIT) AND THAT ALL REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE OR ABOVE EQUIPMENT ARE PROVIDED.
- 4 GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL WORK AND MATERIALS IN ACCORDANCE WITH ALL LOCAL REGULATORY AGENCIES, APPLICABLE BUILDING CODES AND REQUIREMENTS.
- 5 THE GENERAL CONTRACTOR AND SUB-CONTRACTORS SHALL PURCHASE AND MAINTAIN CERTIFICATION OF INSURANCE WITH RESPECT TO WORKMAN'S COMPENSATION, PUBLIC LIABILITY AND PROPERTY DAMAGE FOR LIMITS AS REQUIRED BY LAW. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS IN CONNECTION WITH THE WORK.
- 6 ALL WORK NOT SPECIFICALLY COVERED IN THE CONSTRUCTION DOCUMENTS SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH BUILDING STANDARD MATERIALS AND DETAILS.

GENERAL NOTES

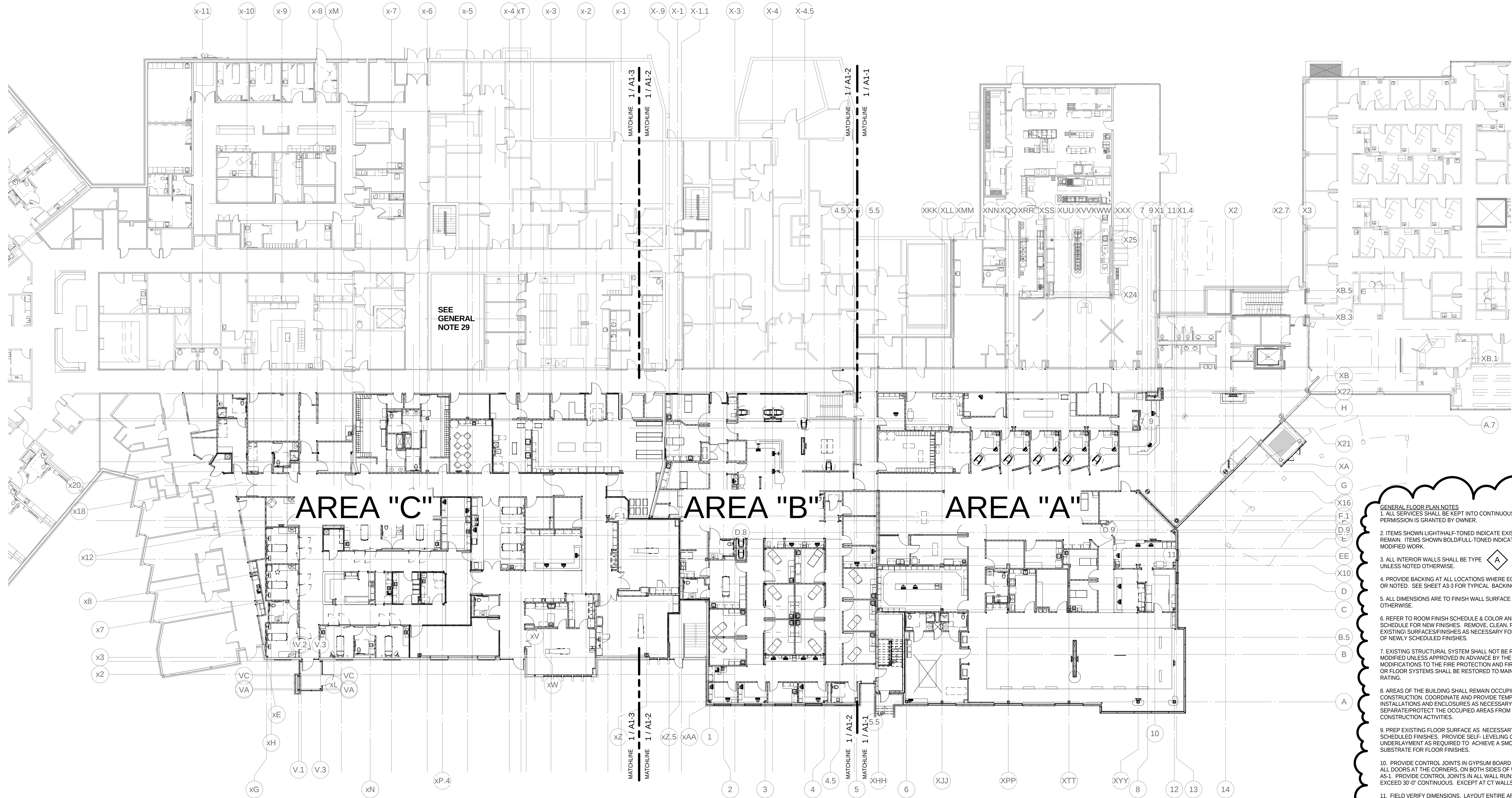
- 7 ALL WORK SHALL BE SCHEDULED AND PERFORMED SO AS NOT TO DISRUPT OR CAUSE DAMAGE TO ANY TENANT IN THE BUILDING.
- 8 GENERAL CONTRACTOR SHALL PROVIDE PROTECTIVE COVERING FOR CARPET, FURNISHINGS AND EXISTING FINISHES IN AREAS OF DEMOLITION AND CONSTRUCTION AND SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY THE WORK OF THE GENERAL CONTRACTOR AND ANY SUB-CONTRACTOR.
- 9 THE GENERAL CONTRACTOR SHALL RECORD "AS BUILT" CONDITIONS ON A SET OF BLUELINES. UPON COMPLETION OF PROJECT, THE SET SHALL BE TURNED OVER TO THE ARCHITECT.
- 10 THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE PROJECT AND SHALL BE RESPONSIBLE FOR DISCIPLINE OF ALL WORKERS ON THE PROJECT.
- 11 THE GENERAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF WORK. THE REQUESTING AND COORDINATION OF BUILDING DEPARTMENT INSPECTIONS AND APPROVALS IN ALL FIELDS OF HIS WORK, AND THE OBTAINING OF A FINAL CERTIFICATE OF OCCUPANCY, IF APPLICABLE.
- 12 GENERAL CONTRACTOR SHALL MAINTAIN ON-SITE, THE APPROVED CONSTRUCTION DRAWINGS AND BUILDING PERMIT.
- 13 GENERAL CONTRACTOR SHALL PROVIDE ALL SUPERVISION, ASSISTANCE AND COORDINATION OF VARIOUS TRADES.
- 14 MATERIALS SHALL BE JOINED TO UNIFORM, ACCURATE FITS SO THEY MEET WITH NEAT, STRAIGHT LINES, FREE FROM SMEARS, OVERLAPS AND IMPERFECTIONS. INSTALL EXPOSED MATERIALS APPROPRIATELY LEVEL, PLUMB AND AT ACCURATE RIGHT ANGLES OR FLUSH WITH ADJOINING MATERIALS. WORK OF EACH TRADE SHALL MEET OR EXCEED ALL NATIONAL STANDARDS PUBLISHED BY THAT TRADE EXCEPT WHERE THE CONTRACT DOCUMENTS ARE MORE STRINGENT. IN SUCH CASES, WORK SHALL MEET OR EXCEED THE STANDARDS ESTABLISHED BY THE CONTRACT DOCUMENTS.

GENERAL NOTES

- 15 CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT LOCATION OF WALLS. NOTIFY ARCHITECT IF CONFLICTS PREVENT WALLS FROM BEING CONSTRUCTED AS SHOWN ON DRAWINGS.
- 16 IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO DISTRIBUTE ADEQUATE COPIES OF ALL DRAWINGS TO ALL TRADES FALLING UNDER THEIR RESPONSIBILITY AT ALL TIMES DURING THE PROGRESS OF THE JOB INCLUDING REVISIONS.
- 17 UPON COMPLETION OF THE JOB, THE GENERAL CONTRACTOR SHALL SUBMIT CERTIFICATES OF INSPECTION OF SATISFACTORY COMPLETION.
- 18 THE CONTRACTOR SHALL AT ALL TIMES KEEP PREMISES FREE FROM ACCUMULATION OF DEBRIS CAUSED BY HIS OPERATIONS. AT THE COMPLETION OF THE WORK, CLEAN ALL SURFACES AND LEAVE WORK IN MOVE-IN CONDITION.
- 19 DISCREPANCIES FOUND BETWEEN NOTES, DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO CONSTRUCTION PROCEEDING.
- 20 GENERAL CONTRACTOR TO VERIFY SIZE OF BUILDING ACCESS OPENINGS BEFORE PROCEEDING WITH WORK. UPON COMPLETION OF THE JOB, GENERAL CONTRACTOR SHALL CLEAN THE ENTIRE AREA, INCLUDING GLASS, CARPET AND ALL OTHER FINISHED SURFACES IN A MANNER ACCEPTABLE TO THE OWNER AND TENANT.
- 21 GENERAL CONTRACTOR IS RESPONSIBLE FOR DISPOSING PACKAGING CARTONS OR CONTAINERS, TRASH AND DEBRIS IN A SAFE ACCEPTABLE MANNER.
- 22 HEAVY LINES INDICATE NEW CONSTRUCTION.
- 23 SURFACES TO RECEIVE PAINT OR WALL COVERING WILL BE PROPERLY SEALED, SANDED ETC., PRIOR TO APPLICATION. PAINT SHALL BE APPLIED AS RECOMMENDED BY MANUFACTURER FOR GWS SURFACE.
- 24 PARTITIONS TO BE PAINTED SHALL RECEIVE ONE COAT OF PRIMER (TINTED SIMILAR TO COLOR).

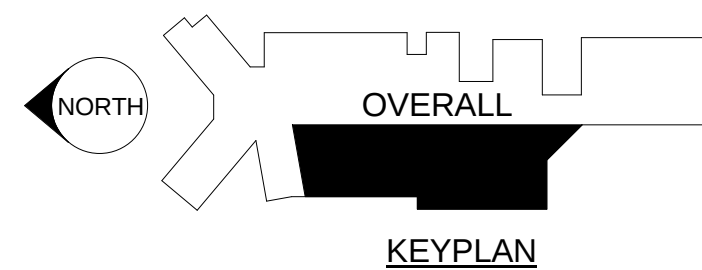
GENERAL NOTES

- 25 CONTRACTOR SHALL REVISE AND RELOCATE EXISTING SPRINKLER SYSTEM HEADS AND PROVIDE NEW HEADS TO COMPLY WITH CODES.
- 26 CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATION AND INSTALLATION OF ALL HVAC, PLUMBING, ELECTRICAL, DATA EQUIPMENT, WIRING AND DEVICES.
- 27 ALL ROOMS WITH-IN LIMITS OF CONSTRUCTION SHALL HAVE ALL WALLS PATCHED AND PAINTED AND ALL DOORS AND FRAMES TOUCHED UP AS NECESSARY. SEE FINISHES PLAN FOR MATERIALS.
- 28 WHERE REMOVAL OF FLOOR/WALL/CEILING/STRUCTURE PENETRATING MECHANICAL AND ELECTRICAL OCCURS THE FLOOR/WALL/CEILING/STRUCTURE SHALL BE PATCHED TO MATCH EXISTING
- 29 WORK OUTSIDE OF PROJECT AREA: MEP WORK WILL OCCUR IN AREAS OTHER THAN SHOWN IN THE MAIN PROJECT AREAS. THE CONTRACTOR IS REQUIRED TO ACCOMMODATE THIS WORK BY REMOVING EXISTING CONSTRUCTION TO ALLOW FOR MEP INSTALLATION AND REPLACING THE WORK TO ITS EXISTING CONFIGURATION. THIS INCLUDES BUT IS NOT LIMITED TO A NEW PIPE CHASE REQUIRED IN THE MAINTENANCE OFFICE (APPROX 12" X 24")



- GENERAL FLOOR PLAN NOTES
1. ALL SERVICES SHALL BE KEPT INTO CONTINUOUS OPERATION UNLESS PERMISSION IS GRANTED BY OWNER.
 2. ITEMS SHOWN LIGHT/HALF-TONED INDICATE EXISTING WORK TO REMAIN. ITEMS SHOWN BOLD/FULL-TONED INDICATES NEW OR MODIFIED WORK.
 3. ALL INTERIOR WALLS SHALL BE TYPE UNLESS NOTED OTHERWISE.
 4. PROVIDE BACKING AT ALL LOCATIONS WHERE EQUIPMENT IS SHOWN OR NOTED. SEE SHEET A3.3 FOR TYPICAL BACKING DETAILS.
 5. ALL DIMENSIONS ARE TO FINISH WALL SURFACE UNLESS NOTED OTHERWISE.
 6. REFER TO ROOM FINISH SCHEDULE & COLOR AND MATERIAL SCHEDULE FOR NEW FINISHES. REMOVE, CLEAN, PATCH/REPAIR EXISTING SURFACES/FINISHES AS NECESSARY FOR THE INSTALLATION OF NEWLY SCHEDULED FINISHES.
 7. EXISTING STRUCTURAL SYSTEM SHALL NOT BE REMOVED OR MODIFIED UNLESS APPROVED IN ADVANCE BY THE ARCHITECT. MODIFICATIONS TO THE FIRE PROTECTION AND FIRE RESISTIVE WALL OR FLOOR SYSTEMS SHALL BE RESTORED TO MAINTAIN THE REQUIRED RATING.
 8. AREAS OF THE BUILDING SHALL REMAIN OCCUPIED DURING CONSTRUCTION. COORDINATE AND PROVIDE TEMPORARY INSTALLATIONS AND ENCLOSURES AS NECESSARY TO SEPARATE/PROTECT THE OCCUPIED AREAS FROM DEMOLITION AND CONSTRUCTION ACTIVITIES.
 9. PREP EXISTING FLOOR SURFACE AS NECESSARY FOR NEWLY SCHEDULED FINISHES. PROVIDE SELF-LEVELING CONCRETE FLOOR UNDERLAYMENT AS REQUIRED TO ACHIEVE A SMOOTH, LEVEL SUBSTRATE FOR FLOOR FINISHES.
 10. PROVIDE CONTROL JOINTS IN GYPSUM BOARD PARTITIONS, ABOVE ALL DOORS AT THE CORNERS, ON BOTH SIDES OF WALL. SEE SHEET A5.1. PROVIDE CONTROL JOINTS IN ALL WALL RUNS EQUAL TO OR EXCEED 30'-0" CONTINUOUS. EXCEPT AT CT WALLS.
 11. FIELD VERIFY DIMENSIONS. LAYOUT ENTIRE AREA WITHIN CONFINES OF EXISTING CONSTRUCTION AND RESOLVE DISCREPANCIES PRIOR TO INSTALLATION OF ANY WALLS.

1 GUIDE PLAN LEVEL 1
A0-3 1/16" = 1'-0"



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Client:

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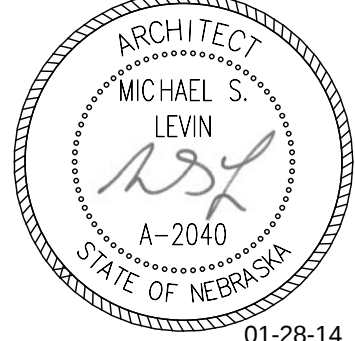
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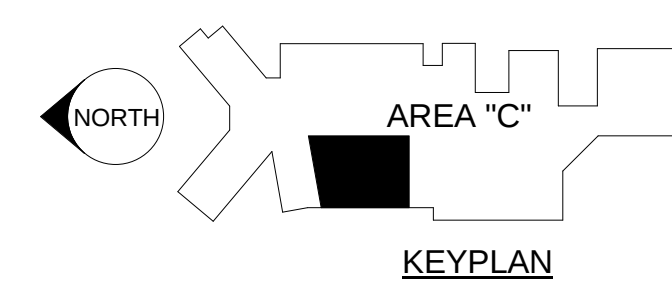
GUIDE PLAN - LEVEL 1

Sheet Number:

A0-3



1 FLOOR PLAN LEVEL 1 - AREA 'C'
3/16" = 1'-0"



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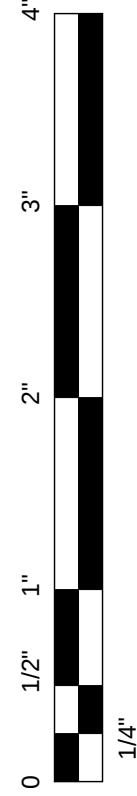
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**FLOOR PLAN -
AREA "C"**

Sheet Number:
A1-3



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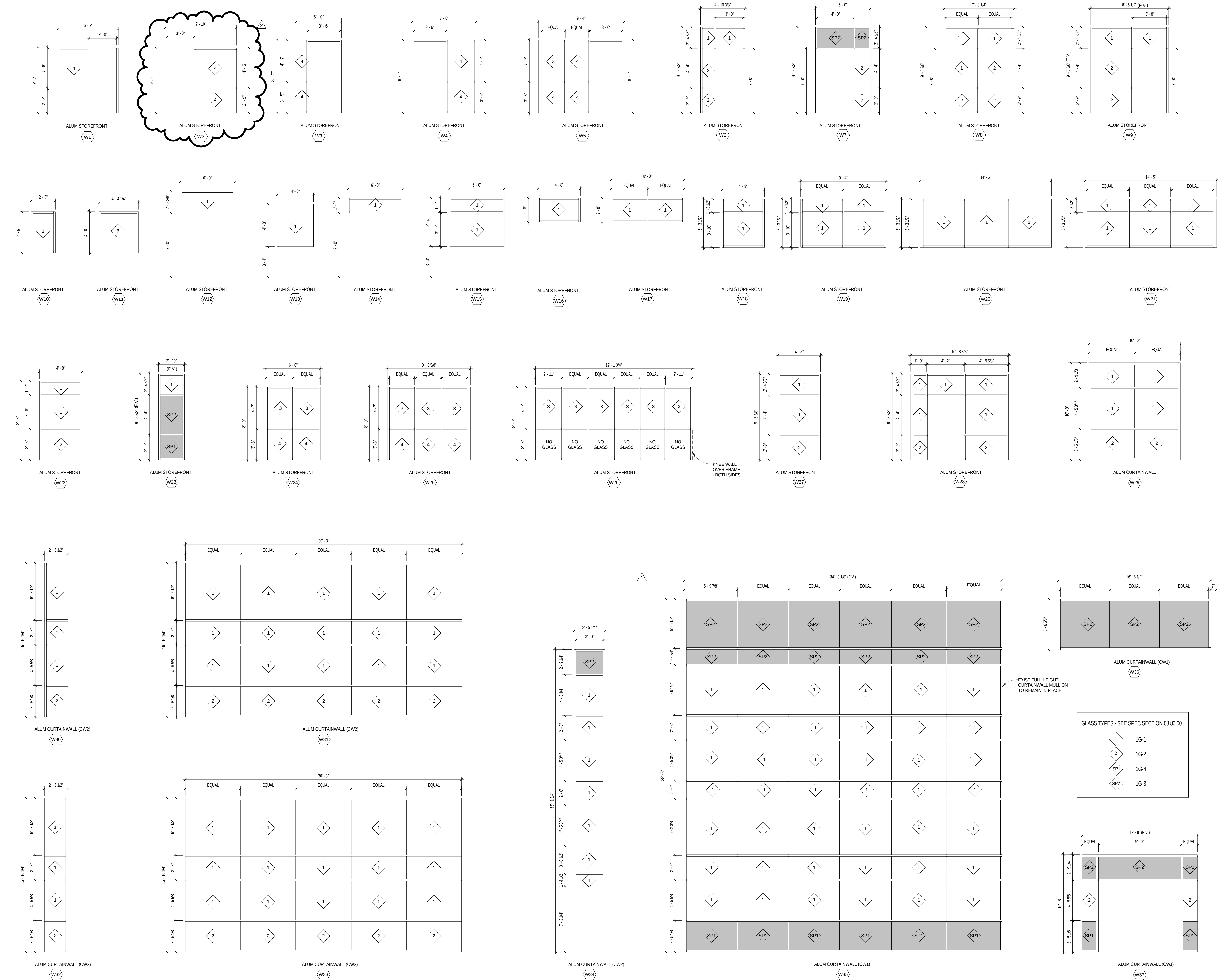
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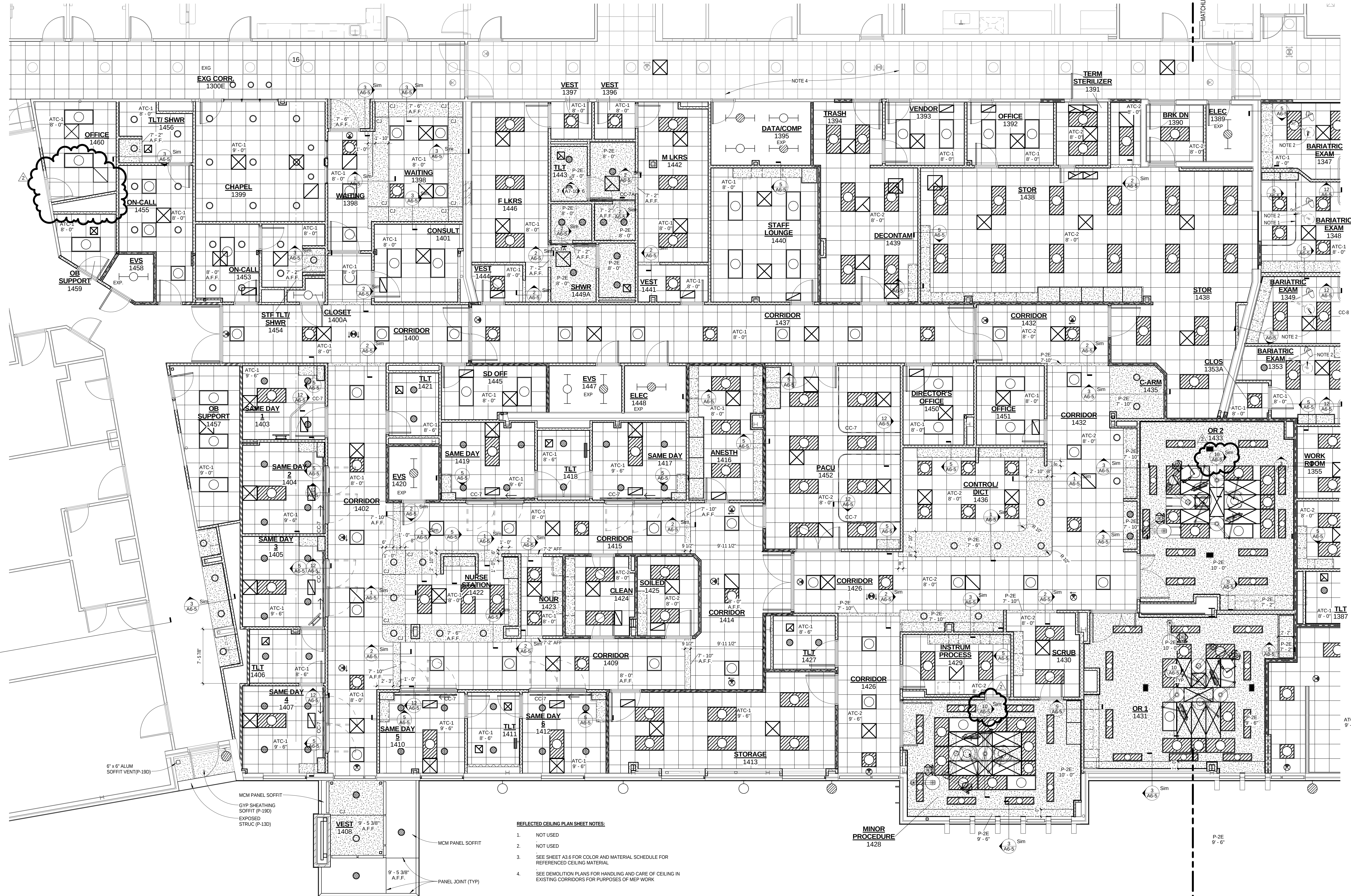
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A3-1

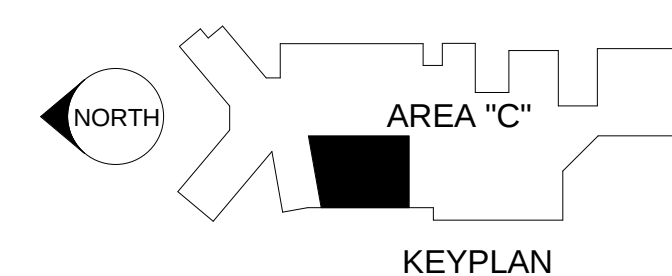




REFLECTED CEILING PLAN SHEET NOTES:

1. NOT USED
2. NOT USED
3. SEE SHEET A3.6 FOR COLOR AND MATERIAL SCHEDULE FOR REFERENCED CEILING MATERIAL
4. SEE DEMOLITION PLANS FOR HANDLING AND CARE OF CEILING IN EXISTING CORRIDORS FOR PURPOSES OF MEP WORK

1 CEILING PLAN LEVEL 1 - AREA C
A6-3 3/16" = 1'-0"



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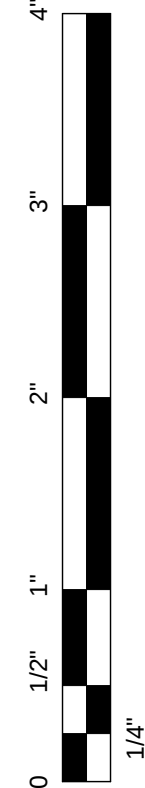
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**REFLECTED
CEILING PLAN -
AREA "C"**

Sheet Number:
A6-3



DIFFUSER, REGISTER, AND GRILLE SCHEDULE

MARK (1)	DESCRIPTION	MAX. S.P. [IN. W.C.]	CONST. MATERIAL	FINISH	FACE SIZE	NECK SIZE	AIRFLOW	MANUFACTURER	MODEL	REMARKS
D-1	PLAQUE STYLE SUPPLY DIFFUSER	0.1	STEEL	WHITE	24"x24"	6" 8" 10" 12" 14"	0-185 186-290 291-430 431-540 541-685	PRICE	SPD	(1)(2)(3)
D-2	PLAQUE STYLE SUPPLY DIFFUSER	0.1	STEEL	WHITE	12"x12"	6" 8" 10" 12" 14"	0-185 186-290 291-430 431-540 541-685	PRICE	SPD	(1)(2)(3)
D-3	LINEAR SLOT STYLE SUPPLY DIFFUSER	0.1	ALUMINUM	WHITE	4 SLOTS @ 0.75" SEE PLANS FOR LENGTH	6"	SEE PLANS	PRICE	SDS75	(1)(2)(3)(5)(6)
D-4	LINEAR SLOT STYLE SUPPLY DIFFUSER	0.1	ALUMINUM	WHITE	4 SLOTS @ 0.75" SEE PLANS FOR LENGTH	6"	SEE PLANS	PRICE	SDS75	(1)(2)(3)(5)(6)
D-5	PLAQUE STYLE SUPPLY DIFFUSER	0.1	ALUMINUM	WHITE	24"x24"	6" 8" 10" 12" 14"	0-185 186-290 291-430 431-540 541-685	PRICE	ASPD	(1)(2)(3)
D-6	DOUBLE DEFLECTION SUPPLY GRILLE	0.1	STEEL	WHITE	FACE-3"	SEE PLANS	SEE PLANS	PRICE	520	(1)(2)(3)(4)
D-7	HEPA FILTERED LAMINAR FLOW SUPPLY DIFFUSER	0.3	ALUMINUM	WHITE	24"x60"	10"	SEE PLANS	PRECISION AIR PRODUCTS	HEP-DS-2460-A	(1)(2)(3)
D-8	HEPA FILTERED LAMINAR FLOW SUPPLY DIFFUSER	0.3	ALUMINUM	WHITE	24"x48"	8"	SEE PLANS	PRECISION AIR PRODUCTS	HEP-DS-2448-A	(1)(2)(3)
D-9	HEPA FILTERED LAMINAR FLOW SUPPLY DIFFUSER	0.3	ALUMINUM	WHITE	24"x24"	6"	SEE PLANS	PRECISION AIR PRODUCTS	HEP-DS-2424-A	(1)(2)(3)
D-10	SPIRAL DUCT GRILLE	0.1	STEEL	WHITE	FACE-3"	SEE PLANS	SEE PLANS	PRICE	SDG	(1)(2)(3)(4)
G-1	DUCTED PERFORATED RETURN GRILLE	0.1	STEEL	WHITE	24"x24"	6"x6" 8"x8" 10"x10" 12"x12" 14"x14"	0-195 196-290 291-400 401-500 501-730	PRICE	PDDR	(1)(2)(3)
G-2	DUCTED PERFORATED RETURN GRILLE	0.1	STEEL	WHITE	24"x12"	6"x6" 8"x8" 10"x10" 12"x12" 14"x14"	0-195 196-290 291-400 401-500 501-730	PRICE	PDDR	(1)(2)(3)
G-3	DUCTED PERFORATED RETURN GRILLE	0.1	STEEL	WHITE	12"x12"	6"x6" 8"x8" 10"x10" 12"x12" 14"x14"	0-195 196-290 291-400 401-500 501-730	PRICE	PDDR	(1)(2)(3)
G-4	SINGLE DEFLECTION RETURN GRILLE 45° DEFLECTION 3/4" SPACING	0.1	ALUMINUM	WHITE	SEE PLANS	FACE-3"	SEE PLANS	PRICE	630	(1)(2)(3)(4)
G-5	SINGLE DEFLECTION RETURN GRILLE 0° DEFLECTION 3/4" SPACING	0.1	ALUMINUM	WHITE	SEE PLANS	FACE-3"	SEE PLANS	PRICE	630	(1)(2)(3)(4)
G-6	DUCTED PERFORATED RETURN GRILLE	0.1	ALUMINUM	WHITE	24"x24"	6"x6" 8"x8" 10"x10" 12"x12" 14"x14"	0-195 196-290 291-400 401-500 501-730	PRICE	PDR	(1)(2)(3)
G-7	DUCTED PERFORATED RETURN GRILLE	0.1	ALUMINUM	WHITE	24"x12"	6"x6" 8"x8" 10"x10" 12"x12" 14"x14"	0-195 196-290 291-400 401-500 501-730	PRICE	PDR	(1)(2)(3)
G-8	DUCTED PERFORATED RETURN GRILLE	0.1	ALUMINUM	WHITE	12"x12"	6"x6" 8"x8" 10"x10" 12"x12" 14"x14"	0-195 196-290 291-400 401-500 501-730	PRICE	PDR	(1)(2)(3)

- REMARKS
- (1) COORDINATE EXACT MODEL AND FRAME WITH CEILING/WALL TYPE.
 - (2) PROVIDE REMOTE DAMPER ACTUATOR IN WALLS/CEILINGS.
 - (3) PROVIDE BLACKOUT PANELS ON TRANSFER GRILLES.
 - (4) PROVIDE WITH PAINT GRIP FINISH.
 - (5) PROVIDE WITH INSULATED SUPPLY PLENUM.
 - (6) WHERE SLOT DIFFUSERS ARE ADJACENT, APPEARANCE SHALL BE CONTINUOUS.

PUMP SCHEDULE

MARK	SYSTEM	FLOW [GPM]	TOTAL HEAD [FT]	SHUT-OFF HEAD [FT]	MIN EFFICIENCY [%]	TYPE OF FLUID	RPM	SUCTION/ DISCHARGE SIZE [IN.]	MAX IMPELLER DIA. [IN.]	ELECTRICAL DATA			MANUFACTURER	MODEL	REMARKS
										HP	VOLTPHASE	CONTROL DEVICE			
HWP-B-01	MAIN HEATING HOT WATER	315	120	125	70	WATER	1760	-	11.25	20	4803	VFD	TACO	F3011	-
HWP-B-02	MAIN HEATING HOT WATER	315	120	125	70	WATER	1760	-	11.25	20	4803	VFD	TACO	F3011	-
HWP-B-03	MAIN HEATING HOT WATER	315	120	125	70	WATER	1760	-	11.25	20	4803	VFD	TACO	F3011	-
HWP-B-04	REHEATING HOT WATER	175	45	50	70	WATER	1760	-	7.5	5	4803	VFD	TACO	F2507	-
SP-Q4-01	POOL DRAIN DOWN	60	20	48	-	POOL	3600	-	-	1	1201	INTEGRAL	STANCOR	SS-100A	(1)(3)
SP-Q4-02	DRAIN TILE	10	20	37	-	STORM	-	-	-	1/2	1201	INTEGRAL	STANCOR	SE-90A	(2)(4)

- REMARKS
- (1) PROVIDE WITH CONTROL PANEL, INTEGRAL DISCONNECT, AND SINGLE POINT POWER CONNECTION. PROVIDE WITH AUDIOVISUAL ALARM AND BMS ALARM OUTPUT.
 - (2) PROVIDE WITH INTEGRAL MECHANICAL FLOATS FOR CONTROLS. PROVIDE WITH PLUG AND CORD ELECTRICAL CONNECTION. PROVIDE WITH AUDIOVISUAL ALARM AND BMS ALARM OUTPUT.
 - (3) PROVIDE WITH 3/8" x 48" DEEP POLYETHYLENE PIT. PROVIDE SLOD COLOR WITH KNOCKOUT HOLES FOR PIPING.
 - (4) PROVIDE WITH 24" x 36" DEEP POLYETHYLENE PIT. PROVIDE SLOD COLOR WITH KNOCKOUT HOLES FOR PIPING.

STEAM HEAT EXCHANGER SCHEDULE

MARK	SERVES	CONFIGURATION	SHELL SIDE	TUBE SIDE	MANUFACTURER	MODEL	REMARKS
HX-B-01	MAIN HEATING HOT WATER	SHELL & TUBE	STEAM	WATER	TACO	EL4210-S	(1)(2)
HX-B-02	MAIN HEATING HOT WATER	SHELL & TUBE	STEAM	WATER	TACO	EL4210-S	(1)(2)
HX-B-03	MAIN HEATING HOT WATER	SHELL & TUBE	STEAM	WATER	TACO	EL4210-S	(1)(2)
HX-B-04	REHEATING HOT WATER	SHELL & TUBE	STEAM	WATER	TACO	EL0210-S	(1)(2)

- REMARKS
- (1) PROVIDE WITH ANGLE IRON/NUSTRUT FRAMING FOR DOUBLE-STACKED HEAT EXCHANGERS.
 - (2) FOULING FACTOR = 0.005.

DEAERATOR SCHEDULE

MARK	MAX. SIZE (LxWxH) [IN.]	DA TYPE	PUMPS					TANK DATA			ELECTRICAL DATA		MANUFACTURER	MODEL	REMARKS
			NUMBER	FLOW EA (GPM)	TOTAL HEAD [FT]	HP (EA)	VOLTS/PHASE	QUANTITY	CAPACITY [GAL]	MATERIAL	VOLTS/PHASE	CONNECTION			
DA-B-01	52x24x60	SPRAY	3	19	243	3	4603	1	155	STEEL	4603	SINGLE POINT	BFS	7MS-105	(1)(2)(3)(4)(5)

- REMARKS
- (1) PROVIDE COMPLETE PACKAGE INCLUDING PUMPS, TANK, EXISTING CONTROLS, COMPATIBLE CONTROLLER AND VALVES AND ACCESSORIES FOR PROPER OPERATION.
 - (2) PROVIDE WITH PRESSURE REDUCING VALVE ON STEAM INLET.
 - (3) PROVIDE MAKEUP CONTROLLER INCLUDING SOLENOID VALVE, LEVEL SWITCHES, AND CHEMICAL FEED.
 - (4) PROVIDE ASME TANK.
 - (5) PROVIDE FACTORY WIRED SYSTEM WITH SINGLE POINT CONNECTION, DISCONNECT, AND CONTROL CIRCUIT TRANSFORMER.

HYDRONIC COIL SCHEDULE

MARK	SERVES	FLUID TYPE	AIR FLOW [CFM]	COILS	ROWS	MAX. FINS PER INCH	MAX. SIZE (LxWxH) [IN.]	MAX. VELOCITY [FPM]	MAX. AIR P.D. [IN. WC]	ENTERING DBWB [°F]	LEAVING DBWB [°F]	TOTAL CAPACITY [MBH]	SENS. CAPACITY [MBH]	FLUID DATA			MANUFACTURER	MODEL	REMARKS
														FLOW [GPM]	ENTWLT [°F]	MAX. P.D. [FT.]			
CC-04	AHU-04	WATER	14,000	1	8	8	-	495	0.5	80/67	52/51	628	417	125	44/54	16.0	MCQUAY	SWS	-
CC-10	AHU-10	WATER	7,800	1	6	11	-	466	0.4	80/67	52/51	343	230	70	44/54	11.0	MCQUAY	SWS	-
CC-13	AHU-13	WATER	8,400	1	8	8	-	504	0.5	80/67	52/51	377	250	75	44/54	16.0	MCQUAY	SWS	-
CC-14	AHU-14	WATER	7,600	1	6	10	-	451	0.7	80/67	52/51	435	238	90	44/54	14.0	MCQUAY	SWS	-
CC-15	AHU-15	WATER	14,000	2	6	12	-	498	0.5	80/70	52/51	632	421	125	44/54	16.0	MCQUAY	SWS	-
CC-16	AHU-16	WATER	9,000	1	6	12	-	478	0.5	80/67	52/51	359	240	70	44/54	12	MCQUAY	SWS	-
CC-17	AHU-17	WATER	5,800	1	8	9	-	478	0.5	80/67	52/51	265	176	55	44/54	9	MCQUAY	SWS	-
HC-04	AHU-04	STEAM	8,700	2	1	6	-	338	0.1	45/-	97/-	496	--	522 lb/hr	12 psi	--	MCQUAY	SWS	-
HC-10	AHU-10	WATER	6,125	1	2	11	-	383	0.2	40/-	92/-	345	--	22	180/160	0.8	MCQUAY	SWS	-
HC-13	AHU-13	STEAM	5,700	1	1	6	-	356	0.1	45/-	95/-	308	--	325 lb/hr	12 psi	--	MCQUAY	SWS	-
HC-14	AHU-14	STEAM	7,000	1	1	4	-	509	0.1	45/-	76/-	261	--	275 lb/hr	12 psi	--	MCQUAY	SWS	-
HC-15	AHU-15	STEAM	11,430	2	1	6	-	423	0.1	45/-	91/-	573	--	600 lb/hr	12 psi	--	MCQUAY	SWS	-
HC-16	AHU-16	STEAM	4,800	1	1	6	-	300	0.1	45/-	98/-	281	--	300 lb/hr	12 psi	--	MCQUAY	SWS	-
HC-17	AHU-17	STEAM	3,480	1	1	6	-	304	0.1	45/-	98/-	202	--	215 lb/hr	12 psi	--	MCQUAY	SWS	-
RHC-DU-01	DU-01	STEAM	1,200	1	1	10	-	800	0.25	80/-	120/-	53	--	55 lb/hr	12 psi	--	MCQUAY	SWS	-
RHC-14	AHU-14	STEAM	7,000	1	1	4	-	509	0.1	43/-	80/-	285	--	300 lb/hr	12 psi	--	MCQUAY	SWS	-

FAN SCHEDULE

MARK	TYPE	MAX. WEIGHT [LBS.]	AIR FLOW [CFM]	-	TOTAL E.S.P. [IN.W.C.]	MAX. FAN RPM	MAX. FAN BHP	ELECTRICAL DATA		MANUFACTURER	MODEL	REMARKS
								HP	VOLTS/PHASE			
EF-04-03	CEILING	35	300	-	0.25	1205	143 W	-	1201	COOK	GC-520	-
EF-10-01	DB CENT	50	400	-	0.50	1438	0.14	1/6	1201	COOK	80 ACEB	(1)
EF-10-02	DB CENT	50	525	-	0.40	1550	0.17	1/6	1201	COOK	80 ACEB	(1)
EF-13-01	DB CENT	30	225	-	0.25	1342	0.09	1/6	1201	COOK	70 ACEB	(1)
EF-13-02	DB CENT	30	150	-	0.25	1445	0.09	1/6	1201	COOK	80 ACEB	(1)
EF-15-01	DB CENT	75	1450	-	0.50	979	0.23	1/4	1201	COOK	150 ACEB	(1)
EF-15-02	DB CENT	100	2250	-	0.50	1022	0.40	1/2	1201	COOK	165 ACEB	(1)
EF-15-03	DB CENT	50	200	-	0.25	1050	74 W	1/25	1201	COOK	90C100H	(1)
EF-17-01	IN-LINE	100	700	-	1.10	2444	0.42	1/2	1201	COOK	80 SQNB	(2)
EF-17-02	IN-LINE	250	5800	-	1.00	1434	2.58	3	4803	COOK	195 SQNB	(3)
RF-04A	PLENUM	-	14000	-	2.35	-	-	15	4803	TWIN CITY	-	-
RF-10A	PLENUM	-	7800	-	1.9	-	-	7.5	2083	TWIN CITY	-	-
RF-13A	PLENUM	-	8400	-	1.95	-	-	7.5	4803	TWIN CITY	-	-
RF-14A	PLENUM	-	7000	-	2.30	-	-	7.5	4803	TWIN CITY	-	-
RF-15A	PLENUM	-	14000	-	1.90	-	-	15	4803	TWIN CITY	-	-
RF-16A	PLENUM	-	8000	-	1.85	-	-	5	4803	TWIN CITY	-	-
RF-17A	PLENUM	-	5800	-	2.45	-	-	7.5	4803	TWIN CITY	-	-
SF-04A	PLENUM	-	14000	-	5.9	-	-	25	4803	TWIN CITY	-	-
SF-10A	PLENUM	-	7800	-	5.5	-	-	15	2083	TWIN CITY	-	-
SF-13A	PLENUM	-	8400	-	5.00	-	-	15	4803	TWIN CITY	-	-
SF-14A	PLENUM	-	7000	-	4.60	-	-	15	4803	TWIN CITY	-	-
SF-15A	PLENUM	-	7000	-	7.1	-	-	15	4803	TWIN CITY	-	-
SF-16A	PLENUM	-	8000	-	5.30	-	-	15	4803	TWIN CITY	-	-
SF-17A	PLENUM	-	5800	-	4.60	-	-	7.5	4803	TWIN CITY	-	-

- REMARKS
- (1) PROVIDE WITH BIRDSCREEN, INTEGRAL DISCONNECT, 12" ROOF CURB, AND AUTOMATIC BACKDRAFT DAMPER.
 - (2) PROVIDE WITH INTEGRAL DISCONNECT, AUTOMATIC BACKDRAFT DAMPER, AND MOTORBELT GUARDS.
 - (3) PROVIDE WITH INTEGRAL DISCONNECT, AUTOMATIC BACKDRAFT DAMPER, MOTORBELT GUARDS, AND BIRDSCREEN OVER FAN INLET.

LOUVER SCHEDULE

MARK	SERVICE	AIRFLOW [CFM]	FREE AREA VELOCITY [FPM]	APPROX. SIZE (WxH) [IN.]	MANUFACTURER	COLOR	MODEL	REMARKS
LV-14-01	RELIEF	23,700	1335	222X32	RUSKIN	(2)	ELF37SDX	(1)
LV-14-02	INTAKE	30,000	895	276X32	RUSKIN	(2)	ELF37SDX	(1)

- REMARKS
- (1) PROVIDE BIRDSCREEN.
 - (2) PRIME FOR FIELD PAINTING.

CONDENSATE RETURN PUMP SCHEDULE

MARK	SYSTEM	FLOW [GPM]	TOTAL HEAD [PSI]	RECEIVER CAPACITY [GAL]	TYPE OF FLUID	RPM	ELECTRICAL DATA			MANUFACTURER	MODEL	REMARKS
							HP	VOLTS/PHASE	CONTROL DEVICE			
CP-B-01	STEAM RETURN	30	15	45	200°F WATER	3500	2@ 1/2	120/1	MECHANICAL ALTERNATOR	SKIDMORE	VIS-201-1/2	(1)

- REMARKS
- (1) PROVIDE CAST IRON RECEIVER, STAINLESS STEEL FLOAT AND ROD, DISCONNECT AND ELECTRICAL ALTERNATOR WHICH AUTOMATICALLY ALTERNATES PUMPS BASED ON RUNTIME AND FAILURE. SEE SPECIFICATIONS FOR MORE INFORMATION.

INSTANTANEOUS WATER HEATER SCHEDULE

MARK	MAX. SIZE (LWW) [IN.]	STORAGE CAPACITY [GAL.]	MAX. SYSTEM FLOW [GPM] (150°F RISE)	WATER OUTLET TEMPERATURE [°F]	STEAM SUPPLY PRESSURE [PSIG]	STEAM FLOW [LB/HR]	MAX. PRESSURE DROP [PSI]	MANUFACTURER	ELECTRICAL DATA	MODEL	REMARKS
WH-B-01	77x24	INST.	110	117/160	12	3,500	10	ARMSTRONG	1201	665 PP-PTDMC1	(1)(2)(3)(4)

- REMARKS
- (1) PUMP & DOUBLE WALL INSTANTANEOUS STEAM TO WATER HEATER PACKAGE PRE-PIPED AND SKID MOUNTED.
 - (2) DOUBLE WALL, DOUBLE SAFETY.
 - (3) TWO TEMPERATURE SYSTEM WITH ARMSTRONG DRV8085 MIXING VALVE (CAPABLE OF 80 GPM) AND AMOT RECIRCULATION VALVE.

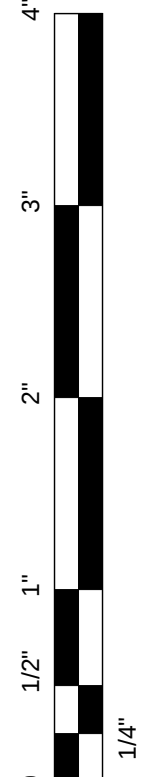
AIR SEPARATOR SCHEDULE

MARK	SERVES	CONFIGURATION	MAX. OPERATING WEIGHT [LBS.]	RATED FLOW [GPM]	PRESSURE DROP AT RATED FLOW [FT.]	LINE SIZE [IN.]	MANUFACTURER	MODEL	REMARKS
AS-B-01	HEATING WATER LOOP	VERTICAL	1500	816	3.0	8	TACO	4988AD	(1)(2)

- REMARKS
- (1) COMBINATION AIR AND DIRT SEPARATOR. PROVIDE BLOWDOWN, REMOVABLE HEAD, AND ASME STAMP.
 - (2) INSTALL HOSE CONNECTION ON BLOWDOWN.

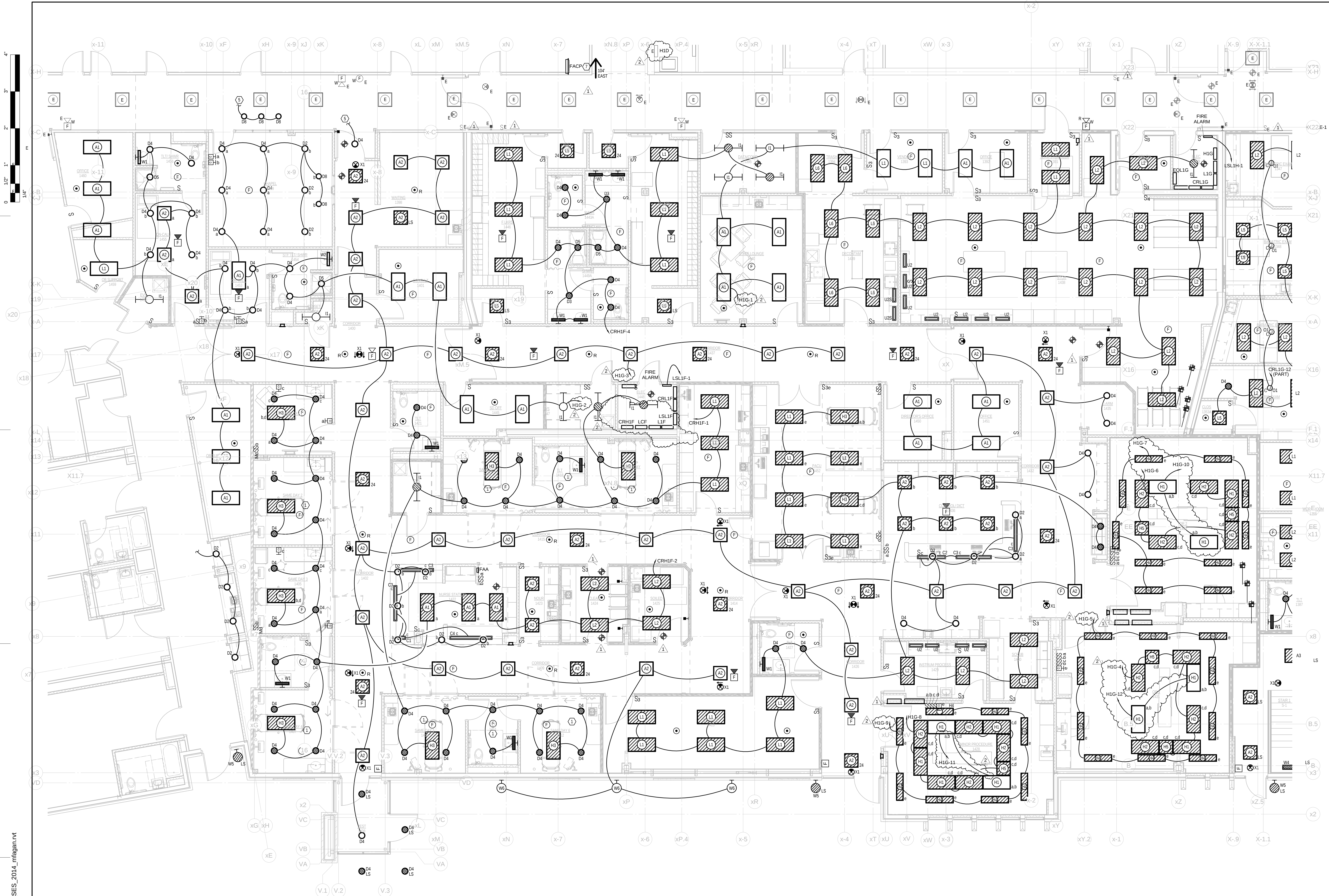
SURGERY DESICANT DEHUMIDIFICATION WHEEL SCHEDULE

MARK	SERVES	TYPE	AIR FLOW [CFM]	MAX. SIZE (DIAM) [IN.]	MAX. VELOCITY [FPM]	ENTERING DBRH [°F]	FIRST PASS
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PLUMBING, FIRE PROTECTION AND MEDICAL GAS PIPE CONSTRUCTION SCHEDULE										
SYSTEM DESCRIPTION	OPERATING TEMPERATURE RANGE (DEG F)	SIZE RANGE	MATERIAL (1)	SYSTEM PRESSURE CLASS (PSI)	CONNECTIONS (4)	FITTINGS	LOCATION (2)	INSULATION (1)	FINISH (1)(3)	REMARKS
DOMESTIC HOT WATER AND HOT WATER RE-CIRCULATING	110-120	0" TO 4"	ASTM B88 TYPE L COPPER	125	955 SOLDER OR PRESSURE SEAL	WROUGHT COPPER OR PRESSURE SEAL	ABOVE CEILING	1.5" PREFORMED FIBERGLASS	ASJ JACKET	-
			EXPOSED - FINISHED SPACE				1.5" PREFORMED FIBERGLASS	PAINT TO MATCH	-	
			EXPOSED - UNFINISHED SPACE				1.5" PREFORMED FIBERGLASS	ASJ JACKET	-	
			EXPOSED WITHIN 10' OF FLOOR				1.5" PREFORMED FIBERGLASS	ALUMINUM JACKET	-	
DOMESTIC COLD WATER SOFT COLD WATER	40-60	0" TO 4"	ASTM B88 TYPE L COPPER	125	955 SOLDER OR PRESSURE SEAL	WROUGHT COPPER OR PRESSURE SEAL	ABOVE CEILING	1" FLEXIBLE ELASTOMERIC	NONE	-
			EXPOSED - FINISHED SPACE				1" FLEXIBLE ELASTOMERIC	PAINT TO MATCH	-	
			EXPOSED - UNFINISHED SPACE				1" FLEXIBLE ELASTOMERIC	NONE	-	
			EXPOSED WITHIN 10' OF FLOOR				1" FLEXIBLE ELASTOMERIC	ALUMINUM JACKET	-	
RO WATER	40-60	ALL	SCHEDULE 80 PVC	125	SOLVENT-CEMENT	PVC PRESSURE PIPE FITTINGS	ABOVE CEILING	0.5" FLEXIBLE ELASTOMERIC	NONE	-
			EXPOSED - FINISHED SPACE				0.5" FLEXIBLE ELASTOMERIC	PAINT TO MATCH	-	
			EXPOSED - UNFINISHED SPACE				0.5" FLEXIBLE ELASTOMERIC	NONE	-	
			EXPOSED WITHIN 10' OF FLOOR				0.5" FLEXIBLE ELASTOMERIC	ALUMINUM JACKET	-	
GRAVITY SOIL AND WASTE AND VENT	AMBIENT	0" TO 2"	COPPER DWV	N/A	955 SOLDER	COPPER DRAINAGE FITTINGS	ABOVE CEILING	NONE	NONE	-
			EXPOSED - FINISHED SPACE				NONE	NONE	-	
			EXPOSED - UNFINISHED SPACE				NONE	NONE	-	
			EXPOSED WITHIN 10' OF FLOOR				NONE	NONE	-	
GRAVITY STORM DRAINAGE	AMBIENT	2-1/2" AND ABOVE	HUBLESS CAST-IRON SOIL PIPE	N/A	SHIELDED COUPLINGS	HUBLESS CAST-IRON SOIL DRAINAGE FITTINGS	ABOVE CEILING	NONE	NONE	-
			EXPOSED - FINISHED SPACE				NONE	NONE	-	
			EXPOSED - UNFINISHED SPACE				NONE	NONE	-	
			EXPOSED WITHIN 10' OF FLOOR				NONE	NONE	-	
FORCED MAIN SOIL AND WASTE	AMBIENT	ALL	HUB-AND-SPIGOT SERVICE CLASS CAST-IRON SOIL PIPE	N/A	GASKETED	HUB-AND-SPIGOT CAST-IRON SOIL DRAINAGE FITTINGS	BELOW SLAB (BURIED)	NONE	NONE	-
			ABOVE CEILING				NONE	NONE	-	
			EXPOSED - FINISHED SPACE				NONE	NONE	-	
			EXPOSED - UNFINISHED SPACE				NONE	NONE	-	
GRAVITY STORM DRAINAGE	AMBIENT	ALL	HUBLESS CAST-IRON SOIL PIPE	N/A	SHIELDED COUPLINGS	HUBLESS CAST-IRON SOIL DRAINAGE FITTINGS	ABOVE CEILING	1" FLEXIBLE ELASTOMERIC	PAINT TO MATCH	-
			EXPOSED - FINISHED SPACE				1" FLEXIBLE ELASTOMERIC	NONE	-	
			EXPOSED - UNFINISHED SPACE				1" FLEXIBLE ELASTOMERIC	ALUMINUM JACKET	-	
			EXPOSED WITHIN 10' OF FLOOR				NONE	NONE	-	
FIRE PROTECTION	AMBIENT	0" TO 2"	STANDARD WEIGHT BLACK STEEL PIPE	125	THREADED	GRAY -IRON THREADED	ABOVE CEILING	NONE	NONE	-
			EXPOSED - FINISHED SPACE				NONE	PAINT TO MATCH	-	
			EXPOSED - UNFINISHED SPACE				NONE	NONE	-	
			EXPOSED WITHIN 10' OF FLOOR				NONE	NONE	-	
FIRE PROTECTION	AMBIENT	0" TO 2"	STANDARD WEIGHT BLACK STEEL PIPE	125	THREADED	GRAY -IRON THREADED	ABOVE CEILING	NONE	NONE	-
			EXPOSED - FINISHED SPACE				NONE	PAINT TO MATCH	-	
			EXPOSED - UNFINISHED SPACE				NONE	NONE	-	
			EXPOSED WITHIN 10' OF FLOOR				NONE	NONE	-	
GENERAL SERVICE COMPRESSED AIR	AMBIENT	ALL	ASTM B88 TYPE K COPPER	150	BRAZED	WROUGHT-COPPER	ABOVE CEILING	NONE	NONE	-
			EXPOSED - FINISHED SPACE				NONE	NONE	-	
			EXPOSED - UNFINISHED SPACE				NONE	NONE	-	
			EXPOSED WITHIN 10' OF FLOOR				NONE	NONE	-	
MEDICAL COMPRESSED AIR, OXYGEN, CARBON DIOXIDE, NITROUS OXIDE, NITROGEN	AMBIENT	ALL	ASTM B819 TYPE L COPPER CLEANED FOR OXYGEN SERVICE	150	BRAZED	WROUGHT-COPPER, CLEANED, PURGED AND BAGGED FOR OXYGEN SERVICE	ABOVE CEILING	NONE	NONE	-
			EXPOSED - FINISHED SPACE				NONE	NONE	-	
			EXPOSED - UNFINISHED SPACE				NONE	NONE	-	
			EXPOSED WITHIN 10' OF FLOOR				NONE	NONE	-	
MEDICAL VACUUM, WASTE ANESTHESIA GAS DISPOSAL (WAGD)	AMBIENT	ALL	ASTM B819 TYPE L COPPER CLEANED FOR OXYGEN SERVICE	150	BRAZED	WROUGHT-COPPER, CLEANED, PURGED AND BAGGED FOR OXYGEN SERVICE	ABOVE CEILING	NONE	NONE	-
			EXPOSED - FINISHED SPACE				NONE	NONE	-	
			EXPOSED - UNFINISHED SPACE				NONE	NONE	-	
			EXPOSED WITHIN 10' OF FLOOR				NONE	NONE	-	

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1 FLOOR PLAN LEVEL 1 - LIGHTING - AREA "C"
E1-3 3/16" = 1'-0"

INSTALL GREEN INSULATED
GROUND WIRE WITH
LIGHTING, RECEPTACLE AND
EQUIPMENT BRANCH CIRCUITS.

INSTALL INDIVIDUAL (DEDICATED)
NEUTRAL CONDUCTORS FOR
EACH 120V OR 277V PHASE.
CONDUCTOR SERVED FROM A
SINGLE POLE CIRCUIT BREAKER

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TD2
engineering
& surveying

Client:

Sampson
Construction

Client:

YORK GENERAL
HEALTH CARE
SERVICES

Project Title:

**HOSPITAL
ADDITION AND
REMODEL**

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Rev	Date	Description
1	02/25/2014	Addm No 1
2	03/05/2014	Addm No 2

Stamp:

SEAL

REGISTERED ELECTRICAL ENGINEER

BURNHAM

E-1402

01/28/2014

STATE OF NEBRASKA

Drawn By:

MJF

Project Manager:

MJF

Project Number:

24902

Date:

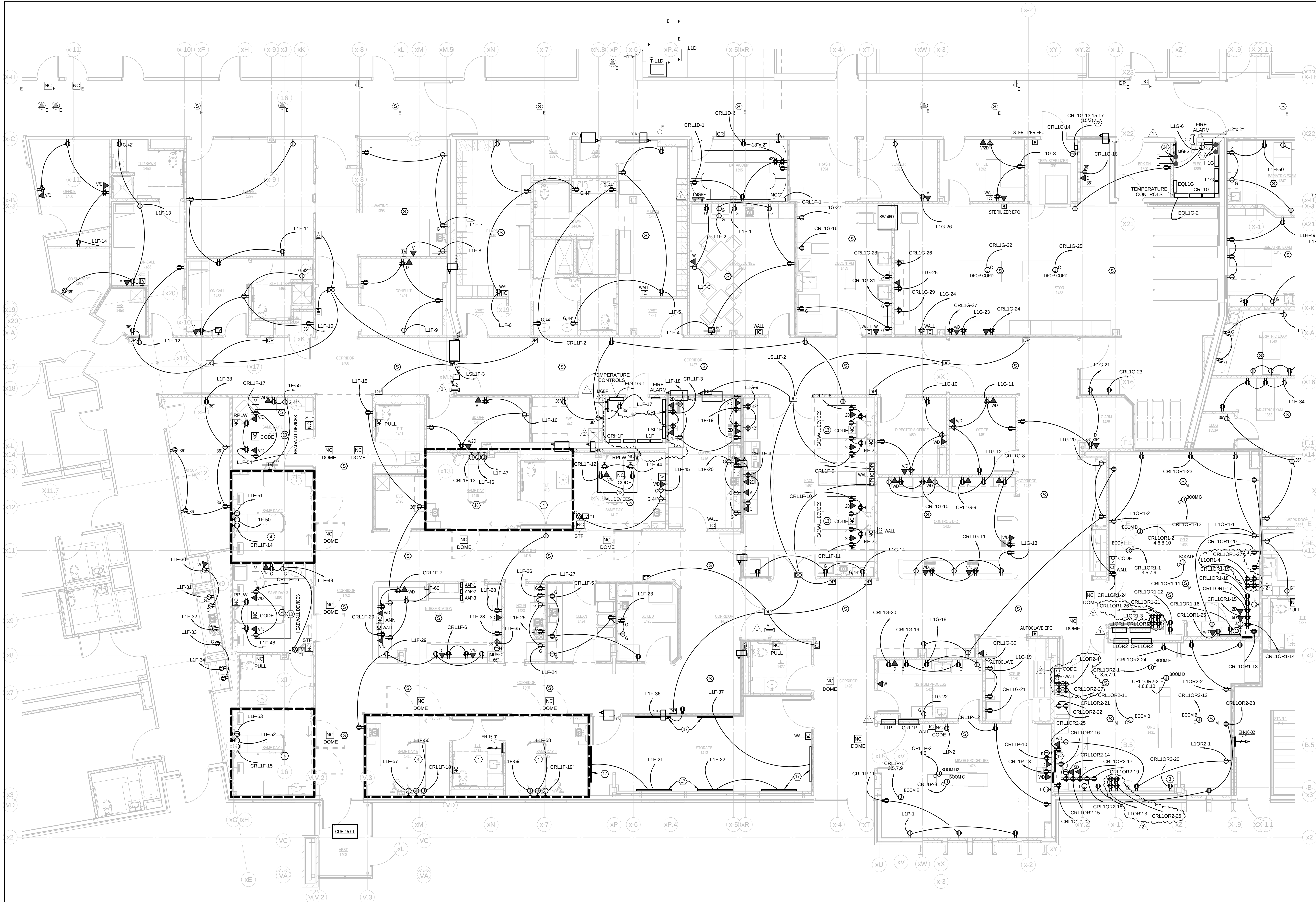
01/28/2014

Sheet Title:

**FLOOR PLAN -
LIGHTING -
AREA "C"**

Sheet Number:

E1-3



1 FLOOR PLAN LEVEL 1 - POWER - AREA "C"
E2-3 3/16" = 1'-0"

INSTALL GREEN INSULATED
GROUND WIRE WITH
LIGHTING, RECEPTACLE AND
EQUIPMENT BRANCH CIRCUITS.

INSTALL INDIVIDUAL (DEDICATED)
NEUTRAL CONDUCTORS FOR
EACH 120V OR 277V PHASE.
CONDUCTOR SERVED FROM A
SINGLE POLE CIRCUIT BREAKER

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SES PROJECT # 13048

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SEAL
SPECIALIZED ENGINEERING SOLUTIONS
BURNHAM
E-1107
01/28/2014
STATE OF NEBRASKA

Drawn By:
MJF

Project Manager:
MJF

Project Number:
24902

Date:
01/28/2014

Sheet Title:
FLOOR PLAN -
POWER - AREA
"C"

Sheet Number:
E2-3

Client: _____

Project Title:

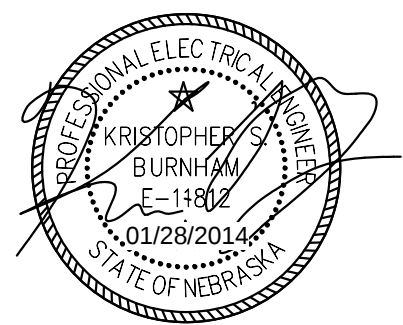
**HOSPITAL
ADDITION AND
REMODEL**

Project Title:

HOSPITAL ADDITION AND REMODEL

Rev	Date	Description
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2	03/05/2014	Addm No 2

Stamp:



Drawn By:	Project Manager:
MJF	MJF

Project Number:
24902

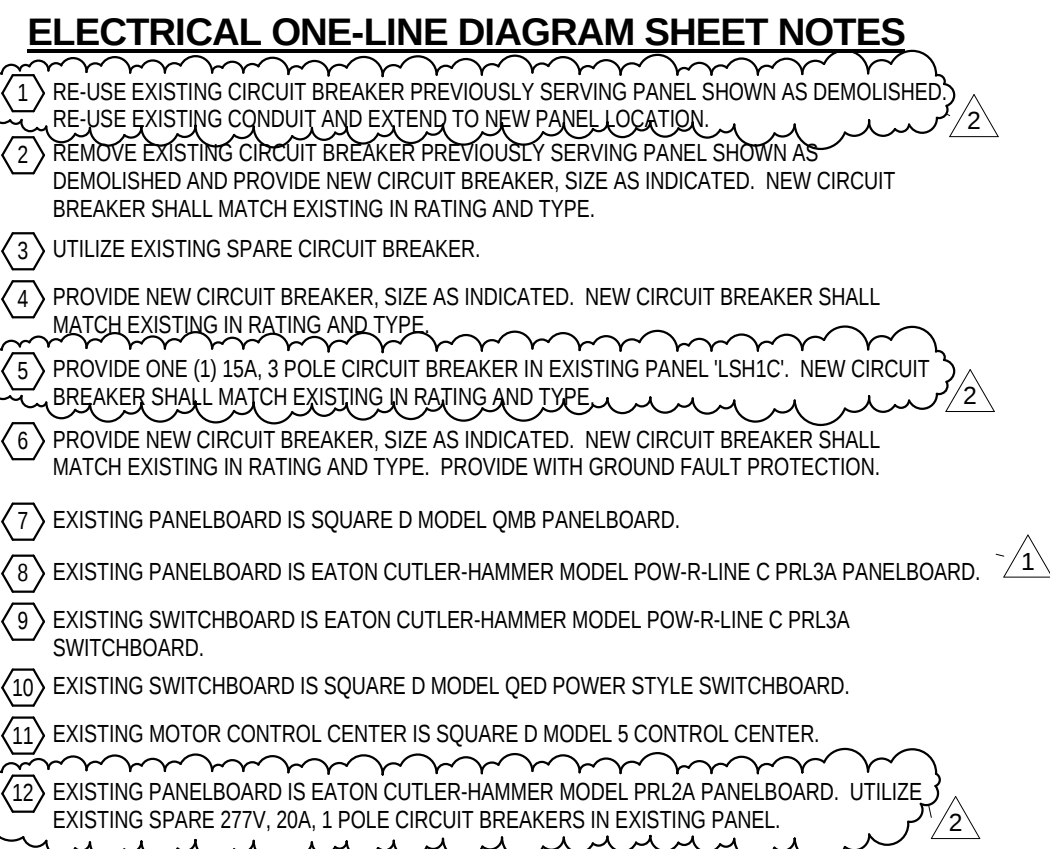
Date:
01/28/2014

Sheet Title: _____

ELECTRICAL ONE-LINE DIAGRAM

Sheet Number:

E4-1



ELECTRICAL ONE-LINE DIAGRAM GENERAL NOTES

A. ITEMS INDICATED IN LIGHT TONE SHALL BE EXISTING TO REMAIN. ITEMS SHOWN HATCHED SHALL BE REMOVED UNDER THIS CONTRACT. ITEMS INDICATED IN BOLD TONE ARE NEW EQUIPMENT TO BE PROVIDED UNDER THIS CONTRACT.

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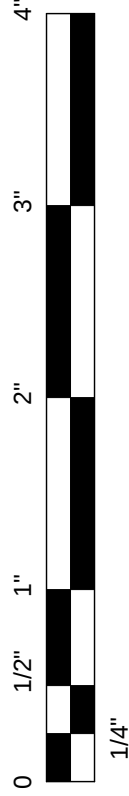
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Lighting Panel: H1G

Location: ELEC 1389					Volts: 480/277 Wye					Rating: 100 A				
Supply From: DP1A					Phases: 3					Mains Type: MLO				
Branch: Normal					Wires: 4					Panel Poles: 42				
Mounting: Surface					Available SCC (kA): 7.6					Sections: 1				
Ckt	Circuit Description	Opt	Rating	Poles	A	B	C	Poles	Rating	Opt	Circuit Description	Ckt		
1	Lighting Room 1443, 1449, 1392...		20 A	1	660 VA	1681 VA		1	20 A		Lighting Room 1456, 1454, 1401...	2		
3	Lighting Room 1398, 1402, 1409...		20 A	1		2759 VA	1164 VA	1	20 A		Lighting Or 1 1431	4		
5	Lighting Or 1 1431		20 A	1			660 VA	1164 VA	1	20 A	Lighting Or 2 1433	6		
7	Lighting Or 2 1433		20 A	1	660 VA	1446 VA		1	20 A		Lighting Minor Procedure 1428	8		
9	Lighting Minor Procedure 1428		20 A	1		528 VA	384 VA	1	20 A		Lighting Or 2 1433	10		
11	Lighting Minor Procedure 1428		20 A	1			384 VA	384 VA	1	20 A	Lighting Or 1 1431	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		

Lighting Panel Remarks:
1. Spare Circuit Breakers: Provide the following spare branch circuit breakers in addition to circuit breakers listed above. Spares: 10-20/1

General Lighting Panel Notes:
1. Panel AIC (Interrupting) Rating shall be minimum 120% of the available SCC (Short Circuit Current).
2. Circuit Breaker Options: 'S' or 'ST' - Provide Shunt Trip Circuit Breaker / 'G' or 'GFCI' - Provide GFCI Circuit Breaker / 'GFP' - Provide GFP Circuit Breaker.

Lighting Panel: LSL1F

Location: ELEC 1448					Volts: 120/208 Wye					Rating: 100 A				
Supply From: L5DP					Phases: 3					Mains Type: MCB				
Branch: Life Safety					Wires: 4					Panel Poles: 42				
Mounting: Surface					Available SCC (kA): <2.0					Sections: 1				
Ckt	Circuit Description	Opt	Rating	Poles	A	B	C	Poles	Rating	Opt	Circuit Description	Ckt		
1	Fire Alarm		20 A	1	1000 VA	800 VA		1	20 A		Power	2		
3	Power		20 A	1		600 VA	750 VA	1	20 A		Hvac	4		
5	AAP-1,2,3		20 A	1			600 VA					6		
7												8		
9												10		
11												12		
13												14		
15												16		
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27												28		
29												30		
31												32		
33												34		
35												36		
37												38		
39												40		
41												42		

Lighting Panel Remarks:
1. Spare Circuit Breakers: Provide the following spare branch circuit breakers in addition to circuit breakers listed above. Spares: 10-20/1

General Lighting Panel Notes:
1. Panel AIC (Interrupting) Rating shall be minimum 120% of the available SCC (Short Circuit Current).
2. Circuit Breaker Options: 'S' or 'ST' - Provide Shunt Trip Circuit Breaker / 'G' or 'GFCI' - Provide GFCI Circuit Breaker / 'GFP' - Provide GFP Circuit Breaker.

Lighting Panel: LSL1H

Location: ELEC 1345					Volts: 120/208 Wye					Rating: 25 A				
Supply From: T-4SL1H					Phases: 3					Mains Type: MCB				
Branch: Life Safety					Wires: 4					Panel Poles: 42				
Mounting: Surface					Available SCC (kA): <2.0					Sections: 1				
Ckt	Circuit Description	Opt	Rating	Poles	A	B	C	Poles	Rating	Opt	Circuit Description	Ckt		
1	Fire Alarm		20 A	1	1000 VA	1000 VA		1	20 A		Fire Alarm	2		
3	Fire Alarm		20 A	1		1000 VA	200 VA		20 A		Power	4		
5	Power		20 A	1			600 VA	1000 VA	1	20 A	Fire Alarm	6		
7												8		
9												10		
11												12		
13												14		
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39												40		
41												42		

Total Load: 2000 VA 1200 VA 1600 VA
Total Amps: 17 A 10 A 14 A

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Power	800 VA	100.00%	800 VA	Connected Load: 800 VA
				Connected Current: 2 A
				Demand Load: 800 VA
				Demand Current: 2 A
				Minimum Pnl Amps: 3 A
				Designed Pnl Amps: 25 A
				Available Spares: 88.89711
				18 A

Lighting Panel Remarks:
1. Spare Circuit Breakers: Provide the following spare branch circuit breakers in addition to circuit breakers listed above. Spares: 10-20/1

General Lighting Panel Notes:
1. Panel AIC (Interrupting) Rating shall be minimum 120% of the available SCC (Short Circuit Current).
2. Circuit Breaker Options: 'S' or 'ST' - Provide Shunt Trip Circuit Breaker / 'G' or 'GFCI' - Provide GFCI Circuit Breaker / 'GFP' - Provide GFP Circuit Breaker.

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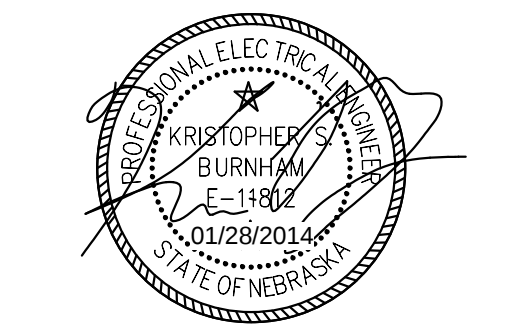
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Drawn By: MJF
Project Manager: MJF

Project Number: 24902
Date: 01/28/2014

Sheet Title:
**ELECTRICAL
PANEL
SCHEDULES**

Sheet Number:
E5-1