

TM FIELDHOUSE

1600 SE HAMBLÉN ROAD
LEE'S SUMMIT, MISSOURI 64081

PERMIT SET

2 MAY 2023

COLLINS WEBB #: 22103

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[illegible]

WALL SECTION

- WALL SECTION NUMBER
- DIRECTION OF VIEW
- SHEET WHERE DRAWN

BUILDING SECTION

- WALL SECTION NUMBER
- SHEET WHERE DRAWN
- DIRECTION OF VIEW

EXTERIOR ELEVATION

- ELEVATION DIRECTION
- SHEET WHERE DRAWN
- ELEVATION NUMBER

DETAIL REFERENCE

- DETAIL NUMBER
- SHEET WHERE DRAWN. HYPHEN INDICATES DETAIL ON SAME SHEET.

SECTION DETAIL REFERENCE

- ELEVATION NUMBER AND DIRECTION
- SHEET WHERE DRAWN

INTERIOR ELEVATION REFERENCE

- ELEVATION NUMBER AND DIRECTION OF VIEW
- SHEET WHERE DRAWN

PARTITION TYPE IDENTIFICATION MARK

- SEE PARTITION SYMBOL DESCRIPTION ON PARTITION TYPE SHEET

EQUIPMENT/ACCESSORY IDENTIFICATION MARK

- SEE CORRESPONDING NUMBERED LEGEND ON SHEET WHERE REFERENCE OCCURS

DOOR IDENTIFICATION MARK

- SEE DOOR SCHEDULE FOR ADDITIONAL INFORMATION

WINDOW AND LOUVER TYPE MARK

- SEE CORRESPONDING NUMBER ON SCHEDULE

LEVEL LINE

- NAME OF LEVEL
- SECOND LEVEL
- INDICATES HEIGHT ABOVE PROJECT DATUM

ROOM NAME AND NUMBER

- Room Name
- 101

REVISION EXTENT

- REVISION TAG MARK
- EXTENT OF CURRENT REVISION

KEYED NOTE MARK

- SEE CORRESPONDING NUMBERED LEGEND ON SHEET WHERE REFERENCE OCCURS

MATCH LINE REFERENCE

- DRAWING INDICATION

DRAWING TITLE SYMBOLS

- DRAWING TITLE
- DRAWING SCALE
- DRAWING NUMBER

LAYOUT GRID LINES

- NEW GRID IDENTIFICATION
- EXISTING GRID IDENTIFICATION

NORTH ARROW REFERENCE

- TRUE NORTH DIRECTION
- PROJECT NORTH DIRECTION

EXCEPT WHERE DIRECTED TO PLACE ITEMS OF WORK ON THE "APPROXIMATE LOCATION SHOWN," DO NOT SCALE DRAWINGS FOR DIMENSIONAL INFORMATION.

2. ALL ELEMENTS OF THE DRAWINGS MAY NOT BE DRAWN TO EXACT SCALE. ALL DIMENSIONS REQUIRED AND SHOWN (OR MAY BE DERIVED FROM THOSE SHOWN OR NOTED) ON THE FLOOR PLANS, DETAIL PLANS, ELEVATIONS, SECTIONS, SCHEDULES, CONFIGURATION DETAILS AND SPECIFICATIONS. SEE THE NOTES BELOW FOR DIMENSIONING CONVENTIONS USED ON THIS PROJECT.

3. EXCEPT WHERE SPECIFICALLY NOTED TO THE CONTRARY, ALL DIMENSIONS SHOWN ON THE ARCHITECTURAL DRAWINGS CONFORM TO THE FOLLOWING CONVENTIONS:

- DIMENSIONS UTILIZING THE "CENTERLINE" SYMBOL ARE MEASURED TO:
 - STRUCTURAL OR DIMENSIONAL GRID LINES.
 - CENTERLINE OF CONCRETE OR CONC MASONRY UNIT WALLS [EXCLUSIVE OF FURRING OR APPLIED FINISHES HAVING THICKNESS]. REFER TO THE ARCH PLANS AND SECTIONS, THE SECTION DRAWINGS, OR PARTITION SCHEDULE TO DETERMINE THE THICKNESS OF CONCRETE OR CONC MASONRY UNIT WALLS.
 - CENTERLINE OF PARTITION ASSEMBLY [EXCLUSIVE OF ANY APPLIED FINISHES HAVING THICKNESS WHICH MAY BE ADDED TO SUCH WALL] AT PARTITIONS FORMED BY METAL STUDS, REFER TO "PARTITION SCHEDULE" TO DETERMINE THICKNESS OF EACH PARTITION TYPE.
 - CENTERLINE OF DOOR, WINDOW, OR LOUVER OPENING.
 - CENTERLINE OF EQUIPMENT OR FURNISHING.
 - CENTERLINE OF OTHER FEATURES AS INDICATED.
- REFER TO ABBREVIATIONS LEGEND FOR SYMBOL USED TO INDICATE CENTERLINE DIMENSION.
- DIMENSIONS UTILIZING THE "FACE OF" DIMENSION MEASURED TO:
 - FACE OF CONCRETE OR CONC MASONRY UNIT WALL [EXCLUSIVE OF APPLIED FINISHES HAVING THICKNESS WHICH MAY BE ADDED TO THE FACE OF SUCH WALLS].
 - FACE OF PARTITION ASSEMBLY [EXCLUSIVE OF ANY APPLIED FINISHES HAVING THICKNESS WHICH MAY BE ADDED TO SUCH WALL] AS DEFINED BY THE PARTITION SCHEDULE. UNLESS NOTED AS A "FACE OF FINISH" OR "CLEAR" DIMENSION [SEE NOTE E BELOW], DIMENSIONS ARE NOT MEASURED TO THE FACE OF APPLIED FINISH. REFER TO THE "PARTITION SCHEDULE" TO DETERMINE THE THICKNESS OF EACH PARTITION TYPE.
 - INSIDE EDGE OF FINISHED DOOR OPENING. REFER TO THE DOOR SCHEDULE FOR ADDITIONAL DIMENSIONAL INFORMATION.
 - DIMENSION OR WORK POINT AS INDICATED ON RELATED ARCH DETAIL PLAN, SECTION, ELEVATION, LAYOUT OR CONSTRUCTION DETAIL.
- REFER TO ABBREVIATIONS LEGEND FOR SYMBOL USED TO INDICATE "FACE OF" DIMENSION.
- WHERE "FACE OF FINISH" OR "CLEAR" DIMENSIONS ARE SPECIFICALLY NOTED, THE DIM IS MEASURED TO:
 - FINISH FACES AT THE MOST NARROW OR CONSTRICTED POINTS OF SECTION DIMENSION IS SHOWN, WHEN THE DIMENSION OCCURS ACROSS AN OPEN SPACE. THIS CASE, A "FACE OF FINISH" DIMENSION IS EQUIVALENT TO A "CLEAR" DIMENSION.
 - FINISH FACES AT THE WIDEST OR MOST EXPANSIVE POINTS OF THE SECTION DIMENSION IS SHOWN WHEN THE DIMENSION OCCURS ACROSS AN OBJECT OR GROUP OF OBJECTS.
- WHERE "EQUAL" DIMENSIONS ARE USED ON REFLECTED CEILING PLANS TO LOCATE CEILING GRID WORK POINTS, MEASURE DIMENSIONS TO:
 - EDGE OF THE INDICATED CEILING AT THE FACE OF THE ADJACENT APPLIED FINISH MEASURED AT THE PLANE OF THE CEILING.

NOTE: CAUTION: DUE TO THE POSSIBLE APPLICATION OF APPLIED FINISHES, THICKNESS OF WHICH MAY VARY BETWEEN FLOOR AND CEILING AND IS NOT ACCQUATED FOR ELEMENTS OF WORK INDICATED BY "TOP" OR "CLEAR" BY THE DIMENSION SHOWN ON THE FLOOR PLANS. THE CONTRACTOR MUST ADJUST, AS NECESSARY, THE FLOOR PLAN DIMENSIONS TO REFLECT THE ACTUAL DIMENSIONS FOUND AT PLANE OF THE CEILING.

4. WHERE DIMENSIONS ARE NOT PROVIDED ON FLOOR PLANS TO LOCATE DOOR OPENINGS, APPLY THE FOLLOWING RULES, IN ORDER, TO DETERMINE THE LOCATION OF DOOR OPENINGS:

- DOOR OPENINGS MAY BE DIMENSIONED ON DRAWINGS OTHER THAN THE FLOOR PLANS. REFER TO THE SECTIONS, ELEVATIONS, DETAILS, AND DOOR SCHEDULE NOTES FOR ADDITIONAL DIMENSIONAL INFORMATION.
- WHERE THE HINGE-SIDE OF A DOOR IS SHOWN ADJACENT TO A WALL, - OR WALLS - PERPENDICULAR TO THE WALL IN WHICH THE DOOR OPENING OCCURS,
 - AT DOORS OCCURRING IN METAL FRAMED GYPSUM BOARD PARTITIONS. LOCATE THE HINGE-SIDE OF THE DOOR FINISHED OPENING 4 INCHES FROM THE FACE [EXCLUSIVE OF APPLIED FINISHES] OF THE CLOSEST PERPENDICULAR WALL OR PARTITION ASSEMBLY.
 - AT DOORS OCCURRING IN WALLS OF CONC MASONRY UNIT CONSTRUCTION. LOCATE THE HINGE-SIDE OF THE DOOR FINISHED OPENING 10 INCHES FROM THE FACE [EXCLUSIVE OF APPLIED FINISHES] OF THE CLOSEST PERPENDICULAR WALL OR PARTITION ASSEMBLY.

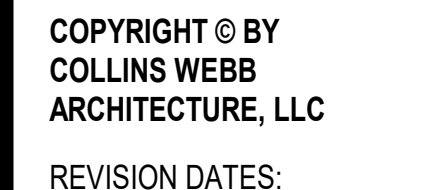
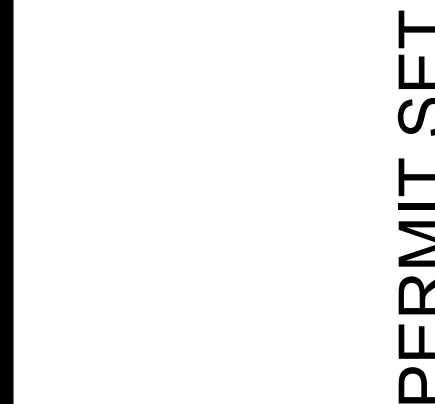
5. WHERE DOOR OCCURS NOT ADJACENT TO A PERPENDICULAR WALL AND EITHER "DM E" OR "DM F" IN DIAGRAM BELOW IS 16" OR LESS, LOCATE DOOR UTILIZING THE FOLLOWING MINIMUM DIMENSIONS:

- DIMENSION A = 16 INCHES MIN
- DIMENSION B = 12 INCHES MIN
- DIMENSION C = DOOR WIDTH + 2 INCHES MINIMUM
- DIMENSION D = 4 INCHES MIN AT METAL FRAMED GIP BD PARTITIONS OR - EVEN MULTIPLE OF 12 INCHES MINIMUM
- DIMENSION E AND F AS SHOWN ON PLANS
- DIMENSION G = 36 INCHES MIN
- DIMENSION H = 60 INCHES MIN

6. IF "DM E" IN DIAGRAMS BELOW IS LESS THAN THE SUM OF 5 TIMES THE DOOR WIDTH PLUS 20 INCHES, LOCATE DOOR SO THAT MINIMUMS STATED BY NOTE NO. 4C ABOVE FOR "DM A", "DM E", AND "DM F" ARE MET - MAXIMIZING "DM A" AND MINIMIZING "DM D" TO THE EXTENT POSSIBLE.

7. WHERE WALLS AND/OR PARTITIONS OF UNEQUAL THICKNESS ABUT, ALIGN EXPOSED FACES, UNLESS OTHERWISE NOTED.

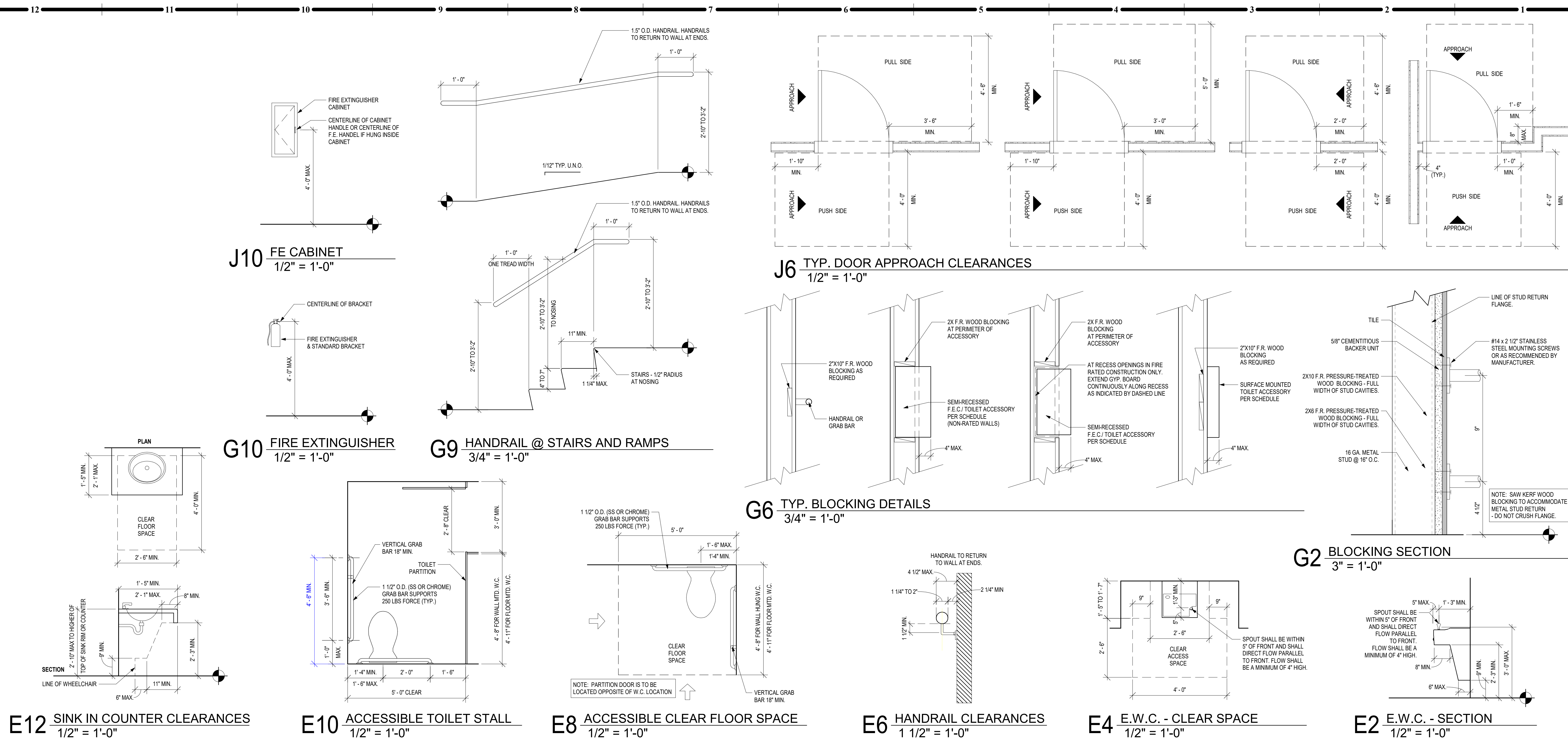
8. DIMENSION WHEN OCCURS

[illegible]

G001
ISSUE DATE: 2 MAY 202
COLLINS WEBB #: 2210

VICINITY MAP





**GENERAL NOTES:
ACCESSIBILITY GUIDELINES**

[illegible]

TM FIELDHOUSE
1600 SE HAMBLÉN ROAD
LEE'S SUMMIT, MISSOURI 64081

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ARCHITECTURE, LLC**

REVISION DATES:



5.2.2023
PROFESSIONAL SEAL

G002
ISSUE DATE: 2 MAY 2023
COLLINS WEBB #: 22103

ACCESSIBILITY GUIDELINES

WALL PRIORITY LEGEND

NOTE: THIS LEGEND IS FOR GRAPHIC REPRESENTATION ONLY.

FOUR HOUR FIRE WALL (4FW)
THREE HOUR FIRE WALL (3FW)
TWO HOUR FIRE WALL (2FW)
FOUR HOUR FIRE BARRIER (4FB)
THREE HOUR FIRE BARRIER (3FB)

TWO HOUR FIRE BARRIER (2FB) (INCLUDES THE FOLLOWING)
• TWO HOUR SHAFT ENCLOSURE (2SE)
ONE HOUR FIRE BARRIER (1FB) (INCLUDES THE FOLLOWING)
• ONE HOUR SHAFT ENCLOSURE (1SE)

SMOKE TIGHT PARTITION (X) (INCLUDES THE FOLLOWING)
• SMOKE TIGHT PARTITION TO SMOKE TIGHT CEILING (XO)
• SMOKE TIGHT PARTITION WITH PLENUM ABOVE CEILING (XP)
• SMOKE TIGHT PARTITION SEPARATION OF INTERSTITIAL SPACES (X)

DETAIL ABUTMENT OF DISSIMILAR WALL

INTERSECTION OF RATED WALLS

NOTES:
1. REFER TO WALL TYPES ON SHEET G121-T1 FOR WALL COMPONENTS, NUMBER OF GYPSUM BOARD LAYERS, TYPE OF GYPSUM BOARD, AND OTHER SIMILAR INFO.
2. THE HIGHER PRIORITY WALL SHALL PASS THROUGH THE LOWER PRIORITY WALL.
3. TAPING AND SEALING OF HIGHER PRIORITY WALLS SHALL BE CONTINUOUS.
4. ALTERNATE LAYERS OF GYPSUM BOARD SHALL OVERLAP AT CORNER INTERSECTIONS OF MULTI-LAYERED RATED GYPSUM BOARD PARTITIONS.

FIRE & SMOKE RESISTIVE LEGEND DEFINITIONS

FIRE WALLS (FW)

DEFINITION
A FIRE RATED WALL THAT IS CONTINUOUS VERTICALLY FROM FOUNDATION TO ROOF TO SEPARATE CONSTRUCTION INTO SEPARATE BUILDINGS.

USE
FIRE WALLS SERVE TO CREATE SEPARATE BUILDINGS FOR THE FOLLOWING REASONS:
• CONSTRUCTION TYPE VARIES FROM ONE BUILDING TO ANOTHER
• COMPLIANCE WITH MAXIMUM ALLOWABLE AREA REQUIREMENTS
• TO SEPARATE BUILDINGS WITH DIFFERENT LEVELS OF FIRE PROTECTION
• TO ADDRESS A PROPERTY LINE DEFINING DIFFERENT OWNERSHIP.

SPECIAL CONSIDERATIONS
• THE FIRE WALL REQUIRES SUFFICIENT STRUCTURAL STABILITY UNDER FIRE CONDITIONS TO ALLOW THE COLLAPSE OF CONSTRUCTION ON EITHER SIDE WITHOUT COLLAPSE OF THE WALL.
• OPENINGS ARE REQUIRED TO BE PROTECTED.
• OPENINGS ARE LIMITED BASED ON A PERCENTAGE OF WALL LENGTH.
• EXTENDING THE FIRE WALL THROUGH THE ROOF WITH A PARAPET IS REQUIRED FOR SOME CONSTRUCTION CLASSIFICATIONS.
• THE REQUIRED FIRE RATING OF A FIRE WALL IS BASED ON OCCUPANCY GROUPS AND CLASS OF CONSTRUCTION.
• HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

FIRE BARRIERS (FB)

DEFINITION
A FIRE RATED WALL CONSTRUCTED TO RESTRICT THE SPREAD OF FIRE. CONTINUITY SHALL BE MAINTAINED FROM TOP OF FLOOR TO UNDERSIDE OF THE FLOOR OR ROOF DECK ABOVE.

USE
FIRE BARRIERS HAVE THE FOLLOWING APPLICATIONS:
• TO CREATE HORIZONTAL EXITS
• TO SEPARATE EXIT PASSAGEWAYS
• OCCUPANCY SEPARATIONS
• TO SEPARATE INCIDENTAL USE AREAS
• ISOLATION OF HAZARDS
• TO SEPARATE ROOMS WITH DIFFERENT LEVELS OF FIRE PROTECTION
• SMOKE BARRIERS AND SHAFT ENCLOSURES ARE FIRE BARRIERS. SEE ADDITIONAL REQUIREMENTS.

SPECIAL CONSIDERATIONS
• WITHIN SOME CONSTRUCTION CLASSIFICATIONS, CONSTRUCTION THAT PROVIDES STRUCTURAL SUPPORT OF A FIRE BARRIER IS REQUIRED TO BE OF THE SAME HOURLY FIRE RATING AS THE FIRE BARRIER, OR BETTER.
• OPENINGS ARE REQUIRED TO BE PROTECTED.
• HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH AND CLOSER.

SHAFT ENCLOSURES (SE)

DEFINITION
A SHAFT ENCLOSURE IS A FIRE BARRIER FORMING THE BOUNDARY OF A VERTICAL SHAFT.

USE
PROTECT OPENINGS IN FIRE RATED FLOOR/CEILING ASSEMBLIES.

SPECIAL CONSIDERATIONS
• PENETRATIONS IN SHAFT ENCLOSURES ARE PROHIBITED UNLESS NECESSARY FOR THE FUNCTION OF THE SHAFT. WHERE ALLOWED, OPENINGS ARE REQUIRED TO BE PROTECTED.
• DUCT PENETRATIONS REQUIRE COMBINATION SMOKE AND FIRE DAMPERS EXCEPT FOR EXISTING CONDITIONS THAT ARE GRANDFATHERED.
• HARDWARE FOR SWING DOORS SHALL INCLUDE A LATCH, CLOSER, AND PERIMETER SMOKE SEALS.

GENERAL DESCRIPTION

PROJECT NAME: TM SPORTS COMPLEX
PROJECT LOCATION: 1600 SE HAMBLEN ROAD, LEE'S SUMMIT, MO 64081
COUNTY: JACKSON
COLLINS WEBB ARCHITECTURE
307B SW MARKET STREET
LEES SUMMIT, MISSOURI 64063

APPLICABLE CODES:
INTERNATIONAL BUILDING CODE - 2018 ED.
INTERNATIONAL PLUMBING CODE - 2018 ED.
INTERNATIONAL MECHANICAL CODE - 2018 ED.
INTERNATIONAL FUEL GAS CODE - 2018 ED.
INTERNATIONAL PRIVATE SEWAGE DISPOSAL CODE - 2018 ED.
INTERNATIONAL ENERGY CONSERVATION CODE - 2012 ED.
NATIONAL ELECTRICAL CODE - 2017 ED.
INTERNATIONAL FIRE CODE - 2018 ED.
ADA STANDARDS FOR ACCESSIBLE DESIGN - 2010 ED.
ICC/ANSI A117.1-2009 - ACCESSIBILITY AND USABILITY CODE

CODE INFORMATION

BUILDING/PROJECT USE:
CONSTRUCTION TYPE:
OCCUPANCY CLASSIFICATION:
BUILDING FRAME:
BASE ALLOWABLE AREA A-4:

ATHLETIC CLUB
TYPE I-B (FULLY SPRINKLED)
GROUP "A-4"
METAL FRAME:
38,000 SQ.FT.

IBC TABLE 601
IBC SECTION 303
IBC TABLE 506.2

ACTUAL TENANT AREA (GROSS) - WEST BLDG
SEPARATION WALL BETWEEN TWO SPACES
ACTUAL TENANT AREA (GROSS) - EAST BLDG
BLDG GROSS SQ. FT. TOTAL:

14,220 SQ. FT.
2 HR
37,448 SQ. FT.
\$1,688 SQ. FT.

EAST BLDG
LEVEL 1
MEZZANINE:
35,072 SQ. FT.
2,376 SQ. FT.

IBC TABLE 504.4
IBC TABLE 504.3

ALLOWABLE STORIES
ACTUAL NUMBER OF STORIES:
3 STORIES
1 STORIES

ALLOWABLE HEIGHT
ACTUAL HEIGHT IN FEET:
75'-0"
37'-0"

FIRE RESISTIVE REQUIREMENTS

PRIMARY FRAME
NON-BEARING WALLS
BEARING WALLS INT./ EXT.
FLOOR CONSTRUCTION
CEILING/ROOF
CORRIDORS

0 HRS
0 HRS
0 INT. / 0 EXT. HRS
0 HRS
0 HRS
0 HRS

IBC TABLE 601
IBC TABLE 601
IBC TABLE 601
IBC TABLE 601
IBC TABLE 601
IBC TABLE 1020.1

FIRE EXTINGUISHERS

1. PROVIDE PORTABLE FIRE EXTINGUISHERS IN OCCUPANCIES AND LOCATIONS AS REQUIRED BY THE STATE FIRE PREVENTION CODE. SEE PLANS FOR SUGGESTED LOCATIONS. NOTIFY ARCHITECT OF ANY PROPOSED RELOCATION OR IF A CONFLICT IS ENCOUNTERED.
2. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED, INSPECTED, AND MAINTAINED IN ACCORDANCE WITH NFPA 10, STANDARD FOR PORTABLE FIRE EXTINGUISHERS.

CEILING HEIGHT NOTES: (IBC 1207)

1. ALL MEANS OF EGRESS TO HAVE A MINIMUM CEILING HEIGHT OF 7'-0" A.F.F., NOR SHALL HAVE ANY PROJECTION FROM THE CEILING BE LESS THAN 6'-8" A.F.F.
2. OCCUPIED SPACES, HABITABLE SPACES AND CORRIDORS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-0" A.F.F.
3. BATHROOMS, TOILET ROOMS, KITCHENS, STORAGE ROOMS AND LAUNDRY ROOMS SHALL HAVE A CEILING HEIGHT OF NOT LESS THAN 7'-0" A.F.F.
4. A CLEAR HEIGHT ABOVE AND BELOW THE MEZZANINE FLOOR CONSTRUCTION SHALL NOT BE LESS THAN 7'-0" A.F.F.

INTERIOR FINISHES

GROUP A-4
EXIT ENCLOSURES
LOBBIES & CORRIDORS
ALL OTHER SPACES
TEXTILES

MAX. FLAME SPREAD
CLASS B
CLASS B
CLASS C
CLASS A (0-25)

IBC 803.13
IBC 803.13
IBC 803.13
IBC 803.5.2

NOTE:
Decorative Materials and Trim (including plastics) must comply with IBC 806

MEZZANINE NOTES: (IBC 505.2)

1. A MEZZANINE SHALL BE CONSIDERED A PORTION OF THE STORY BELOW AND SHALL NOT CONTRIBUTE TO EITHER THE BUILDING AREA OR NUMBER OF STORIES AS REGULATED BY SECTION 503.1.
2. THE AREA OF THE MEZZANINE SHALL BE INCLUDED IN DETERMINING THE FIRE AREA.
3. THE AGGREGATE AREA OF A MEZZANINE SHALL NOT BE GREATER THAN ONE-THIRD OF THE FLOOR AREA OF THAT ROOM OR SPACE IN WHICH THEY ARE LOCATED.
4. MEZZANINES OR PORTIONS THEREOF ARE NOT REQUIRED TO BE OPEN TO THE ROOM IN WHICH THE MEZZANINES ARE LOCATED, PROVIDED THAT THE AGGREGATE FLOOR AREA OF THE ENCLOSED SPACE IS NOT GREATER THAN 10 PERCENT OF THE MEZZANINE AREA.

UL LISTING:

• SEE UL ASSEMBLIES ON SHEET G141.
• PRIOR REQUIREMENTS TO INSTALLATION ON GYPSUM BOARD AT RATED ALLS, SEE UL REQUIREMENTS FOR FIRE SEALANT AND DRAFT STOP INSTALLATION.
• 2-HR FIRE RATED STACKED WALL, SEE WALL TYPE F1 - SHEET A101
• 1ST LEVEL: 2-HR FIRE RATED CMU SEPARATION WALL, SEE UL #R905
• MEZZANINE LEVEL: 2-HR FIRE RATED 8" STUD SEPARATION WALL, SEE UL #425

GENERAL EXITING REQUIREMENTS

EXIT TRAVEL DISTANCE: 250 FEET
DEAD END CORRIDOR: 20 FEET
COMMON PATH OF TRAVEL: 30 FEET OR 75' IF OCC. < 50
MIN. CORRIDOR WIDTH: 44" OR 36" IF OCC. < 50

IBC SECTION 1017.2
IBC SECTION 1020.4
IBC SECTION 1020.6
IBC TABLE 1020.2

POSTING OF OCCUPANT LOAD: (IBC 1004.9)

EVERY ROOM OR SPACE THAT IS AN ASSEMBLY OCCUPANCY SHALL HAVE THE OCCUPANT LOAD OF THE ROOM OR SPACE POSTED IN A CONSPICUOUS PLACE, NEAR THE MAIN EXIT OR EXIT ACCESS DOORWAY FROM THE ROOM OR SPACE. POSTED SIGNS SHALL BE OF AN APPROVED LEGIBLE PERMANENT DESIGN AND SHALL BE MAINTAINED BY THE OWNER OR AUTHORIZED AGENT.

EXIT REQUIREMENTS

A. REQUIRED CAPACITY
1. STAIRS - 0.3" / PERSON
2. OTHER COMPONENTS - 0.2" / PERSON

IBC SECTION 1005

B. MINIMUM NUMBER
1. OCCUPANT LOAD OF 1-500 PERSONS - 2 EXITS PER STORY
2. OCCUPANT LOAD OF 501-1000 PERSONS - 3 EXITS PER STORY
3. OCCUPANT LOAD OF MORE THAN 1000 PERSONS - 4 EXITS PER STORY

IBC TABLE 1006.3.2

SIGNAGE

1. STAIR TACTILE AND BRAILLE SIGNAGE ON EACH FLOOR FOR EXIT STAIRWELL, FLOOR DISCHARGE, AND ROOF TOP ACCESS IN ACCORDANCE WITH ICC A117.1
2. PROVIDE SIGNAGE "IN CASE OF FIRE, ELEVATORS ARE OUT OF SERVICE. USE EXIT STAIRS" IN ACCORDANCE WITH ICC 3002.3
3. EVACUATION DIAGRAM PROVIDED IN ACCORDANCE WITH IBC 1023.9

OCCUPANT LOAD : (IBC 1004)

UNCONCENTRATED SEATING
STANDING SPACE:
EXERCISE BASEBALL INFIELD
EXERCISE BASKETBALL COURTS
BLEACHERS
OFFICE SUITE
STORAGE
CONCESSIONS
OCCUPANT LOAD THIS LEVEL:
EXITS REQUIRED THIS LEVEL
EXITS PROVIDED THIS LEVEL:

186 OCC
107 OCC
288 OCC
336 OCC
458 OCC
1000
5000
1,370 TOTAL OCCUPANTS
4 EXITS
8 EXITS

UNCONCENTRATED:
STANDING SPACE:
EXERCISE:
EXERCISE:
FIXED SEATS:
OFFICE:
STORAGE:
KITCHEN:

15 SF/OCC
5 SF/OCC
50 SF/OCC
50 SF/OCC
18" / OCC
100 SF/OCC
300 SF/OCC
200 SF/OCC

IBC TABLE 1006.3.2

TOTAL OCCUPANT LOAD

TOTAL OCCUPANT LOAD FOR BLDG. 1,371 TOTAL OCC

PLUMBING FIXTURE REQUIREMENTS

A4 OCC MEN WATER CLOSETS
A4 OCC WOMEN WATER CLOSETS
A4 OCC MEN LAVATORIES
A4 OCC WOMEN LAVATORIES
A4 OCC DRINKING FOUNTAIN
A4 OCC SERVICE SINK

= 1/75 FOR FIRST 1,100, 1/200 FOR REMAINDER
= 1/40 FOR FIRST 1,520, 1/80 FOR REMAINDER
= 1/200
= 1/150 BOTH MALE/FEMALE
= 1/1,000
= 1

PLUMBING FIXTURES REQUIRED
MEN WATER CLOSETS:
WOMEN WATER CLOSETS:
MEN LAVATORIES:
WOMEN LAVATORIES:
DRINKING FOUNTAINS:
SERVICE SINKS:

685/75 = 10 REQUIRED
685/40 = 18 REQUIRED
685/200 = 4 REQUIRED
685/150 = 5 REQUIRED
1,370/1,000 = 2 REQUIRED
1 = 1 REQUIRED

PLUMBING FIXTURES PROVIDED
UNISEX WATER CLOSETS:
MEN WATER CLOSET/SURINALS:
WOMEN WATER CLOSETS:
UNISEX LAVATORIES:
MEN LAVATORIES:
WOMEN LAVATORIES:
DRINKING FOUNTAINS:
SERVICE SINKS:

= 4 PROVIDED
= 11 PROVIDED
= 14 PROVIDED (+ 4 UNISEX = 18 TOTAL)
= 4 PROVIDED
= 4 PROVIDED
= 2 PROVIDED (+ 4 UNISEX = 6 TOTAL)
= 4 PROVIDED
= 1 PROVIDED

FIRE RESISTIVE LEGEND

3FW 3FW 3FW 3FW 3 HOUR FIRE WALL
2FW 2FW 2FW 2FW 2 HOUR FIRE WALL

2FB 2FB 2FB 2FB 2 HOUR FIRE BARRIER
1FB 1FB 1FB 1FB 1 HOUR FIRE BARRIER

2S 2S 2S 2S 2 HOUR SHAFT ENCLOSURE
1SE 1SE 1SE 1SE 1 HOUR SHAFT ENCLOSURE

1FP 1FP 1FP 1FP 1 HOUR FIRE PARTITION
0.5FP 0.5FP 0.5FP 0.5FP 0.5 HOUR FIRE PARTITION
0.5X 0.5X 0.5X 0.5X 0.5 HOUR CORRIDOR PARTITION

SB SB SB SB 1 HOUR SMOKE BARRIER

2BW 2BW 2BW 2BW 2 HOUR BEARING WALL
1BW 1BW 1BW 1BW 1 HOUR BEARING WALL

DESCRIPT.
NUMBER OF OCCUPANTS EXITING
EXIT WIDTH PROVIDED (IN.)
CALCULATED EXIT WIDTH REQ'D (IN.)
MIN. WIDTH OF MEANS OF EGRESS COMPONENT (IN.)

FROM ROOM OR LEVEL
X = CLEAR WIDTH OF OPENING IN INCHES

F.E.C. FIRE RISER CABINET

F.A.C.P. FIRE ALARM CONTROL PANEL

FIRE DEPARTMENT CONNECTION

KNOX BOX

AREA OF RESCUE ASSISTANCE

ACCESSIBLE EGRESS COMPONENT

EGRESS PATH

FE-1 INDICATES FIRE EXTINGUISHER CABINET(FE) LOCATION WITH 75'-0" RADIUS COVERAGE AREA. SEE SPECIFICATIONS FOR FE TYPE.

FE-2K INDICATES KITCHEN BAR FIRE EXTINGUISHER (FE) LOCATION WITH 75'-0" RADIUS COVERAGE AREA. SEE SPECIFICATIONS FOR FE TYPE.

FE-3 INDICATES TEMPORARY WALL HUNG FIRE EXTINGUISHER (FE) LOCATION WITH 75'-0" RADIUS COVERAGE AREA. SEE SPECIFICATIONS FOR FE TYPE.

DOOR RATING LEGEND (REFER TO DOOR SCHEDULE)

20 MIN. DOOR
45 MIN. DOOR
90 MIN. DOOR

100 OCCUPANCY LOAD

A12 1ST FLOOR - LIFE SAFETY
1/16" = 1'-0"

GENERAL NOTE:
PER 1029.2 ASSEMBLY MAIN EXIT:
MAIN EXIT CAPACITY AT BASKETBALL FACILITY= 680 OCC. > 551 (1/2 OCC. LOAD AT BASKETBALL FACILITY)
MAIN EXIT CAPACITY AT BASEBALL FACILITY = 170 OCC. > 135 (1/2 OCC. LOAD AT BASEBALL FACILITY)

MAX TRAVEL DISTANCE: 250' - 0"
PROVIDED: 198' - 4"

1,370 TOTAL OCC

A2 MEZZANINE - LIFE SAFETY
1/16" = 1'-0"

TM FIELDHOUSE
1600 SE HAMBLEN ROAD
LEE'S SUMMIT, MISSOURI 64081

COLLINS WEBB ARCHITECTURE

307B SW MARKET ST., Lee's Summit, Missouri 64063 | 816.249.2270 | www.collinswebb.com

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REVISION DATES:

5.2.2023

PROFESSIONAL SEAL

G003

ISSUE DATE: 2 MAY 2023
COLLINS WEBB #: 22103

LIFE SAFETY PLANS AND
PROJECT INFO.

SPECIFICATIONS - PRODUCT & INSTALLATION GENERAL REQUIREMENTS

GENERAL REQUIREMENTS APPLICABLE TO ALL MATERIALS FOR THE PROJECT.

1. NO SUBSTITUTIONS OF MATERIALS WITHOUT COMPLETION OF A SUBSTITUTION REQUEST FORM & APPROVAL OF ARCHITECTURE BY BOTH ARCHITECT & OWNER PROJECT MANAGER. FORM CAN BE REQUESTED FROM ARCHITECT.
2. A CONDENSED SET OF SPECIFICATIONS ARE PROVIDED FOR THE PROJECT. STRICT ADHERANCE TO MANUFACTURER REQUIREMENTS AND INSTALLATION ARE REQUIRED TO BE FOLLOWED WITH THE SECTIONS PROVIDED WITHIN. IF REQUIRED THE ARCHITECT WILL ISSUE ADDITIONAL SECTIONS TO PROVIDE CLARITY TO PRODUCTS OR INSTALLATION REQUIREMENTS.

DIVISION 1 - GENERAL REQUIREMENTS

1. SEE ADMINISTRATIVE SPECIFICATION FOR GENERAL REQUIREMENTS RELATED TO ADMINISTRATION OF THIS CONTRACT.

A. CONTRACTOR LICENSES

1. THE CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED IN THE PROJECT SHALL BE REQUIRED TO OBTAIN PAY AND PAY FOR ALL NECESSARY LICENSES AS REQUIRED BY ANY LAW OR AGENCIES HAVING JURISDICTION (AHJ) OVER THE PROJECT.

B. BUILDING PERMITS

1. THE GENERAL CONTRACTOR WILL PAY FOR ALL PERMITS REQUIRED BY ANY AGENCY HAVING JURISDICTION (AHJ) OVER THE PROJECT FOR ALL WORK TO BE PERFORMED BY THE GENERAL CONTRACTOR.

C. UTILITY FEES

1. THE CONTRACTOR SHALL PAY THE NECESSARY FEES TO CONNECT TO EXISTING UTILITIES AT THE PROPERTY LINE OR IN ADJACENT STREETS AND RIGHT OF WAY AS SPECIFIED. NECESSARY, AND/OR INCLUDED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL PAY ALL UTILITY COSTS (BILLS) DURING CONSTRUCTION UNTIL OWNER TAKES POSSESSION OF THE FACILITY OR THE FACILITY IS CERTIFIED AS SUBSTANTIALLY COMPLETE.

D. PROTECTION OF FINISHED WORK

1. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT FINISHED SURFACES. PROTECTION FOR FINISHES SUCH AS DOORS, WALLS AND FLOORS SHOULD BE PROVIDED AS REQUIRED. ANY DAMAGES TO THESE AREAS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR OR REPLACE.

E. GENERAL CONDITIONS

1. ANY DISCREPANCY OR CONFLICT WITHIN OR BETWEEN DRAWINGS AND ANY DISCREPANCY OR CONFLICT BETWEEN ANY DRAWING AND ANY SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. NOTWITHSTANDING, DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ARCHITECTS AND OWNERS ATTENTION AND CLARIFIED DURING THE BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE FAVORABLE MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ARCHITECTS INTERPRETATION.
2. THE GENERAL CONTRACTOR SHALL KEEP A COMPLETE SET OF DOCUMENTS ON THE PROJECT SITE AT ALL TIMES FOR REFERENCE DURING CONSTRUCTION.
3. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTORS BEST SKILLS AND ATTENTION. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER THE CONSTRUCTION MEANS AND METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
4. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER ALL JOB SITE SAFETY PROCEDURES AND POLICIES. THE GENERAL CONTRACTOR SHALL HAVE A SAFETY COORDINATOR AND BE RESPONSIBLE TO HOLD REGULARLY SCHEDULED SAFETY TRAINING WITH ALL JOB SITE PERSONNEL, INCLUDING ALL SUB CONTRACTOR PERSONNEL.
5. NEITHER THE ARCHITECTS OR THE OWNERS INSPECTION NOR FAILURE TO INSPECT SHALL RELIEVE THE CONTRACTOR OF ANY OBLIGATION HEREUNDER. IF ANY WORK FAILS TO CONFORM TO THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROMPTLY REMEDY AND/OR REPLACE THE SAME AT THE CONTRACTORS EXPENSE. NO ACCEPTANCE OR PAYMENT BY THE OWNER OR ARCHITECT SHALL CONSTITUTE A WAIVER OF THE FOREGOING AND NOTHING HEREIN SHALL EXCLUDE OR LIMIT ANY WARRANTIES IMPLIED BY LAW.
6. THE GENERAL CONTRACTOR SHALL NOT CONDUCT ANY WORK OR ACT IN A MANNER THAT UNREASONABLY INTERFERE WITH TRAFFIC ON PUBLIC THOROUGHFARES ADJACENT OR NEAR TO THE PROJECT SITE.
7. DO NOT SCALE DRAWINGS.

F. PROJECT REQUIREMENTS

1. THE GENERAL CONTRACTOR REPRESENTS THAT IT POSSESSES THE SKILLS REQUIRED FOR THE WORK, ASSUMES THE RESPONSIBILITY OF AN EMPLOYER FOR PERFORMANCE OF THE WORK, AND ACTS AS AN EMPLOYER OF ONE OR MORE EMPLOYEES BY PAYING WAGES, DIRECTING ACTIVITIES AND PERFORMING OTHER SIMILAR FUNCTIONS. THE GENERAL CONTRACTOR IS AN INDEPENDENT CONTRACTOR, FREE TO DETERMINE THE MANNER IN WHICH THE WORK IS PERFORMED.
2. THE GENERAL CONTRACTOR SHALL PROVIDE, AND MAINTAIN IN GOOD WORKING ORDER, THE FOLLOWING ITEMS FOR USE BY THE PROJECT SUPERINTENDENT DAILY DURING THE ENTIRE DURATION OF THE PROJECT:
A. LAPTOP WITH INTERNET ACCESS.
B. DIGITAL CAMERA WITH DATE STAMP CAPABILITY AND WITH PROPER CABLES TO ATTACH TO LAPTOP.
C. EMAIL ACCESS THROUGH THE LAPTOP.
D. A PRINTER/SCANNER/FAX MACHINE WITH PROPER CABLES TO ATTACH TO LAPTOP.
E. CELL PHONE.
F. PROJECT INTERNET CLOUD BASED SITE FOR MANAGEMENT OF PROJECT INFORMATION. SITE WILL BE USED FOR SUBMITTAL OF SHOP DRAWINGS, RFI'S, LOGS, SITE SHALL BE PROVIDED OR EQUAL FUNCTIONALITY.
3. THE GENERAL CONTRACTOR SHALL HAVE A CONSTRUCTION SUPERINTENDENT ASSIGNED TO THIS PROJECT, AND THIS SUPERINTENDENT SHALL BE ON SITE EVERY DAY THERE IS ANY CONSTRUCTION ON THIS PROJECT. THE SUPERINTENDENT SHALL BE REACHABLE BY PHONE DURING NORMAL BUSINESS HOURS. ONCE ASSIGNED, THE SUPERINTENDENT SHALL NOT BE REMOVED OR REPLACED WITHOUT WRITTEN APPROVAL FROM OWNER & ARCHITECT, UNLESS SPECIFICALLY REQUESTED TO BE REPLACED BY OWNER.
4. THE SUPERINTENDENT SHALL PROVIDE PHOTOGRAPHS (VIA EMAIL USING A DIGITAL CAMERA) TO THE OWNER & ARCHITECT EACH FRIDAY BY NOON CST, SHOWING THE PROGRESS OF CONSTRUCTION. THE GENERAL CONTRACTOR IS ENCOURAGED TO TAKE PHOTOS SEVERAL TIMES EACH WEEK TO HELP MAINTAIN PROOF OF CONSTRUCTION PROGRESS. RECORD UNDER CONDITIONS AND AMOUNTS OF VENDOR GOODS UPON RECEIPT, AND RECORD CONSTRUCTION THAT VARIES FROM THE CDS (AS PART OF THE AS-BUILTS). ALL PHOTOS WILL HAVE A DATE STAMP.

G. INSPECTIONS/OBSERVATIONS

1. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OVERSEE CONSTRUCTION OF THE PROJECT, CONTINUALLY INSPECTING THE WORK, MATERIALS, AND WORKMANSHIP PROVIDED BY ALL OF HIS TRADESMEN, SUBCONTRACTORS, AND SUPPLIERS. EXCELLENCE IN QUALITY OF CONSTRUCTION CAN ONLY BE ACHIEVED IF THE CONTRACTOR ENFORCES STANDARDS OF ACCEPTABILITY. THE GENERAL CONTRACTOR CANNOT DELEGATE HIS RESPONSIBILITY TO THE SUBCONTRACTORS, BUT MUST CONTINUALLY MONITOR THE WORK OF EACH TRADE ON THE PROJECT.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO ARRANGE AND SCHEDULE ALL AGENCIES HAVING JURISDICTION (AHJ) INSPECTIONS NECESSARY TO OBTAIN THE CERTIFICATE OF COMPLIANCE. PRIOR TO THE DATE OF THE AGENCY INSPECTION, THE GENERAL CONTRACTOR SHOULD INSPECT THE PROJECT TO INSURE THAT CONSTRUCTION COMPLIES WITH THE AGENCY REQUIREMENTS. SCHEDULED FINAL INSPECTIONS WITH AGENCY REPRESENTATIVES ARE UNAVOIDABLE. PROVIDE A COPY OF ALL INSPECTIONS MUST BE PROVIDED TO OWNER & ARCHITECT AS THEY ARE AVAILABLE.
3. PRIOR TO REQUESTING THE SUBSTANTIAL COMPLETION INSPECTION, IT IS THE CONTRACTORS RESPONSIBILITY TO CONDUCT HIS OWN PRE-SUBSTANTIAL COMPLETION INSPECTION OF THE CONSTRUCTION FOR QUALITY OF CONSTRUCTION AND COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
4. THE FOLLOWING PEOPLE SHOULD BE IN ATTENDANCE FOR THE SUBSTANTIAL COMPLETION INSPECTION:
A. GENERAL CONTRACTOR SUPERINTENDENT
B. GENERAL CONTRACTOR SUPERINTENDENT
C. MECHANICAL CONTRACTOR
D. ELECTRICAL CONTRACTOR
E. PLUMBING CONTRACTOR
F. PAINTING CONTRACTOR
G. FLOORING CONTRACTOR
5. ITEMS TO BE SUBMITTED AS A PREREQUISITE TO THE REQUEST FOR THE CERTIFICATE OF SUBSTANTIAL COMPLETION AND OWNER / ARCHITECT OBSERVATION OF ITEMS TO BE COMPLETED AND CORRECTED.
A. GENERAL CONTRACTOR PUNCH LISTS
B. HVAC TEST AND BALANCE REPORT
C. SPRINKLER SYSTEM ACCEPTANCE INSPECTION REPORT
D. COPY OF VIDEO OF COMPLETED SEWER SYSTEM
6. THE REVIEW TEAM SHOULD PROCEED IN AN ORGANIZED MANNER THROUGHOUT THE BUILDING INSPECTING EACH SPACE OR ROOM. THE PUNCH LIST GENERATED BY THE SUBSTANTIAL COMPLETION INSPECTION TOUR IS TO BE PREPARED BY THE GENERAL CONTRACTOR, ALONG WITH THE PUNCH LIST, THE ARCHITECT SHALL PREPARE THE "CERTIFICATE OF SUBSTANTIAL COMPLETION".
7. IMMEDIATELY AFTER RECEIPT OF THE PUNCH LIST, THE GENERAL CONTRACTOR AND SUBCONTRACTORS ARE EXPECTED TO BEGIN CORRECTING ITEMS. AFTER COMPLETION OF PUNCHLIST, THE CONTRACTOR SHALL NOTIFY OWNER & ARCHITECT IN WRITING THAT FULL LIST OF ITEMS TO BE COMPLETED AND OR CORRECT IS FINALIZED.

H. RECORD CLOSE-OUT DOCUMENTS

1. THE OWNER REQUIRES THE GENERAL CONTRACTOR AND SUBCONTRACTORS TO MAINTAIN AN ACCURATE, CURRENT SET OF RECORD DOCUMENTS (AS-BUILTS) AS CONSTRUCTION PROGRESSES. ALL PERTINENT INFORMATION RELATING TO THE PROJECT MUST BE TIMELY MAINTAINED ON THE AS-BUILTS. THE AS-BUILTS MUST BE MAINTAINED ON-SITE IN THE GENERAL CONTRACTORS OFFICE AND WILL NOT BE USED FOR ANY OTHER PURPOSE. SINCE THE OWNER WILL OWN AND OPERATE THE FACILITY, IT IS IMPERATIVE THAT ALL PARTIES MAINTAIN ACCURATE INFORMATION REGARDING THE ACTUAL CONSTRUCTION OF THE PROJECT.
2. ALL DEVIATIONS FROM THE CONTRACT SET OF DRAWINGS MUST BE NOTED ON THE AS-BUILTS IN RED WITH CLOUDS FOR CLEAR IDENTIFICATION. THE OWNER WILL REVIEW THE AS-BUILTS FOR ACCURACY AND COMPLETENESS MONTHLY. DURING THE PAYMENT APPLICATION REVIEW PROCESS, FAILURE TO POST CHANGES TO THE PROJECT ON THE AS-BUILTS AS IDENTIFIED DURING THE ON-SITE MONTHLY REVIEW WILL BE CAUSE TO SUSPEND PAYMENT UNTIL RECTIFIED. IT IS THE GENERAL CONTRACTORS RESPONSIBILITY TO ENFORCE THE TIMELY POSTING OF AS-BUILT CHANGES WITH THE SUBCONTRACTORS.

I. FINAL CLOSE-OUT OF THE PROJECT

1. WITHIN THIRTY (30) CALENDAR DAYS AFTER THE FINAL PROJECT SUBSTANTIAL COMPLETION, THE GENERAL CONTRACTOR SHALL COMPLETE ALL CLOSE-OUT DOCUMENTS AND SUBMIT THEM TO THE OWNER FOR REVIEW. IF THE CONTRACTOR FAILS TO COMPLETE ITS REQUIREMENTS WITHIN THIS TIMELINE NOTED ABOVE THE CONTRACTOR MAY BE SUBJECT TO ADDITIONAL ADMINISTRATION FEES.

J. CLOSE OUT DOCUMENTS

1. THE CATEGORIES LISTED BELOW SHOULD BE SUBMITTED AT THE SAME TIME:
A. A DISK WITH ALL PHOTOS TAKEN DURING CONSTRUCTION
B. CHANGE ORDERS AND ALL ADDENDUMS ATTACHED AND POSTED TO THE AS-BUILT DRAWINGS.
C. AS-BUILT DRAWINGS: ONE HARD COPY TO REMAIN ON SITE AND IN PLAN TUB; ONE ELECTRONIC COPY TO BE SENT WITH CLOSE-OUT PAPERWORK.
D. MATERIALS SELECTION DATA - PROVIDE ALL APPROVED SUBMITTALS.
E. OPERATION AND MAINTENANCE MANUALS (OMM) - PROVIDE OMM MANUALS BOXED AND BOUND. THIS ITEM IS OF SIGNIFICANT IMPORTANCE TO FMSI FUTURE MAINTENANCE ACTIVITIES.
F. ALL HVAC TEST AND BALANCE REPORTS.
G. RELEASE OF LIEN (AIA FORM 706A), PAYMENT OF DEBT (AIA FORM 706B).
H. WARRANTIES, CERTIFICATES, AFFIDAVITS.
I. ALL INFORMATION INCLUDED IN THIS CATEGORY WILL BE FURNISHED IN ONE (1) COPY AND BOUND IN A STURDY THREE-RING BINDER WITH A LABEL ON THE OUTSIDE READING "GENERAL CLOSE-OUT DOCUMENTS" TO INCLUDE AN INDEX OF THE CONTENTS. ALL AIA DOCUMENTS WILL BE ORIGINAL WITH RED LETTERING ON THE BOTTOM OF THE FORM AND NOTARIZED. IF THE ELECTRONIC VERSION IS USED, A COPY WITH ORIGINAL SIGNATURES MUST BE SUBMITTED. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR WILL HAVE SEPARATE TABS IDENTIFYING EACH BY NAME. THE GENERAL CONTRACTOR WILL LIST EACH SUBCONTRACTOR ALPHABETICALLY AND CHECK TO INSURE THAT A RELEASE OF LIEN - AIA FORM 706A AND A PAYMENT OF DEBT - AIA FORM 706B IS INCLUDED FOR HIMSELF AND EACH SUBCONTRACTOR. THE GENERAL CONTRACTOR WILL INCLUDE A "CONSENT OF SURETY" - AIA FORM 707, IN ADDITION. THE GENERAL CONTRACTOR WILL INCLUDE BEHIND HIS TAB THE FOLLOWING INFORMATION:
A. A LIST OF NAMES, BUSINES ADDRESSES, PHONE NUMBERS AND EMAIL ADDRESSES FOR THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR.
B. AN ANNOTATED COPY OF THE SUBSTANTIAL COMPLETION PUNCH LIST INDICATING ACTION TAKEN ON EACH ITEM.
C. WARRANTIES, CERTIFICATES AND AFFIDAVITS SHALL BE INCLUDED FOR ANY EQUIPMENT, MATERIALS OR SYSTEMS, COMBINED WITH ALL OF THE ABOVE INFORMATION AND PLACED BEHIND THE TAB OF THE CONTRACTOR THAT ISSUED IT.

DIVISION 5 - METALS

05 1000 - DECORATIVE METAL

A. SUBMITTALS

1. PRODUCT DATA AND SHOP DRAWINGS WITH PLANS ELEVATIONS AND SECTIONS INDICATING MEMBER SIZES AND LAYOUT, VERTICAL AND HORIZONTAL DIMENSIONS, EDGE CONDITIONS, AND CONNECTION DETAILS.
2. INDICATE RAILING SYSTEM ELEVATIONS AND SECTIONS, DETAILS OF PROFILE, DIMENSIONS, SIZES, CONNECTION ATTACHMENTS, ANCHORAGE, SIZE AND TYPE OF FASTENERS, AND ACCESSORIES.
3. INDICATE ANCHOR AND JOINT LOCATIONS, BRAZED CONNECTIONS, TRANSITIONS, AND TERMINATIONS.
4. DELEGATED DESIGN SUBMITTAL FOR HANDRAIL AND GUARDRAIL SYSTEMS, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

B. DESIGN

1. METAL TUBE RAILINGS SHALL BE DESIGNED BY FABRICATOR TO SUPPORT CODE-REQUIRED LOADINGS AND TO MATCH THE CONFIGURATIONS INDICATED IN THE CONSTRUCTION DOCUMENTS. SEE DRAWINGS FOR REQUIRED RAILING ELEVATIONS.

C. FIELD CONDITIONS

1. MEASUREMENTS: VERIFY ACTUAL LOCATIONS OF WALLS AND OTHER CONSTRUCTION CONTIGUOUS WITH METAL FABRICATIONS BY FIELD MEASUREMENTS BEFORE FABRICATION.

D. RAILING SYSTEMS

1. RAILING SYSTEMS: GENERAL, FACTORY, OR SHOP-FABRICATED IN DESIGN INDICATED, TO SUIT SPECIFIC PROJECT CONDITIONS AND FOR PROPER CONNECTION TO BUILDING STRUCTURE, AND IN LARGEST PRACTICAL SIZES FOR DELIVERY TO SITE.
2. PERFORMANCE REQUIREMENTS: DESIGN AND FABRICATE RAILINGS AND ANCHORAGES TO RESIST THE FOLLOWING LOADS WITHOUT FAILURE, DAMAGE, OR PERMANENT SET. LOADS DO NOT NEED TO BE APPLIED SIMULTANEOUSLY.
3. LATERAL FORCE: 75 LB MINIMUM, AT ANY POINT, WHEN TESTED IN ACCORDANCE WITH ASTM E885.
4. DISTRIBUTED LOAD: 90 LB/FT MINIMUM, APPLIED IN ANY DIRECTION AT THE TOP OF THE HANDRAIL, WHEN TESTED IN ACCORDANCE WITH ASTM E885.
5. CONCENTRATED LOADS ON INTERMEDIATE RAILS: 50 PSF MINIMUM.
6. CONCENTRATED LOAD: 200 LBS MINIMUM, APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE HANDRAIL SYSTEM, WHEN TESTED IN ACCORDANCE WITH ASTM E885.
7. PERFORMANCE REQUIREMENTS: DESIGN AND FABRICATE RAILINGS AND ANCHORAGES TO RESIST THE FOLLOWING LOADS WITHOUT FAILURE, DAMAGE, OR PERMANENT SET. LOADS DO NOT NEED TO BE APPLIED SIMULTANEOUSLY.
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03_Abbreviation Schedule	
Abbreviation	Abbreviation Name
PL	PLUS OR MINUS
ADNL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
AR	ANCHOR ROD
ARCH	ARCHITECT OR ARCHITECTURAL
BI	BOTTOM OF
BW	BETWEEN
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BWP	BRACED WALL PANEL
CFS	COLD FORMED STEEL
CHKD	CHECKED
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CTR	CENTER
db	DIA OF REINB BAR, DIA OF BOLT
DBA	DEFORMED BAR ANCHOR
Dia or Ø	DIAMETER
DIAG	DIAGONAL
DIR	DIRECTION
DWL	DOWEL
EA	EACH
EE	EXTENDED END
EJ	EXPANSION JOINT
ELEV	ELEVATION
EN	EDGE NAILING
ENGR	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FLG	FLANGE
FLR	FLOOR
FS	FIN SIDE
FTG	FOOTING
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
I	INSIDE FACE
INT	INTERIOR
JST	JOIST
K	KIPS (1000 LBS)
LCE	COMPRESSION EMBEDMENT LENGTH
LCH	COMPRESSION LAP SPLICE LENGTH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SLOTTED HOLE
LTE	TENSION EMBEDMENT LENGTH
LTS	TENSION LAP SPLICE LENGTH
LW	LIGHTWEIGHT
MFCR	MANUFACTURER
MTL	METAL
NC	NOT IN CONTRACT
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OF	OUTSIDE FACE
OPP	OPPOSITE
OVS	OVERLAPPED
PVC	PRECAST
PAF	POWDER ACTUATED FASTENER
PAR	PARALLEL
PEMB	PRE-ENGINEERED METAL BUILDING
PEN	PENETRATION
PERP	PERPENDICULAR
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
RC	REINFORCED CONCRETE
REF	REFER TO
REINF	REINFORCING
REQ	REQUIRED
RF	RIGID FRAME
SC	SLIP CRITICAL
SDS	SELF DRILLING SCREW
SM	SIMILAR
SLV	SHORT LEG VERTICAL
SOG	SLAB ON GRADE
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STR	STRIPS
STL	STEEL
SW	SHEAR WALL
SYM	SYMMETRIC
T&B	TOP AND BOTTOM
TF	TOP OF
TRANS	TRANSVERSE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WITH
W/O	WITHOUT
WF	WIDE FLANGE
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

STRUCTURAL DESIGN CRITERIA (2018 IBC AND ASCE 7-16):

1. BUILDING OCCUPANCY RISK CATEGORY III.
2. LIVE LOADS [UNIFORM (PSF) / POINT LOADS (KIPS)]:
- ROOF..... 20 PSF / 300#
 - GROUND LEVEL SLAB..... 100 PSF / 2.0 K
 - MEZZANINE & STAIRS..... 100 PSF / 300#
3. ROOF SNOW LOAD:
- GROUND SHOW LOAD (Ps)..... 20 PSF
 - FLAT ROOF SNOW LOAD (Ps)..... 16.8 PSF W/ DRIFT
 - MIN UNIFORM ROOF SNOW LOAD (Pm)..... 22 PSF (NO DRIFT OR RAIN)
 - RAIN ON SNOW SURCHARGE (Ps)..... 5.0 PSF
 - SNOW EXPOSURE FACTOR (Ce)..... EXPOSURE C
 - SNOW LOAD INFORMATION FACTOR (Ig)..... 1.0
 - THERMAL FACTOR (CT)..... 1.1 (just above freezing)
 - SLOPE FACTOR (Cs)..... 1.0
4. WIND DESIGN DATA:
- BASIC WIND SPEED (3 SEC GUST)..... 117 MPH
 - ASO WIND SPEED (VASD)..... 90 MPH
 - WIND EXPOSURE..... C
 - GROUND ELEVATION ABOVE SEA LEVEL..... 1,000 FT
 - DIRECTIONALITY FACTOR (Kd)..... 0.85
 - INTERNAL PRESSURE COEFF..... 0.18
 - COMPONENTS AND CLADDING WIND (ULTIMATE) (Q)W PRESSURES (BASED ON TRIB 10 S.F., EXP. C. MAY BE REDUCED FOR COMPONENTS WITH LARGER TRIB PER BLDG CODE):
 - CL CENTERLINE..... +31 / -41 PSF
 - CLR CLEAR..... ALL OTHER MAIN WALL CONDITIONS..... +2 / -33.3 PSF
 - COL COLUMN..... +14 / -96.3 PSF
 - CONC CONCRETE..... ROOF EDGES..... +14 / -71 PSF
 - CONN CONNECTION..... ALL OTHER MAIN ROOF CONDITIONS..... +14.24 PSF
 - CONT CONTINUOUS..... PARAPET EDGES.....
 - CTR CENTER.....
| db | DIA OF REINB BAR, DIA OF BOLT |
| DBA | DEFORMED BAR ANCHOR |
| Dia or Ø | DIAMETER |
| DIAG | DIAGONAL |
| DIR | DIRECTION |
| DWL | DOWEL |
| EA | EACH |
| EE | EXTENDED END |
| EJ | EXPANSION JOINT |
| ELEV | ELEVATION |
| EN | EDGE NAILING |
| ENGR | ENGINEER |
| EOD | EDGE OF DECK |
| EOS | EDGE OF SLAB |
| EQ | EQUAL |
| EW | EACH WAY |
| EXIST | EXISTING |
| EXT | EXTERIOR |
| FDN | FOUNDATION |
| FLG | FLANGE |
| FLR | FLOOR |
| FS | FIN SIDE |
| FTG | FOOTING |
| FV | FIELD VERIFY |
| GA | GAUGE |
| GALV | GALVANIZED |
| GB | GRADE BEAM |
| GC | GENERAL CONTRACTOR |
| HORIZ | HORIZONTAL |
| HSA | HEADED STUD ANCHOR |
| HSS | HOLLOW STRUCTURAL SECTION |
| I | INSIDE FACE |
| INT | INTERIOR |
| JST | JOIST |
| K | KIPS (1000 LBS) |
| LCE | COMPRESSION EMBEDMENT LENGTH |
| LCH | COMPRESSION LAP SPLICE LENGTH |
| LLH | LONG LEG HORIZONTAL |
| LLV | LONG LEG VERTICAL |
| LSH | LONG SLOTTED HOLE |
| LTE | TENSION EMBEDMENT LENGTH |
| LTS | TENSION LAP SPLICE LENGTH |
| LW | LIGHTWEIGHT |
| MFCR | MANUFACTURER |
| MTL | METAL |
| NC | NOT IN CONTRACT |
| NS | NEAR SIDE |
| NTS | NOT TO SCALE |
| OC | ON CENTER |
| OF | OUTSIDE FACE |
| OPP | OPPOSITE |
| OVS | OVERLAPPED |
| PVC | PRECAST |
| PAF | POWDER ACTUATED FASTENER |
| PAR | PARALLEL |
| PEMB | PRE-ENGINEERED METAL BUILDING |
| PEN | PENETRATION |
| PERP | PERPENDICULAR |
| PL | PLATE |
| PLF | POUNDS PER LINEAR FOOT |
| PREFAB | PREFABRICATED |
| PRELIM | PRELIMINARY |
| PSF | POUNDS PER SQUARE FOOT |
| PSI | POUNDS PER SQUARE INCH |
| RC | REINFORCED CONCRETE |
| REF | REFER TO |
| REINF | REINFORCING |
| REQ | REQUIRED |
| RF | RIGID FRAME |
| SC | SLIP CRITICAL |
| SDS | SELF DRILLING SCREW |
| SM | SIMILAR |
| SLV | SHORT LEG VERTICAL |
| SOG | SLAB ON GRADE |
| SQ | SQUARE |
| SS | STAINLESS STEEL |
| STD | STANDARD |
| STR | STRIPS |
| STL | STEEL |
| SW | SHEAR WALL |
| SYM | SYMMETRIC |
| T&B | TOP AND BOTTOM |
| TF | TOP OF |
| TRANS | TRANSVERSE |
| TYP | TYPICAL |
| UNO | UNLESS NOTED OTHERWISE |
| VERT | VERTICAL |
| W | WITH |
| W/O | WITHOUT |
| WF | WIDE FLANGE |
| WP | WORK POINT |
| WWR | WELDED WIRE REINFORCEMENT |

5. EARTHQUAKE DESIGN DATA:
- SEISMIC IMPORTANCE FACTOR (Ie)..... 1.25
 - MAPPED SPECTRAL RESP ACCEL (Ss / S1)..... 1.00 / 0.068
 - SITE CLASS..... D
 - SPECTRAL RESPONSE COEFF (Sds / Sd1)..... 0.107 / 0.110
 - SEISMIC DESIGN CATEGORY..... B
 - SEISMIC FORCE RESISTING SYSTEM..... R=3 STEEL
 - DESIGN BASE SHEAR..... DETERMINED BY MB MFCR
 - SEISMIC RESPONSE COEFF (Cs)..... 0.044
 - ANALYSIS PROCEDURE..... ELF
6. RAIN LOAD DATA:
- 15 MIN RAIN INTENSITY..... 8.26 INHR
 - 60 MIN RAIN INTENSITY..... 3.9 INHR
- DESIGN ASSUMES APPROPRIATE ROOF SLOPE AND DRAINAGE (INCLUDING OVERFLOWS) ARE PROVIDED. ROOF IS DESIGNED FOR LIVE LOAD INDICATED ABOVE.

7. GUARD RAILS..... 50 PLF, AND/OR 20# CONCENTRATED LOAD APPLIED IN ANY DIRECTION.
8. ADDITIONAL DELEGATED DESIGN CRITERIA:
- A. LOADS
- PEMB COLLATERAL ROOF LOAD..... 5 PSF
 - MECHANICAL EQUIPMENT AND LOADS..... AS INDICATED ON MEP PLANS
 - BASKETBALL GOALS, DIVING CURTAINS, BASEBALL NETS: AS INDICATED ON ARCH AND MEP PLANS
 - MEMBER DEFLECTION LIMITS (UNDER ROOF LIVE, SNOW, 10 YR WIND, OR SOIL PRESSURE)
 - ROOF, SUPPORTING PLASTER CEILING..... L/360
 - ROOF, SUPPORTING OTHER CEILING..... L/240
 - WALL GIRT, BACKING NON-BRITTLE FINISH..... L/180
 - WALL GIRT, BACKING BRITTLE FINISH..... L/360
 - BUILDING DRIFT LIMITS (UNDER 10 YR WIND, SEISMIC, OR SOIL PRESSURE):
 - BRITTLE EXTERIOR FINISH..... H/240
 - METAL WALL PANELS..... H/100

PRE-ENGINEERED METAL BUILDING:

1. THE PRE-ENGINEERED METAL BUILDING SUPPLIER SHALL BE RESPONSIBLE FOR THE PEMB DESIGN. THE PEMB DESIGN AND CALCULATIONS SHALL BE SEALED BY AN ENGINEER LICENSED TO PRACTICE IN THE JURISDICTION OF THE PROJECT AND SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL BEFORE FABRICATION, ALONG WITH A LETTER SEALED BY AN ENGINEER REGISTERED IN THE STATE OF THE PROJECT STATING THAT THEY HAVE REVIEWED THE METAL BUILDING DRAWINGS FOR CONFORMANCE TO THE DESIGN REQUIREMENTS.
2. PEMB DRAWINGS SHALL BE APPROVED BY THE ARCHITECT/ENGINEER BEFORE INSTALLATION OF ANY FOUNDATION ELEMENTS SUPPORTING THE PEMB COMPONENTS.
3. ROOF LIVE LOADS, INCLUDING SNOW LOADS, SHALL NOT BE REDUCED. DESIGN ROOF AND ROOF MEMBERS FOR ALL REQUIRED UNBALANCED LOADS AND SNOW DRIFTING.
4. CONTRACTOR TO VERIFY AND COORDINATE ALL BASE PLATE ELEVATIONS AND GROUTING REQUIREMENTS WITH PEMB SUPPLIER.

STRUCTURAL GENERAL NOTES:

1. DESIGN AND CONSTRUCTION SHALL CONFORM TO THE "INTERNATIONAL BUILDING CODE, 2018 EDITION" AS AMENDED BY THE CITY OF LEE'S SUMMIT, MO. REFER TO THE SPECIAL STRUCTURAL INSPECTION NOTES FOR ADDITIONAL REQUIREMENTS.
2. CONTRACTOR TO VERIFY ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING WORK.
3. IF DISCREPANCIES EXIST BETWEEN STRUCTURAL PLANS, ARCHITECTURAL PLANS, OTHER PLANS, OR SPECIFICATIONS, THE CONTRACTOR OR SUBCONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
4. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO EXECUTE AND DETERMINE FINAL ERECTION PROCEDURES, SEQUENCING AND TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES WHATEVER SHORING, SHEETING, TEMPORARY BRACING, GUYING OR THE TOWNS WHICH MIGHT BE NECESSARY.
5. THE STRUCTURE AND FOUNDATIONS ARE NOT DESIGNED FOR FUTURE EXPANSION.
6. FABRICATORS AND SUPPLIERS SHALL CLEARLY NOTE AND HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS, WHICH DO NOT COMPLY WITH THE CONTRACT DOCUMENTS.
7. COLUMNS, BEAMS, JOISTS, OR TRUSSES SHALL NOT BE FIELD CUT OR TRIMMED FOR ANY REASON WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
8. HOLES, PIPES, SLEEVES, ETC. NOT SHOWN ON THE DRAWINGS MUST BE REVIEWED BY THE ARCHITECT/ENGINEER BEFORE PLACEMENT THROUGH STRUCTURAL MEMBERS.
9. IF MECHANICAL AND ELECTRICAL EQUIPMENT SIZES, WEIGHTS, OR LOCATIONS DO NOT COINCIDE WITH EQUIPMENT SHOWN ON THE PLANS, COORDINATE ADJUSTMENTS WITH THE ARCHITECT.
10. NO AREA OF THE STRUCTURE SHALL BE LOADED WITH CONSTRUCTION MATERIALS OR EQUIPMENT THAT EXCEEDS FINAL DESIGN CRITERIA.
11. BEAMS, COLUMNS, WALLS AND FOOTING CENTERS SHALL BE CENTERED UNDER SUPPORTING MEMBERS (TYPICAL UNLESS NOTED OTHERWISE).
12. TYPICAL DETAILS ARE SHOWN ON SHEETS DESIGNATED "SDXX". THE INCLUDED TYPICAL DETAILS MAY OR MAY NOT BE CUT / REFERENCED ON PLANS OR SECTIONS, BUT ARE TO BE USED AS APPLICABLE.

SUBMITTALS:

1. GENERAL CONTRACTOR TO PROVIDE A SHOP DRAWING SUBMITTAL LOG ITEMIZING ALL PROPOSED SUBMITTALS FOR APPROVAL BY STRUCTURAL ENGINEER OF RECORD.
2. ALL SHOP DRAWINGS SHALL BE CHECKED BY THE FABRICATOR AND APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER OF RECORD. SHOP DRAWING REVIEW BY ENGINEER IS LIMITED TO VERIFYING GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES FROM THE CONTRACT DOCUMENTS, DIMENSIONAL ERRORS, COORDINATION ERRORS, OR OMISSIONS IN SHOP DRAWINGS.

3. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION REGARDING ALL STRUCTURAL ITEMS, INCLUDING THE FOLLOWING IN ADDITION TO THE DELEGATED DESIGN SUBMITTALS:
- CONCRETE MIX DESIGNS (5 DAYS BEFORE POUR, MIN)
 - CONCRETE REINFORCEMENT
 - MASONRY REINFORCEMENT
 - STRUCTURAL STEEL
4. SHOP DRAWINGS SHALL INCLUDE CONNECTIONS AS WELL AS SIZE, SPACING, AND GRADE OF ALL MEMBERS, PLANS AND ANY DETAILING NECESSARY FOR DETERMINING FIT AND PLACEMENT SHALL ALSO BE INCLUDED.
5. IF THE SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ARE SUBJECT TO REVIEW AND APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.
6. DESIGN DRAWINGS, SHOP DRAWINGS, AND CALCULATIONS FOR THE DESIGN AND FABRICATION OF ITEMS THAT ARE DESIGNED BY THE CONTRACTOR, INCLUDING:
- PRE-MANUFACTURED STEEL SHELTERS
 - STAIR FRAMING
 - TEMPORARY EXCAVATION BRACING AND SHORING

SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION. CALCULATIONS SHALL BE PROVIDED FOR ALL CONNECTIONS TO THE STRUCTURE, CONSIDERING LOCALIZED EFFECTS ON STRUCTURAL ELEMENTS INDUCED BY THE CONNECTION LOADS.

7. ITEMS THAT ARE DESIGNATED BY THE CONTRACTOR SHALL BE DESIGNED TO RESIST THE LIVE LOADS INDICATED IN STRUCTURAL NOTES, DEAD LOAD, SELF WEIGHT, ANY ADDITIONAL LOADING INDICATED ON PLANS AND DETAILS, SNOW DRIFT, AND A NET WIND UPLIFT.
8. ITEMS THAT ARE DESIGNED BY THE CONTRACTOR SHALL INCLUDE ANY RELEVANT TECHNICAL LITERATURE FROM MANUFACTURER, ALSO PROVIDE A CERTIFICATION FROM THE MANUFACTURER SHOWING THE PRODUCT IS IN COMPLIANCE WITH ALL APPLICABLE CODES AND STANDARDS.
9. THE CONTRACTOR SHALL COORDINATE SEISMIC RESTRAINTS OF MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT, MACHINERY, AND ASSOCIATED PIPING WITH THE STRUCTURE. ANY CONNECTIONS TO STRUCTURE SHALL CONFORM TO ASCE 7 CHAPTER 13 AND SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE APPROPRIATE STATE, AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION.
10. FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER FROM OR ADD TO THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION.

SPECIAL INSPECTIONS:

1. PROVIDE SPECIAL STRUCTURAL INSPECTIONS AND VERIFICATIONS BY A THIRD PARTY MEETING THE REQUIREMENTS OF CHAPTER 17 OF THE BUILDING CODE AND THE BUILDING OFFICIAL.
2. SPECIAL INSPECTORS SHALL BE QUALIFIED AND FURNISH THEIR REPORTS IN A TIMELY MANNER TO THE CONTRACTOR, BUILDING OFFICIALS, ARCHITECT, AND/OR ENGINEER.
3. SHOULD INSPECTOR IDENTIFY ANY DISCREPANCY, THEY SHALL NOTIFY CONTRACTOR FIRST, AND THEN ARCHITECT/ENGINEER IMMEDIATELY THEREAFTER IF CORRECTIVE ACTION IS NEEDED.
4. SPECIAL INSPECTIONS AS REQUIRED BY CODE:
- A. STEEL: SECTION 1705.2, AND AISC 360. PERIODIC OBSERVATIONS OF CONNECTION, ALL BRACED-FRAME CONNECTIONS, WELDERS & FIELD WELDING.
 - B. CONCRETE: SECTION 1705.3 AND TABLE 1705.3. CONCRETE MATERIAL SAMPLING AND TESTING, REBAR OBSERVATIONS, TAKE SET OF (3) COLUMNS FOR EVERY 50 C.Y., BUT NOT LESS THAN ONE SET OF SAMPLES PER DAYS WORK AND PER MIX.
 - C. EARTHWORK: SECTION 1705.6. FOUNDATION BEARING, EXCAVATION, FILL PLACEMENT.
 - D. MASONRY: SECTION 1705.4 AND TMS 402 TABLE 3.1.2, LEVEL B (TABLE 3.1.3 FOR LEVEL C)

EARTHWORK AND FOUNDATIONS:

1. NO GEOTECHNICAL REPORT IS AVAILABLE FOR THIS PROJECT.
2. PERIMETER AND EXTERIOR FOOTINGS SHALL BEAR AT A MINIMUM OF 3'-0" BELOW ADJACENT GRADE.
3. ALL FOOTINGS SHALL BEAR ON FIRM NATIVE MATERIALS, COMPACTED OR ENGINEERED FILL CAPABLE OF SUPPORTING AN ALLOWABLE BEARING PRESSURE OF 1,500 PSF PRESUMING BEARING PRESSURE FOR THE BC. DEEPER FOUNDATIONS AND REMOVE AND REPLACE UNACCEPTABLE SOILS WITH ENGINEERED FILL AS REQUIRED TO PROVIDE THIS MINIMUM DEPTH AND SUITABLE BEARING.
4. UNDERCUT THE PAD TO A DEPTH OF 24 INCHES BELOW BOTTOM OF SLAB ELEVATION AND REPLACE WITH LOW-VOLUME-CHANGE MATERIALS.
5. FILL PLACEMENT, COMPACTION, AND SOIL BEARING TESTS SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER PRIOR TO INSTALLING FOOTINGS TO ENSURE DESIGN ALLOWABLE BEARING VALUES AND SLAB SUBGRADE REQUIREMENTS ARE SATISFIED. IF ACTUAL SITE CONDITIONS DO NOT SATISFY THESE REQUIREMENTS, COORDINATE ADJUSTMENTS WITH ARCHITECT/ENGINEER/ GEOTECHNICAL ENGINEER.
6. SURFACE WATER SHALL NOT BE ALLOWED TO STAND ADJACENT TO OR DRAIN TOWARDS THE FOUNDATION AND SLAB SUBGRADES UNDER ANY CIRCUMSTANCES. PAVEMENTS OR GRADED SOILS AT THE PERIMETER OF THE BUILDING, EXCEPT AS REQUIRED AT EXITS OR AS NOTED, SHALL BE SLOPED AWAY AT 5% OR 6" / MIN FOR THE FIRST TEN FEET AND AS REQUIRED TO PROVIDE POSITIVE DRAINAGE.
7. FOOTINGS MAY BE POURED TO NEAT LINES OF EXCAVATIONS PROVIDING VERTICAL LINES OF EXCAVATIONS CAN BE MAINTAINED DURING CONCRETE PLACEMENT.
8. FOUNDATION WALL BACKFILL SHALL NOT BE UNBALANCED BY MORE THAN TWO FEET ON EITHER SIDE AT ANY TIME. BASEMENT WALL AND RESTRAINING RETAINING WALL BACKFILL SHALL NOT BE PLACED, UNLESS THE WALL IS ADEQUATELY BRACED. RETAINING WALL AND BASEMENT WALL BACKFILL SHALL BE FREE DRAINING GRANULAR BACKFILL ACCEPTABLE TO THE GEOTECHNICAL ENGINEER.

CONCRETE AND MASONRY REINFORCING STEEL:

1. SUBMIT SHOP DRAWINGS FOR REBAR. ALL REINFORCING BARS SHALL MEET ASTM A615 GRADE 60.
2. ALL MESH SHALL MEET ASTM A-185; LAP A MINIMUM OF 8" OR ONE FULL MESH, WHICHEVER IS GREATER.
3. REINFORCING BAR QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY.
4. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE 1/2" CLEAR FOR SLABS, 2" CLEAR FOR FORMED SURFACES AND 3" CLEAR FOR FOOTINGS (TYPICAL UNLESS NOTED).
5. CONTRACTOR SHALL VERIFY THAT ALL REINFORCEMENT, SLAB DOWELS, INSERTS, SLEEVES AND EMBEDDED ITEMS ARE PROPERLY LOCATED AND PROPERLY SECURED PRIOR TO CONCRETE PLACEMENT, "WET STICKING" DOWELS WILL NOT BE ALLOWED.
6. REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL BY A QUALIFIED AND EXPERIENCED FIRM AND PERSON. PLACE AND SUPPORT REINFORCEMENT WITH ACCESSORIES. MAXIMUM SPACING - 48" CENTERS (PLASTIC-TIPPED LEGS FOR EXPOSED SURFACES); USE #3 SPP SUPPORTS AT ALL FOOTINGS.
7. ALL STRUCTURAL ADHESIVE SHALL BE SIMPSON SET 3G OR HILTI HIT-HY 200 R OR EQUIVALENT. ALL STRUCTURAL ADHESIVE SHALL BE INSTALLED PER THE MANUFACTURERS REQUIREMENTS. SUBSTITUTIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL WITH APPROPRIATE ICED EVALUATION REPORTS.

CAST IN PLACE CONCRETE:

1. SUBMIT PROPOSED MIXED DESIGNS OF EACH TYPE FOR REVIEW. REQUIRED MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS:
- a. FOOTING AND GRADE BEAM CONCRETE..... 4000 PSI
 - b. BASEMENT / FOUNDATION WALL CONCRETE..... 4000 PSI
 - c. SLAB ON GRADE AND STUCC SLAB ABOVE GRADE..... 4000 PSI
2. ALL CONCRETE MIX DESIGNS SHALL HAVE WATER TO CEMENT RATIOS LESS THAN 0.52 (0.45 FOR MOISTURE SENSITIVE FLOORING), WITH A MAXIMUM 60/40 FINE TO COARSE AGGREGATE RATIO. CONCRETE MIX DESIGNS THAT DO NOT CONFORM TO THE ABOVE STANDARDS AND/OR COORDINATES REDUCING ADMIXTURES SHALL BE SUBMITTED WITH APPROPRIATE TEST DATA PER A.C.I. ALL CONCRETE SHALL BE IN CONFORMANCE WITH THE A.C.I. 301 STANDARD THAT IS REFERENCED IN THE BUILDING CODE AT THE TIME OF PERMITTING THE PROJECT..
3. EXTERIOR CONCRETE (FLOOR SLABS, WALLS, ETC) SHALL HAVE 6.5% (PLUS/MINUS 1.5%) ENTRAINED AIR.
4. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" (VERIFY WITH ARCHITECT).
5. NO ALUMINUM SHALL BE EMBEDDED IN ANY CONCRETE.
6. NO CALCIUM CHLORIDE SHALL BE USED IN CONCRETE.
7. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE CONTRACTOR

8. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY NOTED AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH THE SAME REINFORCING AS SIMILAR SECTIONS OR AREAS.
- CONCRETE MIX DESIGNS (5 DAYS BEFORE POUR, MIN)
 - CONCRETE REINFORCEMENT
 - MASONRY REINFORCEMENT
 - STRUCTURAL STEEL

9. CONSTRUCTION JOINTS IN GRADE BEAMS, CONTINUOUS FOOTINGS, AND WALLS THAT DO NOT CHANGE DIRECTION SHALL BE SPACED NO GREATER THAN 8'-0". INTERMEDIATE CONTROL JOINTS SHALL BE SPACED AT 25'-0" MAX FOR WALLS. CONTROL JOINTS IN WALLS SHALL ALSO BE LOCATED 15'-0" FROM CORNERS AND AT CHANGES IN WALL THICKNESS.
10. WHERE FRESH CONCRETE IS DEPOSITED AGAINST HARDENED CONCRETE (GREATER THAN 18RS OLD), CLEAN EXISTING SURFACE OF LATANCE AND FOREIGN MATERIAL AND DAMPEN THE EXISTING SURFACE. IF REQUIRED, ROUGHEN EXISTING CONCRETE TO 1/2" AMPLITUDE.
11. SLABS ON GRADE SHALL BE 4" THICK MINIMUM ON 4" OF GRANULAR FILL. REINF SLAB WITH 6 X 6 W2, I-W2, 1 WWR OR #3 BARS @ 18" OC EA WAY. PLACE REINF IN UPPER 1/3 OF SLAB THICKNESS. AT INTERIOR SLABS, A 10 MIL VAPOR BARRIER SHALL BE PLACED BETWEEN THE CONCRETE AND GRANULAR BASE AND CARE SHOULD BE TAKEN DURING CURING TO PREVENT SLAB CURLING. THIS NOTE SHALL BE TYPICAL UNLESS NOTED OTHERWISE.

12. SAW CUT JOINTS OR KEYED CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED TO DIVIDE THE SLAB INTO PANELS NOT TO EXCEED 225 SQUARE FEET. THE LONGER DIMENSION OF EACH PANEL SHALL NOT EXCEED THE SHORTER DIMENSIONS BY MORE THAN 40%. JOINTS SHALL BE LOCATED AT COLUMN CENTERLINES WHERE POSSIBLE. SPACING BETWEEN JOINTS SHALL NOT EXCEED 15 FEET. CONTRACTOR SHALL SUBMIT JOINT LAYOUT TO ARCHITECT FOR APPROVAL. REFER TO TYPICAL DETAILS.
13. REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED 53 BAR DIAMETERS (2" 4" MIN.) EXCEPT AS NOTED AND PROVIDE CORNER BARS OF SAME SIZE AND SPACING.

14. MINIMUM CONCRETE WALL REINFORCING (WALL 10" OR GREATER) SHALL BE #5 AT 10" CENTERS EACH WAY, EACH FACE.
15. MINIMUM REINFORCING AROUND CONCRETE WALL OPENINGS 2'-0" OR GREATER (TYPICAL UNLESS NOTED): 2 - #5, EXTEND REINF 2'-0" PAST OPENINGS. PROVIDE 2-#5 x 4'-0" DIAGONAL BARS AT CORNERS.
16. CONTRACTOR SHALL COORDINATE ALL CURING COMPOUNDS WITH FLOOR FINISH REQUIREMENTS TO ENSURE COMPATIBILITY.

17. FOUNDATION CONTRACTOR TO ENSURE PROPER ANCHOR ROD PROJECTION AND THAT ANCHOR RODS ARE HELD SECURELY IN POSITION PRIOR TO CONCRETE PLACEMENT. INSTALL ANCHOR RODS TO THE STRICT DIMENSIONAL TO FRAMES PER ALSO REQUIREMENTS. STRUCTURAL STEEL COLUMN ANCHOR RODS SHALL BE SET WITH A RIGID TEMPLATE.
18. AGGREGATES AND/OR CONCRETE MIXES SHALL BE CERTIFIED TO BE FREE OF AND ELIMINATE DAMAGE OF CONCRETE DUE TO ALKALI-SILICA REACTION OR ALKALI-AGGREGATE REACTIONS WHEN EXPOSED TO SOILS AND/OR AN EXTERIOR ENVIRONMENT.

19. ALL CONCRETE MIX DESIGNS EXPOSED TO AN EXTERIOR ENVIRONMENT SHALL MEET THE REQUIREMENTS OF THE KANSAS CITY METRO MATERIALS BOARD (KCMMB) OR THE JOHNSON COUNTY CONCRETE BOARD (JCCB).

20. ANY CONCRETE WALLS EXPOSED TO VIEW OR TO BE FORMED WITH A FORM LINER SHALL BE CONSIDERED "ARCHITECTURAL CONCRETE" PER ACI 301 CHAPTER 6. A MOCKUP SHALL BE MADE AND REVIEWED FOR ACCEPTANCE BY THE ARCHITECT AND OR THE CLIENT FOR CONFORMANCE WITH FINISH INTENT. THE IN-PLACE CONCRETE SHOULD BE REVIEWED AT SEVERAL INTERVALS DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER MOCKUP STANDARD FOR FINISH. THE INTERVALS SHALL BE DETERMINED BY THE ARCHITECT.

CONCRETE MASONRY UNITS:

1. ALL MASONRY SHALL BE IN ACCORDANCE WITH ACI 530 / TMS 402. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR NON-STRUCTURAL BRICK REQUIREMENTS. INDIVIDUAL CMUS SHALL BE PER ASTM C90 (2600 PSI).
2. EARTHWORK: SECTION 1705.6. FOUNDATION BEARING, EXCAVATION, FILL PLACEMENT.
- D. MASONRY: SECTION 1705.4 AND TMS 402 TABLE 3.1.2, LEVEL B (TABLE 3.1.3 FOR LEVEL C)

2. MASONRY MATERIALS SHALL BE AS FOLLOWS:
- A. 11" x 20" PER MINIMUM. ALL UNITS SHALL BE NORMAL-WEIGHT BLOCK.
 - B. GROUT STRENGTH NOT LESS THAN 2,000 PSI.
 - C. MORTAR TYPE S. (USE TYPE M OR S, OR BETTER FOR PORTIONS BELOW-GRADE).

4. WHERE NOT OTHERWISE SHOWN, MINIMUM WALL REINFORCEMENT SHALL BE (1) 4" VERT AT 4'-0" OC MAX. PROVIDE NOT LESS THAN 9-GAUGE HORIZONTAL LADDER TYPE REINFORCEMENT AT NOT MORE THAN 16" OC VERTICALLY, LAPPED 8" MINIMUM. DISCONTINUE HORIZ REINF AT CONTROL JOINT LOCATIONS. REBAR POSTIONERS SHALL BE USED FOR ALL VERTICAL BARS SUCH THAT A MINIMUM 3" OF SPACE IS MAINTAINED CLEAR FOR PLACEMENT OF GROUT.

5. ALL BLOCKS SHALL BE LAID IN RUNNING BOND.
6. GROUT ALL BLOCK CORES CONTAINING VERTICAL BARS, HORIZONTAL BOND BEAMS, AND/OR ANCHOR RODS. IN ADDITION:
- GROUT SOLID ALL UNITS LOCATED BELOW GRADE AND/OR LOCATED IN CONTACT WITH SOIL.
 - GROUT POUR HEIGHTS SHALL NOT EXCEED 5'-0" UNLESS CLEAN OUTS ARE PROVIDED AND INSPECTED. THE MAXIMUM GROUT POUR HEIGHT WITH CLEANOUTS SHALL NOT EXCEED 12'-8". STOP GROUT POURS AT 1'-1/2" BELOW THE TOP OF THE CMU COURSE. CONSOLIDATE GROUT WITH VIBRATOR.

7. ALL OPENINGS IN NEW CONCRETE MASONRY WORK REQUIRE A BOND-BEAM LINTEL PER TYPICAL DETAIL AND PLANS.
- A. GALVANIZED LOOSE-ANGLE STEEL LINTELS SHALL BE UTILIZED TO SUPPORT BRICK VENEER, AND WHERE CUTTING IN NEW OPENINGS IN EXISTING BRICK AND TILE WALLS.

8. PROVIDE CONTROL JOINTS AS SHOWN ON ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS. WHERE NOT SHOWN OR OTHERWISE DEVOIDED, PROVIDE NO CONTROL JOINTS AT MORE THAN 25'-0" OC. LOCATED AT OPENINGS, AND NEAR CORNERS, AS SHOWN ON TYPICAL DETAILS. PROVIDE VERTICAL REINFORCEMENT ON EACH SIDE OF CONTROL JOINTS.

9. PLACEMENT OF REINFORCEMENT SHALL OCCUR PRIOR TO PLACEMENT OF GROUT. ALL REINFORCEMENT IN STRUCTURAL AND SHEAR WALLS SHALL BE INSPECTED PRIOR TO GROUTING, AND ALL MATERIALS AND MATERIAL PLACEMENT INSPECTED AND TESTED.

10. REINFORCEMENT SHALL HAVE A MINIMUM LAP SPLICE OF 18" FOR #3 BARS, 24" FOR #4 BARS, AND 32" FOR #5 BARS, UNO.

11. EXTEND HORIZONTAL REINFORCEMENT IN BOND BEAMS, LINTELS AND SILLS NOT LESS THAN 2'-0" PAST ENDS OF ALL OPENINGS. REINFORCEMENT IN BOND BEAMS IN LINTELS SHALL BE CONTINUOUS BARS AND SHALL NOT BE LAP SPLICED.

12. PROVIDE LOOSE ANGLE STEEL LINTELS PER THE TYPICAL DETAILS.

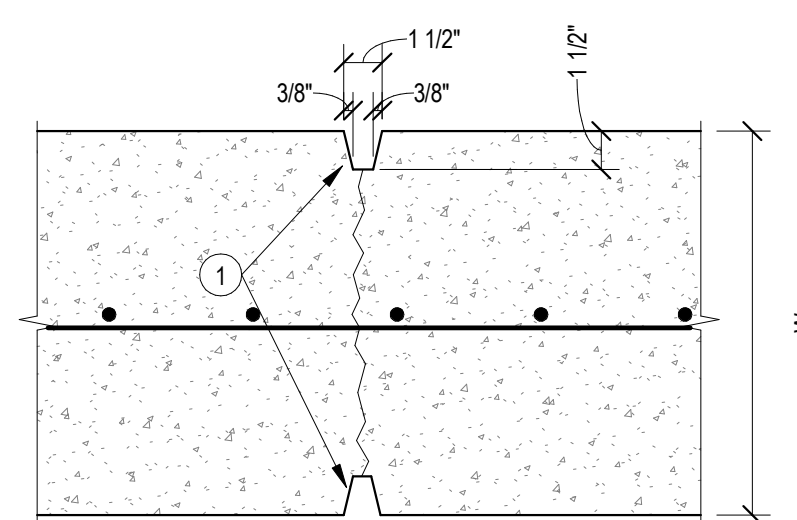
13. REINFORCE BOND BEAMS W/ (1) #5 BAR MIN, UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL:

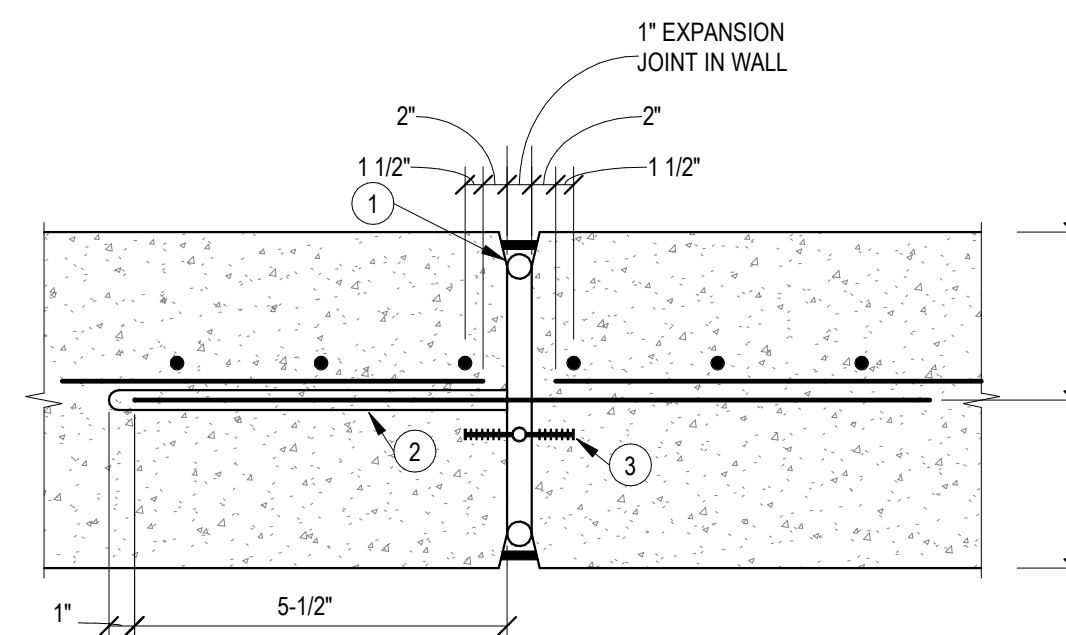
1. STRUCTURAL STEEL SHAPES AND PLATE MATERIAL REQUIREMENTS (TYPICAL UNLESS NOTED OTHERWISE):</

<p>NOTES (PERTAINING TO TABLE):</p> <p>A. TOP BARS ARE HORIZONTAL BARS THAT HAVE MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM.</p> <p>B. ALL BARS THAT ARE NOT "TOP BARS" ARE "OTHER" BARS</p> <p>C. ABBREVIATIONS:</p> <ul style="list-style-type: none"> - LCE - COMPRESSION EMBEDMENT LENGTH - LTI - TENSION EMBEDMENT LENGTH - LCS - COMPRESSION LAP SPICE LENGTH - LTI - TENSION LAP SPICE LENGTH - LDH - HOOKED BAR TENSION EMBEDMENT LENGTH 	<p>NOTES (GENERAL):</p> <p>A. STAGGER ALL SPLICES 12 db MIN. BUT NOT LESS THAN 12"</p> <p>B. ALL DIMENSIONS INDICATED IN TABLE ARE IN INCHES</p> <p>C. BARS GREATER THAN #1 SHALL BE MECHANICALLY SPLICED</p> <p>D. ALL SPLICES SHALL BE WIRDED IN CONTACT STAGGERED VERTICAL</p> <p>MULTIPLIERS:</p> <p>ALL EMBEDMENT AND LAP SPICE LENGTHS SHALL BE INCREASED AS REQUIRED BY THE MULTIPLIERS BELOW. APPLY MULTIPLE MULTIPLIERS IF APPLICABLE.</p> <p>1.3.1. IF CONC. CONTAINS LIGHT WEIGHT AGGREGATES</p>
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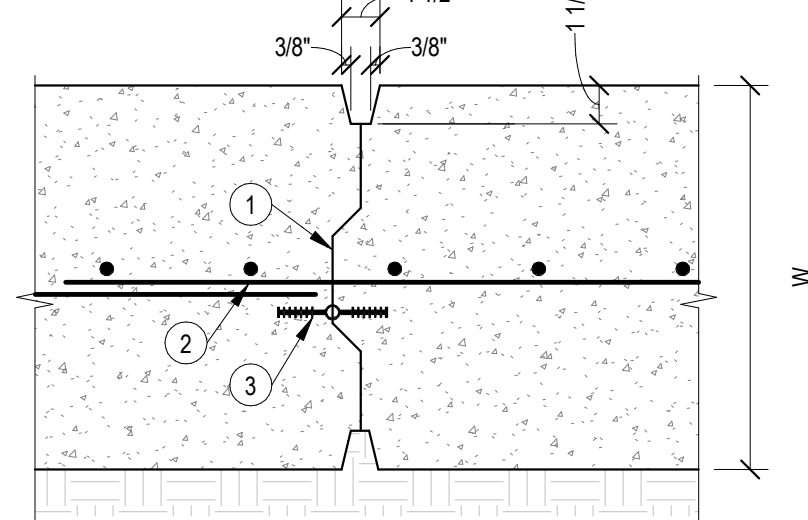
13 SPLICE
3/4" = 1'-0"



12 CONC
3/4" = 1' 0"



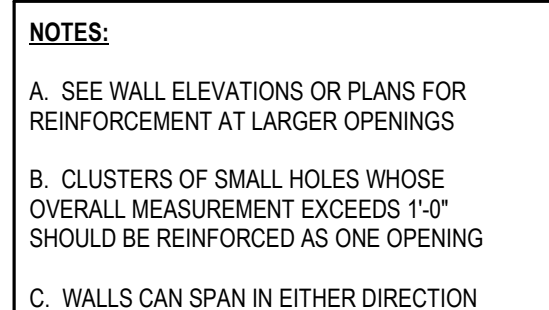
11 CONC



10 CONC
2/4" = 1/2"



8 **CONC**
1/2" = 1'-0"



7 CONC
1/2" = 1' 0"



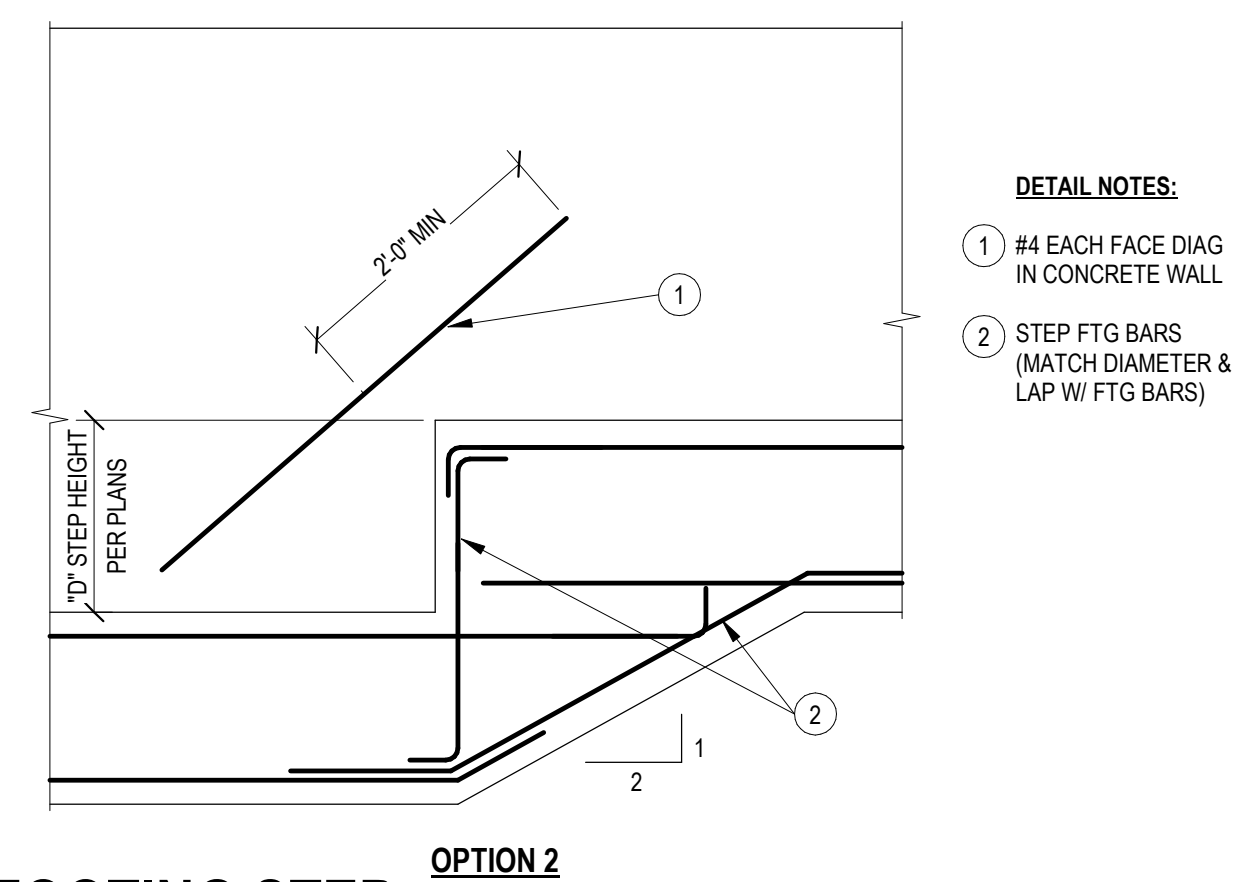
6 STAIR
 $3/4" = 1'-0"$



5 NON-LOCAL



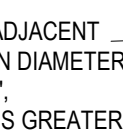
1 CONC
3/4" = 1'-0"



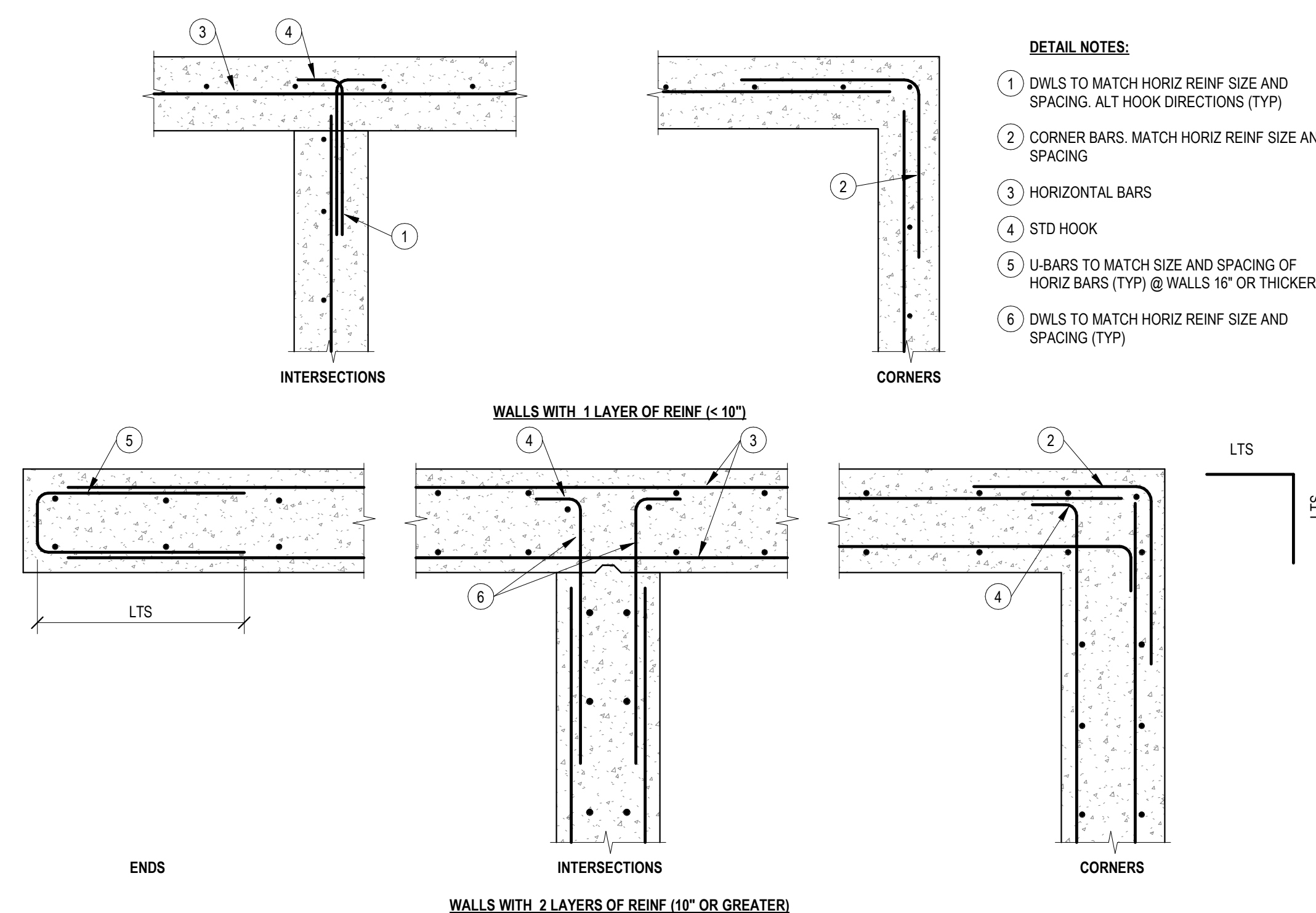
$$4 \frac{1}{2} \text{ FEET}$$



3 CONC
3/4" = 1'-0"

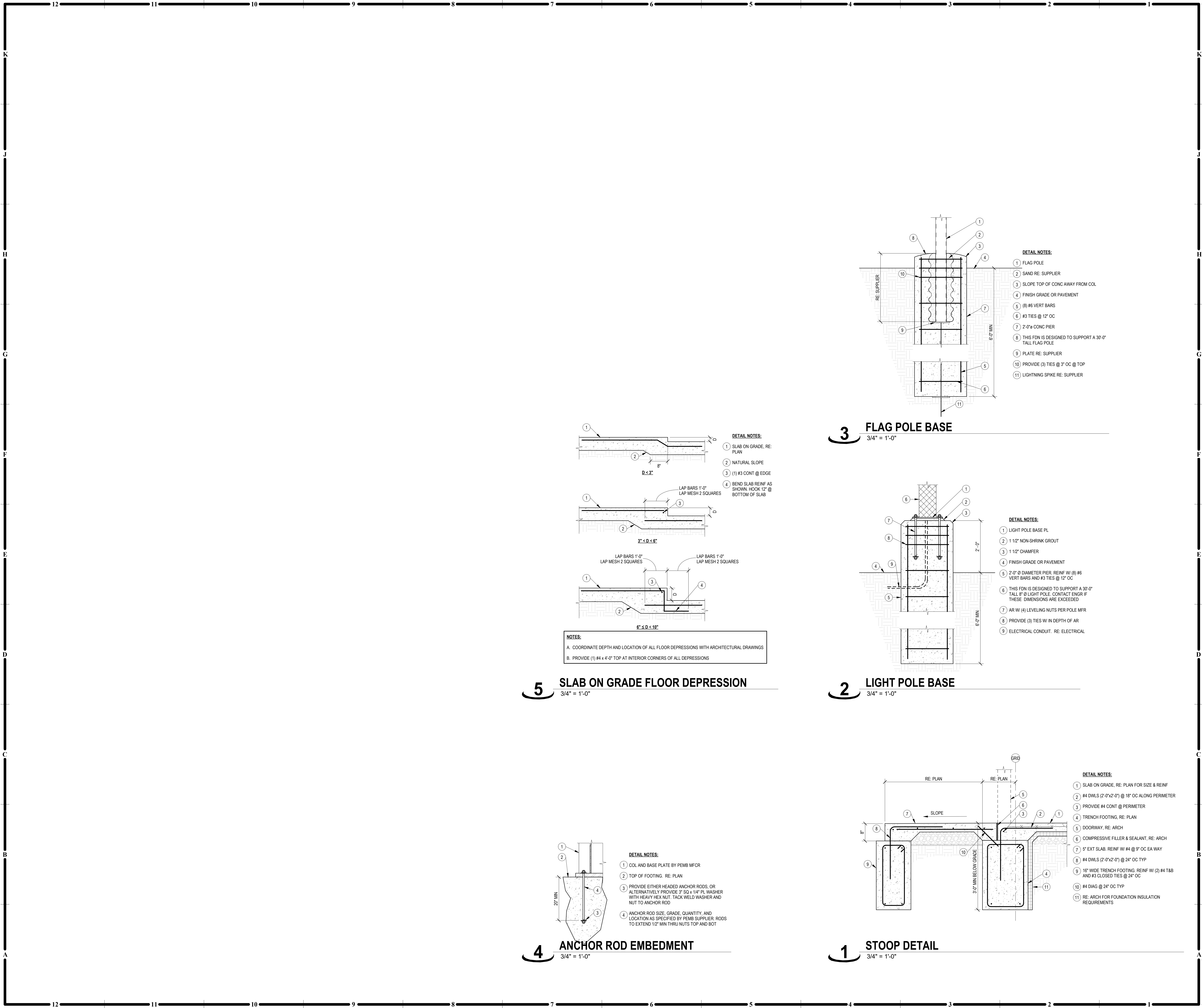


2 REINF



1 CONC
3/4" = 1'-0"

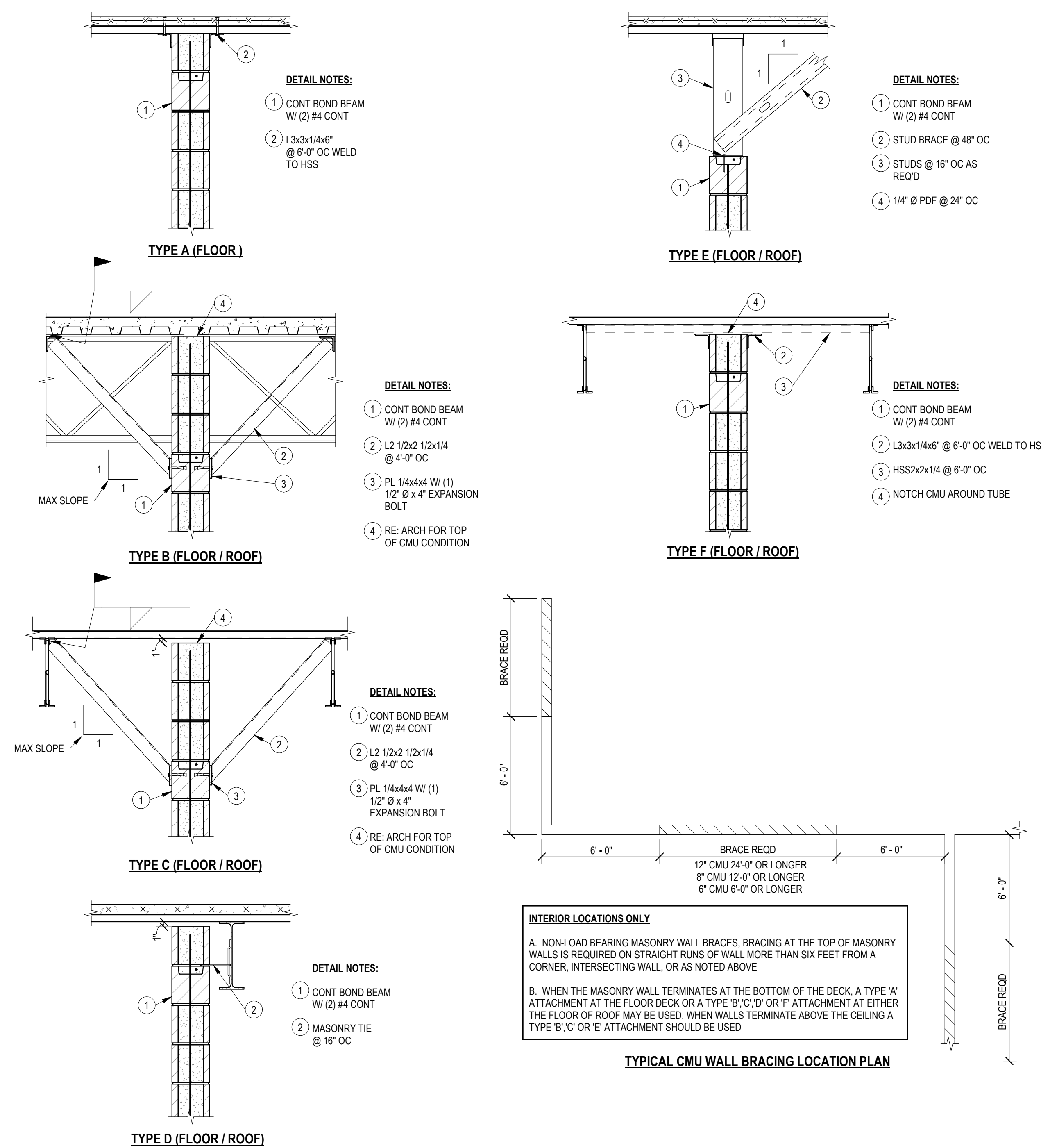
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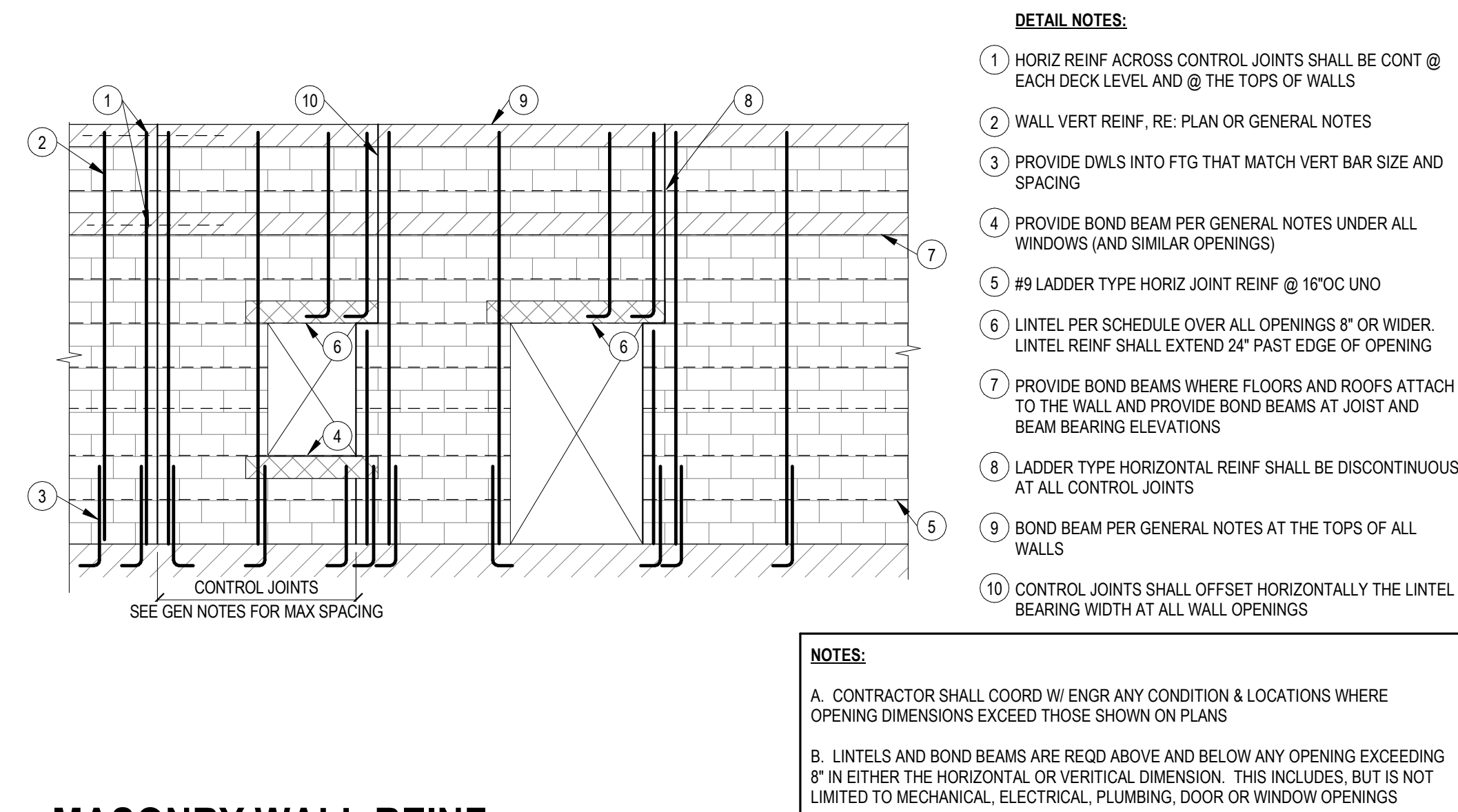
5 CMU T/WALL BRACING CONN DETAILS

3/4" = 1'-0"



1 MASONRY WALL REINF

1/4" = 1'-0"



3 CMU LINTEL SCHEDULE

3/4" = 1'-0"

8" CMU LINTEL SCHEDULE	
MAX OPENING "W"	CMU LINTEL
6'-0"	8" HIGH LINTEL UNIT W/ (2) #5 HORIZ BOTTOM
8'-0"	16" HIGH LINTEL UNIT W/ (2) #5 HORIZ BOTTOM
10'-0"	W8x15 BEAM W/ 1/4" x 7" BOTTOM PLATE
12'-0"	W8x21 BEAM W/ 1/4" x 7" BOTTOM PLATE
16'-0"	W16x31 BEAM W/ 1/4" x 7" BOTTOM PLATE

DETAIL NOTES:

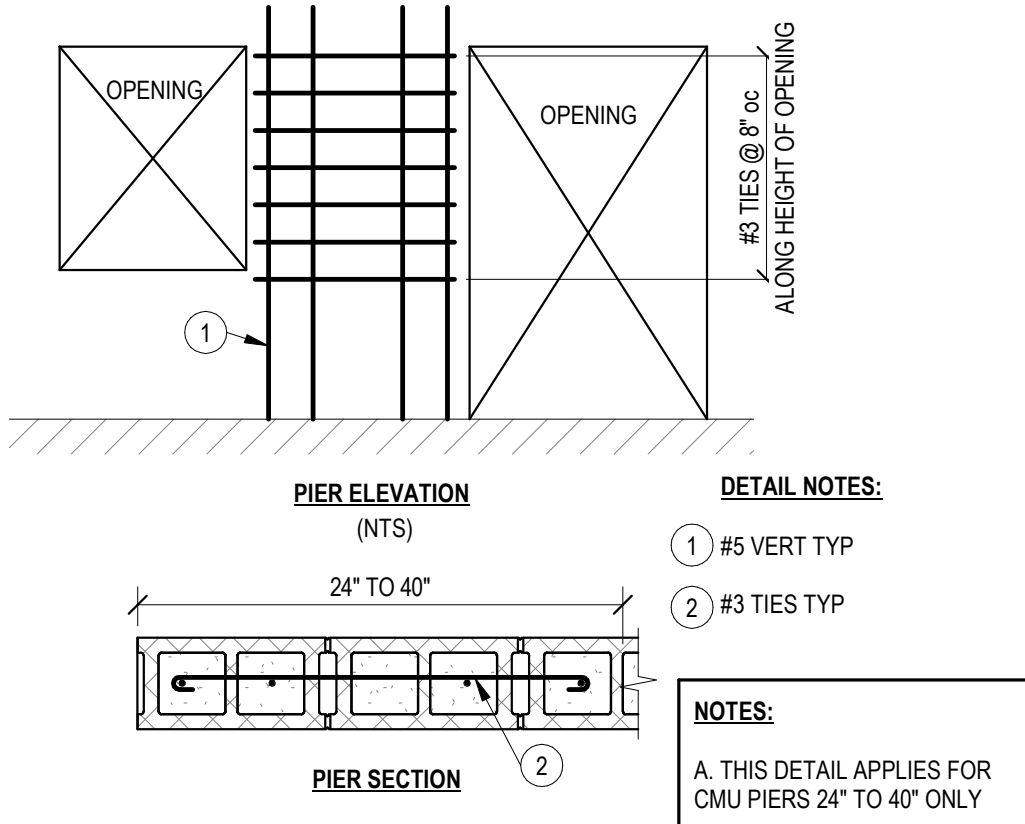
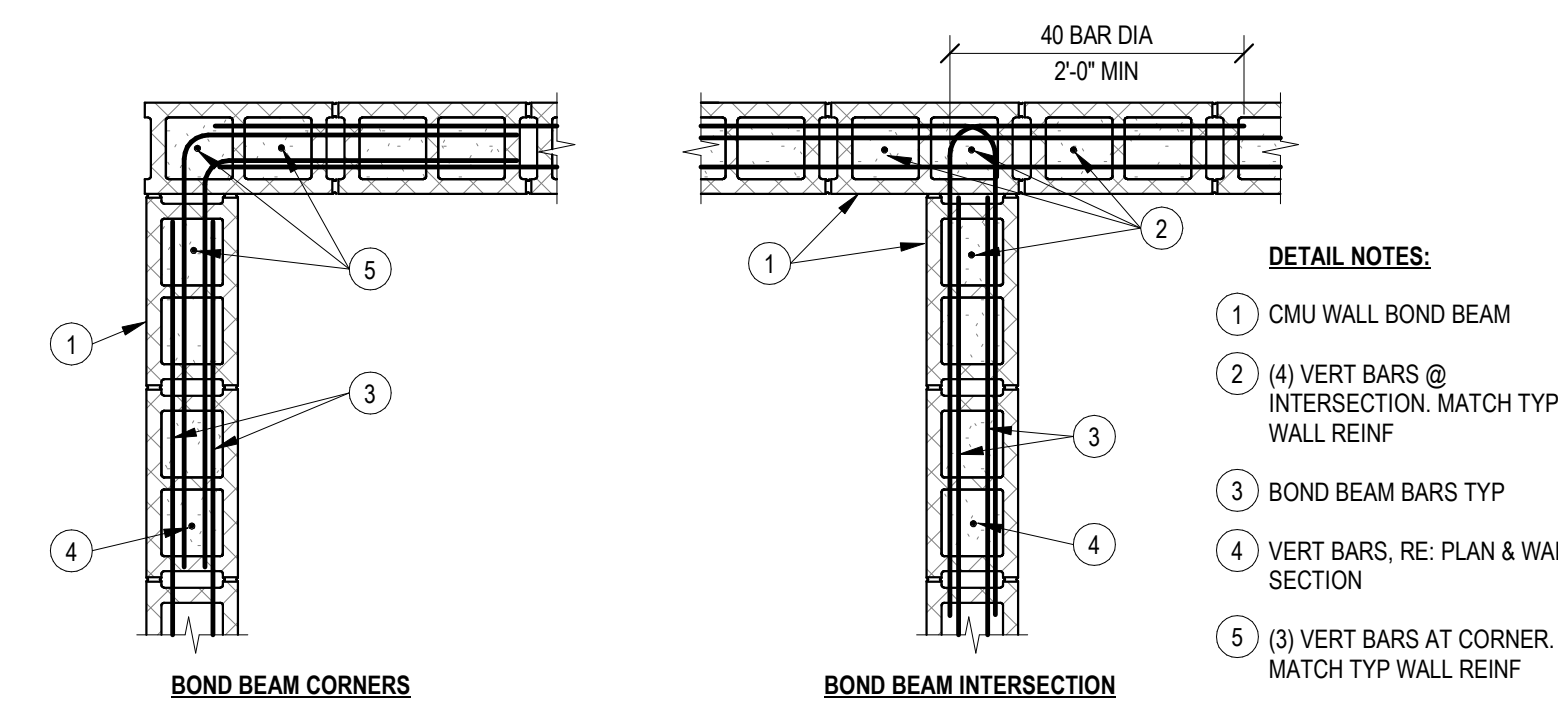
- 1 REIN PER SCHEDULE. EXTEND 24" BEYOND EA EDGE OF OPENING
- 2 LINTEL UNIT W/ 8" MIN BEARING EA END
- 3 BOT PLATE. DETAIL 1/2" SHORT OF OPENING EA END
- 4 BOND BEAM. REIN PER GENERAL NOTES
- 5 STEEL BEAM. RE: SCHEDULE
- 6 PROVIDE SOAPS AS REQD

NOTES:

A. AT EA END OF A STEEL LINTEL, PROVIDE A PL 3/8" x 7" x 0'-8" W/ (2) 1/2" Ø x 4" HEADED STUDS. FIELD WELD BEAM BOT FLANGE TO PLATE. 3'16" x 3" LONG EA SIDE AND EA END

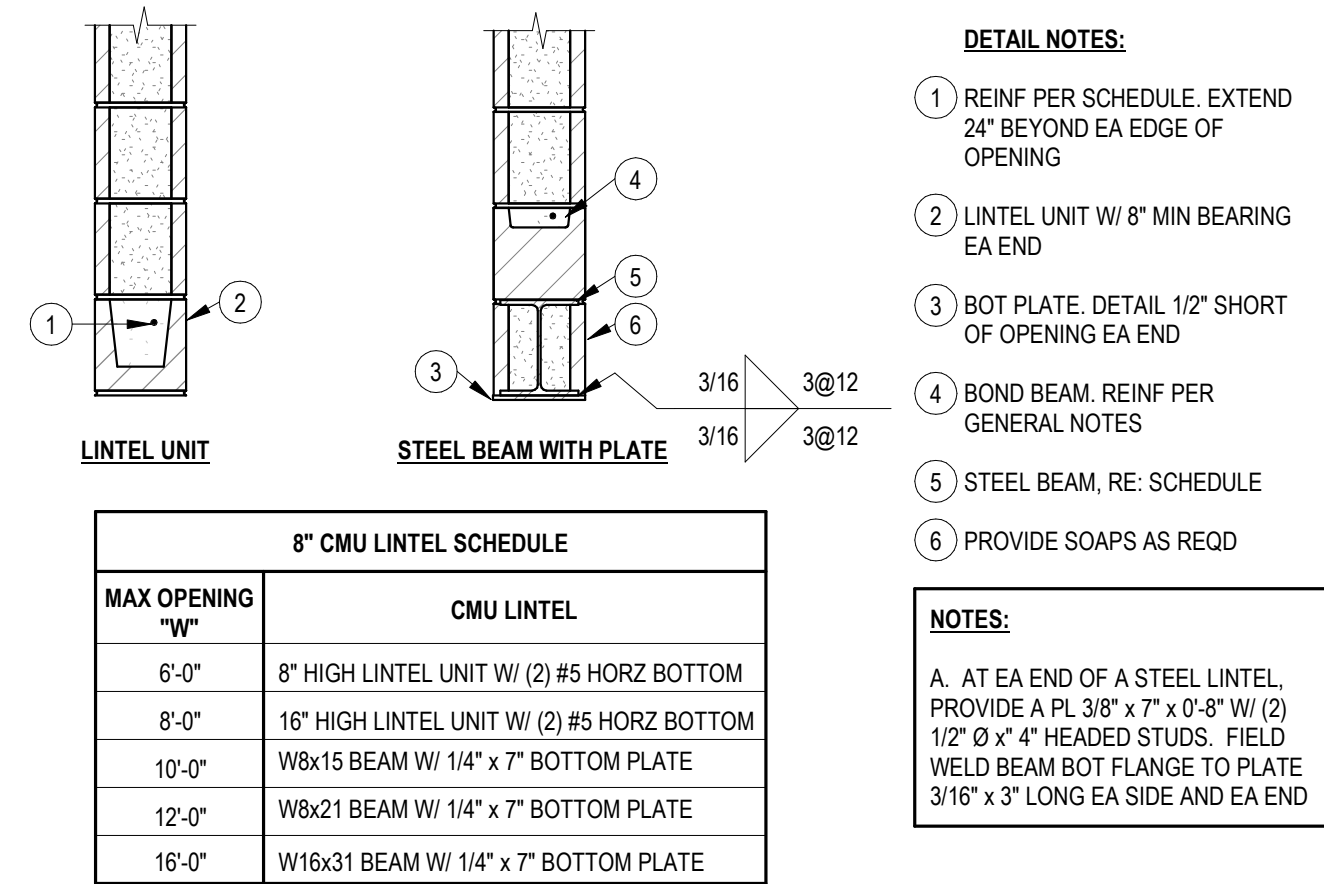
2 MASONRY BOND BEAM

3/4" = 1'-0"



4 MASONRY PIER REINFORCING

3/4" = 1'-0"



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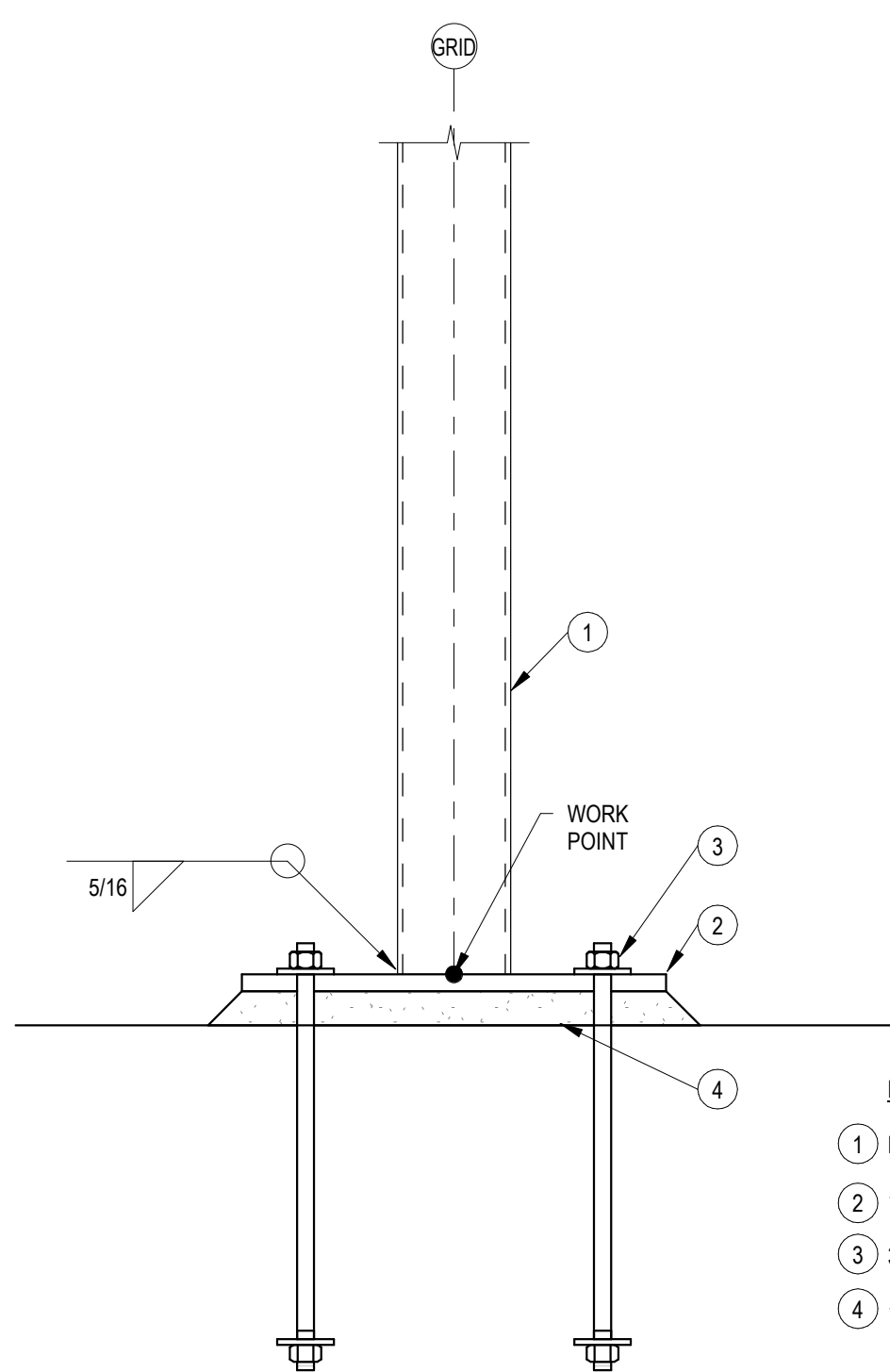
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TYPICAL DETAILS - MASONRY

15 COLUMN - BASE PLATE

1 1/2" = 1'-0"

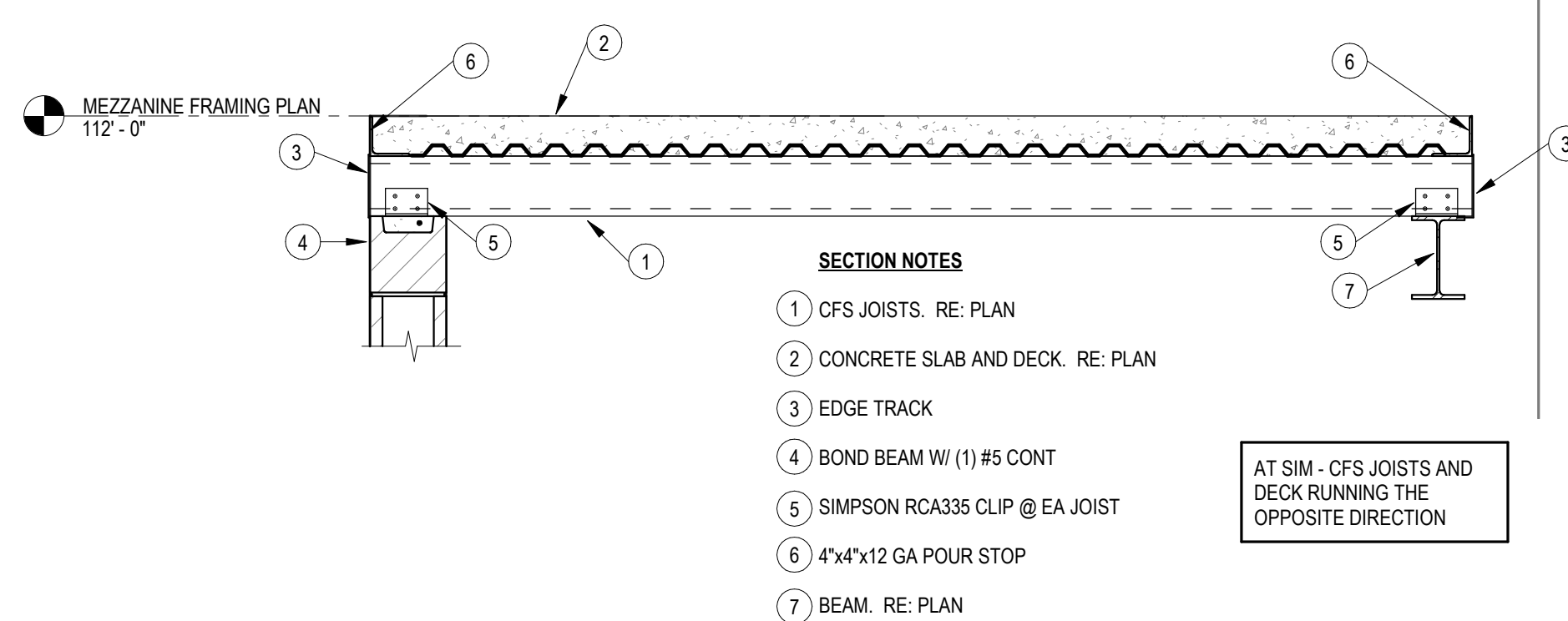


DETAIL NOTES:

- (1) HSS COLUMN, RE: PLAN FOR SIZE
- (2) 10"x10"x1/2" BASE PLATE
- (3) 3/4" DIA ANCHOR RODS X 8" EMBED
- (4) 1 1/2" OF NON-SHRINK GROUT

12 SECTION

3/4" = 1'-0"



SECTION NOTES

- (1) CFS JOISTS, RE: PLAN
- (2) CONCRETE SLAB AND DECK, RE: PLAN
- (3) EDGE TRACK
- (4) BOND BEAM W/ (1) #5 CONT
- (5) SIMPSON RCA335 CLIP @ EA JOIST
- (6) 4"x4"x12 GA POUR STOP
- (7) BEAM, RE: PLAN

DETAIL NOTES:

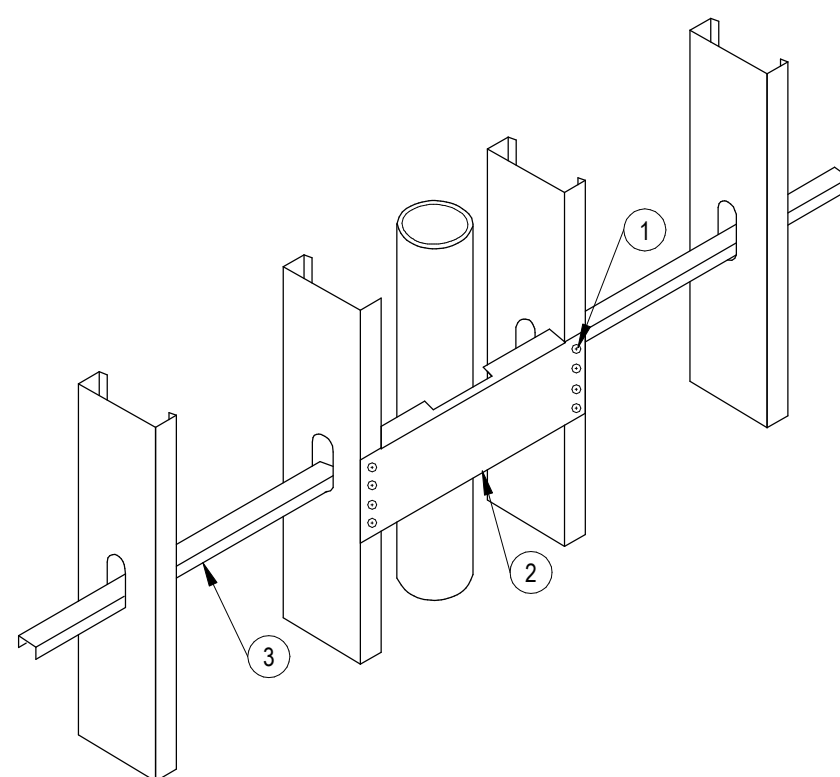
- (1) (4) #10 SCREWS @ EACH END
- (2) 362T126-33 EACH SIDE, CLIP FLANGE, ATTACH TO STUDS
- (3) BRIDGING PER DETAILS

NOTE:

TRACK FLANGES CAN BE NOTCHED 1/2" MAX FOR PIPE

11 TYPICAL BRIDGING AT INTERRUPTIONS

NTS



DETAIL NOTES:

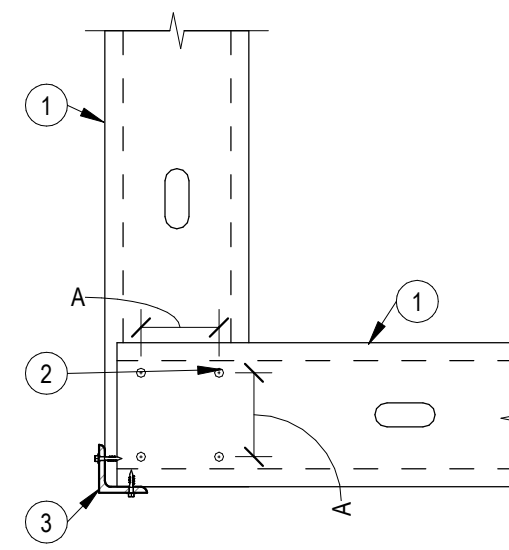
- (1) (4) #10 SCREWS @ EACH END
- (2) 362T126-33 EACH SIDE, CLIP FLANGE, ATTACH TO STUDS
- (3) BRIDGING PER DETAILS

NOTE:

TRACK FLANGES CAN BE NOTCHED 1/2" MAX FOR PIPE

6 CFS STUDS CORNER CONN

1 1/2" = 1'-0"



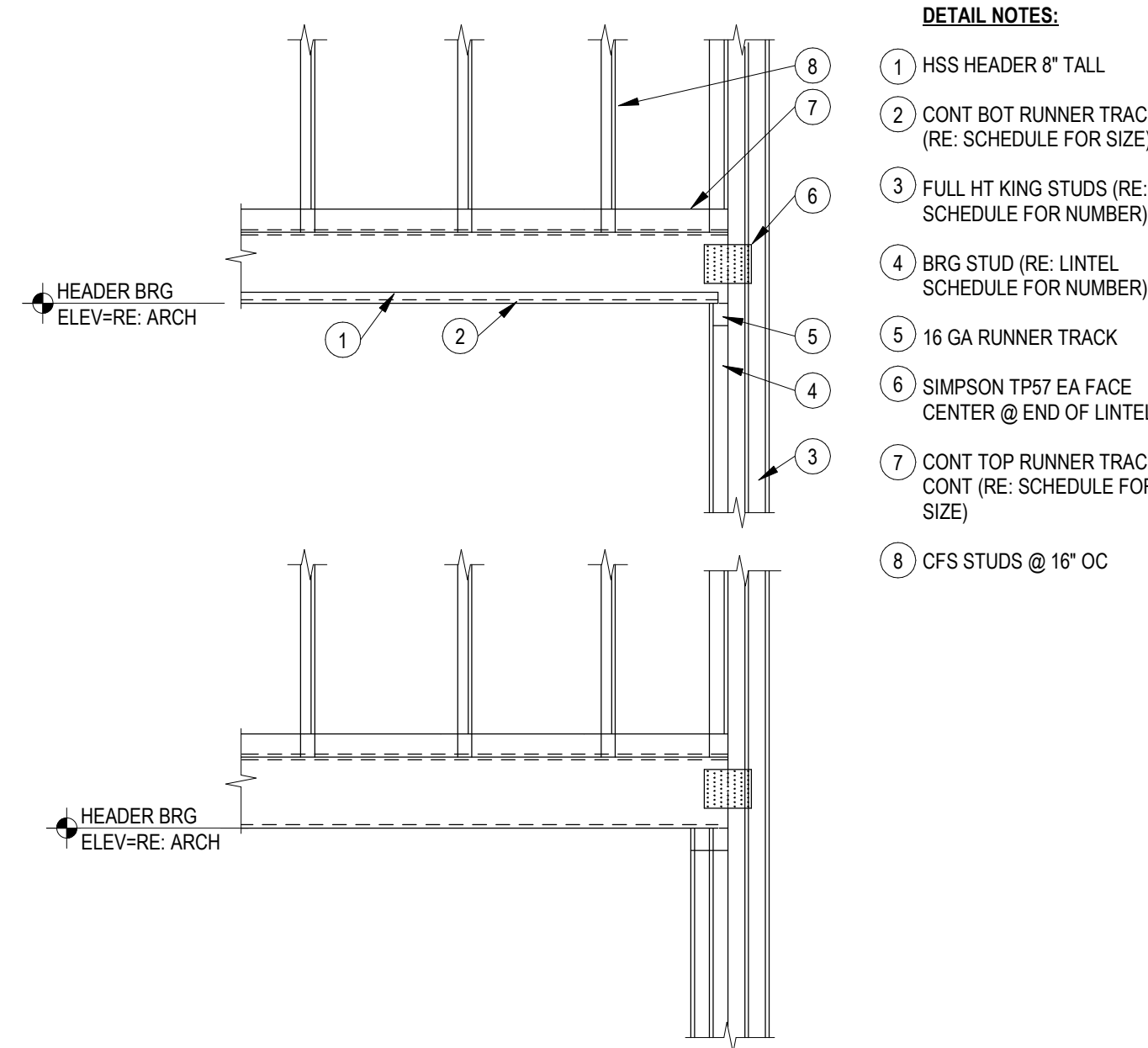
DETAIL NOTES:

- (1) CFS STUD
- (2) (4) #10 - 16 SCREWS PER LAP CONN
- (3) 2x2x18 GA CONT CLOSURE ANGLE @ OUTSIDE CORNERS (TYP) ATTACH W/ (1) #10 - 16 SCREW @ EA STUD

STUD DEPTH	A
3 5/8"	2 1/2"
6"	4"
8"	6"
10"	8"
12"	10"

10 CFS BOX HEADER ELEV

1/2" = 1'-0"

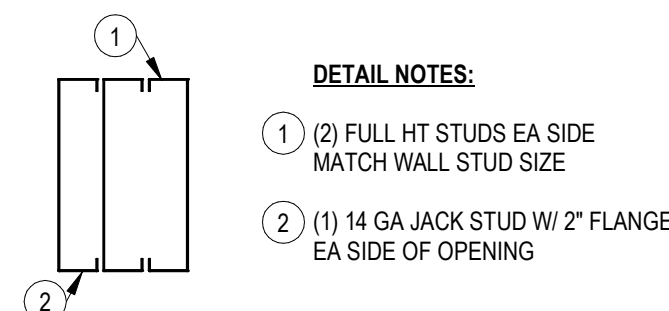


DETAIL NOTES:

- (1) HSS HEADER 8" TALL
- (2) CONT BOT RUNNER TRACK (RE: SCHEDULE FOR SIZE)
- (3) FULL HT KING STUDS (RE: SCHEDULE FOR NUMBER)
- (4) BRG STUD (RE: UNTEL SCHEDULE FOR NUMBER)
- (5) 16 GA RUNNER TRACK
- (6) SIMPSON TP57 EA FACE CENTER @ END OF UNTEL
- (7) CONT TOP RUNNER TRACK CONT (RE: SCHEDULE FOR SIZE)
- (8) CFS STUDS @ 16" OC

9 CFS BUILT-UP JAMB

1 1/2" = 1'-0"

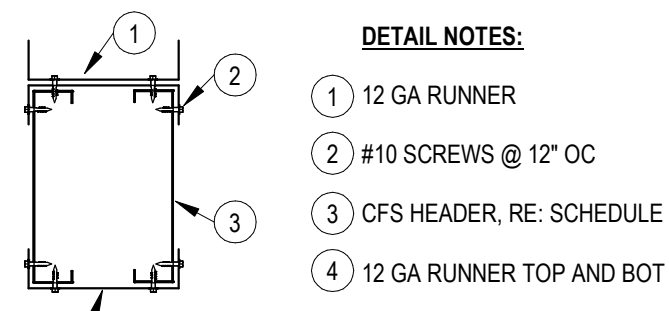


DETAIL NOTES:

- (1) FULL HT STUDS EA SIDE MATCH WALL STUD SIZE
- (2) (1) 14 GA JACK STUD W/ 2" FLANGE EA SIDE OF OPENING

8 CFS BOX HEADER CONN

1 1/2" = 1'-0"



DETAIL NOTES:

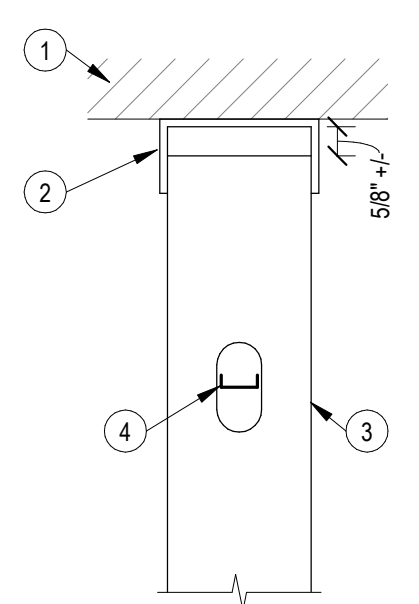
- (1) 12 GA RUNNER
- (2) #10 SCREWS @ 12" OC
- (3) CFS HEADER, RE: SCHEDULE
- (4) 12 GA RUNNER TOP AND BOT

NOTE:

A. SPACE VERT @ 4'-0" OC MAX, UNO

7 CFS T/STUD SLIP CONN

3/4" = 1'-0"

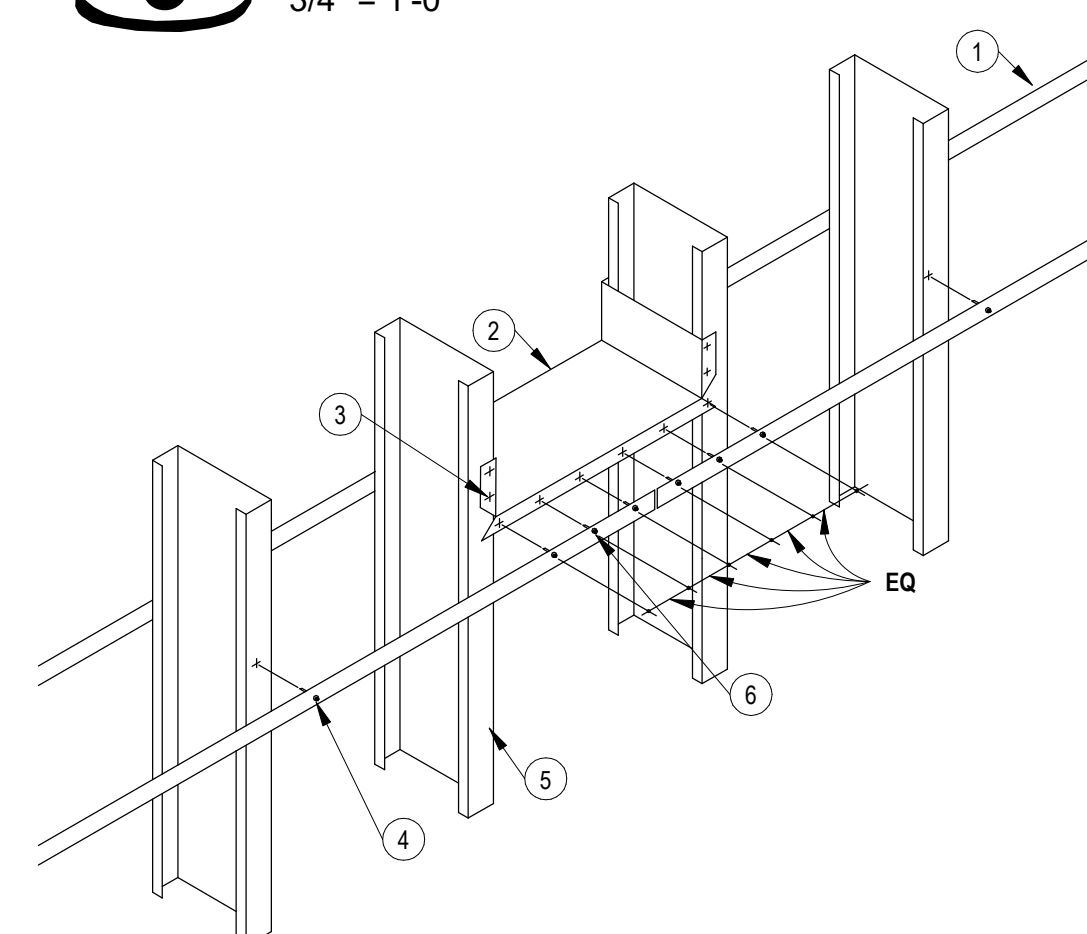


DETAIL NOTES:

- (1) PRIMARY STRUCTURE
- (2) DEEP TRACK CONT, 16 GA MIN
- (3) CFS STUDS, RE: PLAN
- (4) BRIDGING PER MFCR

2 CFS STUD STRAP & BLOCKING

3/4" = 1'-0"



DETAIL NOTES:

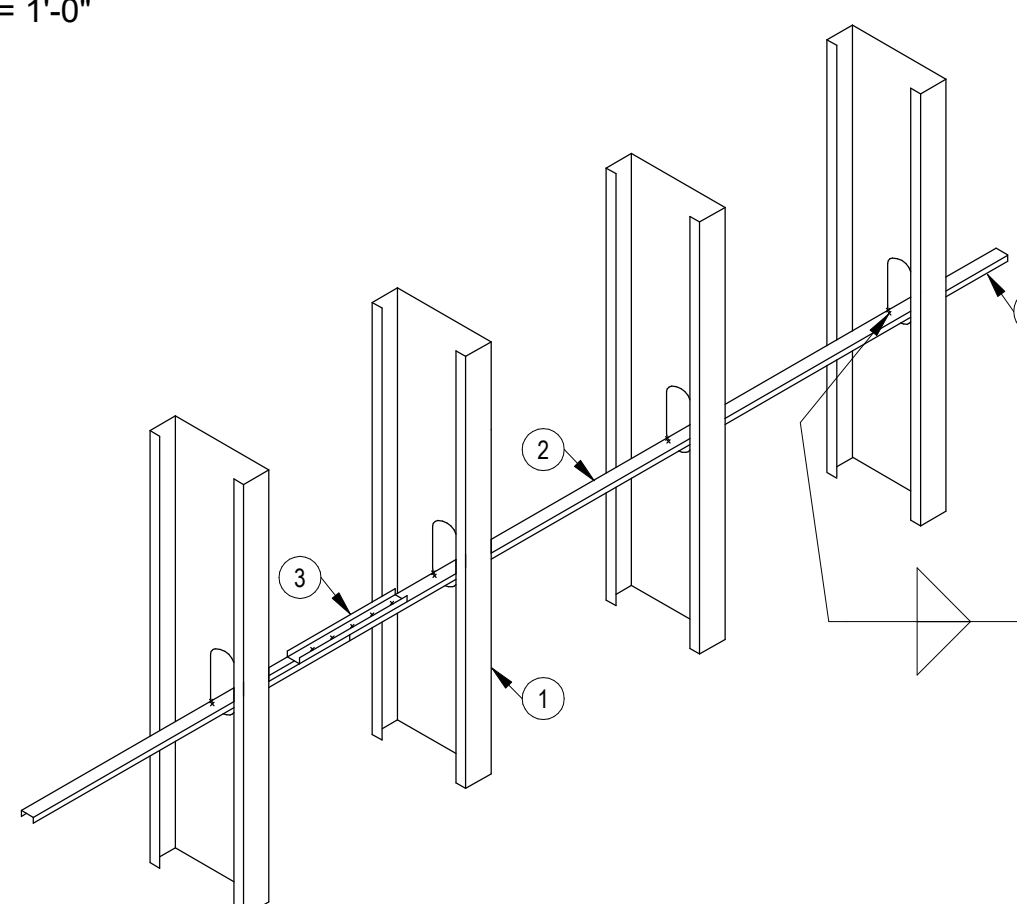
- (1) 1 1/2" GA STRAPPING ON EA SIDE OF MEMBER (STRAPPING TO START END & SPLICE @ SOLID BLOCKING)
- (2) MIN 18 GA RUNNER TRACK SOLID BLOCKING @ 10'-0" OC MAX. MAKE RUNNER TRACK 8" LONGER THAN MEMBER INSIDE SPACING. CLIP FLANGES OF TRACK 4" FROM EA END. BEND TRACK @ CLIPPED FLANGES
- (3) ATTACH BLOCKING TO MEMBERS WITH (2) # 10-16 SCREWS IN EA FLANGE AS SHOWN
- (4) (1) #10-16 SCREW IN EA STUD FLANGE
- (5) TYP CFS MEMBER
- (6) USE (6) # 10-16 SCREWS ON EA SIDE OF BLOCKING

BLOCKING NOTE

PLACE SOLID BLOCKING @ ENDS OF WALL OR FLOOR SYSTEM, ADJACENT TO OPENINGS & AT 10'-0" OC MAX

1 CFS STUD BRIDGING

3/4" = 1'-0"

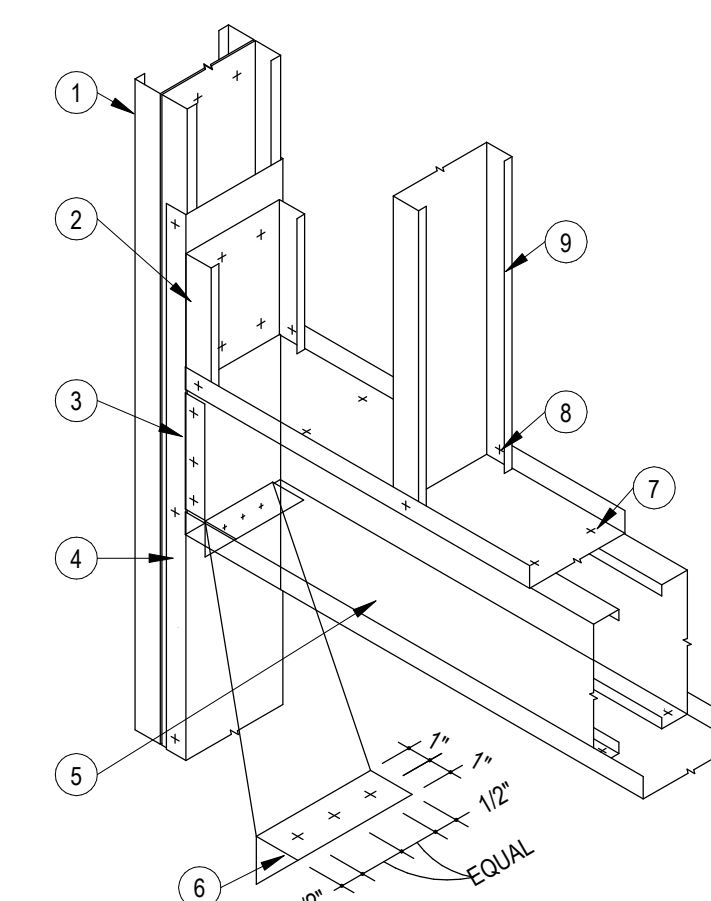


DETAIL NOTES:

- (1) CFS STUD 8" MAX DEPTH
- (2) 150U50-54 CONT COLD ROLLED CHANNEL
- (3) 150U50-54 X 12" LONG @ SPLICE LOCATIONS W/ (5) #10 - 16 SCREWS (3) EA END
- (4) ALL BRIDGING SHALL BE TERMINATED @ JAMBS CORNER STUDS OR COLUMNS. BRIDGING SHALL NOT HANG LOOSE

4 CFS SILL CONN @ OPENINGS

3/4" = 1'-0"

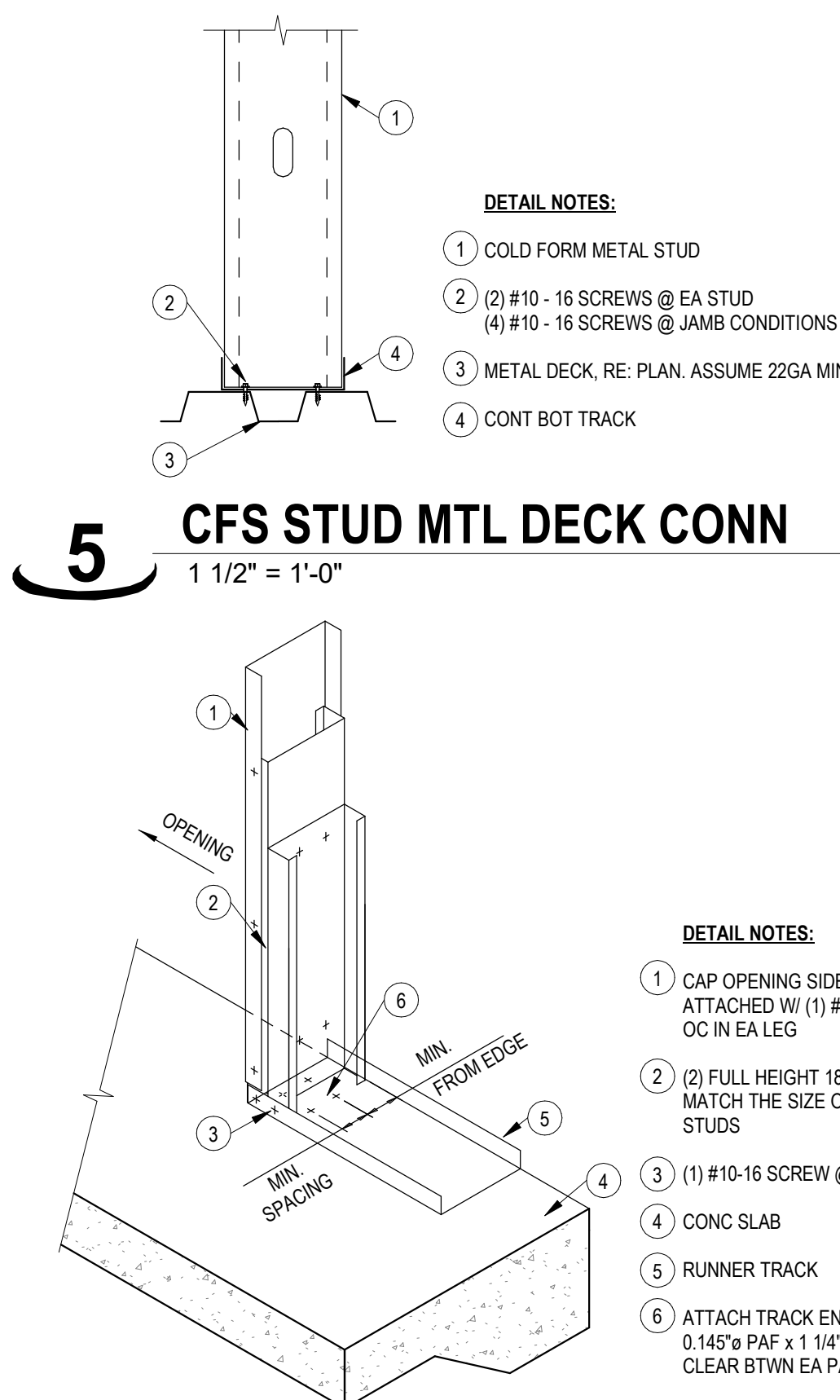


DETAIL NOTES:

- (1) FULL HEIGHT JAMB STUDS - QUANTITY & MEMBER SIZES AS REQD BY DESIGN
- (2) 8" LONG SECTION OF STUD ATTACHED TO JAMB W/ (4) #10-16 SCREWS
- (3) 18 GA MIN TRACK HEADER CONN
- (4) IF NO TRACK IN JAMB TYPE CAP OPENING SIDE OF JAMB W/ TRACK ATTACHED W/ (1) #10-16 SCREW @ 12" OC IN EA LEG
- (5) (2) UNPUNCHED STUDS - MEMBER SIZES AS REQD PER DESIGN
- (6) CLIP ANGLE SIZE AS REQD PER DESIGN
- (7) (2) #10-16 SCREWS @ 12" OC
- (8) (1) # 10-16 SCREW TYP EA FLANGE
- (9) CRIPPLE STUDS

5 CFS STUD MTL DECK CONN

1 1/2" = 1'-0"



DETAIL NOTES:

- (1) COLD FORM METAL STUD
- (2) (2) #10 - 16 SCREWS @ EA STUD
- (3) (4) #10 - 16 SCREWS @ JAMB CONDITIONS
- (4) METAL DECK, RE: PLAN, ASSUME 22GA MIN
- (5) CONT BOT TRACK

DETAIL NOTES:

- (1) CAP OPENING SIDE OF JAMB W/ TRACK ATTACHED W/ (1) #10-16 SCREW @ 16" OC IN EA LEG
- (2) (2) FULL HEIGHT 18 GA JAMB STUDS MATCH THE SIZE OF THE TYP WALL STUDS
- (3) (1) #10-16 SCREW @ EA FLANGE
- (4) CONC SLAB
- (5) RUNNER TRACK
- (6) ATTACH TRACK END TO SLAB W/ (4) 0.145x1x1 1/4" EMBED PROVIDE 4" CLEAR BTWN EA PAF

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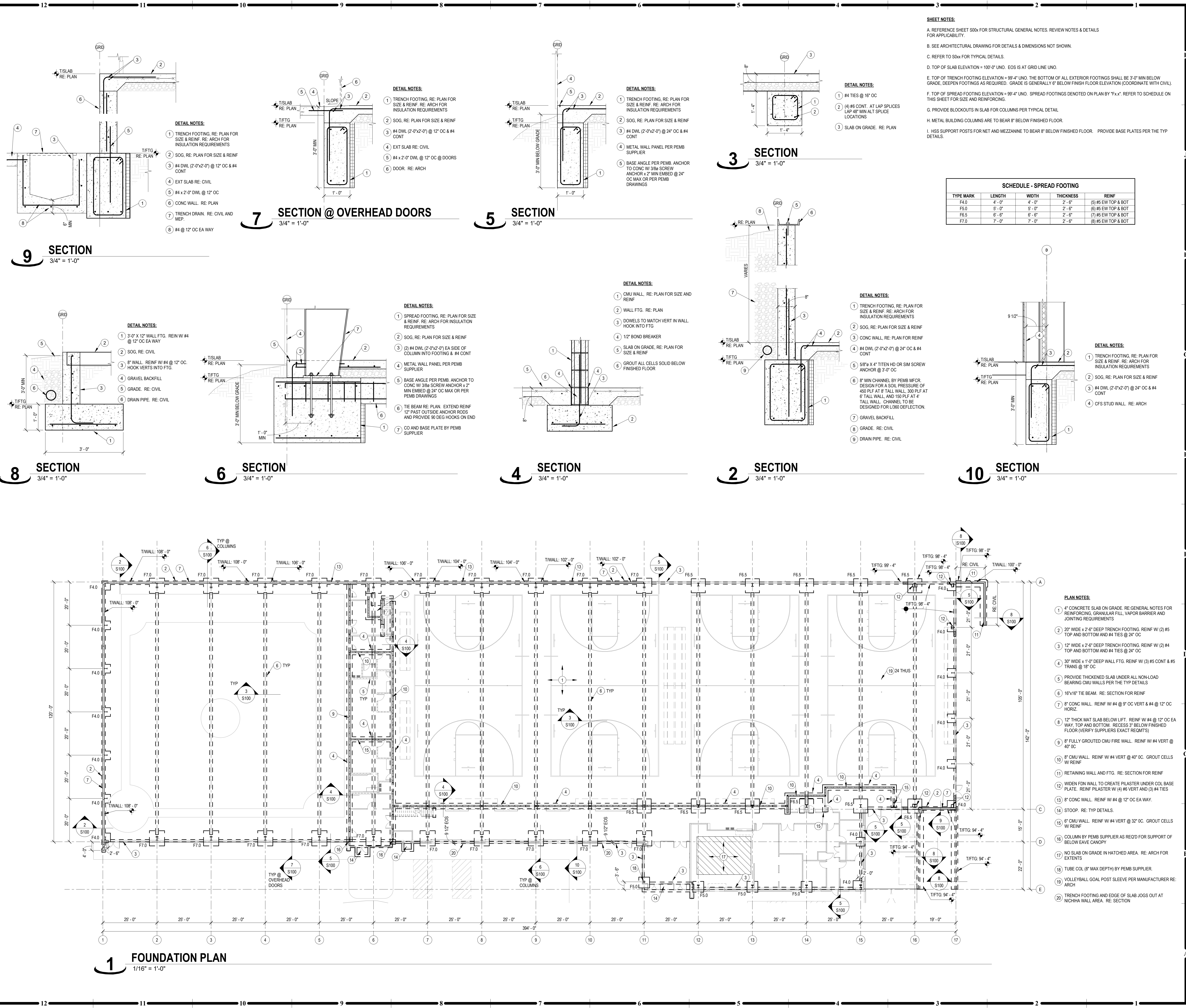


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TYPICAL DETAILS - CFS & STEEL



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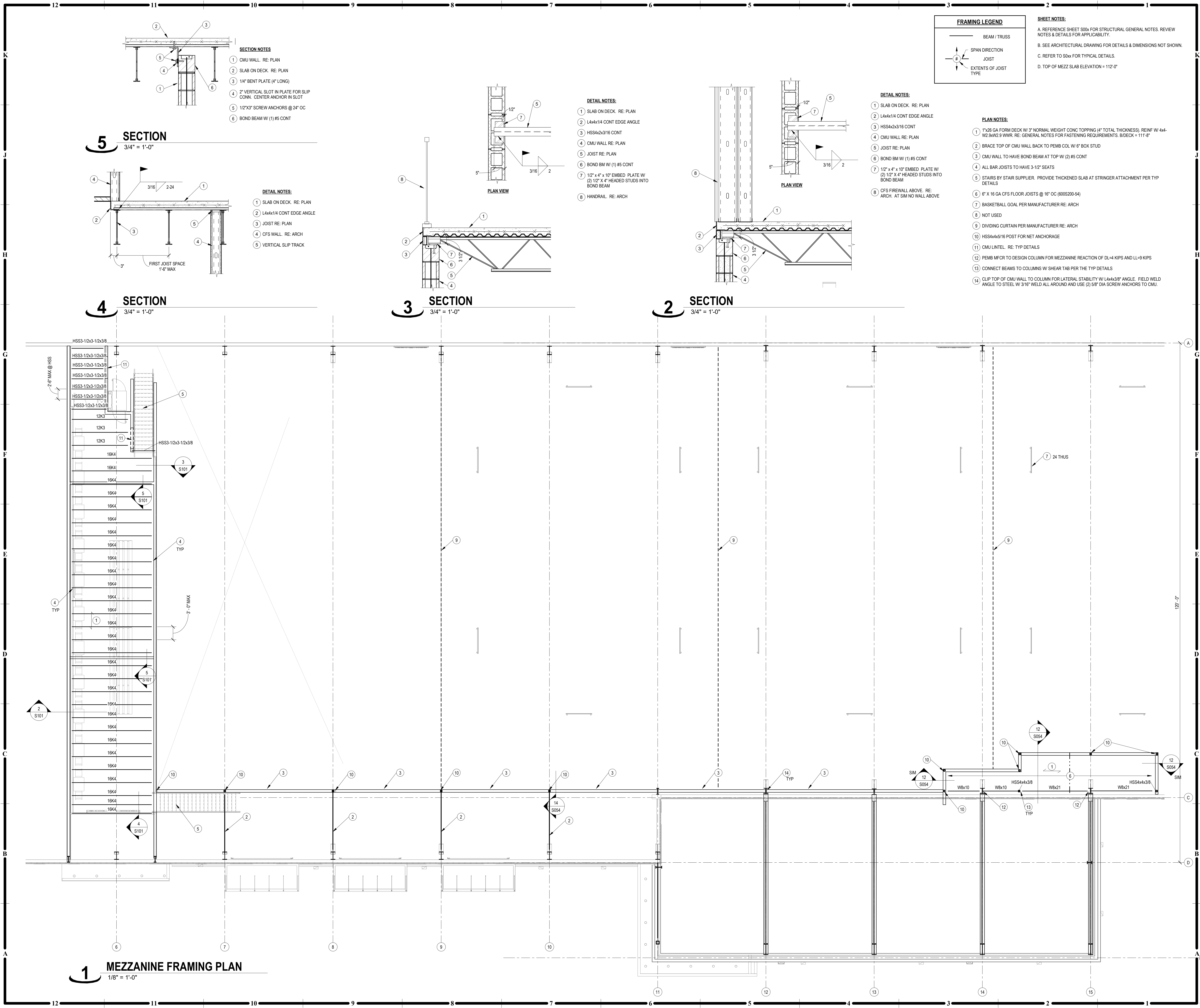
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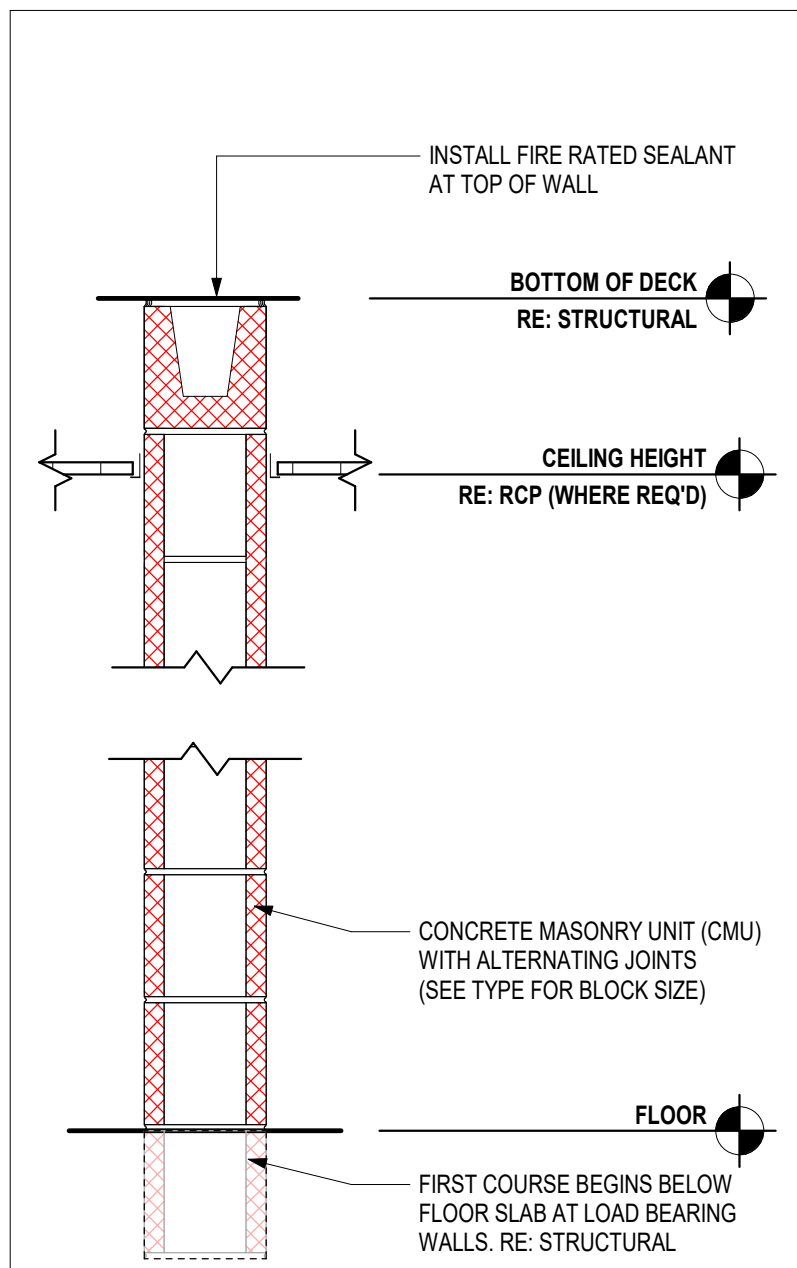
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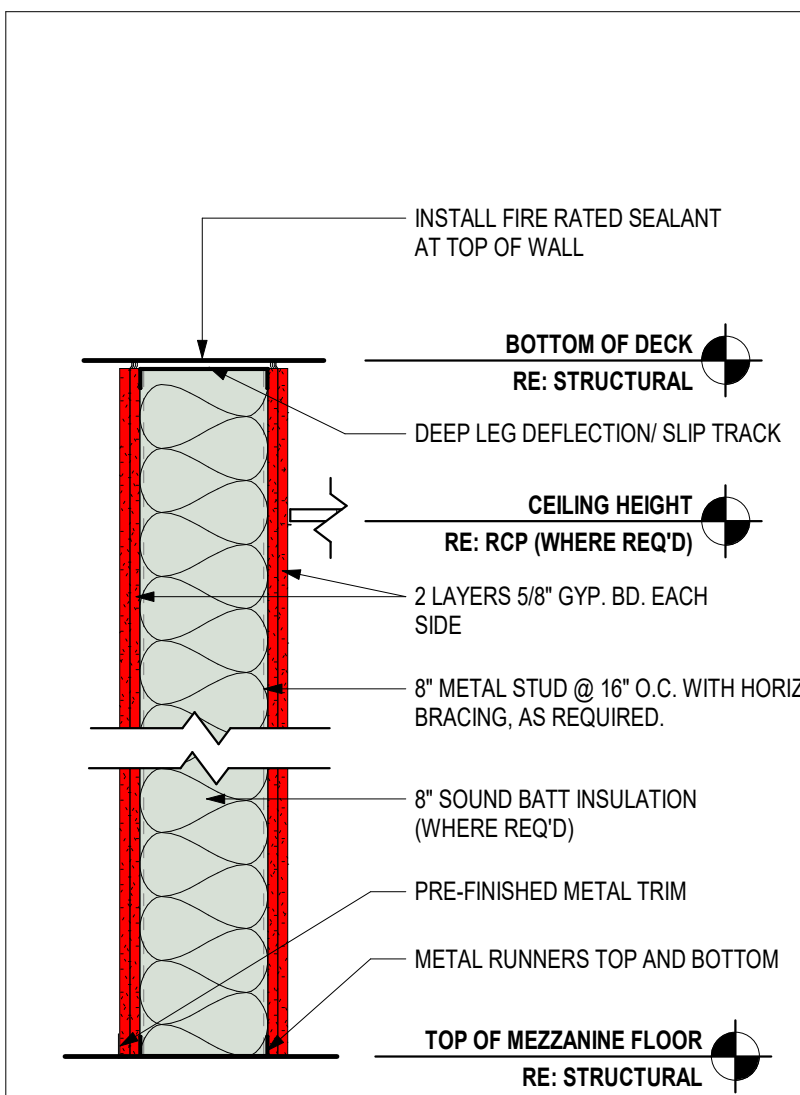
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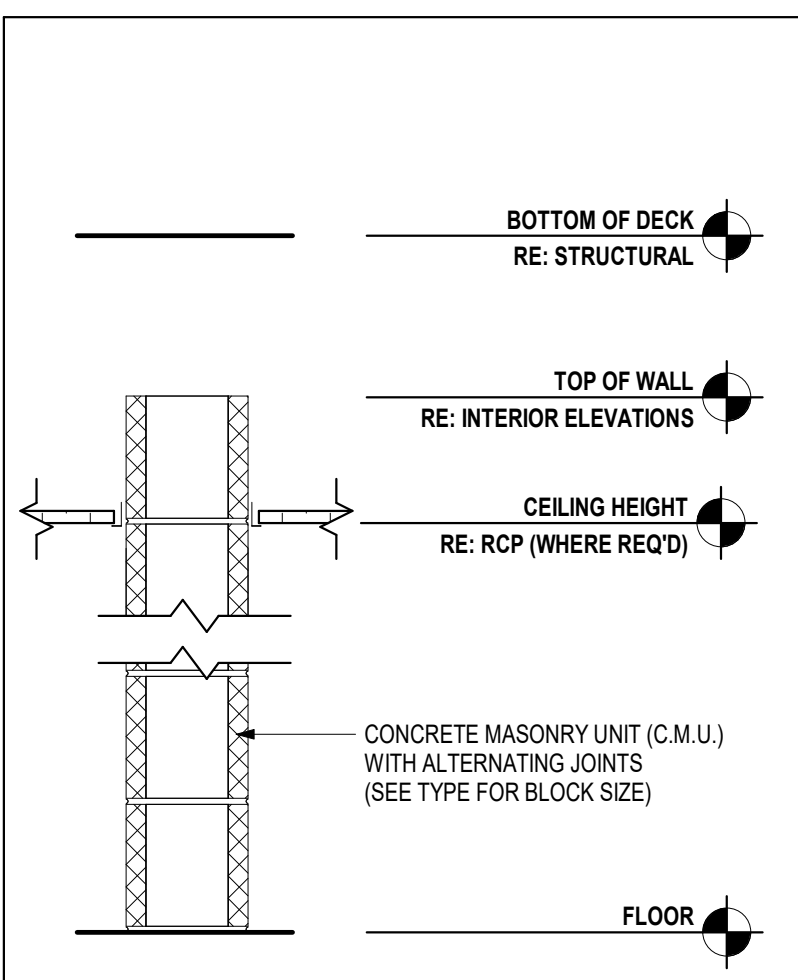




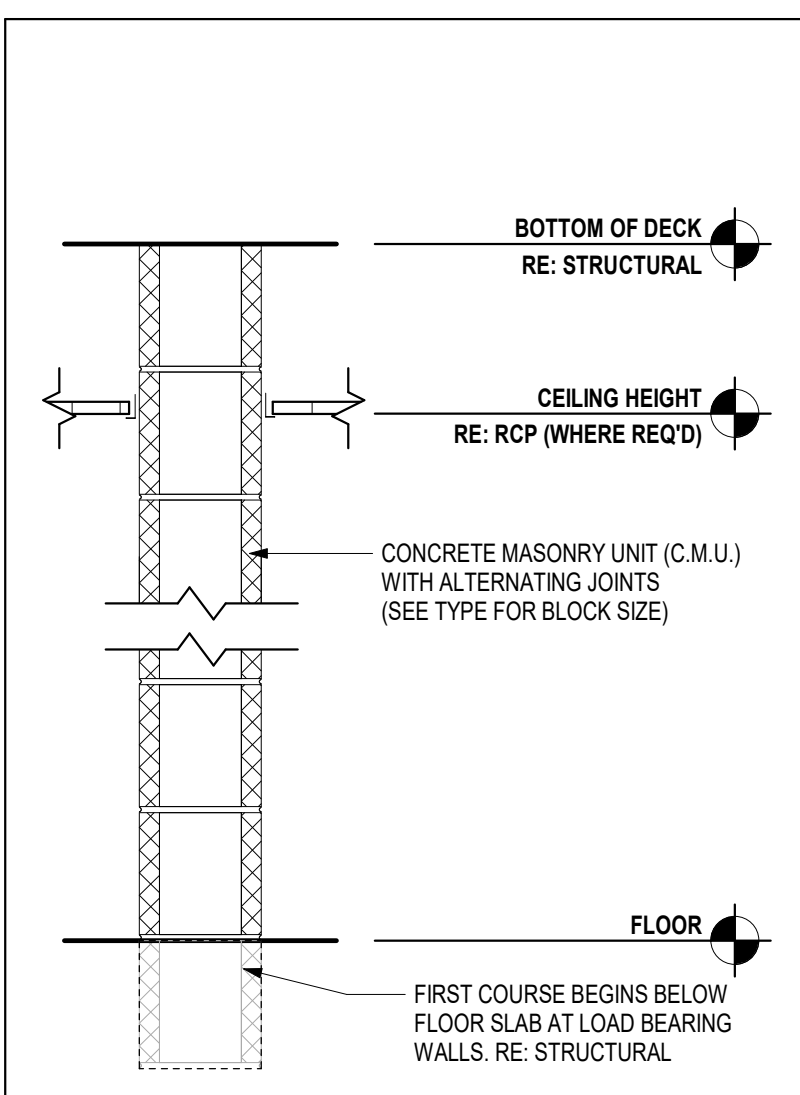
TYPE	WALL DESCRIPTION
G1	<ul style="list-style-type: none"> 8"x8"x16" (NOM.) C.M.U. TO DECK ABOVE. PROVIDE BOND BEAMS AT BOTTOM TWO COURSES AND TOP COURSE ALL CELLS GROUTED SOLID FIRESTOPPING AT TOP OF WALL TO SEAL FLOOR SLAB STEEL CLIP ANGLES EACH SIDE OF WALL ALL HOLLOW METAL FRAMES GROUTED SOLID FIRE-RATED SEALANT 2-HR RATED RE: UL # U905



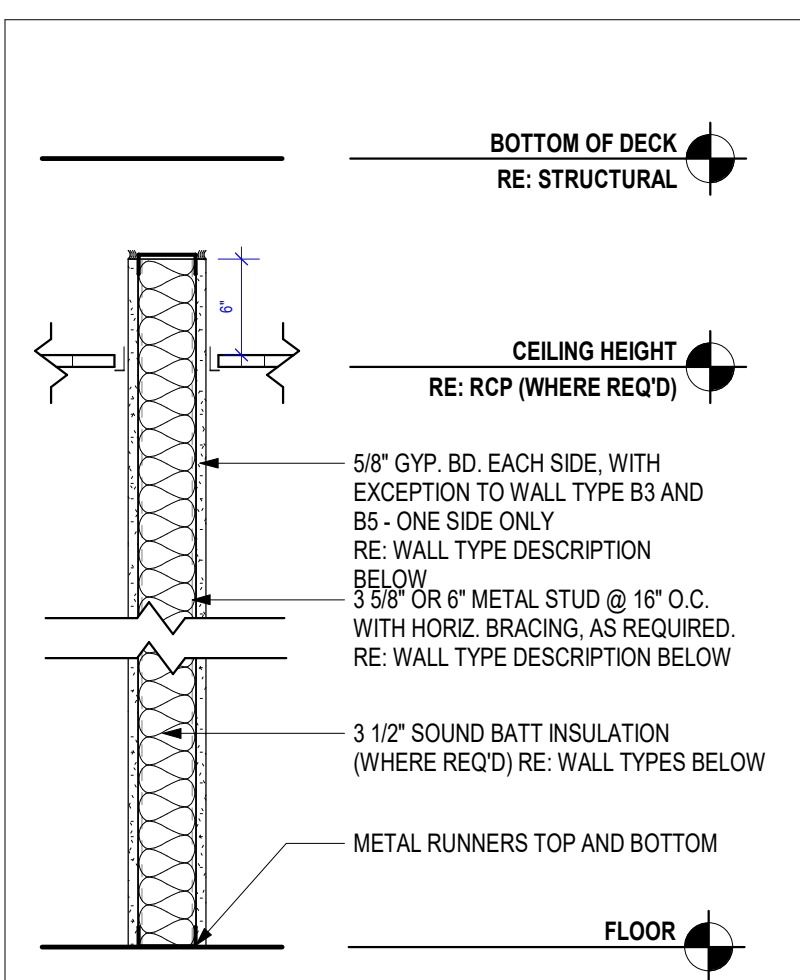
TYPE	WALL DESCRIPTION
F1	<ul style="list-style-type: none"> 8" METAL STUD @ 16" O.C. TO DECK ABOVE 2 LAYERS OF 5/8" TYPE "X" GYP. BD. EACH SIDE FIRE RATED SEALANT 2-HR RATED RE: UL # U425



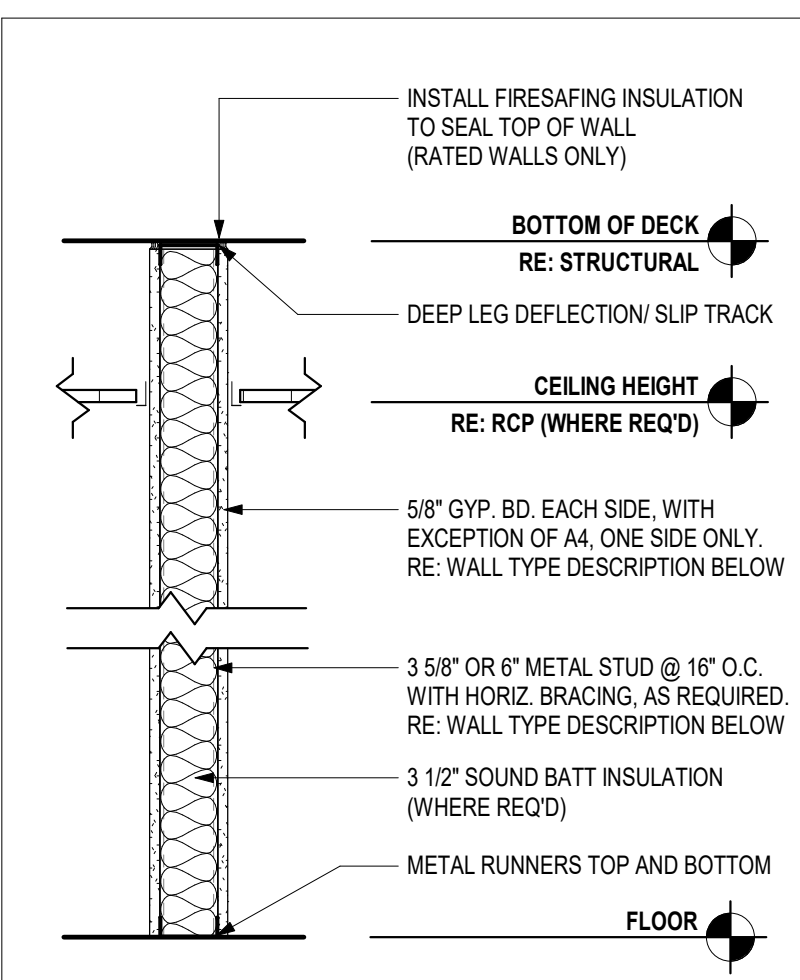
TYPE	WALL DESCRIPTION
D1	<ul style="list-style-type: none"> 8"x8"x16" (NOM.) C.M.U. TO HEIGHT NOTED NON RATED HEIGHT OF WALL TERMINATES AT 12' - 0"



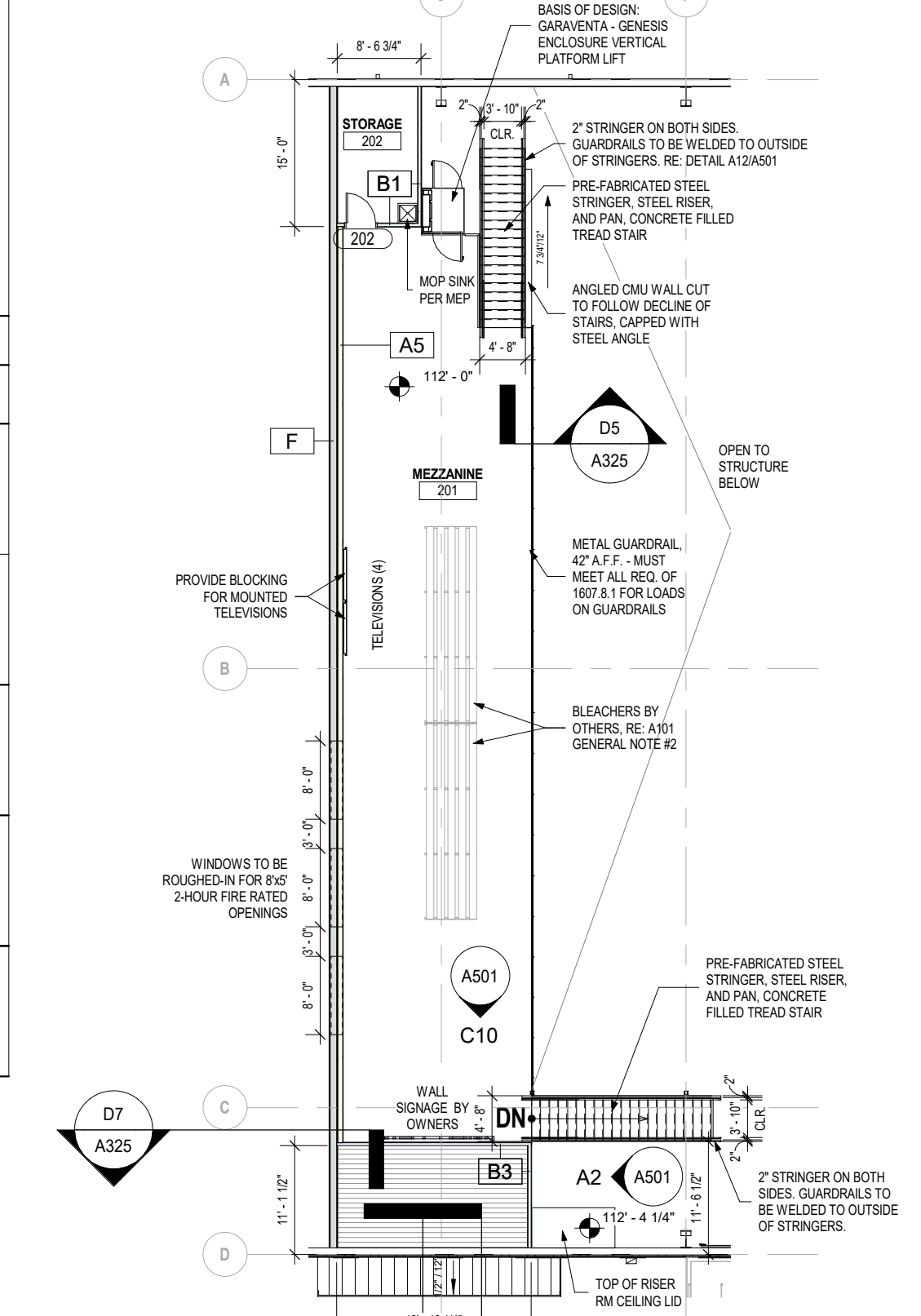
TYPE	WALL DESCRIPTION
C1	<ul style="list-style-type: none"> 6"x8"x16" (NOM.) C.M.U. TO DECK ABOVE NON RATED
C2	<ul style="list-style-type: none"> 8"x8"x16" (NOM.) C.M.U. TO DECK ABOVE NON RATED



TYPE	WALL DESCRIPTION
B1	<ul style="list-style-type: none"> 3/8" METAL STUD @ 6" MIN. ABOVE CEILING HEIGHT 5/8" TYPE "X" GYP. BD. EACH SIDE NO SOUND BATT INSUL. NON RATED
B2	<ul style="list-style-type: none"> 3/8" METAL STUD @ 6" ABOVE CEILING HEIGHT 5/8" TYPE "X" GYP. BD. EACH SIDE SOUND BATT INSUL. NON RATED
B3	<ul style="list-style-type: none"> 3/8" METAL STUD @ 6" ABOVE CEILING HEIGHT 5/8" TYPE "X" GYP. BD. ONE SIDE (ROOM SIDE) NO SOUND BATT INSUL. NON RATED
B4	<ul style="list-style-type: none"> 6" METAL STUD @ 6" ABOVE CEILING HEIGHT 5/8" TYPE "X" GYP. BD. EACH SIDE SOUND BATT INSUL. NON RATED
B5	<ul style="list-style-type: none"> 6" METAL STUD @ 6" ABOVE CEILING HEIGHT 5/8" TYPE "X" GYP. BD. ONE SIDE (ROOM SIDE) NO SOUND BATT INSUL. NON RATED



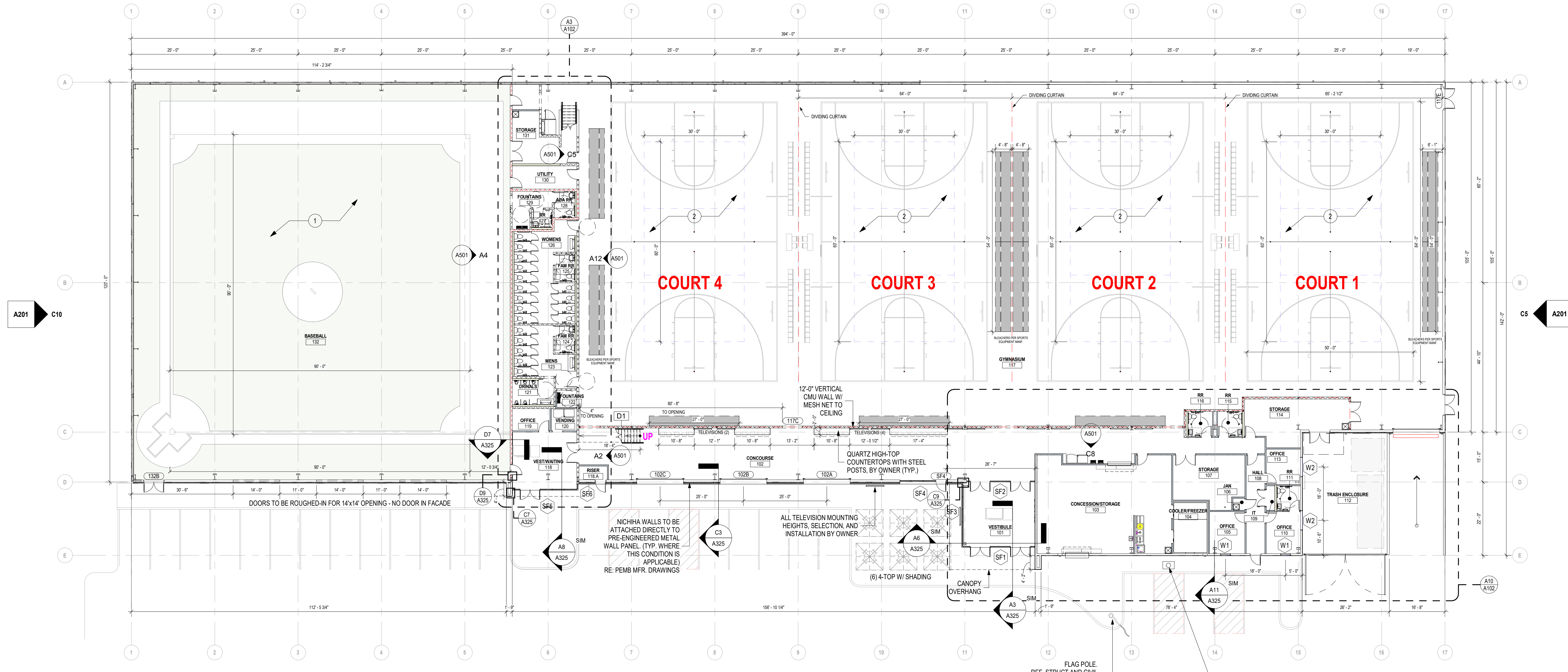
TYPE	WALL DESCRIPTION
A1	<ul style="list-style-type: none"> 3/8" METAL STUD @ 16" O.C. TO DECK ABOVE 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE NO SOUND BATT INSUL. NON RATED
A2	<ul style="list-style-type: none"> 3/8" METAL STUD @ 16" O.C. TO DECK ABOVE 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE NO SOUND BATT INSUL. NON RATED
A3	<ul style="list-style-type: none"> 3/8" METAL STUD @ 16" O.C. TO DECK ABOVE 5/8" TYPE "X" GYP. BD. ONE SIDE (ROOM SIDE) NO SOUND BATT INSUL. NON RATED
A4	<ul style="list-style-type: none"> 6" METAL STUD @ 16" O.C. TO DECK ABOVE 5/8" TYPE "X" GYP. BD. EACH SIDE TO DECK ABOVE NO SOUND BATT INSUL. NON RATED
A5	<ul style="list-style-type: none"> 6" METAL STUD @ 16" O.C. TO DECK ABOVE 5/8" TYPE "X" GYP. BD. ONE SIDE (ROOM SIDE) NO SOUND BATT INSUL. NON RATED



- ### GENERAL NOTES:
- #### FLOOR PLANS
- SEE GENERAL ARCHITECTURAL SHEETS FOR ADDITIONAL NOTES AND DETAILS THAT ARE APPLICABLE.
 - ARCHITECTURAL ELEVATION 100'-0"
 - DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF STUD (FOS), FACE OF CONCRETE WALLS (FCW), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
 - NOTE: WALL THICKNESSES ARE ACTUAL DIMENSIONS AND PER WALL TYPES. SEE GENERAL SHEETS.
 - DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL, SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO HINGE SIDE OF THE DOOR. ALWAYS ALLOWING A MINIMUM OF 1" FROM THE FULL SIDE (STRIKE SIDE) OF THE DOOR TO THE INTERSECTING WALL, OR OTHER PROTRUDING OBJECTS.
 - NOT USED
 - PROVIDE FINISH LEVELS AS DESCRIBED:
 - LEVEL 1:
 - FIRE RATED WALL AREAS ABOVE FINISHED CEILING, WHETHER OR NOT ACCESSIBLE IN THE COMPLETED CONSTRUCTION.
 - LEVEL 2:
 - AREAS WHERE SETTING TYPE COMPOUND FOR WATER RESISTANT GYPSUM BACKER OR FIBER REINFORCED WALL PANELS ARE USED
 - ALL OPEN TO PLENUM SPACES ABOVE CEILINGS.
 - OPEN TO STRUCTURE SPACES WHERE PAINTED BLACK
 - AREAS IN MECHANICAL, ELECTRICAL AND STORAGE ROOMS.
 - LEVEL 3:
 - PUBLIC CIRCULATION CORRIDORS WHERE ROOM SIDE WALLS HAVE WALLCOVERING OR WOOD SLAT WALL TREATMENTS
 - OPEN TO STRUCTURE SPACES WHERE PAINTED OTHER THAN BLACK
 - LEVEL 4:
 - CIRCULATION CORRIDORS WHERE ROOM SIDE WALLS AND/OR CEILINGS HAVE PAINTED SURFACES.
 - LEVEL 5:
 - PUBLIC LOBBIES AND LOUNGE AREAS WHERE WALLS AND/OR CEILINGS HAVE PAINTED OR WALL COVERINGS INSTALLED ON SURFACES WITHIN LOUNGE AREAS
 - RE: FINISH LEGEND, FINISH SCHEDULE AND SPECIFICATIONS FOR DOOR AND DOOR FRAME FINISHES.
 - STAIR ENCLOSURES, SHAFT WALLS, EXIT PASSAGE WALLS AND EXTERIOR WALLS TO BE COORDINATED FOR PHASE OF WORK PER MATRIX AND PROJECT SCOPING.
 - MAINTAIN AND PROTECT EXISTING EXPANSION JOINTS DURING CONSTRUCTION. PATCH/REPAIR/REPLACE TO MATCH EXISTING FINISHES AS REQUIRED ON THE SHELL PORTION OF PROJECT.

1 GENERAL NOTE (TYP.): BASEBALL FIELD FLOORING, BATTING CAGES, WALL PADS AND MESH NETS BY OTHERS. INSTALLED PER SPORTS EQUIPMENT MANF. REQ. PEMB SUPPLIER TO PROVIDE SUPPORT BEAMS AND DESIGN FRAMES FOR EQUIP. RE: PEMB MFR. FOR REQ. EQUIP. SUPPORT. RE: SPOONBALL SPORTS FOR LOCATIONS, FLOORING AND EQUIP. WEIGHTS. OWNER TO COORDINATE WITH VENDOR ON ALL SPORTING EQUIP.

2 GENERAL NOTE (TYP.): BASKETBALL COURT FLOORING, BASKETBALL GOALS, SCOREBOARDS, MESH NETS, WALL PADS, BLEACHERS AND VOLLEYBALL NETS BY OTHERS. INSTALLED PER SPORTS EQUIPMENT MANF. REQ. PEMB SUPPLIER TO PROVIDE SUPPORT BEAMS AND DESIGN FRAMES FOR EQUIP. RE: PEMB MFR. FOR REQ. EQUIP. SUPPORT. RE: SPOONBALL SPORTS FOR LOCATIONS, FLOORING AND EQUIP. WEIGHTS. OWNER TO COORDINATE WITH VENDOR ON ALL SPORTING EQUIP.



A10 1ST FLOOR PLAN
1/16" = 1'-0"

collins webb ARCHITECTURE

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COLLINS WEBB # 22103

1ST FLOOR & MEZZ. PLAN

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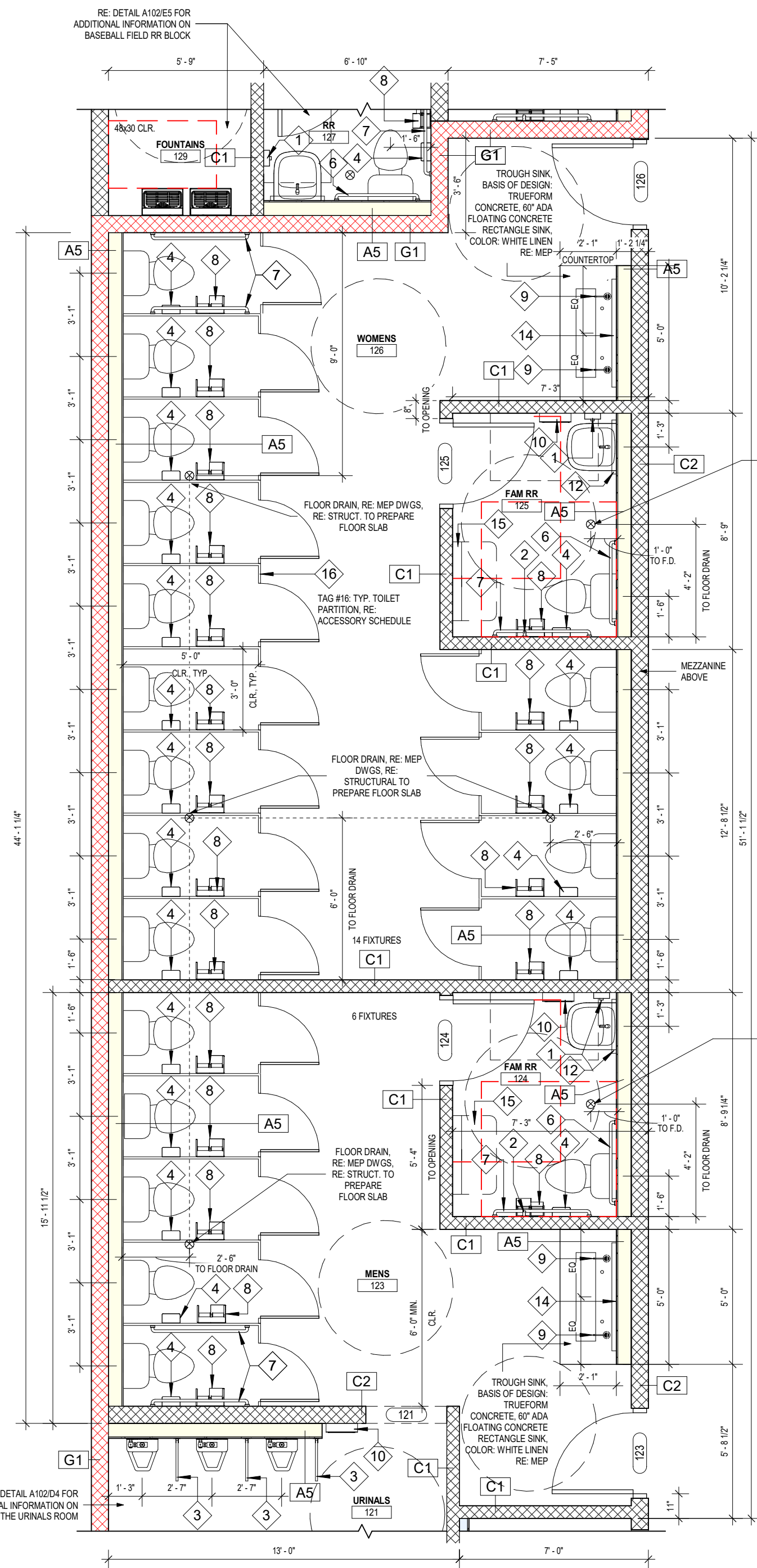
ACCESSORY SCHEDULE					
TYPE MARK	MANUFACTURER	DESCRIPTION	MODEL	FINISH	REMARKS
1	COORD. W/ OWNER	SURFACE MOUNTED SOAP DISPENSER	COORD. W/ OWNER	COORD. W/ OWNER	1
2	COORD. W/ OWNER	RECESSED PAPER TOWEL DISPENSER/WASTE RECEPTACLE	COORD. W/ OWNER	COORD. W/ OWNER	1
3	METPAR CORP.	SOLID PHENOLIC WALL HUNG URINAL SCREEN	18" X 42" WALL HUNG	COORD. W/ OWNER	1
4	BOBRICK WASHROOM EQUIPMENT, INC.	SURFACE MOUNTED SANITARY NAPKIN DISPOSAL - 7 1/2" X 10" X 3 13/16"	B-270	STAINLESS STEEL W/ SATIN FINISH	1
5	BOBRICK WASHROOM EQUIPMENT, INC.	VERTICAL GRAB BAR, 1-1/2" DIA., SS, 18"	B-6806-18	SATIN W/ PEENED GRIP	1
6	BOBRICK WASHROOM EQUIPMENT, INC.	GRAB BAR, 1-1/2" DIA., SS, 36"	B-6806-36	SATIN W/ PEENED GRIP	1
7	BOBRICK WASHROOM EQUIPMENT, INC.	GRAB BAR, 1-1/2" DIA., SS, 42"	B-6806-42	SATIN W/ PEENED GRIP	1
8	BOBRICK WASHROOM EQUIPMENT, INC.	SURFACE MOUNTED SINGLE JUMBO-ROLL TOILET TISSUE DISPENSER - 10 21/32" DIA. X 4 29/64"	H2800-SS	STAINLESS STEEL W/ SATIN FINISH	1
9	COORD. W/ OWNER	COUNTER SOAP DISPENSER	COORD. W/ OWNER	COORD. W/ OWNER	1
10	BRADLEY CORPORATION	SURFACE-MOUNTED PAPER TOWEL DISPENSER W/ SENSOR ACTIVATION - 12.27" X 15.2" X 9.47"	2494	COORD. W/ OWNER	1
12	BOBRICK WASHROOM EQUIPMENT, INC.	GLASS MIRROR W/ STAINLESS STEEL ANGLE FRAME - 24" X 48"	B-290	STAINLESS STEEL W/ SATIN FINISH	1, 2
14	COORD. W/ OWNER	GLASS MIRROR W/ STAINLESS STEEL FRAME - 48" X 48"	COORD. W/ OWNER	COORD. W/ OWNER	1, 2
15	KOALA KARE	HORIZONTAL WALL MOUNTED BABY CHANGING STATION W/ STAINLESS STEEL VENEER	H2800-SS	COORD. W/ OWNER	1
16	METPAR CORP.	FLOOR MOUNTED SOLID PHENOLIC TOILET ENCLOSURES - OVERHEAD BRACED	THE CORINTHAN (TYPE FP500)	COORD. W/ OWNER	1

GENERAL NOTES:
A. ALL TOILET ACCESSORY LOCATIONS BASED ON FLOOR PLAN LAYOUT.
B. REFER TO INTERIOR ELEVATIONS FOR ANY ACCESSORIES THAT MAY NOT SHOW UP ON THE PLANS.
C. REFER TO GGG AND MANUFACTURER'S SPECIFICATIONS FOR MOUNTING HEIGHTS.
D. COORDINATE ALL MOUNTING HEIGHTS W/ PLUMBING FIXTURES TO ALLOW PROPER OPERATION & INFORM ARCHITECT IN WRITING OF ANY CONFLICTS.
E. G.C. TO VERIFY DIRECTLY W/ OWNER TO DETERMINE MOUNTING HEIGHTS, U.N.O.
F. REFER TO PLANS AND ELEVATIONS FOR ITEMS NOTED AS FF&E.
G. PROVIDE ALLOWANCE FOR ALL ROUNDED VANITY MIRRORS.
H. BASIS OF DESIGN PROVIDED ABOVE. FINAL SELECTION BY OWNER.

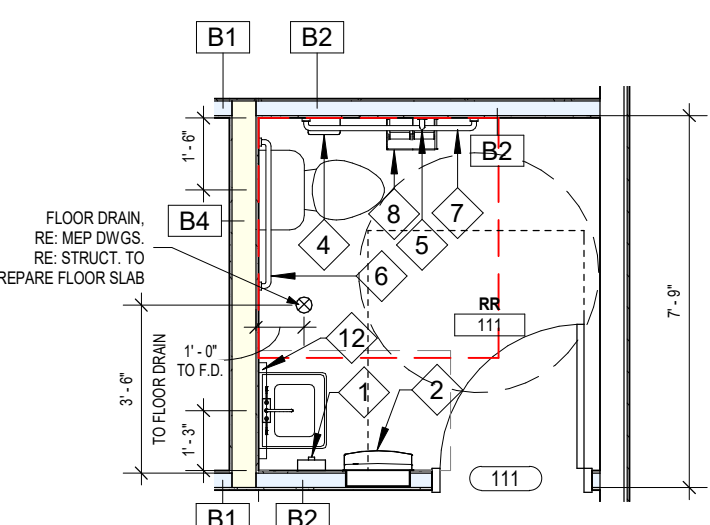
REMARKS:
1. FF&E ITEM - OWNER FURNISHED, CONTRACTOR INSTALLED. REFER TO PLANS AND ELEVATIONS FOR FURTHER CLARIFICATION.
2. MIRRORS TO BE CENTERED AT SINKS, TYP.
3. NFPA 286 TESTED AND APPROVED PRODUCT.

GENERAL NOTES: FLOOR PLANS

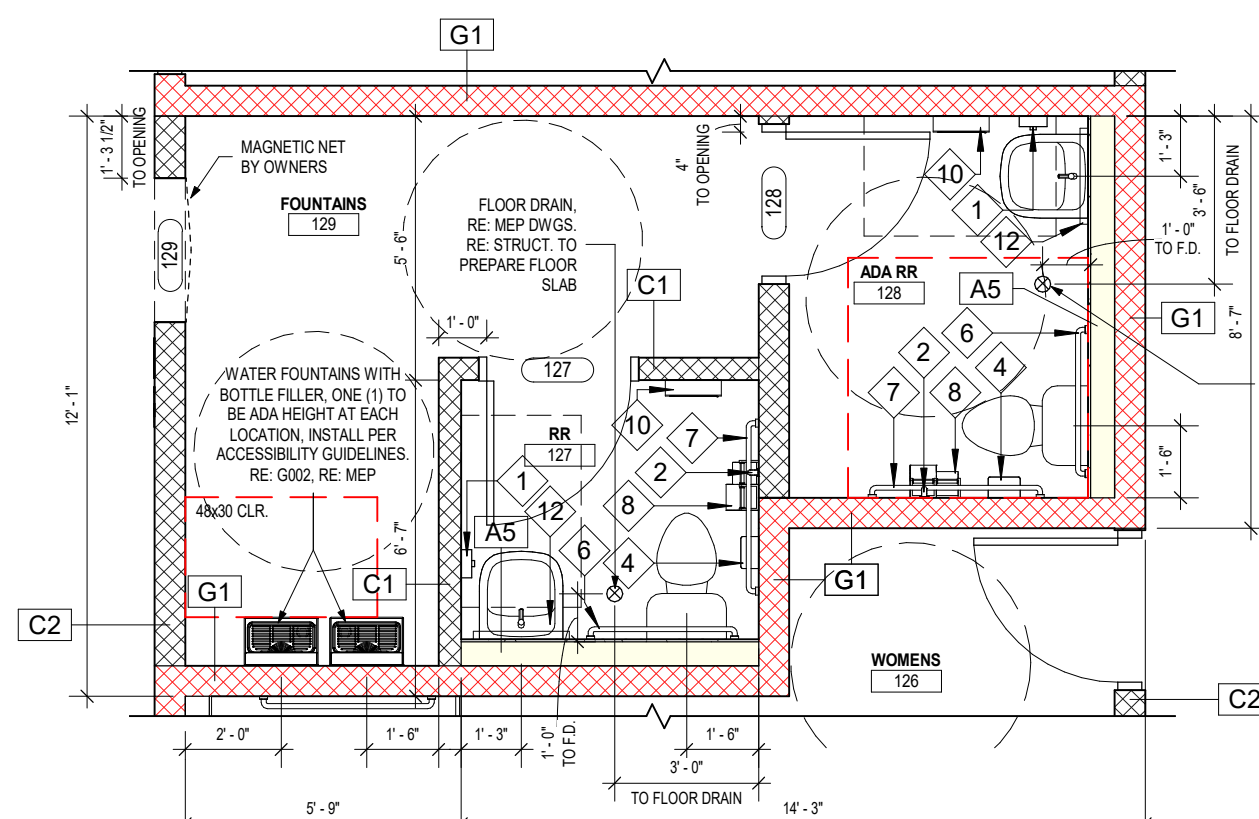
- SEE GENERAL ARCHITECTURAL SHEETS FOR ADDITIONAL NOTES AND DETAILS THAT ARE APPLICABLE.
- ARCHITECTURAL ELEVATION 100'-0".
- DIMENSIONS SHOWN ON THE FLOOR PLAN ARE TO THE FACE OF STUD (FOS), FACE OF CONCRETE WALLS (FOC), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
- NOTE: WALL THICKNESSES ARE ACTUAL DIMENSIONS AND PER WALL TYPES. SEE GENERAL SHEETS.
- DOOR OPENINGS NOT LOCATED BY DIMENSION SHALL BE CENTERED IN WALL, SHOWN OR LOCATED 4 INCHES FROM FINISH WALL TO HINGE SIDE OF THE DOOR, ALWAYS ALLOWING A MINIMUM OF 18" FROM THE FULL SIDE (STRIKE SIDE) OF THE DOOR TO THE INTERSECTING WALL, OR OTHER PROTRUDING OBJECTS.
- NOT USED.
- PROVIDE FINISH LEVELS AS DESCRIBED:
LEVEL 1:
- FIRE RATED WALL AREAS ABOVE FINISHED CEILING, WHETHER OR NOT ACCESSIBLE IN THE COMPLETED CONSTRUCTION.
LEVEL 2:
- AREAS WHERE SETTING TYPE COMPOUND FOR WATER RESISTANT GYPSUM BACKER OR FIBER REINFORCED WALL PANELS ARE USED.
- ALL OPEN TO PLUMBING SPACES ABOVE CEILING.
- OPEN TO STRUCTURE SPACES WHERE PAINTED BLACK.
- AREAS IN MECHANICAL, ELECTRICAL AND STORAGE ROOMS.
LEVEL 3:
- PUBLIC CIRCULATION CORRIDORS WHERE ROOM SIDE WALLS HAVE WALLCOVERING OR WOOD SLAT WALL TREATMENTS.
- OPEN TO STRUCTURE SPACES WHERE PAINTED OTHER THAN BLACK.
LEVEL 4:
- CIRCULATION CORRIDORS WHERE ROOM SIDE WALLS AND/OR CEILING HAVE PAINTED SURFACES.
LEVEL 5:
- PUBLIC LOBBIES AND LOUNGE AREAS WHERE WALLS AND/OR CEILING HAVE PAINTED OR WALL COVERINGS INSTALLED ON SURFACES WITHIN LOUNGE AREAS.
8. RE-FINISH LEGEND, FINISH SCHEDULE AND SPECIFICATIONS FOR DOOR AND DOOR FRAME FINISHES.
9. STAIR ENCLOSURES, SHAFT WALLS, EXIT PASSAGE WALLS AND EXTERIOR WALLS TO BE COORDINATED FOR PHASE OF WORK PER MATRIX AND PROJECT SCOPING.
10. MAINTAIN AND PROTECT EXISTING EXPANSION JOINTS DURING CONSTRUCTION. PATCH/REPAIR/REPLACE TO MATCH EXISTING RATINGS AS REQUIRED ON THE SHELL PORTION OF PROJECT.



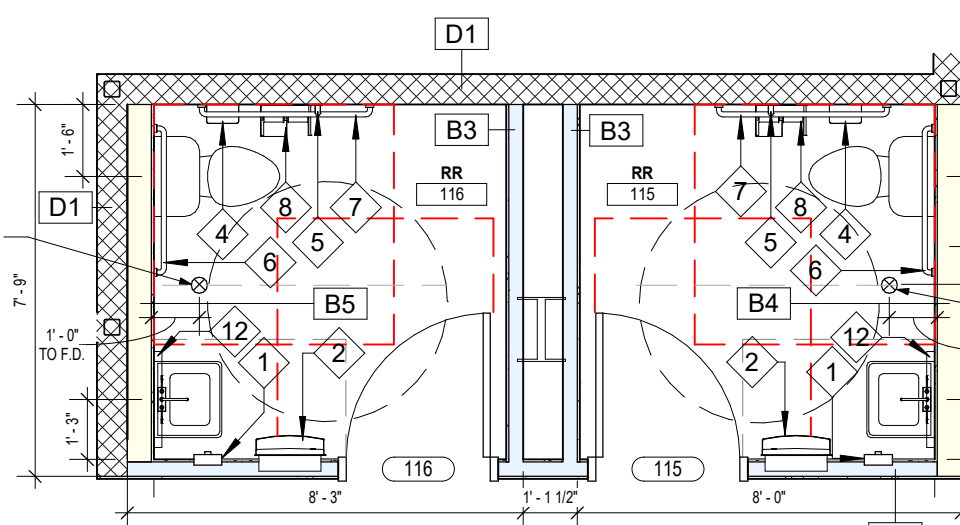
D10 MAIN RESTROOM BLOCK
1/4" = 1'-0"



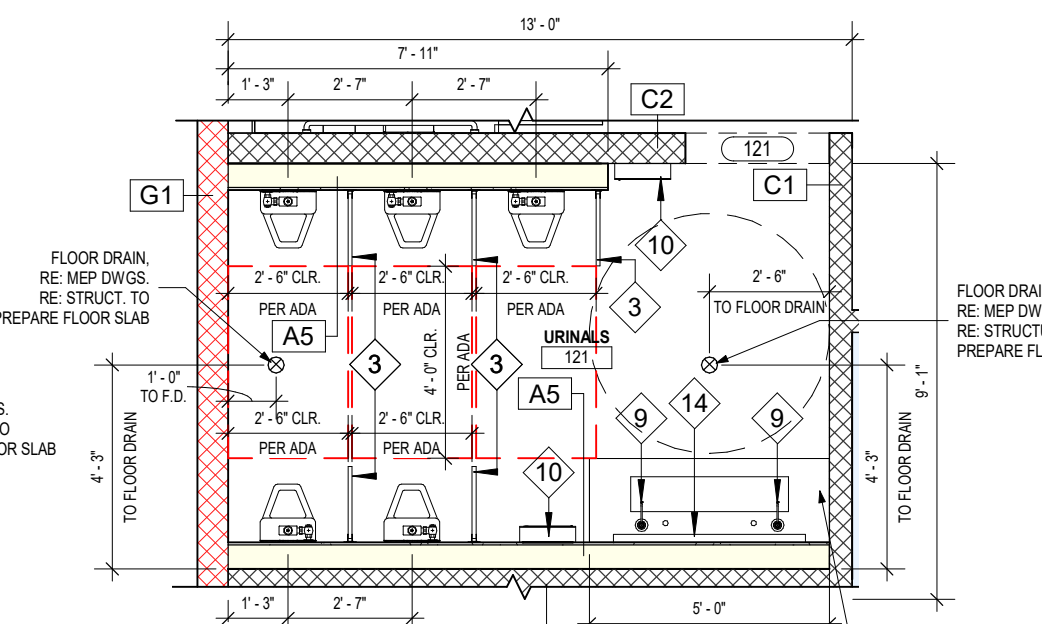
E7 PRIVATE RESTROOM
1/4" = 1'-0"



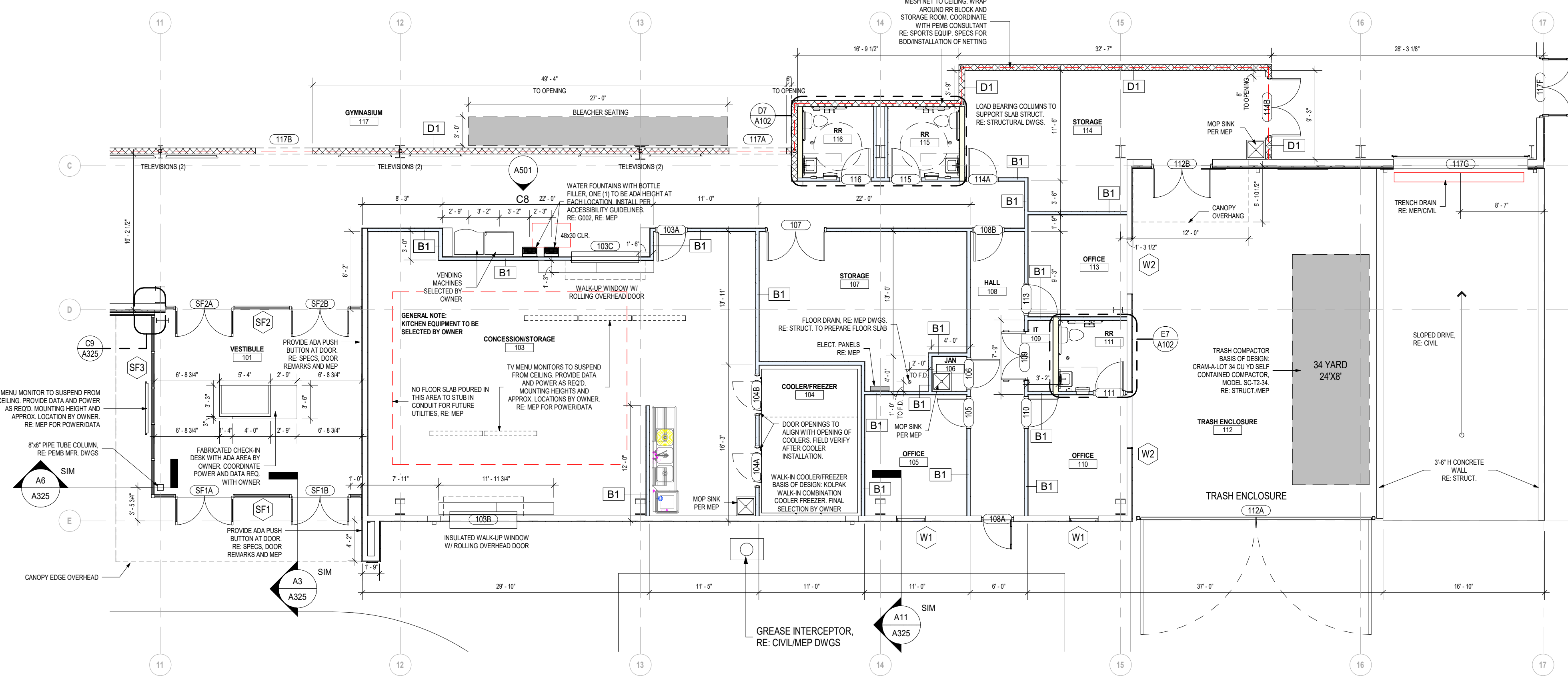
E5 BASEBALL FIELD RR
1/4" = 1'-0"



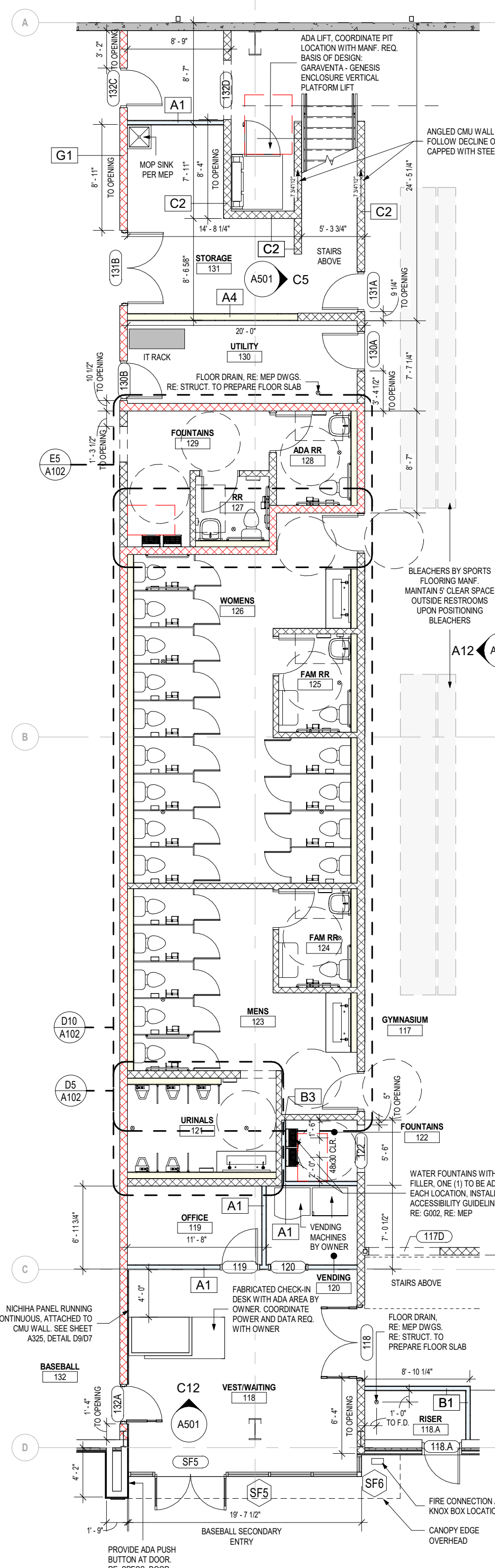
D7 CONCOURSE RESTROOMS
1/4" = 1'-0"



D5 URINAL ROOM
1/4" = 1'-0"



A10 ENLARGED ENTRY/BOH FLOOR PLAN
1/8" = 1'-0"



A3 WEST RESTROOM BLOCK
1/8" = 1'-0"

ENLARGED PLANS AND DETAILS

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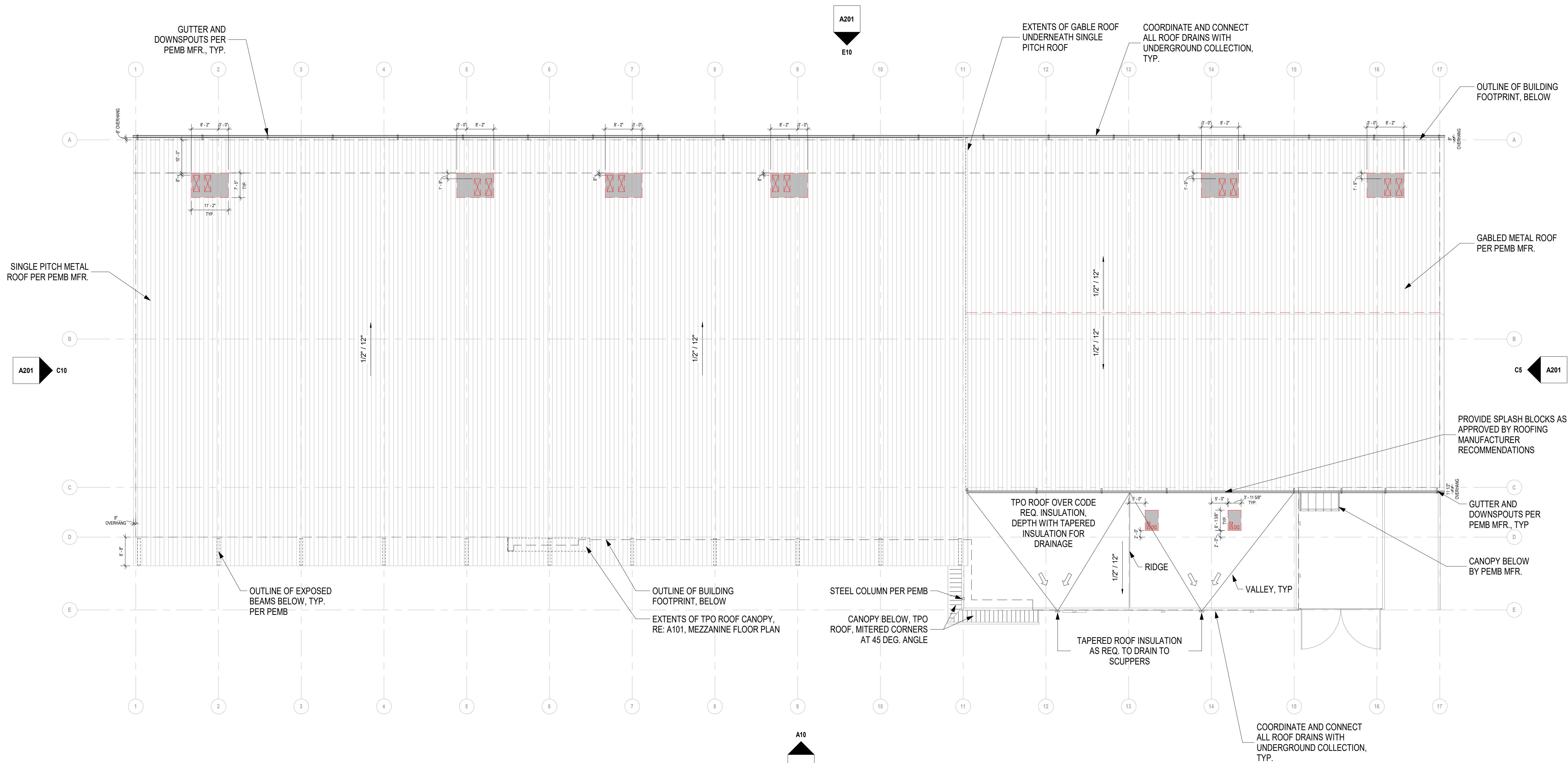


PROFESSIONAL SEAL

A102

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5.2.2023



A10 ROOF PLAN
1/16" = 1'-0"

GENERAL NOTES:
ROOF PLANS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. DIMENSIONS SHOWN ON THE ROOF PLAN ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FCO), AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
3. PROVIDE 1/2" FT. TAPERED INSULATION AT ALL ROOF CURBS AND AT EQUIPMENT WHICH EXCEEDS 18 INCHES IN WIDTH.

ROOF PLAN LEGEND

- SLOPE DIRECTION
- TAPERED INSULATION CRICKET OVERBUILD
- ROOF WALKING PAD
- ROOF DRAIN

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A104

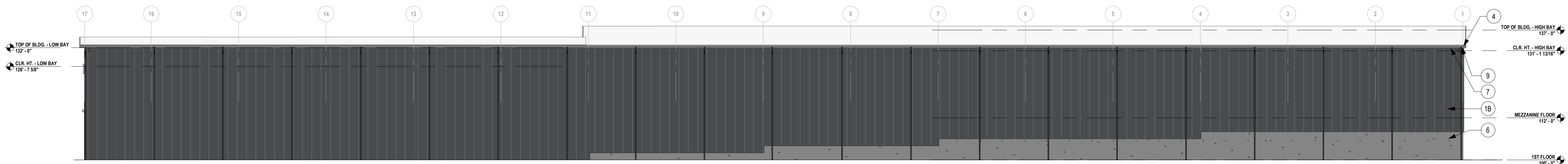
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ROOF PLAN

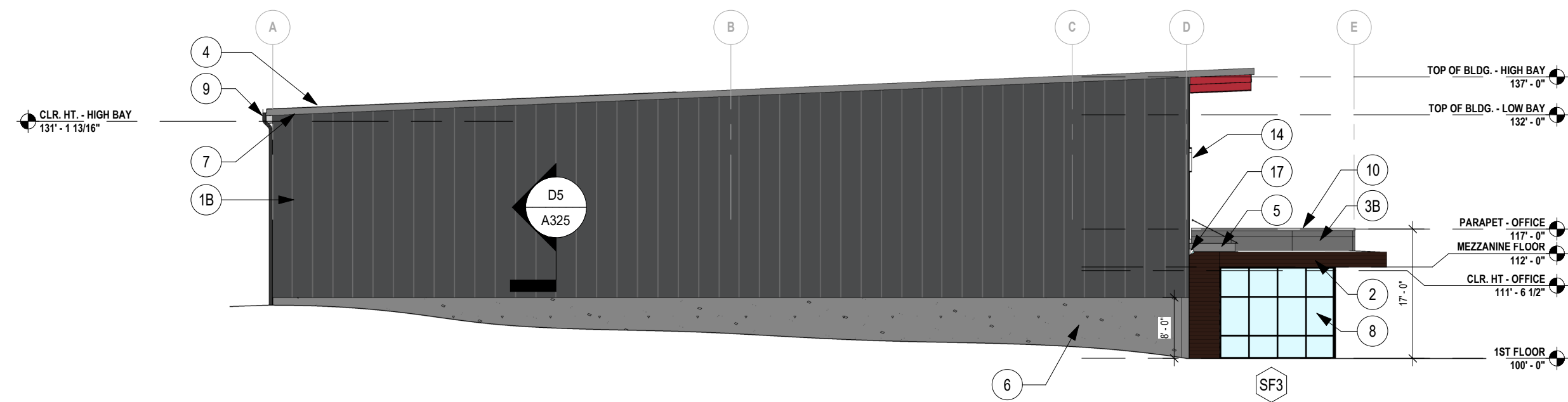


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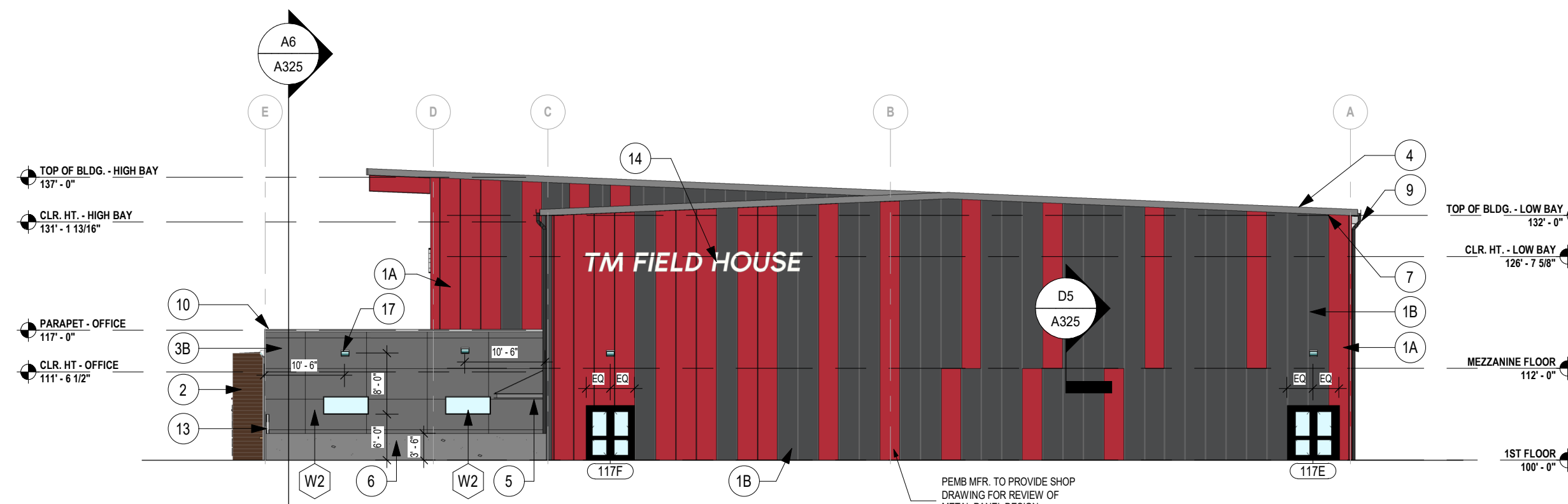
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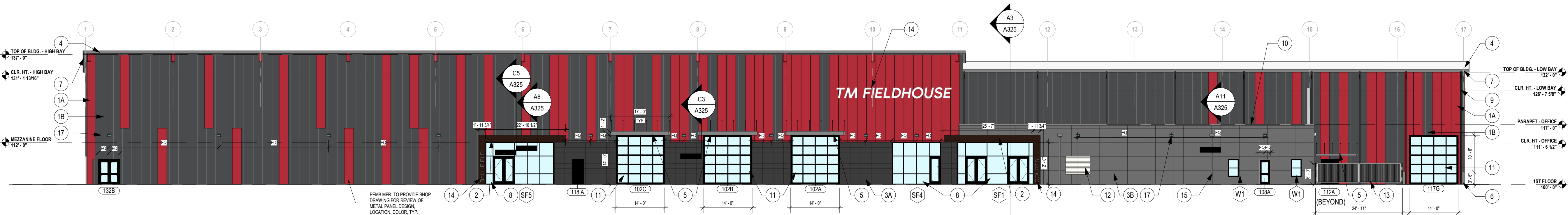
E10 NORTH ELEVATION
1/16" = 1'-0"



C10 WEST ELEVATION
1/16" = 1'-0"



C5 EAST ELEVATION
1/16" = 1'-0"



A10 SOUTH ELEVATION
1/16" = 1'-0"

GENERAL NOTES EXTERIOR ELEVATIONS:

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. DIMENSIONS SHOWN ON THE EXTERIOR ELEVATIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FOM), FACE OF CONCRETE WALLS (FCW), FACE OF STUD AND COLUMN GRID LINES, UNLESS OTHERWISE NOTED OR INDICATED.
3. RE: THE WINDOW TYPES SHEET FOR ALL EXTERIOR WINDOW TYPES AND GLASS TYPES.
4. PROVIDE ALL BLOCKING AND POWER AS REQUIRED FOR EXTERIOR SIGNAGE.

KEY NOTES EXTERIOR ELEVATIONS:

- 1A. PRE-ENGINEERED METAL BUILDING PANEL 1. BASIS OF DESIGN: KYNAR500, COLOR: REGAL RED. RE: PEMB MFR. DRAWINGS.
- 1B. PRE-ENGINEERED METAL BUILDING PANEL 2. BASIS OF DESIGN: KYNAR500, COLOR: CHARCOAL GRAY. RE: PEMB MFR. DRAWINGS.
2. EXTERIOR ARCHITECTURAL WALL PANEL. BASIS OF DESIGN: NICHHA WOOD SERIES - ROUGHSAWN, COLOR: ESPRESSO.
- 3A. EXTERIOR ARCHITECTURAL WALL PANEL. BASIS OF DESIGN: NICHHA FIBER CEMENT PANEL. FINAL SELECTION BY OWNER.
- 3B. EXTERIOR ARCHITECTURAL WALL PANEL. BASIS OF DESIGN: OMNIS STENI COLOUR RAINSCREEN, COLOR: SNB007. FINAL SELECTION BY OWNER.
4. STANDING SEAM METAL ROOF. RE: PEMB MFR. DRAWINGS.
5. EXTERIOR PRE-MANUFACTURED CANOPY BY PEMB MFR. TO PROVIDE STRUCTURAL SUPPORT IN WALL FOR CANOPY.
6. CONCRETE FOUNDATION WALL. RE: STRUCT.
7. FASCIA AND SOFFIT. RE: PEMB MFR. DRAWINGS.
8. STOREFRONT SYSTEM. BASIS OF DESIGN: KAWNEER TRIFAB VERSAGLAZE 451/451T, COLOR: ANODIZED BLACK.
9. GUTTER AND DOWNSPOUT. ROUTE DOWNSPOUT TO UNDERGROUND COLLECTION. RE: PEMB MFR. DRAWINGS.
10. METAL COPING. RE: PEMB MFR. DRAWINGS.
11. OVERHEAD DOOR. BASIS OF DESIGN: CLOPAY COMMERCIAL ENERGY SERIES. RE: DOOR ELEVATIONS/SCHEDULE.
12. INSULATED ROLLING OVERHEAD DOOR PER DOOR SCHEDULE. BASIS OF DESIGN: CORNELL RE: DOOR ELEVATIONS/SCHEDULE.
13. TRASH ENCLOSURE GATE PER DOOR SCHEDULE. BASIS OF DESIGN: CITYSCAPES CORVIT/TOUGHGATE. RE: DOOR ELEVATIONS/SCHEDULE.
14. STAINLESS STEEL BACKLIT SIGNAGE. OWNER PROVIDED AND CONTRACTOR INSTALLED. RE: MEP FOR LIGHTING.
15. SCUPPER AND DOWNSPOUT. ROUTE DOWNSPOUT TO UNDERGROUND COLLECTION. RE: CIVIL.
16. NOT USED.
17. EXTERIOR LIGHTING: WALL PACK. RE: MEP.

EXTERIOR ELEVATION MATERIALS

- | | |
|--|---|
| | PRE-ENGINEERED METAL PANEL 1, BY OTHERS. COLOR: REGAL RED |
| | PRE-ENGINEERED METAL PANEL 2, BY OTHERS. COLOR: CHARCOAL GRAY |
| | EXTERIOR ARCHITECTURAL WALL PANEL. BASIS OF DESIGN: NICHHA WOOD SERIES - ROUGHSAWN, COLOR: ESPRESSO |
| | EXTERIOR ARCHITECTURAL WALL PANEL. BASIS OF DESIGN: NICHHA FIBER CEMENT PANEL. SELECTION BY OWNER. |
| | EXTERIOR ARCHITECTURAL WALL PANEL. BASIS OF DESIGN: OMNIS STENI COLOUR RAINSCREEN, COLOR: SNB007 |
| | CONCRETE |
| | STANDING SEAM ROOF |

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A201
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EXTERIOR ELEVATIONS



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GENERAL NOTES:
EXTERIOR WALL SECTIONS/
DETAILS

1. RE. SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE. FLOOR PLANS, ROOF PLAN AND ELEVATIONS FOR SECTION CUT LOCATIONS.
3. ALL WINDOW AND DOOR OPENING DIMENSIONS ARE ROUGH OPENING DIMENSIONS, UNLESS NOTED OTHERWISE.
4. DIMENSIONS SHOWN ON THE WALL SECTIONS ARE TO THE FACE OF EXTERIOR WALL, FACE OF MASONRY (FROM FACE OF CONCRETE WALLS), FLOOR AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE.
5. PAINT ALL EXPOSED STEEL, INCLUDING STEEL LINTELS, ETC. (TYP.)

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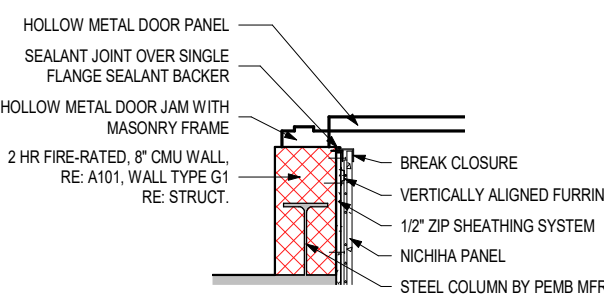


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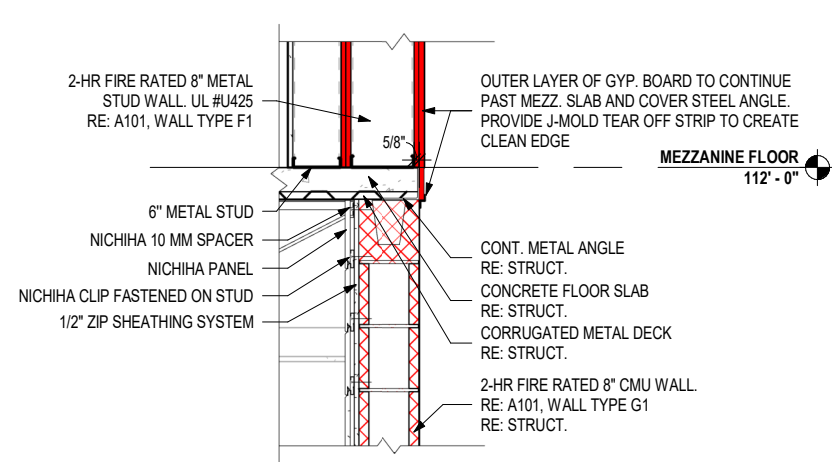
A325

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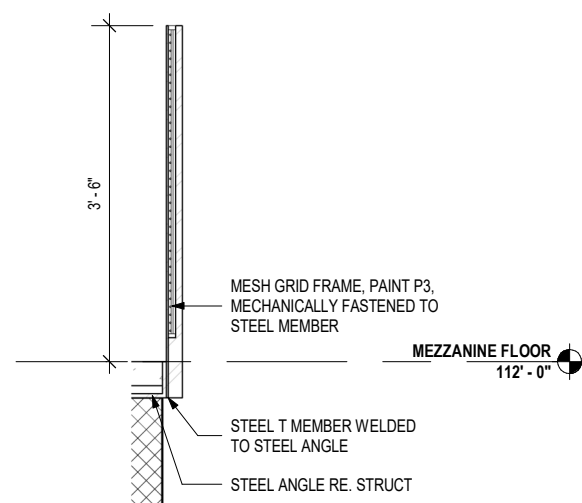
WALL SECTIONS



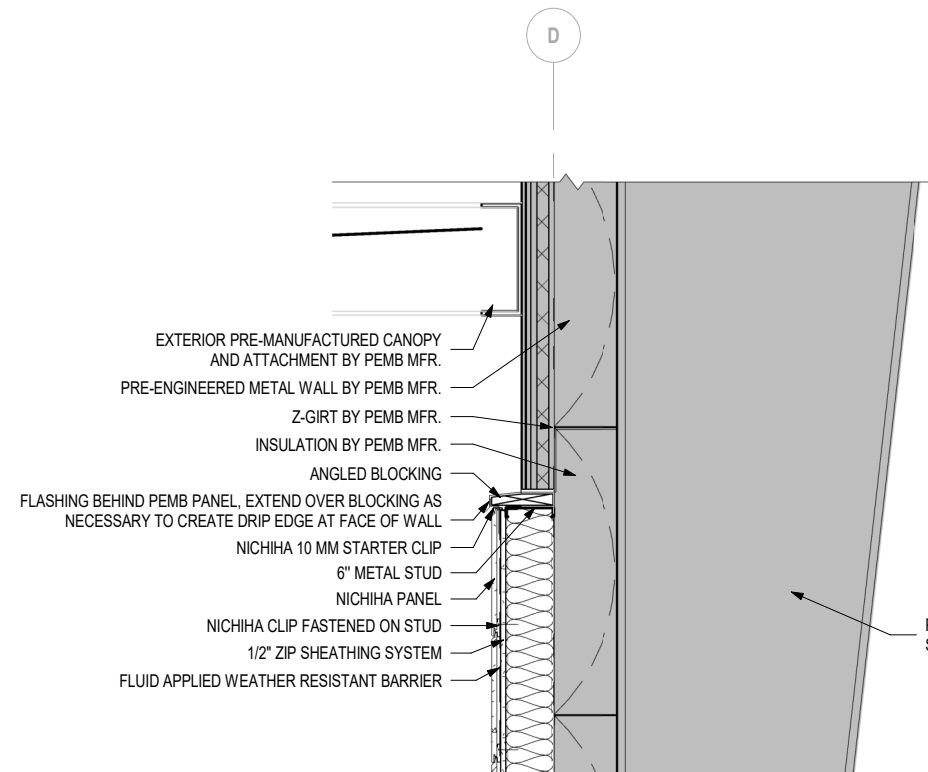
D9 NICHIIA WRAPPED CMU - DOOR OPENING
1/2" = 1'-0"



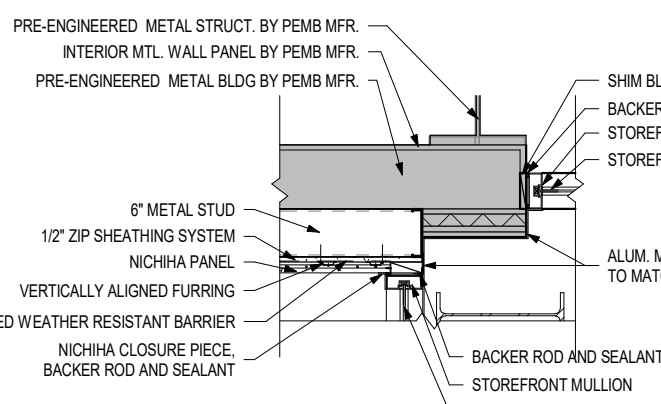
D7 NICHIIA WRAPPED CMU
1/2" = 1'-0"



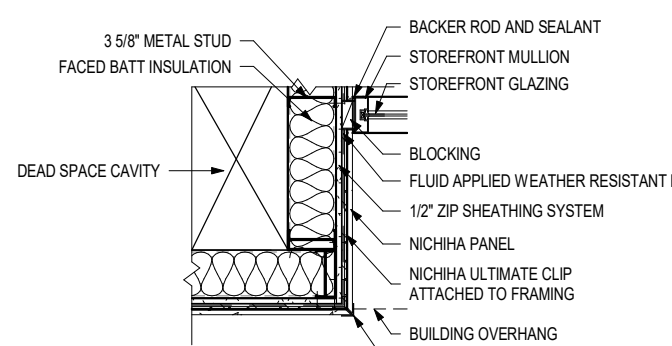
D5 MEZZANINE RAILING
1/2" = 1'-0"



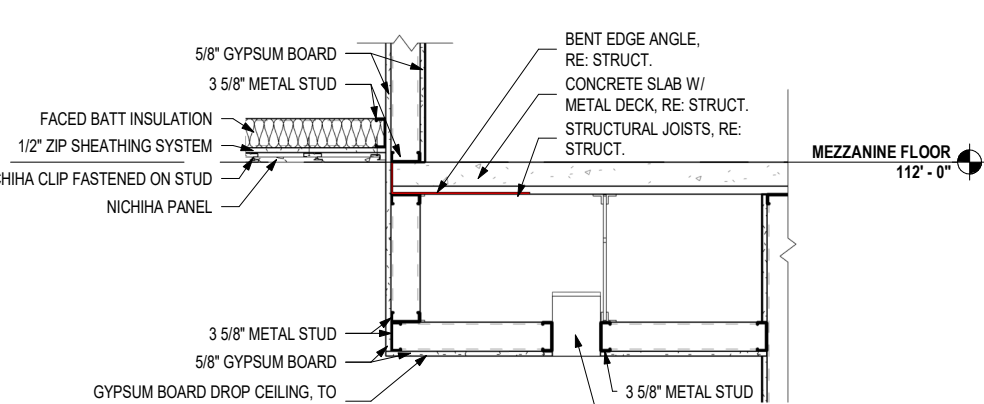
C3 WALL SECTION - NICHIIA TO PEMB
1/2" = 1'-0"



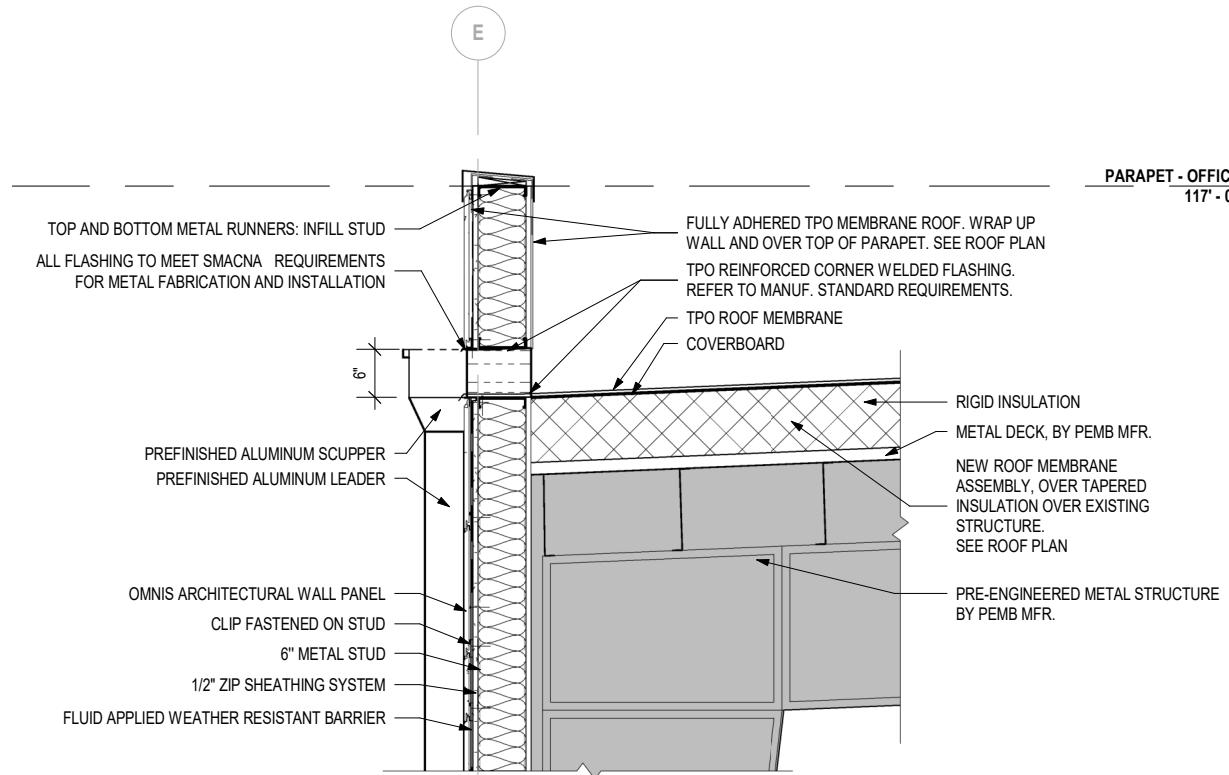
C9 STOREFRONT TO NICHIIA PANEL
1/2" = 1'-0"



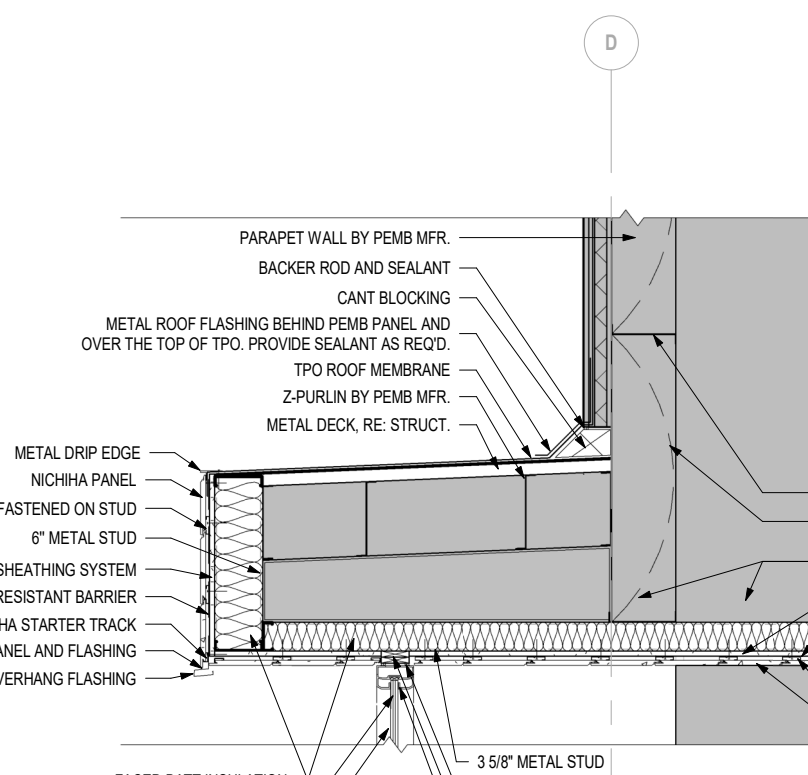
C7 OUTSIDE CORNER KEY TRIM
1/2" = 1'-0"



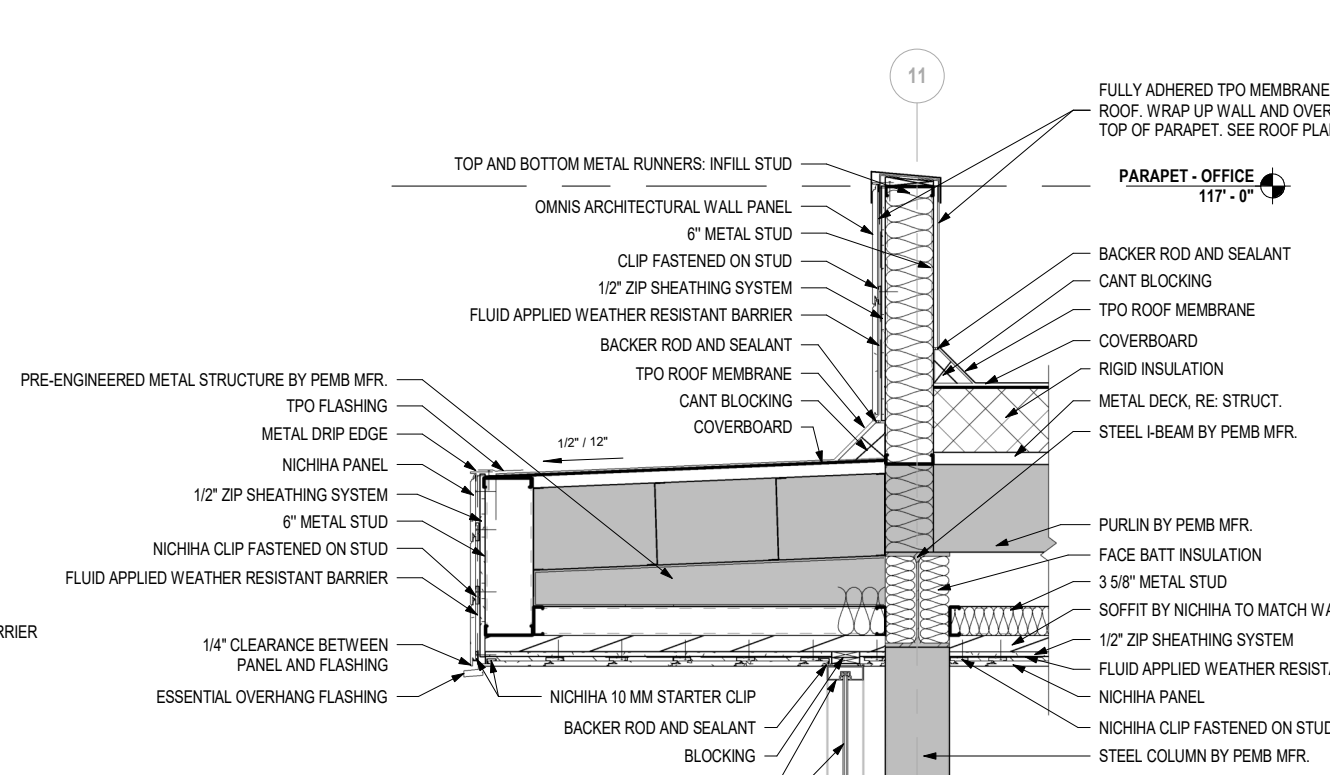
C5 WALL SECTION - SOFFIT TO MEZZ. FLOOR
1/2" = 1'-0"



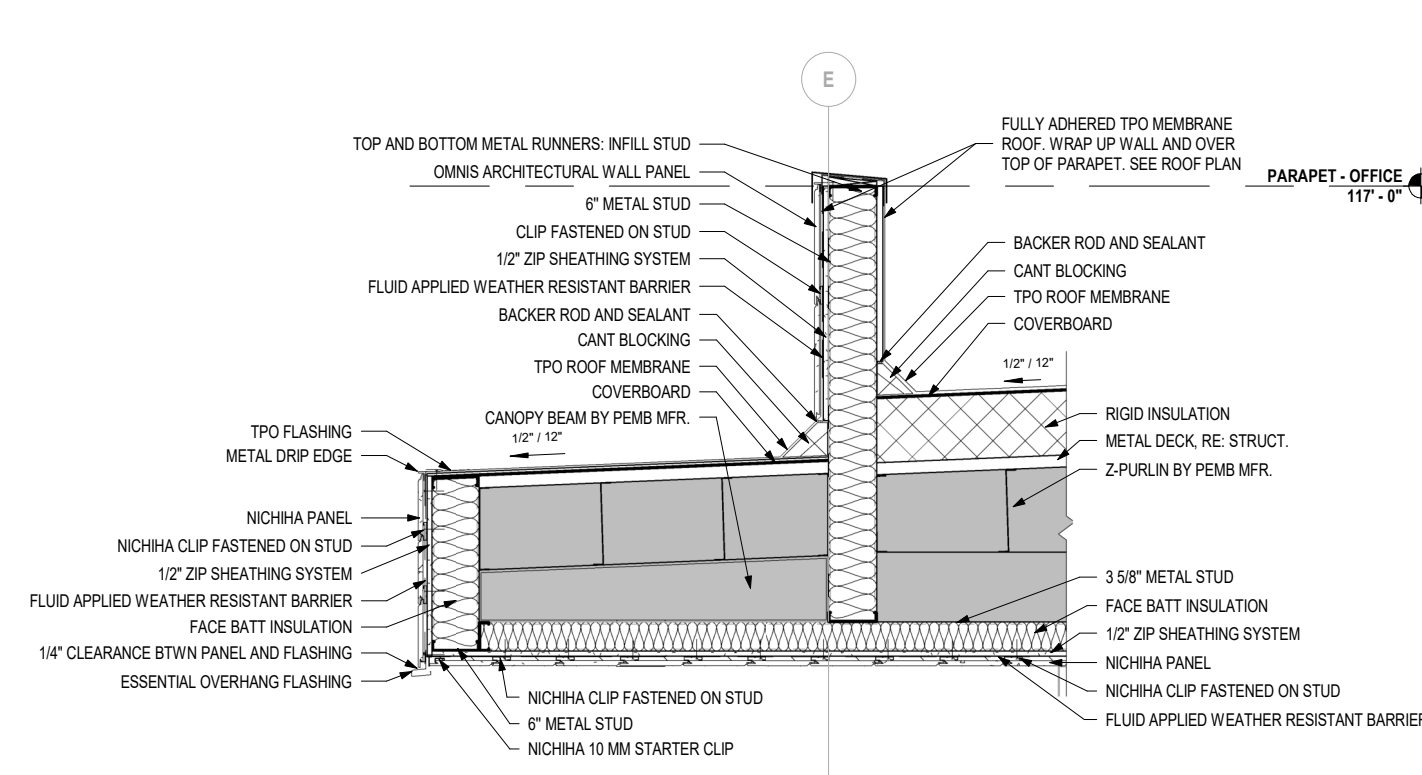
A11 WALL SECTION - SCUPPER DETAIL
1/2" = 1'-0"



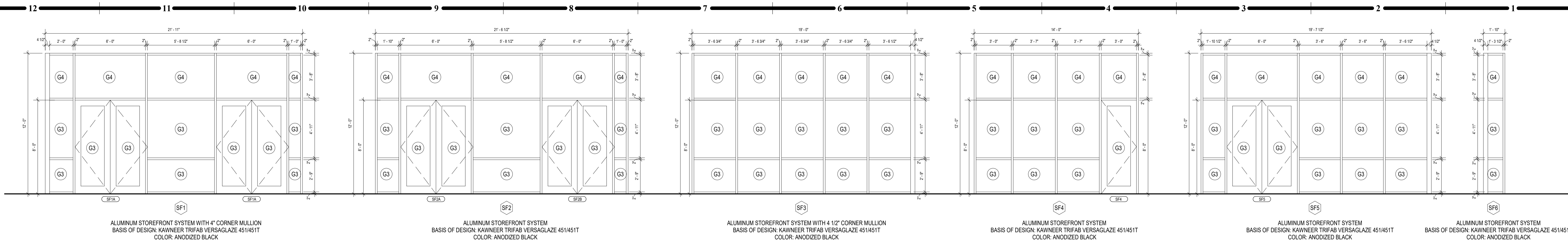
A8 WALL SECTION - WEST CANOPY
1/2" = 1'-0"



A6 WALL SECTION - VESTIBULE CANOPY
1/2" = 1'-0"



A3 WALL SECTION - CANOPY + TPO ROOFS
1/2" = 1'-0"

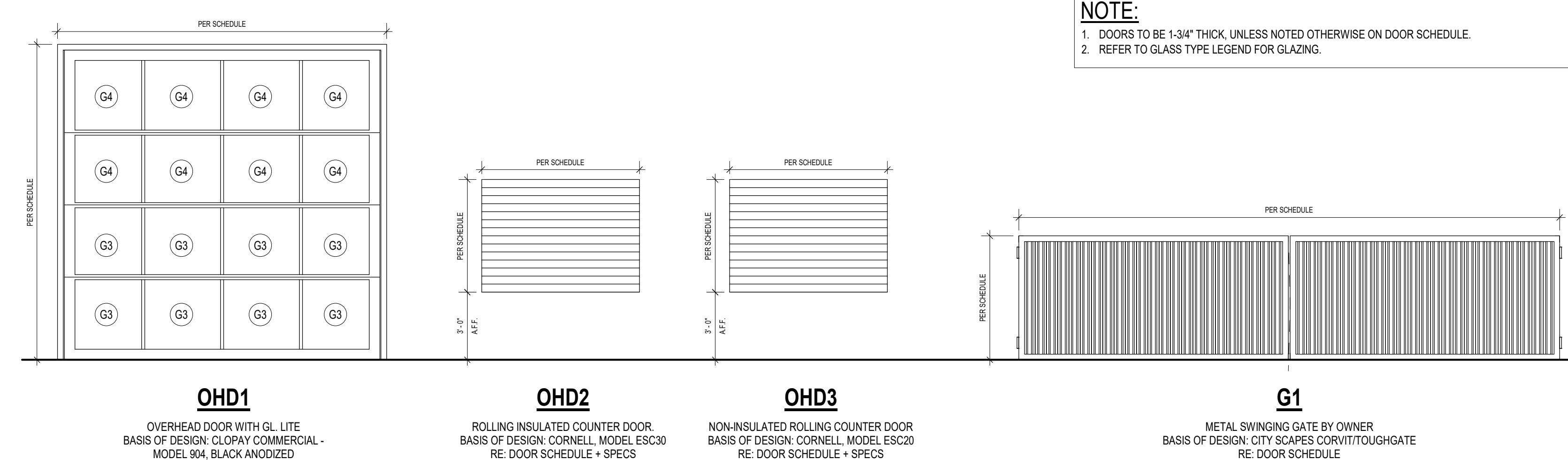
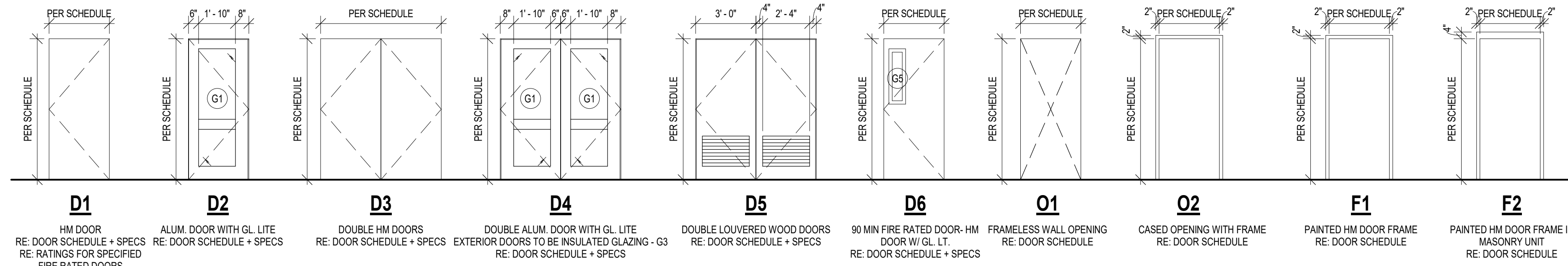


H12 STOREFRONT ELEVATIONS

1/4" = 1'-0"

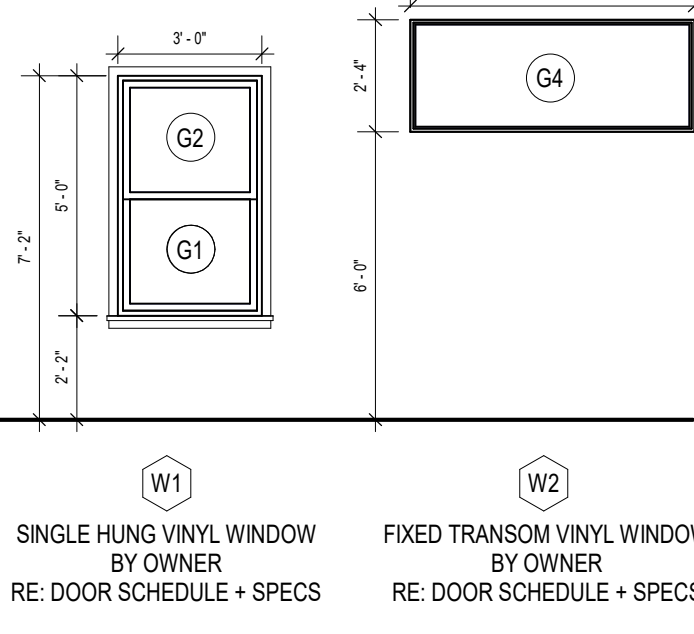
NOTE:

1. REFER TO GLASS TYPE LEGEND FOR GLAZING.



NOTE:

1. REFER TO GLASS SCHEDULE FOR GLAZING.



E12 DOOR TYPE ELEVATIONS

1/4" = 1'-0"

NOTE:

1. OWNER TO VERIFY COLOR/GLAZING STYLE PRIOR TO ORDERING PRODUCT.
2. REFER TO GLASS TYPE LEGEND FOR GLAZING.

E5 WINDOW ELEVATIONS

1/4" = 1'-0"

DOOR SCHEDULE											
DOOR NO.	ROOM NAME	WDT	HT	DOOR			FRAME			RTG	REMARKS
				TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH		
102A	CONCOURSE	14'-0"	14'-0"	OHD1	ALUM/ML	ANODIZED	-	-	-	-	-
102B	CONCOURSE	14'-0"	14'-0"	OHD1	ALUM/ML	ANODIZED	-	-	-	-	-
102C	CONCOURSE	14'-0"	14'-0"	OHD1	ALUM/ML	ANODIZED	-	-	-	-	-
103A	CONCESSION/STORAGE	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	3	-
103B	CONCESSION/STORAGE	7'-0"	8'-0"	OHD2	ALUM	ANODIZED	-	-	-	-	-
103C	CONCESSION/STORAGE	7'-0"	5'-0"	OHD3	ALUM	ANODIZED	-	-	-	-	-
104A	COOLER/FREEZER	4'-0"	7'-0"	O2	-	-	F1	HM	PTD	-	-
104B	COOLER/FREEZER	4'-0"	7'-0"	O2	-	-	F1	HM	PTD	-	-
105	OFFICE	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	5	-
106	JAN	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	5	-
107	STORAGE	6'-0"	7'-0"	D3	HM	PTD	F1	HM	PTD	3	-
108A	HALL	3'-0"	7'-0"	D2	ALUM/ML	PTD	F1	HM	PTD	1	-
108B	HALL	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	3	-
109	IT	5'-0"	7'-0"	D5	HM	PTD	F1	HM	PTD	5	-
110	OFFICE	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	5	-
111	RR	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	5	-
112A	TRASH ENCLOSURE	24'-0"	6'-0"	G1	STEEL	PTD	-	-	-	-	-
112B	TRASH ENCLOSURE	6'-0"	7'-0"	D3	HM	PTD	F1	HM	PTD	6	-
113	OFFICE	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	5	-
114A	STORAGE	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	3	-
114B	STORAGE	6'-0"	7'-0"	D3	HM	PTD	F1	HM	PTD	3	-
115	RR	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	3	-
116	RR	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	3	-
117A	GYMNASIUM	6'-0"	8'-0"	O1	-	-	-	-	-	-	-
117B	GYMNASIUM	6'-0"	8'-0"	O1	-	-	-	-	-	-	-
117C	GYMNASIUM	6'-0"	8'-0"	O1	-	-	-	-	-	-	-
117D	GYMNASIUM	6'-0"	8'-0"	O1	-	-	-	-	-	-	-
117E	GYMNASIUM	6'-0"	7'-0"	D4	ALUM/ML	PTD	F1	HM	PTD	-	-
117F	GYMNASIUM	6'-0"	7'-0"	D4	ALUM/ML	PTD	F1	HM	PTD	-	-
117G	GYMNASIUM	14'-0"	14'-0"	OHD1	ALUM/ML	PTD	-	-	-	-	-
118	VEST-WAITING	6'-0"	7'-0"	D4	ALUM/ML	PTD	F1	HM	PTD	-	-
118A	RISER	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	6	-
119	OFFICE	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	5	-
120	VENDING	3'-0"	7'-0"	O2	-	-	F1	HM	PTD	-	-
121	URINALS	3'-0"	7'-0"	O1	-	-	-	-	-	-	-
122	FOUNTAINS	4'-0"	8'-0"	O1	-	-	-	-	-	-	-
123	MENS	3'-0"	7'-0"	D1	HM	PTD	F2	HM	PTD	3	-
124	FAM RR	3'-0"	7'-0"	D1	HM	PTD	F2	HM	PTD	5	-
125	FAM RR	3'-0"	7'-0"	D1	HM	PTD	F2	HM	PTD	5	-
126	WOMENS	3'-0"	7'-0"	D1	HM	PTD	F2	HM	PTD	3	-
127	RR	3'-0"	7'-0"	D1	HM	PTD	F2	HM	PTD	5	-
128	ADA RR	3'-0"	7'-0"	D1	HM	PTD	F2	HM	PTD	5	-
129	FOUNTAINS	3'-0"	7'-0"	O1	-	-	-	-	-	90 MIN	-
130A	UTILITY	3'-0"	7'-0"	D1	HM	PTD	F2	HM	PTD	3	-
130B	UTILITY	3'-0"	7'-0"	D1	HM	PTD	F2	HM	PTD	90 MIN	4, 8
131A	STORAGE	3'-0"	7'-0"	D1	HM	PTD	F2	HM	PTD	3	-
131B	STORAGE	6'-0"	7'-0"	D3	HM	PTD	F2	HM	PTD	90 MIN	4, 8
132A	BASEBALL	7'-0"	7'-0"	D6	ALUM/ML	PTD	F2	HM	PTD	90 MIN	5, 6
132B	BASEBALL	6'-0"	7'-0"	D4	HM	PTD	F1	HM	PTD	90 MIN	4, 8
132C	BASEBALL	3'-0"	7'-0"	D1	HM	PTD	F2	HM	PTD	90 MIN	4, 8
132D	BASEBALL	5'-0"	8'-0"	O1	-	-	-	-	-	-	-
202	STORAGE	3'-0"	7'-0"	D1	HM	PTD	F1	HM	PTD	3	-
SF1A	VESTIBULE	6'-0"	8'-0"	SF1	ALUM/ML	-	SF1	AL	-	7	-
SF1B	VESTIBULE	6'-0"	8'-0"	SF1	ALUM/ML	-	SF1	AL	-	2, 7	-
SF2A	VESTIBULE	6'-0"	8'-0"	SF2	ALUM/ML	-	SF1	AL	-	7	-
SF2B	VESTIBULE	6'-0"	8'-0"	SF2	ALUM/ML	-	SF1	AL	-	2, 7	-
SF4	CONCOURSE	3'-0"	8'-0"	SF4	ALUM/ML	-	SF4	AL	-	7	-
SF5	VEST-WAITING	6'-0"	8'-0"	SF5	ALUM/ML	-	SF5	AL	-	2, 7	-

DOOR SCHEDULE REMARKS:

- PROTECT DOOR AND FRAME FROM DAMAGE THROUGHOUT CONSTRUCTION. ANY DAMAGE TO BE REPAIRED/REPLACED PER OWNER DISCRETION.
- DOORS TO MATCH ADJACENT WALL COLOR.
- DOOR FRAME 2" OFF FINISHED FACE ON HINGE SIDE U.N.O.
- ACCESS CONTROL SYSTEMS - SONAS. ALL ROUGH-IN TO BE PROVIDED BY OWNER. COORDINATE WITH ACCESS CONTROL VENDOR AND CLIENT.
- PROVIDE ADA INGRESS/EGRESS AUTO OPERATOR. FINAL LOCATIONS, WIRING, POWER AND CONNECTIONS TO BE PROVIDED BY OWNER. RE: SPECS, DOOR REMARKS AND MEB.
- 3. BASIS OF DESIGN: HM DOOR TO BE PAINTED P3, SW REAL RED
- 4. BASIS OF DESIGN: HM DOOR TO BE PAINTED P4, SW JAY BLUE
- 5. BASIS OF DESIGN: HM DOOR TO BE PAINTED P6, SW REPOSE GRAY
- 6. BASIS OF DESIGN: HM DOOR TO BE PAINTED P9, SW TRICORN BLACK - EXTERIOR GRADE PAINT
- 7. REF. TO STOREFRONT ELEVATIONS FOR DETAILS.
- 8. FIRE RATED DOOR - 90 MIN
- 9. PROVIDE ALARM WHEN DOORS ARE OPENED. ALARM TO GO TO PANEL WITHIN OPEN OFFICE AREA.

C12 CHECKIN COUNTER

1/4" = 1'-0"

C10 MEZZANINE GREEN WALL GRAPHIC

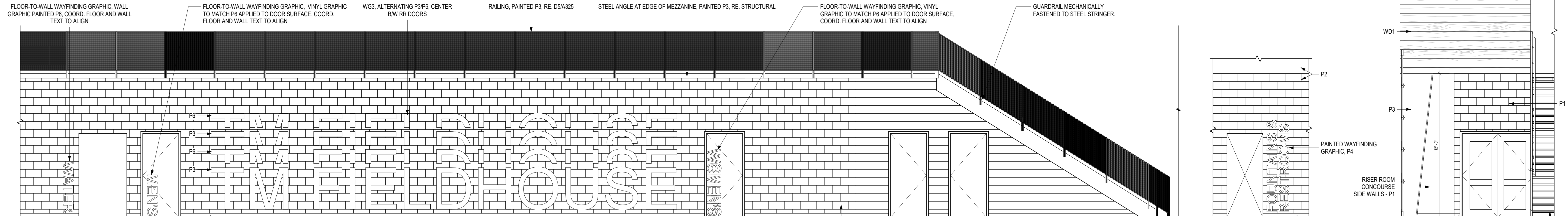
1/4" = 1'-0"

C8 CONCESSIONS CANOPY

1/4" = 1'-0"

C5 UNDER STAIR CMU WALL

1/4" = 1'-0"



A12 MEZZANINE - COURTSIDE WALL

1/4" = 1'-0"

A4 BALLFIELD WALL GRAPHIC

1/4" = 1'-0"

A2 CONCOURSE W WALL

1/4" = 1'-0"

GENERAL NOTES:

DOOR SCHEDULE

- HM REFERS TO HOLLOW METAL
- AL REFERS TO ALUMINUM
- WD REFERS TO WOOD
- SCD REFERS TO SOLID CORE WOOD
- ALL EXTERIOR ALUMINUM DOORS & FRAMES ARE TO BE FINISHED TO MATCH ADJACENT ALUMINUM WINDOW FRAME, U.N.O.
- FOR FINISH COLOR DESIGNATION FOR INTERIOR DOOR AND FRAMES, REFER TO FINISH LEGEND.
- REFER TO SPECIFICATION FOR DOOR HARDWARE SET DESIGNATIONS.
- 2 HOUR FIRE BARRIED DOORS = 90 MINUTE RATING
- 1 HOUR FIRE BARRIED DOORS = 45 MINUTE RATING
- 1 HOUR SMOKE BARRIER = 60 MINUTE RATING
- PROTECT ALL DOORS & FRAMES FROM DAMAGE THROUGHOUT CONSTRUCTION PHASES.
- ALL EGRESS DOORS TO BE PROVIDED WITH PANIC HARDWARE.

GENERAL NOTES:

WINDOW TYPES / GLASS TYPES

- RE: SHEET 0001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
- ALL WINDOW TYPES ARE ALUMINUM STOREFRONT, UNLESS NOTED OTHERWISE.
- ALL DIMENSIONS ARE TO ROUGH OPENING AND TO TOP OR BOTTOM OF MULLION, UNLESS NOTED OR SHOWN OTHERWISE.
- ALL OPENINGS ARE TO BE FIELD VERIFIED, AND NOTED AS SUCH ON SHOP DRAWINGS, PRIOR TO ARCHITECT'S REVIEW.
- GLASS DOORS, ADJACENT PANELS AND ALL GLAZED OPENINGS WITHIN 1'-8" OF THE FLOOR, AND WITHIN A 24-INCH ARC OF EITHER VERTICAL EDGE OF A DOOR, ETC, SHALL BE SAFETY GLAZING AS APPROVED FOR IMPACT BY APPLICABLE BUILDING CODES, AND SHALL BE LABELED AS SUCH.
- REFER TO SPECIFICATIONS FOR GLAZING & FRAME PRODUCT INFORMATION.

GLASS TYPE LEGEND

DESIGNATION NUMBER	DESCRIPTION
G1	1/4" TEMPERED GLAZING COLOR: CLEAR
G2	1/4" GLAZING COLOR: CLEAR
G3	1" INSULATED TEMPERED GLAZING COLOR: CLEAR
G4	1" INSULATED GLAZING COLOR: CLEAR
G5	1" 90 MIN FIRE RATED TEMPERED GLAZING COLOR: CLEAR

TM FIELDHOUSE

1600 SE HAMBLEN ROAD
LEE'S SUMMIT, MISSOURI 64081

5.2.2023

PROFESSIONAL SEAL

A501

ISSUE DATE: 2 MAY 2023
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collins webb ARCHITECTURE

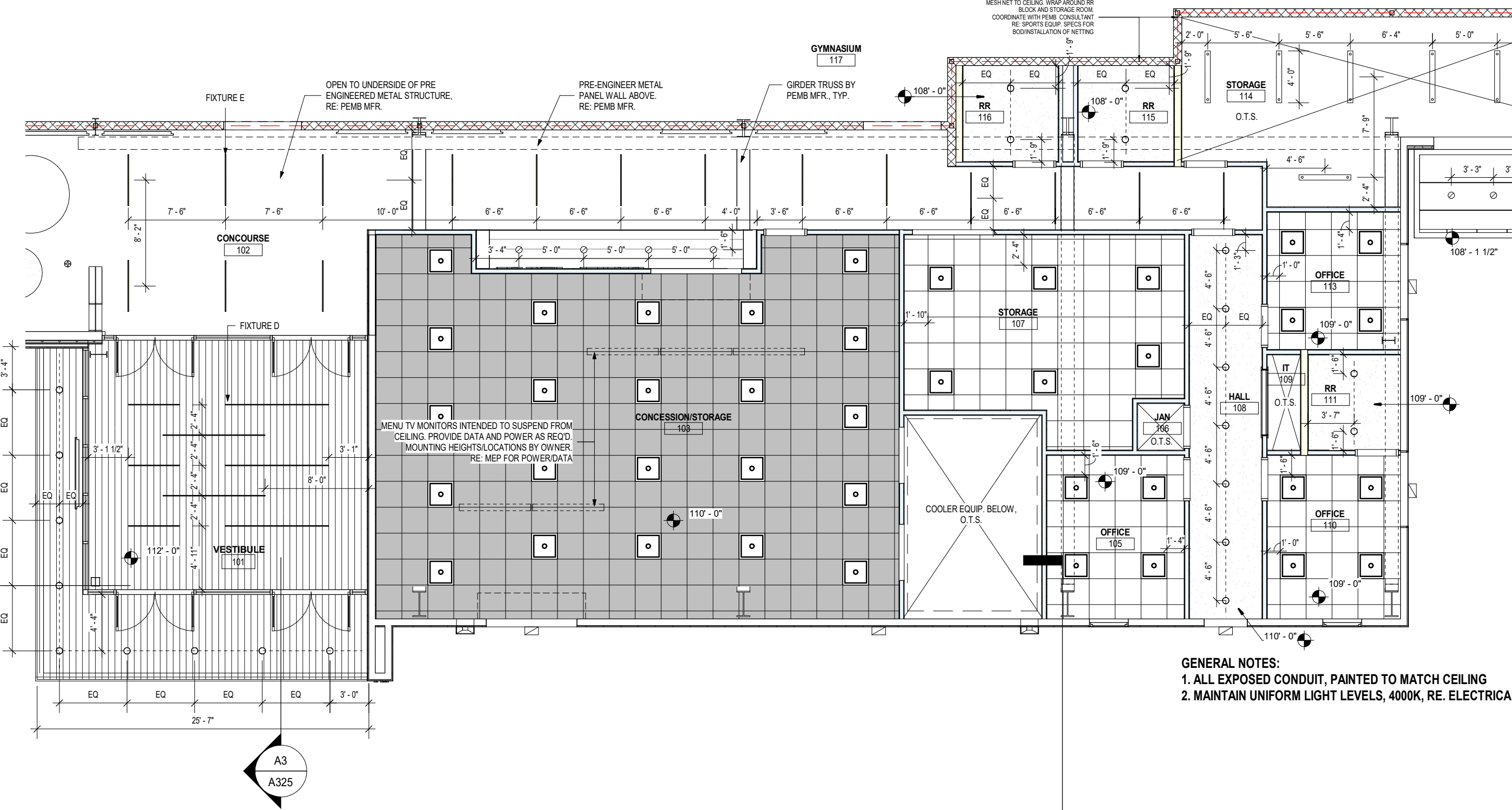
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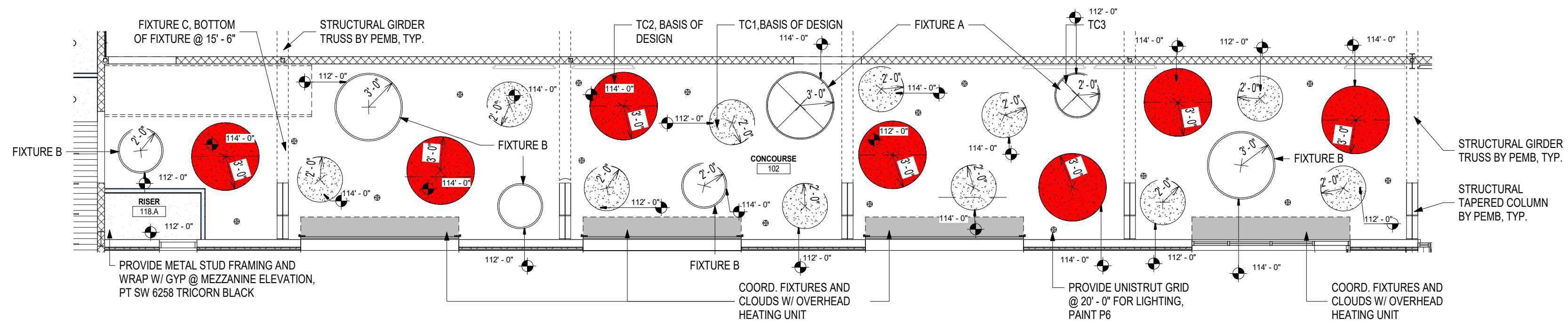
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G12 CONCOURSE TECTUM CLOUDS VIEW



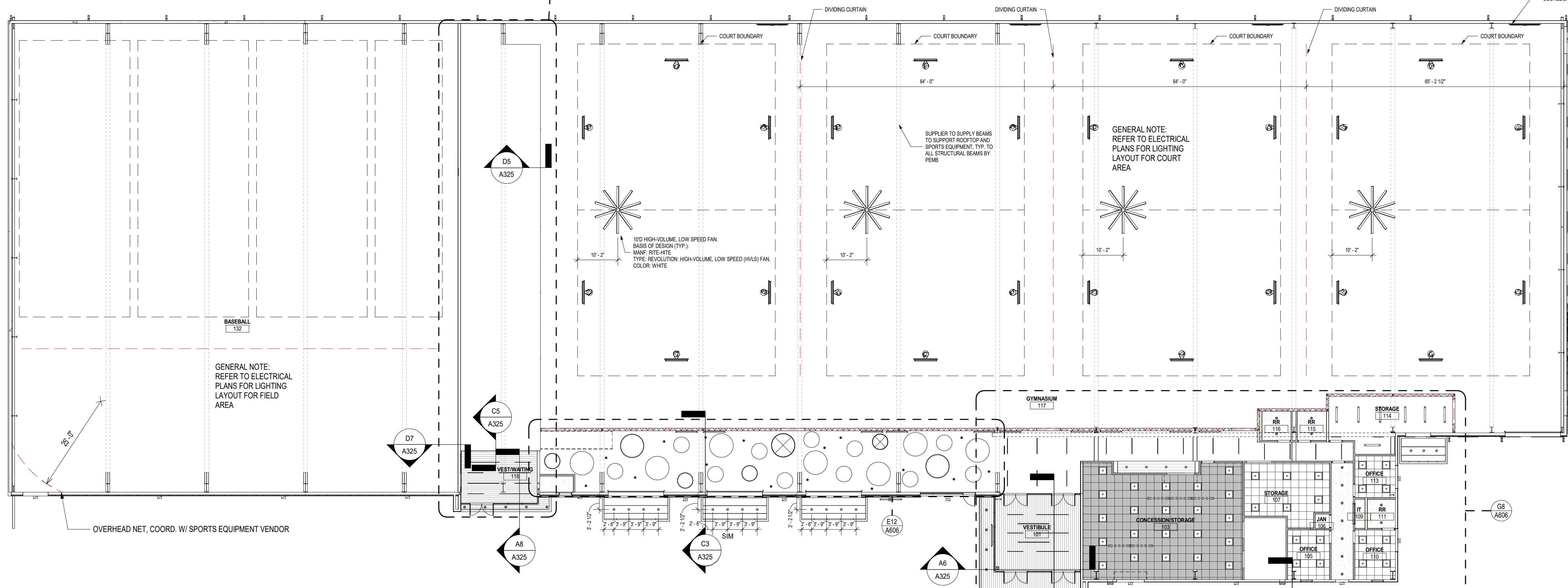
G8 ENLARGED ENTRY/BOH RCP
1/8" = 1'-0"



E12 ENLARGED CONCOURSE RCP
1/8" = 1'-0"

1 GENERAL NOTE (TYP.):
BASEBALL FIELD FLOORING, BATTING CAGES, WALL PADS AND MESH NETS
BY OTHERS. INSTALLED PER SPORTS EQUIPMENT MANF. REQ. PEMB
SUPPLIER TO PROVIDE SUPPORT BEAMS AND DESIGN FRAMES FOR EQUIP.
RE PEMB MFR. FOR REQ. EQUIP. SUPPORT
RE SPOONBALL SPORTS FOR LOCATIONS, FLOORING AND EQUIP.
WEIGHTS
OWNER TO COORDINATE WITH VENDOR ON ALL SPORTING EQUIP.

2 GENERAL NOTE (TYP.):
BASKETBALL COURT FLOORING, BASKETBALL GOALS, SCOREBOARDS, MESH NETS,
WALL PADS, BLEACHERS AND VOLLEYBALL NETS BY OTHERS. INSTALLED PER
SPORTS EQUIPMENT MANF. REQ. PEMB SUPPLIER TO PROVIDE SUPPORT BEAMS
AND DESIGN FRAMES FOR EQUIP.
RE PEMB MFR. FOR REQ. EQUIP. SUPPORT
RE SPOONBALL SPORTS FOR LOCATIONS, FLOORING AND EQUIP. WEIGHTS
OWNER TO COORDINATE WITH VENDOR ON ALL SPORTING EQUIP.



A10 RCP - 1ST FLOOR/MEZZANINE
1/16" = 1'-0"

D2 1ST FLOOR RESTROOM BLOCK RCP
1/8" = 1'-0"

GENERAL NOTES:
1. ALL EXPOSED CONDUIT PAINTED TO MATCH CEILING
2. COORD. FINISH OF METAL ROOF DECK W/ OWNER

GENERAL NOTES:
REFLECTED CEILING PLANS

1. RE: SHEET G001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE
2. RE: DETAILS FOR ADDITIONAL CONDITIONS AND CEILING HEIGHT INFORMATION
3. RE: FINISH LEGEND AND FINISH SCHEDULE FOR ROOM CEILING FINISHES
4. RE: ELECTRICAL SHEETS AND SPECIFICATIONS FOR DETAILED INFORMATION ON LIGHT FIXTURE SCHEDULE
5. RE: MECHANICAL SHEETS AND SPECIFICATIONS FOR DETAILED INFORMATION ON DIFFUSERS
6. RE: MECHANICAL SHEETS FOR LOCATIONS OF SOUND ISOLATION BELOW AND OR AROUND MECH. EQUIPMENT
7. DIMENSIONS SHOWN ON THE REFLECTED CEILING PLANS ARE TO THE FACE OF STUD, AND COLUMN GRID LINES, UNLESS NOTED OR SHOWN OTHERWISE
8. ALL EXPOSED CONDUIT, DUCTWORK, ETC. TO BE PAINTED BLACK, TYP. U.N.O.
9. ALL CEILING HEIGHTS AS SHOWN ON PLANS AND DETAILS ARE FROM SLAB OR TILE FLOOR (FINISHED FLOOR) TO FINISH CEILING
10. AT ALL GYP. BD. SOFFITS, EXTEND GYP. BD. UP 6 INCHES ABOVE ADJACENT CEILING
11. CEILING TILES/GRID TO BE CENTERED IN THE ROOM, UNLESS NOTED OTHERWISE
12. RECESSED LIGHTING, SPEAKERS, SMOKE DETECTORS, ETC. AND PENDANT LIGHT FIXTURES - SHALL BE CENTERED IN CEILING TILE OR GYP. BD. CEILING, UNLESS NOTED OTHERWISE
13. COORDINATE ALL PENDANT MOUNTED LIGHT FIXTURES IN EQUIPMENT AREAS WITH EXPOSED STRUCTURE
14. COORDINATE ALL CEILING MOUNTED EQUIPMENT WITH CASEWORK BELOW
15. IF THERE IS A CONFLICT BETWEEN ANY ABOVE-CEILING MECHANICAL, ELECTRICAL, PLUMBING WORK & THE SCHEDULED OR SHOWN CEILING HEIGHT, CONTACT THE ARCHITECT IMMEDIATELY FOR CLARIFICATION
16. PROVIDE OVERALL CEILING COORDINATION DRAWING SHOWING ALL DEVICES DURING SHOP SUBMITTAL PROCESS
17. ALL LIGHTING BY G.C. COORD. WITH MILLWORK CONTRACTOR FOR LOCATION

CEILING PLAN LEGEND

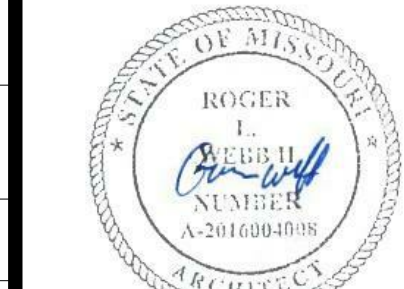
NOTE: SOME SYMBOLS MAY NOT BE USED IN THIS DRAWING OR PROJECT.

	ACT-1 ARMSTRONG CEILINGS: 2'X2' KITCHEN ZONE SQUARE LAY-IN (WHITE), RE: A801 FINISH SCHEDULE
	ACT-2 ARMSTRONG CEILINGS: 2'X2' ULTIMA SQUARE LAY-IN (WHITE), RE: A801 FINISH SCHEDULE
	5/8" GYPSUM BOARD, RE: ROOM FINISH SCHEDULE FOR FINISH
	TC1, SUSPENDED ACOUSTICAL CLOUDS - BASIS OF DESIGN: ARMSTRONG CEILINGS, 2" THICK TECTUM CLOUDS - CIRCLE (WHITE), 4" DIA., RE: E12/A606
	TC2, SUSPENDED ACOUSTICAL CLOUDS - BASIS OF DESIGN: ARMSTRONG CEILINGS, 2" THICK TECTUM CLOUDS - CIRCLE (CUSTOM COLOR), 72" DIA., RE: E12/A606, COORD. COLOR W/ CLIENT
	FIXTURE A BASIS OF DESIGN: BARBICAN LIGHTING - HALO ROUND (WHITE), W/ WHITE ACOUSTIC FELT LAYER, 48" & 72" DIA., RE: E12/A606 FOR BOTTOM OF FIXTURE. FINAL SELECTION BY OWNER, RE: TO ELECTRICAL DWGS FOR LIGHTING REQUIREMENTS
	FIXTURE B BASIS OF DESIGN: ALW - 1.5' MOONRING (MR1.5: SATIN WHITE), 48" & 72" DIA., RE: E12/A606 FOR BOTTOM OF FIXTURE. FINAL SELECTION BY OWNER, RE: TO ELECTRICAL DWGS FOR LIGHTING REQUIREMENTS
	FIXTURE C BASIS OF DESIGN: ACUTY BRANDS - LONG CYLINDER SERIES (6" AIRCRAFT GABLE MOUNTED, WHITE), RE: ELECTRICAL DWGS FOR TYP. BOTTOM OF FIXTURE @ 15'-0", RE: E12/A606
	FIXTURE C.1 BASIS OF DESIGN: ACUTY BRANDS - LONG CYLINDER SERIES (6" WALL MOUNTED, WHITE), RE: ELECTRICAL DWGS FOR TYP. BOTTOM OF FIXTURE @ 8'-0", RE: D2/A606
	FIXTURE D BASIS OF DESIGN: ALW - 3.5 RECESSED LIGHTPLANE, 48", RE: G8/A606. FINAL SELECTION BY OWNER, RE: ELECTRICAL DWGS FOR LIGHTING REQUIREMENTS
	FIXTURE E BASIS OF DESIGN: ALW - ROUND LIGHTPLANE 1 (SW), 48", BOTTOM OF FIXTURE @ 10'-0", RE: G8/A606. FINAL SELECTION BY OWNER, RE: ELECTRICAL DWGS FOR LIGHTING REQUIREMENTS
	2'X2' LAY-IN LED LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS FOR TYPE.
	RECESSED CAN LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS FOR TYPE.
	4' SUSPENDED DIRECT/INDIRECT LED LIGHT FIXTURE. BOTTOM OF FIXTURE @ 9'-0". SEE ELECTRICAL DRAWINGS FOR TYPE AND SIZE.
	EMERGENCY WALL MOUNTED LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS FOR TYPE.
	EMERGENCY EXIT LIGHT FIXTURE (CEILING MOUNTED). SEE ELECTRICAL DRAWINGS FOR TYPE.
	EMERGENCY EXIT LIGHT FIXTURE (WALL MOUNTED). SEE ELECTRICAL DRAWINGS FOR TYPE.
	CEILING MOUNTED RETURN AIR GRILLE. SEE MECHANICAL DRAWINGS FOR TYPE.
	CEILING MOUNTED SUPPLY DIFFUSER. SEE MECHANICAL DRAWINGS FOR TYPE.
	EXHAUST DUCT. SEE MECHANICAL DRAWINGS FOR TYPE.
	CEILING MOUNTED SPEAKER GRILLE. SEE ELECTRICAL DRAWINGS FOR TYPE.
	SPRINKLER HEAD. SEE PLUMBING DRAWINGS FOR TYPE.

TM FIELDHOUSE
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LEE'S SUMMIT, MISSOURI 64081

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REVISION DATES:



PROFESSIONAL SEAL
5.2.2023

A606
ISSUE DATE: 2 MAY 2023
COLLINS WEBB #: 22103

RCP - 1ST FLOOR



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FINISH LEGEND					
SYMBOL	MATERIAL	MANUFACTURER	TYPE	COLOR	TYP. AREA / REMARKS
FLOOR FINISH					
C1	CARPET TILE (24"x24")	J+J FLOORING	WELL VERSED II	COORD. W/ OWNER	OFFICE, ASHLAR INSTALLATION
C2	WALK-OFF CARPET (24"x24")	J+J FLOORING	CATWALK II	COUTURE 1426	VESTIBULE
LVT1	LUXURY VINYL PLANK TILE - GLUE DOWN (56"x9")	KARDEAN	ART SELECT	CLASSIC HICKORY EW13	STAGGERED INSTALLATION, VESTIBULE, VEST/WAITING, HALL, OFFICE, RE. FINISH PLAN
SC1	SEALED CONCRETE			COORD. ACID STAIN AND STENCILED WAYFINDING W/ OWNER	ALL FLOORS U.N.O. RE. FINISH PLAN
WALL BASE					
RB1	RUBBER BASE (4"H)	ROPPE	700 SERIES	100 BLACK	ALL CMU AND STUD WALLS U.N.O., USE INSIDE/OUTSIDE CORNER PIECES AS REQ.
TB1	BULLNOSE TILE BASE (3"x24")	DALTILE	WANDERWISE	ROAM WW03	ALL RESTROOM AND RESTROOM AND URINAL WALLS U.N.O.
WALL FINISH					
EP2	PAINT - EPOXY	SHERWIN WILLIAMS	EGGSHELL	SW 7015 REPOSE GRAY	ALL RESTROOM WALLS U.N.O., FOUNTAINS 129
EP3	PAINT - EPOXY	SHERWIN WILLIAMS	EGGSHELL	SW 6258 TRICORN BLACK	FOUNTAINS 122
P1	PAINT	SHERWIN WILLIAMS	EGGSHELL	SW 6258 TRICORN BLACK	ALL CONCOURSE, GYMNASIUM, AND MEZZANINE STUD AND CMU WALLS U.N.O.
P2	PAINT	SHERWIN WILLIAMS	EGGSHELL	SW 7015 REPOSE GRAY	ALL WALLS U.N.O.
P3	PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	SW 6868 REAL RED	BASIS OF DESIGN: ALL COLUMNS AND GIRDERS EAST OF FIRE SEPARATION WALL, WG3 AND DOORS, RE. DOOR SCHEDULE, WALL GRAPHIC ACCENT COLOR, COORD. FINAL COLOR SELECTION W/ CLIENT, RE. A12/A501,C8/A501
P4	PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	SW 6797 JAY BLUE	BASIS OF DESIGN: ALL COLUMN AND GIRDERS WEST OF FIRE SEPARATION WALL, WG5 AND DOORS, RE. DOOR SCHEDULE, COORD. FINAL COLOR SELECTION W/ CLIENT, RE. A2/A501
P5	PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	SW 7605 GALE FORCE	WG4, BASIS OF DESIGN OFFICE WALL GRAPHIC ACCENT COLOR, COORD. FINAL COLOR SELECTION W/ CLIENT, RE.FINISH PLAN
P6	PAINT	SHERWIN WILLIAMS	SEMI GLOSS	SW 7005 PURE WHITE	WG3, WG6, RE. A12/1501
P8	PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	SW 7015 REPOSE GRAY	RE. DOOR SCHEDULE AND REMARKS
P9	PAINT	SHERWIN WILLIAMS	SEMI GLOSS	SW 6258 TRICORN BLACK	RE. DOOR SCHEDULE AND REMARKS, DOORS TO RECEIVE EXTERIOR GRADE PAINT
T1	GLAZED PORCELAIN TILE (12"x24")	DALTILE	WANDERWISE	ROAM WW03	RESTROOM WET WALLS, 1/3 HORIZONTAL RUNNING BOND INSTALLATION, 84"H, BASIS OF DESIGN, COORD. FINAL SELECTION W/ OWNER
TG1	TILE GROUT - EPOXY (1/16" GROUT JOINTS)	MAPEI	KERAPOXY	IRON 107	TO BE USED WITH T1, BASIS OF DESIGN, COORD. FINAL SELECTION W/ OWNER
WD1	ARCHITECTURAL WALL PANEL	NICHIHA	VINTAGEWOOD	SPRUCE	CONCESSIONS, MEZZANINE, USING MANUFACTURER'S CORNER PIECE
WD2	ARCHITECTURAL WALL PANEL	NICHIHA	ROUGHSAWN	ESPRESSO	VESTIBULE, CONCOURSE, USING MANUFACTURER'S CORNER PIECE, RE. FINISH PLAN
WG1	PAINTED WALL GRAPHIC			COORD. W/ OWNER	CONCOURSE N WALL, RE. FINISH PLAN
WG2	PAINTED WALL GRAPHIC			COORD. W/ OWNER	GYMNASIUM S WALL, RE. FINISH PLAN
WG3	PAINTED WALL GRAPHIC	SHERWIN WILLIAMS		P3 & P6	GYMNASIUM W WALL, A12/A501
WG4	PAINTED WALL GRAPHIC	SHERWIN WILLIAMS		P5	OFFICE, RE. FINISH PLAN AND ROOM FINISH SCHEDULE FOR LOCATIONS, COORD GRAPHIC W/ OWNER
WG5	PAINTED WALL GRAPHIC	SHERWIN WILLIAMS		P4	BALLFIELD E WALL, WALL PAINTED WAYFINDING GRAPHIC, RE. A4/A501
WG6	PAINTED WALL GRAPHIC	SHERWIN WILLIAMS		P6	GYMNASIUM W WALL, WAYFINDING GRAPHIC, COORD. FLOOR AND WALL TEXT TO ALIGN, RE. A12/A501
WP1	SPORTS WALL PADS	SPOONBALL SPORTS		COORD. W/ CLIENT	COURTSIDE, COORD. LOCATIONS AND MOUNTING HT W/ OWNER
WP2	SPORTS WALL PADS	SPOONBALL SPORTS		COORD. W/ CLIENT	BALLFIELD SIDE, COORD. LOCATIONSAND MOUNTING HT W/ OWNER
MILLWORK / CASEWORK					
QT	QUARTZ	DALTILE	2CM, POLISHED	CARRARA VEIL QQ12	VESTIBULE CHECKIN DESK, CONCOURSE, CONCESSIONS, BASIS OF DESIGN, COORD. FINAL SELECTION W/ OWNER
WALL PROTECTION					
FRP1	FIBER REINFORCED PANEL / RIGID SHEET WALLCOVERING (.06")	INPRO	SMOOTH FINISH, FULL HEIGHT	0101 DESIGNER WHITE	CONCESSIONS, MEZZANINE
FRP2	FIBER REINFORCED PANEL / RIGID SHEET WALLCOVERING (.06")	INPRO	SMOOTH FINISH, 6'H	0151 GRAYSTONE	JAN
CEILING FINISH					
ACT1	LATEX-FACED CEILING TILE (2'x2')	ARMSTRONG CEILINGS	KITCHEN ZONE SQUARE LAY-IN	WHITE	CONCESSIONS
ACT1 GRID	15/16" SUSPENSION SYSTEM	ARMSTRONG CEILINGS	TRIM (SQUARE)	WHITE	TO BE USED WITH ACT1 AND ACT2
ACT2	ACOUSTICAL CEILING TILE (2'x2')	ARMSTRONG CEILINGS	ULTIMA SQUARE LAY-IN	WHITE	OFFICE, STORAGE, RE. RCP
EP1	PAINT - EPOXY	SHERWIN WILLIAMS	FLAT	SW 7005 PURE WHITE	RESTROOMS
EP4	PAINT - EPOXY	SHERWIN WILLIAMS	FLAT	SW 6258 TRICORN BLACK	FOUNTAINS (122), RE. ROOM FINISH SCHEDULE
P7	PAINT	SHERWIN WILLIAMS	FLAT	SW 7005 PURE WHITE	RE. ROOM FINISH SCHEDULE
TC1	TECTUM CLOUD (2" THICK, 47"DIA.)	ARMSTRONG CEILINGS	TECTUM CLOUDS - CIRCLE	WHITE	BASIS OF DESIGN, CONCOURSE, RE. E12/A606
TC2	TECTUM CLOUD (2" THICK, 72" DIA.)	ARMSTONG CEILINGS	TECTUM CLOUDS - CUSTOM SHAPES (2 HALF CIRCLES)	CUSTOM COLOR - COORD. W/ CLIENT	BASIS OF DESIGN, CONCOURSE, RE. E12/A606
WD3	ARCHITECTURAL PANEL	NICHIHA	ROUGHSAWN	ESPRESSO	VESTIBULE, USING MANUFACTURER'S CORNER PIECE AS REQ'D

FINISH LEGEND NOTES:

1. BASIS OF DESIGN: ALL EXPOSED GIRTS TO BE PAINTED TO MATCH P6, COORD. FINAL SELECTION W/ OWNER
2. ALL FINISHES BASIS OF DESIGN, COORD. FINAL SELECTION W/ OWNER
3. COORD. FINISH OF METAL ROOF DECK W/ OWNER

ROOM FINISH SCHEDULE											
RM. NO.	ROOM NAME	FLOORS		WALL FINISH				CEILING FINISH	CASEWORK		
		FLOOR	WALL BASE	NORTH WALL	EAST WALL	SOUTH WALL	WEST WALL		COUNTERTOP	BASE CABINET	UPPER CABINET
101	VESTIBULE	LVT1/C2		N/A	WD2	N/A	N/A	WD3			
102	CONCOURSE	SC1	RB1	WG1	P1	METAL PANEL/P1	P1	TC1/T2	Q1		
103	CONCESSION/STORAGE	SC1	RB1	FRP1	FRP1	FRP1	FRP1	ACT1	Q1		2
104	COOLER/FREEZER	SC1	RB1	FRP1	FRP1	FRP1	FRP1	OTS			
105	OFFICE	C1	RB1	P2	P2/WG4	P2	P2	ACT2			2
106	JAN	SC1	RB1	FRP2	FRP2	FRP2	FRP2	OTS			
107	STORAGE	SC1	RB1	P2	P2	P2	P2	ACT2			
108	HALL	LVT1	RB1	P2	P2	P2	P2	P7			
109	IT	SC1	RB1	P2	P2	P2	P2	OTS			
110	OFFICE	C1	RB1	P2	P2	P2	P2	P2/WG4	ACT2		2
111	RR	SC1	TB1	EP2	EP2	EP2	T1/EP2	EP1			1
112	TRASH ENCLOSURE	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
113	OFFICE	LVT1	RB1	P2/WG4	P2	P2	P2	ACT2			2
114	STORAGE	SC1	RB1	P2	P2	P2	P2	OTS			
115	RR	SC1	TB1	EP2	T1/EP2	EP2	EP2	EP1			1
116	RR	SC1	TB1	EP2	EP2	EP2	T1/EP2	EP1			1
117	GYMNASIUM	SC1, COURTS PER EQUIPMENT VENDOR	RB1	METAL PANEL	METAL PANEL	P1/WG2	P1/WG3	OTS			2,3,4,5
118	VESTWAITING	LVT1	RB1	P2	P2	N/A	WD2	WD3/P7			
118.A	RISER	SC1	RB1	P2	P2	P2	P2	P7			
119	OFFICE	SC1	RB1	P2	P2	P2	P2	ACT2			
120	VENDING	SC1	RB1	P2	P2	P2	P2	P7			
121	URINALS	SC1	TB1	T1/EP2	EP2	T1/EP2	EP2	EP1			1
122	FOUNTAINS	SC1	RB1	EP3	EP3	EP3	EP3	P10			
123	MENS	SC1	TB1	EP2	EP2	EP2	T1/EP2	EP4			1
124	FAM RR	SC1	TB1	EP2	T1/EP2	EP2	EP2	EP1			1
125	FAM RR	SC1	TB1	EP2	T1/EP2	EP2	EP2	EP1			1
126	WOMENS	SC1	TB1	EP2	T1/EP2	EP2	T1/EP2	EP1			1
127	RR	SC1	TB1	EP2	EP2	EP2	EP2	EP1			1
128	ADA RR	SC1	TB1	EP2	T1/EP2	EP2	EP2	EP1			1
129	FOUNTAINS	SC1	RB1	EP2	EP2	EP2	EP2	EP1			
130	UTILITY	SC1	RB1	P2	P2	P2	P2	OTS			
131	STORAGE	SC1	RB1	P2	P2	P2	P2	OTS			
132	BASEBALL	PER EQUIPMENT VENDOR	RB1	METAL PANEL	P2/P4	METAL PANEL	METAL PANEL	OTS			2, 4, 5
201	MEZZANINE	SC1	RB1	P1	N/A	WD1	P1	OTS			
202	STORAGE	SC1	RB1	P2	P2	P2	P2	OTS			

ROOM FINISH SCHEDULE REMARKS:

1. TOILET/URINAL FIXTURE WALL TO RECEIVE T1, 84" H, EP2 ABOVE, USE SCHLUTER FINISHING STRIP AT TRANSITION, RE. FINISH PLAN
2. COORD. WALL GRAPHIC W/ OWNER
3. FLOOR-TO-WALL WAYFINDING GRAPHIC, COORD. TEXT TO ALIGN, RE. FINISH PLAN AND A12/A501
4. COORD. FINAL WALL PAD COLOR AND LOCATIONS W/ OWNER
5. NETS PER SPORTS EQUIPMENT VENDOR, COORD. LOCATIONS W/ OWNER

GENERAL NOTES:

FLOOR FINISH PLANS

1. RE: G-SHEETS - FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: FINISH LEGEND, FINISH SCHEDULE, AND FLOOR FINISH PLANS FOR SPECIFIC FLOOR FINISH INFORMATION AND LOCATIONS.
3. FLOOR FINISHES SHOWN ARE FOR ACCENT CLARIFICATION ONLY.
4. INSTALL TRANSITION STRIPS AT ALL FLOOR FINISH MATERIAL CHANGES, UNLESS NOTED OTHERWISE.
5. FLOOR FINISH PATTERN SHALL BE CENTERED IN ROOM, UNLESS NOTED OTHERWISE.
6. ALIGN ALL WALL TILE JOINTS WITH FLOOR TILE JOINTS, UNLESS NOTED OR SHOWN OTHERWISE.
7. ALL CLOSETS & ALCOVES WITHOUT A SPACE IDENTIFICATION NUMBER SHALL HAVE THE SAME FLOOR FINISHES AS ADJOINING SPACES.
8. FLOOR FINISH MATERIAL & OR PATTERN SHALL BE INSTALLED UNDER TOE KICKS OF CASEWORK/ MILLWORK, UNDER OPEN COUNTERTOPS, & UNDER EQUIPMENT.
9. FLOOR MATERIAL COLOR TRANSITIONS TO ALIGN WITH ROOM SIDE OF DOOR STOP, UNLESS NOTED OTHERWISE.

WALL FINISH / WALL

PROTECTION PLANS:

1. RE: G-SHEETS - FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: FINISH LEGEND & FINISH SCHEDULE FOR SPECIFIC FINISH INFORMATION & LOCATIONS.
3. CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING FOR WALL PROTECTION ATTACHMENT. THIS INCLUDES, BUT IS NOT LIMITED TO: HANDRAILS, POSTER CASES, TV MONITORS, BATHROOM ACCESSORIES, FIRE EXTINGUISHERS AND EQUIPMENT. RE: ROUGH CARPENTRY SPECIFICATION SECTION FOR CLARIFICATION.
4. CONTRACTOR SHALL PROVIDE MANUFACTURER'S STANDARD ACCESSORY MOLDING OR TRIM FOR WALL PROTECTION ITEMS, UNLESS NOTED OTHERWISE.
5. IF WALL IS LESS THAN 18" WIDE DO NOT PROVIDE HANDRAIL. HANDRAILS SHOULD STOP APPROXIMATELY 3" FROM THE OPEN SWING OF A DOOR. HANDRAILS SHOULD STOP APPROXIMATELY 3" FROM A CORNER GUARD.

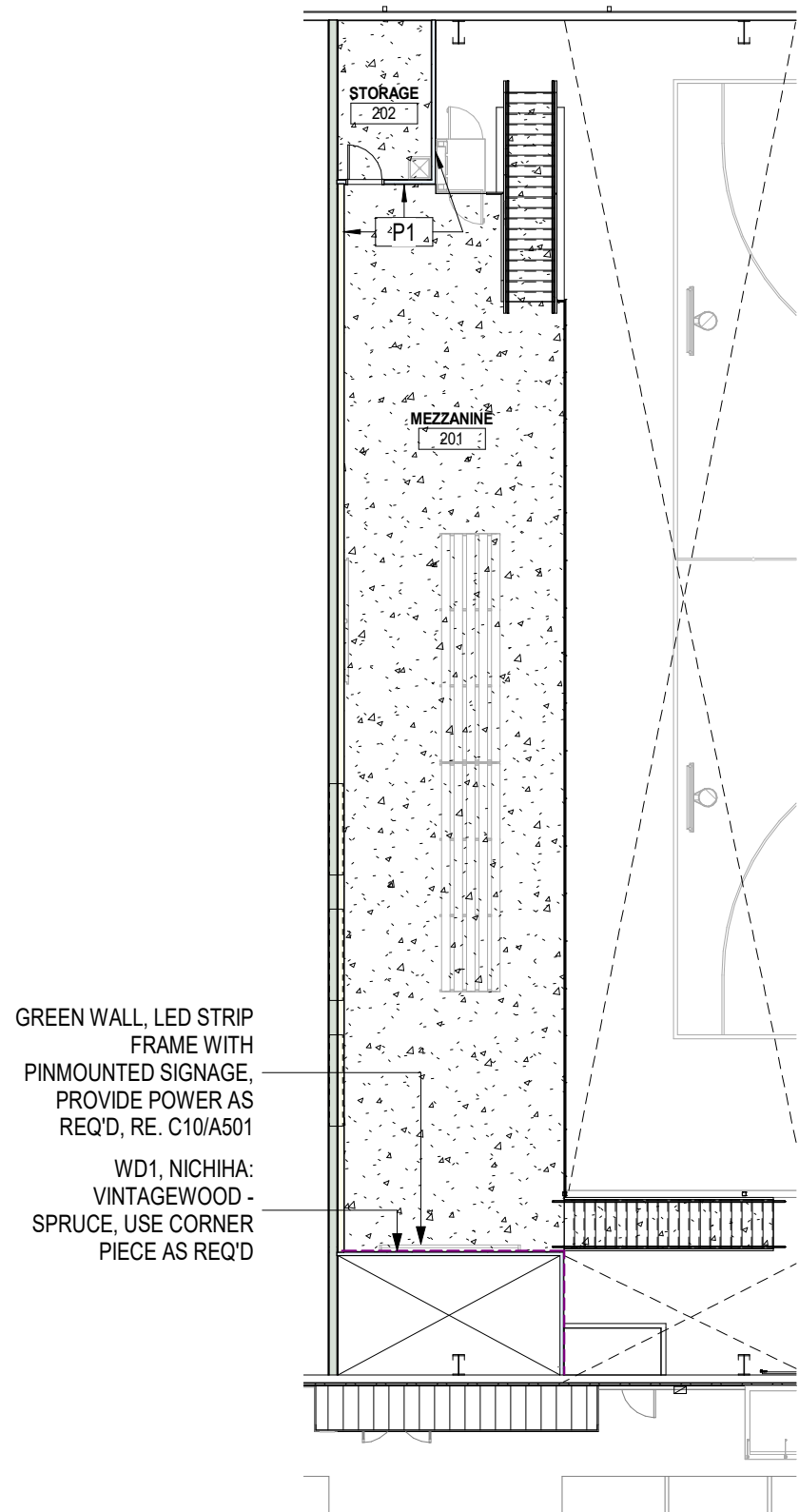
GENERAL NOTES:

INTERIOR FINISHES

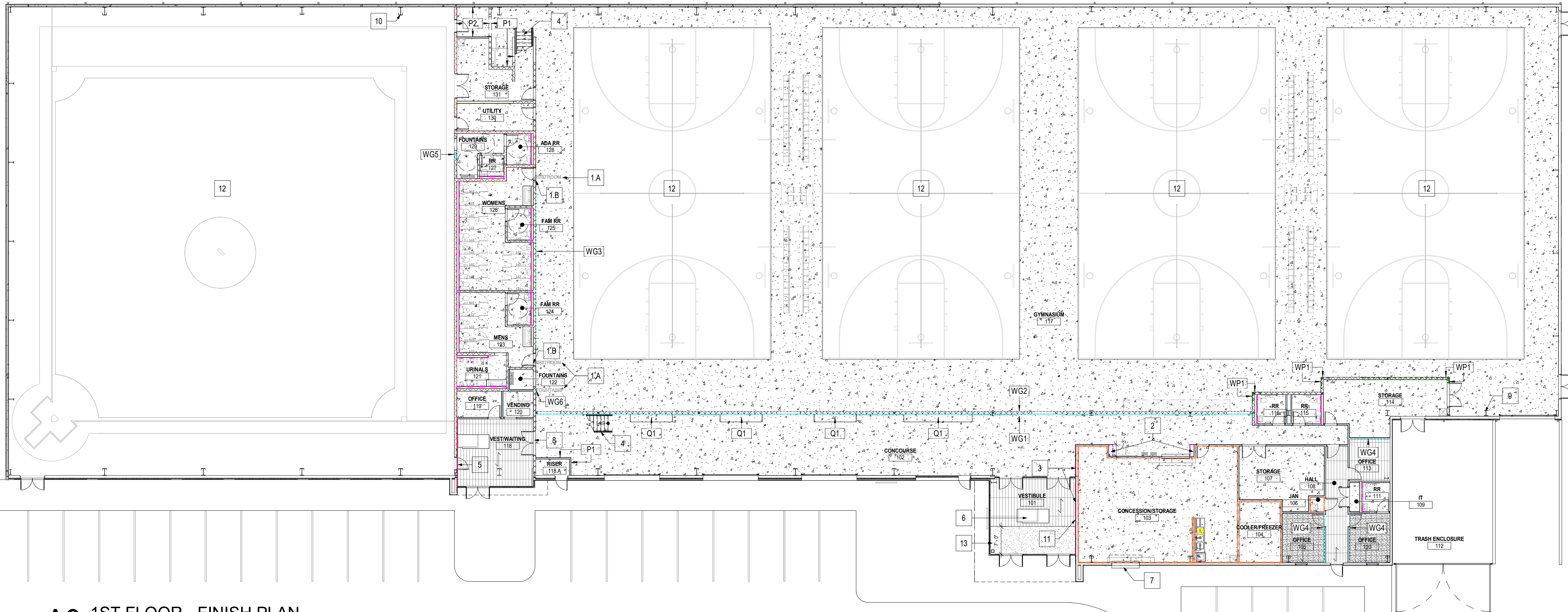
1. RE: SHEET 0001 FOR ADDITIONAL GENERAL NOTES THAT ARE APPLICABLE.
2. RE: G002 FOR ACCESSIBILITY GUIDELINES.
3. RE: A000 SERIES SHEETS FOR ADDITIONAL CEILING FINISH INFORMATION.
4. HOLLOW METAL FRAMES SHALL RECEIVE SEMI-GLOSS FINISH WHERE WALL COLOR IS DIFFERENT ON EACH SIDE OF THE HOLLOW METAL FRAME. PAINT FRAME TO MATCH CORRIDOR WALL, UNLESS NOTED OR SHOWN OTHERWISE.
5. CONTINUE WALL FINISH AS SCHEDULED BEHIND EQUIPMENT.
6. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CASEWORK FABRICATION AND INSTALLATION.
7. TRANSITION ALL WALL FINISHES/COLOR CHANGES AT INSIDE CORNERS, UNLESS NOTED OTHERWISE (U.N.O.)
8. TRANSITION WALL BASE AT INSIDE CORNERS, U.N.O.
9. INSTALL METAL TRANSITION STRIP WHERE WALL TILE MEETS PAINTED GYP. BS. WALL IN ALL VERTICAL AND/OR HORIZONTAL CONDITIONS, U.N.O.

FLOOR FINISH LEGEND	
	GRAIN / INSTALL DIRECTION
	C1: CARPET TILE
	C2 - WALK OFF CARPET
	SC1: SEALED CONCRETE
	LVT1
	SPORT COURT POLYPROPYLENE SURFACE
NOT ALL FLOOR FINISHES ARE GRAPHICALLY SHOWN. ONLY THOSE FOR TRANSITION CLARIFICATION.	
WALL FINISH LEGEND	
	ACCENT PAINT (P)
	NICHIHA: VINTAGEWOOD - SPRUCE, USE CORNER TRIM PIECES AS REQ'D
	WALL TILE (T)
	WALLPADDING (WP1)
	WALLPADDING (WP2)
	WALL GRAPHIC (WG)
	WALL PROTECTION (FRP)
	NICHIHA: ROUGHSAWN - ESPRESSO
NOT ALL WALL FINISHES ARE GRAPHICALLY SHOWN. REFER TO FINISH SCHEDULE AND INTERIOR ELEVATIONS FOR SPECIFIC LOCATIONS AND MATERIALS.	
KEYED NOTES: FINISH PLAN	
1A	FLOOR-TO-WALL WAYFINDING GRAPHIC, FLOOR GRAPHIC TO BE STENCILED STAINED WAYFINDING GRAPHIC, COLOR TO MATCH P6, W/ SEALED CONCRETE TOP COAT, TOP COAT TO BE APPLIED ONLY AFTER CONCRETE STAINED FLOOR AND LOGO ARE COMPLETE, COORD. FLOOR AND WALL TEXT TO ALIGN, RE. A12/A501
1B	FLOOR-TO-WALL WAYFINDING GRAPHIC, VINYL GRAPHIC TO MATCH P6, APPLIED TO DOOR SURFACE, COORD. FLOOR AND WALL TEXT TO ALIGN, RE. A12/A501
2	WD1 CONCESSIONS WOOD CANOPY, NICHIHA: VINTAGEWOOD-SPRUCE, USING MANUFACTURER'S CORNER PIECE, RE. C8/A501
3	WD2 EXTERIOR NICHIHA: ROUGHSAWN (ESPRESSO) TO EXTEND INTO INTERIOR VESTIBULE AND CONCOURSE, USING MANUFACTURER'S CORNER PIECE
4	HM & PRECAST STAR, BASIS OF DESIGN: RAIL AND RISERS TO BE PAINTED P3, COORD. W/ CLIENT
5	WD2 EXTERIOR NICHIHA: ROUGHSAWN (ESPRESSO) TO EXTEND INTO INTERIOR VESTIBULE, USING MANUFACTURER'S CORNER PIECE
6	VESTIBULE QUEUING DESK BY OWNER
7	EXTERIOR CONCESSIONS COUNTER, FINAL MATERIAL SELECTION BY OWNER
8	P1 UP UNTIL MEZZANINE LEVEL @ 12'-0", WD1 ABOVE, RE. A2/A501
9	COURTSIDE, WP1 AT ALL COLUMNS AND GIRDERS, COORD. FINAL PAD LOCATIONS W/ CLIENT
10	BALLFIELD SIDE, WP2 AT ALL COLUMNS AND GIRDERS, COORD. FINAL PAD LOCATIONS W/ CLIENT
11	POTENTIAL PIN-MOUNTED SIGNAGE, COORD. W/ CLIENT
12	BASEBALL FIELD/BASKETBALL COURT FLOORING AND EQUIPMENT BY OTHERS, TYP.
13	BASIS OF DESIGN, COORD. DEPTH OF WALK OFF CARPET W/ CLIENT AND CHECK-IN DESK

FINISH FLOOR PLANS



A12 MEZZANINE FLOOR - FINISH PLAN
1/16" = 1'-0"



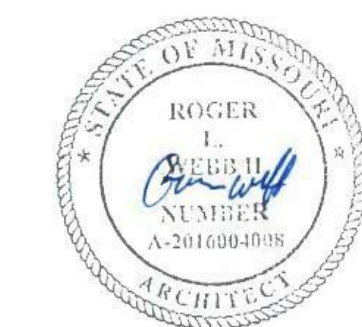
A9 1ST FLOOR - FINISH PLAN
1/16" = 1'-0"

TM FIELDHOUSE

1600 SE HAMBLEN ROAD
LEE'S SUMMIT, MISSOURI 64081

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ELECTRICAL ABBREVIATIONS	
AC	ALTERNATING CURRENT
AHU	AIR HANDLING UNIT
A. OR AMPS	AMPERES
AFG	ABOVE FINISH COUNTER
AFGI	AIRC FAULTY CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
BTC	BRANCH TO CONNECTION POINT AND CONNECT EQUIPMENT
C	CONDUIT (E.C." IS EMPTY CONDUIT)
CF	CEILING FAN
CM	COFFEE MAKER
CT	COOKTOP
D	DEDICATED CIRCUIT
DDO	DUPLEX CONVENIENCE OUTLET
DP	DISPOSAL
DW	DISHWASHER
DY	DRYER
EMT	ELETRICAL METALLIC TUBING
EF	EXHAUST FAN
EWG	ELECTRIC WATER COOLER (WATER-COOLED DRINKING FOUNTAIN)
EX	EXISTING
FCU	FAN COIL UNIT
GFI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT INTERRUPTER PROTECTED
GRD	GROUND
H	HORIZONTAL MOUNT (RECEPTACLE)
HD	VENTILATION HOOD
HP	HORSEPOWER
HT	HEAT TRACE POWER (PROVIDE W/ 20A/1P GFI BREAKER)
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
HZ	HERTZ
IG	ISOLATED GROUND (DUPLEX RECEPTS - NEMA 5-20RIG)
KCM	THOUSAND CIRCULAR MILLS
KVA	KILOVOLT-AMPERES (1000 VOLT-AMPERES)
KW	KILOWATTS (1000 WATTS)
MLO	MAIN LUGS ONLY
MCB	MAIN CIRCUIT BREAKER
MM	MICROWAVE (COORD MTG HT W/ ARCHITECT)
NC	NOT IN CONTRACT
NEC	NATIONAL ELECTRICAL CODE
NF	NOT FUSED
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
PNL	PANEL
PH OR Ø	PHASE
P	POLE
PVC	POLYVINYL CHLORIDE
RF	REFRIGERATOR
RG	RANGE
SPD	SURGE PROTECTIVE DEVICE
T	TAMPERPROOF RECEPTACLE
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION RECEPTACLE
UC	UNDERCOUNTER REFRIGERATOR (OR ICE MACHINE)
UL	UNDERWRITERS LABORATORIES
UN.O.	UNLESS NOTED OTHERWISE
V	VOLTS
VA	VOLT-AMPERES
VD	VENDING MACHINE (24" AFF)
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WA	WASHER
WD	WASHING DRAWER
WO	WALL OVEN
WP	WEATHERPROOF
WPWR	WEATHERPROOF/WEATHER RESISTANT
WUNIT	DISCONNECT IS SUPPLIED WITH THE UNIT

GENERAL ELECTRICAL NOTES	
1. COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, REQUIREMENTS OF THE AHJ AND ALL LOCAL & STATE CODES.	
2. DO NOT SCALE FROM THESE DRAWINGS.	
3. REFER TO ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES AND ELECTRICAL DEVICES.	
4. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRINGS AND BUSHINGS.	
5. ALL JUNCTION BOXES SHALL HAVE A COVER.	
6. COORDINATE EACH LIGHT FIXTURE INSTALLATION(S) W/ ACTUAL CEILING TO BE FURNISHED.	
7. ALL BRANCH CIRCUITS WITHOUT A CONDUCTOR & CONDUIT INDICATED SHALL BE ROUTED TO A 20A-1P BREAKER W/ 2P/2 1P/2E/3 3P/4P.	
8. ALL BRANCH CIRCUIT CONDUCTORS SHALL NOT BE SMALLER THAN #12 AWG AND ALL CONDUIT SHALL NOT BE SMALLER THAN 3/4". UNLESS SPECIFICALLY NOTED OTHERWISE.	
9. ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH DEDICATED NEUTRALS UNLESS NOTED OTHERWISE. WHERE NEUTRALS ARE INDICATED TO BE SHARED, MULTIWIRE BRANCH CIRCUITS SHALL BE PROVIDED WITH 2P OR 3P BREAKERS AS REQUIRED PER NEC 210.4.	
10. ALL CIRCUITS (LIGHTING AND POWER) SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUND CONDUCTOR SIZED IN ACCORDANCE WITH THE NEC. THE RACEWAY SHALL NOT BE USED AN EQUIPMENT GROUND.	
11. ALL FIXTURES SHALL BE SUPPORTED FROM EACH CORNER (INDEPENDENT OF THE SUSPENDED CEILING) WITH 12 GAUGE WIRE CONNECTED TO STRUCTURAL SYSTEM OF BUILDING. THE INSTALLATION SHALL MEET OR EXCEED THE SEISMIC REQUIREMENTS OF LOCAL AND NATIONAL CODES.	
12. ELECTRICAL DEVICE MOUNTING HEIGHTS: UNO: PANELBOARDS 78" AFF TO TOP OF PANEL SWITCHES 48" AFF TO CENTER OF SWITCH RECEPTACLES 18" AFF TO CENTER OF RECEPTACLE TELEDATA OUTLETS 48" AFF TO CENTER OF RECEPTACLE APARTMENT LOADCENTERS PER ANSI A117.1 REQUIREMENTS (VERIFY WITH LOCAL INSPECTOR)	
13. ELECTRICAL EQUIPMENT (PANELBOARDS, TRANSFORMERS, DISTRIBUTION EQUIPMENT, ETC.) IS SHOWN TO SCALE ON THE FLOOR PLANS.	
14. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING EQUIPMENT THAT WILL FIT WITHIN THE SPACES SHOWN ON THE PLANS AND COMPLYING WITH ALL CODE REQUIRED CLEARANCES.	
15. ELECTRICAL CONTRACTOR TO LABEL ALL DEVICES (RECEPTACLES, SWITCHES, PANELBOARDS, DISCONNECTS, ETC.) WITH CIRCUIT NUMBER AND PANELBOARD DESIGNATION. RECEPTACLES, SWITCHES, AND SIMILAR DEVICES TO HAVE PRE-PRINTED, SELF ADHESIVE LABEL.	
16. PANELBOARDS, DISCONNECT SWITCHES, AND SIMILAR DEVICES TO HAVE ENGRAVED, SELF-ADHESIVE, LAMINATED ACRYLIC LABEL (BLACK W/ WHITE LETTERING).	
17. PROVIDE TYPE-WRITTEN PANELBOARD SCHEDULES FOR ALL ELECTRICAL PANELBOARDS.	

ELECTRICAL SYMBOLS					
LIGHTING FIXTURES/DEVICES			POWER EQUIPMENT/DEVICES		
SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING
	DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		SWITCHBOARD OR DISTRIBUTION PANEL REFER TO PANEL SCHEDULES	
	DIRECTIONAL DOWNLIGHT (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		DRY-TYPE TRANSFORMER REFER TO PLANS FOR KVA RATING	
	WALL MOUNTED LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL		120/208V, 3Ø, 4W PANEL BOARD REFER TO PANEL SCHEDULES	
	LINEAR LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING OR SUSPENDED		277/480V, 3Ø, 4W PANEL BOARD REFER TO PANEL SCHEDULES	
	2x4 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		JUNCTION BOX	WALL OR CEILING
	2x2 LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	CEILING		FUSED SAFETY SWITCH (E.G. 3Ø/2Ø/3 INDICATES A 3ØA, 3-POLE SWITCH WITH 2ØA FUSES)	
	HATCHING ON FIXTURE INDICATES FIXTURE TO HAVE EMERGENCY BACKUP			NON-FUSED SAFETY SWITCH (E.G. 3Ø/1F/3 INDICATES A 3ØA, 3-POLE SWITCH WITHOUT FUSES)	
	TWO HEAD EMERGENCY LIGHT FIXTURE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING		MOTOR RATED SWITCH	
	EMERGENCY EXIT SIGN. PROVIDE ARROW(S) AS INDICATED. SHADING INDICATES FACE (LETTER INDICATES FIXTURE TYPE) REFER TO LIGHT FIXTURE SCHEDULE	WALL OR CEILING		MOTOR	
	SINGLE POLE SWITCH 2ØA (120/277V)	WALL - 48" AFF		NEMA 5-2ØR SIMPLEX RECEPTACLE	WALL - 18" AFF
	THREE WAY SWITCH 2ØA (120/277V)	WALL - 48" AFF		NEMA 5-2ØR DUPLEX RECEPTACLE	WALL - 18" AFF
	FOUR WAY SWITCH 2ØA (120/277V)	WALL - 48" AFF		NEMA 5-2ØR DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER	WALL - 6" ABOVE FINISHED COUNTER U.N.O.
	WALL BOX DIMMER SWITCH	WALL - 48" AFF		NEMA 5-2ØR QUAD-PLX RECEPTACLE	WALL - 18" AFF
	CEILING OR WALL MOUNTED OCCUPANCY SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL OR CEILING		NEMA 5-2ØR SPLIT RECEPTACLE. TOP OUTLET WIRED HOT. BOTTOM OUTLET SWITCHED.	WALL - 18" AFF
	LOW-VOLTAGE CONTROL STATION (LETTER INDICATES CONTROL STATION TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	WALL - 48" AFF		SPECIAL PURPOSE RECEPTACLE REFER TO PLANS FOR NEMA CONFIGURATION	WALL - 18" AFF OR CEILING
	PHOTOCELL SENSOR (LETTER INDICATES SENSOR TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	FIELD VERIFY		NEMA 5-2ØR - DUPLEX RECEPTACLE WITH USB PORTS SIMILAR TO HUBBELL #US823AC5W	WALL - 18" AFF
	POWERPACK (LETTER INDICATES POWERPACK TYPE) REFER TO LIGHTING CONTROLS SCHEDULE	ACCESSIBLE CEILING		NEMA 5-2ØR DUPLEX RECEPTACLE MOUNTED ON CEILING	CEILING - FLUSH
COMMUNICATION/LOW-VOLTAGE DEVICES					
SYMBOL	DESCRIPTION	MOUNTING	SYMBOL	DESCRIPTION	MOUNTING
	CARD READER (VERIFY EXACT REQUIREMENTS)			HUBBELL 6F84 SERIES FLOOR BOX (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	DATA, TELEPHONE, OR COMBO TELE/ATA OUTLET PROVIDE PULL STRING IN CONDUIT TO ACCESSIBLE CEILING	WALL - 18" AFF		HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) WITH (1) DUPLEX RECEPTACLE AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	DATA, TELEPHONE, OR COMBO TELE/ATA OUTLET PROVIDE PULL STRING IN CONDUIT TO ACCESSIBLE CEILING	FLOOR OR CEILING		HUBBELL B24 SERIES FLOOR BOX (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
	TELEVISION OUTLET	WALL OR CEILING		HUBBELL 51PFF SERIES 4" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION CONNECTION CAPABILITY	FLOOR - FLUSH
	SPEAKER OUTLET	FIELD VERIFY		HUBBELL 51PFF SERIES 4" POKE-THRU (OR EQUAL) FOR POWER AND DATA CONNECTIONS TO PRE-WIRED FURNITURE VERIFY EXACT CONNECTION WITH FURNITURE VENDOR	FLOOR - FLUSH
	TELEPHONE TERMINAL BOARD	WALL		HUBBELL 51R8 SERIES 8" POKE-THRU (OR EQUAL) WITH (2) DUPLEX RECEPTACLES AND DATA/COMMUNICATION AND ANY CONNECTION CAPABILITY	FLOOR - FLUSH
	SECURITY CAMERA OUTLET	FIELD VERIFY		CONDUIT IN OR UNDER FLOOR/GRADE	
	PUSH BUTTON			CONDUCTOR HOME RUN - (H) HOT, (N) NEUTRAL, (E) EQUIPMENT GROUND, & (I) ISOLATED GROUND	
				EQUIPMENT CONNECTION	
				CONDUIT IN CEILING OR WALL	

NOTE: NOT ALL SYMBOLS MAY BE USED.

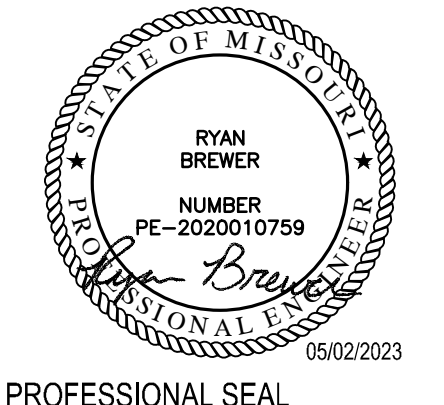


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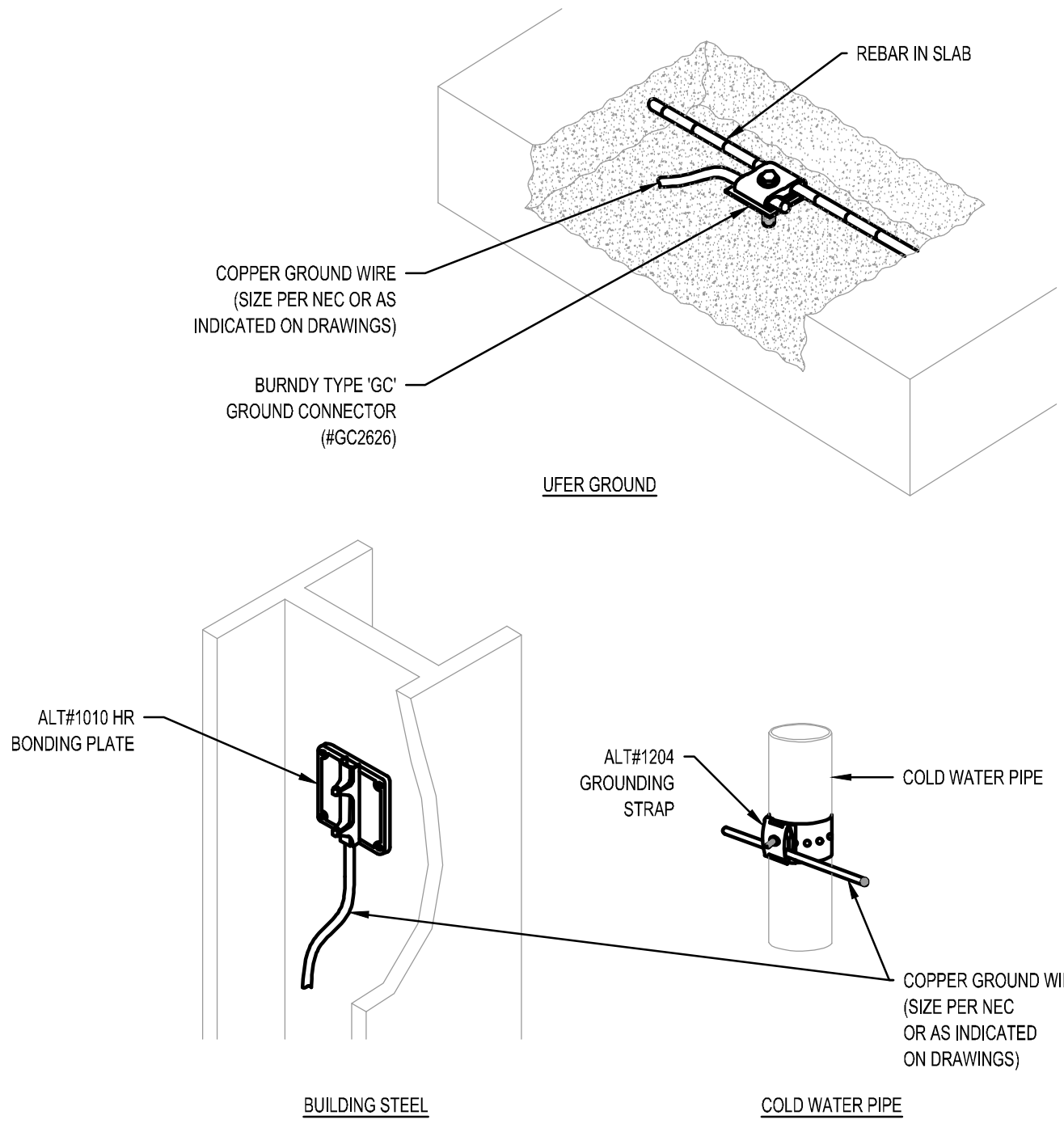
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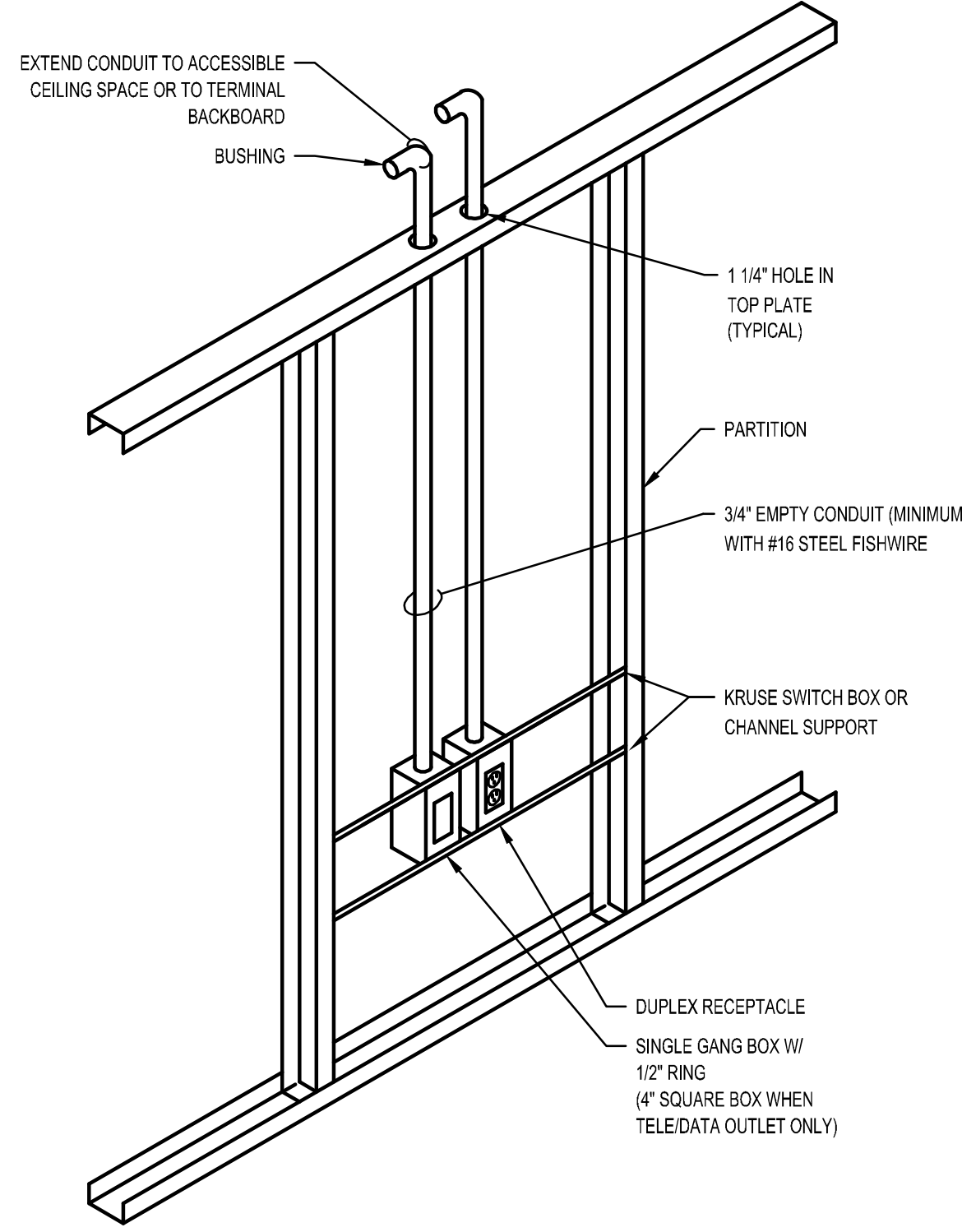


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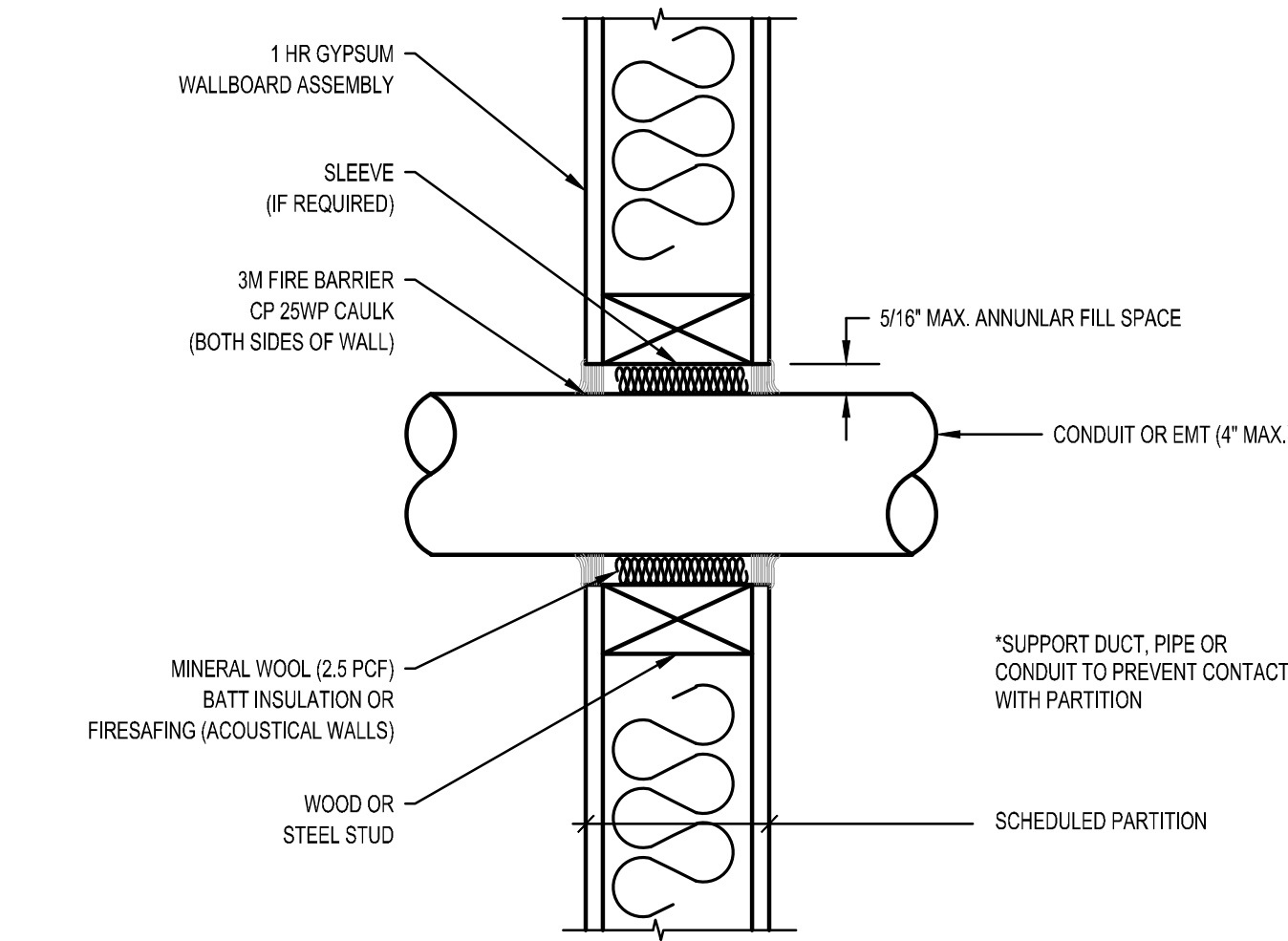
ELECTRICAL NOTES,
SYMBOLS & ABBREVIATIONS



1
TYPICAL GROUND CONNECTION
DETAILS
SCALE: NOT TO SCALE



2
OUTLET IN HOLLOW PARTITION
SCALE: NOT TO SCALE



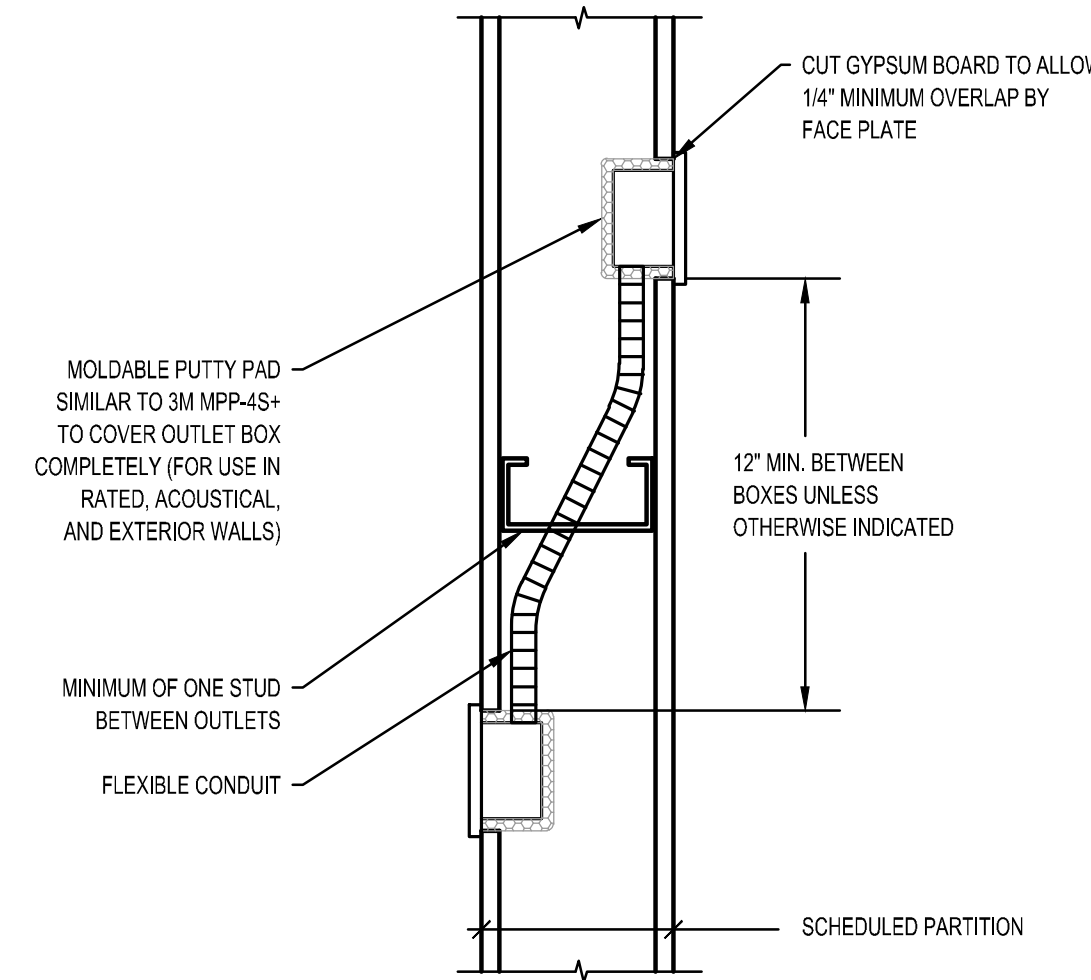
3
TYPICAL FIRE RATED PENETRATION
THROUGH A GYP WALL ASSEMBLY
SCALE: NOT TO SCALE

FIRE RATED PENETRATION NOTES:

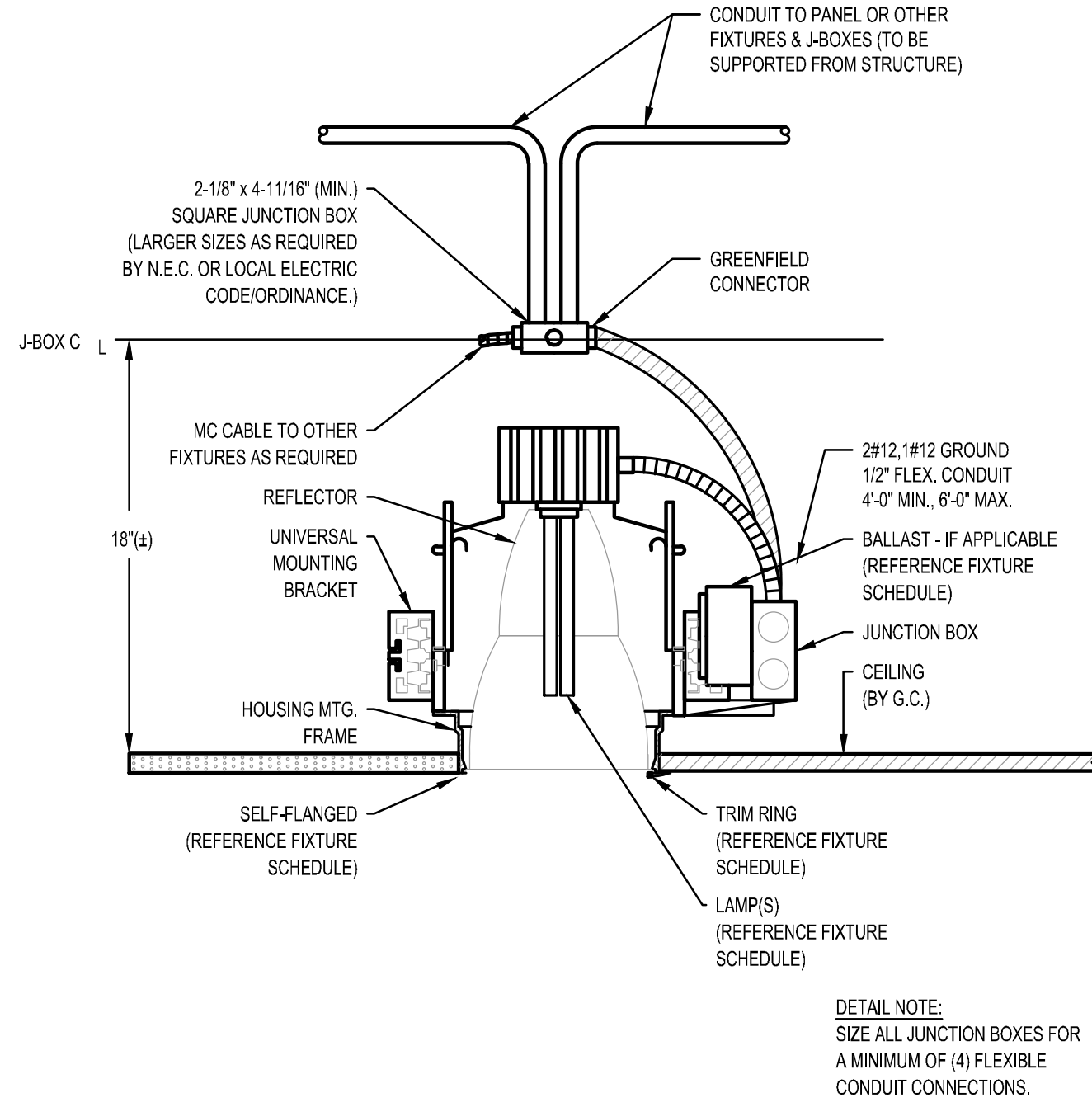
- FOR UL WALL SYSTEM NO. VU-1001 (FORMERLY NO. 147)
F-RATINGS - 1, 2, 3 & 4 HR (SEE ITEMS #2 & #3)
T-RATINGS - 0, 1, 2, 3 & 4 (SEE ITEM #3)
L-RATING IS 40°F - LESS THAN 1°F (MISO) FT. (SEE ITEM #3)
- WALL ASSEMBLY - THE 1, 2, 3 OR 4 HR FIRE RATED GYPSUM WALL BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL ULDO OR UAD SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
 - STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX. 2 HR FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2X4 IN. LUMBER SPACED 16 IN. O.C. WITH NOM 2X4 IN. LUMBER AND PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN. 5.8 IN. WIDE BY 1.5 IN. DEEP. CHANNELS SPACED MAX 24 IN. O.C.
 - WALLBOARD, GYPSUM - NOM 1/2 OR 5/8 IN. THICK, 4 FT. WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD JOINTS, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE SPECIFIED IN THE INDIVIDUAL ULDO OR UAD SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 15-12 IN.
 - PIPE OR CONDUIT - NOM 1/2 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER), STEEL PIPE NOM 4 IN. DIAM (OR SMALLER) STEEL CONDUIT, NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR TYPE L (OR OR HEAVIER) COPPER TUBING NOM 1 IN. DIAM (OR SMALLER) FLEXIBLE STEEL CONDUIT. WHEN COPPER PIPE OR FLEXIBLE STEEL CONDUIT IS USED, MAX F-RATING OF FIRESTOP SYSTEM FROM CONSTRUCTED USING STEEL CHANNEL STUDS. A MAX OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
 - FILL VOID OR CAVITY MATERIAL - CAULK - CAULK FILL MATERIAL INSTALLED TO COMPLETELY FILL ANULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WALLBOARD AND WITH A MIN 1/4 IN. DIAM BOARD OF CAULK APPLIED TO PERIMETER OF PIPE OR CONDUIT AT ITS JOINTS FROM THE WALL. CAULK INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F-RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING TABLE. THE HOURLY T-RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW.

WHEN COPPER PIPE IS USED, T-RATING IS 0 NOM.
MINNESOTA MINING & MFG. CO. TYPES CP-25 SL, CP-25 NR, CP-25 WS, CP-25 WS+ (NOTE: L-RATINGS APPLY WHEN TYPE CP-25 WS+ CAULK IS USED.

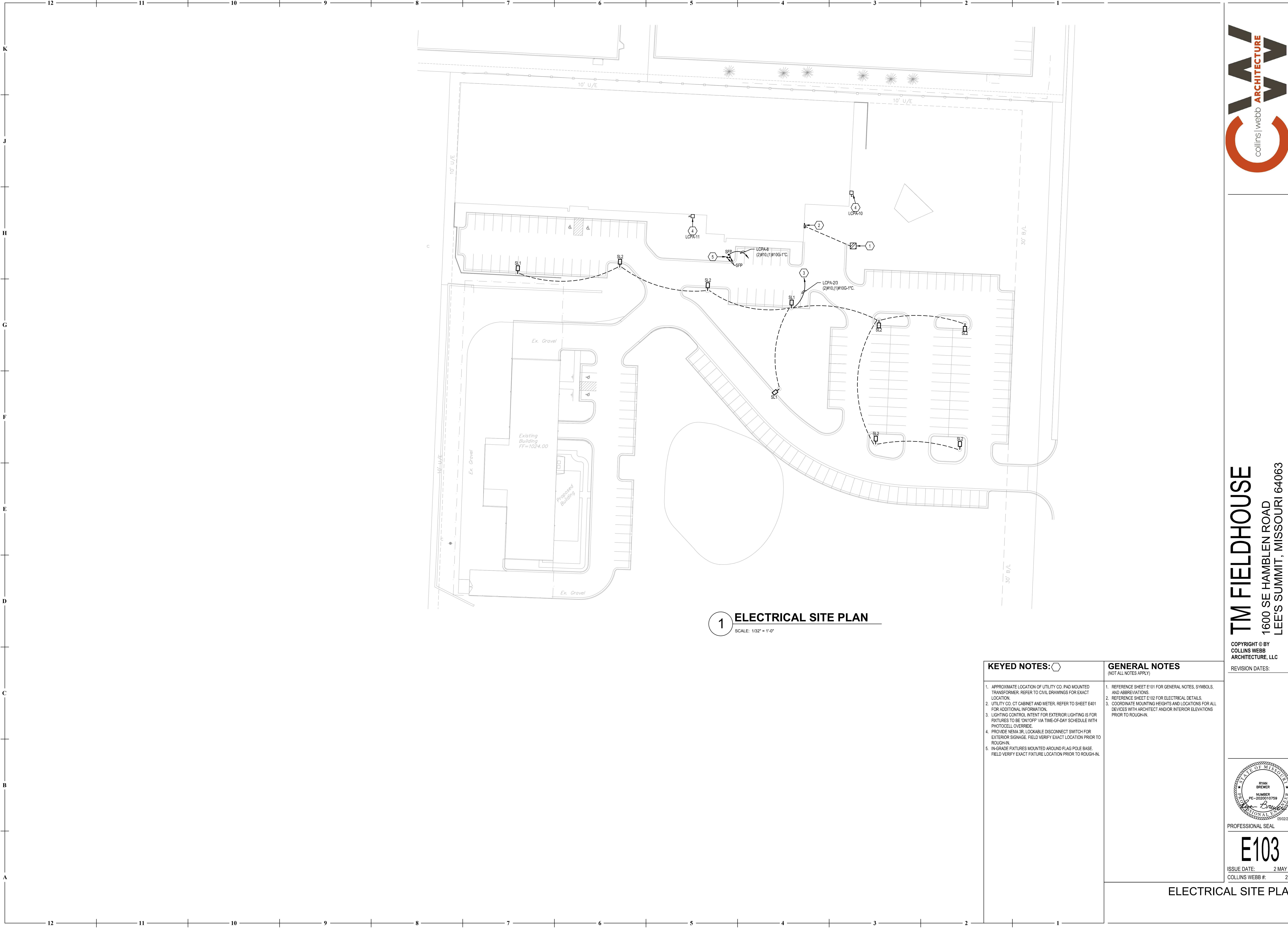
4
FIRE RATED PENETRATION NOTES
SCALE: NOT TO SCALE




5
BACK-TO-BACK BOX ARRANGEMENT
FOR NOISE CONTROL
SCALE: NOT TO SCALE



6
TYPICAL RECESSED DOWNLIGHT
FIXTURE DETAIL
SCALE: NOT TO SCALE



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

KEYED NOTES: 	GENERAL NOTES (NOT ALL NOTES APPLY)
<div>1. APPROXIMATE LOCATION OF UTILITY CO. PAD MOUNTED TRANSFORMER. REFER TO CIVIL DRAWINGS FOR EXACT LOCATION.</div> <div>2. UTILITY CO. CT CABINET AND METER. REFER TO SHEET E401 FOR ADDITIONAL INFORMATION.</div> <div>3. LIGHTING CONTROL INTENT FOR EXTERIOR LIGHTING IS FOR FIXTURES TO BE 'ON/OFF' VIA TIME-OF-DAY SCHEDULE WITH PHOTOCELL OVERRIDE.</div> <div>4. PROVIDE NEMA 3R LOCKABLE DISCONNECT SWITCH FOR EXTERIOR SIGNAGE. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.</div> <div>5. IN-GRADE FIXTURES MOUNTED AROUND FLAG POLE BASE. FIELD VERIFY EXACT FIXTURE LOCATION PRIOR TO ROUGH-IN.</div>	<div>1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.</div> <div>2. REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.</div> <div>3. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.</div>

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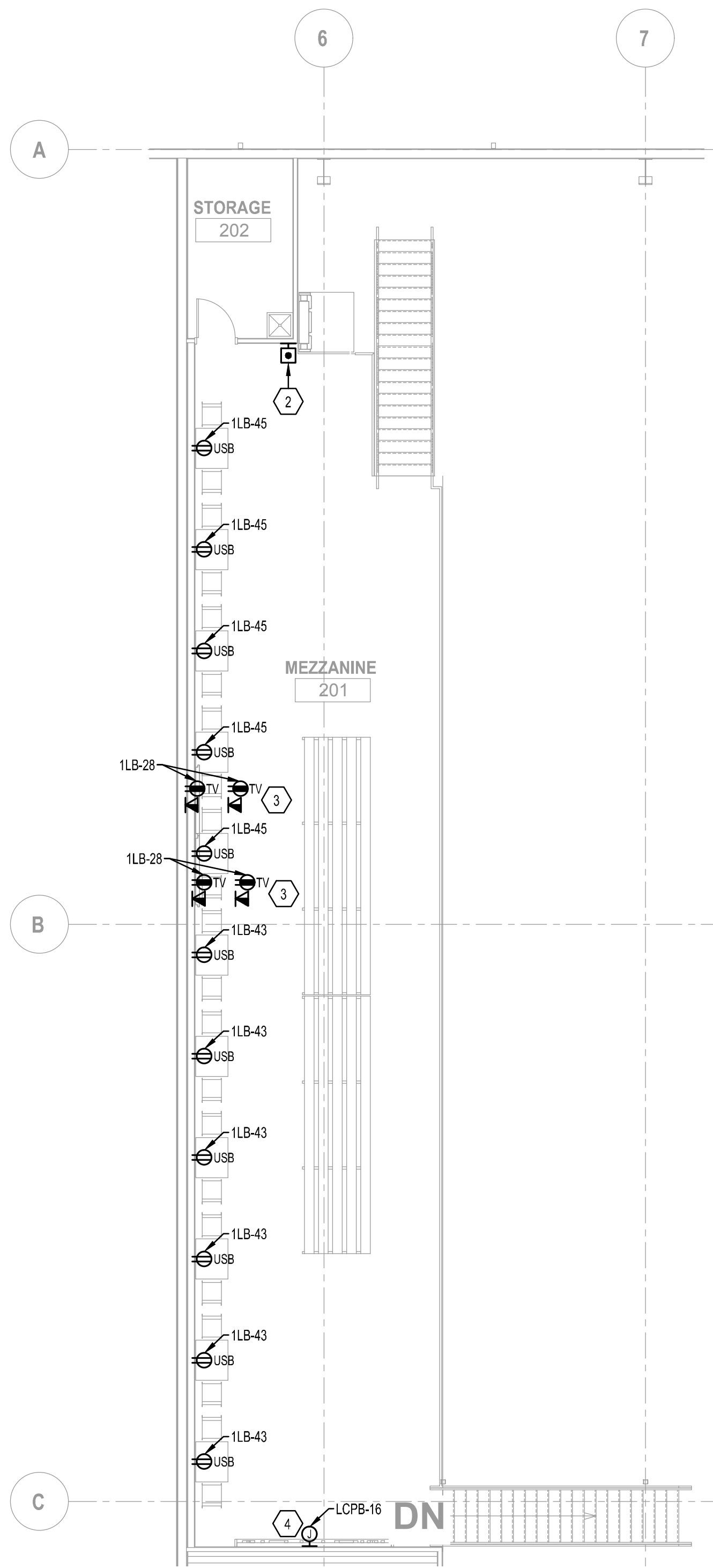
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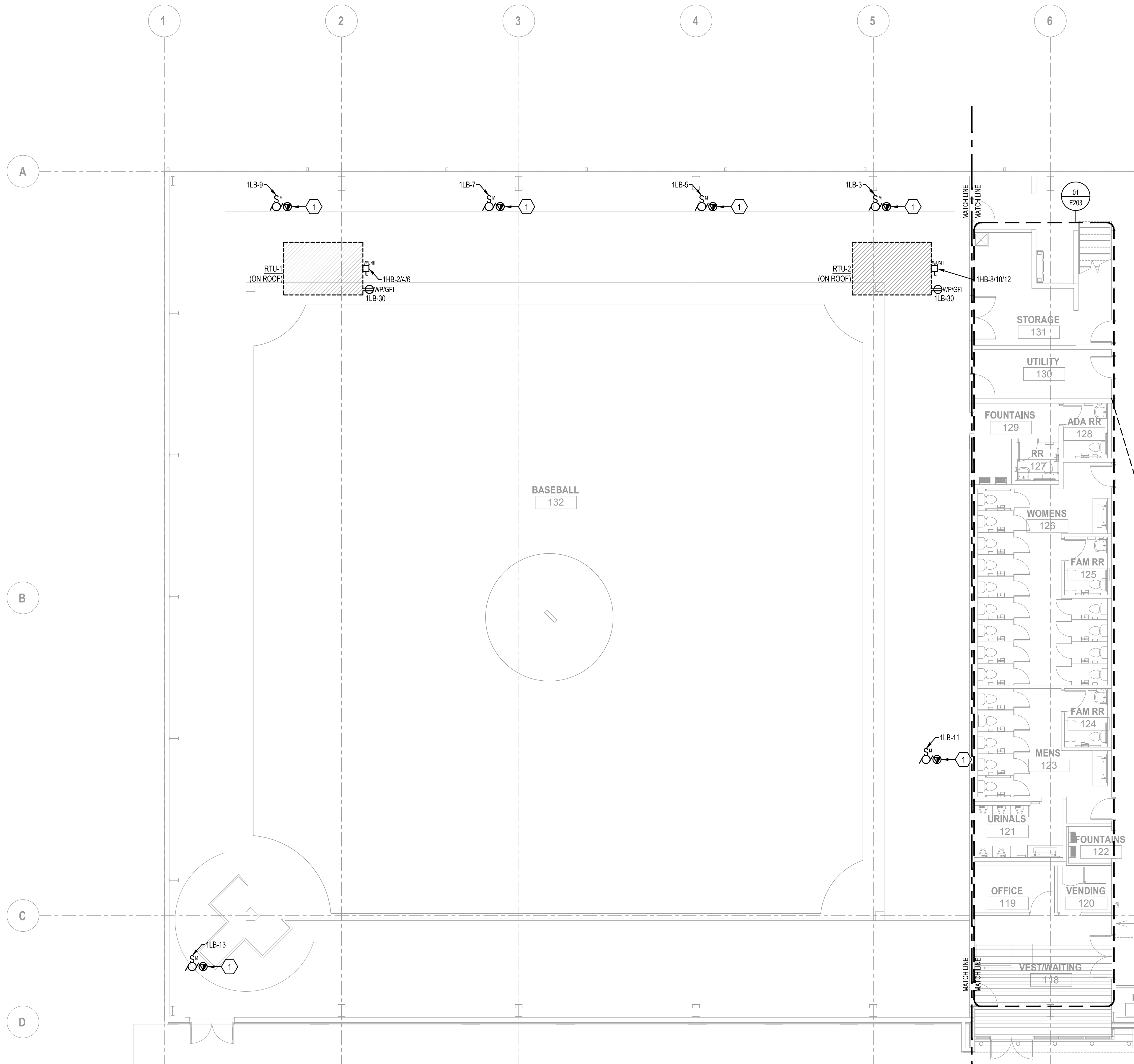
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ELECTRICAL SITE PLAN



2 MEZZANINE POWER PLAN
SCALE: 1/8" = 1'-0"



1 PARTIAL POWER PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES:	GENERAL NOTES
<div>1. POWER AND DATA CONNECTION FOR OVERHEAD EQUIPMENT MOTOR. FIELD VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. ROUTE DATA LINE BACK TO OVERHEAD EQUIPMENT CONTROL PANEL AS REQUIRED.</div> <div>2. CONTROLS FOR ADA LIFT. FIELD VERIFY EXACT CONNECTION REQUIREMENTS AND LOCATION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.</div> <div>3. POWER AND DATA FOR TV. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.</div> <div>4. POWER FOR ILLUMINATED SIGNAGE. FIELD VERIFY EXACT CONNECTION PRIOR TO ROUGH-IN.</div>	<div>1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.</div> <div>2. REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.</div> <div>3. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.</div>

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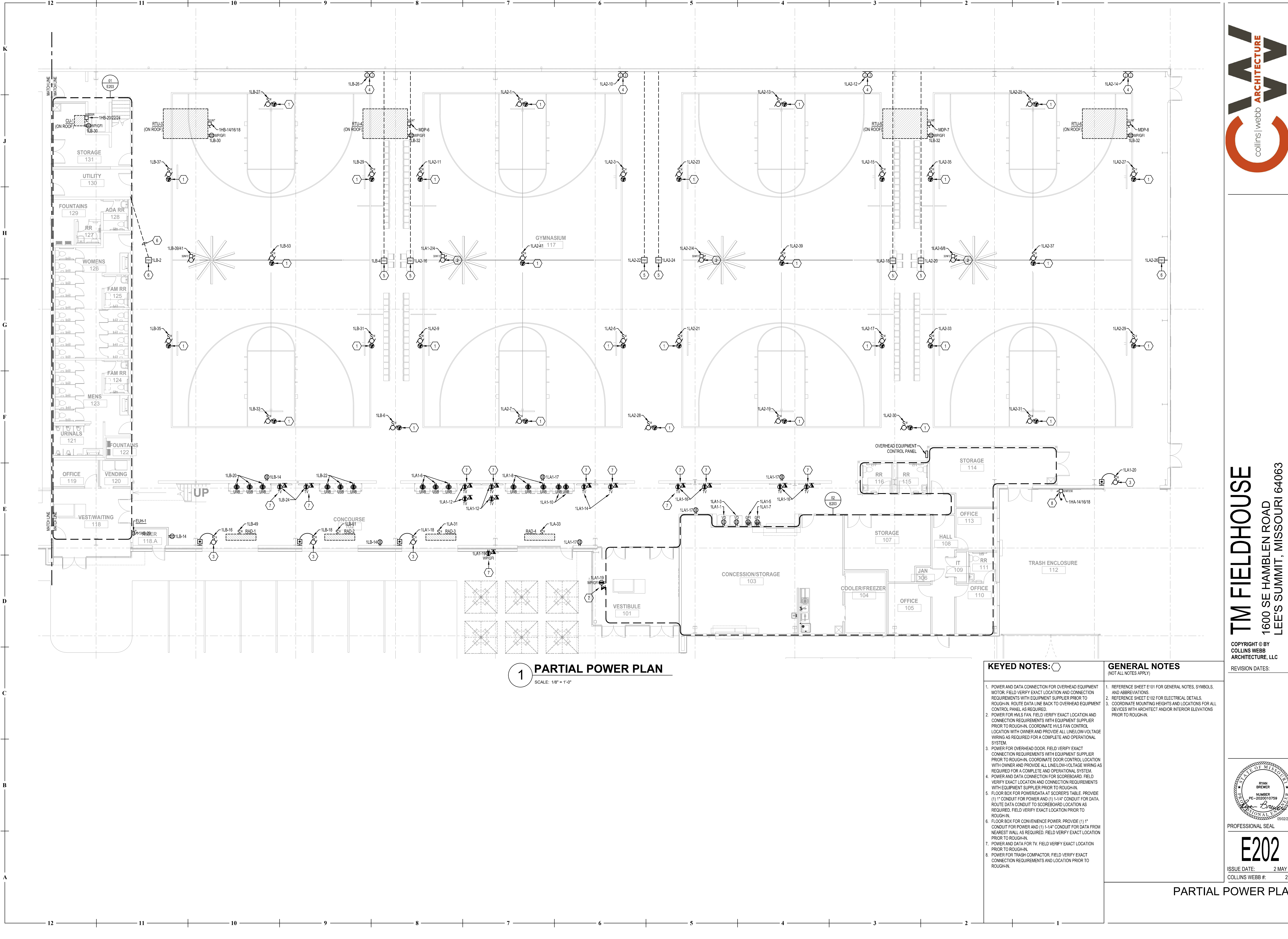
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PARTIAL POWER PLAN



PERMIT SET



1 PARTIAL POWER PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES:

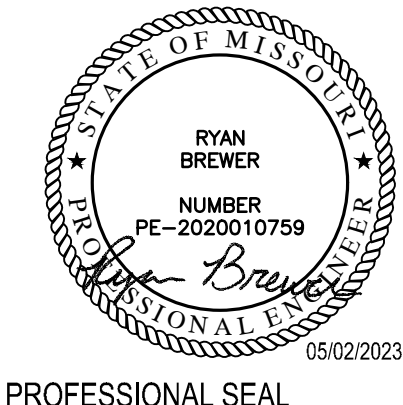
1. POWER AND DATA CONNECTION FOR OVERHEAD EQUIPMENT MOTOR. FIELD VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. ROUTE DATA LINE BACK TO OVERHEAD EQUIPMENT CONTROL PANEL AS REQUIRED.
2. POWER FOR HVLS FAN. FIELD VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. COORDINATE HVLS FAN CONTROL LOCATION WITH OWNER AND PROVIDE ALL LINE/LOW-VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
3. POWER FOR OVERHEAD DOOR. FIELD VERIFY EXACT CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. COORDINATE DOOR CONTROL LOCATION WITH OWNER AND PROVIDE ALL LINE/LOW-VOLTAGE WIRING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
4. POWER AND DATA CONNECTION FOR SCOREBOARD. FIELD VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
5. FLOOR BOX FOR POWER/DATA AT SCORER'S TABLE. PROVIDE (1) 1" CONDUIT FOR POWER AND (1) 1-1/4" CONDUIT FOR DATA. ROUTE DATA CONDUIT TO SCOREBOARD LOCATION AS REQUIRED. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
6. FLOOR BOX FOR CONVENIENCE POWER. PROVIDE (1) 1" CONDUIT FOR POWER AND (1) 1-1/4" CONDUIT FOR DATA FROM NEAREST WALL AS REQUIRED. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
7. POWER AND DATA FOR TV. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
8. POWER FOR TRASH COMPACTOR. FIELD VERIFY EXACT CONNECTION REQUIREMENTS AND LOCATION PRIOR TO ROUGH-IN.

GENERAL NOTES

- (NOT ALL NOTES APPLY)
1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
 2. REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.
 3. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.

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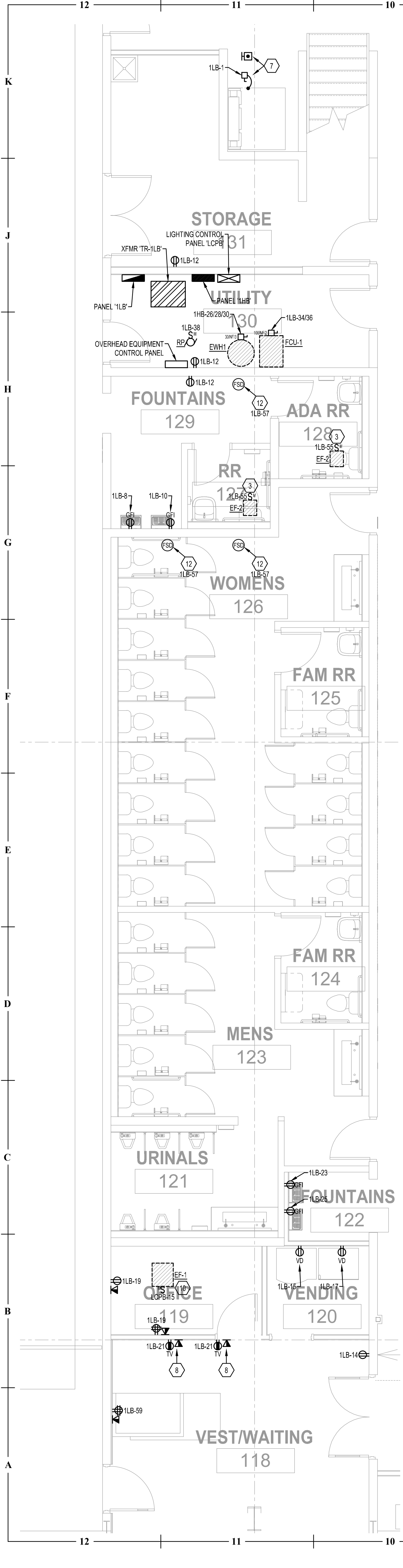


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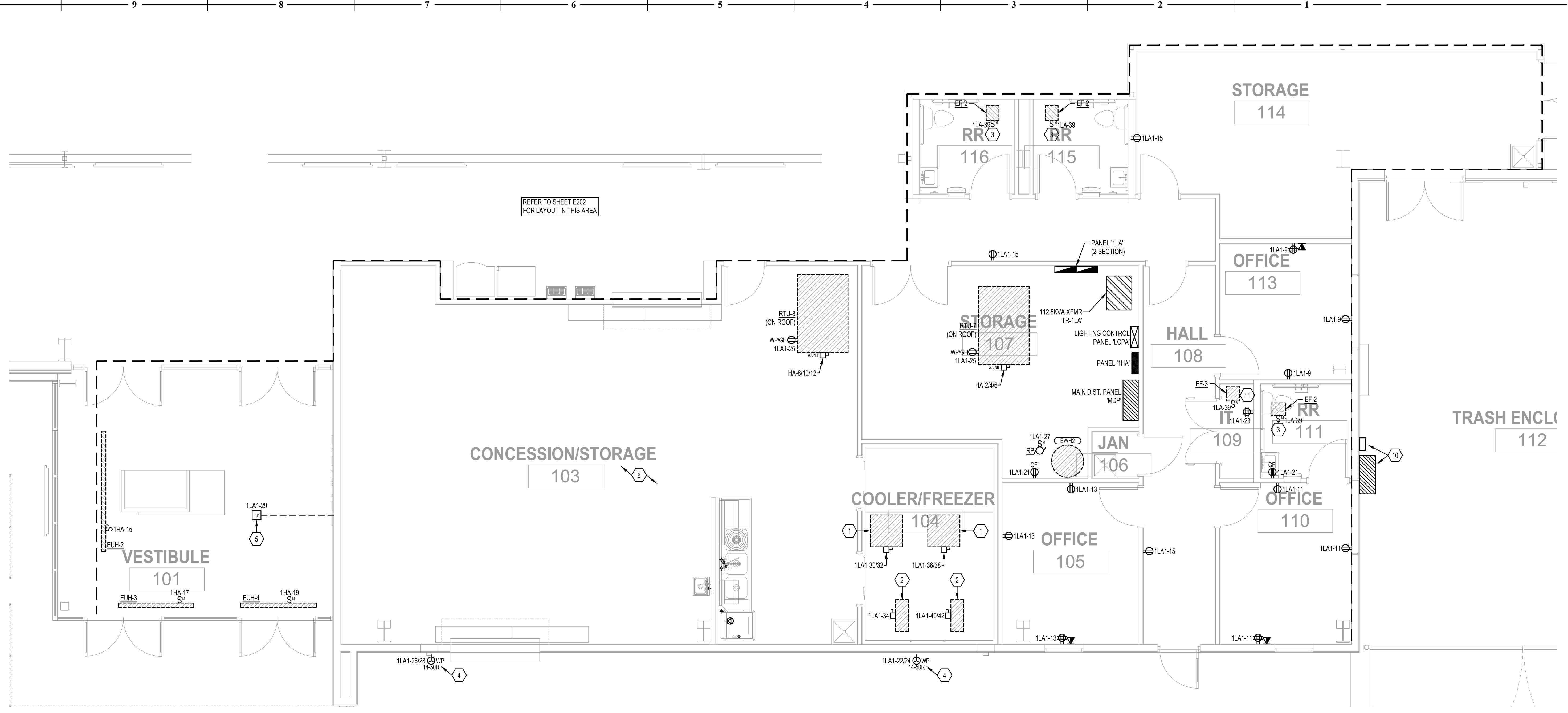
PARTIAL POWER PLAN



PERMIT SET



1 ENLARGED POWER PLAN
SCALE: 1/4" = 1'-0"



2 ENLARGED POWER PLAN
SCALE: 1/4" = 1'-0"

KEYED NOTES:	GENERAL NOTES (NOT ALL NOTES APPLY)
<div>1. CONDENSING UNIT FOR WALK-IN FREEZER/COOLER. FIELD VERIFY EXACT LOCATION AND ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.</div> <div>2. EVAPORATOR FOR WALK-IN FREEZER/COOLER. FIELD VERIFY EXACT ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.</div> <div>3. CONTROL INTENT OF EXHAUST FAN IS FOR FAN TO ENERGIZE 'ON/OFF' WITH THE LIGHT FIXTURES IN THIS AREA. PROVIDE RIB RELAY TO INTERLOCK FAN WITH LIGHT FIXTURES AS REQUIRED.</div> <div>4. RECEPTACLE FOR SERVICE TO FOOD TRUCK. PROVIDE RECEPTACLE WITH A WEATHERPROOF ENCLOSURE. FIELD COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.</div> <div>5. FLOOR BOX FOR POWER/DATA TO CHECK-IN DESK. PROVIDE (1) 1" CONDUIT FOR POWER AND (1) 1-1/4" CONDUIT FOR DATA FROM NEAREST WALL UP INTO ACCESSIBLE CEILING. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.</div> <div>6. SHELL CONCESSION STAND AREA TO BE FINISHED OUT IN THE FUTURE.</div> <div>7. POWER AND CONTROLS FOR ADA LIFT. FIELD VERIFY EXACT CONNECTION REQUIREMENTS AND LOCATION WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.</div> <div>8. POWER AND DATA FOR TV. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.</div> <div>9. EXHAUST FAN CONTROLLED BY LOCAL TEMPERATURE SENSOR. COORDINATE REQUIREMENTS WITH HVAC CONTRACTOR AS REQUIRED.</div> <div>10. UTILITY CO. CT CABINET AND METER. REFER TO SHEET E401 FOR ADDITIONAL INFORMATION.</div> <div>11. EXHAUST FAN TO BE CONTROLLED VIA LIGHTING CONTROL PANEL AND RUN CONTINUOUSLY DURING OCCUPIED HOURS. REFER TO LIGHTING CONTROL SCHEDULE FOR ADDITIONAL INFORMATION.</div> <div>12. POWER FOR MOTORIZED DAMPER. FIELD VERIFY EXACT CONNECTION PRIOR TO ROUGH-IN.</div>	<div>1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.</div> <div>2. REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.</div> <div>3. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.</div>

ENLARGED POWER PLANS

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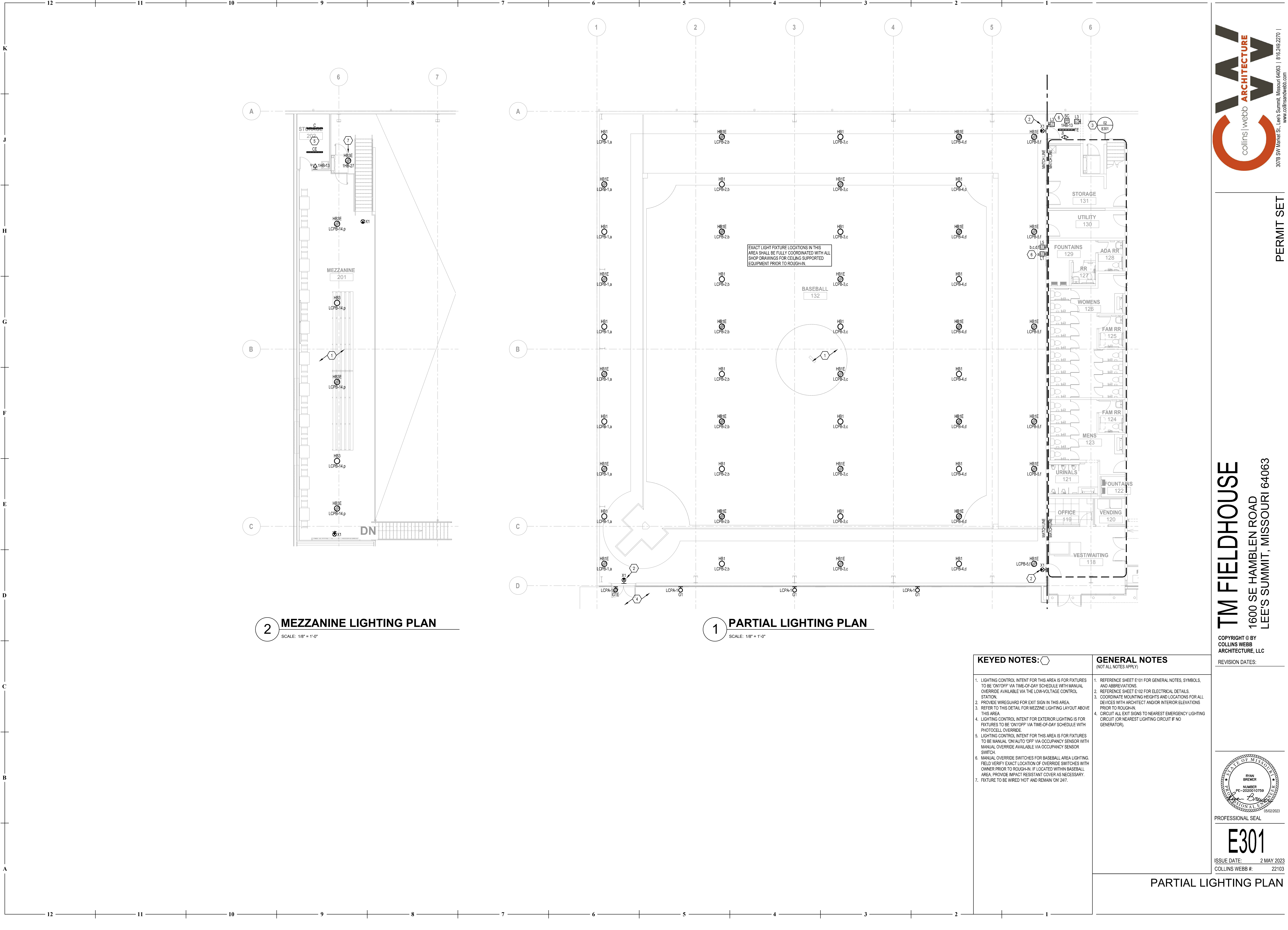
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2 MEZZANINE LIGHTING PLAN
SCALE: 1/8" = 1'-0"

1 PARTIAL LIGHTING PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES:	GENERAL NOTES
<div>1. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE 'ON/OFF' VIA TIME-OF-DAY SCHEDULE WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.</div> <div>2. PROVIDE WIREGUARD FOR EXIT SIGN IN THIS AREA.</div> <div>3. REFER TO THIS DETAIL FOR MEZZINE LIGHTING LAYOUT ABOVE THIS AREA.</div> <div>4. LIGHTING CONTROL INTENT FOR EXTERIOR LIGHTING IS FOR FIXTURES TO BE 'ON/OFF' VIA TIME-OF-DAY SCHEDULE WITH PHOTOCELL OVERRIDE.</div> <div>5. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE MANUAL 'ON/AUTO 'OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA OCCUPANCY SENSOR SWITCH.</div> <div>6. MANUAL OVERRIDE SWITCHES FOR BASEBALL AREA LIGHTING. FIELD VERIFY EXACT LOCATION OF OVERRIDE SWITCHES WITH OWNER PRIOR TO ROUGH-IN. IF LOCATED WITHIN BASEBALL AREA, PROVIDE IMPACT RESISTANT COVER AS NECESSARY.</div> <div>7. FIXTURE TO BE WIRED 'HOT' AND REMAIN 'ON 24/7'.</div>	<div>1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.</div> <div>2. REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.</div> <div>3. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.</div> <div>4. CIRCUIT ALL EXIT SIGNS TO NEAREST EMERGENCY LIGHTING CIRCUIT (OR NEAREST LIGHTING CIRCUIT IF NO GENERATOR).</div>

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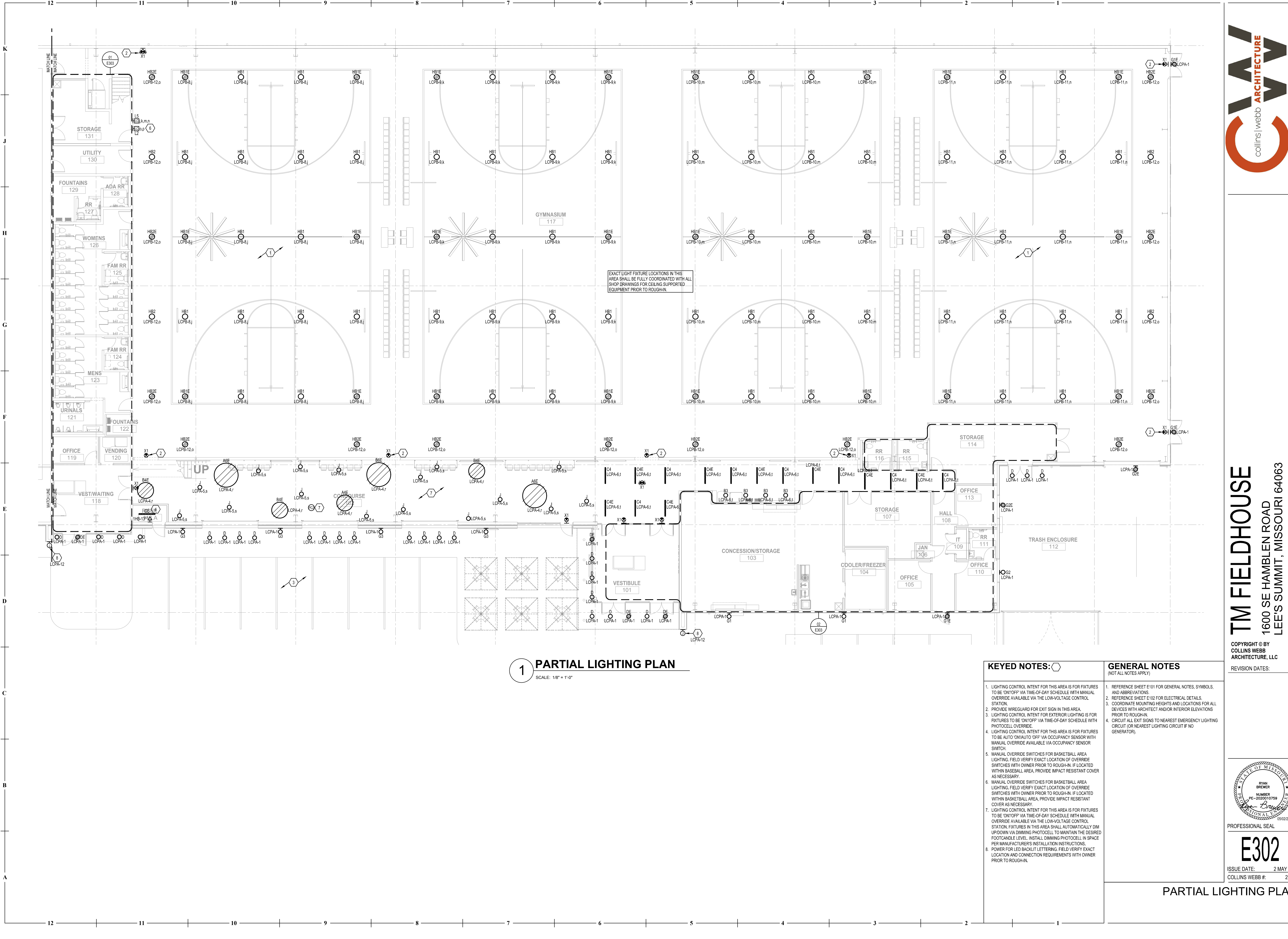
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1 PARTIAL LIGHTING PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES:	GENERAL NOTES
1. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE 'ON/OFF' VIA TIME-OF-DAY SCHEDULE WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION. 2. PROVIDE WIREGUARD FOR EXIT SIGN IN THIS AREA. 3. LIGHTING CONTROL INTENT FOR EXTERIOR LIGHTING IS FOR FIXTURES TO BE 'ON/OFF' VIA TIME-OF-DAY SCHEDULE WITH PHOTOCELL OVERRIDE. 4. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE AUTO 'ON/AUTO OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA OCCUPANCY SENSOR SWITCH. 5. MANUAL OVERRIDE SWITCHES FOR BASKETBALL AREA LIGHTING. FIELD VERIFY EXACT LOCATION OF OVERRIDE SWITCHES WITH OWNER PRIOR TO ROUGH-IN. IF LOCATED WITHIN BASEBALL AREA, PROVIDE IMPACT RESISTANT COVER AS NECESSARY. 6. MANUAL OVERRIDE SWITCHES FOR BASKETBALL AREA LIGHTING. FIELD VERIFY EXACT LOCATION OF OVERRIDE SWITCHES WITH OWNER PRIOR TO ROUGH-IN. IF LOCATED WITHIN BASKETBALL AREA, PROVIDE IMPACT RESISTANT COVER AS NECESSARY. 7. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE 'ON/OFF' VIA TIME-OF-DAY SCHEDULE WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION. FIXTURES IN THIS AREA SHALL AUTOMATICALLY DIM UP/DOWN VIA DIMMING PHOTOCELL TO MAINTAIN THE DESIRED FOOTCANDLE LEVEL. INSTALL DIMMING PHOTOCELL IN SPACE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. 8. POWER FOR LED BACKLIT LETTERING. FIELD VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN.	1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS. 2. REFERENCE SHEET E102 FOR ELECTRICAL DETAILS. 3. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN. 4. CIRCUIT ALL EXIT SIGNS TO NEAREST EMERGENCY LIGHTING CIRCUIT (OR NEAREST LIGHTING CIRCUIT IF NO GENERATOR).

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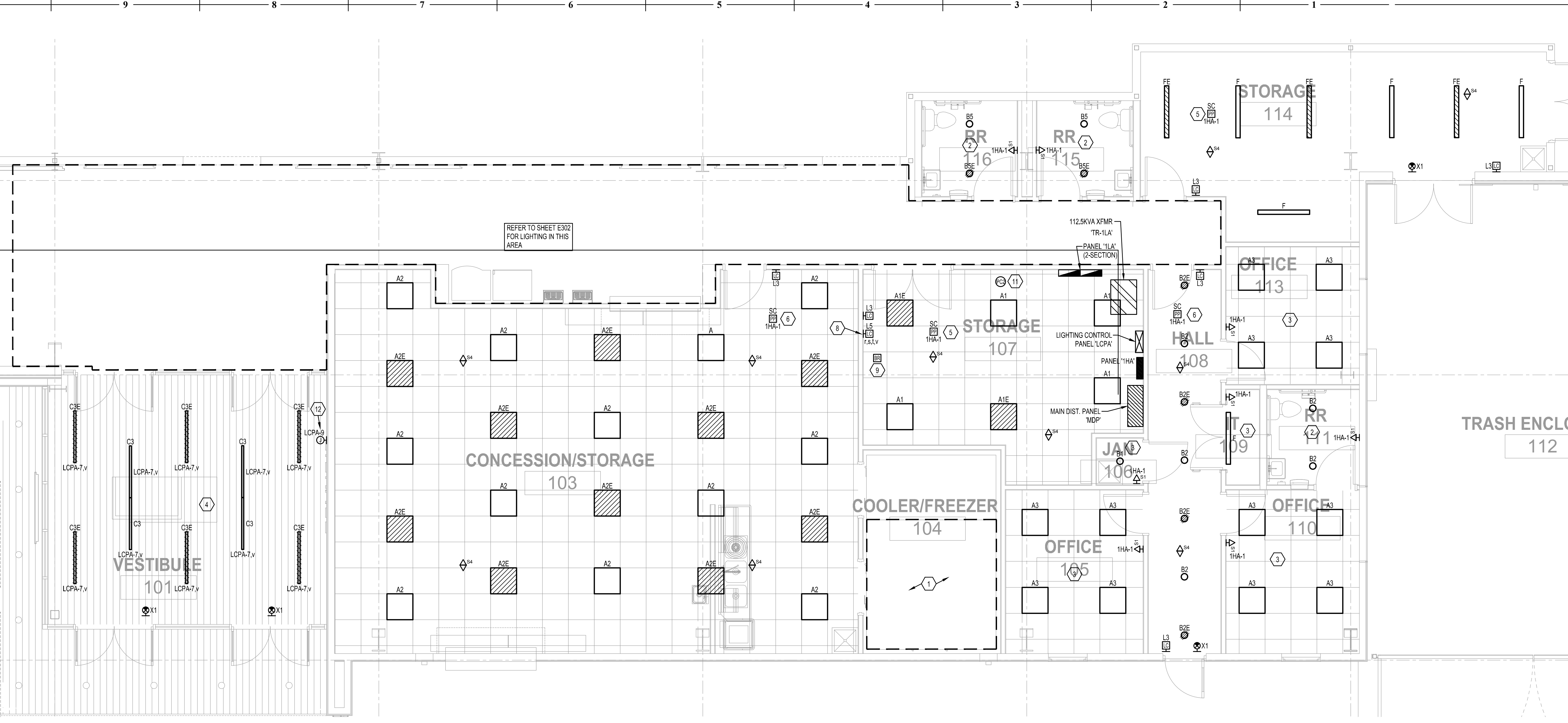
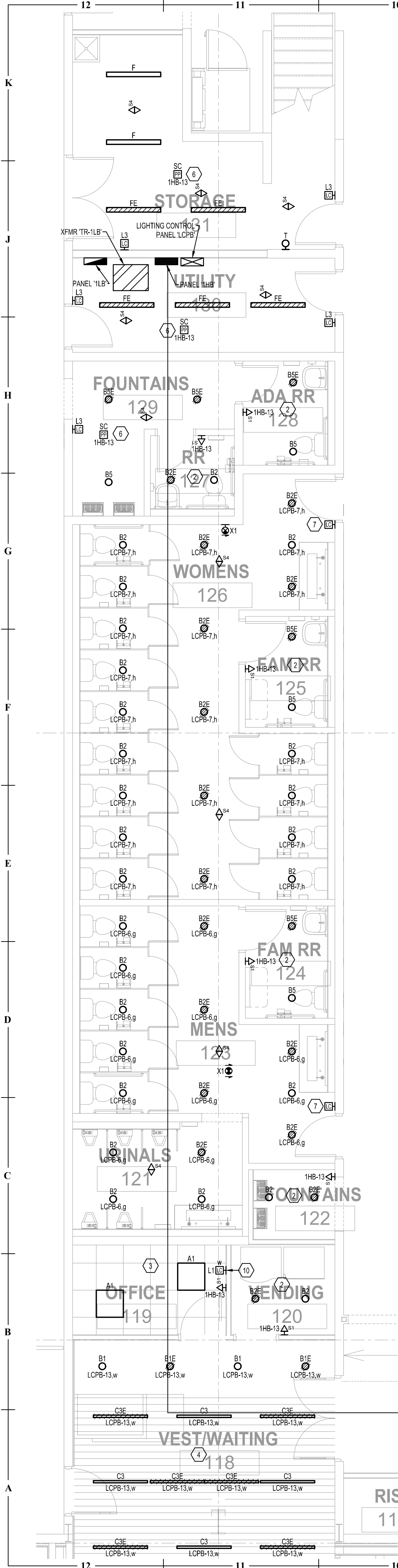
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PERMIT SET



2 ENLARGED LIGHTING PLAN
SCALE: 1/4" = 1'-0"

1 ENLARGED LIGHTING PLAN
SCALE: 1/4" = 1'-0"

KEYED NOTES:	GENERAL NOTES
<div>1. LIGHTING IN THIS AREA IS INTEGRAL TO WALK-IN COOLER UNIT.</div> <div>2. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE AUTO 'ON/AUTO OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE OCCUPANCY SENSOR SWITCH.</div> <div>3. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE MANUAL 'ON/AUTO OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE OCCUPANCY SENSOR SWITCH.</div> <div>4. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE 'ON/OFF' VIA TIME-OF-DAY SCHEDULE WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.</div> <div>5. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE MANUAL 'ON/AUTO OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.</div> <div>6. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE AUTO 'ON/AUTO OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.</div> <div>7. LIGHTING CONTROL INTENT FOR THIS AREA IS FOR FIXTURES TO BE 'ON/OFF' VIA TIME-OF-DAY SCHEDULE AFTER HOURS. FIXTURES SHALL BE AUTO 'ON/AUTO OFF' VIA OCCUPANCY SENSOR WITH MANUAL OVERRIDE AVAILABLE VIA THE LOW-VOLTAGE CONTROL STATION.</div> <div>8. MANUAL OVERRIDE SWITCHES FOR CONCOURSE AREA LIGHTING. FIELD VERIFY EXACT LOCATION OF OVERRIDE SWITCHES WITH OWNER PRIOR TO ROUGH-IN.</div> <div>9. PROVIDE LIGHT BRIDGE TO CONNECT LIGHTING CONTROL PANELS AND DEVICES AS REQUIRED. VERIFY EXACT REQUIREMENTS WITH MANUFACTURER PRIOR TO ORDERING.</div> <div>10. MANUAL OVERRIDE SWITCH FOR VESTIBULE LIGHTING. FIELD VERIFY EXACT LOCATION OF OVERRIDE SWITCHES WITH OWNER PRIOR TO ROUGH-IN.</div> <div>11. MOUNT PHOTOCELL ON ROOF PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.</div> <div>12. POWER FOR OWNER SIGNAGE. FIELD VERIFY EXACT LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.</div>	<div>1. REFERENCE SHEET E101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.</div> <div>2. REFERENCE SHEET E102 FOR ELECTRICAL DETAILS.</div> <div>3. COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.</div> <div>4. CIRCUIT ALL EXIT SIGNS TO NEAREST EMERGENCY LIGHTING CIRCUIT (OR NEAREST LIGHTING CIRCUIT IF NO GENERATOR).</div>



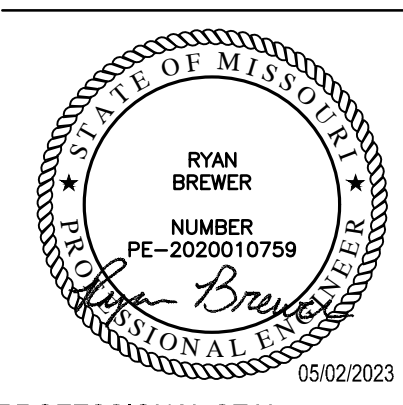
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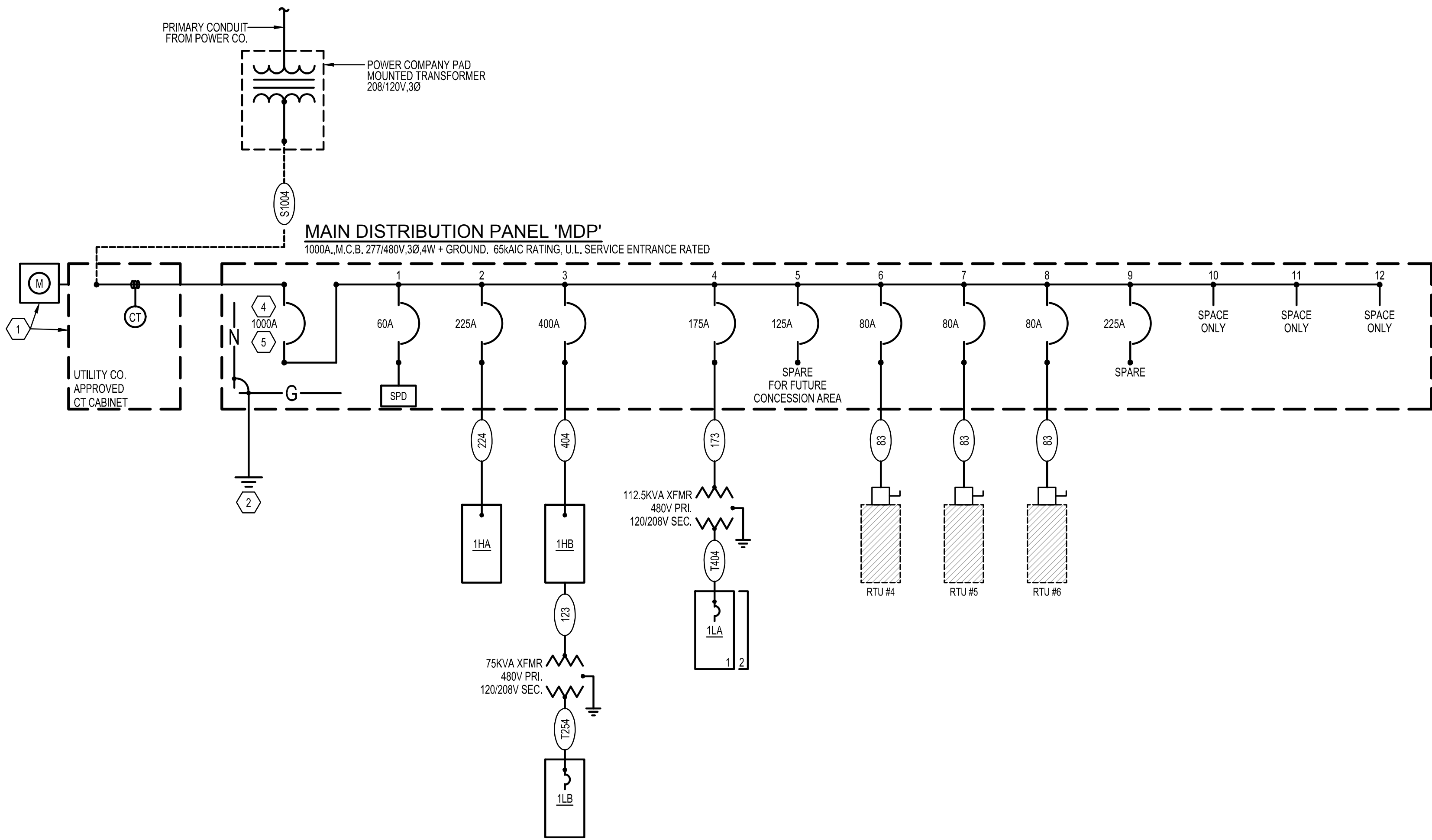
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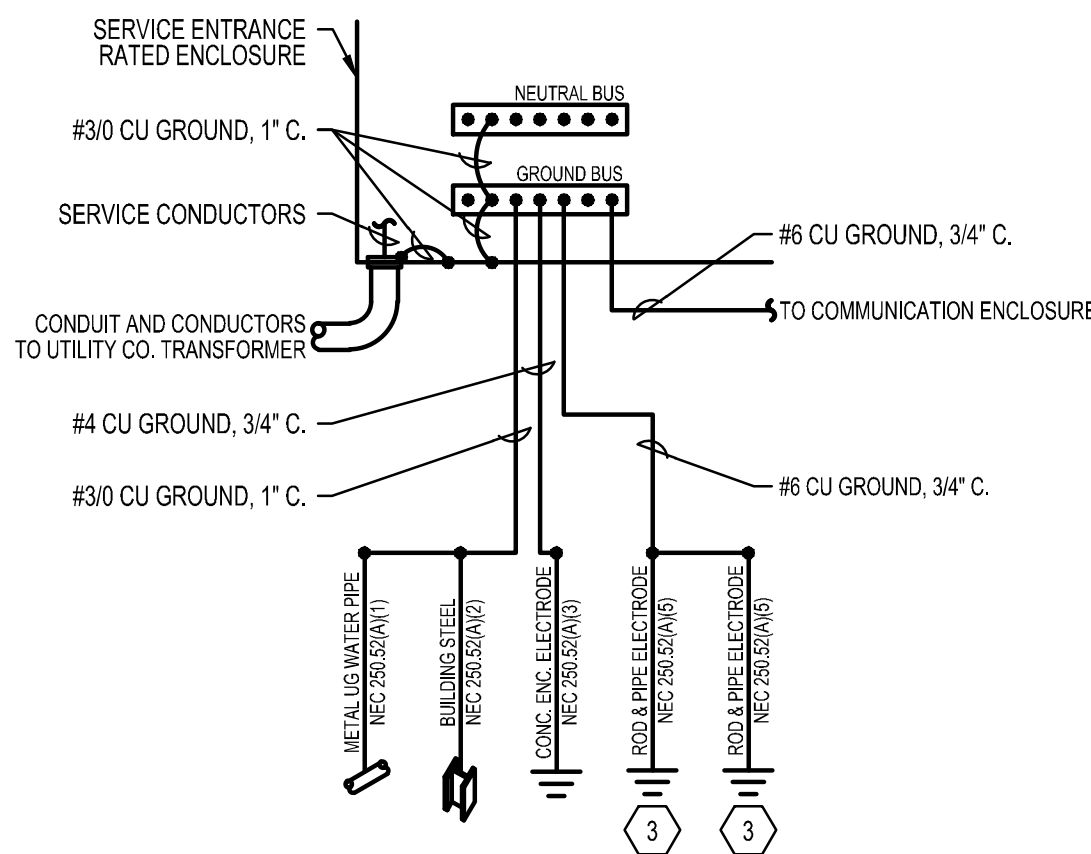
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ENLARGED LIGHTING PLANS

PERMIT SET



1 ELECTRICAL ONE-LINE DIAGRAM
SCALE: NO SCALE



2 SERVICE GROUNDING DETAIL
SCALE: NO SCALE

FEEDER SCHEDULE				
THHN/THWN COPPER CONDUCTORS W/ EG CONDUCTOR XHHW ALUMINUM CONDUCTORS W/ EG CONDUCTOR				
CONDUCTORS & GROUND				AMPS
CODE	SETS	CONDUCTORS	RACEWAY	
83	-	3#4,1#8G. (CU)	1"	85
123	-	3#1,1#6G. (CU)	1-1/2"	130
173	-	3#2/0,1#6G. (CU)	2"	175
224	-	4#4/0,1#4G. (CU)	2-1/2"	230
404	2	4#3/0,1#3G. (CU)	2"	400
T254	-	4#300KCM,1#2G. (CU)	3"	285
T404	2	4#4/0,1#1/0G. (CU)	2-1/2"	460
S1004	3	4#400KCM (CU)	3"	1005

NOTES:

- ALL CONDUCTORS AMPACITY BASED ON THE NEC TABLE 310-16 FOR CONDUCTORS W/ 75°C INSULATION.
- ALL RACEWAY SIZES (EMT/RMC/PVC 40) BASED ON THE NEC TABLE 4(CHAPTER 9), 40% FILL COLUMN.
- ELECTRICAL CONTRACTOR TO VERIFY ALL EQUIPMENT CONDUCTOR TERMINATION TEMPERATURE RATINGS (IE, 60°C OR 75°C), ADJUST CONDUCTOR AMPACITY AND CONDUIT SIZES ACCORDINGLY.
- VERIFY MAXIMUM NO. OF SETS OF SERVICE ENTRANCE CONDUCTORS ALLOWED W/ UTILITY CO.
- EQUIPMENT GROUNDING CONDUCTORS BASED ON T250.122. GROUND TO BE ADJUSTED PER T250.66 FOR SEPARATELY DERIVED SYSTEMS.
- ALUMINUM FEEDERS NOT TO BE USED ON TRANSFORMER SECONDARY CONDUCTORS.

VOLTAGE DROP CHART						
BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE FOR 1Ø CIRCUITS						
BRANCH CIRCUIT RATING (AMPS)	WIRE SIZE (AWG)	MAXIMUM LENGTH OF BRANCH CIRCUIT (FEET)				
		120V	208V	240V	277V	480V
20A	#12	50	90	110	125	200
	#10	80	150	175	200	350
	#8	140	230	280	320	550
	#6	215	375	430	500	870
30A	#10	50	100	110	130	225
	#8	80	160	180	210	360
	#6	135	250	280	325	560
	#4	220	400	450	525	910

NOTES:

1. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.

2. CONDUCTOR SIZES ARE BASED ON SOLID COPPER CONDUCTORS FOR WIRES SMALLER THAN #6 AND STRANDED COPPER CONDUCTORS FOR WIRES #6 AND LARGER, IN A SINGLE METAL CONDUIT.

3. LIMITS FOR CONDUCTOR LENGTH SHOWN ARE BASED ON A MAXIMUM OF 3% VOLTAGE DROP TO COMPLY WITH THE NEC FOR CIRCUITS LOADED UP TO 80% OF THE BRANCH BREAKER RATING. FIELD VERIFY EXACT BRANCH CIRCUIT LENGTHS AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

UNLESS NOTED OTHERWISE, WIRE SIZES CALLED OUT IN PANEL SCHEDULES DO NOT ACCOUNT FOR VOLTAGE DROP. CONTRACTOR SHALL INCREASE WIRE SIZES AS REQUIRED UTILIZING VOLTAGE DROP TABLE PROVIDED.

GENERAL NOTES

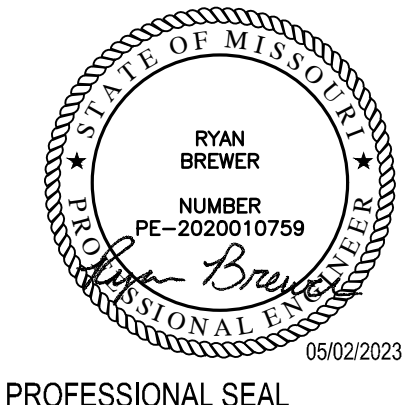
- (NOT ALL NOTES APPLY)
- REFERENCE SHEET E1.01 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
 - COORDINATE MOUNTING HEIGHTS AND LOCATIONS FOR ALL DEVICES WITH ARCHITECT AND/OR INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
 - FIELD VERIFY ALL ELECTRICAL WORK WITH OWNER PRIOR TO START OF PROJECT.

KEYED NOTES:

- PROVIDE UTILITY METER AND CT CABINET PER UTILITY COMPANY STANDARDS. INSTALLATION SHALL MEET ALL UTILITY COMPANY REQUIREMENTS AND LOCAL CODES.
- REFER TO DETAIL 2 (THIS SHEET) FOR ADDITIONAL INFORMATION.
- REFER TO NEC 250.53 FOR ADDITIONAL INFORMATION.
- MAIN BREAKER TO HAVE AN LSG (LONG TIME, SHORT TIME, INSTANTANEOUS AND GROUND FAULT) TRIP UNIT.
- PROVIDE ARC ENERGY REDUCTION MAINTENANCE SWITCH AS REQUIRED PER NEC 240.87.

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ELECTRICAL ONE-LINE DIAGRAM & SCHEDULES

[illegible][illegible]

LIGHTING FIXTURE SCHEDULE CONT.								
FIXT. TYPE	DESCRIPTION & MANUFACTURER OPTIONS	LAMPS		FIXT. VOLT	TOTAL WATTS	FINISH	REMARKS/MOUNTING	NOTES
		NO.	TYPE					
F	Linear LED Strip Light	1	LED	UNV	18.6W	Standard	Pendant (Verify Ht w/ Architect)	1
	M# LITHONIA #CLX-L48-3000LM-SEF_-_RDL-MVOLT							
FE	Linear LED Strip Light w/ Emergency Battery Pack	1	LED	UNV	18.6W	Standard	Pendant (Verify Ht w/ Architect)	1,2
	M# LITHONIA #CLX-L48-3000LM-SEF_-_RDL-MVOLT-P81050							
G1	Exterior LED WallPack	1	LED	UNV	15W	Coord. w/ Architect	Wall 14'-0" AFG (Refer Arch Elevation)	1
	M# LITHONIA #WEDGE2-LED-P2-40K-80CR-VF-MVOLT							
G1E	Exterior LED WallPack w/ Emergency Battery Pack	1	LED	UNV	15W	Coord. w/ Architect	Wall 14'-0" AFG (Refer Arch Elevation)	1,2
	M# LITHONIA #WEDGE2-LED-P2-40K-80CR-VF-MVOLT-E10WH							
G2	Exterior LED WallPack	1	LED	UNV	46.7W	Coord. w/ Architect	Wall 16'-0" AFG (Refer Arch Elevation)	1
	M# LITHONIA #WEDGE2-LED-P4-40K-80CR-14M-MVOLT							
G2E	Exterior LED WallPack w/ Emergency Battery Pack	1	LED	UNV	46.7W	Coord. w/ Architect	Wall 16'-0" AFG (Refer Arch Elevation)	1,2
	M# LITHONIA #WEDGE2-LED-P4-40K-80CR-14M-MVOLT-E10WH							
G3	Exterior LED WallPack	1	LED	UNV	16.8W	Coord. w/ Architect	Wall 5'-0" AFG (Refer Arch Elevation)	1,2
	M# INDESSA LTG #501-1LED19-MVOLT							
HB1	LED High Bay Light Fixture, 27,000 Lumens, 4000K w/ 0-10V Dimming	1	LED	UNV	195W	White	Pendant Mount at 26'-0" AFF. Field Coordinate Exact Location to Avoid Ceiling Mounted Equipment.	1
	M# LITHONIA #CPRB-AL014-UVOLT-SWW9-80CR-DWH							
HB1E	LED High Bay Light Fixture, 27,000 Lumens, 4000K w/ 0-10V Dimming and Emergency Battery Pack	1	LED	UNV	195W	White	Pendant Mount at 26'-0" AFF. Field Coordinate Exact Location to Avoid Ceiling Mounted Equipment.	1,2
	M# LITHONIA #CPRB-AL014-UVOLT-SWW9-80CR-DWH LITHONIA #R5AY BL0640WCP M4 (EMERGENCY BATTERY)							
HB2	LED High Bay Light Fixture, 21,000 Lumens, 4000K w/ 0-10V Dimming	1	LED	UNV	148W	White	Pendant Mount at 26'-0" AFF. Field Coordinate Exact Location to Avoid Ceiling Mounted Equipment.	1
	M# LITHONIA #CPRB-AL014-UVOLT-SWW9-80CR-DWH							
HB2E	LED High Bay Light Fixture, 21,000 Lumens, 4000K w/ 0-10V Dimming and Emergency Battery Pack	1	LED	UNV	148W	White	Pendant Mount at 26'-0" AFF. Field Coordinate Exact Location to Avoid Ceiling Mounted Equipment.	1,2
	M# LITHONIA #CPRB-AL014-UVOLT-SWW9-80CR-DWH LITHONIA #R5AY BL0640WCP M4 (EMERGENCY BATTERY)							
HB3	LED High Bay Light Fixture, 12,000 Lumens, 4000K w/ 0-10V Dimming	1	LED	UNV	83W	White	Pendant Mount at 26'-0" AFF. Field Coordinate Exact Location to Avoid Ceiling Mounted Equipment.	1
	M# LITHONIA #CPRB-AL013-UVOLT-SWW9-80CR-DWH							
HB3E	LED High Bay Light Fixture, 12,000 Lumens, 4000K w/ 0-10V Dimming and Emergency Battery Pack	1	LED	UNV	83W	White	Pendant Mount at 26'-0" AFF. Field Coordinate Exact Location to Avoid Ceiling Mounted Equipment.	1,2
	M# LITHONIA #CPRB-AL013-UVOLT-SWW9-80CR-DWH LITHONIA #R5AY BL0640WCP M4 (EMERGENCY BATTERY)							
J	Pendant Mounted LED Cylinder w/ 0-10V Dimming	1	LED	UNV	22.5W	Coord. w/ Architect	Coord. w/ Architect	1
	M# LITHONIA #LDN6CYL-40-20-L06-AR-LSS-MVOLT-G21-PM							
SL1	Pole Mounted LED Parking Area Fixture	1	LED	480V/ 1 PH	133W	White	Pole Mounted at 22'-0" AFG.	
	M# LITHONIA #RSX1-LED-P4-40K-R3-RVOLT							
SL2	Pole Mounted LED Parking Area Fixture	1	LED	480V/ 1 PH	150W	White	Pole Mounted at 22'-0" AFG.	
	M# LITHONIA #RSX1-LED-P3-40K-R5-RVOLT							
SFP	In-Grade Flag Pole Luminaire w/ 0-10V Dimming	1	LED	UNV	46W	Coord. w/ Architect	Recessed (In-Grade)	1
	M# HYDREL #M9720C-LED-P3-MVOLT-NSP-LQM							
T	Wall Mounted LED Cylinder w/ 0-10V Dimming	1	LED	UNV	22.5W	Coord. w/ Architect	Coord. w/ Architect	1
	M# LITHONIA #LDN6CYL-40-20-L06-AR-LSS-MVOLT-G21-WM							
X1	LED Exit Sign, Single/Double Sided, Universal Mount, Emergency Battery Pack. Provide Arrows as Indicated.	1	LED	UNV	2W		Wall/Ceiling/Pendant	2
	M# DUAL LITE #EVE-U-R-W-E EVEN LITE #TLX-BM-RU-W (OR EQUAL)							
NOTES:								
1. Coordinate Exact Mounting Height and Location of All Fixtures With Owner and Architect Prior to Rough-In.								
2. Circuit Emergency Battery Packs and Exit Signs to Local Lighting Circuit Ahead of Any Means of Control for Proper Operation.								

FIXT. TYPE	DESCRIPTION & MANUFACTURER OPTIONS	LAMPS		FIXT. VOLT	TOTAL WATTS	FINISH	REMARKS/MOUNTING	NOTES
		NO.	TYPE					
A1	2x2 LED Panel	1	LED	UNV	31W	Standard	Recessed (Lay-in)	1
	M# LITHONIA #CPX-2X2-3200LM-80CR-35K-SWL-MVOLT							
A1E	2x2 LED Panel w/ Emergency Battery Pack	1	LED	UNV	31W	Standard	Recessed (Lay-in)	1,2
	M# LITHONIA #CPX-2X2-3200LM-80CR-35K-SWL-MVOLT-E10WLCF							
A2	2x2 LED Panel	1	LED	UNV	36.3W	Standard	Recessed (Lay-in)	1
	M# LITHONIA #CPX-2X2-4000LM-80CR-35K-SWL-MVOLT							
A2E	2x2 LED Panel w/ Emergency Battery Pack	1	LED	UNV	36.3W	Standard	Recessed (Lay-in)	1,2
	M# LITHONIA #CPX-2X2-3200LM-80CR-35K-SWL-MVOLT-E10WLCF							
A3	2x2 LED Panel	1	LED	UNV	15.6W	Standard	Recessed (Lay-in)	1
	M# LITHONIA #CPX-2X2-2000LM-80CR-35K-SWL-MVOLT							
A4E	48" Diameter Moon Ring LED Pendant in Concourse Area w/ Acoustic Insert, Emergency Battery Pack and 0-10V Dimming	1	LED	UNV	97W	Coord. w/ Architect	Coord. w/ Architect	1,2
	M# ALW #MR1.5-D4-SS-MED-80-4000K-V01-LENS-N-N-SW-UNV-EMB W/ ACOUSTIC INSERT							
A6E	72" Diameter Moon Ring LED Pendant in Concourse Area w/ Acoustic Insert, Emergency Battery Pack and 0-10V Dimming	1	LED	UNV	147W	Coord. w/ Architect	Coord. w/ Architect	1,2
	M# ALW #MR1.5-D6-SS-MED-80-4000K-V01-LENS-N-N-SW-UNV-EMB W/ ACOUSTIC INSERT							
B1	LED Downlight w/ 0-10V Dimming	1	LED	UNV	7.9W	Standard	Recessed (Ceiling - Provide Flange)	1
	M# GOTHAM LTG #EV04-35-07-AR-LSS-MWD-MVOLT-GZ1							
B1E	LED Downlight w/ 0-10V Dimming and Emergency Battery Pack	1	LED	UNV	7.9W	Standard	Recessed (Ceiling - Provide Flange)	1,2
	M# GOTHAM LTG #EV04-35-07-AR-LSS-MWD-MVOLT-GZ1-EL							
B2	LED Downlight	1	LED	UNV	8.8W	Standard	Recessed (Ceiling - Provide Flange)	1
	M# GOTHAM LTG #EV04-35-10-AR-LSS-MWD-MVOLT							
B2E	LED Downlight w/ Emergency Battery Pack	1	LED	UNV	8.8W	Standard	Recessed (Ceiling - Provide Flange)	1,2
	M# GOTHAM LTG #EV04-35-10-AR-LSS-MWD-MVOLT-EL							
B3	LED Downlight	1	LED	UNV	8.8W	Standard	Recessed (Ceiling - Provide Flange)	1
	M# GOTHAM LTG #EV04-35-10-AR-LSS-MD-MVOLT							
B4E	48" Diameter Moon Ring LED Pendant in Concourse Area w/ Emergency Battery Pack and 0-10V Dimming	1	LED	UNV	97W	Coord. w/ Architect	Coord. w/ Architect	1,2
	M# ALW #MR1.5-D4-SS-MED-80-4000K-V01-LENS-N-N-SW-UNV-EMB W/ ACOUSTIC INSERT							
B5	LED Downlight	1	LED	UNV	13.7W	Standard	Recessed (Ceiling - Provide Flange)	1
	M# GOTHAM LTG #EV04-35-15-AR-LSS-MWD-MVOLT							
B5E	LED Downlight w/ Emergency Battery Pack	1	LED	UNV	13.7W	Standard	Recessed (Ceiling - Provide Flange)	1,2
	M# GOTHAM LTG #EV04-35-15-AR-LSS-MWD-MVOLT-EL							
B6E	72" Diameter Moon Ring LED Pendant in Concourse Area w/ Emergency Battery Pack and 0-10V Dimming	1	LED	UNV	147W	Coord. w/ Architect	Coord. w/ Architect	1,2
	M# ALW #MR1.5-D6-SS-MED-80-4000K-V01-LENS-N-N-SW-UNV-EMB W/ ACOUSTIC INSERT							
C	Adjustable Output LED Strip Light	1	LED	UNV	35.8W	Standard	Pendant (Verify Ht w/ Architect)	1
	M# LITHONIA #CSS-L48-AL03-MVOLT-SWW3-80CR							
CE	Adjustable Output LED Strip Light w/ Emergency Battery Pack	1	LED	UNV	35.8W	Standard	Pendant (Verify Ht w/ Architect)	1,2
	M# LITHONIA #CSS-L48-AL03-MVOLT-SWW3-80CR-IE10WCPIE							
C3	Suspended, Round Linear LED in Concourse Area	1	LED	UNV	6.2W/ FT	Standard	Pendant (Verify Ht w/ Architect)	1
	M# ALW #LP3.5R-4FT-LOW-DIRECT-80-4000-V01-UNV							
C3E	Suspended, Round Linear LED in Concourse Area w/ Emergency Battery Pack	1	LED	UNV	6.2W/ FT	Standard	Pendant (Verify Ht w/ Architect)	1,2
	M# ALW #LP3.5R-4FT-LOW-DIRECT-80-4000-V01-UNV-EMB							
C4	Suspended, Round Linear LED in Concourse Area w/ 0-10V Dimming	1	LED	UNV	8.4W/ FT	Standard	Pendant (Verify Ht w/ Architect)	1
	M# ALW #LP3.5R-4FT-MED-DIRECT-80-4000-V01-UNV							
C4E	Suspended, Round Linear LED in Concourse Area w/ 0-10V Dimming and Emergency Battery Pack	1	LED	UNV	8.4W/ FT	Standard	Pendant (Verify Ht w/ Architect)	1,2
	M# ALW #LP3.5R-4FT-MED-DIRECT-80-4000-V01-UNV-EMB							
D	Damp Location Rated LED Downlight	1	LED	UNV	10W	Standard	Recessed (Ceiling - Provide Flange)	1
	M# GOTHAM LTG #EV06SQ-40-10-AR-LSS-MVOLT							
DE	Damp Location Rated LED Downlight w/ Emergency Battery Pack	1	LED	UNV	10W	Standard	Recessed (Ceiling - Provide Flange)	1,2
	M# GOTHAM LTG #EV06SQ-40-10-AR-LSS-MVOLT-ELR							

LIGHTING CONTROLS SCHEDULE					
FIXTURE TAG	MANUFACTURER	MODEL #	SETTINGS	DESCRIPTION	NOTES
DC	ACUITY BRANDS :nLIGHT	HP16-D SERIES	REFER TO PLANS FOR CONTROL INTENT	ON/OFF ROOM 0-10V/DIMMING CONTROLLER LINE VOLTAGE - SINGLE RELAY	1,2,4
DC2	ACUITY BRANDS :nLIGHT	HPSP PCD-2W/3W.M.VELC 12	REFER TO PLANS FOR CONTROL INTENT	M.V. ELV 2-WIRE, 3-WIRE DIMMING POWER PACK	1,2,4
SC	ACUITY BRANDS :nLIGHT	HP16 SERIES	REFER TO PLANS FOR CONTROL INTENT	ON/OFF ROOM SWITCH CONTROLLER LINE VOLTAGE - SINGLE RELAY	1,2,4
L1	ACUITY BRANDS :nLIGHT	HP00M-DX	-	ON/OFF AND DIMMING LOW VOLTAGE SWITCH WITH 1-CHANNEL CONTROL	1,6
L2	ACUITY BRANDS :nLIGHT	HP00M-2P-DX	-	ON/OFF AND DIMMING LOW VOLTAGE SWITCH WITH 2-CHANNEL CONTROL	1,6
L3	ACUITY BRANDS :nLIGHT	HP00M	-	ON/OFF LOW VOLTAGE SWITCH WITH 1-CHANNEL CONTROL	1,6
L5	ACUITY BRANDS :nLIGHT	HP00M-4P	-	ON/OFF AND DIMMING LOW VOLTAGE SWITCH WITH 4-CHANNEL CONTROL	1,6
PC1	ACUITY BRANDS :nLIGHT	RCM-ADCX-RJB	-	CEILING MOUNTED AUTOMATIC DIMMING CONTROL, PHOTOCELL SENSOR	1
PC2	ACUITY BRANDS :nLIGHT	ARPAPC	-	EXTERIOR PHOTOCELL SENSOR FOR SWITCHING ONLY	1
S1	SENSOR SWITCH	WSX SERIES	REFER TO PLANS FOR CONTROL INTENT	WALL MOUNT OCCUPANCY SENSOR LINE VOLTAGE - SINGLE RELAY	1
S3	ACUITY BRANDS :nLIGHT	RCM-9 SERIES	-	CEILING MOUNT OCCUPANCY SENSOR - SMALL MOTION LOW VOLTAGE	3
S4	ACUITY BRANDS :nLIGHT	RCM-10 SERIES	-	CEILING MOUNT OCCUPANCY SENSOR - LARGE MOTION LOW VOLTAGE	3
WIRE	-	-	-	CATS, CAT5e, OR CAT 6, STANDARD OR SOLID, TERMINATED AS RJ45, TIA/EIA-568B	
BR	ACUITY BRANDS :nLIGHT	ABRO-8-KIT	-	8-PORT nLIGHT BRIDGE	5
LCPA	ACUITY BRANDS :nLIGHT	ARP INTENC08 NLT 16FCR-MOLT-SM-DTC	-	16-POLE ARP RELAY PANEL WITH DIGITAL TIME CLOCK	
LCPB	ACUITY BRANDS :nLIGHT	ARP INTENC16 NLT 16FCR-MOLT-SM	-	16-POLE ARP RELAY PANEL, CONNECT TO LCPA VIA BRIDGE AS REQUIRED	

NOTES:

- COORDINATE ALL MODEL NUMBERS WITH MANUFACTURER PRIOR TO ORDERING. PROVIDE DEVICES TO MEET CONTROL INTENT INDICATED ON THE DRAWINGS.
- PROVIDE 6" OF EXCESS CONTROL WIRING, COILED AND TIED, BETWEEN CEILING MOUNTED OCCUPANCY SENSOR AND CORRESPONDING LOAD CONTROLLER.
- MODIFY LOCATIONS OF CEILING MOUNTED OCCUPANCY SENSORS AS REQUIRED SO THAT NO OCCUPANCY SENSORS IS WITHIN 4' OF AN HVAC SUPPLY DIFFUSER
- LOCATE DEVICE ABOVE CEILING OR IN STRUCTURE IN ACCESSIBLE LOCATION. LOCATIONS SHOWN ON DRAWINGS ARE SCHEMATIC, ADD ACCESS PANEL WITH CEILING IF NECESSARY. COORDINATE ACCESS PANEL LOCATION AND SPECIFICATION DIRECTLY WITH ARCHITECT.
- LOCATION SHOWN ON PLAN FOR REFERENCE ONLY. CONTRACTOR MAY RELOCATE BRIDGE PORTS FOR A MORE ECONOMICAL LAYOUT IF DESIRED.
- ROUTE RECEPTACLE CIRCUIT INDICATED ON MAPS AS "CONTROLLED RECEPTACLES" THROUGH PLUG LOAD CONTROLLER FOR AUTOMATIC ON/OFF CONTROL. MAXIMUM PLUG LOAD: ONE CONTROLLED CIRCUIT PER PLUG CONTROLLER.
- DEVICE TO BE INSTALLED IN SINGLE GANGS BOX. COORDINATE TIME-OF-DAY SCHEDULES WITH OWNER FOR ZONES TO BE ON TIME-OF-DAY CONTROL.
- PENDANT MOUNT DEVICE TO 12" KNOCKOUT ON JUNCTION BOXES AS REQUIRED.

LIGHTING CONTROL PANEL SCHEDULE									
MOUNTING		SURFACE (NEMA 1)							
PANEL: LCPA									
RELAY NO.	ZONE DESCRIPTION	CONTROLLED CIRCUIT	MANUAL OVERRIDE	TIME ON	TIME OFF	PHOTOCELL OVERRIDE	DIMMING RELAY	NOTES	
1	EXTERIOR/LTGS	1HA-5	NO	NOTE #1	NOTE #1	ON/OFF	NO	#2	
2	POLE/LTGS	1HA-7	NO	NOTE #1	NOTE #1	ON/OFF	NO	#2	
3	POLE/LTGS	1HA-9	NO	NOTE #1	NOTE #1	ON/OFF	NO	#2	
4	CONCOURSE RINGS	1HA-11	YES, "Y"	NOTE #1	NOTE #1	N/A	YES	#1, #3, #4	
5	CONCOURSE PENDANTS	1HA-11	YES, "Y"	NOTE #1	NOTE #1	N/A	YES	#1, #3, #4	
6	CONCOURSE LINEAR LTGS	1HA-13	YES, "Y"	NOTE #1	NOTE #1	N/A	YES	#1, #4	
7	VESTIBULE LINEAR LTGS	1HA-13	YES, "Y"	NOTE #1	NOTE #1	N/A	YES	#1, #4	
8	FLAG POLE/LTGS	1HA-27	NO	NOTE #1	NOTE #1	N/A	NO	#2	
9	VESTIBULE SIGNAGE	1HA-21	NO	NOTE #1	NOTE #1	N/A	NO	#1	
10	EAST EXT. SIGNAGE	1HA-23	NO	NOTE #1	NOTE #1	N/A	NO	#2	
11	SOUTH EXT. SIGNAGE	1HA-25	NO	NOTE #1	NOTE #1	N/A	NO	#2	
12	BACKLIT ENTRY LETTERING	1HA-27	NO	NOTE #1	NOTE #1	N/A	NO	#2	
13	SPARE								
14	SPARE								
15	SPARE								
16	SPARE								

NOTES:

- CIRCUIT TO BE ON TIME-OF-DAY SCHEDULE. VERIFY TIME-OF-DAY SCHEDULE WITH OWNER AS REQUIRED.
- CIRCUIT TO BE ON TIME-OF-DAY SCHEDULE WITH PHOTOCELL OVERRIDE. VERIFY TIME-OF-DAY SCHEDULE WITH OWNER AS REQUIRED.
- THIS ZONE TO AUTOMATICALLY DIM/SHUT DOWN VIA PHOTOCELL TO MAINTAIN DESIRED FOOTCANDLE LEVEL, BASED ON AMOUNT DAYLIGHT PRESENT.
- THIS ZONE TO DIM/SHUT DOWN VIA LOW-VOLTAGE CONTROL STATION.
- EXHAUST FAN TO RUN CONTINUOUSLY DURING BUSINESS HOURS. VERIFY SCHEDULE WITH OWNER.
- VERIFY EXACT DIMMING TYPE OF FIXTURE AND PROVIDE ALL ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERATIONAL "S" SYSTEM.
- PROVIDE VOLTAGE BARRIERS IN RELAY PANEL AS REQUIRED.

LIGHTING CONTROL PANEL SCHEDULE									
MOUNTING		SURFACE (NEMA 1)							
PANEL: LCPB									
RELAY NO.	ZONE DESCRIPTION	CONTROLLED CIRCUIT	MANUAL OVERRIDE	TIME ON	TIME OFF	PHOTOCELL OVERRIDE	DIMMING RELAY	NOTES	
1	BASISBALL FLD ROW 1 LTG	1H-1	YES, 'a'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
2	BASISBALL FLD ROW 2 LTG	1H-3	YES, 'b'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
3	BASISBALL FLD ROW 3 LTG	1H-5	YES, 'c'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
4	BASISBALL FLD ROW 4 LTG	1H-7	YES, 'd'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
5	BASISBALL FLD ROW 5 LTG	1H-9	YES, 'f'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
6	MENS RR LTG	1H-11	YES, 'g'	NOTE #1	NOTE #1	N/A	NO	#1	
7	WOMENS RR LTG	1H-11	YES, 'h'	NOTE #1	NOTE #1	N/A	NO	#1	
8	BBALL COURT #4 LTG	1H-15	YES, 'j'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
9	BBALL COURT #3 LTG	1H-17	YES, 'k'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
10	BBALL COURT #2 LTG	1H-19	YES, 'm'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
11	BBALL COURT #1 LTG	1H-21	YES, 'n'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
12	BBALL AREA GENERAL LTG	1H-23	YES, 'o'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
13	VESTWATING LTG	1H-25	YES, 'v'	NOTE #1	NOTE #1	N/A	YES	#1, #4, #6	
14	MEZZANINE LTG	1H-27	YES, 'p'	NOTE #1	NOTE #1	N/A	YES	#4, #6	
15	MEN/WOMEN RR EX FANS	1LB-55	NO	NOTE #1	NOTE #1	N/A	NO	#5, #7	
16	MEZZANINE/EXLLUM SIGN	1LB-47	NO	NOTE #1	NOTE #1	N/A	NO	#1	

NOTES:

1. CIRCUIT TO BE ON TIME-OF-DAY SCHEDULE. VERIFY TIME-OF-DAY SCHEDULE WITH OWNER AS REQUIRED.
2. CIRCUIT TO BE ON TIME-OF-DAY SCHEDULE VIA PHOTOCELL OVERRIDE. VERIFY TIME-OF-DAY SCHEDULE WITH OWNER AS REQUIRED.
3. THIS ZONE TO AUTOMATICALLY DIM/UPDOWN VIA CIRCUIT TO MAINTAIN DESIRED FOOTCANDLE LEVEL, BASED ON AMOUNT DAYLIGHT PRESENT.
4. THIS ZONE TO DIM/UPDOWN VIA LOW-VOLTAGE CONTROL SYSTEM.
5. EXHAUST FAN TO RUN CONTINUOUSLY DURING BUSINESS HOURS. VERIFY SCHEDULE WITH OWNER.
6. VERIFY EXACT DIMMING TYPE OF FIXTURE AND PROVIDE ALL ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERATIONAL 'SLY' SYSTEM.
7. PROVIDE VOLTAGE BARRIERS IN RELAY PANEL AS REQUIRED.

16000 - ELECTRICAL

GENERAL

DESCRIPTION
DIVISION 16 OF THE SPECIFICATIONS COVERS ALL ELECTRICAL WORK FOR THE PROJECT. WORK SHALL INCLUDE LABOR, MATERIAL, AND ACCESSORIES NECESSARY TO ACCOMPLISH THE WORK AS SPECIFIED AND SHOWN ON THE DRAWINGS, INCLUDING CONNECTION AND CHECKOUTS OF EQUIPMENT FURNISHED BY OTHERS (OTHER TRADES, THE OWNER AND OTHER CONTRACTORS), AND TO ALL EQUIPMENT ITEMS AND AS INDICATED ON DRAWINGS OR AS REQUIRED.

THE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS INCLUDING THE GENERAL CONDITIONS, INCLUDING ALL SUPPLEMENTS ISSUED THERETO, INSTRUCTIONS TO BIDDERS, AND OTHERS PERTINENT DOCUMENTS ISSUED BY THE ARCHITECT ARE A PART OF THESE SPECIFICATIONS AND ELECTRICAL DRAWINGS. THIS TRADE SHALL CONSULT THEM FOR INSTRUCTIONS WHICH APPLY. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL LAYOUT AND WORK INCLUDED. ELECTRICIAN SHALL FOLLOW DRAWINGS IN LAYOUT THE ELECTRICAL WORK AND CONSULT THE DRAWINGS AND LAYOUTS OF OTHER TRADES TO VERIFY LOCATION AND SPACES IN WHICH WORK WILL BE INSTALLED.

CODES, PERMITS, INSPECTION AND COMMISSIONING

INSTALLATION SHALL COMPLY WITH ALL LAWS APPLYING TO ELECTRICAL WORK INCLUDING THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (N.E.C.), THE NATIONAL ELECTRICAL SAFETY CODE, ALL LOCAL GOVERNING CODES AND ORDINANCES, WITH THE REGULATIONS OF THE SERVING ELECTRICAL UTILITY COMPANY. PROVIDE ALL REQUIRED PERMITS AND INCLUDE THE COST OF SAME IN THE COST OF THE PROJECT. OBTAIN AND PAY FOR (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ALL REQUIRED INSPECTIONS AND REVIEWS. PROVIDE FOR AND PAY ALL EXPENSES (WITHOUT ADDITIONAL EXPENSE TO THE OWNER) ASSOCIATED WITH LIGHTING AND LIGHTING CONTROLS. COMMISSIONING: ALL COMMISSIONING DOCUMENTATION SHALL BE CERTIFIED AND GIVEN TO OWNER AND DESIGN PROFESSIONAL.

QUALITY ASSURANCE

THE FOLLOWING INDUSTRY STANDARDS AS APPLICABLE TO ELECTRICAL WORK SHALL APPLY TO THE WORK OF THIS DIVISION EXCEPT THAT, WHERE THE REQUIREMENTS OF THESE SPECIFICATIONS ARE MORE THAN THE LISTED STANDARD, THESE SPECIFICATIONS SHALL TAKE PRECEDENCE:

UL - UNDERWRITERS' LABORATORIES

NEMA - NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
NECA - NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION
ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE
ASTM - AMERICAN SOCIETY OF TESTING MATERIALS.

ALL MATERIALS SHALL BE NEW, UL LISTED AND LABELED WHERE LABELED MATERIALS ARE AVAILABLE, UNDAMAGED AND FREE OF DEFECTS AT TIME OF INSTALLATION. MATERIALS OR EQUIPMENT DAMAGED IN SHIPMENT OR OTHERWISE DAMAGED PRIOR TO OR DURING INSTALLATION SHALL NOT BE REPAIRED AT THE JOB SITE, BUT SHALL BE REPLACED WITH NEW MATERIALS. WHEN THE MANUFACTURER'S NAME APPEARS IN THESE SPECIFICATIONS AND DRAWINGS, IT SHALL BE CONSTRUED THAT THE MANUFACTURER HAS TO MEET THE FULL REQUIREMENTS OF THE SPECIFICATIONS AND DRAWINGS.

SUBMITTALS

SUBMIT SHOP DRAWINGS AND PRODUCT DATA FOR EQUIPMENT TO THE ARCHITECT FOR ENGINEER'S REVIEW ELECTRONICALLY OR HARD COPIES. INCLUDE SUFFICIENT INFORMATION TO INDICATE COMPLETE COMPLIANCE WITH SPECIFICATIONS. PROVIDE SUBMITTALS AS EARLY AS REQUIRED TO SUPPORT THE PROJECT SCHEDULE. ALLOW ONE WEEK FOR ENGINEER REVIEW TIME. THE ENGINEER'S SUBMITTAL REVIEWS WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ERRORS IN DIMENSIONS, DETAILS, SIZE OF MEMBERS, OR QUANTITIES; OR FOR OMITTING COMPONENTS OR FITTINGS; OR FOR NOT COORDINATING ITEMS WITH ACTUAL BUILDING CONDITIONS AND/OR OTHER TRADES.

OWNER RECORDS

ACCUMULATE DURING THE PROGRESS OF THE JOB, THE FOLLOWING DATA IN DUPLICATE, AND PREPARE IN A NEAT BROCHURE OR PACKET FOLDER TO BE TURNED OVER TO THE OWNER AT SUBSTANTIAL COMPLETION: RECORD DRAWINGS PER ABOVE.

ALL WARRANTIES, GUARANTEES, AND MANUFACTURER'S DIRECTION ON EQUIPMENT & MATERIAL FURNISHED.

COMPLETE PLAIN ENGLISH STEP-BY-STEP OPERATING INSTRUCTIONS FOR THE ELECTRICAL SYSTEM. ONE COPY OF THESE INSTRUCTIONS SHALL BE FRAMED AND POSTED AS DIRECTED ON THE PREMISES.

CERTIFIED LIGHTING AND LIGHTING CONTROLS COMMISSIONING AS REQUIRED BY CURRENTLY ADOPTED ENERGY CODE REQUIREMENTS.

MANUFACTURERS' NAMES AND CATALOG NUMBERS
IN SOME INSTANCES, SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBERS. USE OF NAMES AND CATALOG NUMBERS DOES NOT INDICATE THAT THE EQUIPMENT SPECIFIED IS NECESSARILY AN "OFF THE SHELF" ITEM. VARIANCES MAY BE DUE TO REQUIREMENT OF DESIRED FINISH, MATERIAL OR OTHER MODIFICATION.

IN THE CASE OF PANELBOARDS, SAFETY SWITCHES AND OTHER EQUIPMENT REQUIRING WIRE AND CABLE TERMINATIONS, ASCERTAIN THAT LUG SIZES AND WIRING OUTLERS OR WIRING SPACE ALLOWED IS PROPER FOR THE WIRES AND CABLES CONTAINED THEREIN.

WHEN APPROVAL IS GIVEN FOR THE USE OF EQUIPMENT DIFFERING FROM THAT SHOWN ON DRAWINGS IN REGARD TO FOUNDATIONS, SPACE FOR PIPING, DUCTWORK, WIRING, INSULATION, ETC. CHANGES REQUIRED TO ACCOMPLISH SUCH DIFFERENCES SHALL BE ACCOMPLISHED AT NO COST TO THE OWNER.

PROTECTION OF EQUIPMENT
ELECTRICAL EQUIPMENT SHALL BE PROTECTED FROM THE WEATHER, IN PARTICULAR, DRIPPING OR SPLASHING WATER, AT ALL TIMES DURING SHIPMENT, STORAGE AND CONSTRUCTION. MANUFACTURER'S RECOMMENDATIONS WITH REGARD TO STORAGE, PROTECTION, AND HANDLING SHALL BE FOLLOWED.

SHOULD ANY APPARATUS BE SUBJECTED TO POSSIBLE INJURY DUE TO WATER, IT SHALL BE THOROUGHLY DRIED AND PUT THROUGH A DIELECTRIC TEST, AT THE EXPENSE OF THE CONTRACTOR, TO ASCERTAIN THE SUITABILITY OF THE APPARATUS OR IT SHALL BE REPLACED WITHOUT ADDITIONAL COST TO THE OWNER.

DAMAGED OR DEFECTIVE EQUIPMENT. INSPECT ALL ELECTRICAL EQUIPMENT AND MATERIALS PRIOR TO INSTALLATION. INSTALLATION OR PLACEMENT INTO SERVICE OF DAMAGED MATERIALS WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER IS PROHIBITED. REPLACE OR REPAIR TO NEW CONDITION, AS CERTIFIED BY THE MANUFACTURER, AND TEST DAMAGED EQUIPMENT IN COMPLIANCE WITH INDUSTRY STANDARDS AT NO ADDITIONAL COST TO THE OWNER. EQUIPMENT REQUIRED FOR THE TESTING SHALL BE PROVIDED BY THE CONTRACTOR.

WORKING CLEARANCE

THE SIZE OF ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS IS BASED ON DIMENSIONS OF A PARTICULAR MANUFACTURER, (GENERALLY THE FIRST NAMED), WHILE OTHER MANUFACTURERS MAY BE ACCEPTABLE, IT IS THE RESPONSIBILITY OF THE TRADE TO DETERMINE IF THE EQUIPMENT PROPOSED WILL FIT IN THE ALLOCATED SPACE.

INSTALL ALL EQUIPMENT IN A MANNER TO PERMIT ACCESS TO ALL SURFACES. MAINTAIN PROPER CLEARANCE TO MEET ALL SAFETY AND OPERATING CODES, PARTICULARLY N.E.C. INCLUDE ALL REQUIREMENTS DICTATED BY OPERATION, CONTROL, ADJUSTMENT, MAINTENANCE AND POSSIBLE REPLACEMENT OF EQUIPMENT IN DETERMINING CLEARANCE.

SHOULD THERE BE APPARENT VIOLATIONS OF N.E.C. CLEARANCE, NOTIFY THE ARCHITECT-ENGINEER BEFORE PROCEEDING WITH CONNECTION OR PLACEMENT OF EQUIPMENT.

COORDINATION

INSTALLATION STUDIES ARE REQUIRED TO COORDINATE THE ELECTRICAL WORK WITH THE WORK OF OTHER TRADES. PREPARE COORDINATION DRAWINGS AT ACCURATE SCALE WHERE SEVERAL ELEMENTS OF ELECTRICAL OR COMBINED MECHANICAL/STRUCTURALELECTRICAL WORK MUST BE SEQUENCED AND POSITIONED WITH PRECISION IN ORDER TO FIT INTO THE AVAILABLE SPACE.

SHOW THE ACTUAL PHYSICAL DIMENSIONS REQUIRED FOR PROPER INTEGRATION OF EQUIPMENT WITH BUILDING SYSTEMS.

PROVIDE APPROVED SHOP DRAWINGS TO ALL REQUIRED DISCIPLINES AND VERIFY FINAL ELECTRICAL CHARACTERISTICS BEFORE ROUGHING POWER FEEDS TO ANY EQUIPMENT. WHEN ELECTRICAL WORK ON APPROVED SHOP DRAWINGS DIFFERS FROM CONTEMPLATED DESIGN, MAKE NECESSARY ADJUSTMENTS TO THE WIRING, DISCONNECTS, AND BRANCH-CIRCUIT PROTECTION FOR THE EQUIPMENT ACTUALLY INSTALLED AT NO ADDITIONAL COST TO THE OWNER.

DAMAGE FROM INTERFERENCE CAUSED BY INADEQUATE COORDINATION SHALL BE RECTIFIED AT NO ADDITIONAL COST TO THE OWNER.

WORKMANSHIP

ALL WORK SHALL BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.

ANY MATERIAL ITEMS OR WORK NOT SHOWN ON THE DRAWINGS, BUT MENTIONED IN THESE SPECIFICATIONS OR VISA-VERB, OR ANY ACCESSORIES NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.

THIS TRADE SHALL DO OR HAVE DONE BY COMPETENT TRADESMEN ALL CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF THIS WORK. NO CUTTING IN CONSTRUCTIVE PARTS OF THE BUILDING LIKELY TO IMPAIR ITS STRENGTH SHALL BE DONE WITHOUT THE ARCHITECT-ENGINEER'S WRITTEN APPROVAL.

EXCAVATION AND BACKFILL

EXCAVATION, TRENCHING AND BACKFILLING ARE SPECIFIED IN SECTION EXCAVATION. TRENCHING AND BACKFILLING FOR UTILITIES. CONDUIT IS TO BE INSTALLED AS SPECIFIED FOR PRELINES. CONDUIT INSTALLED BENEATH FLOOR SLAB SHALL BE A MINIMUM OF 6" BELOW SLAB. BACKFILL OVER CONDUIT SHALL BE COMPACTED AS FOR SLAB BEDDING MATERIAL. REFER TO STRUCTURAL DRAWINGS FOR DETAILS OF CONDUIT (PIPE) PENETRATION OF EXTERIOR FOOTINGS. COMPLETE INSTALLATION SHALL CONFORM TO N.E.C.

PENETRATIONS

COORDINATE SLEEVE SELECTION AND APPLICATION WITH SELECTION AND APPLICATION OF FIRE-STOPPING SPECIFIED IN ARCHITECTURAL SPECIFICATIONS.

ROOFS: COORDINATE ALL ROOF PENETRATIONS WITH ENGINEER, OWNER, AND AS APPLICABLE, THE ROOFING CONTRACTOR PROVIDING A ROOF WARRANTY. KEEP ALL RACEWAY PENETRATIONS WITH MECHANICAL EQUIPMENT CURBS (WHEREVER POSSIBLE). COORDINATE KNOCKOUTS, FLASH AND COUNTERFLASH ALL OPENINGS THROUGH ROOF, AND/OR PROVIDE PRE-FABRICATED MOLDED SEALS COMPATIBLE WITH THE ROOF CONSTRUCTION INSTALLED, OR AS REQUIRED BY THE ENGINEER, OWNER, OR ROOFING CONTRACTOR. ALL ROOF PENETRATIONS SHALL BE LEAKTIGHT AT THE TERMINATING OF THE WORK AND SHALL NOT VOID ANY NEW OR EXISTING ROOF WARRANTIES.

WALLS AND FLOORS - SLEEVES FOR RACEWAYS AND CABLES: STEEL PIPE SLEEVES: ASTM A 53M S3M, TYPE S, GRADE B, SCHEDULE 40, GALVANIZED STEEL, PLAIN ENDS AND DRIP RINGS.

CAST IRON PIPE SLEEVES: CAST OR FABRICATED "WALL PIPE," EQUIVALENT TO DUCTILE-IRON PRESSURE PIPE, WITH FLAM ENDS AND INTEGRAL, SATERSTOP, UNLESS OTHERWISE INDICATED.

FIRESTOPPING: FIRE RESISTANT THROUGH PENETRAION SEALANTS - TWO PART, FOAMED-IN-PLACE, SILICONE SEALANT FORMULATED FOR USE IN THROUGH-PENETRAION FIRE-STOPPING AROUND CABLES, RACEWAYS, AND CABLE TRAY PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOORS. SEALANTS AND ACCESSORIES SHALL HAVE FIRE-RESISTANCE RATINGS INDICATED, AS ESTABLISHED BY TESTING IDENTICAL ASSEMBLIES IN ACCORDANCE WITH ASTM E 814, BY UNDERWRITERS' LABORATORIES, INC., OR OTHER NRTL ACCEPTABLE TO AHJ.

ACCEPTABLE MANUFACTURERS - HILTI, INC., 3M CORP, RECTORSOL, SPECIFY TECHNOLOGY INC., UNITED STATES GYPSUM COMPANY.

ELECTRICAL SERVICE

SERVICE SHALL BE AS SHOWN ON DRAWINGS.

PROVIDE SECONDARY SERVICE INTO THE BUILDING WITH CONDUIT AND WIRING AS SHOWN ON THE PLANS, INCLUDING, BUT NOT LIMITED TO, UNDERGROUND RACEWAYS AND CABLES AND SECONDARY CONNECTIONS TO UTILITY TRANSFORMERS AS REQUIRED BY SERVING ELECTRICAL UTILITY COMPANY. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO BID.

PROVIDE ALL REQUIRED GROUNDING FOR A COMPLETE SERVICE ENTRANCE GROUNDING SYSTEM. PERMANENTLY AND EFFECTIVELY GROUND AND BOND THE ELECTRICAL INSTALLATION IN A THOROUGH AND EFFICIENT MANNER, AND IN CONFORMANCE WITH A MINIMUM WITH N.E.C. OR THESE DOCUMENTS, WHERE THEY EXCEED CODE REQUIREMENTS. USE BARE OR INSULATED CONDUCTORS, AS SPECIFIED HEREIN, AND OTHER MATERIALS INDICATED ON THE DRAWINGS.

PROVIDE ALL NECESSARY ENCLOSURES REQUIRED BY THE OWNER FOR THE UTILITY COMPANY METERING. REFER TO DRAWINGS FOR MINIMUM REQUIREMENTS. COORDINATE WITH UTILITY COMPANY PRIOR TO BID FOR ALL REQUIREMENTS.

PRODUCTS

GENERAL

ALL EQUIPMENT OF A PARTICULAR KIND, SUCH AS WIRING DEVICES AND PANELBOARDS AND ALL LIGHTING FIXTURES OF THE SAME TYPE, SHALL BE THE PRODUCT OF THE SAME MANUFACTURER.

PROVIDE ACCESS PANELS FOR ALL EQUIPMENT AND DEVICES REQUIRING SUCH PANELS. SIZE AS SPECIFIED FOR PROPER ACCESS AND MAINTENANCE. MINIMUM ACCEPTABLE IS 12 IN BY 12 IN CLEAR OPENINGS WHERE HAND ACCESS ONLY IS REQUIRED.

PROVIDE LABELS FOR EACH MOTOR CONTROLLER, SAFETY SWITCH, RELAY, PANELBOARD, CONTACTOR, THER, CONTROL DEVICE, METER AND CIRCUIT BREAKER. LABELS SHALL BE LAMINATED, PHENOLIC STRIPS 1/16" THICK, AND ENGRAVED TO SHOW BLACK LETTERS ON A WHITE BACKGROUND NOT LESS THAN 1/4" HIGH. SIZE STRIPS TO PROPERLY FIT MANUFACTURER'S BRACKETS AND BE LEGIBLE. WHERE LABELS, MAINTENANCE AND POSSIBLE REPLACEMENT, MOUNT LABELS WITH PROPER SCREWS, OR AN APPROVED ALDSIVE.

RACEWAYS

CONDUIT, RIGID STEEL, GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.1. FITTINGS SHALL BE PIPE THREADED, MALLEABLE IRON. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUIT, PVC, POLYVINYLCHLORIDE SCHEDULE 40 PIPE SPECIFICALLY MANUFACTURED AND LABELED (UL STANDARD 651) FOR USE AS ELECTRICAL CONDUIT. FITTINGS SHALL BE EITHER SOCKET WELDED TYPE OR PIPE THREADED WITH INSULATED THROAT.

CONDUIT, FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH GALVANIZED OR SHERADIZED FITTINGS. LISTED PER UL-4. FITTINGS SHALL BE OF THE SQUEEZE TYPE WITH INSULATED THROATS.

CONDUIT, LIQUIDTIGHT FLEXIBLE METALLIC: GALVANIZED, INTERLOCKED SPIRALLY WOUND STEEL STRIP WITH OVERLAP JACKET OF LIQUID TIGHT PVC, UL LISTED. FITTINGS SHALL BE STEEL OR MALLEABLE IRON INSULATED THROAT, WATERIGHT.

ELECTRIC METALLIC TUBING: GALVANIZED OR SHERADIZED AND MANUFACTURED IN ACCORDANCE WITH ANSI STANDARD C80.3. FITTINGS 1/2 INCH THROUGH 2 INCH TRADE SIZE SHALL BE COMPRESSION TYPE. MANUFACTURED FROM MALLEABLE IRON OR STEEL, AND RAIN AND/OR CONCRETE-TIGHT AS REQUIRED BY INSTALLATION. POT METAL OR DIE CAST TYPE FITTINGS ARE PROHIBITED. CONNECTORS SHALL BE INSULATED THROAT TYPE.

CONDUCTORS AND CABLES

GENERAL. SERVICE LATERALS AND PANELBOARD FEEDERS SHALL BE OF ANNEALED (SOFT) COPPER COMPLYING WITH ICEA S-95-658/NEMA WC70. SOLID CONDUCTOR FOR NO. 10 AWG AND SMALLER; CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL BRANCH CIRCUIT CONDUCTORS NO 8 AWG AND LARGER, STRANDED, TYPE THWN-2 OR XHHW-2 INSULATION. ALL CONDUCTORS, NO 10 AWG AND SMALLER, USED FOR POWER AND LIGHTING CIRCUITS; SOLID COPPER, TYPE THWN-2 INSULATION (WET OR DAMP LOCATIONS, OR IN CONDUIT BELOW GRADE OR SLAB); TYPE THHN INSULATION (DRY LOCATIONS ONLY ABOVE GRADE), OR DUAL RATED TYPE THHN/THWN-2. ALL BRANCH CIRCUIT WIRING SHALL NOT BE SMALLER THAN NO 12 AWG. IF NO CONDUCTOR SIZE IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE CONDUCTORS AND CONDUIT SIZED PER NFPA 70 AND BASED ON THE INDICATED BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING AND NUMBER OF CONDUCTORS (IF THE CIRCUIT IS A BRANCH CIRCUIT, OVERCURRENT PROTECTIVE DEVICE) IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE THREE NO 12 AWG CONDUCTORS IN 3/4" RACEWAY, AND A 20A SINGLE POLE CIRCUIT BREAKER.

ALL BRANCH CIRCUITS SHALL BE ANNEALED (SOFT) COPPER COMPLYING WITH ICEA S-95-658/NEMA WC70; SOLID CONDUCTOR FOR NO. 10AWG AND SMALLER; CONCENTRIC, COMPRESSED STRANDED FOR NO. 8 AWG AND LARGER. ALL BRANCH CIRCUIT CONDUCTORS NO 8 AWG AND LARGER, STRANDED, TYPE THWN-2 OR XHHW-2 INSULATION. ALL CONDUCTORS, NO 10 AWG AND SMALLER, USED FOR POWER AND LIGHTING CIRCUITS; SOLID COPPER, TYPE THWN-2 INSULATION (WET OR DAMP LOCATIONS, OR IN CONDUIT BELOW GRADE OR SLAB); TYPE THHN INSULATION (DRY LOCATIONS ONLY ABOVE GRADE), OR DUAL RATED TYPE THHN/THWN-2. ALL BRANCH CIRCUIT WIRING SHALL NOT BE SMALLER THAN NO 12 AWG. IF NO CONDUCTOR SIZE IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE CONDUCTORS AND CONDUIT SIZED PER NFPA 70 AND BASED ON THE INDICATED BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE RATING AND NUMBER OF CONDUCTORS (IF THE CIRCUIT IS A BRANCH CIRCUIT, OVERCURRENT PROTECTIVE DEVICE) IS INDICATED ON THE DRAWINGS FOR A BRANCH CIRCUIT, PROVIDE THREE NO 12 AWG CONDUCTORS IN 3/4" RACEWAY, AND A 20A SINGLE POLE CIRCUIT BREAKER.

CONDUCTOR INSULATION TYPES: 90-DEGREE C-RATED, TYPE THHN/THWN-2 OR XHHW-2 COMPLYING WITH ICEA S-95-658/NEMA WC70.

COLORS FOR 208/207V CONDUCTORS

PHASE A: BLACK
PHASE B: RED
PHASE C: BLUE
NEUTRAL: WHITE
EQUIPMENT GROUND: GREEN

UNLESS NOTED OTHERWISE, SPECIAL PURPOSE CONDUCTORS AND CABLES, SUCH AS LOW VOLTAGE CONTROL, AND SHIELDED INSTRUMENT WIRING, SHALL BE AS RECOMMENDED BY THE SYSTEM EQUIPMENT MANUFACTURER.

CONTROL WIRING: STRANDED COPPER CONDUCTORS, 600V INSULATION, OF THE PROPER TYPE, SIZE AND NUMBER AS REQUIRED TO ACCOMPLISH SPECIFIED FUNCTION. MINIMUM SIZE: NO. 14 AWG UNLESS NOTED OTHERWISE.

MC TYPE CABLE CAN BE USED IF ACCEPTED BY LOCAL AUTHORITY AND GOVERNING CODES FOR WHIPS FROM JUNCTION BOX TO LIGHT FIXTURES ONLY. TYPE MC CABLE: 600V, UNJACKETED; ANSI E119 AND E814, UL STANDARDS 44 OR 83 (AS APPLICABLE), AND 1569, NFPA 70 ARTICLE 336; ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR: THHN- OR XHHW-INSULATED CONDUCTORS; COLOR CODE: ICEA METHOD 1, WITH GREEN INSULATED GROUNDING CONDUCTOR.

PROVIDE A DEDICATED EQUIPMENT-GROUNDING CONDUCTOR, OR BONDING JUMPER, AS APPLICABLE, IN ALL BRANCH CIRCUITS AND FEEDERS, SIZED IN ACCORDANCE WITH NFPA 701, UNLESS INDICATED AS LARGER ON THE DRAWINGS.

PROVIDE A DEDICATED NEUTRAL (WHERE REQUIRED) AND DEDICATED GROUNDING CONDUCTOR FOR EACH BRANCH CIRCUIT.

VOLTAGE DROP IN BRANCH CIRCUITS SHALL NOT EXCEED 2%.

GFCI CIRCUITS: DO NOT USE MULTI-CONDUCTOR CIRCUITS, WITH A SHARED NEUTRAL FOR ANY GFCI CIRCUIT BREAKER OR RECEPTACLE CIRCUIT. BRANCH CIRCUITS FED FROM GFCI CIRCUIT BREAKERS, LIMIT THE ONE-WAY CONDUCTOR LENGTH TO 100 FEET BETWEEN THE PANELBOARD AND THE MOST REMOTE RECEPTACLE OR LOAD ON THE GFCI CIRCUIT.

BOXES
OUTLET BOXES: GALVANIZED PRESSED STEEL WITH GALVANIZED STEEL EXTENSION RINGS OR PLASTER RINGS OR TILE RINGS TO PROVIDE EXPOSED SURFACE FLUSH WITH WALL OR CEILING FINISH. PROVIDE ALL CEILING OUTLET BOXES WITH "NO-BOLT" OR THROUGH AND LOCKNUTTED TYPE FIXTURE STUDS.

JUNCTION AND PULL BOXES: FABRICATE IN ACCORDANCE WITH NEMA AND N.E.C. STANDARDS AND REQUIREMENTS INSOFAR AS MATERIAL, GAUGES, DIMENSIONS, AND FABRICATION METHODS. BOXES SHALL BEAR THE UL LABEL. WHERE BOXES ARE NOT SIZED ON THE DRAWINGS, THEY SHALL BE SIZED IN ACCORDANCE WITH

N.E.C. REQUIREMENTS. FINISH IN STANDARD GRAY ENAMEL, WITH SIDES AND BACK SPOT-WELDED IN POSITION AND THE REMOVABLE SCREW COVER MOUNTED WITH BRASS MACHINE SCREWS.

WIRING DEVICES

SWITCHES: HEAVY DUTY AC, RATED 20 AMPERES, 120/277 VOLTS, SINGLE-POLE, DOUBLE-POLE, THREE-POLE, OR FOUR-WAY AS NOTED ON DRAWINGS OR AS REQUIRED FOR THE SWITCHING ARRANGEMENTS IN EACH SPACE. HUBBELL #HBL122" OR EQUAL. COORDINATE SWITCH COLORS WITH COVERPLATES AS DESCRIBED BELOW UNDER "PLATES".

SWITCHES, SPECIAL PURPOSE: SINGLE OR MULTI-POLE AS NOTED OR AS REQUIRED, HUBBELL #HBL122" OR EQUAL.

RECEPTACLES: THREE WIRE GROUNDING TYPE, 120 VOLT RATED, SPECIFICATION GRADE 20 AMPERES DUPLEX UNLESS NOTED OTHERWISE ON DRAWINGS. HUBBELL #5382 OR EQUAL. COORDINATE RECEPTACLE COLOR WITH COVERPLATE AS DESCRIBED BELOW UNDER "PLATES". SINGLE RECEPTACLE, 20 AMPERE, 120 VOLT, SPECIFICATION GRADE. HUBBELL #5381 OR EQUAL.

DUST AND MOISTURE RESISTANT, MELAMINE BODY, GRAY NYLON FACE BACKED BY FABRIC REINFORCED NEOPRENE GASKET SUIT TO PROVIDE WIPING ACTION ON CAP BLADES. PASS & SEYMOUR #8307 OR APPROVED EQUAL. GROUND FAULT CIRCUIT INTERRUPTER, NYLON FACE CLASS A, NEMA 5-20R, SPECIFICATION GRADE. HUBBELL #RF-5382" OR EQUAL.

CORROSION RESISTANT, SIMILAR AND APPROVED EQUAL TO STANDARD RECEPTACLE, EXCEPT FABRICATED FROM YELLOW MELAMINE PLASTIC WITH YELLOW NYLON FACE AND EXPOSED METAL PARTS FINISHED TO RESIST CORROSION. (NEMA 5-15R + HUBBELL #52CM61).

ISOLATED GROUND, DUPLEX OR SIMPLEX THREE WIRE GROUNDING TYPE, SPECIFICATION GRADE, ORANGE FACE, GROUND CONTACT FULLY ISOLATED FROM STRAP AND EQUIPPED WITH SCREW TERMINAL. HUBBELL #IG-5382" OR EQUAL.

RECEPTACLES, SPECIAL PURPOSE: SPECIAL PURPOSE OUTLETS SHALL BE AS SCHEDULED ON DRAWINGS.

PLATES: PROVIDE PLATES FOR ALL OUTLET BOXES. PLATES SHALL BE OF SUITABLE CONFIGURATION FOR THE NUMBER AND TYPE OF DEVICES SERVED, SHALL BE ONE PIECE, SHALL OVERLAP OUTLET BOX EDGE AND ROOM SURFACES, AND SHALL BE SMOOTH FINISH NYLON TYPE OF SAME MANUFACTURER AS THE WIRING DEVICES. VERIFY DESIRED MATERIALS AND COLORS WITH ARCHITECT PRIOR TO INSTALLATION.

STANDARD INTERIOR: IVORY FINISHED ON LIGHT COLORED WALLS - COORDINATE ALL COLORS WITH ARCHITECT

INTERIOR DAMP LOCATIONS: STAINLESS STEEL.

EXTERIOR LOCATIONS: FOR UNATTENDED WET LOCATIONS, PROVIDE IN-HOUSE NEMA 3R, UL LABELED PLATES MOLDED FROM A CLEAR HIGH IMPACT ULTRAVIOLET STABILIZED POLYCARBONATE MATERIAL FOR EASY VERIFICATION THAT CORDS ARE PLUGGED IN AND THAT THE GFCI IS FUNCTIONING. COVER PLATES SHALL BE BY THE SAME MANUFACTURER AS THE WIRING DEVICES, COMPLYING WITH NFPA 70 406.8) (A) OR (B) REQUIREMENTS FOR ATTENDED OR UNATTENDED USE AS APPLICABLE.

ACCEPTABLE MANUFACTURERS: HUBBELL, PASS & SEYMOUR, LEVITON AND COOPER.

CABINETS AND ENCLOSURES

FURNISH AND INSTALL FLUSH CABINETS AND ENCLOSURES AS SHOWN ON THE PLANS AND AS HEREIN SPECIFIED. UNIT SHALL BE PROVIDED WITH DEAD FRONT SUB PANEL, RECESSED AS REQUIRED, TO HOUSE CONTROLS. DOOR SHALL BE PROVIDED WITH CONCEALED HINGES AND FLUSH KEY OPERATED LOCK. DOOR AND TRIM SHALL BE PRIME PAINTED FOR FIELD PAINTING TO MATCH WALL FINISHES. PROVIDE KNOCKOUTS, LOUVERS AND IDENTIFICATION ENGRAVING AS REQUIRED TO MEET FIELD CONDITIONS. EXACT CABINETS SIZE TO BE COORDINATED WITH EQUIPMENT SUPPLIER.

CIRCUIT DISCONNECTS

SAFETY SWITCHES: SAFETY SWITCHES SHALL CONSIST OF A BOX, FRONT COVER, AND CIRCUIT PROTECTOR DEVICE ALL MANUFACTURED AND ASSEMBLED IN ACCORDANCE WITH NEMA STANDARDS

THE BOX SHALL BE FABRICATED FROM CODE GAUGE GALVANIZED SHEET STEEL IN ACCORDANCE WITH UL LISTING AND LABEL. THE CIRCUIT PROTECTOR DEVICE SHALL BE HEAVY DUTY, QUICK-MAKE, QUICK-BREAK FUSED OR UNFUSED SWITCH RATED FOR MOTOR CIRCUITS AND/OR SERVICE ENTRANCE DUTY, IF REQUIRED. UNITS SHALL BE FURNISHED FOR SURFACE OR FLUSH MOUNTING WITH EITHER GENERAL PURPOSE OR RAIN/IGHT ENCLOSURES, AS REQUIRED. FUSED UNITS SHALL BE FURNISHED COMPLETE WITH PROPER FUSES.

PANELBOARDS
SHALL CONSIST OF BOX, INTERIOR, FRONT, AND CIRCUIT PROTECTIVE DEVICES. THE ASSEMBLY SHALL BE UL LABELED AND BE LISTED FOR SERVICE. THE ASSEMBLY SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH NEMA STANDARD PB-1. THE LATEST UL STANDARD (UL-80) AND SHALL HAVE A TURNED EDGE AROUND THE FRONT FOR RIGIDITY AND FOR CLAMPING ON FRONT. PROVIDE STANDARD KNOCKOUTS ON REMOVABLE BOX ENDS. FABRICATE FROM SHEET STEEL AND FINISH WITH BAKED ON GRAY ENAMEL OVER RUST INHIBITOR. EACH FRONT SHALL HAVE A DOOR MOUNTED ON SEMI-CONCEALED HINGES WITH A CYLINDER LOCK, INDEX CARD CIRCUIT DIRECTORY MOUNTED BEHIND CLEAR PLASTIC, AND HELD IN A METAL FRAME, AND CONCEALED TRIM CLAMPS FOR MOUNTING TO THE BOX. ALL LOCKS SHALL BE MASTER KEYPED AND ALL PANEL DIRECTORIES SHALL BE TYPEWRITTEN.

ALL INTERIORS SHALL BE COMPLETELY FACTORY ASSEMBLED. THE DESIGN OF THE INTERIOR SHALL PERMIT REPLACEMENT OF INDIVIDUAL BRANCH BREAKERS WITHOUT DISTURBING ADJACENT UNITS AND WITHOUT MACHINE DRILLING OR TAPPING. BUS BARS FOR PANELS RATED 600 AMPERES OR MORE SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OR T9 FINISH ALUMINUM (5% CONDUCTIVITY) OF RECTANGULAR CROSS-SECTION. BUS BARS FOR PANELS RATED LESS THAN 600 AMPERES SHALL BE TIN PLATED 98% CONDUCTIVITY COPPER OF RECTANGULAR CROSS-SECTION. BUS BAR CONNECTIONS TO BRANCH CIRCUIT BREAKERS SHALL BE THE PHASE SEQUENCE TYPE AND ACCEPT BOLT-ON TYPE BREAKERS ONLY. PANELBOARD BUS STRUCTURE AND MAIN BREAKER OR MAIN LUGS SHALL BE RATED AS SCHEDULED ON DRAWING. SUCH RATINGS SHALL BE ESTABLISHED BASED ON HEAT RISE TESTS IN ACCORDANCE WITH UL STANDARDS. GROUP INCOMING CABLE LUGS AT ONE END FOR SEPARATION FROM LOAD SIDE CABLES. EQUIPMENT NEUTRAL BISSING WITH A LUG FOR EACH BRANCH BREAKER POSITION. INTERIOR SHALL MOUNT TO BOX WITHOUT TOOLS.

BREAKERS SHALL BE QUICK-MAKE, QUICKBREAK, BOLT-ON THERMAL-MAGNETIC MOLDED CASE CIRCUIT BREAKERS ONE, TWO OR THREE POLE WITH INTEGRAL CROSSBAR FOR MULTI-POLE UNITS, EQUIPPED WITH AN OVERCENTER, TRIP-FREE, TOGGLE-TYPE OPERATING ACTION AND POSITIVE HANDLE INDICATION OF BREAKER STATUS. CIRCUIT BREAKERS SHALL BE UL LISTED IN ACCORDANCE WITH UL STANDARDS.

EACH PANELBOARD, AS A COMPLETE UNIT, SHALL HAVE A SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN THE INTEGRATED EQUIPMENT RATING SHOWN ON DRAWINGS. THE RATING SHALL BE ESTABLISHED BY TESTING WITH THE OVERCURRENT DEVICES MOUNTED IN THE PANELBOARD. THE SHORT CIRCUIT TESTS ON THE OVERCURRENT DEVICES ON THE STRUCTURE SHALL BE MADE SIMULTANEOUSLY BY CONNECTING THE FAULT TO EACH OVERCURRENT DEVICE WITH THE PANELBOARD CONNECTED TO ITS RATED SUPPLY VOLTAGE.

REFER TO PANELBOARD SCHEDULES FOR FULLY RATED OR SERIES-RATED REQUIREMENTS. SERIES-RATED SYSTEMS ARE NOT ALLOWED UNLESS MANUFACTURER'S DATA OR PANELBOARD SCHEDULES, WHERE ALLOWED, SERIES-RATED SYSTEMS SHALL BE PROPERLY LABELLED BY NEC REQUIREMENTS.

METHOD OF TESTING SHALL BE PER UL STANDARDS. PANELBOARDS SHALL BE MARKED WITH THEIR MAXIMUM SHORT CIRCUIT CURRENT RATINGS AT THE SUPPLY VOLTAGE.

APPROVED MANUFACTURERS: SQUARE-D CO, OR EQUAL BY GE, SIEMENS AND/OR Eaton.

OVERCURRENT PROTECTIVE DEVICES
FUSES OF THE PROPER SIZE, RATING AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED IN EACH FUSIBLE DEVICE. FUSES OF 600 VOLTS AND BELOW SHALL BE UL CLASS RK-1, CURRENT-LIMITING, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERE RMS SYMMETRICAL INTERRUPTING CAPACITY ON NON-MOTOR CIRCUITS AND UL CLASS RK-5, TIME-DELAY, DUAL-ELEMENT, 200,000 AMPERES RMS SYMMETRICAL INTERRUPTING CAPACITY ON MOTOR CIRCUITS.

APPROVED MANUFACTURERS: BUSSMANN, LITTLEFUSE OR FERRAZ-SHAWMUT (ALL FUSES SHALL BE OF SAME MANUFACTURER TO ENSURE SELECTIVE COORDINATION).

CIRCUIT BREAKERS: CIRCUIT BREAKERS OF THE PROPER SIZE, RATING, AND ELECTRICAL CHARACTERISTICS SHALL BE PROVIDED WHERE CALLED FOR ON DRAWINGS. BREAKERS SHALL BE THERMAL MAGNETIC MOLDED-CASE WITH QUICK-MAKE, QUICK-BREAK, OVER CENTER TOGGLE TYPE MECHANISM AND TRIP-FREE HANDLE MECHANISM. THE BREAKER SHALL BE ENCLOSED IN A SUITABLE NEMA RATED ENCLOSURE. BREAKERS SHALL BE OF SAME MANUFACTURER AS THOSE IN THE PANELBOARDS.

TIME SWITCHES
ELECTRONIC TIME SWITCHES: ELECTRONIC, SOLID STATE PROGRAMMABLE UNITS WITH ALPHANUMERIC DISPLAY, COMPLYING WITH UL917. SPST, 30 AMPERE INDUCTIVE OR RESISTIVE, 240VAC, CONTACT RATING, 2 PROGRAMMABLE ON-OFF SET POINTS ON A 24-HOUR SCHEDULE, ALLOWING DIFFERENT SET POINTS FOR EACH DAY OF THE WEEK. ALLOW CONNECTION OF A PHOTOELECTRIC RELAY AS SUBSTITUTE FOR ON-OFF FUNCTION OF A PROGRAM. ASTRONOMIC TIME ON ALL CHANNELS. BATTERY BACKUP FOR SCHEDULES AND TIME CLOCK.

OUTDOOR PHOTOELECTRIC SWITCHES
SOLID STATE, WITH SPST DRY CONTACT RATED FOR 1800-VA TUNGSTEN OR 1000-VA INDUCTIVE, TO OPERATE CONNECTED RELAY, CONTACTOR COILS OR MICROPROCESSOR INPUT, COMPLYING WITH UL 773A.

TELEPHONE AND DATA SYSTEMS

FURNISH AND INSTALL A SYSTEM OF PROPERLY SIZED AND PROPERLY LOCATED OUTLETS WITH ASSOCIATED CONNECTING CONDUIT RUNS, EXTENDING TO PULL BOXES AND TELEPHONE BACKBOARD, FURNISH AND INSTALL RACEWAYS, FOR INCOMING SERVICE WHERE INDICATED.

OUTLET BOXES: UNLESS OTHERWISE INDICATED, ALL TELEPHONE OUTLETS AND JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO ACCOMMODATE INTERNAL TERMINAL STRIPS BY TELEPHONE CO.

OUTLET COVER PLATES: TELEPHONE OUTLET COVER PLATES SHALL MATCH THOSE SPECIFIED FOR ADJACENT WIRING DEVICES, INCLUDING THOSE WITH SPECIAL FINISHES.

RACEWAYS: MATERIALS FOR TELEPHONE RACEWAY SYSTEM WORK SHALL BE IN ACCORDANCE WITH CORRESPONDING RACEWAYS SPECIFIED HEREIN AND IN OTHER SECTIONS.

VERIFY LOCATION OF WALL OUTLETS BEFORE ROUGHING IN TO ENSURE COORDINATION WITH OWNER'S FINAL INTENDED FURNITURE LAYOUT. PLAN INDICATIONS SHALL NOT BE SCALED UNLESS DIRECTED. OUTLETS SHALL BE RELOCATED WITHIN ROOMS BEFORE ROUGH-IN WHERE DIRECTED BY ARCHITECT-ENGINEER WITHOUT ADDITIONAL COST TO OWNER.

TELEPHONE SERVICE CONDUIT LAYOUT SHALL HAVE THE JOB SITE APPROVAL OF AN AUTHORIZED REPRESENTATIVE OF THE TELEPHONE CO. COORDINATE WORK SO THAT BOTH TELEPHONE CO. AND OWNER'S REPRESENTATIVES ARE PRESENT AT THE SAME TIME FOR APPROVAL OR CHANGES IN AMPL TIME FOR ANY REQUIRED CORRECTIONS BEFORE COMPLETION OF PROJECT.

FROM EACH TELEPHONE OUTLET, PROVIDE 3/4" EMT CONDUIT CONCEALED IN WALL TO IF ABOVE ACCESSIBLE CEILING OR UP TO STRUCTURE WHERE NO CEILING EXISTS, UNLESS SHOWN OTHERWISE ON DRAWINGS.

TELEPHONE TERMINAL BOARD: PRIOR TO INSTALLATION OF TELEPHONE TERMINAL BOARD, THE EXACT LOCATION SHALL BE VERIFIED WITH THE TELEPHONE CO. THE TELEPHONE TERMINAL BOARD SHALL BE PROVIDED WITH A DOUBLE DUPLEX RECEPTACLE LOCATED WHERE INDICATED ON THE DRAWINGS. THE TERMINAL BOARD SHALL BE CONSTRUCTED OF 4 X 8 X 3/4" PLYWOOD WITH TWO (2) COATS OF FLAME RETARDANT PAINT UNLESS NOTED OTHERWISE ON DRAWINGS.

LIGHTING
FIXTURES ARE SPECIFIED IN THE SCHEDULE BY MANUFACTURER'S NAME AND CATALOG NUMBER.

ALL RECESSED LIGHT FIXTURES SHALL BE PROVIDED WITH FACTORY INSTALLED THERMAL PROTECTION.

ALL LAMPS USED ON THIS PROJECT SHALL BE NEW, DELIVERED TO THE JOB SITE IN THE ORIGINAL PACKING CASES AND SLEEVES AND SHALL BE OF THE SAME MANUFACTURER.

PROVIDE FLUORESCENT FIXTURES WITH ELECTRONIC BALLASTS SUITABLE FOR OPERATION OF LAMPS SPECIFIED; TOTAL HARMONIC DISTORTION LESS THAN 20%; FREQUENCY OF OPERATION OF 20 KHZ OR GREATER WITH NO VISIBLE FLICKER; LINE TRANSIENT WITHSTAND RATINGS AS DEFINED IN ANSI/IEEE, CATEGORY A. APPROVED MANUFACTURERS: ADVANCE OR EQUAL, BAYMAGNET, MOTOROLA OR OSRAM.

HID BALLASTS SHALL BE AUTO TRANSFORMER REACTOR, HIGH POWER FACTOR POTTED AND ENCASED TO MINIMIZE SOUND. APPROVED MANUFACTURERS: GE, SYLVANIA, OR OSRAM.

LED LIGHT FIXTURES ARE TO BE PROVIDED WITH COMPATIBLE DRIVER AND MUST BE COORDINATED WITH CONTROL TYPE INDIC



WIRING OF MECHANICAL EQUIPMENT
PROVIDE ALL RACEWAYS AND POWER WIRING FOR ALL DIVISION 15 EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, INCLUDING, BUT NOT LIMITED TO, PUMPS, WATER HEATERS, AND HVAC EQUIPMENT, AND ALL LINE-VOLTAGE CONTROL AND INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15. CONNECT PER MANUFACTURER'S WIRING DIAGRAMS. COORDINATE WITH DIVISION 15 FOR DISCONNECTS FURNISHED WITH EQUIPMENT, AND PROVIDE ALL DISCONNECT SWITCHES AS REQUIRED. AFTER INSTALLING WIRING, VERIFY THAT EACH MOTOR LOAD HAS THE CORRECT PHASE ROTATION.

VERIFY THE ACTUAL "MAXIMUM OVERCURRENT PROTECTION" DEVICE RATINGS AND "MINIMUM CIRCUIT AMPACITY" CONDUCTOR SIZING FOR MECHANICAL EQUIPMENT FROM THE EQUIPMENT NAMEPLATE. BASE ELECTRICAL INSTALLATIONS ON ACTUAL REQUIRED AMPERAGES, WHICH MAY VARY SOMEWHAT FROM THE CONDUCTOR AND EQUIPMENT SIZES SHOWN ON THE DRAWINGS. HOWEVER, IN NO CASE, REDUCE THE SIZE OF CONDUCTORS INDICATED ON THE DRAWINGS WITHOUT AUTHORIZATION FROM THE ENGINEER. PROVIDE PROPERLY SIZED ELECTRICAL WIRING AND EQUIPMENT WITHOUT EXTRA COST TO THE OWNER. NOTIFY THE ENGINEER OF ALL CHANGES REQUIRED IN THE ELECTRICAL INSTALLATION DUE TO EQUIPMENT VARIANCES SO THAT THE EFFECTS ON FEEDERS, BRANCH CIRCUITS, PANELBOARDS, FUSES AND CIRCUIT BREAKERS CAN BE CHECKED PRIOR TO PURCHASING AND INSTALLATION. BE RESPONSIBLE FOR COORDINATING WITH DIVISION 15 TO VERIFY THE ACTUAL AMPACITIES AND CORRECT SIZES OF ALL CONDUCTORS AND OVERCURRENT PROTECTIVE DEVICES FOR ALL EQUIPMENT. AND CORRECT OVERLOAD HEATERS FOR ALL MOTORS, WHEN STARTERS ARE PROVIDED UNDER DIVISION 16.

PROVIDE ALL RACEWAYS, POWER WIRING, AND LINE-VOLTAGE CONTROL AND INTERLOCK WIRING NOT PROVIDED UNDER DIVISION 15, FOR ALL THERMOSTATS, TEMPERATURE CONTROL DEVICES, AND CONTROLS, INCLUDING, BUT NOT LIMITED TO, NIGHT-STATS, WATER HEATER INTERLOCKS, TIME SWITCHES AND OVERRIDE TIMERS. SEE MECHANICAL DRAWINGS FOR LOCATIONS AND TEMPERATURE CONTROL DIAGRAM. LOW-VOLTAGE CONDUCTORS FOR THERMOSTATS AND TEMPERATURE CONTROL SYSTEMS MAY BE RUN EXPOSED ABOVE FINISHED ACCESSIBLE CEILINGS, IF APPROVED AND LISTED FOR THIS PURPOSE, BUT SHALL BE INSTALLED IN CONDUIT WITHIN WALLS AND WHERE EXPOSED IN THE WORK AREAS.

EXECUTION
METHOD OF PROCEDURE
ERECT EQUIPMENT PARTS AT SUCH TIME AND IN SUCH MANNER AS TO MINIMIZE INTERFERENCES AND DELAYS IN THE EXECUTION OF THE WORK CARE SHALL BE USED IN THE ERECTION AND INSTALLATION OF ALL EQUIPMENT AND MATERIALS TO AVOID MARRING SURFACES OF THE WORK. DAMAGES SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.

EQUIPMENT REQUIRING ELECTRICAL SERVICE SHALL NOT BE ENERGIZED OR PLACED IN SERVICE UNTIL ALL INTERESTED PARTIES HAVE BEEN DULY NOTIFIED AND ARE PRESENT OR HAVE WAIVED THEIR RIGHT TO BE PRESENT. WHERE EQUIPMENT IS TO BE PLACED IN SERVICE INVOLVES SERVICE OR CONNECTION FROM ANOTHER CONTRACTOR OR THE OWNER, NOTIFY THE OWNER IN WRITING WHEN THE EQUIPMENT WILL BE READY. THE OWNER SHALL BE NOTIFIED AS FAR IN ADVANCE AS POSSIBLE, OF THE DATE THE VARIOUS ITEMS OF EQUIPMENT WILL BE COMPLETE.

THE WORK OF THIS TRADE INCLUDES ROUGH-IN FOR AND FINAL CONNECTION AND REQUIRED TO ALL MISCELLANEOUS EQUIPMENT FURNISHED BY OTHERS, OR UNDER OTHER DIVISIONS OF THE WORK. THIS SHALL INCLUDE POWER AND CONTROL WIRING. WIRING DEVICES AND COVER PLATES FOR BUILT-IN EQUIPMENT ARE INCLUDED IN THE WORK OF THIS DIVISION. SAFETY DISCONNECTS AND OTHER MISCELLANEOUS PROTECTIVE DEVICES REQUIRED BY N.E.C. ARE INCLUDED IN THE WORK OF THIS DIVISION. DO ALL ROUGHING-IN AND FINAL CONNECTIONS FROM APPROVED SHOP DRAWINGS ONLY.

COMPLIANCE WITH THE DRAWING AND ANY NOTES THEREON IS REQUIRED. PROVIDE OPENINGS THROUGH WALLS, PARTITIONS, FLOORS, AND ROOFS AS REQUIRED FOR ELECTRICAL WORK.

PROVIDE SLEEVES FOR ELECTRICAL WORK PASSING THROUGH WALLS, PARTITIONS, ROOFS, AND FLOORS. SLEEVES SHALL EXTEND THROUGH FLOORS, WALLS AND PARTITIONS AND SHALL BE CUT FLUSH WITH EACH SURFACE UNLESS OTHERWISE SPECIFIED. FIRE WALL AND/OR FLOOR INTEGRITY SHALL BE RESTORED AFTER PENETRATION. SLEEVES IN CONCRETE AND MASONRY WALLS, CONCRETE FLOORS AND ROOFS, SHALL BE FABRICATED FROM STANDARD GALVANIZED STEEL PIPE WITH ENDS FINISHED SMOOTH, BURR FREE, WITHOUT SHARP EDGES. SLEEVES IN WALLS, ROOFS, AND FLOORS OR OTHER CONSTRUCTION AND THROUGH SUSPENDED CEILINGS SHALL BE FABRICATED FROM 22 U.S. GAUGE GALVANIZED STEEL. FLOOR SLEEVES SHALL EXTEND THREE INCHES ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. SPACE BETWEEN FLOOR SLEEVES AND PASSING CONDUIT SHALL BE FILLED WITH DUCT SEAL, PACKING AND CAULKED WITH WATERPROOF COMPOUND AS APPROVED. WHERE CONDUITS PASS THROUGH WATERPROOFED FLOORS OR WALLS, SLEEVES SHALL BE FABRICATED SUCH THAT WATERPROOFING CAN BE FLASHED ONTO AND AROUND THE SLEEVE.

RACEWAYS
ALL POWER AND LIGHTING CIRCUITS SHALL BE RUN IN METALLIC RACEWAYS EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE. THESE RACEWAYS SHALL BE RUN CONCEALED IN ALL FINISHED AREAS, AND WHERE RUN EXPOSED SHALL BE SQUARE TO THE BUILDING AND HELD TIGHT TO THE BUILDING CONSTRUCTION. LOW VOLTAGE, TELEPHONE, INTERCOM, MUSIC, ALARM AND SECURITY WIRING RUN ABOVE ACCESSIBLE CEILINGS SHALL BE RUN USING INSULATED, PLENUM RATED CABLE. PROVIDE LOW VOLTAGE CABLE IN CONDUIT IF REQUIRED BY LOCAL A.H.J. VERIFY ALL REQUIREMENTS PRIOR TO INSTALLATION. METALLIC CONDUIT FOR THESE SYSTEMS SHALL BE PROVIDED ONLY WHERE RUN INSIDE WALLS. THE DRAWINGS INDICATE THE REQUIRED SIZE OF ALL RACEWAYS (EXCEPT AS HEREINAFTER SPECIFIED), THE POINTS OF TERMINATION AND THE SUGGESTED ROUTING. HOWEVER, THE INSTALLER IS RESPONSIBLE FOR PROPER COORDINATION WITH BUILDING STRUCTURE AND THE WORK OF OTHER TRADES. FURNISH ALL REQUIRED BENDS, ELBOWS, FITTINGS, JUNCTION AND PULL BOXES, WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS, THAT MAY BE REQUIRED TO SATISFY CODES AND THE STANDARDS OF GOOD PRACTICE. WHERE CONDUITS FOR BOTH BRANCH AND FEEDER CIRCUITS ARE RUN CONCEALED, THEY MAY BE RUN OUT OF SQUARE TO THE BUILDING PROVIDING THE SHORTEST POSSIBLE RUN IS UTILIZED. RACEWAY SIZES ARE BASED ON THE USE OF COPPER CONDUCTORS AND N.E.C. FILL.

CONDUIT SHALL BE CONSTRUED AS ELECTRICAL RACEWAYS AND SHALL CONFORM TO THE FOLLOWING: CONCEALED IN SUSPENDED CEILINGS AND INTERIOR PARTITIONS - EMT WITH SET SCREW TYPE FITTINGS. UNDERGROUND OR BELOW INTERIOR SLABS - GRS. NOTE: P.V.C CONDUIT IS PERMITTED OUTSIDE FOR PARKING AREA LIGHTING, SIGNS, ETC. ELBOWS SHALL BE GRS). EXPOSED ON BUILDING EXTERIOR - GRS.

CONDUIT BENDS SHALL BE MADE TO THE LARGEST POSSIBLE RADIUS FOR EASE IN PULLING CONDUCTORS AND TO PROVIDE A NEATLY INSTALLED APPEARANCE. EQUIPMENT AND CONDITIONS PERMITTING: POWER CONDUIT BENDS SHALL CONFORM TO THE FOLLOWING: 1-1/2 IN. - 18 IN. RADIUS; 2 IN. - 24 IN. RADIUS; 2-1/2 IN. - 24 IN. RADIUS; 3 IN. - 36 IN. RADIUS.

GRS CONDUIT SHALL BE CUT WITH POWER OR HACKSAW AND CLEANLY REAMED

TO REMOVE ALL "BURRS" AND ALL FIELD CUT THREADS SHALL BE PAINTED WITH WHITE LEAD BEFORE COUPLINGS ARE APPLIED.

EMPTY CONDUIT SYSTEMS INSTALLED FOR COMMUNICATION SYSTEMS, PUBLIC TELEPHONES, OWNER ITEMS AND OTHER SYSTEMS AS INDICATED ON DRAWINGS SHALL BE INSTALLED COMPLETE WITH NYLON PULL WIRES PROPERLY TAGGED AT BOTH ENDS FOR IDENTIFICATION.

WHERE BUILDING VENTILATION CONDITIONS ARE SUCH THAT AIR MAY FLOW CONTINUOUSLY IN CONDUITS, CAUSING CONDENSATION AND THE COLLECTION OF MOISTURE, THE CONDUITS SHALL BE SEALED AT EACH END WITH A PLUMBE A DUCT SEALING COMPOUND. ALSO SEAL ALL CONDUITS ENTERING AND LEAVING REFRIGERATED EQUIPMENT AND PROVIDE EXPANSION JOINTS PER N.E.C.

ALL CONNECTIONS TO MOTORS, SOLENOID VALVES, PRESSURE SWITCHES, LIMIT SWITCHES, AND SIMILAR APPARATUS SHALL BE FLEXIBLE CONDUIT WHERE PERMITTED. WHERE EQUIPMENT IS INSTALLED OUTDOORS OR EXPOSED TO MOISTURE, USE LIQUIDTIGHT FLEXIBLE CONDUIT WITH WATERTIGHT FITTINGS.

EQUIPMENT LEVELING, HANGERS AND SUPPORTS
SET EACH PIECE INSTALLED UNDER THIS DIVISION TRUE AND LEVEL. ADEQUATELY SUPPORT ALL RACEWAYS FROM THE STRUCTURE USING SCREW CLAMPS TO SECURE TO SAME. ARRANGE SUPPORTS TO PREVENT MOISTURE COLLECTION AND ALLOW ENTRANCE TO BOXES WITHOUT BENDS. INSTALL MULTIPLE CONDUITS USING CHANNEL TRAPEZE SUPPORTS TIGHT TO STRUCTURE ABOVE. USE APPROVED SPACERS TO INSULATE FROM CONTACT WITH BUILDING. SIZE CLAMPS, INSERTS, CHANNELS AND ALL OTHER MEMBERS TO SUPPORT A LOAD EQUAL TO 200% OF THE COMBINED WEIGHT OF ALL SUPPORTED MATERIAL PLUS THE WEIGHT OF A MAN.

WHERE SEVERAL RACEWAYS ARE SUPPORTED ON A COMMON TRAPEZE HANGER, SUPPORTS SHALL BE SPACED TO ACCOMMODATE THE SMALLEST SIZE RACEWAY INVOLVED. SPACE HANGERS AS FOLLOWS:
RIGID CONDUIT: 1/2 AND 3/4 IN. SIZE: 6'-0" ON CENTERS; 1 AND 1-1/4 IN. SIZE: 9'-0" ON CENTERS
ELECTRIC METALLIC TUBING: 1/2 AND 3/4 IN. SIZE: 5'-0" ON CENTERS. 1 AND 1-1/4 IN. SIZE: 6'-0" ON CENTERS.

SECURELY ATTACH HANGERS AND SUPPORTS TO CONSTRUCTION BY METHODS RECOMMENDED IN THE "NECA STANDARDS OF INSTALLATION" MANUAL. COORDINATION WITH MECHANICAL TRADES: THE INTENT OF THE ABOVE CEILING SUPPORTS IS TO COMBINE AS MANY PIPES, CONDUITS, ETC., AS IS POSSIBLE WITHIN SAFE STRUCTURAL LIMITS, ON EACH HORIZONTAL SECTION OF A TRAPEZE HANGER. PRIOR TO SELECTING THE HORIZONTAL MEMBER, ALL TRADES, MECHANICAL AND ELECTRICAL, SHALL COORDINATE ACTUAL NUMBER OF PIPES, CONDUITS, ETC., SUCH THAT FINAL SELECTION RESULTS IN A NEATLY GROUPED, DISCIPLINED AND ACCESSIBLE INSTALLATION.

WIRING INSTALLATION
EXCEPT FOR SUCH ITEMS AS ARE NORMALLY WIRED AT THEIR POINT OF MANUFACTURE AND SO DESIGNATED, AND UNLESS SPECIFICALLY NOTED TO THE CONTRARY HEREIN - THE ELECTRICAL TRADE SHALL DO ALL ELECTRICAL WIRING OF EVERY CHARACTER. IT IS THE INTENT OF THESE SPECIFICATIONS AND DRAWINGS THAT ALL SYSTEMS AND EQUIPMENT SHALL BE PROVIDED WITH ALL NECESSARY UTILITY CONNECTIONS, COMPLETED TO ALLOW SAFE AND PROPER OPERATION OF SAID SYSTEMS, WHEN IT IS NECESSARY FOR TRADES PERFORMING WORK COVERED BY THIS DIVISION TO MAKE FINAL CONNECTIONS TO ITEMS OF EQUIPMENT BEING FURNISHED BY OTHERS, OR BY OTHER TRADES UNDER OTHER DIVISIONS. ALL SUCH WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS DIVISION AND ALL MATERIALS USED SHALL BE AS SPECIFIED HEREIN.

MINIMUM WIRE SIZE FOR BRANCH CIRCUITS SHALL BE #12 AWG, EXCEPT THAT HOMERUNS LONGER THAN 100 FT. LENGTH FROM THE PANEL TO THE CIRCUITS ELECTRICAL LOAD CENTER SHALL BE #10 AWG MINIMUM. WHERE RUNS EXCEED 150', CONTRACTOR MUST ENSURE WIRE SIZE BEING UTILIZED DOES NOT CREATE A VOLTAGE DROP GREATER THAN 3%. REQUEST PROPER WIRE SIZE PRIOR TO INSTALLATION IF A 3% VOLTAGE DROP MAY OCCUR FOR ANY BRANCH CIRCUIT. WHERE MORE THAN THREE CURRENT CARRYING CONDUCTORS ARE ENCLOSED IN THE SAME RACEWAY, CONDUCTORS ARE TO BE DERATED PER N.E.C. AND WIRE SIZE INCREASED AS REQUIRED. WHERE THE INCREASED CONDUCTOR SIZE REQUIRES INCREASE THE RACEWAY SIZE AS WELL. FOR CONTROL WIRING, USE #14 AWG MINIMUM. FOR FUTURE WIRING, AS PERMITTED BY N.E.C. USE #16 AWG MINIMUM. FOR SIGNAL AND COMMUNICATIONS SYSTEMS USE WIRE SIZE AS SPECIFICALLY REQUIRED BY THE SYSTEM SUPPLIER.

MAKE CONNECTIONS TO TERMINALS USING PRESSURE TYPE CONNECTORS. SOLDERED JOINTS ARE PROHIBITED. ALL JOINTS IN CONDUCTORS SHALL BE MADE AT AN ACCESSIBLE LOCATION WITHIN A BOX BY TWISTING THE BARE CONDUCTOR ENDS TOGETHER AND APPLYING A WIRE CONNECTOR IN ALL SIZES UP TO THE MAXIMUM CAPACITY OF THE CONNECTOR. JOINTS SHALL BE TAPED WITH AN APPROVED ELECTRICAL TAPE. SPLICES FOR CONDUCTORS LARGER THAN #10 AWG SHALL BE MADE WITH AN APPROVED COMPRESSION (SQUEEZE) CONNECTOR INSULATED WITH NOT LESS THAN TWO LAYERS OF ELECTRICAL FILL TAPE TO 1.5 TIMES THE THICKNESS OF INSULATION, FOLLOWED BY TWO (MINIMUM) LAYERS OF HALF-LAPPED ELECTRICAL TAPE FOR MECHANICAL PROTECTION. LOCATE ALL SPLICES IN BOXES OR FITTINGS OF PROPER SIZE PER N.E.C.

IDENTIFY ALL WIRES AND CABLES WITH BRADY ADHESIVE WIRE MARKERS AT EACH BOX, PANEL, AND OUTLET. IDENTIFICATION SHALL AS A MINIMUM, INDICATE THE PANEL AND CIRCUIT SUPPLYING THE OUTLET. AT THE PANEL END, THE LOAD SERVED AND ITS LOCATION SHALL BE INDICATED. PROVIDE A MINIMUM OF 8 IN. SLACK WIRE AT EACH OUTLET FOR MAKING CONNECTION TO THE DEVICE OR TO PROVIDE FOR A FUTURE DEVICE IN THE BOX.

BOXES
EACH BOX SHALL BE OF PROPER SIZE TO ACCOMMODATE THE DEVICE AND FUNCTION FOR WHICH IT IS SHOWN. BOXES FOR WALL DEVICES SHALL BE FURNISHED COMPLETE WITH PLASTER RING OR TILE RING ACCORDING TO WALL CONSTRUCTION WHERE REQUIRED. BOXES FOR INSTALLATION IN MASONRY WALLS SHALL BE SPECIAL SQUARE CORNER MASONRY TYPE. BOXES FOR MOUNTING OF LIGHTING FIXTURES SHALL BE FOUR INCH OCTAGON, EQUIPPED WITH 3/8 IN. "NO-SOLT" FIXTURE STUD. BOXES FOR FLOOR OUTLETS SHALL BE CONCRETE PROOF STEEL BOXES WITH ADJUSTABLE TOPS AND DEVICES AS HEREINAFTER NOTED OR SHOWN. ALL BOXES SHALL BE FURNISHED COMPLETE WITH PROPER COVER AND/OR DEVICE PLATE AND DEVICE. UNLESS OTHERWISE NOTED, PLACE OUTLET BOXES AT THE FOLLOWING HEIGHTS (BOX CENTER TO FINISH FLOOR): WALL SWITCHES 48" AND CONVENIENCE OUTLETS 18" UNLESS NOTED OTHERWISE ON DRAWINGS.

TELEPHONE, ALARM AND SIGNAL SYSTEM OUTLET BOXES SHALL BE STANDARD OUTLET BOX TYPE WHERE ONLY ONE CONDUIT ENTERS SAME. UNLESS OTHERWISE SPECIFIED OR INDICATED ON DRAWINGS, WHERE TWO OR MORE CONDUITS ENTER, BOX SHALL BE 4-11/16 IN. SQUARE MINIMUM WITH SUITABLE ADAPTER RING.

LOCATE ALL OUTLETS AS INDICATED ON DRAWINGS. HOWEVER, AT INSTALLATION INSPECT ARCHITECTURAL DRAWINGS AND LOCATE LOCAL SWITCHES ON THE STRIKE SIDE OF THE DOOR.

SYSTEM GROUNDING

EQUIPMENT, RACEWAY SYSTEMS, WIRING SYSTEM NEUTRALS, RECEPTACLES AND POWER OUTLETS, MOTORS AND MOTORIZED EQUIPMENT, SHALL BE GROUNDED IN ACCORDANCE WITH N.E.C. ARTICLE 250.

GROUND RECEPTACLES AND POWER OUTLETS TO THE CONDUIT SYSTEM WITH A GREEN GROUNDING CONDUCTOR SIZE IN ACCORDANCE WITH N.E.C. AND CONNECTED BETWEEN THE DEVICE GROUNDING SCREW AND THE OUTLET BOX. CONNECTION TO THE BOX MAY BE A "C" CLIP OR BY A 1024 SCREW THREADED INTO A HOLE IN THE BACK OF THE BOX AND USED FOR NO OTHER PURPOSE. EQUIPMENT CONNECTED TO THE ELECTRICAL SYSTEM SHALL BE GROUNDED WITHIN INSULATED GREEN GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH N.E.C. AND INSTALLED WITHIN THE RACEWAY. CONDUCTOR SHALL BE CONTINUOUS BETWEEN A GROUNDING SCREW IN THE EQUIPMENT JUNCTION BOX AND A GROUND ATTACHMENT IN THE NEAREST OUTLET BOX IN THE RIGID METALLIC CONDUIT SYSTEM. THIS REQUIREMENT INCLUDES ALL FLEXIBLE CONDUIT.

GENERALLY FOR TELEPHONE AND SUPPLEMENTAL COMMUNICATION SYSTEMS NO 6 AWG CONDUCTOR TO EACH PROTECTOR CABINET, OTHER CABINET, OR DEVICE INSTALLATION SHALL BE CONSIDERED SUFFICIENT, FROM THE SERVICE GROUND (UNLESS INDICATED OTHERWISE).

GROUNDING MATERIAL:
GROUND-RODS - 1/2 DIA., 10' LONG, COPPERWELDED
GROUND CONDUCTOR - SIZE AS PER N.E.C. REQUIREMENTS, SOFT DRAWN OR SOFT ANNEALED, COPPER WIRE.
JOINTS AND CONNECTIONS - MOLDED FUSION WELDING PROCESS USING PROPER MOLD AND THE NUMBER, SIZE AND TYPE CARTRIDGE FOR THE JOINT OR CONNECTION. WATERPIPE CONNECTION, SILICON BRONZE APPROVED MECHANICAL CONNECTOR DESIGNED FOR THE PIPE AND CABLE TO BE BONDED.

PANELBOARD INSTALLATION:
MOUNT PANELBOARDS WITH CENTERLINE AT 5'-0" FIN. ABOVE FINISH FLOOR. EXCEPT THAT THE HIGHEST BREAKER HANDLE SHALL BE BELOW 8'-0" FIN. ABOVE FINISH FLOOR. ARRANGE BREAKERS SO THAT THE BREAKER RATING IS VISIBLE WITH THE PANEL FRONT IN PLACE.

PANEL DIRECTORIES, AS A MINIMUM, SHALL BE TYPEWRITTEN AND INDICATE BREAKER POSITION NUMBER AND EQUIPMENT SERVED. THE PANEL IDENTIFICATION SHALL BE LOCATED ON THE PANEL TRIM AND SHALL CONSIST OF A BLACK LAMINATED PHENOLIC LABEL, SCREW MOUNTED, WITH THE PANEL IDENTIFICATION MATCHING PANEL IDENTIFICATION ON DRAWINGS. LABEL ALL CONDUCTORS WITH ADHESIVE WRAP LABELS WITHIN 2 IN. OF THE CONDUCTOR TERMINATION PRIOR TO INSTALLATION OF TRIM.

LIGHTING FIXTURE INSTALLATION
PROVIDE A LIGHTING FIXTURE FOR EACH AND EVERY OUTLET IN ACCORDANCE WITH TYPE DESIGNATION AND FIXTURE SCHEDULE ON THE DRAWINGS. VERIFY THE ARCHITECTURAL FINISHES AND CEILING CONSTRUCTION AND - REGARDLESS OF THE CATALOG NUMBER PREFIXES AND SUFFIXES SHOWN - PROVIDE FIXTURES WITH THE PROPER TRIM, FRAMES, SUPPORTS, AND HANGERS AND OTHER MISCELLANEOUS APPURTENANCES TO PROPERLY COORDINATE WITH SAID FINISHES. REINFORCE CEILING CONSTRUCTION AS REQUIRED TO PROPERLY SUPPORT THE WEIGHT OF FIXTURES INSTALLED THEREON.

IMMEDIATELY PRIOR TO FINAL INSPECTION, THOROUGHLY CLEAN ALL FIXTURES INSIDE AND OUT, INCLUDING PLASTICS AND GLASSWARE. ADJUST TRIM TO FIT ADJACENT SURFACES. REPLACE BROKEN OR DAMAGED PARTS. INSTALL NEW LAMPS. ELECTRICALLY AND MECHANICALLY TEST THE SYSTEM FOR PROPER OPERATION.

THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVAL FROM LOCAL CODE AUTHORITIES AND MAKING ANY REVISIONS DIRECTED BY THEM ON EMERGENCY AND EXIT LIGHTING.

CLEANING
THOROUGHLY CLEAN ALL FIXTURES, SWITCHES, OTHER DEVICES, PANELBOARDS, AND EQUIPMENT PROVIDED OR CONNECTED IN THIS CONTRACT. ALL SURFACES SHALL BE PROPERLY POLISHED AND SHALL BE FREE OF PAINT AND ALL OTHER DIRT OR DEBRIS. TOUCHUP OR COMPLETELY REFINISH ALL EQUIPMENT FURNISHED WITH FACTORY FINISHES THAT IS DAMAGED DURING DELIVERY OR CONSTRUCTION. PROPERLY PROTECT THE FRONTS OF ALL PANELBOARDS, SWITCHBOARDS AND SIMILAR EQUIPMENT TO PREVENT MARRING AND OTHER DEFACING.

AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY THE WORK OF THE TRADESMEN DOING ELECTRICAL WORK. AT COMPLETION OF THE WORK, REMOVE ALL RUBBISH, TOOLS, EQUIPMENT, AND SURPLUS MATERIALS. BROOM CLEAN ALL ASSIGNED SPACES PRIOR TO LEAVING THE PREMISES.

TESTING AND LOAD BALANCING
TEST ALL CIRCUITS TO ASSURE THEM TO BE FREE OF GROUNDS AND SHORTS. LIGHT AND TEST EACH LAMP. PROVE AND TEST THE AVAILABLE VOLTAGE ON THE LOAD SIDE OF EACH DISCONNECT. VERIFY PROPER OPERATION OF THE DISCONNECT. VERIFY THE PHASE SEQUENCE, VOLTAGE, AND ROTATION AT EACH MOTOR IN THE PRESENCE OF THE INSTALLER. RUN EACH MOTOR WITH ITS CONTROL AS NEARLY AS POSSIBLE UNDER OPERATING CONDITIONS FOR A SUFFICIENT LENGTH OVER TIME TO DEMONSTRATE CORRECT ALIGNMENT, WIRING CAPACITY, SPEED, AND OVERALL SATISFACTORY OPERATION. CHECK THAT THE PROPER OVERLOAD HEATERS HAVE BEEN INSTALLED BY READING THE MOTOR NAMEPLATE. ADJUST THE SIZE OF THE OVERLOAD HEATER AS REQUIRED TO MATCH THE MOTOR NAMEPLATE. OPERATE ALL MAIN AND FEEDER SWITCHES AND BREAKERS.

THE VARIOUS BRANCH CIRCUITS SERVED FROM THE LIGHTING PANELBOARDS VARY IN LOADING. CAREFULLY BALANCE THE ACTUAL OPERATING LOAD ON EACH PANELBOARD WHEN ALL LOAD IS TURNED ON AND THE SYSTEM IS OPERATING AT 100% DEMAND. THE UNBALANCE SHALL NOT EXCEED 10% DURING FINAL INSPECTION. FURNISH THE TEST INSTRUMENTS AND QUALIFIED PERSONNEL TO PERFORM COMPLETE TESTING. COSTS OF ALL TESTING, INCLUDING THE INCIDENT COSTS FOR RETESTING OCCASIONED BY DEFECTS AND FAILURES OF THE EQUIPMENT TO MEET THE SPECIFICATIONS, SHALL BE BORNE BY THE CONTRACTOR.

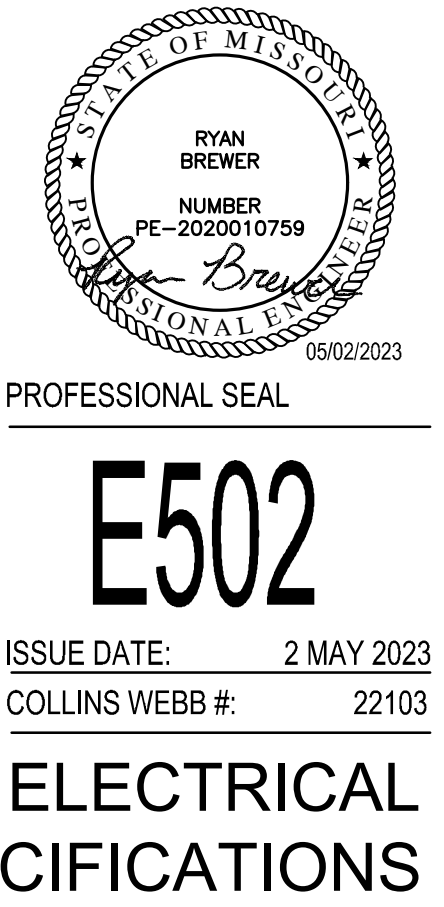
FURNISH AT THE COMPLETION OF THE PROJECT A FINAL INSPECTION CERTIFICATE FROM THE LOCAL INSPECTING AUTHORITY.

END OF SECTION 16000



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ELECTRICAL
SPECIFICATIONS

MECHANICAL ABBREVIATIONS	
(ALPHABETICAL BY ABBREVIATION)	
ABBREVIATION	LONG FORM
ABV	ABOVE
AC OR ACU	AIR-CONDITIONING UNIT
AHAP	AS HIGH AS POSSIBLE
AHU	AIR-HANDLING UNIT
AUTO	AUTOMATIC
BLW	BELOW
C	CHILLER
CD	CONDENSATE
CF	CABINET FAN
CFM	CUBIC FEET PER MINUTE
CH	CABINET HEATER
CHP	CHILLED WATER PUMP
CLNG OR CLG	CEILING
CONC	CONCRETE
CP OR CWP	CONDENSER WATER PUMP
CS	CONDENSER WATER SUPPLY
CR	CONDENSER WATER RETURN
CRAC OR CACU	COMPUTER ROOM AIR-CONDITIONING UNIT
CRF	CHILLER ROOM EXHAUST FAN
CRU	CONDENSATE (STEAM) RETURN UNIT
CT	COOLING TOWER CELL
CTU	CONDENSATE (STEAM) TRANSFER UNIT
CJ	CONDENSING UNIT
CV	CONSTANT VOLUME TERMINAL BOX
DF	DISHWASER EXHAUST FAN
DMPR	DAMPER
DN	DOWN
EA	EACH
EBH	ELECTRIC BASEBOARD HEATER
EDH	ELECTRIC DUCT-MOUNTED HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
ER	EXHAUST REGISTER
EUH	ELECTRIC UNIT HEATER
EXH	EXHAUST
FD	FIRE DAMPER
FCU	FAN-COOL UNIT
FF	FINAL FILTER
FFCH	FORCED-FLOW CABINET HEATER
FFU	FAN FILTER UNIT
FP	FAN POWERED TERMINAL BOX
GPM	GALLONS PER MINUTE
HC	HEATING COIL
HUM	HUMIDIFIER
HWP OR HP	HEATING WATER PUMP
HX	HEAT EXCHANGER
KEF	KITCHEN (GREASE HOOD) EXHAUST FAN
KW	KILOWATTS
LD	LINEAR SUPPLY DIFFUSER
MOT	MOTORIZED
MTD	MOUNTED
MJAF	MAKE-UP AIR FAN
MJAHU	MAKE-UP AIR-HANDLING UNIT
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OPG OR OPNG	OPENING
NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT	

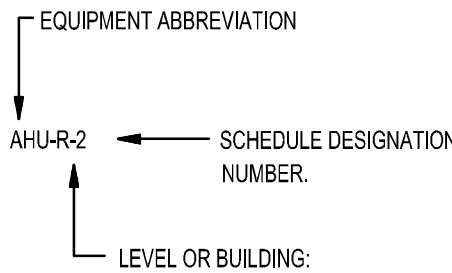
MECHANICAL ABBREVIATIONS CONT.	
(ALPHABETICAL BY ABBREVIATION)	
ABBREVIATION	LONG FORM
PF	PRE-FILTER
PLNM	PLENUM
RA	RETURN AIR
RAF	RETURN AIR FAN
RAG OR RG	RETURN AIR GRILLE
RAR OR RR	RETURN AIR REGISTER
RAS	RETURN AIR SILENCER
RE	IN REFERENCE TO
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SAF OR SF	SUPPLY AIR FAN
SAG OR SG	SUPPLY AIR GRILLE
SAR OR SR	SUPPLY AIR REGISTER
SAS	SUPPLY AIR SILENCER
SCHP	SECONDARY CHILLED WATER PUMP
SD	SMOKE DAMPER OR DETECTOR
SPCHP	SPECIAL PROCESS CHILLED WATER PUMP
TA	THROW AWAY (FILTER TYPE)
TDEF	TRUCK DOCK EXHAUST FAN
TEF	TOILET EXHAUST FAN
TRANS	TRANSITION OR TRANSFER
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VF	VENTILATION FAN
VFD	VARIABLE FREQUENCY DRIVE
VV	VARIABLE VOLUME TERMINAL BOX
W	WITH
XFMR OR TMR	TRANSFORMER
XT OR EX	EXPANSION TANK
NOT ALL ABBREVIATIONS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT	

DUCTWORK LEGEND		
(REFER TO SPECIFICATIONS SECTIONS 15B15 AND 15B20 FOR ADDITIONAL INFORMATION)		
SINGLE LINE	DESCRIPTION	DOUBLE LINE
	ROUND ELBOW DOWN	
	ROUND ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHEN POSSIBLE, ARROW SLOPES DN, U.N.O.)	
	ROUND RADIUS ELBOW	
	90° STRAIGHT TEE	
	90° CONICAL TEE	
	45° LATERAL TAP	
	45° LATERAL CONICAL TEE	
	SIZE OR SHAPE TRANSITION	
	ROUND FLEXIBLE DUCT	
	RECTANGULAR ELBOW DOWN	
	RECTANGULAR ELBOW UP	
	OFFSET TO CHANGE ELEVATION (AT 30° WHERE POSSIBLE, ARROW SLOPES DN, U.N.O.)	
	RECTANGULAR RADIUS ELBOW	
	RECTANGULAR ELBOW WITH TURNING VANES	
	SPLIT BRANCH TAKE-OFF WITH SQUARE ELBOW & SPLITTER DAMPER	
	SPLIT BRANCH TAKE-OFF WITH RADIUS ELBOW & SPLITTER DAMPER	
	SPLIT BRANCH TAKE-OFF TEE WITH STATIONARY SPLITTER DAMPER	
	BRANCH TAKE-OFF WITH 45° LEAD IN TAP	
	INSULATED LINED DUCTWORK (U.N.O.)	
	SQUARE FACED CEILING DIFFUSER 4-WAY DIRECTIONAL THROW (U.N.O.)	
	ROUND FACED CEILING DIFFUSER	
	CEILING RETURN OR EXHAUST AIR GRILLE OR REGISTER	
	IDEAL SUPPLY GRILLE OR REGISTER	
	SUPPLY DUCT RISER	
	RETURN, EXHAUST OR OUTSIDE AIR DUCT RISER	
	MANUAL BALANCING DAMPER	
	AUTOMATIC (MOTOR-OPERATED) DAMPER	
	FIRE DAMPER	
	GRAVITY BACKDRAFT DAMPER	
	COMBINATION FIRE AND SMOKE DAMPER WITH SMOKE DETECTOR	
	SMOKE DAMPER (AUTOMATIC) WITH SMOKE DETECTOR	
	DUCT MOUNTED SMOKE DETECTOR	
NOT ALL SYMBOLS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT		

STANDARD MECHANICAL SYMBOLS	
SYMBOL	DESCRIPTION
	GATE VALVE
	BALL VALVE
	GLOBE VALVE
	BUTTERFLY VALVE
	PLUG VALVE
	ANGLE VALVE
	CHECK VALVE
	AUTOMATIC CONTROL VALVE (STRAIGHT THROUGH)
	AUTOMATIC CONTROL VALVE (3-WAY)
	AUTOMATIC CONTROL VALVE (ANGLE)
	AUTOMATIC CONTROL VALVE (STRAIGHT THROUGH)
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	PRESSURE RELIEF VALVE
	GAUGE COCK
	PRESSURE GAUGE WITH GAUGE COCK
	THERMOMETER
	THERMOMETER WELL
	TEST PLUG
	FLOW METER
	TEMPERATURE SENSOR
	PRESSURE SENSOR
	DIFFERENTIAL PRESSURE SWITCH
	IMMERSION THERMOSTAT
	MANUAL AIR VENT
	AUTOMATIC AIR VENT
	FLOW SWITCH
	ORIFICE
	PIPE SLEEVE THRU WALL OR FLOOR
	EXPANSION JOINT
	FLEXIBLE PIPE JOINT
	PIPE GUIDE
	ANCHOR
	STRAINER (Y-TYPE)
	STRAINER (BASKET TYPE)
	UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	DIRECTION OF FLOW
	DIRECTION OF SLOPE
	THERMOSTAT
	HUMIDISTAT
	FAN SPEED CONTROLLER
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	CONDENSATE DRAIN
NOT ALL SYMBOLS ON THIS LIST ARE NECESSARILY USED ON THIS PROJECT	

OTHER SYMBOLS	
SYMBOL	DESCRIPTION
	INDICATES CONNECTION TO EXISTING DUCT OR PIPE

GENERAL EQUIPMENT DESIGNATION KEY:



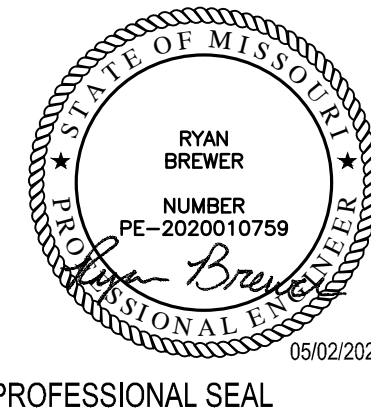
MECHANICAL GENERAL NOTES	
1. PRIOR TO SUBMITTING BID, VISIT THE SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND ALL OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.	
2. COORDINATE THE INSTALLATION OF MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. DUCTWORK AND PIPING SHALL BE ROUTED TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC.	
3. TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION DURING WORK. REPAIR ANY DAMAGE CAUSED DURING CONSTRUCTION AT NO COST TO THE OWNER.	
4. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR UNLESS OTHERWISE NOTED.	
5. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING IS SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND SHALL MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE. FIELD VERIFY FINAL LOCATIONS TO INSTALL EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.	
6. REFER TO ARCHITECTURAL DRAWINGS FOR ALL RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. CHASE AND PENETRATIONS INTENDED FOR DUCTWORK AND PIPING SHALL BE VERIFIED WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION.	
7. COORDINATE LOCATION OF ROOF PENETRATIONS WITH THE EXISTING CONDITIONS AND ARCHITECTURAL DRAWINGS.	
8. SEAL ALL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONSTRUCTION SPECIFICATIONS. FIREPROOF ALL PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH ALL REQUIREMENTS.	
9. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL, AND DUCT INSTALLATION REQUIREMENTS.	
10. LOCATION OF CEILING DIFFUSERS, REGISTERS, AND GRILLES SHALL BE ADJUSTED AS REQUIRED TO ACCOMMODATE FINAL CEILING AND LIGHTING LOCATIONS.	
11. DUCTWORK CROSSING FIRE RATED WALL OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET METAL.	
12. PROVIDE FIRE AND/OR FIRE-SMOKE DAMPERS IN DUCTWORK AT CEILINGS AND WALLS AS REQUIRED BY BUILDING CODE AUTHORITY HAVING JURISDICTION. FIRE AND FIRE-SMOKE DAMPERS SHALL CONFORM TO NFPA AS APPLICABLE.	
13. PROVIDE WALL AND/OR DUCT ACCESS PANELS OR DOORS FOR ACCESS TO ALL FIRE AND/OR FIRE-SMOKE DAMPERS. ACCESS PANEL OR DOOR SHALL BE MINIMUM SIZE OF 6"x6" AND SHALL BE INSTALLED WITH 12" OF DAMPER. PROVIDE A REMOVABLE DUCT SECTION WHERE DUCT SIZE IS TOO SMALL FOR A 6"x6" ACCESS DOOR.	
14. THERMOSTATS AND HUMIDISTATS SHALL BE LOCATED AND SET BY MECHANICAL CONTRACTOR AND WIRED IN CONDUIT BY ELECTRICAL CONTRACTOR. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNTING HEIGHTS SHALL BE 48" AFF TO MEET ADA REQUIREMENTS UNLESS OTHERWISE NOTED ON PLANS.	
15. COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH ANY WALL MOUNTED ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR WILL NOT BE REBURSED FOR RELOCATION OF ANY WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.	
16. ALL BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS, AND GRILLES SHALL HAVE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKE-OFF FITTING WITH MANUAL BALANCING DAMPER AND LOCKING QUADRANT.	
17. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.	
18. RIGID DUCTWORK INSULATION: PROVIDE R-8 MINIMUM INSULATION WRAP ON ALL CONCEALED DUCTWORK. PROVIDE R-6 MINIMUM INTERNAL DUCT LINER ON ALL EXPOSED DUCTWORK. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE DIMENSIONS. SHEET METAL SIZES SHALL INCREASE ACCORDINGLY. PROVIDE R-12 MINIMUM INSULATION ON ALL DUCTWORK INSTALLED IN UNCONDITIONED SPACES. REFER TO SPECIFICATIONS FOR MORE INFORMATION.	
19. FLEXIBLE DUCT WORK SHALL BE THERMAFLEX TYPE MK6, FLEXMASTER TYPE BM, OR APPROVED EQUAL. SHALL BE LISTED UNDER 181 AS CLASS 1 AIR DUCT AND SHALL BE PROVIDED WITH INTEGRAL R-6 MINIMUM FIBERGLASS INSULATION. FLEXIBLE DUCTWORK SHALL NOT EXCEED 5'-0" IN LENGTH AND SHALL BE INSTALLED AND SUPPORT TO AVOID SHARP BENDS AND SAGGING.	
20. WALL MOUNTED DIFFUSERS AND GRILLES SHALL BE PROVIDED WITH SUITABLE MOUNTING FRAME TO MATCH WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL DRAWINGS.	

GENERAL MECHANICAL NOTES:

- REFER TO ARCHITECTURAL PLANS FOR RATED WALLS AND PARTITIONS. VERIFY FIRE AND/OR SMOKE DAMPER LOCATIONS AT DUCTS OR OPENINGS PENETRATING THESE WALLS.
- REFER TO ARCHITECTURAL PLANS FOR ROOM NAMES AND NUMBERS.
- REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
- VERIFY LOCATIONS OF THERMOSTATS WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.
- VERIFY LOCATIONS OF EXPOSED DUCTS WITH ARCHITECT PRIOR TO INSTALLATION.
- DUCT DIMENSIONS INDICATED ON PLANS ARE FREE AREA DIMENSIONS.
- SUPPLY AND RETURN AIR DUCT SHALL BE INTERNALLY LINED WHERE SPECIFIED.
- ALL LOUVER SIZES ON MECHANICAL PLANS ARE GIVEN IN FREE AREA REQUIRED. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS AND LOCATIONS.
- COORDINATE TERMINAL BOX AND BALANCING DAMPER LOCATIONS CAREFULLY TO INSURE PROPER AND ADEQUATE ACCESS TO FILTERS, MOTORS, CONTROL VALVES, CONTROL PANELS, ETC. PROVIDE ACCESS PANELS AS SPECIFIED WHERE REQUIRED TO ASSURE THIS ACCESS.
- CEILING PLENUM SPACE IS VERY TIGHT. WHERE REQUIRED, DUCTS OR PIPES SHALL BE ROUTED BETWEEN LIGHT FIXTURES AND UP AND OVER OTHER DUCTS OR PIPES USING THE SPACES BETWEEN STRUCTURAL JOISTS OR BEAMS WHERE APPLICABLE. CONTRACTOR SHALL BE RESPONSIBLE FOR CAREFULLY COORDINATING ALL TRADES. EXISTING UNKNOWN CONDITIONS MAY AFFECT EXACT DUCT OR PIPE ROUTING, OR EXISTING CONDITIONS MAY NEED TO BE MODIFIED TO ACCOMMODATE DUCTS AND PIPES.

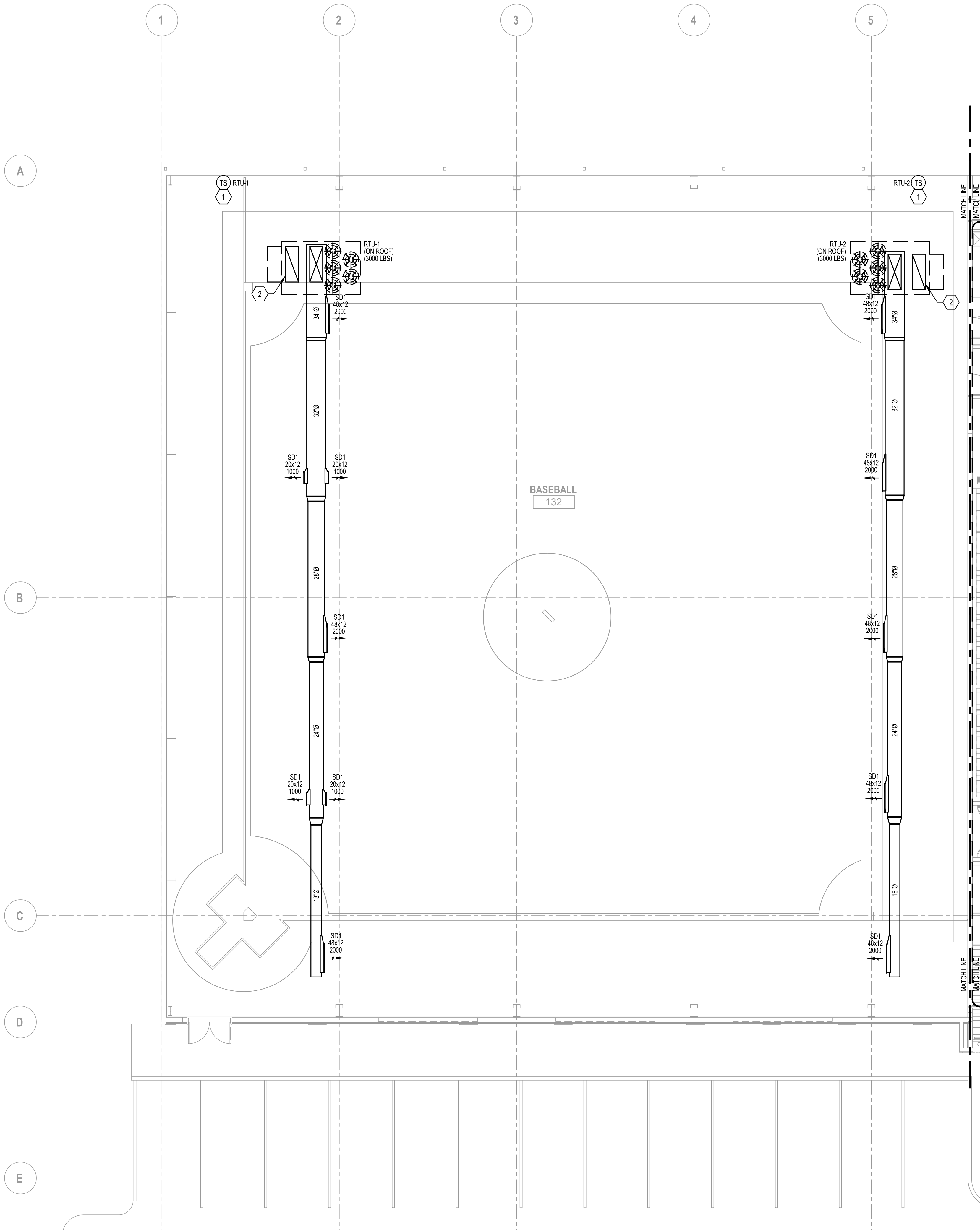
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PROFESSIONAL SEAL
M101
ISSUE DATE: 2 MAY 2023
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MECHANICAL NOTES,
SYMBOLS & ABBREVIATIONS



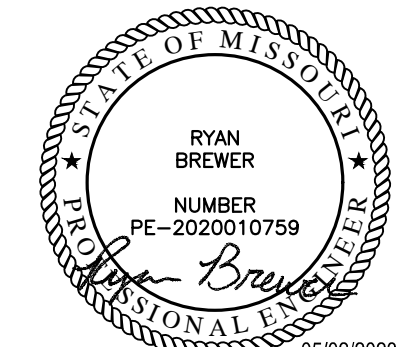
1 PARTIAL MECHANICAL PLAN
SCALE: 1/8" = 1'-0"

KEYED NOTES:

1. MOUNT SPACE TEMPERATURE SENSOR AT 8' AFF.
2. ROUTE FULL SIZE RETURN DUCT FROM ROOFTOP UNIT DOWN THROUGH ROOF DECK AND TERMINATE OPEN. COVER DUCT OPENING WITH 1/2"x1/2" GALVANIZED HARDWARE CLOTH.

GENERAL NOTES

- (NOT ALL NOTES APPLY)
1. REFERENCE SHEET M101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.



PROFESSIONAL SEAL

M201

ISSUE DATE: 2 MAY 2023
COLLINS WEBB #: Z2103

PARTIAL MECHANICAL PLAN

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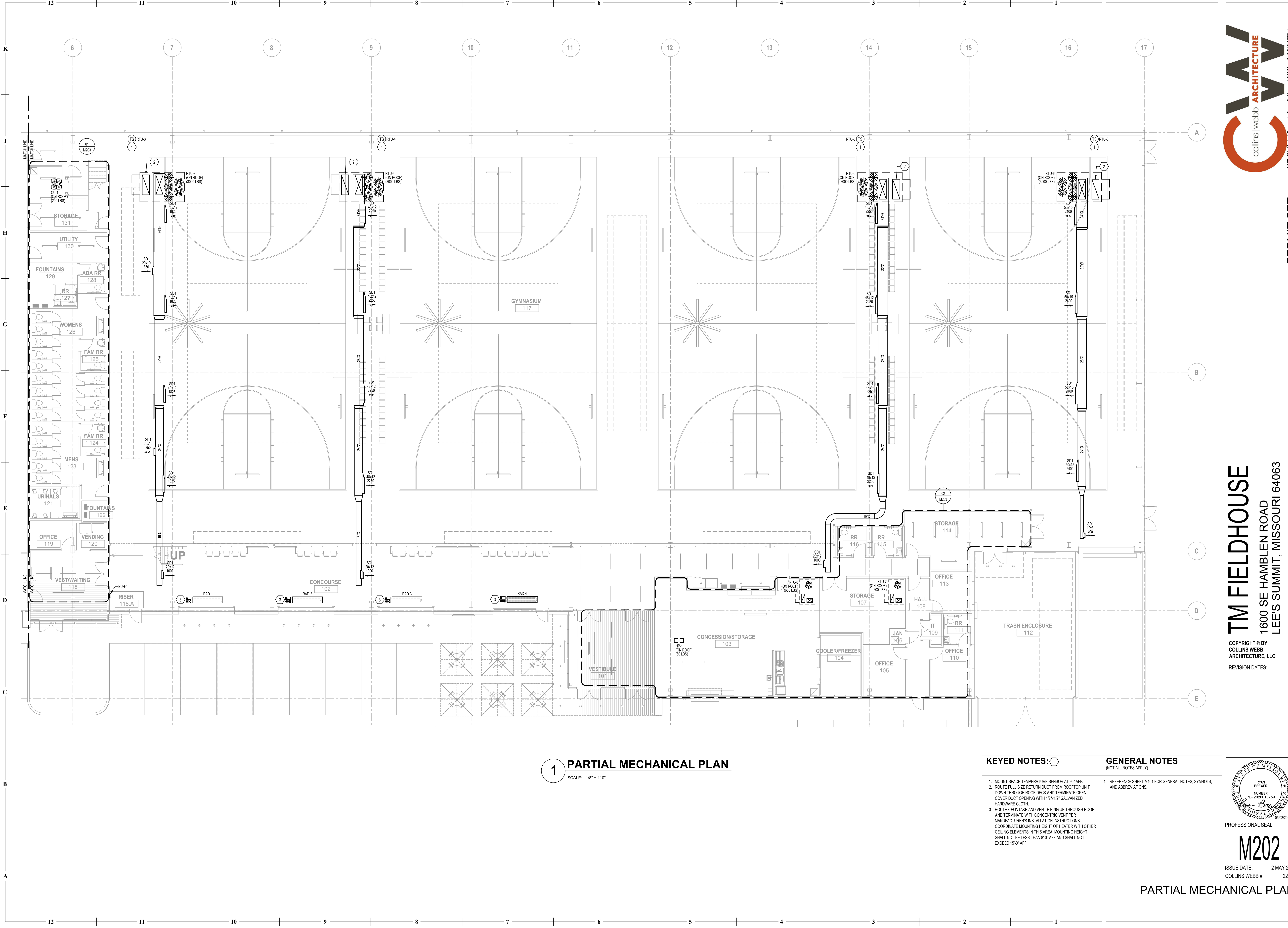
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1 PARTIAL MECHANICAL PLAN

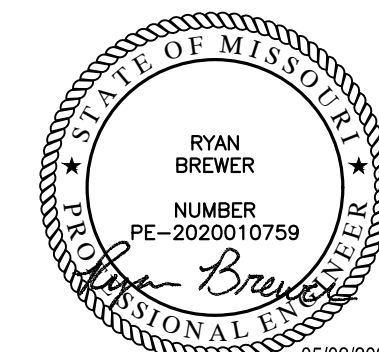
SCALE: 1/8" = 1'-0"

KEYED NOTES:

1. MOUNT SPACE TEMPERATURE SENSOR AT 8' AFF.
2. ROUTE FULL SIZE RETURN DUCT FROM ROOFTOP UNIT DOWN THROUGH ROOF DECK AND TERMINATE OPEN. COVER DUCT OPENING WITH 1/2"x1/2" GALVANIZED HARDWARE CLOTH.
3. ROUTE 4"Ø INTAKE AND VENT PIPING UP THROUGH ROOF AND TERMINATE WITH CONCENTRIC VENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. COORDINATE MOUNTING HEIGHT OF HEATER WITH OTHER CEILING ELEMENTS IN THIS AREA. MOUNTING HEIGHT SHALL NOT BE LESS THAN 6'-0" AFF AND SHALL NOT EXCEED 15'-0" AFF.

GENERAL NOTES

1. REFERENCE SHEET M101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.



PROFESSIONAL SEAL
M202
ISSUE DATE: 2 MAY 2023
COLLINS WEBB #: 22103

PARTIAL MECHANICAL PLAN

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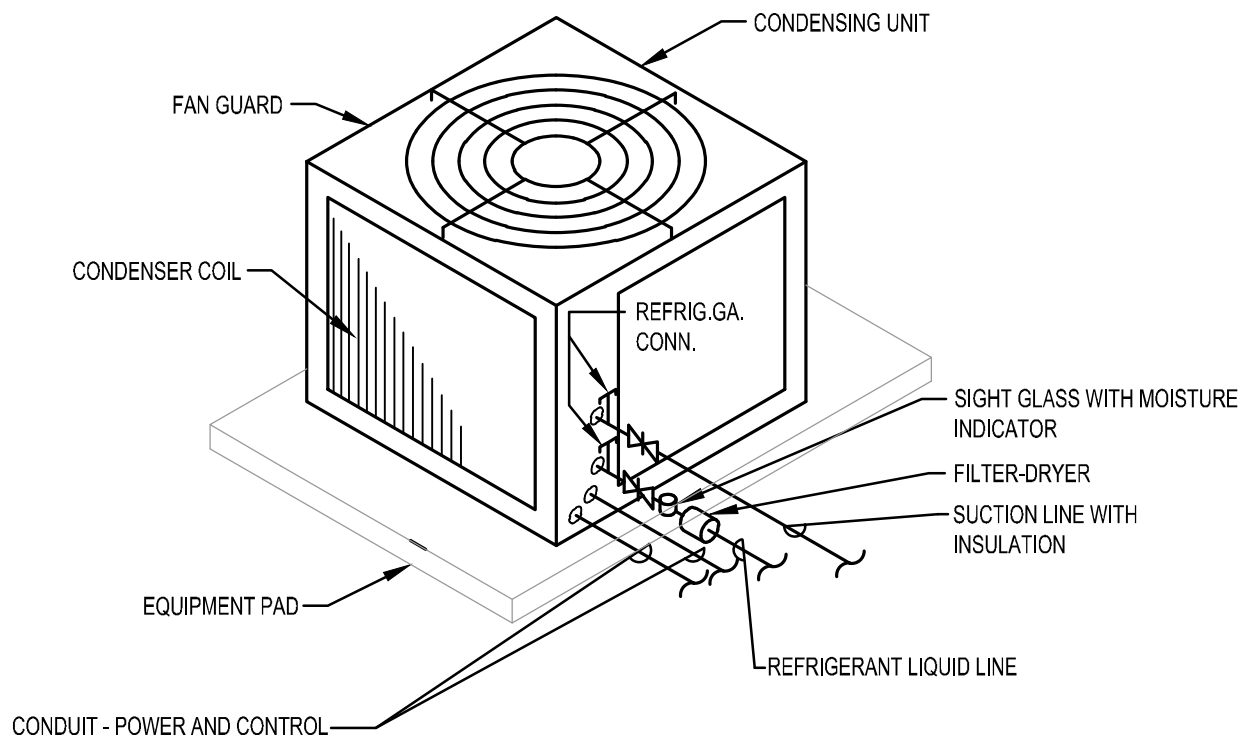


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RADIANT HEATER SCHEDULE (GAS)

MARK	MANUFACTURER	MODEL	INPUT (MBH)	GAS CONNECTION (IN.)	VOLTAGE	ELECTRICAL DATA		TUBE TYPE	TOTAL LENGTH (FT)	NOTES
						PHASE	AMPS			
RAD-1,2,3,4	SPACE RAY	CB30	30	1/2	120	1	2.6	U-TUBE	9'-3"	1,2,3

- NOTES:
1 HEATER SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2 PROVIDE WITH SINGLE-STAGE CONTROLS.
3 HEATER SHALL BE PROVIDED WITH END REFLECTORS AND EMITTER GUARD.



8 CONDENSING UNIT DETAIL

NOT TO SCALE

ELECTRIC UNIT HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	KW	CFM	WEIGHT	ELECTRICAL				NOTES
						AMPS	MOC	PHASE	VOLTAGE	
EUH-1	QMARK	AWH4307F	1.5	100	30.0	5.4	15	1	277	1,2,3
EUH-2	INDEECO	RCI	1.5	--	25.0	5.4	15	1	277	3,4
EUH-3	INDEECO	RCI	0.75	--	15.0	3.2	15	1	277	3,4
EUH-4	INDEECO	RCI	0.75	--	15.0	3.2	15	1	277	3,4

- NOTES:
1 PROVIDE WITH SURFACE MOUNTING FRAME FOR SURFACE INSTALLATION.
2 PROVIDE WITH BUILT-IN TAMPER-RESISTANT THERMOSTAT.
3 INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
4 SUSPEND FROM STRUCTURE/CEILING. PROVIDE WITH MANUFACTURER'S SINGLE-POLE THERMOSTAT.

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	MODEL	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	NOTES
SD1	TITUS	300FL	LOUVERED	WALL	NECK + 1-3/4"	1,2,3,4,5,6
SD2	TITUS	PAS	PERFORATED	CEILING	24"x24"	1,2,3,4,5,6
RG1	TITUS	350FL	LOUVERED	WALL	NECK + 1-3/4"	1,2,3,4,5,6
RG2	TITUS	PAR	PERFORATED	CEILING	24"x24"	1,2,3,4,5,6
EG1	TITUS	PAR	PERFORATED	CEILING	24"x24"	1,2,3,4,5,6

- NOTES:
1 NECK SIZE SHOWN ON DRAWINGS.
2 BAKED ENAMEL FINISH TO MATCH CEILING/WALL COLOR. COORDINATE WITH ARCHITECTURAL PLANS.
3 PROVIDE NECK FOR DUCT CONNECTION.
4 BRANCH DUCT SIZE SHALL BE SAME AS NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.
5 FRAME TYPE TO MATCH CONSTRUCTION OF MOUNTING LOCATION. COORDINATE WITH ARCHITECTURAL PLANS.
6 PROVIDE VOLUME DAMPER OPERABLE FROM FACE OF DEVICE WHEN LOCATED IN HARD CEILINGS.

CONDENSING UNIT SCHEDULE

MARK	SERVICE	MANUFACTURER	MODEL	NOMINAL TONNAGE	MOTOR		COOLING CAPACITY MBH			ELECTRICAL			NOTES
					HP	QTY	TOTAL	SENSIBLE	SEER	MCA	MOC	V/PH/Hz	
CU-1	FCU-1	DAIKIN	DX13SA0484	4	1/4	1.3	46.0	38.0	13.0	8.4	15	480/3/60	1,2,3,4,5

- NOTES:
1 PROVIDE EQUIPMENT PLATFORM FOR GROUND MOUNTING APPLICATION.
2 DISCONNECT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
3 PROVIDE STARTERS FOR ALL MOTORS.
4 SIZE AND INSTALL REFRIGERANT LINES PER THE MANUFACTURER'S RECOMMENDATIONS. VERIFY WITH EQUIPMENT SUPPLIER REFRIGERATION LINE LENGTH AND SIZE.
5 PROVIDE LIQUID LINE FILTER DRYER AND SIGHT GLASS.

FAN COIL UNIT SCHEDULE

MARK	MANUFACTURER	MODEL	NOMINAL TONNAGE	SUPPLY FAN			MIN OA (CFM)	COOLING		HEATING		ELECTRICAL				NOTE
				SUPPLY CFM	ESP (IN)	HP		TH (MBH)	SH (MBH)	EAT (DB/WB)	ELEC HEAT (KW)	TEMP R/SE (°F)	MCA	MOCF	V/PH/Hz	
FCU-1	DAIKIN	ARUF47D14	4	1500	0.50	0.5	150	46.0	38.0	80/67	15.0	31.5	69	70	208/1/60	1,2,3,4,5

- NOTES:
1 PROVIDE WITH TWO SETS OF 2" THICK THROW-AWAY FILTERS.
2 DISCONNECT TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
3 PROVIDE SECONDARY DRAIN PAN WITH FLOAT SWITCH. UNIT SHALL SHUT DOWN UPON ALARM FROM FLOAT SWITCH.
4 PROVIDE EQUIPMENT PLATFORM FOR FLOOR MOUNTING.
5 EQUIPMENT SIZED FOR AN AMBIENT OUTDOOR TEMPERATURE OF 105°F, 95.5°F DB & 75.3°F WB SUMMER DESIGN TEMPERATURE AND A WINTER DESIGN TEMPERATURE OF 9.3°F.

ROOFTOP AIR CONDITIONING UNIT SCHEDULE - NATURAL GAS HEAT

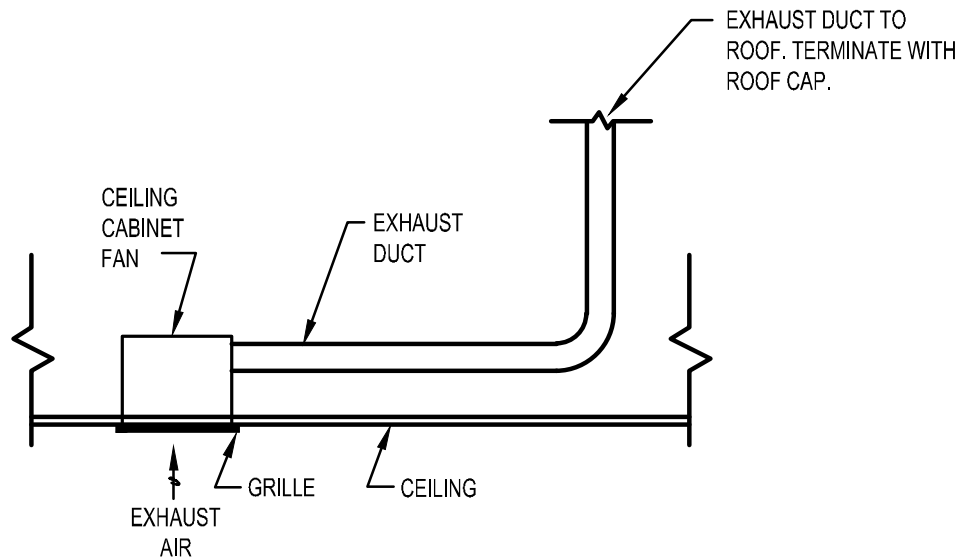
MARK	MANUFACTURER	MODEL	SUPPLY AIR	MIN OA	SUPPLY FAN				COMPRESSOR	CONDENSER FAN				COOLING COIL				HEATING DATA				UNIT ELECTRICAL DATA				WEIGHT (LBS)	NOTES
					ESP	QTY	FLA	HP		QTY	RLA	QTY	FLA	TOTAL (MBH)	SENS. (MBH)	EAT (DB/WB)	EER (SEER)	INPUT (MBH)	OUTPUT (MBH)	V/PH/Hz	MCA	MOC		V/PH/Hz	MCA		
RTU-1	DAIKIN	DFG3004DH	10000	2000	0.7	2	10.6	5	2	18.6	5	1.4	283.2	221.4	76.9/64.2	9.8	400.0	324.0	480/3/60	70.0	80	3000	1,2,3,4,6,7,8,10				
RTU-2	DAIKIN	DFG3004DH	10000	2000	0.7	2	10.6	5	2	18.6	5	1.4	283.2	221.4	76.9/64.2	9.8	400.0	324.0	480/3/60	70.0	80	3000	1,2,3,4,6,7,8,10				
RTU-3	DAIKIN	DFG3004DH	10000	2000	0.7	2	10.6	5	2	18.6	5	1.4	283.2	221.4	76.9/64.2	9.8	400.0	324.0	480/3/60	70.0	80	3000	1,2,3,4,6,7,8,10				
RTU-4	DAIKIN	DFG3004DH	10000	2000	0.7	2	10.6	5	2	18.6	5	1.4	283.2	221.4	76.9/64.2	9.8	400.0	324.0	480/3/60	70.0	80	3000	1,2,3,4,6,7,8,10				
RTU-5	DAIKIN	DFG3004DH	10000	2000	0.7	2	10.6	5	2	18.6	5	1.4	283.2	221.4	76.9/64.2	9.8	400.0	324.0	480/3/60	70.0	80	3000	1,2,3,4,6,7,8,10				
RTU-6	DAIKIN	DFG3004DH	10000	2000	0.7	2	10.6	5	2	18.6	5	1.4	283.2	221.4	76.9/64.2	9.8	400.0	324.0	480/3/60	70.0	80	3000	1,2,3,4,6,7,8,10				
RTU-7	DAIKIN	DFG0384DH	1200	100	0.5	1	2.5	1.2	1	5.8	1	0.48	35.1	27.3	80.9/67.4	(14.0)	90.0	72.0	480/3/60	10.2	15	600	1,2,3,5,7				
RTU-8	DAIKIN	DFG0604DM	2000	250	0.5	1	2.5	1.2	1	7.8	1	0.85	57.4	46.1	77.7/64.8	(14.0)	115.0	92.0	480/3/60	13.0	20	650	1,2,3,4,5,6,7,9				

- NOTES:
1 EQUIPMENT SIZED FOR AN AMBIENT OUTDOOR TEMPERATURE OF 105°F, 95.5°F DB & 75.3°F WB SUMMER DESIGN TEMPERATURE AND A WINTER DESIGN TEMPERATURE OF 9.3°F.
2 PROVIDE MERV 8 FILTERS PRIOR TO TEST AND BALANCE WORK.
3 PROVIDE UNIT WITH UNPOWDERED GFCI CONVENIENCE OUTLET AND FACTORY MOUNTED DISCONNECT.
4 PROVIDE WITH DIFFERENTIAL ENTHALPY ECONOMIZER.
5 PROVIDE UNIT WITH 14" HIGH ROOF CURB.
6 PROVIDE WITH FACTORY INSTALLED RETURN SMOKE DETECTOR.
7 PROVIDE FLOAT SWITCH IN DRAIN PAN. UNIT SHALL SHUT-OFF UPON ALARM FROM FLOAT SWITCH.
8 PROVIDE WITH POWER EXHAUST. POWER EXHAUST TO BE INTERLOCKED WITH SUPPLY FAN TO MAINTAIN BUILDING PRESSURE.
9 PROVIDE WITH BAROMETRIC RELIEF.
10 PROVIDE UNIT WITH HOT GAS REHEAT.

EXHAUST FAN SCHEDULE

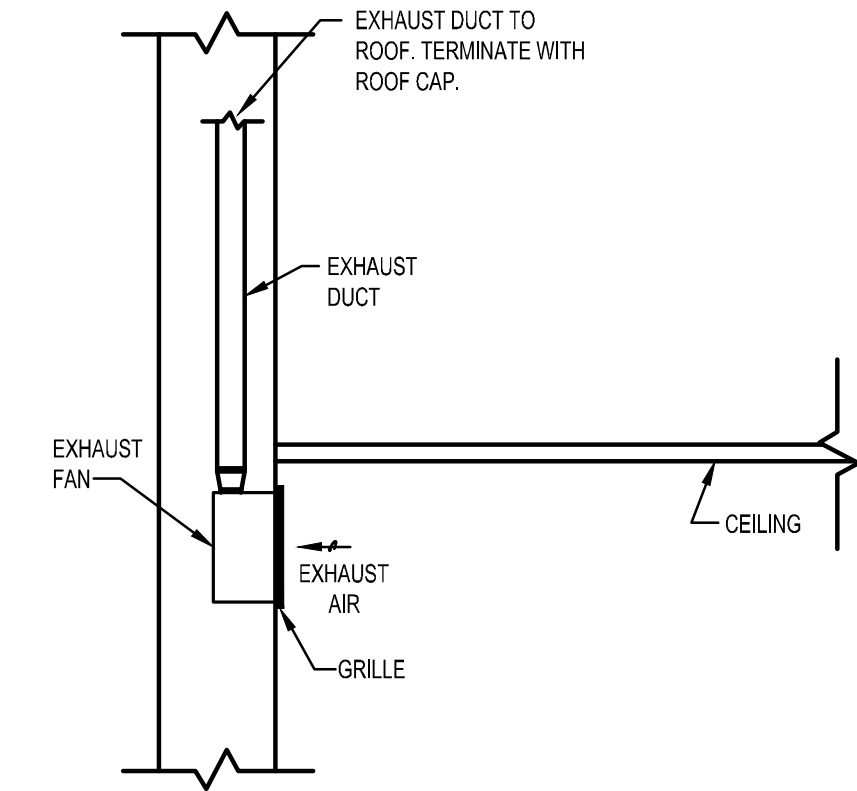
MARK	MANUFACTURER	MODEL	MOUNTING	VOLUME (CFM)	ESP (IN)	FAN RPM	DRIVE (BELT/DIRECT)	MOTOR WATTS (HP)	ELECTRICAL VOLTS/PH	WEIGHT (LBS)	NOTE
EF-1	GREENHECK	SQ-120-VG	INLINE	1250	0.5	1399	DIRECT	(1/2)	120/1	70	1,2
EF-2	GREENHECK	SP-B80	CEILING	70	0.25	700	DIRECT	21	120/1	15	1,3
EF-3	GREENHECK	SP-LP051 1-1	CEILING	110	0.25	939	DIRECT	17	120/1	15	1,4

- NOTES:
1 PROVIDE WITH DISCONNECT SWITCH AND BACKDRAFT DAMPER.
2 FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS. PROVIDE WITH 24"x24" CEILING ACCESS PANEL.
3 FAN SHALL BE INTERLOCKED WITH RESTROOM LIGHTS. PROVIDE SPEED CONTROLLER FOR BALANCING.
4 FAN SHALL OPERATE BASED ON TEMPERATURE SENSOR IN I.T. ROOM SET AT 80°F.



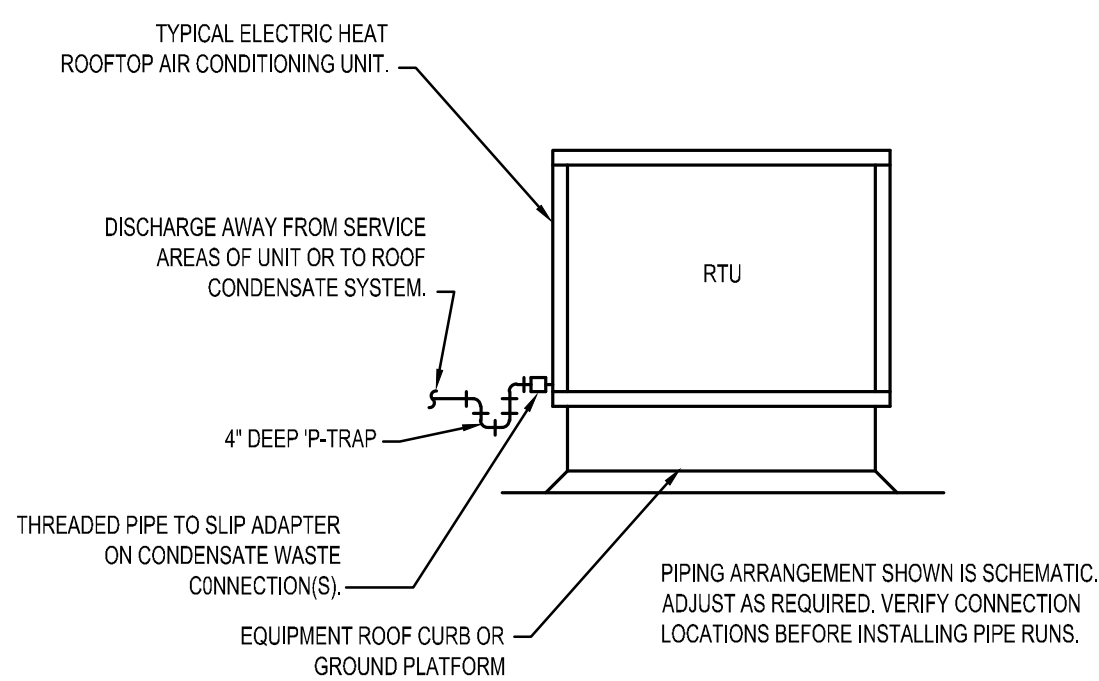
5 CEILING EXHAUST FAN DETAIL

NOT TO SCALE



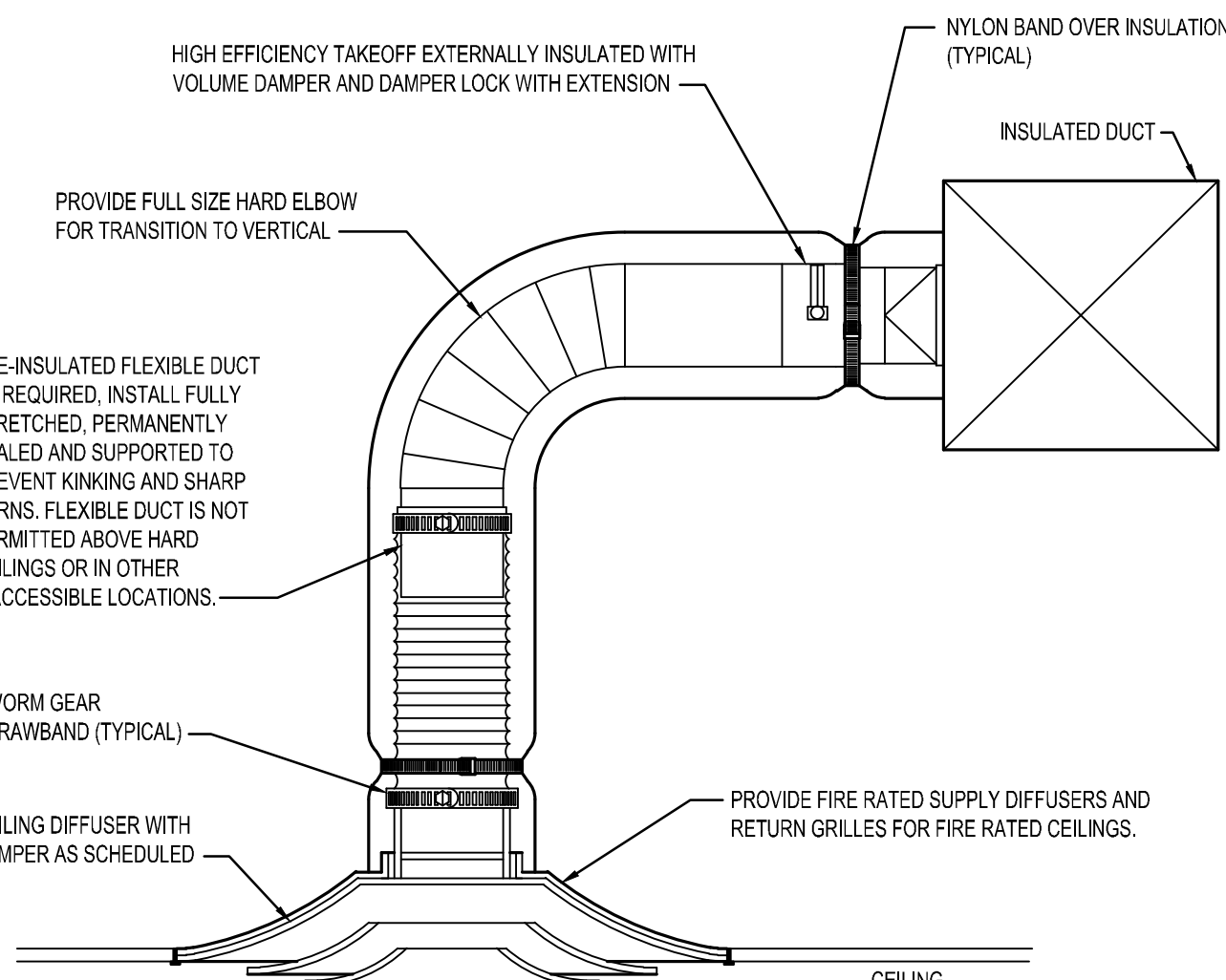
6 WALL EXHAUST FAN DETAIL

NOT TO SCALE



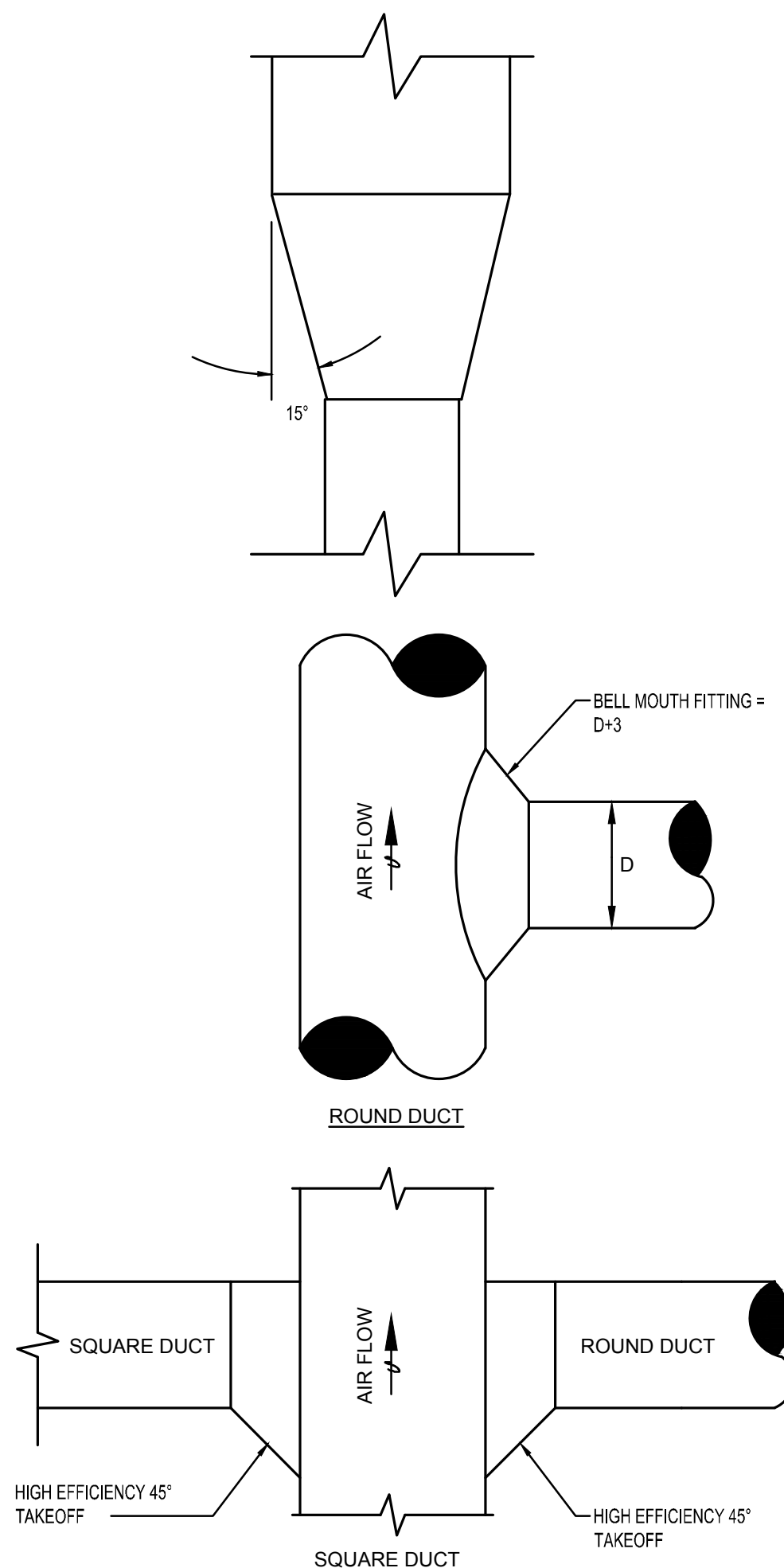
4 RTU PIPING DETAIL

NOT TO SCALE



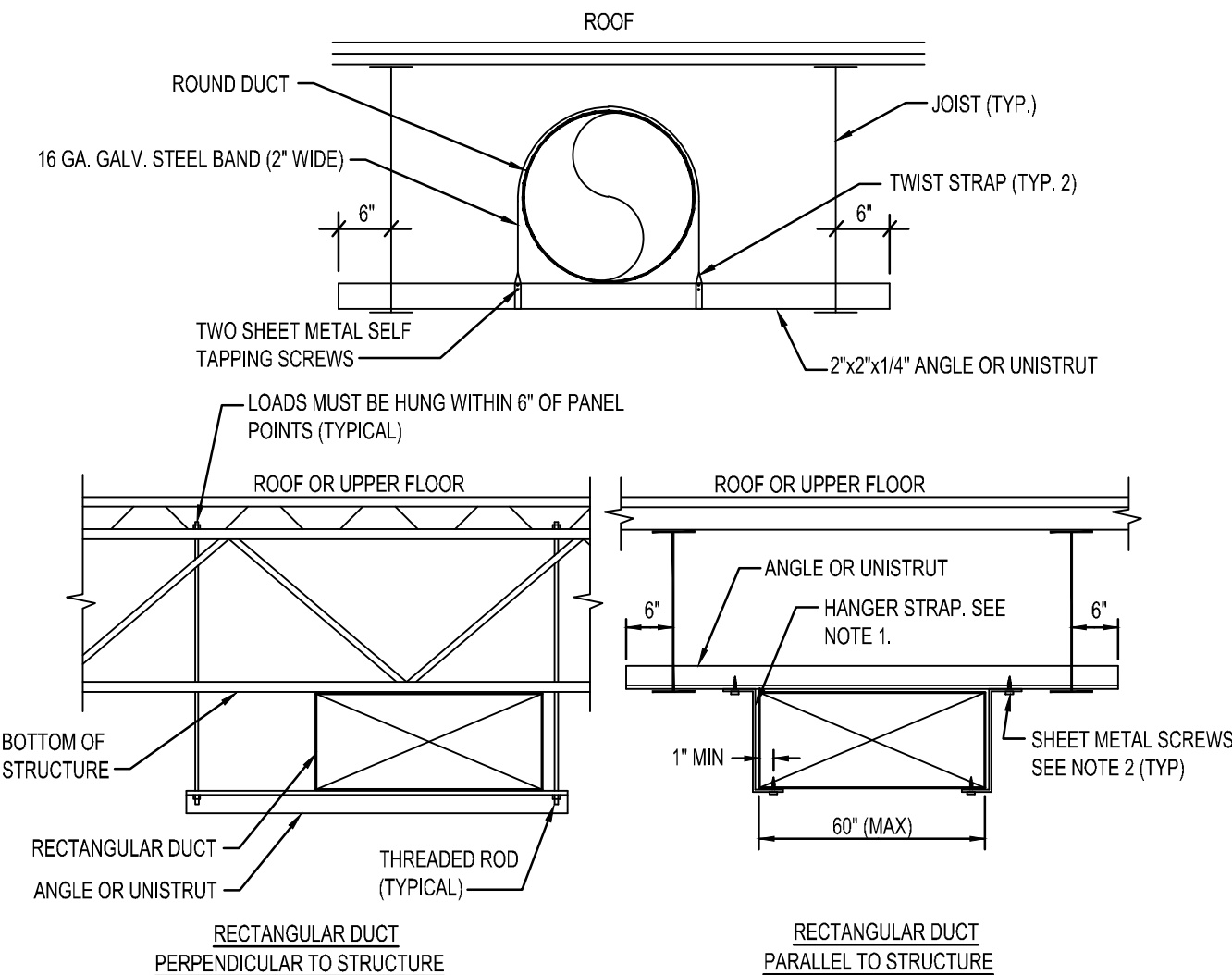
3 CEILING DIFFUSER

NOT TO SCALE



2 DUCT TAKEOFFS AND FITTINGS

NOT TO SCALE



1 DUCT HANGERS AND SUPPORTS

NOT TO SCALE

15000 - BASIC MECHANICAL REQUIREMENTS

DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND ALL OTHER SPECIFICATION SECTIONS, APPLY TO THIS AND THE OTHER SECTIONS OF DIVISION 15.

READ THE SPECIFICATIONS AND REVIEW DRAWINGS FOR ALL DIVISIONS OF WORK AND COORDINATE AND THE WORK OF SUBCONTRACTORS WITH ALL DIVISIONS OF WORK. PROVIDE SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.

SCHEDULE THE COMPLETION AND INSPECTION OF WORK AND THE WORK OF SUBCONTRACTORS WORK TO COMPLY WITH THE SCHEDULE AND THE PROJECT COMPLETION DATE.

VISIT THE SITE PRIOR TO SUBMITTAL OF BID TO DETERMINE CONDITIONS AFFECTING THE WORK. ANY ITEMS WHICH ARE NOT COVERED IN THE BID DOCUMENTS OR ANY PROPOSED SUBSTITUTIONS SHALL BE LISTED SEPARATELY AND QUALIFIED IN THE BID. SUBMITTAL OF BID SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. FAILURE TO VISIT THE SITE DOES NOT RELIEVE RESPONSIBILITY IN PERFORMANCE OF WORK.

READ ALL RELEVANT DOCUMENTS, BECOME FAMILIAR WITH THE JOB, SCOPE OF WORK, TYPE OF GENERAL CONSTRUCTION AND THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS, ALSO UNDERSTAND THE PURPOSE FOR WHICH THESE DOCUMENTS HAVE BEEN PREPARED AND BECOME COORDINANT OF ALL THE DETAILS INVOLVED. COORDINATE WORK WITH THAT OF OTHERS.

DEFINITIONS

FURNISH - PURCHASE AND DELIVER TO PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT. INSTALL - UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT. PROVIDE - FURNISH AND INSTALL.

GENERAL REQUIREMENTS

PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE MECHANICAL SYSTEM AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS. ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE OTHERS SHALL BE PROVIDED. CLOSELY COORDINATE THE ENTIRE INSTALLATION WITH THE ARCHITECT-ENGINEER, AS REQUIRED.

THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK, AND WHICH IS USUALLY INCLUDED IN WORK OF SIMILAR CHARACTER, SHALL BE FURNISHED AND INSTALLED AS PART OF CONTRACT.

WHERE THE DRAWINGS OR SPECIFICATIONS CALL FOR ITEMS WHICH EXCEED CODES OR THE OWNERS CRITERIA, PROVIDE THE SYSTEM WITH THE MORE STRINGENT REQUIREMENTS AS DESIGNED AND DESCRIBED ON THESE DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE.

ALL MECHANICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING, AND REPAIRING. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT SERVICE ACCESS TO ALL EQUIPMENT.

ALL WORK SHALL BE PERFORMED IN A NEAT PROFESSIONAL MANNER USING GOOD ENGINEERING PRACTICES.

UNLESS SPECIFICALLY NOTED OTHERWISE, MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW. UNDERWRITERS LABORATORIES LISTED AND LABELED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF STATE AND LOCAL CODES, WHICHEVER IS MORE STRINGENT.

CODES

ALL WORK SHALL CONFORM TO THE OWNERS CRITERIA, THE STATES, COUNTYS, CITYS AND LOCAL CODES AND ORDINANCES, SAFETY AND HEALTH CODES, NFPA CODES, ENERGY CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. INQUIRE INTO AND COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS, INCLUDING ANY CHANGES REQUIRED BY CODES IN THE BID AND IF THESE CHANGES ARE NOT INCLUDED IN THE BID, THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID. AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REIMBURSED BY THE OWNER.

LICENSES, PERMITS, COMMISSIONING, INSPECTIONS & FEES

OBTAIN AND PAY FOR ALL LICENSES, PERMITS, COMMISSIONING, INSPECTIONS, AND FEES REQUIRED OR RELATED TO THIS WORK.

PROVIDE TO THE OWNER/ARCHITECT A COMMISSIONING PLAN, PRELIMINARY COMMISSIONING REPORT, FINAL COMMISSIONING REPORT, AND CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

TRADE NAMES, MANUFACTURERS AND SHOP DRAWINGS

WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM FOR THE BASE BID. MANUFACTURERS CONSIDERED AS AN EQUAL OR BETTER IN ALL ASPECTS TO THAT SPECIFIED WILL BE SUBJECT TO APPROVAL IN WRITING BY ARCHITECT-ENGINEER PRIOR TO BID THROUGH SHOP DRAWING SUBMITTAL PROCESS. FOR ACCEPTANCE PRIOR TO INSTALLATION, ANY CHANGES TO ELECTRICAL, SERVICE, STRUCTURAL, FRAMING, ETC. OR ANY OTHER MODIFICATION THAT IS REQUIRED BY THE USE OF ALTERNATE EQUIPMENT SHALL BE COORDINATED WITH OTHER TRADES AND SHALL INCLUDE ALL COSTS IN BID FOR THE REQUIRED CHANGES. THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT NO EXPENSE TO THE OWNER.

WARRANTY

WARRANTEE ALL MATERIALS AND WORK PROVIDED UNDER THIS CONTRACT AND MAKE GOOD, REPAIR OR REPLACE AT NO EXPENSE TO THE OWNER. ANY DEFECTIVE WORK, MATERIAL, OR EQUIPMENT WHICH MAY BE DISCOVERED WITHIN A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE (IN WRITING) OF THE INSTALLATION, EXTENDED WARRANTIES ARE AS SPECIFIED WITH INDIVIDUAL EQUIPMENT.

QUALITY ASSURANCE

INDUSTRY STANDARDS AND CODES: UNLESS MODIFIED BY THESE SPECIFICATIONS, THE DESIGN, MANUFACTURER, TESTING AND METHOD OF INSTALLING ALL MATERIALS, APPARATUS AND EQUIPMENT SHALL CONFORM TO THE FOLLOWING:

1. AIR CODE FOR REFRIGERATION APPARATUS
2. ANSI B9.1 SAFETY CODE FOR MECHANICAL REFRIGERATION
3. STANDARDS OF NATIONAL FIRE PROTECTION ASSOCIATION
4. SMACNA
5. ASHRAE

RECORD DRAWINGS

MAINTAIN ONE COPY OF DRAWINGS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS LOCATION OF CONCEALED PIPING VALVES AND DUCTS, REVISIONS, ADDENDUMS, AND CHANGE ORDERS, AND SIGNIFICANT DEVIATIONS MADE

NECESSARY BY FIELD CONDITIONS, APPROVED EQUIPMENT SUBSTITUTIONS, AND CONTRACTORS COORDINATION WITH OTHER TRADES.

AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL, MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE THEREON. A SET OF REPRODUCIBLE DRAWINGS ALONG WITH ONE SET OF BLUELINES OF THE MOST RECENT SET OF DRAWINGS WITH TEMPERATURE CONTROL DRAWINGS INCLUDED SHALL BE DELIVERED TO THE ARCHITECT UPON COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

DISCREPANCIES IN DOCUMENTS

DRAWINGS (PLANS, SPECIFICATIONS, AND DETAILS) ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE MECHANICAL SYSTEMS. WHERE DRAWINGS, EXISTING SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONFLICT OR ARE UNCLEAR, ADVISE THE ARCHITECT-ENGINEER IN WRITING, OR VARIATIONS TO CONTRACT DOCUMENTS PRIOR TO SUBMISSION OF BID. OTHERWISE, ARCHITECT-ENGINEERS INTERPRETATION OF CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL WITH NO ADDITIONAL COMPENSATION PERMITTED.

PHASING REQUIREMENTS

INCLUDE IN BID ALL NECESSARY SERVICE REQUIRED TO KEEP THE OPERATING PHASE OF THE PROJECTS HVAC, PLUMBING AND SPRINKLER SERVICE IN OPERATION. IF APPLICABLE, SCHEDULE IN WRITING WITH ARCHITECT ONE WEEK PRIOR TO ANY SHUT DOWN OF THE HVAC, PLUMBING OR FIRE PROTECTION SYSTEMS.

DEMOLITION

COORDINATE THE DEMOLITION OF EXISTING WORK AND THE DEMOLITION PROVIDED BY OTHER. COORDINATE ANY EXISTING EQUIPMENT REQUIRED TO BE LEFT INTACT.

VERIFY SCOPE OF AND THE REMOVAL OF ALL EXISTING FIRE PROTECTION, PLUMBING FIXTURES, PIPING, HVAC UNITS, REFRIGERANT RECAPTURE, EXHAUST FANS, ETC. AND ASSOCIATED ROOF CURBS NOT TO BE REUSED ON THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE. VERIFY ALL PRESUMED ABANDONED EQUIPMENT, PIPES, DUCTWORK, AND EQUIPMENT PRIOR TO REMOVAL. ROOF CURBS SHALL BE REMOVED AND THE ROOF PATCHED. ALL EXTRANEIOUS ITEMS IN THE SPACE OR ON THE ROOF NOT APPLICABLE TO THE NEW WORK MUST BE REMOVED AND ROOF/HALL/FLOOR PATCHED/REPAIRED TO MATCH EXISTING STRUCTURE. EXISTING ABANDONED PIPES, DUCTS, OR EQUIPMENT IN THE FLOOR, EMBEDDED IN CONCRETE, OR OTHERWISE INACCESSIBLE ARE TO BE CUT OFF AND SEALED BELOW OR WITHIN FLOOR OR WALL LEVEL WHEN THEY ARE NOT TO BE REUSED IN THIS PROJECT. ABANDONED PIPING AND/OR DUCTWORK MUST BE REMOVED TO POINT OF ORIGIN. CONFIRM THE EXTENT OF DEMOLITION PRIOR TO BID AND INCLUDE IN BID PROPOSAL.

CUTTING AND PATCHING

PERFORM ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF THE WORK UNDER THIS SPECIFICATION. NO CUTTING OF THE STRUCTURE SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OR ARCHITECT.

PATCHING SHALL BE OF THE SAME WORKMANSHIP. MATERIAL AND FINISH AND SHALL MATCH ACCURATELY ALL SURROUNDING CONSTRUCTION IN A MANNER SATISFACTORY TO THE ARCHITECT.

EXISTING UTILITIES, ETC. THAT ARE DAMAGED DURING THE CONSTRUCTION PERIOD, WHETHER OR NOT DUE TO NEGLIGENCE SHALL BE REPAIRED OR REPLACED AND LEFT IN A CONDITION SATISFACTORY TO THE ARCHITECT.

SLEEVES

PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH ITS RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE CEILING, WHICH SHALL EXTEND 2" ABOVE THE FLOOR. COORDINATE THROUGH THE ARCHITECT ANY CORE DRILLING OR CUTTING OF OPENINGS IN MASONRY FLOORS OR WALLS.

ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THEIR FIRE RATING.

SLEEVES IN BEARING AND MASONRY WALLS, FLOORS, AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILING, OR FOR CONCEALED VERTICAL PIPING, SLEEVES SHALL BE NO. 22 U.S.G. GALVANIZED STEEL MINIMUM.

HANGERS

HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON, BANDS, C-CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK.

HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE, OR MASONRY, BUT NOT TO PIPING. HANGING FROM METAL DECK IS NOT PERMITTED. HANGERS MUST BE ATTACHED TO UPPER CHORD OF BAR JOIST, WHERE INTERFERENCES OCCUR, AND IN ORDER TO SUPPORT DUCTWORK OR PIPING, INSTALL TRAPEZIE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, AND OTHER EQUIPMENT. HANGER TYPES AND INSTALLATION METHODS ARE ALSO SUBJECT TO LANDLORD CRITERIA.

HANGERS FOR ALL INSULATED PIPING SHALL BE SIZED AND INSTALLED FOR THE OUTER DIAMETER OF INSULATION. INSTALL 6" LONG SPLIT CIRCLE GALVANIZED SADDLE BETWEEN THE HANGER AND THE PIPE INSULATION.

HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DIE-ELECTRICALLY SEPARATED.

PROVIDE SWAY AND SEISMIC BRACING WHERE REQUIRED BY CODE.

JOB CONDITIONS

PROTECT MATERIALS, APPARATUS AND EQUIPMENT FROM DAMAGE, MOISTURE, DIRT, DERRIS AND WORK OF OTHER TRADES.

OPERATION MANUALS AND INSTRUCTIONS

PROVIDE OPERATING AND MAINTENANCE INSTRUCTIONS AT THE COMPLETION OF THE PROJECT. SUBMIT THREE HARD SOUND COPIES TO ARCHITECT.

SCHEDULE A MEETING WITH THE OWNERS REPRESENTATIVE AT THE SITE TO PROVIDE DETAILED INFORMATION ON THE OPERATING AND MAINTENANCE OF EQUIPMENT.

SUBMITTALS

SUBMIT WITHIN THIRTY (30) DAYS AFTER THE DATE OF NOTICE TO PROCEED AND BEFORE PURCHASING ANY MATERIALS OR EQUIPMENT. SUBMIT TO THE ARCHITECT FOR REVIEW. A COMPLETE LIST, IN SIX (6) COPIES, OF ALL MATERIALS INCORPORATED IN THE WORK. THIS LISTING SHALL BE ARRANGED BY THE ORDER OF OCCURRENCE IN THE SPECIFICATIONS, FOLLOWED BY THE ITEMS ON THE DRAWING NOT SPECIFICALLY INCLUDED IN THE SPECIFICATIONS.

AFTER THE LIST HAS BEEN PROCESSED BY THE ARCHITECT, SUBMIT COMPLETE SHOP DRAWINGS AND PRODUCT DATA OF ALL EQUIPMENT. THESE SUBMITTALS SHALL BE SUBMITTED WITHIN THIRTY (30) DAYS AFTER THE PROCESSING DATE OF THE ORIGINAL SUBMITTAL LIST. SUBMISSIONS SHALL BE MADE EARLY ENOUGH IN PROJECT TO ALLOW FOR 10 WORKING DAYS FOR REVIEW BY ARCHITECT-ENGINEER WITHOUT CAUSING DELAYS OR CONFLICTS IN THE PROJECTS PROGRESS.

ALL SUBMITTALS SHALL BE COMPLETE AND SHALL BE IN THREE RINGS, LOOSE LEAF BINDERS, NO CONSIDERATION WILL BE GIVEN TO PARTIAL SUBMITTALS, UNLESS NOTED

OTHERWISE BY ARCHITECT. EACH ITEM SHALL HAVE A COVER PAGE STATING PROJECT, SPECIFICATION AND PARAGRAPH REFERENCE NUMBER, OR DRAWING REFERENCE NUMBER, AND SCHEDULED EQUIPMENT IDENTIFICATION NUMBER, IF APPLICABLE.

THE REVIEW OF SUBMITTALS DOES NOT RELIEVE RESPONSIBILITY OF SHOP DRAWING ERRORS IN DETAILS, SIZES, QUANTITIES, WIRING DIAGRAM ARRANGEMENTS AND DIMENSIONS WHICH ARE CHECKED FROM THE SPECIFICATIONS, CONTRACT DRAWINGS AND/OR JOB CONDITIONS AS THEY EXIST.

IF APPARATUS OR MATERIALS ARE SUBSTITUTED FOR THOSE SPECIFIED UNDER THIS SECTION, AND SUCH SUBSTITUTIONS NECESSITATE CHANGES IN OR ADDITIONAL CONNECTIONS, PIPING SUPPORTS OR CONSTRUCTIONS, SAME SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. ASSUME COST AND ENTIRE RESPONSIBILITY THEREOF. ARCHITECTS PERMISSION TO MAKE SUCH SUBSTITUTION SHALL NOT RELIEVE FULL RESPONSIBILITY FOR WORK.

TEST AND BALANCE REPORT: SUBMIT AT FINAL INSPECTION OPERATION AND MAINTENANCE MANUALS. SUBMIT COPIES IN COMPLIANCE WITH SECTION, OPERATION AND MAINTENANCE MANUALS.

15400 - HEATING VENTILATION AND & AIR CONDITIONING

PRODUCTS

ALL MATERIALS AND EQUIPMENT SHALL BE NEW. SYSTEMS SHALL FUNCTION CORRECTLY AS A WHOLE, AND IN ALL ITS PARTS, UP TO THE SPECIFIED CAPACITY. SYSTEMS OR DEVICES FAILING TO MEET PERFORMANCE REQUIREMENTS SHALL BE REPLACED, ALTERED OR REPAIRED AS REQUIRED TO BRING PERFORMANCE UP TO SPECIFIED REQUIREMENTS. WORK DAMAGED OR INJURED BY SUCH REPLACEMENTS, ALTERATIONS, OR REPAIRS SHALL BE RESTORED TO PRIOR CONDITIONS AT NO ADDITIONAL COST TO THE OWNER. WHERE MULTIPLE ITEMS OF EQUIPMENT OR MATERIALS ARE REQUIRED, THEY SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER. BEFORE ORDERING EQUIPMENT, THE PHYSICAL DIMENSIONS SHALL BE CHECKED TO VERIFY IF IT FITS SPACES ALLOTTED ON THE DRAWINGS. INSERTS, PIPE SLEEVES, AND SUPPORTS OF AIR CONDITIONING EQUIPMENT SHALL BE PROVIDED AS SPECIFIED, WHERE SUCH ITEMS ARE TO BE SET OR EMBEDDED IN CONCRETE, MASONRY OR SIMILAR WORK, THE ITEMS SHALL BE FURNISHED AT THE PROPER TIME FOR SETTING OR EMBEDMENT SO AS TO CAUSE NO DELAY. DUCTWORK AND EQUIPMENT ASSEMBLIES SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC. ADDITIONAL DUCTWORK AND APPURTENANCES REQUIRED FOR PROPER OPERATION OF EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.

MANUFACTURERS NAMES AND CATALOG NUMBERS: SPECIFIC REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURERS NAMES AND MODEL OR CATALOG NUMBERS. THIS DOES NOT INDICATE THAT THE MATERIAL AND EQUIPMENT SPECIFIED IS NECESSARILY AN "OFF THE SHELF" ITEM. REQUIREMENTS FOR SPECIFIC FINISHES, MATERIALS OR OTHER MODIFICATIONS MAY INTRODUCE VARIANCES FROM MANUFACTURERS STANDARDS. ASCERTAIN THAT SUCH MODIFICATIONS ARE FULLY CONSIDERED.

DIAGRAMS, NAMEPLATES AND LABELS: EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURERS NAME, ADDRESS AND CATALOG NUMBER ON A PLATE SECURELY FASTENED IN A CONSPICUOUS PLACE. THE NAMEPLATE OF A DISTRIBUTING AGENT WILL NOT BE ACCEPTED. ALL PIECES OF EQUIPMENT, VALVES, STARTERS, DISCONNECTS, AND ALL PNEUMATIC AND ELECTRIC CONTROL INSTRUMENTS AND APPARATUS SHALL BE IDENTIFIED WITH 1/16" THICK BLACK LAMINATED PLASTIC NAMEPLATES, WITH 3/16" HIGH WHITE LAMINATED LETTERS. SIMILAR AND LIKE EQUIPMENT SHALL BE DESIGNATED WITH NUMERICAL SUFFIX (EXAMPLE: THERMOSTAT, T-1). THE NAMEPLATE IDENTIFICATIONS SHALL COINCIDE WITH ITEMS SHOWING EXTERNAL INSULATION. PROVIDE IDENTIFICATION FOR EACH IDENTIFYING LINE (NAME, ADDRESS AND PHONE NUMBER OF CONTRACTOR). LETTERS SHALL BE 1/4" HIGH AND LOCATED IN A CONSPICUOUS PLACE NEAR THE HVAC EQUIPMENT.

EXECUTION

INSTALLATION AND WORKMANSHIP: THE WORK SHALL BE PERFORMED BY QUALIFIED MECHANICS. ALL MATERIALS, APPARATUS AND EQUIPMENT SHALL BE INSTALLED IN NEAT, WORKMANLIKE MANNER. MATERIALS, DEVICES OR EQUIPMENT WHICH, IN THE OPINION OF THE ARCHITECT-ENGINEER, IS IMPROPERLY INSTALLED SHALL BE REMOVED OR REINSTALLED IN AN APPROVED MANNER AT NO ADDITIONAL COST TO THE OWNER. THE WORK SHALL BE COORDINATED WITH THE WORK OF OTHER TRADES, WHERE THE WORK IS DEPENDENT UPON WORK OF OTHER TRADES OR WORK ALREADY IN PLACE. SUCH OTHER WORK AND WORK IN PLACE SHALL BE EXAMINED AND SHALL BE IN PROPER CONDITION AND STATE OF COMPLETION BEFORE CONTINUING THE INSTALLATION. THE INSTALLATION OF WORK SHALL, IN GENERAL, BE AS AND APPROVED BY ARCHITECT. THE WORK SHALL BE DONE IN ACCORDANCE WITH THE INDICATED SHALL BE FOLLOWED AS ACCURATELY AS POSSIBLE. ANY NECESSARY DEVIATIONS SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT-ENGINEER. PROVIDE DRAWINGS SHOWING PROPOSED CHANGES. APPROVAL IS REQUIRED BEFORE CHANGES SHALL TAKE EFFECT.

CUTTING AND PATCHING

CUTTING AND PATCHING FOR CUTTING BY OTHER TRADES AS REQUIRED. CUTTING OF STEEL, CONCRETE OR ANY OTHER STRUCTURAL PART MUST BE APPROVED IN WRITING BY ARCHITECT-ENGINEER PRIOR TO CUTTING.

WATERPROOFING

DO NOT CUT OR PENETRATE WATERPROOFED SURFACES, OR WATERPROOFING MEMBRANES, WITHOUT FIRST MAKING ARRANGEMENTS FOR REPAIR BY A METHOD APPROVED BY ARCHITECT-ENGINEER.

PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DRAINAGE STEEL AS REQUIRED.

ELECTRICAL WORK

POWER WIRING FROM PANELS TO MOTOR CONTROLLERS AND FROM CONTROLLERS TO MOTORS IS SPECIFIED IN DIVISION 16. MOTOR STARTERS NOT SPECIFIED TO BE FURNISHED WITH THE MOTORS FROM THE FACTORY ARE SPECIFIED IN DIVISION 16. SUBMIT WIRING DIAGRAMS FOR APPROVAL AND FURNISH APPROVED DIAGRAMS TO THE ELECTRICAL CONTRACTOR FOR COORDINATION. ELECTRICAL CONTROL WIRING FOR CONNECTION OF TEMPERATURE CONTROLLERS, PUSH BUTTONS, INTERLOCKS IN MOTOR CONTROLLERS, AND LIKE ITEMS IS SPECIFIED IN THE CONTROL SECTIONS IN THIS DIVISION. FURNISH ALL EQUIPMENT WITH COMPLETE INTERNAL CONTROL WIRING. ELECTRICAL WORK SPECIFIED IN THIS DIVISION SHALL CONFORM TO APPLICABLE PROVISIONS OF DIVISION 16. ALL CONTROL WIRING SHALL BE IN CONDUIT. PROVIDE MOTORS CONFORMING TO CHARACTERISTICS SHOWN ON ELECTRICAL DRAWINGS.

ACCESS DOORS (ACCESS PANELS)

PROVIDE ACCESS REQUIRED FOR MAINTENANCE, ADJUSTMENT, REMOVAL AND REPAIR OF VALVES, CONTROLS, DAMPERS, EQUIPMENT AND LIKE ITEMS. PROVIDE ACCESS DOORS (ACCESS PANELS) CONFORMING TO REQUIREMENTS OF DIVISION 8 SPECIFICATIONS. PANELS SHALL BE LOCATED TO MAKE ALL ITEMS EASILY ACCESSIBLE.

CLEAN UP

REFER TO GENERAL CONDITIONS FOR CLEAN-UP. CALL ALL MATERIALS AND EQUIPMENT OF DIRT, DUST, PAINT, SPOTS AND STAINS, SOL, MARKS AND OTHER FOREIGN WATERS.

FINAL INSPECTION

GIVE NOTICE TO THE ARCHITECT-ENGINEER THAT THE WORK IS READY FOR FINAL INSPECTION.

1. SUBMIT TEST AND BALANCE REPORT AND COMPLETE REQUIREMENTS AS NOTED
2. SUBMIT LETTER FROM CONTROL MANUFACTURER CERTIFYING THAT CONTROLS HAVE BEEN CHECKED FOR OPERATION AND CALIBRATION, AND THAT THE SYSTEM IS OPERATING AS INTENDED.

FURNISH NECESSARY MECHANICS TO OPERATE SYSTEM, MAKE NECESSARY ADJUSTMENTS AND ASSIST WITH FINAL INSPECTION

INSTRUCTION OF OWNERS OPERATING PERSONNEL

INCLUDE THE COST OF THE SERVICES OF QUALIFIED INSTRUCTOR(S) TO INSTRUCT THE OWNERS OPERATING PERSONNEL. IN THE OPERATION, ADJUSTMENT, CARE AND MAINTENANCE OF ALL HVAC EQUIPMENT AND SYSTEMS. INSTRUCTION SHALL BE PERFORMED AT A TIME APPROVED BY THE OWNER AND AFTER HVAC EQUIPMENT AND SYSTEMS ARE INSTALLED, COMPLETE, ADJUSTED AND OPERATING TO SPECIFIED REQUIREMENTS. NOTIFY THE ARCHITECT-ENGINEER WHEN INSTRUCTIONS WILL BE GIVEN. QUALIFICATIONS OF INSTRUCTORS SHALL BE SUBJECT TO APPROVAL OF THE OWNER AND EQUIPMENT MANUFACTURER. ADDITIONAL REQUIREMENTS CONCERNING OPERATION AND MAINTENANCE OF MECHANICAL EQUIPMENT AND SYSTEMS MAY BE SPECIFIED IN OTHER SECTIONS. TWO COPIES OF ACKNOWLEDGMENT OF ALL REQUIRED INSTRUCTIONS TO OWNERS OPERATING PERSONNEL, SIGNED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, SHALL BE SUBMITTED TO THE ARCHITECT-ENGINEER PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT. AN ADDITIONAL COPY OF THIS ACKNOWLEDGMENT IS REQUIRED IN EACH COPY OF OPERATION AND MAINTENANCE MANUALS REQUIRED IN THE SECTION, OPERATION AND MAINTENANCE MANUALS.

OPERATION AND MAINTENANCE MANUALS

FURNISH THREE COPIES OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE ARCHITECT-ENGINEER FOR APPROVAL AND FOR THE OWNER. ON ALL EQUIPMENT AND SYSTEMS, THE MANUALS SHALL BE SOUND IN HARD-BACK, THREE RING LOOSE-LEAF BINDERS. MANUALS SHALL CONTAIN A TITLE SHEET WITH JOB NAME, AND THE NAMES, ADDRESSES AND PHONE NUMBERS OF THE CONTRACTOR, SUBCONTRACTOR, CONTROL SUBCONTRACTOR, RELATED CONTRACTORS AND MATERIAL, AND EQUIPMENT SUPPLIERS.

A COPY OF ACKNOWLEDGMENT OF INSTRUCTION TO THE OWNERS OPERATING PERSONNEL IN THE OPERATION OF ALL MECHANICAL, EQUIPMENT AND SYSTEMS, SIGNED BY THE OWNER OR HIS AUTHORIZED REPRESENTATIVE, TYPEWRITTEN OPERATING INSTRUCTIONS FOR THE OWNERS PERSONNEL, DESCRIBING HOW TO STOP AND START EACH PIECE OF EQUIPMENT, HOW TO SET THE TEMPERATURE CONTROL SYSTEM FOR NORMAL OPERATION AND NORMAL RESTRICTING PROCEDURES, CAUTION AND WARNING NOTICES, APPROVED SHOP DRAWINGS, PRODUCT DATA AND PARTS AND MAINTENANCE BOOKLET FOR EACH ITEM OF MATERIAL AND EQUIPMENT FURNISHED UNDER DIVISION 15000. RECORD DRAWINGS OF ALL SYSTEMS INCLUDING ELECTRICAL, AND CONTROL DIAGRAMS, TEST AND BALANCE REPORT. COPIES OF CERTIFICATES OF INSPECTION, GUARANTEES, INCLUDING EXTENDED GUARANTEES.

DELIVER THE MANUALS TO THE OWNER PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT.

HVACHVACRORPIC PIPING

CONDENSATE DRAIN

PROVIDE CONDENSATE DRAINS FOR ALL AIR CONDITIONING UNITS AND PIPE AS DENOTED ON DRAWINGS. CONDENSATE DRAIN PIPING SHALL BE INSTALLED WITH TRAP AT THE COIL CONNECTION AND SHALL HAVE A MINIMUM SEAL, DEPTH EQUAL TO THE RESPECTIVE AIR HANDLING UNIT FAN STATIC PRESSURE. DEPTH SHALL BE A MINIMUM OF 2".

HVAC INSULATION

LOW PRESSURE DUCTWORK INSULATION: EXTERNAL INSULATION SHALL BE R-4 MINIMUM. SLOUWER TYPE SMALLTITE, FSK SPING-GLAS OR APPROVED EQUAL WITH AN EMBOSSED ALUMINUM FOIL FACING. INTERNAL INSULATION SHALL BE R-4 MINIMUM LINES WITH A COATED AIR SIDE SURFACE TO PREVENT EROSION. APPLY ADHESIVES AND FASTENERS PER SMACNA AND THE MANUFACTURER. ALL TRANSVERSE EDGES TO BE COATED WITH ADHESIVE. ALL CONCEALED DUCTWORK SHALL HAVE EXTERNAL INSULATION. UNCONCEALED DUCTWORK SHALL BE INTERNALLY LINED. DUCTWORK INSTALLED IN UNCONDITIONED SPACES SHALL BE R-12 MINIMUM SLOUWER TYPE SMALLTITE, FSK SPING-GLAS OR APPROVED EQUAL WITH AN EMBOSSED ALUMINUM FOIL FACING.

ALL AIR SUPPLY DIFFUSERS BACKS AND NECKS, SHALL BE INSULATED WITH R-4 MINIMUM MANVILLE R-EQUAL SMALLTITE, OR APPROVED EQUAL. FIBERGLASS BLANKET INSULATION.

ADHESIVES, MASTIC, SEALANTS: ADHESIVE SHALL BE FOSTERS B-20. STUWOLDED PINS SHALL BE SEALED WITH FOSTERS 3-38 ADHESIVE. ALL JOINTS, SEAMS AND BREAKS IN THE VAPOR BARRIER SHALL BE SEALED WITH FOSTERS 35-40, REINFORCED WITH A 1/4" WIDE GLASS FABRIC.

TERMINAL HEAT TRANSFER UNITS

DESCRIPTION

INSTALL AIR CONDITIONING UNITS OF THE CAPACITIES INDICATED. COMPLETE WITH GAS-FIRED HEATING SYSTEM, WHERE INDICATED ON THE DRAWINGS. UNIT SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE ASME AND ANSI CODES AND SHALL BE LISTED BY UNDERWRITERS LABORATORIES. UNIT SHALL BE RATED IN ACCORDANCE WITH THE LATEST AIR STANDARD 21. WHERE SPECIFIED OPERATING CONDITIONS ARE OTHER THAN AIR STANDARD CONDITIONS, CAPACITIES SHALL BE INTERPOLATED FROM AIR CONDITIONS.

MANUFACTURER

UNIT SHALL BE TRANE, LENOX, AARON OR APPROVED EQUAL.

EXHAUST FANS

IN LINE EXHAUST FAN: INSTALL DIRECT DRIVE CENTRIFUGAL IN LINE EXHAUST FAN BY GREENHECK OR APPROVED EQUAL WITH GALVANIZED STEEL HOUSING, BACKWARD INCLINED ALUMINUM WHEEL, ACCESS PANELS, INTEGRAL DUCT CONNECTION FLANGES, BALL BEARING MOTORS, AND CORROSION RESISTANT FASTENERS. FAN SHALL COME INSTALLED WITH NEAR 1-TOGGLE SWITCH, MOUNTED AND WIRED. SOLID STATE SPEED CONTROLLER SHIPPED LOOSE AND PSC MOTOR.

WATER SOURCE HEAT PUMPS

DESCRIPTION

INSTALL WATER SOURCE HEAT PUMP OF CAPACITIES INDICATED MANUFACTURED BY FLORIDA HEAT PUMP, INQUAY OR AN APPROVED EQUAL. FACTORY ASSEMBLED AND RATED ACCORDING TO ARI-505-1508. GALVANIZED STEEL CASINO WITH ACCESS PANELS FOR MAINTENANCE AND FILTER REPLACEMENT, KNOCKOUTS FOR ELECTRICAL, AND PIPING CONNECTIONS. FLANGED DUCT CONNECTIONS AND CABINET INSULATION OF 1/2" THICK MINIMUM DENSITY, COATED GLASS FIBER. THE UNIT SHALL BE DESIGNED TO OPERATE WITH ENTERING FLUID TEMPERATURES BETWEEN 50°F AND 100°F IN COOLING AND BETWEEN 50°F AND 80°F IN HEATING.

THE UNITS SHALL BE WARRANTED BY THE MANUFACTURER AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR ON ALL PARTS AND FIVE (5) YEARS ON COMPRESSOR.

REFRIGERATION CIRCUITS SHALL UTILIZE R-410A. THE UNIT SHALL CONTAIN SEALED REFRIGERANT CIRCUITS INCLUDING HERMETIC COMPRESSORS, THERMAL EXPANSION VALVE METERING DEVICES, REFRIGERANT DRIER, FINED TUBE AIR-TO-REFRIGERANT HEAT EXCHANGERS, REFRIGERANT REVERSING VALVES AND SERVICE PORTS. COMPRESSORS SHALL BE HIGH EFFICIENCY, DESIGNED FOR HEAT PUMP DUTY, INTERNALLY SPRING ISOLATED (EXCEPT FOR SCROLL TYPE COMPRESSORS) FOR MAXIMUM SOUND ATTENUATION AND MOUNTED ON RUBBER VIBRATION ISOLATORS. COMPRESSOR MOTORS SHALL BE EQUIPPED WITH OVERLOAD PROTECTION. THE FINED TUBE COIL SHALL BE CONSTRUCTED OF LANCED ALUMINUM FINES NOT EXCEEDING 14 FINES PER INCH. COILS SHALL HAVE A BAKED POLYESTER ENAMEL COATING FOR PROTECTION AGAINST MOST ABORRORCHEMICALS. THE COAXIAL WATER-TO-REFRIGERANT HEAT EXCHANGERS SHALL BE CONSTRUCTED OF A CONVOLUTED COPPER INNER TUBE AND STEEL OUTER TUBE WITH A DESIGNED REFRIGERANT WORKING PRESSURE OF 40-PSIG AND A DESIGNED WATER SIDE WORKING PRESSURE OF NO LESS THAN 400 PSIG.

6 TONS AND LARGER, THE FANS SHALL BE BELT DRIVEN FORWARD CURVE TYPE WITH DYNAMICALLY BALANCED WHEEL(S). THE FAN HOUSINGS SHALL BE REMOVABLE

FROM THE UNIT WITHOUT DISCONNECTING THE SUPPLY AIR DUCTWORK FOR SERVICING OF FAN MOTORS. MOTORS SHALL BE PERMANENTLY LUBRICATED AND HAVE THERMAL OVERLOAD PROTECTION.

UNITS SMALLER THAN 6 TONS: THE FAN SHALL BE DIRECT DRIVE CENTRIFUGAL FORWARD CURVED TYPE WITH A DYNAMICALLY BALANCED WHEEL. FAN HOUSE SHALL BE REMOVABLE FROM UNIT WITHOUT DISCONNECTING THE SUPPLY AIR DUCTWORK FOR SERVICING OF FAN MOTOR. THE MOTOR SHALL BE THREE SPEED PSC TYPE AND BE PERMANENTLY LUBRICATED AND HAVE THERMAL OVERLOAD PROTECTION.

DUCTWORK, LOW PRESSURE, GALVANIZED STEEL

QUALITY ASSURANCE

DUCTS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH HVAC DUCT CONSTRUCTION STANDARDS PUBLISHED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. (SMACNA).

JOB CONDITIONS

INSPECT THE DRAWINGS AND VERIFY EXISTING CONDITIONS IN THE FIELD. REPORT CONFLICTS BEFORE STARTING FABRICATION.

DUCT MATERIAL

WEIGHTS AND GAGES SHALL BE IN ACCORDANCE WITH TABLE 1 OF HVAC DUCT CONSTRUCTION STANDARDS PUBLISHED BY SMACNA. DUCT MATERIAL SHALL BE GALVANIZED STEEL.

SPLITTER DAMPERS

SPLITTERS SHALL BE 18 GAGE GALVANIZED STEEL WITH HORIZONTAL AND VERTICAL DIMENSIONS SUFFICIENT TO CLOSE OFF AIR TO BRANCH. PROVIDE VENTILOK NO. 607 END BEARINGS AND VENTILOK NO. 680 DAMPER ASSEMBLY.

VOLUME DAMPERS

VOLUME DAMPERS SHALL BE 18 GAGE STEEL, SINGLE BLADE UP TO 8" X 8", OPPOSED BLADE ON ALL DUCTS OVER 8" X 8". PROVIDE VENTILOK NO. 607 END BEARINGS AND VENTILOK NO. 641 SELF-LOOKING REGULATOR. DAMPER RODS SHALL BE 1/2" SQUARE BARS WITH BLADES SECURELY TYPETIED TO BAR.

TURNING VANES

SQUARE AND RECTANGULAR ELBOWS SHALL CONTAIN TITUS NO. AG-225 TURNING VANES.

HANGERS

IN ACCORDANCE WITH CHAPTER IV OF SMACNA.

FLEXIBLE CONNECTIONS

FLEXIBLE CONNECTIONS SHALL BE PROVIDED FOR EACH AIR HANDLING DEVICE TO PREVENT TRANSMISSION OF VIBRATIONS. MAKE FLEXIBLE CONNECTION A MINIMUM OF 4 INCHES WIDE OF VENTILAS AS MADE BY VENTFABRICS, INC.

INSTALLATION

GENERAL, SPLIT, DIVIDE OR TURN DUCTS AS NECESSARY TO AVOID OBSTRUCTIONS AND, IN SUCH CASES, PROVIDE AIR STREAM DEFLECTORS AND INCREASE SIZE OF DUCT TO AN EQUIVALENT AREA.

SPLITTERS: RIGIDLY ATTACH SPLITTERS TO PIVOT ROD AND OPERATING LINKAGE. SET DAMPER ASSEMBLY ON RAISED INSULATED BASE ON INSULATED DUCTWORK. VOLUME DAMPERS: SECURELY ATTACH DAMPERS TO PIVOT RODS AND APPURTENANCES ARE TO BE PROVIDED UNDER THIS SECTION. CONTROL WIRING SHALL BE IN CONDUIT IF REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.

ELECTRIC ROOM THERMOSTATS: THERMOSTAT SHALL BE AS SPECIFIED IN THE DRAWINGS. THERMOSTATS FOR WATER SOURCE HEAT PUMPS SHALL HAVE AUTOMATIC HEATING/COOLING CHANGEOVER AND SHALL BE PROVIDED WITH A LOCKABLE COVER.

NAMEPLATES: SECURE FLEXIBLE CONNECTIONS TO DUCT AND UNIT WITH GALVANIZED STEEL STRAPS HOLDING THE MATERIAL IN FORMED GALVANIZED STEEL CHANNELS. TEST TO ENSURE PROPER INSTALLATION.

PLUGS: PROVIDE SQUARE HEAD TYPE TEST PL

1. ALL WORK SHALL BE IN CONFORMANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION.
2. PROVIDE TO OWNER A COPY OF ALL EQUIPMENT AND MATERIAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS AND ALL PLUMBING SYSTEMS REQUIREMENTS MANUALS INCLUDING WARRANTIES.
3. COORDINATE THE COMPLETE INSTALLATION OF SYSTEMS TO AVOID CONFLICT WITH OTHER TRADES.
4. COORDINATE ALL ABOVE SLAB AND UNDER SLAB SANITARY AND WATER PIPING SYSTEMS TO AVOID CONFLICT WITH ALL OTHER TRADES SYSTEMS, AND COLUMN FOOTINGS. ALL SOIL AND WATER PIPING SHALL BE GRADED TO A UNIFORM SLOPE OF NOT LESS THAN 1/8" PER FOOT FOR PIPING 3" OR LARGER, AND NOT LESS THAN 1/4" PER FOOT FOR PIPING 3" OR SMALLER.
5. COORDINATE ALL FLOOR DRAIN, CLEANOUTS, AND FLOOR MOUNTED FIXTURES WITH FINISHED FLOOR SLAB ELEVATION TO ENSURE THEY ARE INSTALLED PLUMB AND FLUSH WITHOUT CRACKS, RISES IN THE SLAB, OR VOIDED GRAVEL. ALL CLEANOUTS SHALL BE INSTALLED ALONG WITH AN 8" OR DISTANCE MAXIMUM. ALL FLOOR AND WALL CLEANOUTS SHALL BE ACCESSIBLE FOR MAINTENANCE AND NOT INSTALLED BENEATH EQUIPMENT. ANY DRAIN GRATES THAT ARE DAMAGED AS A RESULT OF OTHER CONSTRUCTION PRIOR TO REPAIR OF THE BUILDING TO THE OWNER SHALL BE REPLACED WITH LIKE GRATE AT NO EXPENSE OF THE OWNER.
6. ALL EXPOSED PIPES PENETRATING FINISHED SLAB SHALL BE EQUIPPED WITH WALL ESCUTCHEONS.
7. PROVIDE TRAP AND SEAL PRIMERS ON ALL FLOOR DRAINS IF REQUIRED BY CODE OR ORDER.
8. PLUMBING VENTING THROUGH THE ROOF ARE LOCATED AT A MINIMUM OF 5' FROM BUILDING PARAPETS AND 10'-0" FROM FRESH AIR INTAKES AND AS REQUIRED TO MEET LOCAL CODES.
9. ALL SHUT-OFF OR BALANCING VALVES TO PLUMBING RATED IN PIPE CHASES SHALL BE ACCESSIBLE FROM CEILING AREA OR ACCESS DOORS PROVIDED IN WALL.
10. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PROVIDE ALL REQUIRED SHUT-OFFS, BACKFLOW PREVENTERS, PRESSURE REGULATORS, AND CONDENSATE PIPING REQUIRED BY LOCAL CODES FOR EQUIPMENT INSTALLATION. CONSULT EQUIPMENT SUPPLIER OR OWNER FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS NOT SHOWN ON THESE DRAWING.
11. CONTRACTOR TO FULFILL ALL EXISTING PIPING TO REPAIR OR REPLACE EXISTING PIPING IS IN GOOD REPAIR. IF ANY EXISTING PIPING IS FOUND TO BE DAMAGED REPLACE WITH LIKE.

AREA DRAIN ACCESS DOOR	IE	INVERT ELEVATION
AF	LP	LIGHT RETROFLU
AF	NBH	100 BTU/HOUR
HU	NA	NOT APPLICABLE
HF	OVERFLOW	OVERFLOW DRAIN
HF	OST	STORM OVERFLOW
OS	OST	PUMP DISCHARGE
OS	OST	POST INDICATOR VALVE
OS	PRV	PRESSURE REDUCING VALVE
OW	REV	REVISION
OW	RPM	REVOLUTIONS PER MINUTE
IN	RTU	ROOF TOP UNIT
TR	SAN	SANITARY
CO	SCW	SOFT DOMESTIC COLD WATER
CO	SCW	SOFT DOMESTIC HOT WATER
FA	SDHW	SOFT RECIRO. HOT WATER
P	ST	STORM
S	TFA	TO FLOOR ABOVE
GAS (NAT. GAS)	TFB	TO FLOOR BELOW
GAS (NAT. GAS)	TW	TEMPERED WATER
GPM	UH	UNIT HEATER
HOSE	V	VENT PIPE
HW	VTR	VENT THROUGH ROOF
HW	WCO	WALL CLEANOUT
HW	WH	WALL HYDRANT

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	GATE VALVE		FLOOR DRAIN / AREA DRAIN
	CHECK VALVE		FLOOR SINK
	PRESSURE		ROOF DRAIN
	SOLENOID VALVE		OVERFLOW ROOF DRAIN
	GLOBE VALVE (STRAIGHT PATTERN)		HOT WATER RECIRCULATION PUMP
	BUTTERFLY VALVE		PLUMBING VENT THRU ROOF
	BALL VALVE		POINT OF CONNECTION (CONNECT NEW TO EXISTING)
	GAS COCK		PLUMBING EQUIPMENT DESIGNATION
	PLUG VALVE		PLUMBING RISER OR DETAIL DESIGNATION
	FLOOR CLEAN OUT		SANITARY SEWER PIPING
	WALL CLEAN OUT		STORM SEWER PIPING
	CLEAN OUT		VENT PIPING
	HOSE BIBB		COLD WATER PIPING
	FREEZE PROOF WALL HYDRANT		HOT WATER PIPING
	ELBOW DOWN		HOT WATER RECIRCULATING PIPING
	ELBOW UP		FILTERED WATER PIPING
	TEE UP		GAS PIPING
	TEE DOWN		CONDENSATE PIPING
	STRAINER		COMPRESSED AIR PIPING
	UNION		
	CAP		

DESIGNATION	FIXTURE	C.W.	H.W.	DRAIN	VENT
WC	WATER CLOSET	1"	-	4"	2"
UR	URINAL	3/4"	-	2"	2"
LAV.	LAVATORY	1/2"	1/2"	2"	2"
EWDFD	ELECTRIC WATER COOLER/DRINKING FOUNTAIN	1/2"	-	2"	2"
MS/S	MOP BASIN/SERVICE SINK	1/2"	1/2"	3"	2"
SB/BT	SHOWER/BATH TUB	1/2"	1/2"	2"	2"
SK	SINK	1/2"	1/2"	2"	2"

1. PITCH ALL DRAINAGE PIPING 3" AND LARGER AT 1/8" PER FOOT MINIMUM UNLESS OTHERWISE NOTED. PITCH ALL DRAINAGE PIPING 2-1/2" AND SMALLER AT 1/4" PER FOOT
2. ALL UNDERGROUND DRAINAGE PIPING SHALL BE A MINIMUM OF 2" IN SIZE.
3. PROVIDE TRAP PRIMER UNITS FOR ALL FLOOR DRAINS.
4. VERIFY/COORDINATE LOCATIONS OF ALL FIXTURES, DRAIN, ETC. WITH ARCHITECT PRIOR TO ROUGH-IN.

- Notes:
- 1. 4" FPT inlet/outlet with 4" plain end adapters, single inlet and triple outlet.
- 2. Unit weight - w/ cast iron covers: 190 lbs. (For wet weight add 1,043 lbs.)
- 3. Maximum operating temperature: 150° F continuous
- 4. Capacities - Liquid: 125 gal.
Grease: 861 lbs. (118 gal.) @75 GPM
Solids: 31 gal.
- 5. For gravity drainage applications only.
- 6. Do not use for pressure applications.
- 7. Cover placement allows full access to tank for proper maintenance.
- 8. Vent not required unless per local code.
- 9. Engineered inlet and outlet diffusers with inspection ports are removable to inspect / clean piping.
- 10. Integral air relief / Anti-siphon / Sampling access.
- 11. Adjustable cover adapter provides up to 4" of additional height.
- 12. Designed for below-grade, above-grade, indoor and outdoor installations.
- 13. Safety Star®, access restrictor built into cover adapter, prevents accidental entry to tank (450 lb rating).



PART NUMBER: 4045-007-02

DESCRIPTION:
GB-75 GREASE INTERCEPTOR 75 GPM, 4" INLET/OUTLET, H-20 RATED
CAST IRON COVER

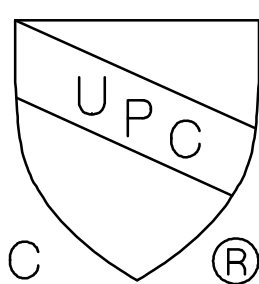
DWG BY: C. BUSENITZ	DATE: 4/14/2022	REV: -	ECO: -
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DATE: 4/14/2022	REV: -	ECO: -
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DWG BY: C. BUSENITZ	DATE: 4/14/2022	REV: -	ECO: -
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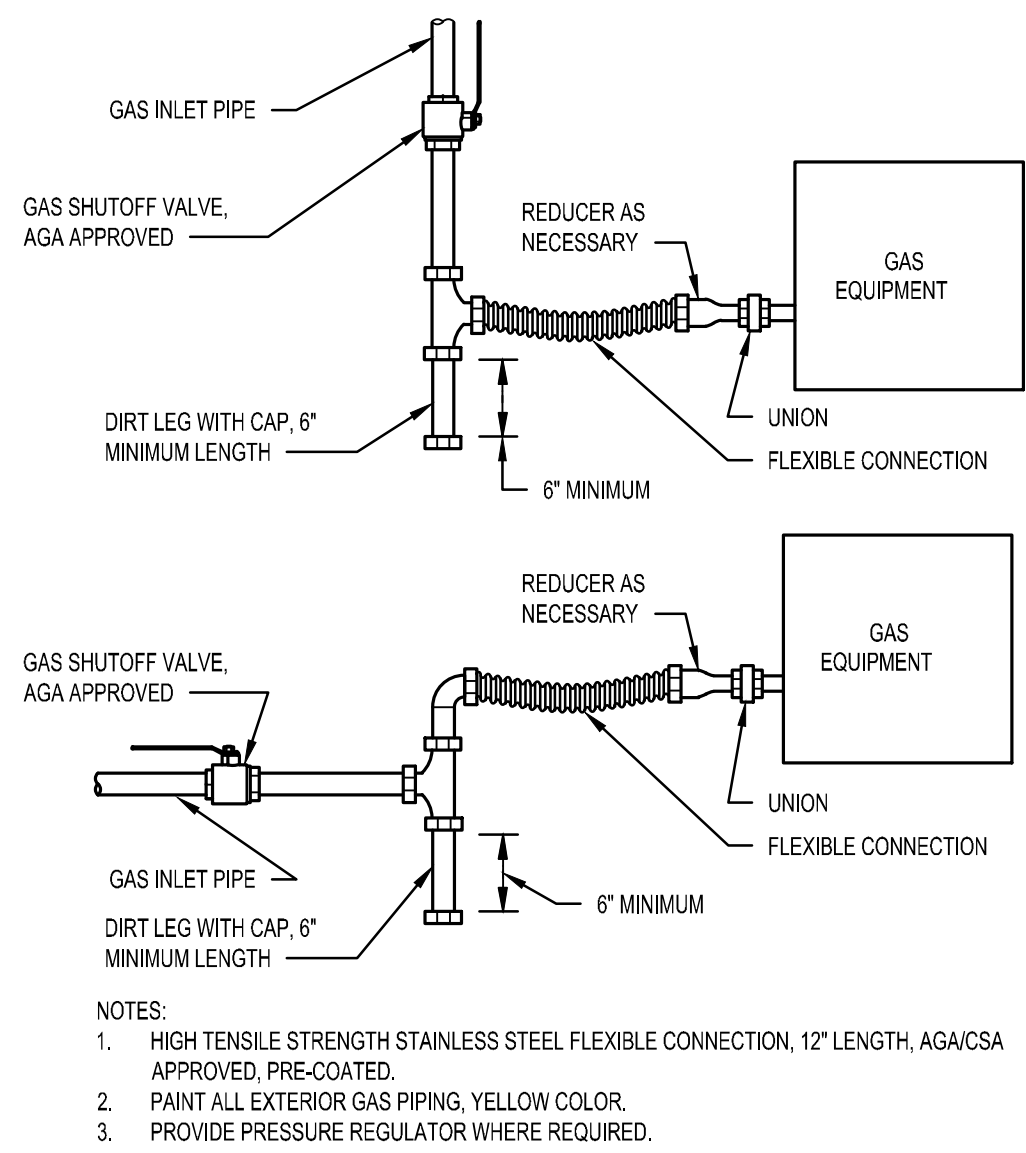
1600 SE HAMBLEN ROAD
LEE'S SUMMIT, MISSOURI 64063

REVISION DATES:

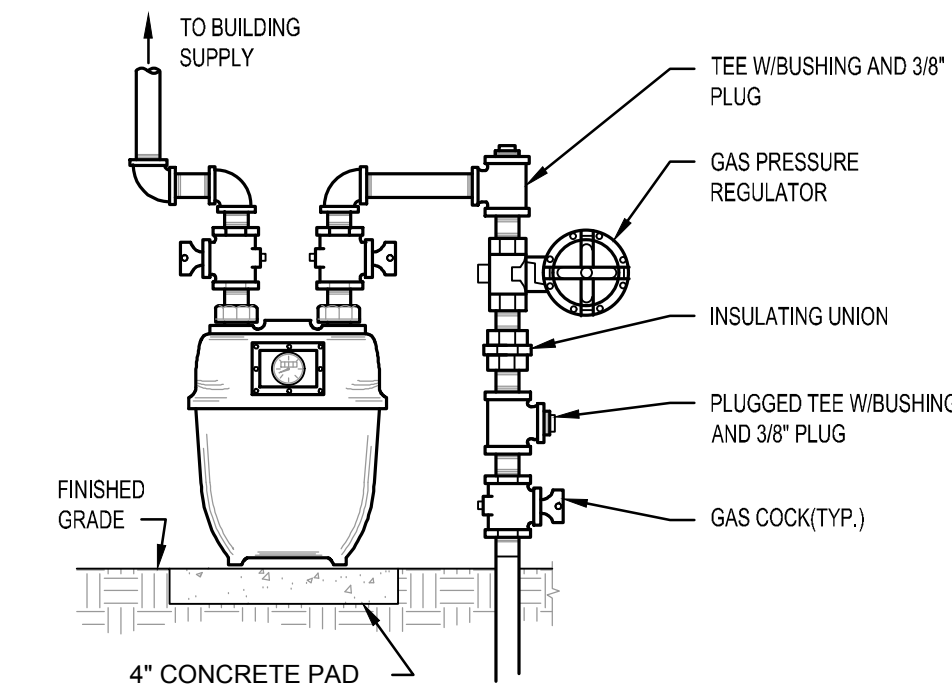


ISSUE DATE: 2 MAY 2023
COLLINS WEBB #: 22103

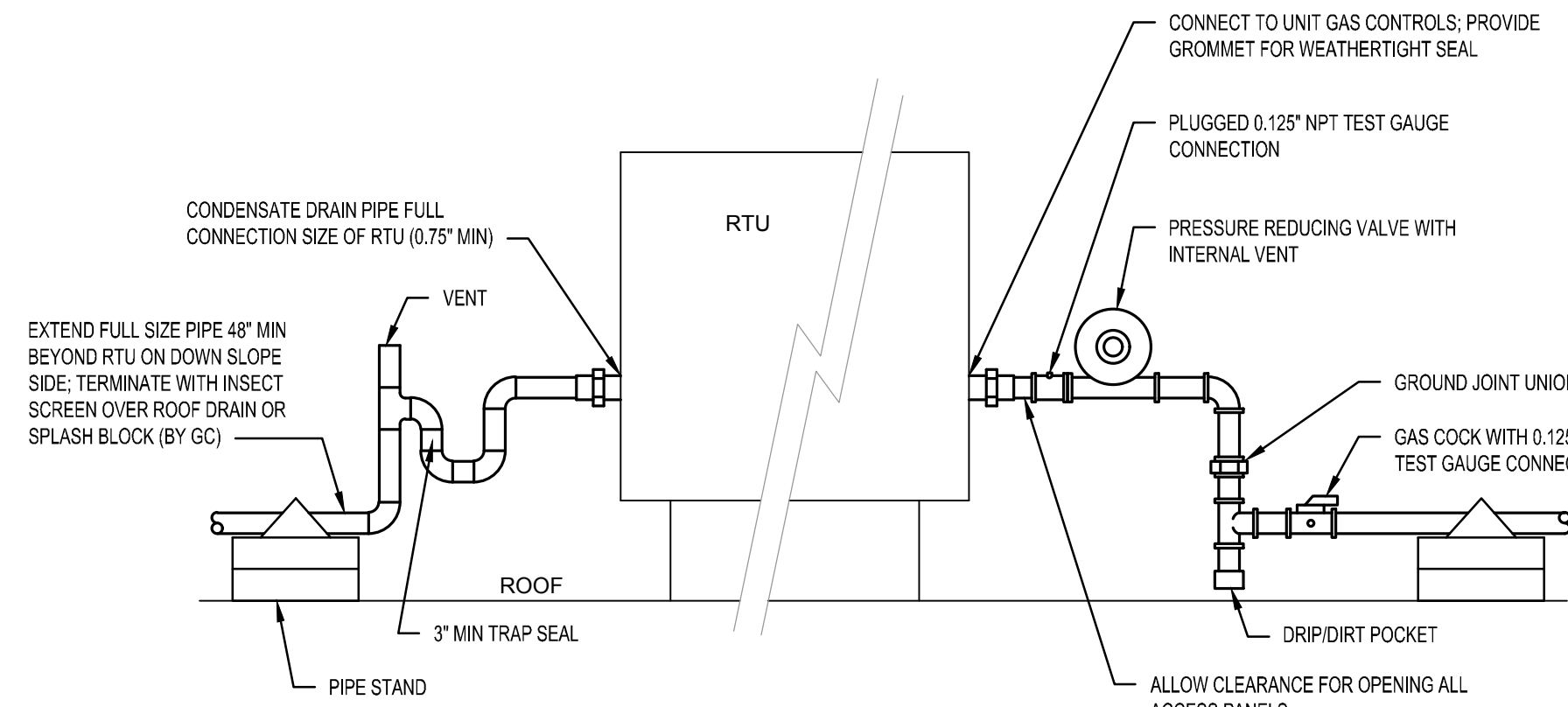
PLUMBING NOTES, SYMBOLS & ABBREVIATIONS



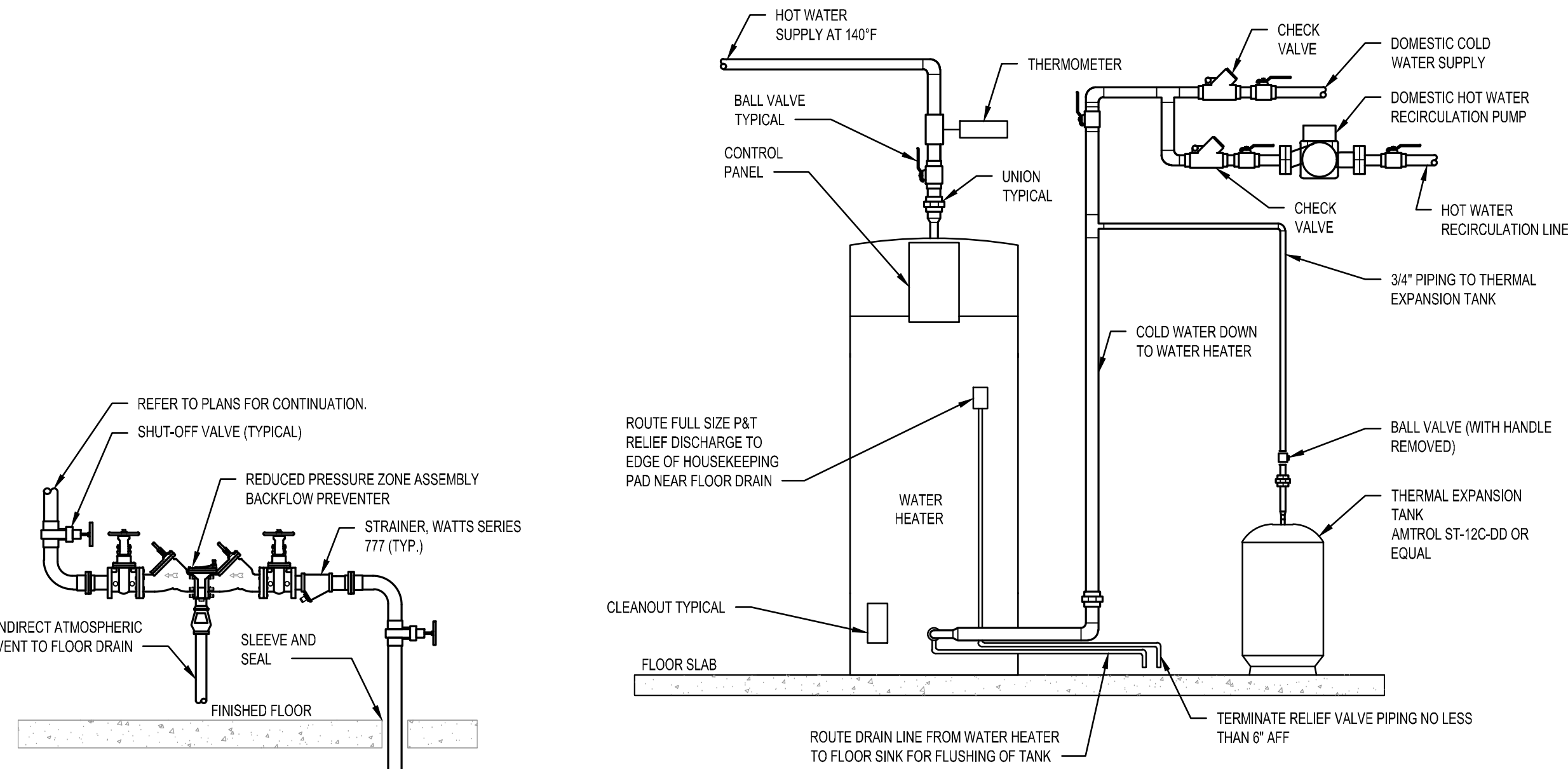
11 GAS EQUIPMENT PIPE CONNECTION
NOT TO SCALE



12 GAS METER DETAIL
NOT TO SCALE



10 ROOF TOP UNIT DETAIL
NOT TO SCALE



- NOTES:
1. THERMOMETERS TO BE INSTALLED TO BE EASILY READABLE.
 2. INSTALL PIPING & EQUIPMENT FOR WATER HEATER WITH REQUIRED CLEARANCES TO ALLOW SPACE FOR REMOVAL & SERVICING AS SHOWN.
 3. PROVIDE SEPARATE SUPPORT FROM PIPING FOR RECIRCULATING PUMP.
 4. INSTALL WATER HEATER PER MANUFACTURER'S WRITTEN INSTRUCTIONS/RECOMMENDATIONS.
 5. ROUTE WATER HEATER PBT RELIEF AND DISCHARGE NEAR FLOOR SINK/DRAIN.
 6. PROVIDE VACUUM RELIEF VALVE AS REQUIRED BY LOCAL CODE.
 7. PIPE INSULATION NOT SHOWN FOR DRAWING CLARITY.

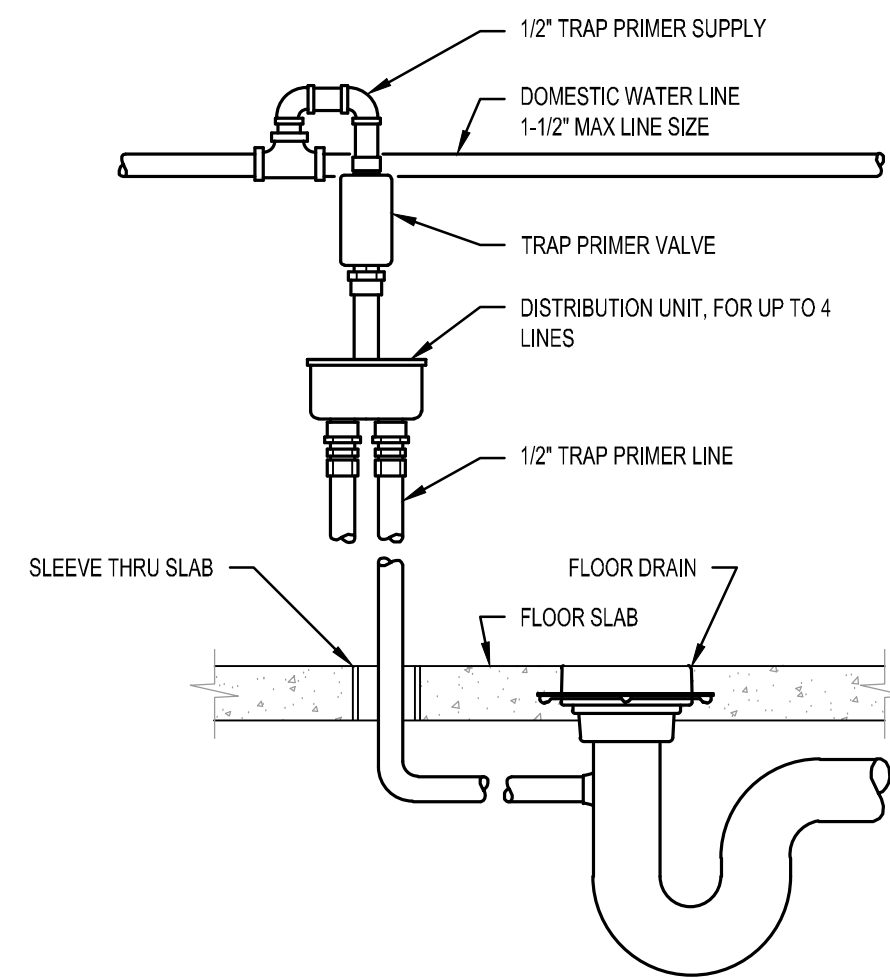
8 WATER HEATER PIPING
NOT TO SCALE

Diagram 7: Water Hammer Arresters. Shows a single fixture and multiple fixtures. Notes specify provide water hammer arresters on all quick closing valves, installed as close to the fixtures as possible to control the effects of water hammer. Installation shall comply with all local codes and ordinances. Do not provide air chambers. Provide water hammer arresters by Sioux Chief, Precision Plumbing Products, Watts or approved equivalent with piston and O-ring construction, having PDI #WH-201, ASSE # 1010 and ANSI # A112.26.1M certification. Install in horizontal or vertical position, but never upside down. Install in line with water flow direction if possible. Size the units per the tables shown above.

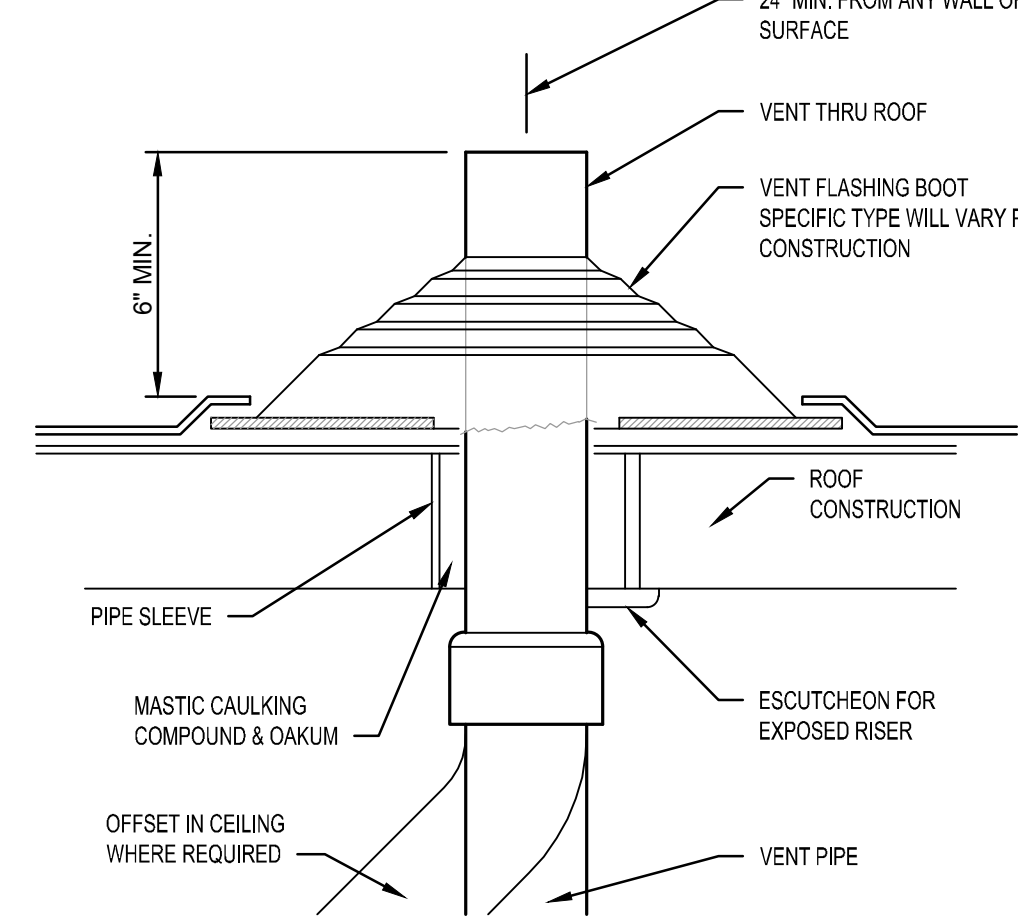
SINGLE FIXTURE		
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	154-330

MULTIPLE FIXTURES			
FIXTURE	COLD	HOT	
VALVE WATER CLOSET	10	--	
TANK WATER CLOSET	5	--	
URINAL	5	--	
LAVATORY/SINK	1.5	1.5	
JANITOR'S SINK	3	3	
SHOWER/BATHTUB	2	2	

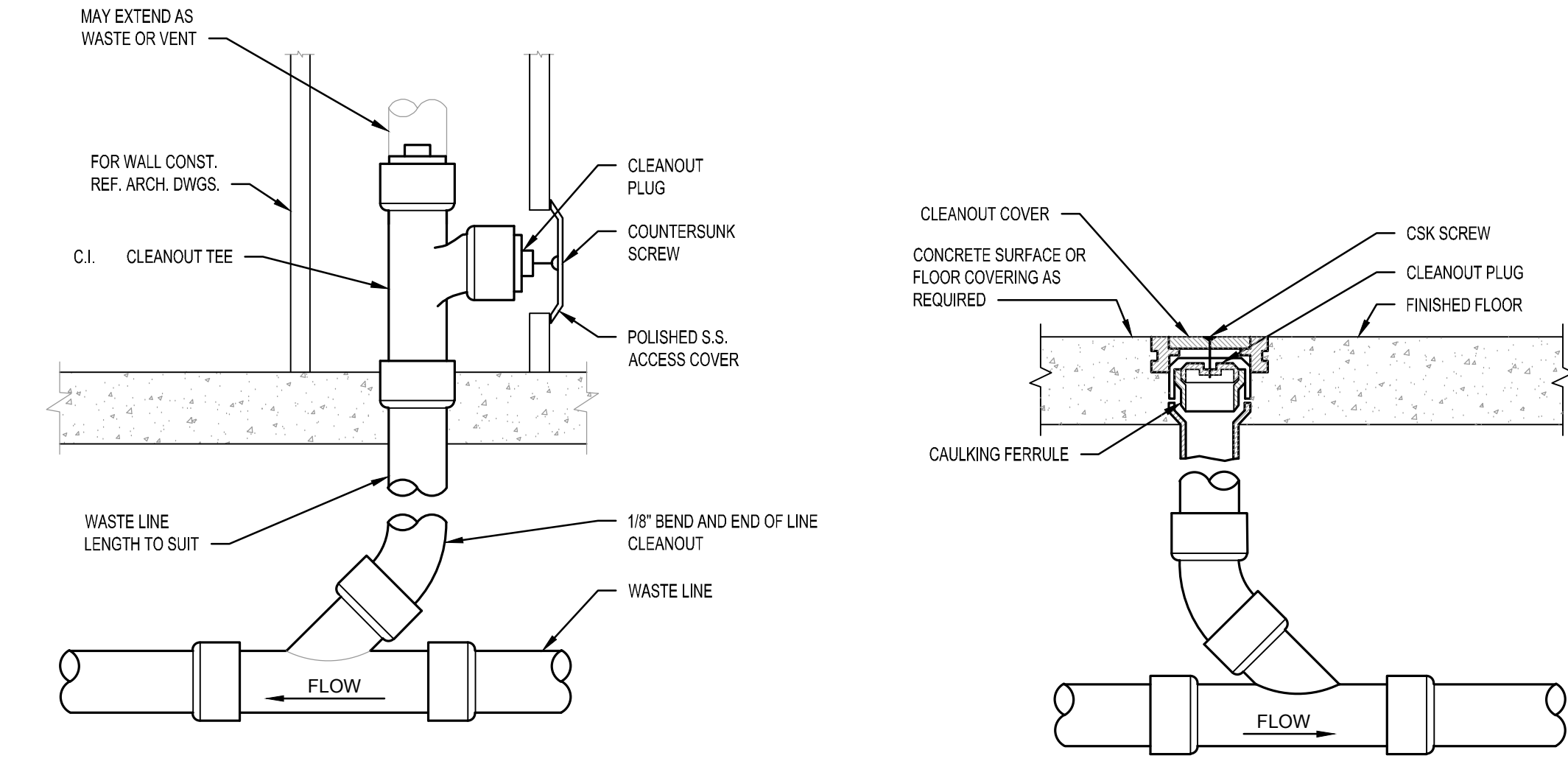
7 WATER HAMMER ARRESTERS
NOT TO SCALE



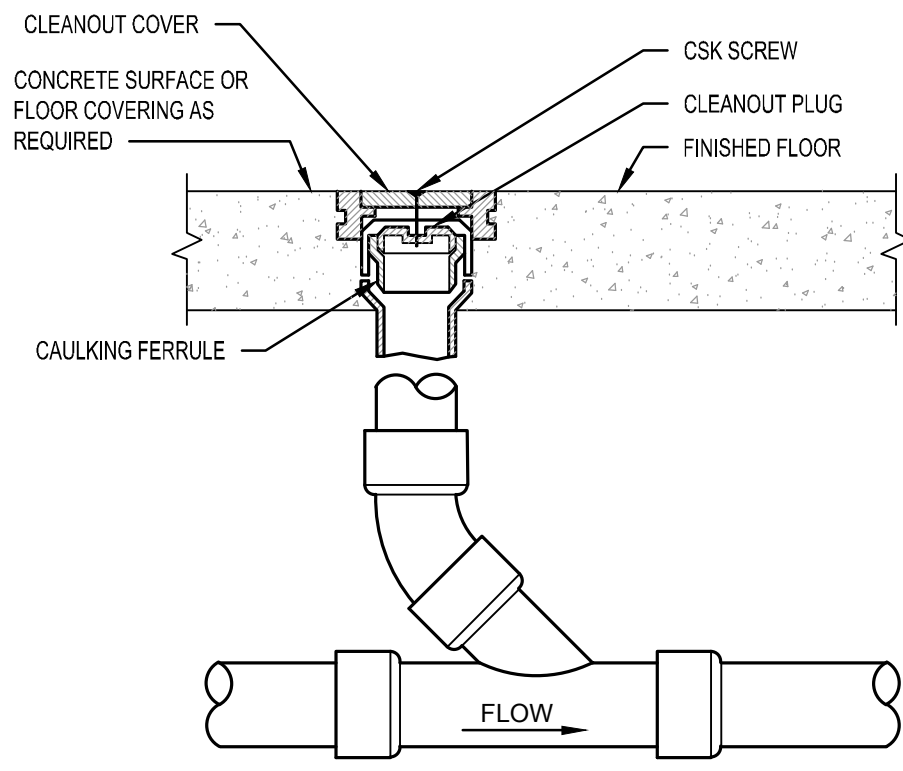
6 TRAP SEAL PRIMER DETAIL
NOT TO SCALE



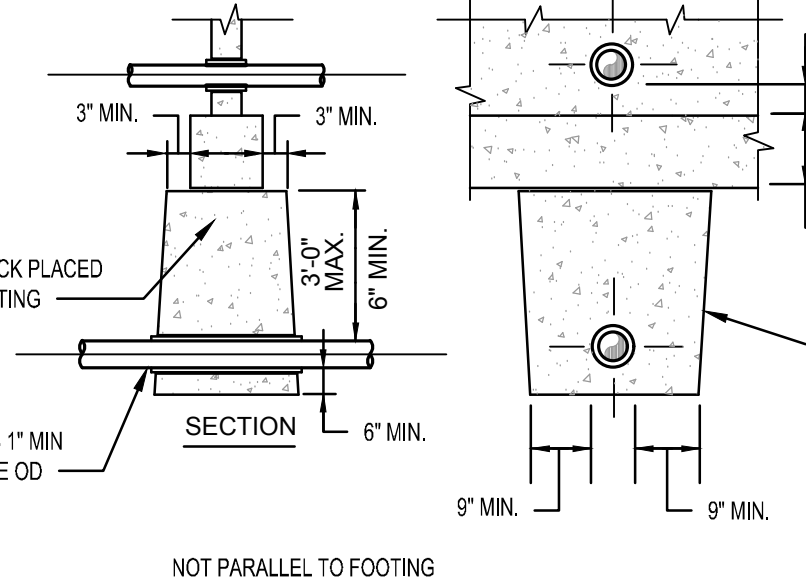
5 VENT THROUGH ROOF DETAIL (VTR)
NOT TO SCALE



4 WALL CLEANOUT
NOT TO SCALE



3 FLOOR CLEANOUT
NOT TO SCALE

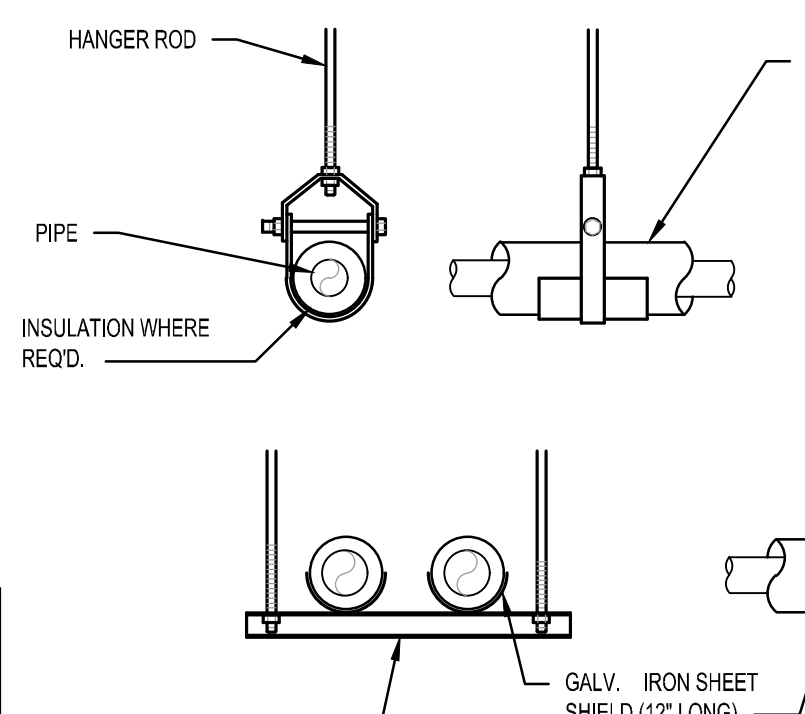


2 PIPE AT CONCRETE FOOTING
NOT TO SCALE

Diagram 1: Pipe Hanging Detail. Shows a pipe hanging detail with a threaded rod per specification, adjustable clevis hanger, and fiberglass insulation per specification. Notes specify provide a section of high compression strength insulation at each hanger point. Insulation may be half round or full round & extended 2' beyond galv. shield ea. way.

WATER PIPING (COPPER TYPE 'L')				
PIPE SIZE	WEIGHT / FT. WITH WATER (IN LBS.)	MAX SPACING	LOAD / HGR	ROD SIZE
1/2"	.38	6'	2.28	3/8"
3/4"	.66	6'	3.96	3/8"
1"	1.04	6'	6.24	3/8"
1-1/4"	1.43	6'	8.58	3/8"
1-1/2"	1.92	6'	11.52	3/8"
2"	3.09	10'	30.8	3/8"
2-1/2"	4.52	10'	45.2	3/8"

1 PIPE HANGING DETAIL
SCALE: NTS

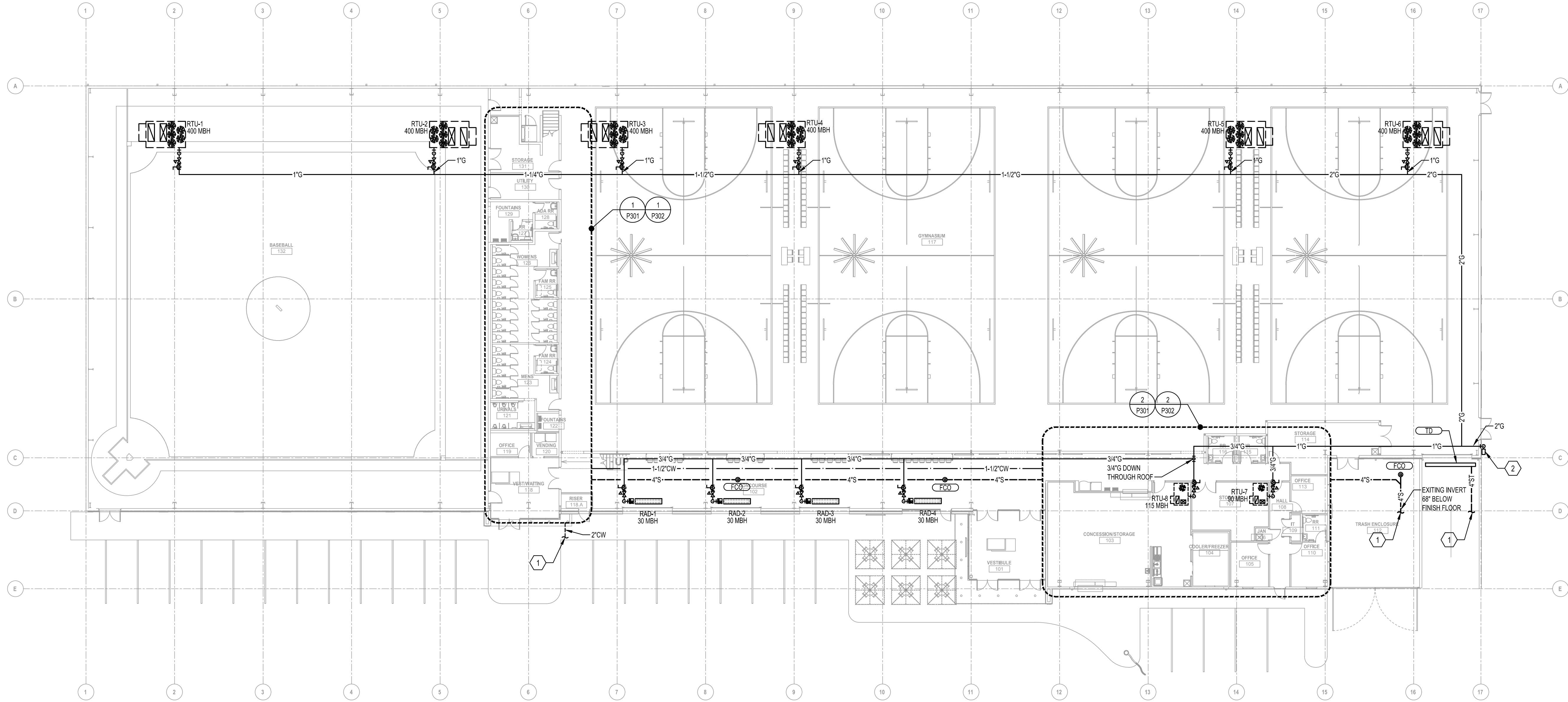


- NOTES:
1. ATTACH SUPPORTS FOR ALL PIPING SUSPENDED FROM THE STEEL STRUCTURE TO THE TOP CORD OF JOISTS OR BEAMS.
 2. PROVIDE COPPER OR PLASTIC COATED HANGERS FOR NON-INSULATED COPPER PIPE

Diagram 1: Plumbing Fixture Schedule. Shows a table with columns: TAG, MANUFACTURER, MODEL, DRAIN, VENT, COLD WATER, HOT WATER, ELECTRICAL REQUIREMENTS, and DESCRIPTION.

TAG	MANUFACTURER	MODEL	DRAIN	VENT	COLD WATER	HOT WATER	ELECTRICAL REQUIREMENTS	DESCRIPTION
BFP	WATTS	009-QTS	---	---	2"	---	---	BRONZE BODY REDUCED PRESSURE ZONE BACKFLOW PREVENTER WITH QUARTER TURN SHUTOFF VALVES AND STRAINER.
EW1	ELKAY	VRC8S	2"	1-1/2"	1/2"	---	115V 5 AMPS	WALL MOUNT VANDAL RESISTANT ADA COOLER NON-FILTERED, REFRIGERATED.
EW2	ELKAY	VRC8WSK	2"	1-1/2"	1/2"	---	115V 5 AMPS	WALL MOUNT VANDAL RESISTANT ADA COOLER NON-FILTERED, REFRIGERATED WITH BOTTLE FILLING STATION.
EW1	BRADFORD WHITE	LE350S3-3	---	---	1"	1"	480V 3 PHASE 9KW	ELECTRIC WATER HEATER 50 GALLON 42 GALLON RECOVERY AT 90 %DF RISE. 99% EFFICIENT PROVIDE WITH AMTROL ST-12 THERMAL EXPANSION TANK.
EW2	BRADFORD WHITE	CEHD120A	---	---	1-1/4"	1-1/4"	480V 3 PHASE 30KW	ELECTRIC WATER HEATER 119 GALLON 124 GALLON RECOVERY AT 100 %DF RISE. 99% EFFICIENT PROVIDE WITH AMTROL ST-12 THERMAL EXPANSION TANK.
FCO	SIOUX CHIEF	834-4ANR	4"	---	---	---	---	FLOOR CLEANOUT ABS BODY AND NICKEL-BRONZE COVER.
FD	SIOUX CHIEF	832-35ANR	2"	2"	---	---	---	ADJUSTABLE FLOOR DRAIN WITH GRAY ABS BODY AND ROUND NICKEL-BRONZE STRAINER AND TRAP PRIMER CONNECTION.
FS	SIOUX CHIEF	861-3PNU2	3"	2"	---	---	---	SQUAREMAX PVC FLOOR SINK WITH 3" SCHEDULE 40 HUB CONNECTION AND HALF-OPEN NICKEL-BRONZE RING/STRAINER.
IMB	GUY GRAY	BIM875	---	---	1/2"	---	---	ICE MAKER BOX, PROVIDE WITH STOP VALVE.
FHB	WOODFORD	B65	---	---	3/4"	---	---	AUTOMATIC DRAINING FREEZELESS WALL HYDRANT WITH RECESSED BOX.
GI	SCHIER	GB-75	4"	---	---	---	---	POLYETHYLENE GREASE INTERCEPTOR RATED FOR 75 GPM, 861 LBS GREASE CAPACITY WITH 16,000 LBS LOAD RATED CAPACITY COVER. COMPLIES WITH ASME #A112.14.3.
LAV1	SLOAN	DSWD-82000	2"	1-1/2"	1/2"	1/2"	---	WALL HUNG 2 STATION LAVATORY WITH SF-2450-4-BAT-BDM-CP-0.5GPM-MLM-R-FCT BATTERY POWERED SENSOR FAUCET FOR EACH STATION. PROVIDE WITH TRUEBRO LAV GUARD PIPE WRAPS.
LAV2	AMERICAN STANDARD	9024.001EC	2"	1-1/2"	1/2"	1/2"	---	WALL-HUNG LAVATORY WITH REAR OVERFLOW. SLOAN SF-2450-4-BAT-BDM-CP-0.5GPM-MLM-R-FCT BATTERY POWERED SENSOR FAUCET. PROVIDE TRUEBRO LAV GUARD PIPE WRAPS AND IN-WALL CARRIER.
MS	FIAT	MSBDTG2424	3"	2"	3/4"	3/4"	---	MOLDED STONE MOP SERVICE BASIN WITH 830AA FAUCET, 832AA HOSE AND BRACKET, 889CC MOP HANGER BRACKET AND QIC3XH 3" QUICK DRAIN CONNECTOR.
RP	TACO	007-SF5	---	---	3/4"	---	115V 0.76 AMPS	STAINLESS STEEL RECIRCULATION PUMP 9 FEET OF HEAD AT 5 GPM. PROVIDE WITH AQUASTAT AND TIMER.
TD	SIOUX CHIEF	MAXI 150 SYSTEM	4"	---	---	---	---	FIBER REINFORCED CONCRETE TRENCH DRAIN WITH DUCTILE IRON EDGE TOP AND F900 LOAD CLASS DUCTILE IRON GRATE.
UR	AMERICAN STANDARD	6002.001	2"	1-1/2"	3/4"	---	---	VITREOUS CHINA WASHDOWN URINAL WITH 6063.013.002 SENSOR-OPERATED BATTERY POWERED FLUSH VALVE.
WC1	AMERICAN STANDARD	2462.016	3"	2"	3/4"	---	---	1.6 GPF, FLUSH TANK WATER CLOSET PRESSURE-ASSISTED SIPHON JET. ELONGATED BOWL WITH CHURCH 9500C WHITE, SOLID PLASTIC, OPEN-FRONT SEAT.
WC2	AMERICAN STANDARD	2467.016	3"	2"	3/4"	---	---	ADA-COMPLIANT, 1.6 GPF, FLUSH TANK WATER CLOSET PRESSURE-ASSISTED SIPHON JET. ELONGATED BOWL WITH CHURCH 9500C WHITE, SOLID PLASTIC, OPEN-FRONT SEAT.

- NOTES:
1. MODELS IN SCHEDULE ARE A BASIS OF DESIGN CONFIRM FINAL FIXTURE MODELS WITH OWNER PRIOR TO PURCHASING.
 2. ALL LAVATORIES SHALL BE PROVIDED WITH ANTI-SCALD ASSE 1070 COMPLIANT VALVE.
 3. PROVIDE LOOSE KEY STOPS AND FLEXIBLE RISERS.
 4. ON LAVATORY INSULATE EXPOSED TAILPIECE, P-TRAP, AND WATER RISERS WITH TRU-BRO INSULATION KIT.
 5. PROVIDE FLUSH VALVE HANDLE ON WIDE SIDE OF ROOM.



1 PLUMBING OVERALL PLAN
SCALE: 1/16" = 1'-0"

GENERAL NOTES
(NOT ALL NOTES APPLY)

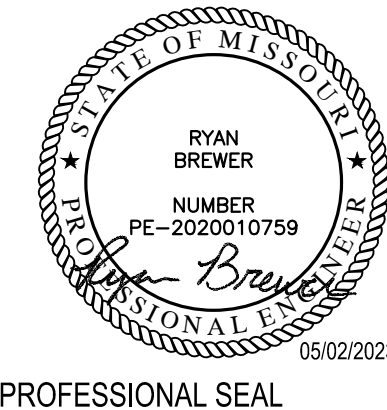
1. REFERENCE SHEET P101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. ALL SHUT-OFF OR BALANCING VALVES TO PLUMBING ROUTED IN PIPE CHASES SHALL BE ACCESSIBLE FROM CEILING AREA OR ACCESS DOORS PROVIDED IN WALL.
3. ALL EXPOSED PIPES PENETRATING FINISHED WALLS SHALL BE EQUIPPED WITH WALL ESCUTCHEONS.
4. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT SPECIFIED IN PLUMBING FIXTURES AND EQUIPMENT SCHEDULES ON THESE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PROVIDE ALL REQUIRED SHUT-OFFS, BACKFLOW PREVENTERS, PRESSURE REGULATORS, AND CONDENSATE DRAINS INDICATED ON PLUMBING SCHEDULES AND AS REQUIRED BY LOCAL CODES FOR COMPLETE EQUIPMENT INSTALLATION. CONSULT EQUIPMENT SUPPLIER OR OWNER FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS NOT SHOWN ON THESE DRAWINGS.

KEYED NOTES:

1. REFERENCE CIVIL DRAWINGS FOR CONTINUATION.
2. COORDINATE WITH GAS UTILITY FOR INSTALLATION OF NEW GAS SERVICE. SYSTEM SIZED AT 2 PSI WITH A TOTAL DEVELOPED LENGTH OF 550' AND TOTAL GAS LOAD OF 2,725 MBH.

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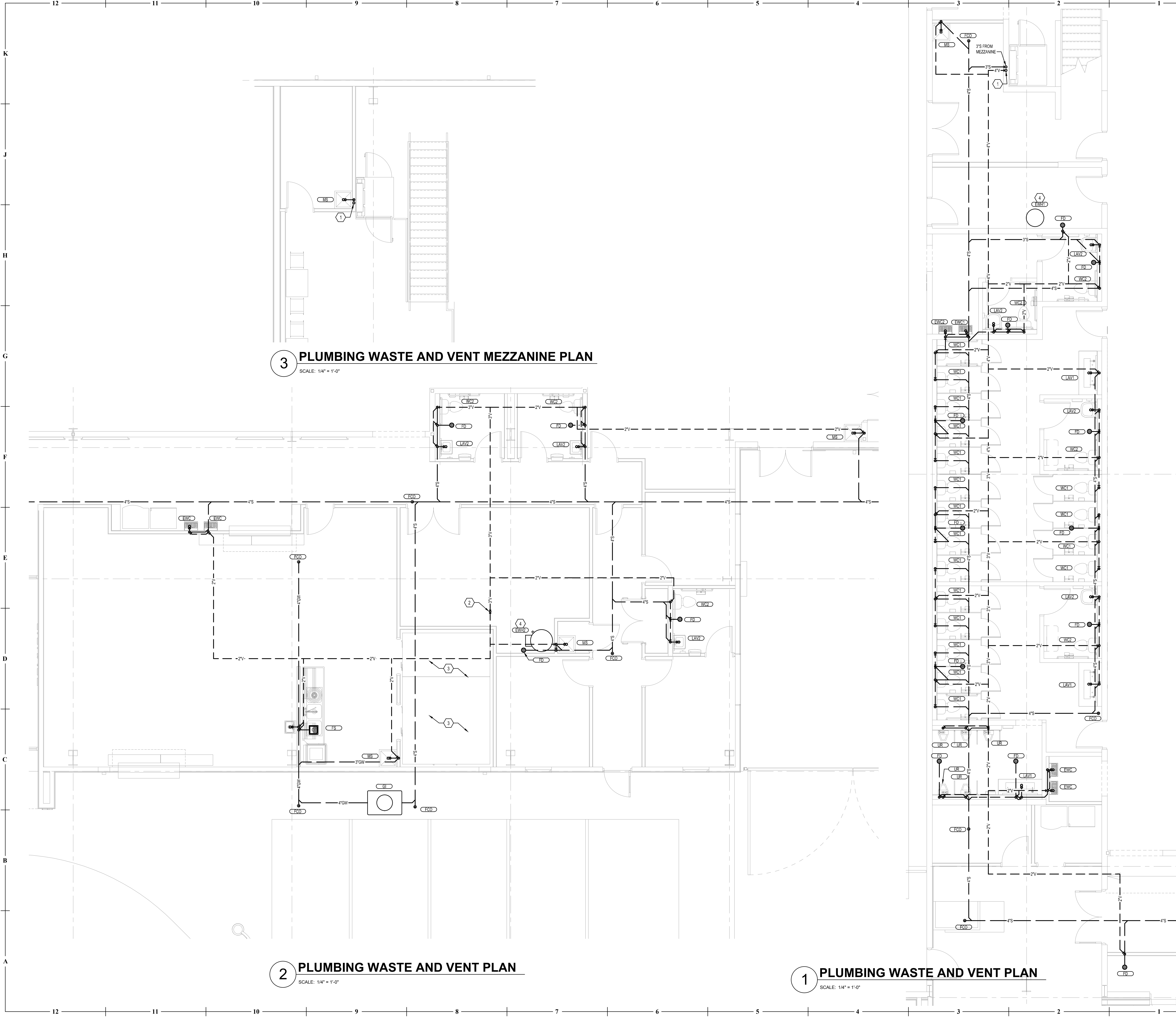
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PLUMBING OVERALL
PLAN

PERMIT SET






GENERAL NOTES
(NOT ALL NOTES APPLY)

1. REFERENCE SHEET P101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
2. ALL SHUT-OFF OR BALANCING VALVES TO PLUMBING ROUTED IN PIPE CHASES SHALL BE ACCESSIBLE FROM CEILING AREA OR ACCESS DOORS PROVIDED IN WALL.
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KEYED NOTES:

1. 4" V UP TO 4" VTR. COORDINATE ROUTING UP THROUGH MEZZANINE IN WALL. VERIFY FINAL PLACEMENT WITH ALL ROOF TOP EQUIPMENT. MAINTAIN A MINIMUM 10' FROM ALL FRESH AIR INTAKES AND 1' FROM ALL VERTICAL SURFACES.
2. 3" V UP TO 3" VTR. COORDINATE FINAL PLACEMENT WITH ALL ROOF TOP EQUIPMENT. MAINTAIN A MINIMUM 10' FROM ALL FRESH AIR INTAKES AND 1' FROM ALL VERTICAL SURFACES.
3. INSTALL COOLER/FREEZER CONDENSATE DRAIN LINES ALONG COOLER WALLS AS HIGH AS POSSIBLE WHILE MAINTAINING A MINIMUM 1/4" PER FOOT FALL. ROUTE PIPING TO FLOOR DRAIN AND TERMINATE OVER FLOOR DRAIN WITH AIR GAP PER CODE.
4. ROUTE WATER HEATER T&P DRAIN LINE TO FLOOR DRAIN AND TERMINATE OVER FLOOR DRAIN WITH AIR GAP PER CODE.



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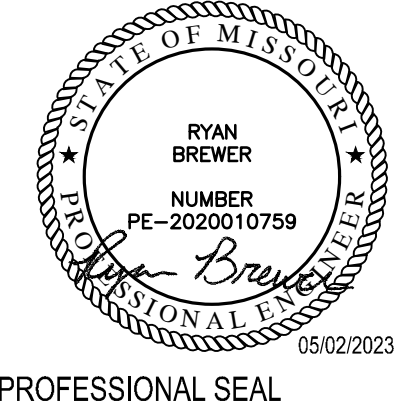
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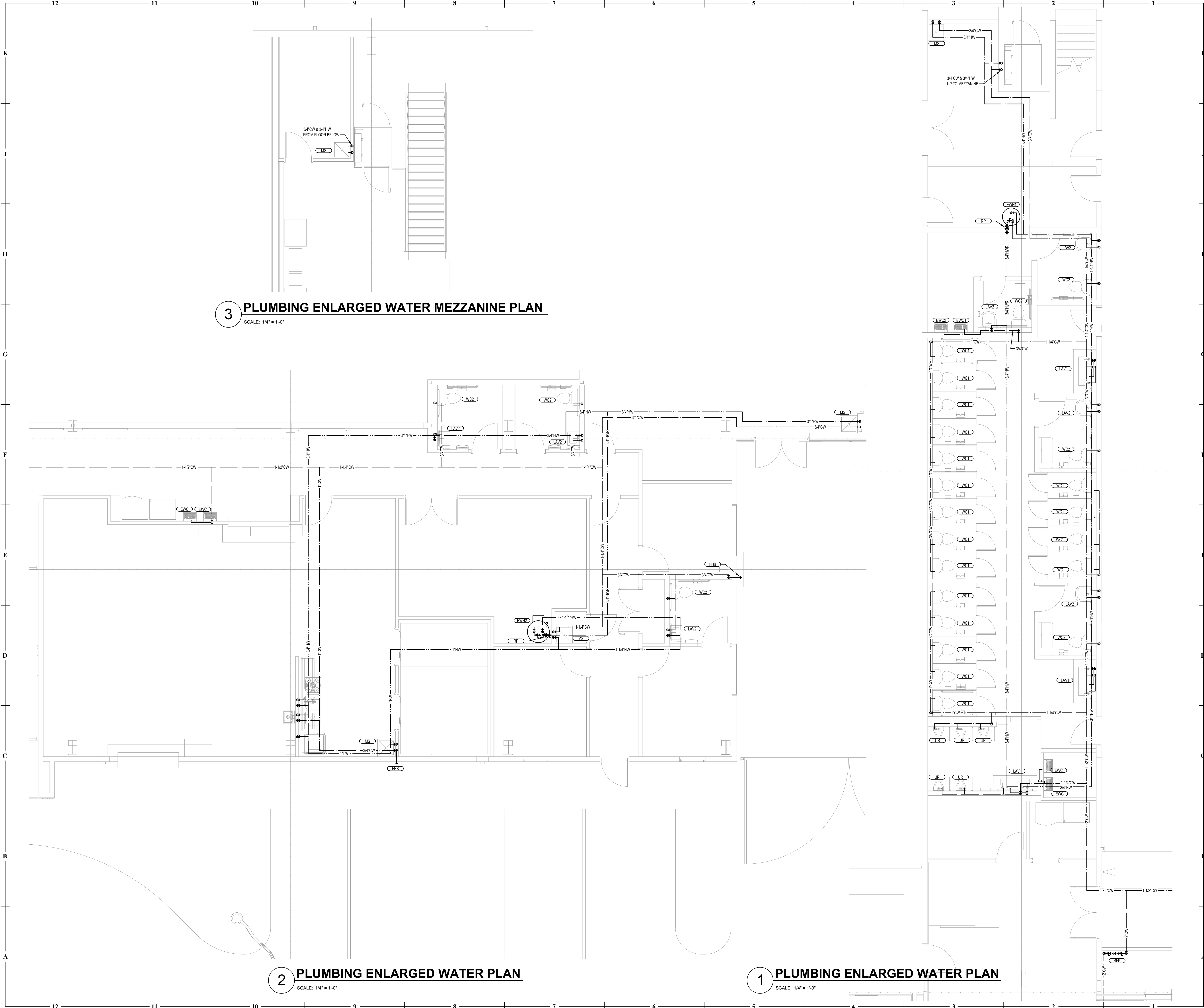


PROFESSIONAL SEAL

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PLUMBING WASTE AND VENT PLAN



- GENERAL NOTES**
(NOT ALL NOTES APPLY)
1. REFERENCE SHEET P101 FOR GENERAL NOTES, SYMBOLS, AND ABBREVIATIONS.
 2. ALL SHUT-OFF OR BALANCING VALVES TO PLUMBING ROUTED IN PIPE CHASES SHALL BE ACCESSIBLE FROM CEILING AREA OR ACCESS DOORS PROVIDED IN WALL.
 3. ALL EXPOSED PIPES PENETRATING FINISHED WALLS SHALL BE EQUIPPED WITH WALL ESCUTCHEONS.
 4. PROVIDE FINAL CONNECTIONS FOR ALL EQUIPMENT SPECIFIED IN PLUMBING FIXTURES AND EQUIPMENT SCHEDULES ON THESE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. PROVIDE ALL REQUIRED SHUT-OFFS, BACKFLOW PREVENTERS, PRESSURE REGULATORS, AND CONDENSATE DRAINS INDICATED ON PLUMBING SCHEDULES AND AS REQUIRED BY LOCAL CODES FOR COMPLETE EQUIPMENT INSTALLATION. CONSULT EQUIPMENT SUPPLIER OR OWNERS FOR ADDITIONAL FINAL CONNECTION REQUIREMENTS NOT SHOWN ON THESE DRAWINGS.



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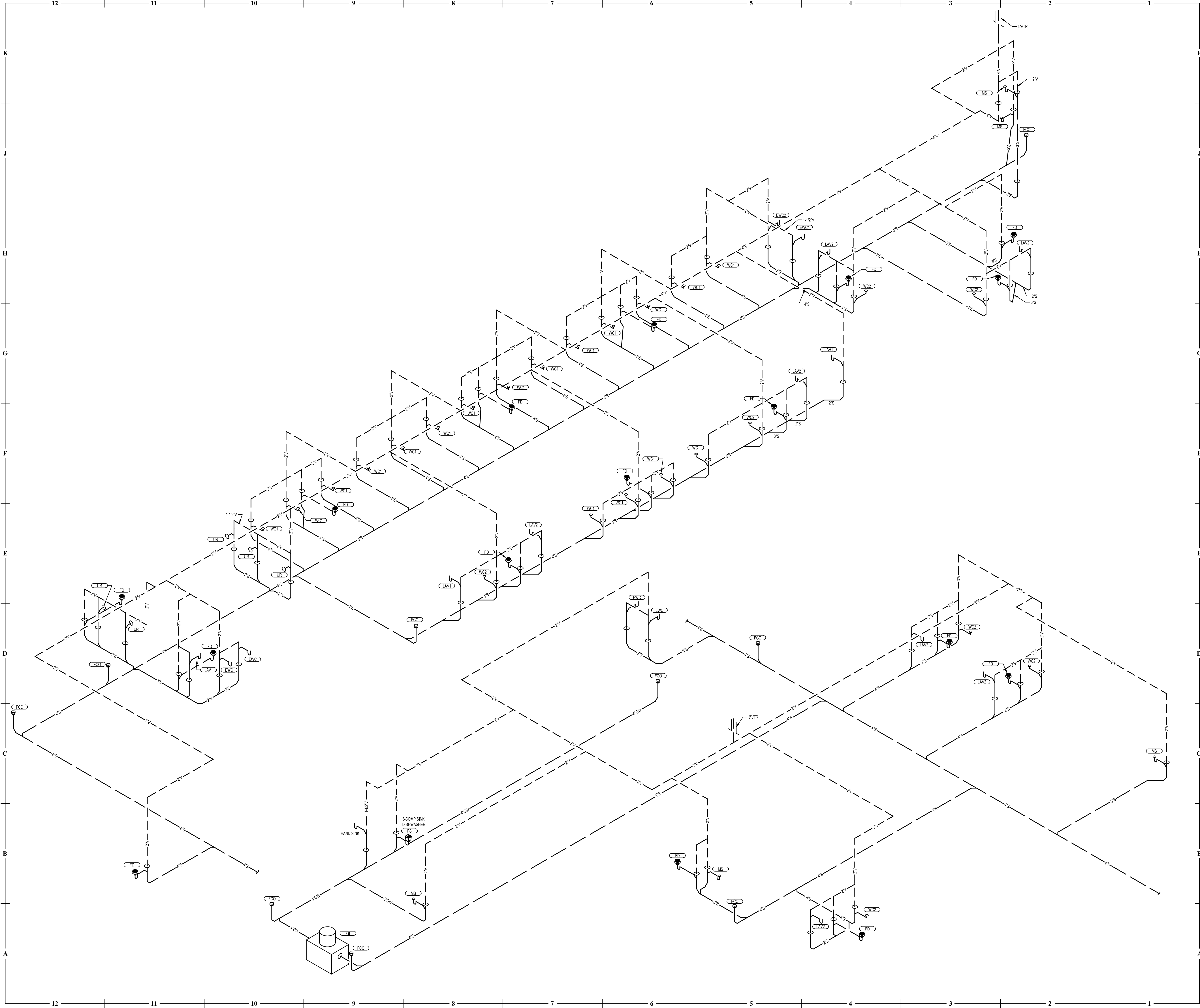
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**PLUMBING WATER
AND GAS PLAN**

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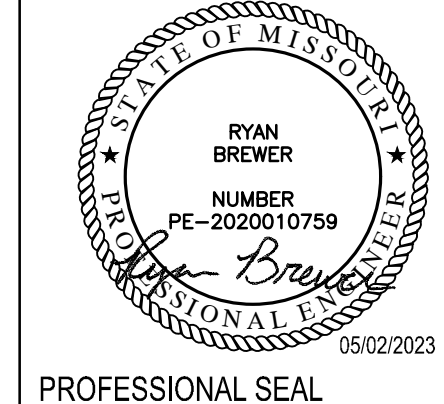


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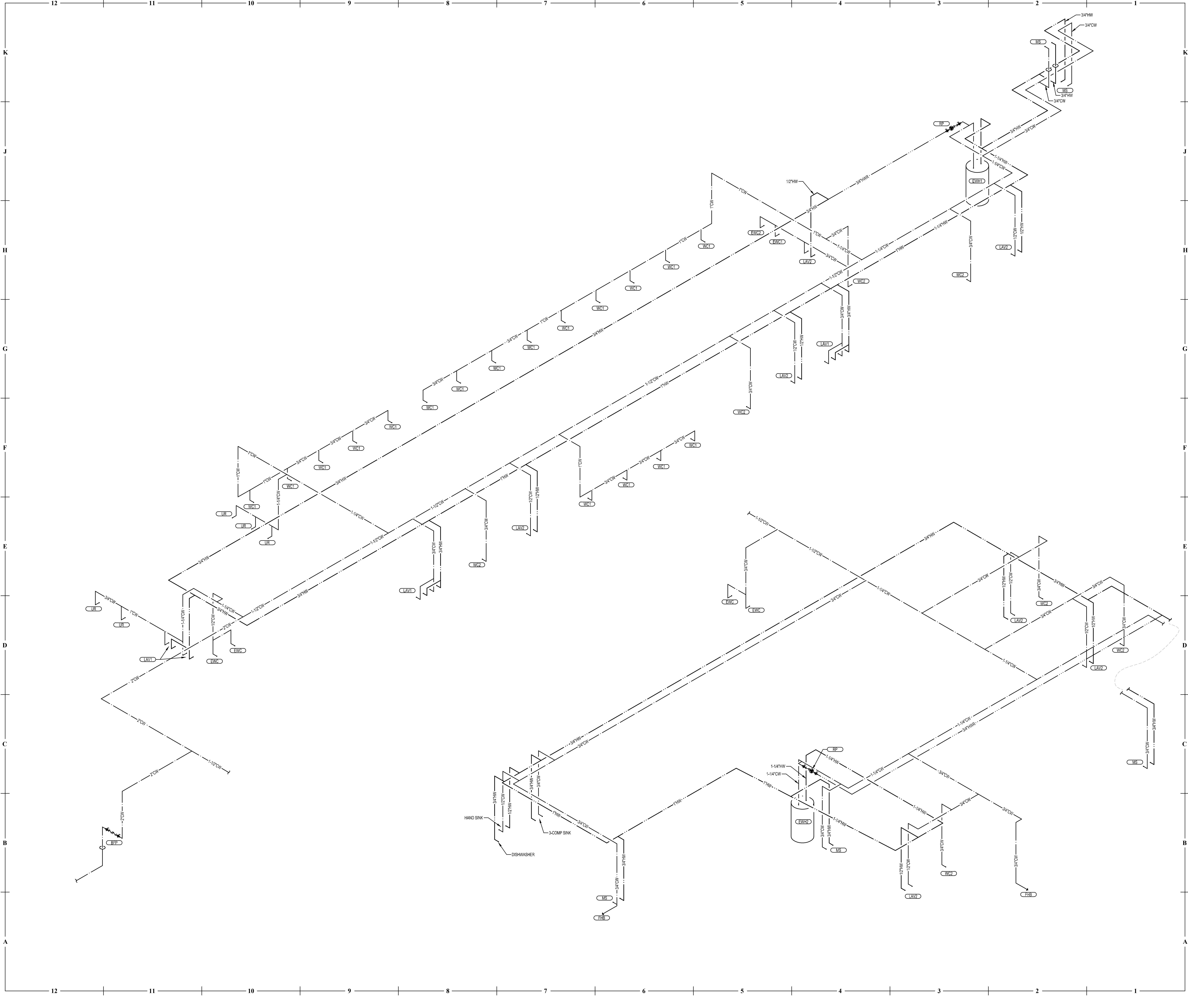
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PLUMBING RISERS

PERMIT SET



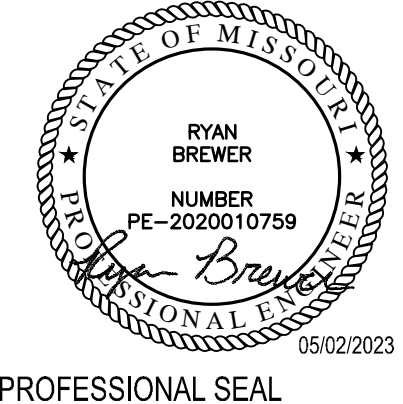
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PLUMBING RISERS

PERMIT SET

15400 - PLUMBING WORK

DESCRIPTION
ALL PLUMBING AND ASSOCIATED WORK IN DIVISION 15 IS COVERED BY THIS SECTION. PROVIDE LABOR AND MATERIALS NECESSARY TO PROVIDE THE WORK AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN. REFER TO OTHER DIVISIONS FOR CONTINUATION OF EXTERIOR AND ALLIED WORK.

QUALITY ASSURANCE
OBTAIN AND PAY FOR ALL PERMITS, INSPECTIONS AND CONNECTION FEES REQUIRED BY GOVERNING BODIES IN CONNECTION WITH THE WORK. DELIVER CERTIFICATES OF INSPECTION TO THE OWNER'S REPRESENTATIVE. ALL WORK SHALL COMPLY WITH GOVERNING CODES, ORDINANCES, AND REGULATIONS OF CITY, COUNTY AND STATE.

SUBMITTALS
SHOP DRAWINGS: SUBMIT MATERIALS, PRODUCTS, EQUIPMENT AND SYSTEMS AS SPECIFIED UNDER EACH PLUMBING SECTION IN THIS DIVISION IN ACCORDANCE WITH THE GENERAL CONDITIONS. SHOW PIPE SIZES, LOCATION, SLOPES OF HORIZONTAL RUNS, FITTINGS, VALVES, METERS, GAGES AND CONNECTIONS.

PRODUCT DATA: SUBMIT ON MATERIALS, FIXTURES, AND EQUIPMENT UNLESS OTHERWISE SPECIFIED OR ACKNOWLEDGED IN WRITING.

SAMPLES: SUBMIT WHEN SPECIFIED OR REQUESTED.

RECORD DOCUMENTS
REFER TO GENERAL CONDITIONS FOR REQUIREMENTS CONCERNING RECORD DOCUMENTS. ADDITIONAL REQUIREMENTS MAY BE SPECIFIED IN DIVISION 1. UNLESS SEPARAS OF THE DRAWINGS ARE TO BE FURNISHED BY THE ARCHITECT-ENGINEER FOR PREPARATION OF RECORD DRAWINGS, FURNISH OWNER'S REPRESENTATIVE WITH TWO SETS OF ACCURATELY MARKED COPIES OF THE DRAWINGS, INSTEAD OF ONE SET AS REQUIRED BY THE GENERAL CONDITIONS, INDICATING ALL CHANGES FROM ORIGINAL DRAWINGS AS INSTALLED.

PRODUCT HANDLING
PIPE, FIXTURES AND ACCESSORIES SHALL BE PROTECTED FROM DAMAGE IN SHIPMENT, HANDLING, STORAGE AND INSTALLATION. FROM MOISTURE, DIRT AND DEBRIS. PIPE, CLEANOUT AND FLOOR DRAIN OPENINGS SHALL BE TEMPORARILY PLUGGED WITH TEST PLUGS UNTIL FINAL CONNECTIONS ARE MADE.

GUARANTEE AND SERVICE
REFER TO GENERAL CONDITIONS FOR GUARANTEE. WHERE EXTENDED GUARANTEES ARE CALLED FOR, FURNISH THREE COPIES TO BE INSERTED INTO OPERATION AND MAINTENANCE MANUALS.

GENERAL
PLUMBING SYSTEMS SHALL BE PROVIDED COMPLETE. SHOULD A SYSTEM, OR ANY PART THEREOF FAIL TO MEET PERFORMANCE REQUIREMENTS, NECESSARY REPLACEMENTS, ALTERATIONS OR REPAIRS, AS REQUIRED BY THE OWNER'S REPRESENTATIVE, SHALL BE MADE TO BRING PERFORMANCE UP TO SPECIFIED REQUIREMENTS AND ALL BUILDING CONSTRUCTION AND FINISHES DAMAGED OR MARRED BY SUCH REPLACEMENTS, ALTERATIONS OR REPAIRS SHALL BE RESTORED TO PRIOR CONDITION, AT NO ADDITIONAL COST TO THE OWNER.

WHERE MULTIPLE ITEMS OF EQUIPMENT OR MATERIALS ARE REQUIRED THEY SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER.

INSERTS, PIPE SLEEVES, HANGERS, SUPPORTS, FIXTURES, TRIM DRAINS AND ANCHORAGE OF PLUMBING SHALL BE PROVIDED AS SPECIFIED HEREIN, WHERE SUCH ITEMS ARE TO BE SET OR EMBEDDED IN CONCRETE, MASONRY OR SIMILAR WORK, THE ITEMS SHALL BE FURNISHED AND LAYOUT MADE AT THE PROPER TIME FOR THE SETTING OR EMBEDMENT THEREOF SO AS TO CAUSE NO DELAY IN THE WORK.

MANUFACTURER'S NAMES AND CATALOG NUMBERS
SPECIFIED REFERENCES HAVE BEEN MADE TO ONE OR MORE MANUFACTURERS' NAMES AND MODEL OR CATALOG NUMBERS. THIS DOES NOT NECESSARILY INDICATE THAT THE MATERIAL AND EQUIPMENT SPECIFIED IS AN "OFF THE SHELF" ITEM. REQUIREMENTS FOR SPECIFIC FINISHES, MATERIAL, OR OTHER MODIFICATIONS MAY INTRODUCE VARIANCES FROM MANUFACTURERS' STANDARDS. MODIFICATIONS SHALL BE FULLY CONSIDERED.

CHARTS AND TAGS
IN AREAS HAVING VALVES, PROVIDE SINGLE LINE DIAGRAMS FRAMED UNDER GLASS AND MOUNTED ON EQUIPMENT ROOM WALL. THE DIAGRAMS SHALL GIVE NAME, NUMBER DESIGNATION AND LOCATION OF VALVE.

VALVES SHALL BE IDENTIFIED WITH 1/16 INCH THICK WHITE LAMINATED PLASTIC NAMEPLATES WITH 3/16 INCH HIGH BLACK LAMINATED LETTERS. THE NAMEPLATE IDENTIFICATION SHALL COINCIDE WITH ITEMS APPEARING ON DIAGRAMS. ATTACH NAMEPLATES TO VALVES WITH NON-CORROSIVE CHAIN OR WIRE.

ACCESS DOORS
PROVIDE ACCESS DOORS AS INDICATED AND SPECIFIED IN DRAWINGS

INSTALLATION AND WORKMANSHIP
THE WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ANY MATERIAL, APPARATUS OR EQUIPMENT WHICH, IN THE OPINION OF THE OWNER'S REPRESENTATIVE, IS IMPROPERLY INSTALLED SHALL BE REMOVED AND REINSTALLED IN AN APPROVED MANNER AT NO ADDITIONAL COST TO THE OWNER.

THE LOCATION OF PLUMBING PIPING SHALL BE COORDINATED TO ENSURE THAT IT CLEARS OPENINGS AND STRUCTURAL MEMBERS. THAT PIPING INDICATED AS CONCEALED CAN BE PROPERLY CONCEALED IN WALLS OR PARTITIONS AND THAT IT DOES NOT INTERFERE WITH LIGHTS, DUCTWORK OR EQUIPMENT HAVING FIXED LOCATIONS. MAKE NECESSARY HORIZONTAL OR VERTICAL OFFSETS WITH PIPE FITTINGS TO INSTALL THE SYSTEM IN THE AVAILABLE SPACE. CONCEAL OR INSTALL TIGHT TO STRUCTURE (IF EXPOSED) UNLESS OTHERWISE NOTED.

PIPING SHALL BE EXPOSED IN FINISHED AREAS ONLY WHERE INDICATED OR WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

WHERE DRAIN OR WATER CONNECTIONS NECESSARY TO THE OPERATION OF FIXTURES OR EQUIPMENT ARE NOT SPECIFICALLY SHOWN ON DIAGRAMS, EXTEND NECESSARY BRANCHES TO THE CLOSEST INDICATED BRANCH OR MAIN, AT NO ADDITIONAL COST TO THE OWNER.

EACH FIXTURE, EQUIPMENT DRAIN OR FLOOR DRAIN SHALL BE SEPARATELY TRAPPED UNLESS OTHERWISE INDICATED OR SPECIFIED.

PLUMBING PIPING AND EQUIPMENT SHALL NOT BE FIELD PAINTED, OR PRIMED BEYOND THE DEGREE OF APPLICATION FROM THE FACTORY SOURCE, OR EXCEPT AS REQUIRED BY APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION.

WATERPROOFING
DO NOT CUT OR PENETRATE WATERPROOFED SURFACES OR WATERPROOFING MEMBRANES WITHOUT FIRST MAKING ARRANGEMENTS FOR REPAIR BY A METHOD APPROVED BY THE OWNER'S REPRESENTATIVE.

ACCESS DOORS
INSTALL AS REQUIRED FOR MAINTENANCE, ADJUSTMENT, REMOVAL AND REPAIR OF VALVES, EQUIPMENT AND LIKE ITEMS. DOORS SHALL BE CONVENIENTLY LOCATED AND OF SUFFICIENT SIZE.

PIPING PROVISIONS FOR FIXTURES AND EQUIPMENT SPECIFIED IN OTHER SECTIONS OR FURNISHED BY THE OWNER
ROUGH IN LOCATIONS SHALL BE DETERMINED FOR SERVICES. PROVIDE ALL NECESSARY PLUMBING SERVICES, ACCESSIBLE VALVES ON PLUMBING BRANCHES AND MAKE ALL FINAL CONNECTIONS.

PLUMBING OPERATION AND MAINTENANCE MANUALS

DESCRIPTION
FURNISH TWO COPIES OF COMPLETE OPERATION AND MAINTENANCE MANUALS TO THE OWNER'S REPRESENTATIVE, FOR APPROVAL AND FOR THE OWNER, ON PLUMBING EQUIPMENT AND SPECIALTIES. THE MANUAL SHALL BE BOUND IN HARD BACK, THREE-RING LOOSE-LEAF BINDERS.

MANUAL CONTENTS
TITLE SHEET WITH JOB NAME, AND THE NAMES, ADDRESSES AND PHONE NUMBERS OF THE CONTRACTOR, SUBCONTRACTOR, CONTROL SUBCONTRACTOR, RELATED CONTRACTOR AND MATERIAL AND EQUIPMENT SUPPLIERS.

INDEX OF CONTENTS
TYPEWRITTEN OPERATING INSTRUCTIONS FOR THE OWNER'S PERSONNEL DESCRIBING HOW TO OPERATE EACH PIECE OF EQUIPMENT, AND CAUTION AND WARNING NOTICES.

APPROVED SHOP DRAWINGS, PRODUCT DATA AND PARTS AND MAINTENANCE BOOKLET FOR EACH ITEM OF PLUMBING, EQUIPMENT SPECIFIED IN DIVISION 15.

COPIES OF CERTIFICATES OF INSPECTION, WHERE INSPECTION IS REQUIRED, GUARANTEES, INCLUDING EXTENDED GUARANTEES.

DELIVERY
DELIVER THE MANUALS TO THE OWNER'S REPRESENTATIVE PRIOR TO SUBMITTING APPLICATION FOR FINAL PAYMENT.

PLUMBING PIPING

DESCRIPTION
FURNISH AND INSTALL PLUMBING PIPING WHERE SHOWN ON DRAWINGS AND AS SPECIFIED.

- PIPING MATERIALS
OPTIONS
1. CAST IRON HUBLESS SANITARY PIPE AND FITTINGS: CISPI STD. 301.
 2. CAST IRON SOIL PIPE AND FITTINGS, SERVICE WEIGHT: ASTM A 74.
 3. CAST IRON SOIL PIPE AND FITTINGS, EXTRA HEAVY WEIGHT: ASTM A 74.
 4. STEEL PIPE: ASTM A 53.
 5. MALLEABLE IRON FITTINGS, 150 LB.: ASTM A 197.
 6. PIPE THREADS: ANSI B2.1.
 7. NIPPLES, PIPE (THREADED): FED SPEC. WW-N-351.
 8. COPPER WATER TUBE: ASTM B 88.
 9. WROUGHT COPPER AND BRONZE SOLDER-JOINT PRESSURE FITTINGS: ANSI B16.39.
 10. WROUGHT COPPER AND WROUGHT COPPER ALLOY SOLDER-JOINT DRAINAGE FITTINGS: ANSI B16.29.
 11. CALKING LEAD: FED. SPEC. QQ-C-40 (2).
 12. SHEET LEAD, FED. SPEC. QQ-L-201.
 13. SHEET COPPER: ASTM B 152.
 14. NO-HUB STAINLESS STEEL COUPLING AND GASKETS: CISPI STD. S-301.
 15. WHERE ACCEPTABLE BY LOCAL AUTHORITY HAVING JURISDICTION SOLID WALL ADS PIPING MAY BE USED FOR WASTE PIPING.
- 15-A. PVC/ABS PIPING CANNOT BE USED IN RETURN AIR PLENUM APPLICATION.

- JOINTS AND CONNECTIONS
OPTIONS
1. CAST IRON, HUB AND SPIGOT: PACKED WITH OAKUM AND FINISHED WITH LEAD NOT LESS THAN 1 INCH DEEP; WELL CAULKED.
 2. CAST IRON, NO-HUB: NEOPRENE GASKET AND CORRUGATED 3/4 STAINLESS STEEL, SOLDER IN CONJUNCTION WITH 4 STAINLESS STEEL CLAMPS FOR 4" AND SMALLER, 6 CLAMPS FOR 6" AND LARGER.
 3. BETWEEN LEAD AND BRASS: FERRULES OR SOLDERING NIPPLES WITH WIRED JOINTS 3/8" THICK AND 3/4" EACH SIDE OF JOINTS.
 4. SCREWED JOINTS: AMERICAN NATIONAL STANDARD WITH PIPE FREE FROM CUTTING AND BURRS, THREE THREADS EXPOSED MAXIMUM.
 5. SOLDERED JOINTS: 95-5 TIN-ANTIMONY SOLDER, SLP JOINTS. USE FOR PLUMBING TRAP SEALS ON INLET SIDE ONLY.
 6. BETWEEN COPPER AND FERROUS MATERIALS: INSULATING DIELECTRIC UNION.
 7. FLANGED JOINTS: FURNISH WITH COMPANION FLANGE AND CLOTH INSERTED RUBBER GASKET.
 8. FLANGED BOLTS: ASTM A 354, MINIMUM GRADE B8, ALLOY STEEL WITH HEX NUTS IN COMPLIANCE WITH ANSI B16.22 AND STANDARD ROLLED STEEL WASHERS.
 9. ASSEMBLY FOR HUBLESS PIPING, AS RECOMMENDED BY THE MANUFACTURER.
 10. CHANGES IN PIPE SIZE SHALL BE MADE WITH REDUCERS, INCREASERS OR REDUCING FITTINGS; BUSHINGS WILL NOT BE PERMITTED.

INSTALLATION
BEFORE INSTALLING PIPE IN ANY PART OF THE SYSTEM, THE PIPE SHALL BE CLEANED INSIDE AND MADE FREE OF OIL, DIRT, AND FOREIGN MATTER. PROPERLY ALIGN AND INSTALL IN NEAT ARRANGEMENT, TRUE TO THE LINES OF THE BUILDING, PITCH LINE AT A CONSTANT SLOPE FOR PROPER DRAINAGE.

EXCEPT AS NOTED OTHERWISE ON DRAWINGS, PIPING SHALL BE HELD AS HIGH AS POSSIBLE, BETWEEN STRUCTURES AND THROUGH JOIST WEBBING, WITH DUE REGARD TO CONFLICTS WITH OTHER SYSTEMS AND THEIR REQUIREMENTS FOR SPACE.

PIPING, INCLUDING NO-HUB PIPING, SHALL BE INSTALLED STRAIGHT AND TRUE TO VERTICAL AND HORIZONTAL LINES. DEFLECTION SHALL NOT EXCEED ONE DEGREE. WHEN NECESSARY TO ACHIEVE THIS ALIGNMENT PROVIDE ADDITIONAL HANGERS OR BRACING.

APPLY LUBRICANT TO SCREW JOINT MALE THREADS.

METAL TO BE SOLDERED SHALL BE CLEANED AND FLUXED AS SUITABLE FOR THE SOLDER USED.

NOTCHING OF COPPER TUBING OR PLASTIC PIPING FOR CONNECTIONS WILL NOT BE PERMITTED.

PLUMBING SPECIALTIES

PIPE SLEEVES
SCHEDULE 40 BLACK STEEL, GALVANIZED 26 GAGE STEEL, PROVIDE FOR ALL PIPES THROUGH WALLS AND FLOORS.

ESCUTCHEONS
PROVIDE FOR ALL PIPING THROUGH WALLS, FLOORS AND CEILING WHERE PIPING IS EXPOSED TO VIEW IN FINISHED AREA. ESCUTCHEONS SHALL BE CHROMIUM PLATED, TWO PIECE, HINGED WITH SET SCREW.

UNIONS
PROVIDE GROUND JOINT BRASS UNIONS OR FLANGES ON EACH PIPING CONNECTION TO EQUIPMENT.

PROVIDE DIELECTRIC UNIONS BETWEEN COPPER AND STEEL PIPING CONNECTION TO EQUIPMENT.

VACUUM BREAKERS
SHALL CONFORM TO THE REQUIREMENTS OF THE REFERENCED PLUMBING CODE AND SHALL BE PROVIDED FOR HOSE BIBBS, FLOSHOMETERS AND ANY FIXTURE OR EQUIPMENT WATER SUPPLY HAVING A THREADED OUTLET.

FLASHING
VENT FLASHING SHALL COMPLY WITH ROOFING MANUFACTURER'S WRITTEN SPECIFICATIONS

CLEANOUTS
CLEANOUTS ON NO-HUB PIPE SHALL BE STANDARD NO-HUB FITTINGS. CLEANOUTS ON CAST IRON HUB AND SPIGOT PIPING, SHALL BE CADMIUM PLATED. APPROVED MANUFACTURERS: ZURN, JOSAM OR JONESPEC.

TRAP PRIMERS
PROVIDE WHERE INDICATED ON DRAWINGS. PRECISION PRODUCTS WITH DISTRIBUTION UNIT OR APPROVED EQUAL.

- PIPE SLEEVES
1. EXTEND SLEEVE 1/4 INCH BEYOND FINISHED SURFACE.
 2. SET SLEEVE BEFORE POURING CONCRETE.
 3. PROVIDE CLEARANCE BETWEEN SLEEVE AND PIPE OR BETWEEN SLEEVE AND INSULATION TO ALLOW FOR PIPE MOVEMENT DUE TO EXPANSION AND CONTRACTION.
 4. INSULATION SHALL PASS CONTINUOUS THROUGH THE SLEEVE, CAULK BETWEEN SLEEVE AND PIPE OR SLEEVE AND INSULATION.
 5. PRE-FABRICATED, PRE-INSULATED, "PIPE SHIELDS" WILL BE ACCEPTABLE FOR PIPES PASSING THROUGH FLOORS, EXTERIOR WALLS, FIRE WALLS AND FIRE RESISTIVE WALLS AND PARTITIONS.
 6. ESCUTCHEONS, FIT AROUND INSULATION WHERE PRESENT. PROVIDE DEEP ESCUTCHEON PLATES WHERE PIPE SLEEVES EXTEND ABOVE FLOORS.
 7. WATER HAMMER ARRESTERS: INSTALL WHERE SHOWN ON DRAWINGS.
 8. CLEANOUTS: INSTALL WHERE SHOWN ON DRAWINGS AND AT BASE OF ALL RISERS. PROVIDE ADDITIONAL CLEANOUTS WHERE REQUIRED BY LOCAL CODES AND FOR CONVENIENCE OF TESTING AND ERECTION AT CONTRACTORS OPTION.
 9. FRAMES AND COVERS SHALL BE FLUSH WITH ADJOINING ARCHITECTURAL FINISH.

PLUMBING VALVES

DESCRIPTION
INSTALL IN ACCESSIBLE LOCATION.
VALVES SHALL NOT BE INSTALLED WITH THE STEMS BELOW THE HORIZONTAL POSITION.

- VALVES, GATE, 125# UNION BONNET, RISING STEM 3 INCH AND SMALLER
1. SCREWED: ITT GRINNELL #3080 OR APPROVED EQUAL.
 2. SOLDER JOINT: ITT GRINNELL #3080 SJ OR APPROVED EQUAL.

VALVES, BALL, MAY BE USED IN LIEU OF GATE VALVES UP TO 2" 2" AND SMALLER NIBCO #T580, TWO PIECE BRONZE BODY, WITH SCREWED ENDS, CHROME PLATED BRONZE BALL WITH CONVENTIONAL PORT, 400 PSIG, LOW OUNT PROOF STEM.

- VALVES, GLOBE 150# TEFLOON DISC, UNION BONNET 3 INCH OR SMALLER
1. SCREWED: ITT GRINNELL #3240 OR APPROVED EQUAL.
 2. SOLDER JOINT: ITT GRINNELL #3240 SJ OR APPROVED EQUAL.

- VALVES, CHECK 125# REMOVABLE REGRINDABLE DISC A 3 INCH AND SMALLER, HORIZONTAL:
1. SCREWED: ITT GRINNELL #3300 OR APPROVED EQUAL.
 2. SOLDER JOINT: ITT GRINNELL #3300 SJ OR APPROVED EQUAL.

- 3 INCH AND SMALLER, VERTICAL:
1. FOR SCREWED AND SOLDER JOINT INSTALLATION, SAME AS SECTION A OR APPROVED EQUAL. PROVIDE ADAPTERS FOR SOLDER JOINT CONNECTION, 2.05 HOSE BIBBS A. SEE FIXTURE SCHEDULE ON DRAWINGS, B. PLUG COCKS, 125# BRONZE COCKS, TWO (2) INCH AND SMALLER SHALL BE GRADE NO. 250 OR APPROVED EQUAL.

INSTALLATION
INSTALL VALVES WHERE SHOWN ON DRAWINGS.

PLUMBING HANGERS AND SUPPORTS

DESCRIPTION
PROVIDE HANGERS FOR ALL PIPING NOT INDICATED BELOW GRADE, USE HANGERS CAPABLE OF ADJUSTMENT.

HANGERS AND SUPPORTS
HANGERS FOR BLACK OR GALVANIZED STEEL PIPE SHALL BE GRINNELL, MODEL NO. 65 OR APPROVED EQUAL.

HANGERS FOR CAST IRON PIPE SHALL BE GRINNELL, MODEL NO. 260 OR APPROVED EQUAL.

HANGERS FOR COPPER TUBING SHALL BE GRINNELL, MODEL NO. 97 C OR APPROVED EQUAL.

TRAPEZE HANGERS OF A TYPE APPROVED BY THE OWNER'S REPRESENTATIVE MAY BE USED WHERE PIPES ARE DESIGNED TO RUN PARALLEL AT THE SAME ELEVATION.

PROVIDE ISOLATION HANGER WITH PROTECTIVE SHIELD, GRINNELL, MODEL NO. 300 1/3 OR APPROVED EQUAL, FOR ALL INSULATED PIPING. AT HANGER POINTS, PROVIDE 6 INCH LONG SECTION OF 1/2 INCH THICK CALCIUM SILICATE SECTIONAL PIPE, INSULATION WITH FACTORY LONGITUDINAL LAP, SEAL BUTT JOINTS WITH INSULATING CEMENT.

STRAP HANGERS: NOT PERMITTED.

RISER CLAMPS: PROVIDE RISER CLAMPS FOR VERTICAL PIPING AT EACH LEVEL, GRINNELL MODEL NO. 261

INSERTS, IN CONCRETE, GRINNELL MODEL NO. 285 OR APPROVED EQUAL, HAVING ADJUSTMENT FROM 3/4 INCH THROUGH 1-1/4 INCH, IN METAL DECKS READHEAD S21 OR APPROVED EQUAL, POWDER PROPELLED PERMITTED IN NEW CONSTRUCTION WHERE TYPE AND LOCATION ARE APPROVED PRIOR TO INSTALLATION. IN EXISTING CONSTRUCTION, START SLOGUN NO. 8800 SERIES OR APPROVED EQUAL.

SIDE BEAM CLAMPS: PROVIDE WHEN SUPPORTING FROM STRUCTURAL STEEL MEMBERS, GRINNELL, MODEL 225 OR APPROVED EQUAL.

OTHER SUPPORTS: OBTAIN OWNER'S REPRESENTATIVE APPROVAL FOR OTHER METHODS OF SUPPORT.

SPACING OF HANGERS
PROVIDE HANGER AT EACH CHANGE OF DIRECTION.

SPACE HANGERS AND SUPPORTS TO PREVENT SAGGING AND REDUCE STRAIN ON VALVES AND SPECIALTIES WITH SPACING NO GREATER AND ROO NO SMALLER THAN SHOWN ON THE FOLLOWING TABLE. HANGERS SHALL ALLOW FOR EXPANSION AND CONTRACTION.

FERROUS PIPING AND COPPER TUBING:			
DIAMETER OF PIPE	MAXIMUM SPACING	ROD SIZE	
1/2" THROUGH 1-1/2"	6 FT.	3/8"	
2" THROUGH 3"	10 FT.	1/2"	
4" THROUGH 5"	12 FT.	5/8"	
6" AND LARGER	16 FT.	3/4" D.	
CAST IRON PIPING:			
DIAMETER OF PIPE	MAXIMUM SPACING	ROD SIZE	
2" AND 3"	EACH JOINT	3/8"	
4" AND 5"	EACH JOINT	1/2"	
6" AND 8"	EACH JOINT	3/4"	
10" THROUGH 15"	EACH JOINT	3/4"	(TWO HANGERS)

RISER CLAMPS
INSTALL AT EACH LEVEL BELOW THE FLOOR, SUSPEND FROM TWO HANGER RODS AND INSERTS WHERE THE INSTALLATION OF ESCUTCHEON PLATES IS REQUIRED.

TESTING OF PLUMBING PIPING

DESCRIPTION
CONDUCT ALL TESTS AFTER PIPING IS INSTALLED AND BEFORE PIPING IS CONCEALED OR COVERED.

PROVIDE ALL NECESSARY TEMPORARY PIPING CLOSURES.

PROVIDE ALL TESTING EQUIPMENT, MATERIALS AND SUPPLIES.

SYSTEMS SHALL REMAIN UNDER TEST FOR SUFFICIENT LENGTH OF TIME TO PROVE TIGHTNESS THEREOF AND FOR ADEQUATE OBSERVATION BY THE ARCHITECT-ENGINEER.

MATERIALS OTHER THAN THOSE SPECIFIED FOR JOINING WILL NOT BE PERMITTED IN THE PIPING SYSTEMS FOR THE PURPOSE OF STOPPING LEAKS.

ALL LEAKS DISCLOSED BY THE TESTING PROCEDURES SHALL BE REPAIRED AND TESTING REPEATED UNTIL THE SYSTEM IS PROVEN TIGHT.

TESTING REQUIREMENTS ARE MINIMUM AND ARE NOT INTENDED TO BE LIMITING WHERE ADDITIONAL TESTING METHODS ARE REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

SUBMITTALS
STERILIZATION: PROVIDE A DATED LETTER TO THE ARCHITECT-ENGINEER'S REPRESENTATIVE STATING THAT PIPING SYSTEM HAS BEEN STERILIZED AND FLUSHED AS SPECIFIED.

PIPING TEST
DOMESTIC HOT AND COLD WATER PIPING SHALL BE FILLED, THEN TESTED TO A HYDROSTATIC PRESSURE OF 150 PSIG, MAINTAIN TEST PRESSURE FOR A MINIMUM OF ONE HOUR.

SANITARY PIPING, PREVIOUS TO CONNECTION OF FIXTURES, SHALL BE FILLED WITH WATER TO THE TOP OF THE SYSTEM AND PROVEN TIGHT. WHEN TESTING THE SYSTEM BY SECTIONS THE MINIMUM HEIGHT OF THE WATER COLUMN SHALL BE 10 FEET. EXAMINE ALL JOINTS FOR LEAKS.

NEW FIRE STANDPIPE SYSTEM SHALL BE TESTED TO A HYDROSTATIC PRESSURE OF 200 PSIG, MAINTAIN TEST PRESSURE FOR A MINIMUM OF TWO HOURS.

GAS PIPING SHALL BE TESTED WITH NITROGEN TO 90 PSIG, PRESSURE SHALL BE MEASURED WITH A MANOMETER, MAINTAIN TEST PRESSURE FOR A MINIMUM OF 30 MINUTES.

STERILIZATION
AFTER TESTS ARE COMPLETED ALL WATER SUPPLY SYSTEMS SHALL BE FILLED WITH A SOLUTION CONTAINING 100 PPM OF AVAILABLE CHLORINE AND ALLOWED TO STAND FOR A PERIOD TO TWO HOURS BEFORE BEING FLUSHED WITH CLEAN WATER.

PLUMBING, FIXTURES, TRIM AND DRAINS

MANUFACTURER
MANUFACTURER SHALL BE AS SCHEDULED OR BY APPROVED EQUAL.

PIPING
PIPING TO SERVE FIXTURES AND EQUIPMENT AND EXPOSED TO VIEW IN FINISHED AREAS SHALL BE BRASS, CHROMIUM PLATED.

SUPPORTS
PROVIDE ALL BRACKETS, PLATES, ANCHORS AND FASTENING DEVICES REQUIRED FOR ANCHORING THE FIXTURES RIGIDLY IN PLACE, RISERS TO SHOWER HEADS SHALL BE ANCHORED TO THE WALL CONSTRUCTION TO PREVENT MOVEMENT.

FIXTURES
PROVIDE PLUMBING FIXTURES AS SCHEDULED ON DRAWINGS, AMERICAN STANDARD, KOHLER, ELJER OR APPROVED EQUAL.

PLUMBING DRAINS
FURNISH WITH SEEPAGE FLANGE WHERE INSTALLED WITH PANS OR FLASHING, FURNISH CLAMPING RING.

ALL DRAINS SHALL BE OF THE SAME MANUFACTURER.

FURNISH FLOOR DRAINS WITH PRIMER CONNECTIONS WHERE INDICATED ON THE DRAWINGS. IN LIEU OF CAST-IN PRIMER CONNECTIONS ON THE DRAIN BODY, A TEE BETWEEN THE DRAIN BODY AND THE TRAP, TO RECEIVE THE PRIMER DISCHARGE WILL BE ACCEPTABLE.

PROVIDE FLOOR DRAINS WITH 4 INCH DEEP SEAL TRAPS.

PROVIDE ALL DRAINS AS SCHEDULED ON DRAWINGS OR APPROVED EQUAL.

INSTALLATION
DRAIN SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS; ACCESSIBLE AND LOCATED TO SUIT EQUIPMENT APPROVED FOR INSTALLATION, WHERE FLUSH VALVES ARE SPECIFIED WITH FIXTURES, THE SUPPLY TO THE VALVE IN EACH ROOM SHALL BE AT THE SAME HEIGHT FOR THE TYPE OF FIXTURE AND THE VALVE SHALL BE SET IN PLACE SO THAT THE CENTER LINE OF THE VALVE DISCHARGE IS DIRECTLY ABOVE THE CENTER LINE OF FIXTURE STD. BENDING OF NIPPLE PERMITTED.

CHROME PLATED PIPING REQUIRING THE USE OF WRENCH SHALL BE PROTECTED FROM DAMAGE.

BOLT WATER CLOSET CARRIER TO FLOOR.

GAS PIPING

PIPING
SHALL COMPLY WITH THE REQUIREMENTS OF NFPA NO. 54 AND THE LOCAL GAS COMPANY.

PIPE SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE FITTINGS

INSTALLATION
PIPING SHALL COMPLY WITH THE REQUIREMENTS OF NFPA NO. 54 AND THE LOCAL GAS COMPANY.

INSTALL GAS SHUT-OFF AND GAS MANIFOLDS AS INDICATED OR REQUIRED.

DOMESTIC HOT AND COLD WATER

DESCRIPTION
THE WORK INCLUDES FURNISHING AND INSTALLING HOT AND COLD WATER PIPING AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN.

PIPING
HOT AND COLD WATER PIPING SHALL BE COPPER WATER TUBE HARD TEMPER, TYPE "L" WITH WROUGHT SOLDER FITTINGS ABOVE FLOOR AND SOFT TEMPER TYPE "K" WITH WROUGHT SOLDER FITTINGS BELOW GRADE.

GATE VALVES
SPECIFIED IN SECTION, PLUMBING VALVES .

INSTALLATION
NOTCHING OF PIPE FOR CONNECTION NOT PERMITTED.

WHERE POSSIBILITY OF BACKFLOW FROM THE DRAIN TO THE SUPPLY FITTING EXISTS, INSTALL VACUUM BREAKERS.

NOT MORE THAN ONE LAVATORY, SINK, OR SIMILAR FIXTURE SHALL BE SUPPLIED BY A 1/2 INCH BRANCH. LINEAR DIMENSIONS NOT TO EXCEED 5 FEET.

MAKE CONNECTION TO EQUIPMENT AND FIXTURES INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.

HOT WATER BRANCH CONNECTIONS TO DISTRIBUTION MAINS SHALL BE TOP TAKE-OFF, SWING JOINT TYPE.

ALL PIPING INSTALLED BELOW GROUND SHALL RECEIVE TWO COATS OF KOPPER'S NO. 50 OR APPROVED EQUAL.

PLUMBING INSULATION

DESCRIPTION
INSULATION SHALL NOT BE INSTALLED UNTIL TESTING PROCEDURES HAVE BEEN COMPLETED WITH AND ALL SURFACES HAVE BEEN CLEANED AND FREE OF DIRT, GREASE AND COMPLETELY DRIED.

MATERIALS SHALL COMPLY WITH UL 723, FLAME SPREAD RATING, HOT SURFACE TEST PERFORMANCE, AND SMOKE DEVELOPED RATING.

SUBMITTALS
SAMPLES AND MANUFACTURER'S PRODUCT DATA: SUBMIT SAMPLES OF INSULATION AND ADHESIVE AND PRODUCT DATA LISTING RECOMMENDATIONS FOR USE AND COMPLIANCE WITH NFPA 90.

INSULATION
INSULATION FOR HOT AND COLD WATER PIPING, SHALL BE SECTIONAL GLASS FIBER AS MANUFACTURED BY OWENS CORNING FIBERGLASS TYPE ASJISLSLI OR APPROVED EQUAL, WITH FACTORY APPLIED, ALL PURPOSE, FIRE RETARDANT JACKET.

INSULATION FOR EXPOSED HOT AND COLD WATER PIPING SHALL BE SECTIONAL GLASS FIBER AS MANUFACTURED BY OWENS CORNING FIBERGLASS TYPE ASJISLSLI OR APPROVED EQUAL, WITH FACTORY APPLIED, .016 EMBOSSED ALUMINUM JACKET.

ADHESIVE SHALL BE BENJAMIN FOSTER 30-36, OR APPROVED EQUAL, WHITE INSULATION LAGGING ADHESIVE.

VAPOR BARRIER MASTIC SHALL BE BENJAMIN FOSTER NO. 82-07, WHITE, OR APPROVED EQUAL.

INSTALLATION
HOT AND COLD WATER PIPING: SHALL BE INSULATED WITH 1/2 INCH THICK GLASS FIBER INSULATION HAVING A FACTORY APPLIED, ALL PURPOSE, FIRE RETARDANT JACKET WITH A MINIMUM R-4.0 PER INCH, CONCEALED AND EXPOSED PIPING SHALL HAVE THE INSULATION APPLIED WITH SIDE AND END JOINTS BUTTED TIGHTLY. SEAL JACKET LEGS AND BUTT JOINT STRIPS WITH ADHESIVE.

INSULATE FITTINGS FOR PIPING UP TO 3 INCHES IPS WITH MOLDED GLASS FIBER. INSULATE FITTINGS FOR PIPING LARGER THAN 3 INCHES WITH MOLDED FITTINGS OR SEGMENTED SECTIONS, WIRED IN PLACE TO THE SAME THICKNESS AS ADJACENT INSULATION. EXPOSED INSULATED PIPING AND FITTINGS SHALL BE JACKED WITH 8 OUNCE CANVAS PIPING INCLUDING THE FITTING CHANGE FROM HORIZONTAL TO VERTICAL. CONCEALED AND EXPOSED PIPING SHALL HAVE THE INSULATION APPLIED WITH SIDE AND END JOINTS BUTTED TIGHTLY. SEAL JOINTS OF INSULATION WITH VAPOR BARRIER MASTIC AT EACH FITTING AND AT 21 FOOT INTERVALS ON CONTINUOUS RUNS.

INSTALL THE FACTORY APPLIED FIRE RETARDANT JACKET VAPOR BARRIER SO THAT IT WILL LAP SMOOTHLY AND SECURELY AT THE LONGITUDINAL LAP AND ADHERE IT WITH VAPOR BARRIER MASTIC. ADHERE 3 INCH WIDE BUTT STRIPS X SMOOTHLY OVER ALL END JOINTS WITH THE VAPOR BARRIER MASTIC TO ASSURE A CONTINUOUS VAPOR BARRIER - NO STAPLES ALLOWED. INSULATE DRAIN BODIES AND FITTINGS WITH METERED SEGMENTS OF PIPE INSULATION, OVERSIZED PIPE INSULATION OR MOLDED FITTINGS. COAT WITH TWO, 1/8 INCH COATS OF VAPOR BARRIER MASTIC REINFORCED WITH GLASS FABRIC EXTENDING 2 INCHES ONTO ADJACENT PIPES. EXPOSED INSULATED PIPING AND FITTINGS SHALL BE JACKED WITH 8 OUNCE CANVAS. TERMINATE INSULATION NEATLY AT CLEANOUTS ON STORM AND COLD DRAIN PIPING. DO NOT COVER CLEANOUTS.

DOMESTIC WATER HEATING

DESCRIPTION
PROVIDE DOMESTIC WATER HEATING EQUIPMENT WHERE SHOWN ON DRAWINGS AND SPECIFIED.

DISCHARGE PIPE
RELIEF VALVE DISCHARGE SHALL BE COPPER WATER TUBE, TYPE M.

INSTALLATION
WATER HEATER SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS.

DISCHARGE PIPE SHALL HAVE TERMINATING END CUT AT 45 DEGREE ANGLE.

TERMINATE RELIEF VALVE DRAIN AS SHOWN ON THE DRAWINGS.



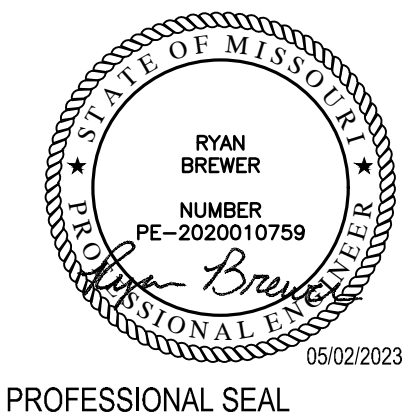
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