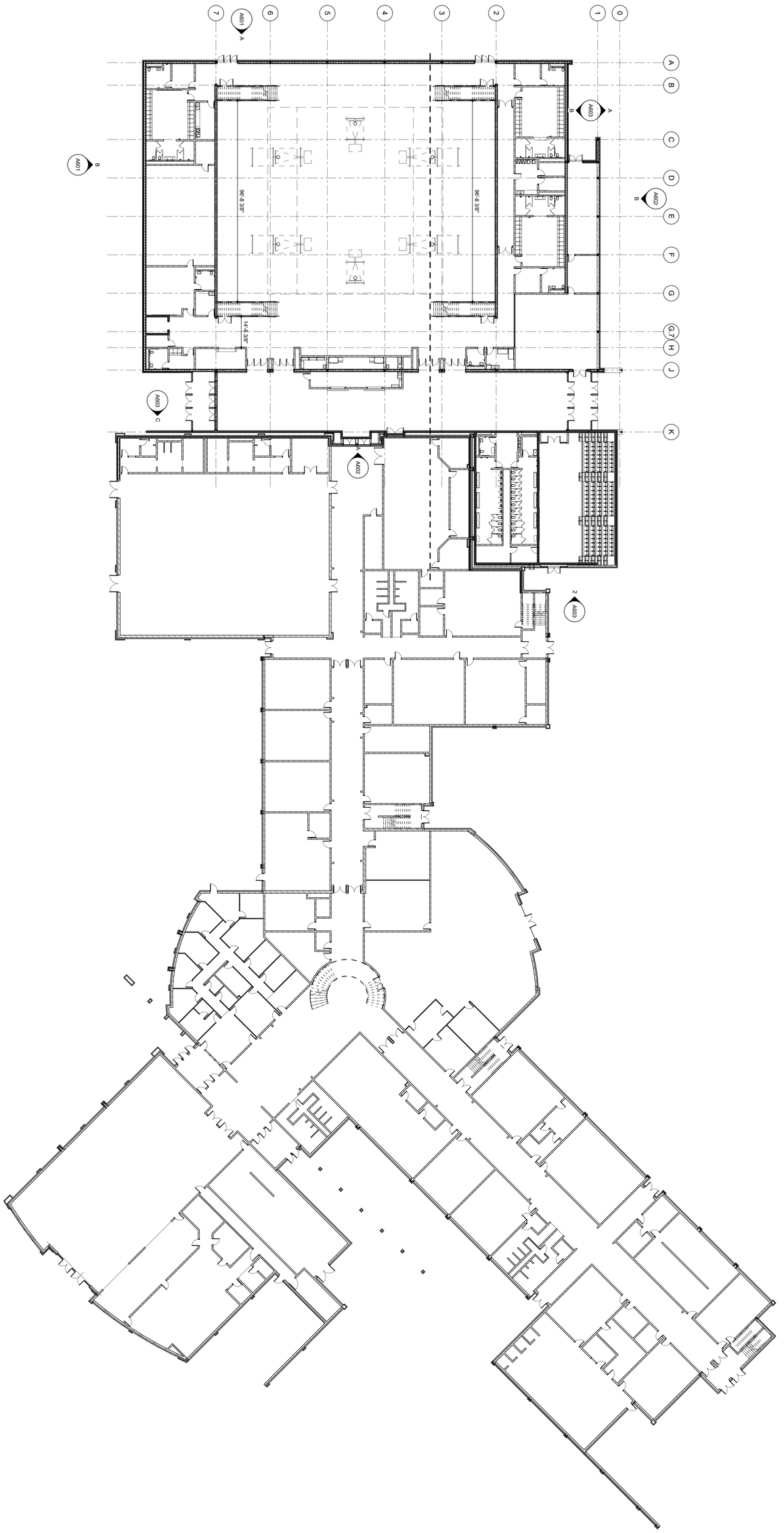
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FIRST FLOOR MASTER PLAN

SCALE: 1" = 20'-0"



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GARRARD COUNTY HIGH SCHOOL
FINAL PHASE

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FOR THE
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FIRST FLOOR MASTER PLAN

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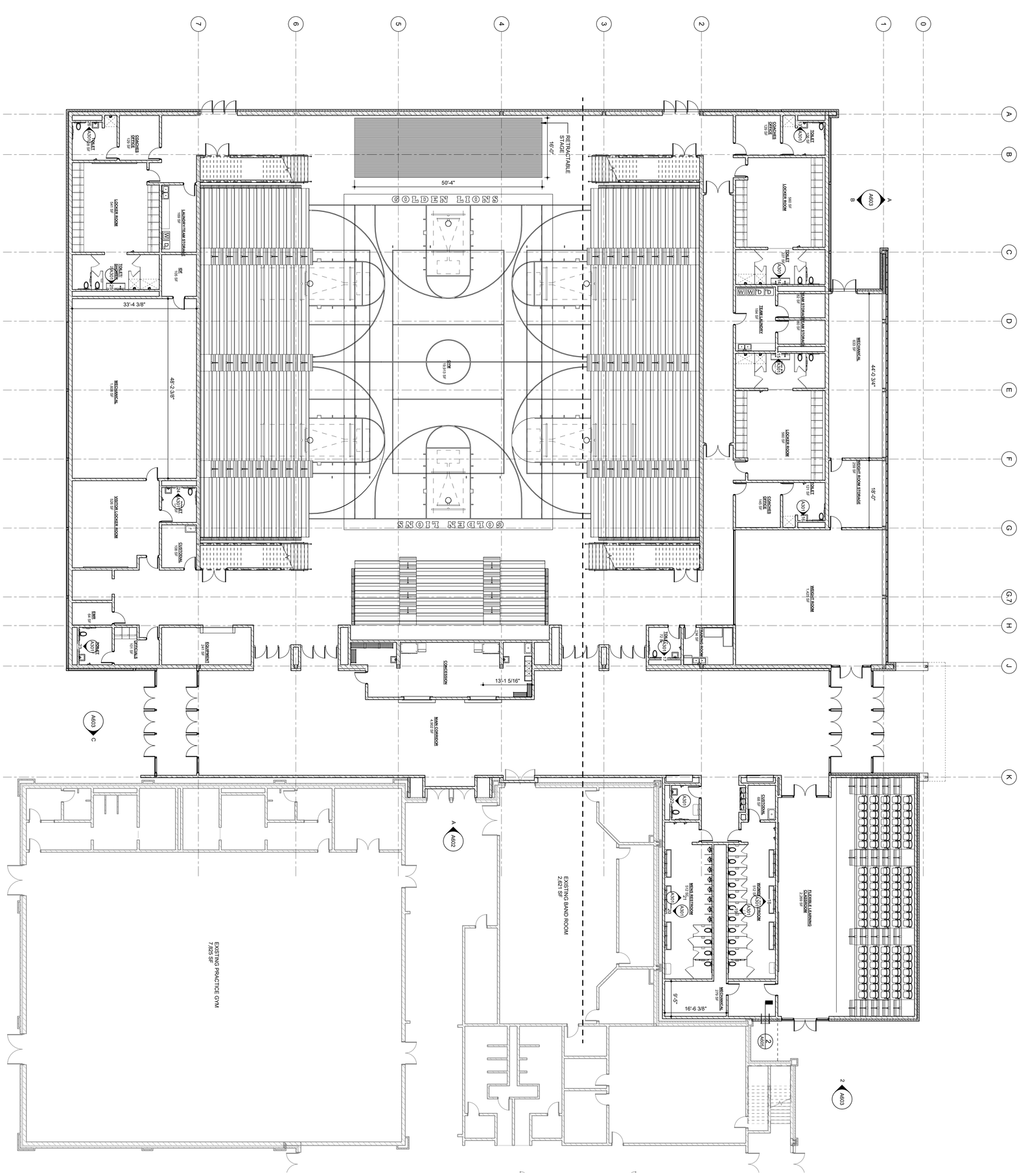
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FIRST FLOOR DIMENSION PLAN

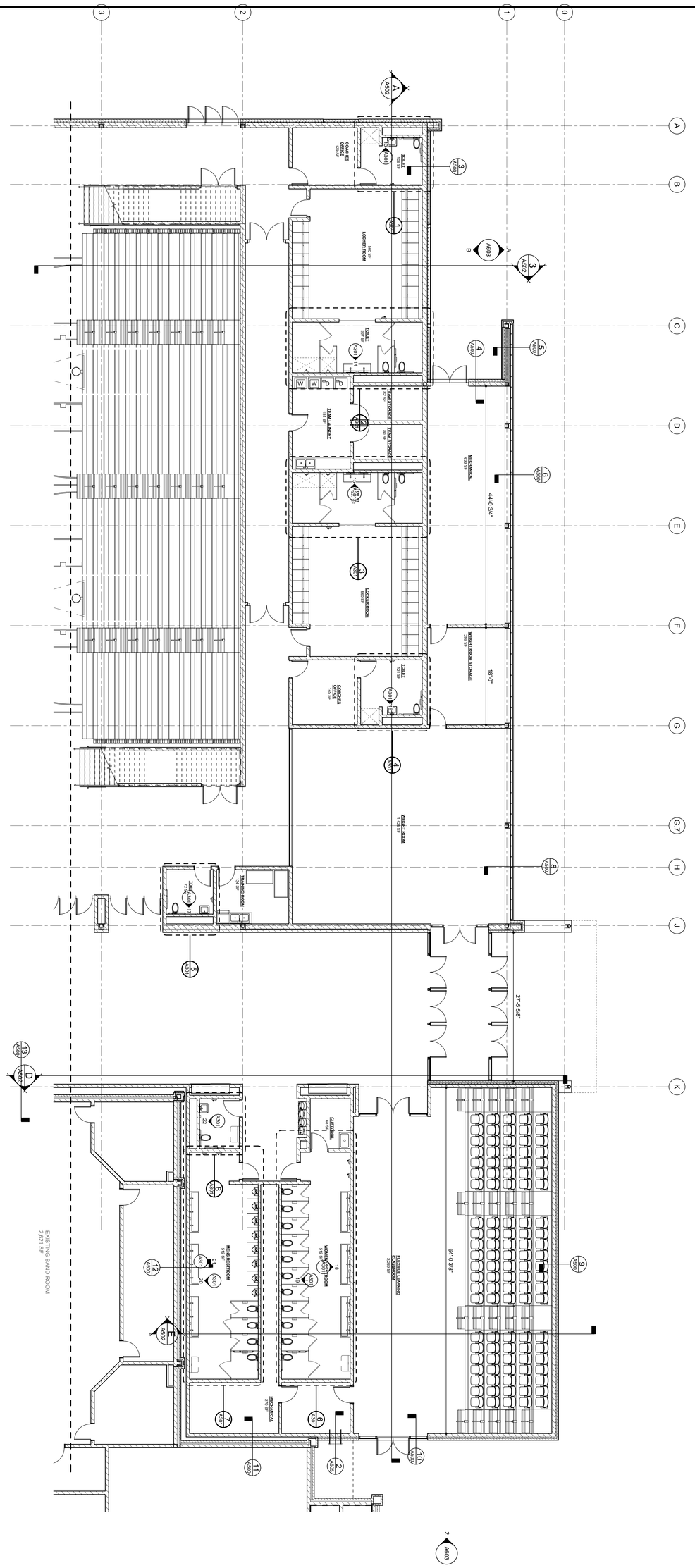
SCALE: 3/32" = 1'-0"


RETRACTABLE STAGE
16'-0"
50'-4"
GOLDEN LIONS
GOLDEN LIONS
LOCKER ROOM
LOCKER ROOM
LOCKER ROOM
LOCKER ROOM
LAUNDRY/TEAM STORAGE
TEAM LAUNDRY
TEAM STORE/TEAM STORAGE
MECHANICAL
MECHANICAL
MECHANICAL
MECHANICAL
WEIGHT ROOM
WEIGHT ROOM STORAGE
COACHES
COACHES
VISITORS LOCKER ROOM
QUIZZOOM
EQUIPMENT
MAIN CORRIDOR
CORRIDOR
EXISTING PRACTICE GYM
7,825 SF
EXISTING BAND ROOM
2,621 SF
CLASSROOM / MEETING
CLASSROOM
QUIZZOOM
MAIN RESTROOM
WOMEN'S RESTROOM
MEN'S RESTROOM
33'-4 3/8"
48'-2 3/8"
44'-0 3/4"
18'-0"
13'-1 5/16"
16'-6 3/8"
9'-5"
A603
A602
A603
A603
A603

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FIRST FLOOR PLAN - AREA A

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



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FIRST FLOOR PLAN - AREA A

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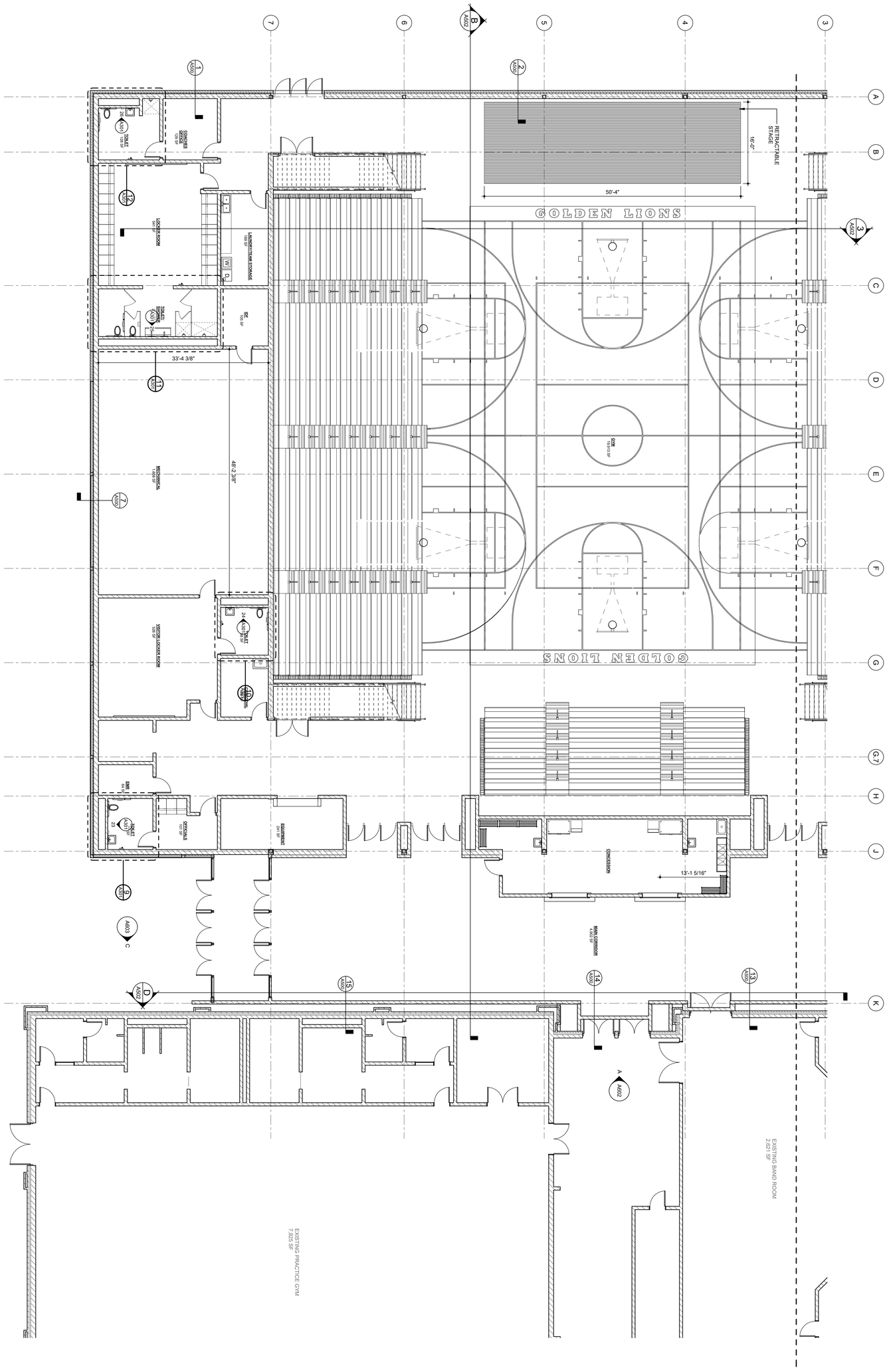
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FIRST FLOOR PLAN - AREA B

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



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A103	MAY 11, 2022
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FIRST FLOOR PLAN - AREA B

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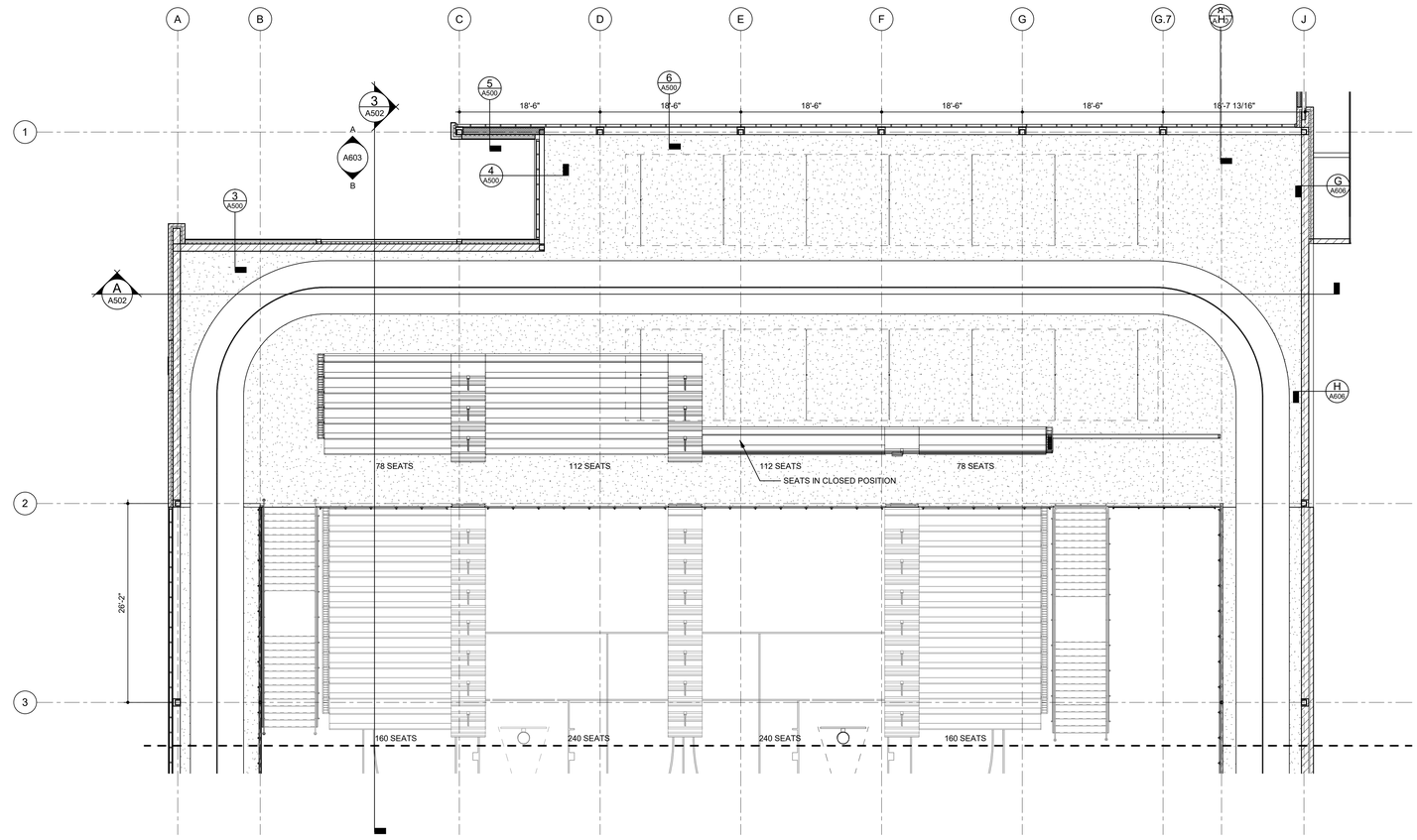
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TRACK LEVEL FLOOR PLAN - AREA A

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

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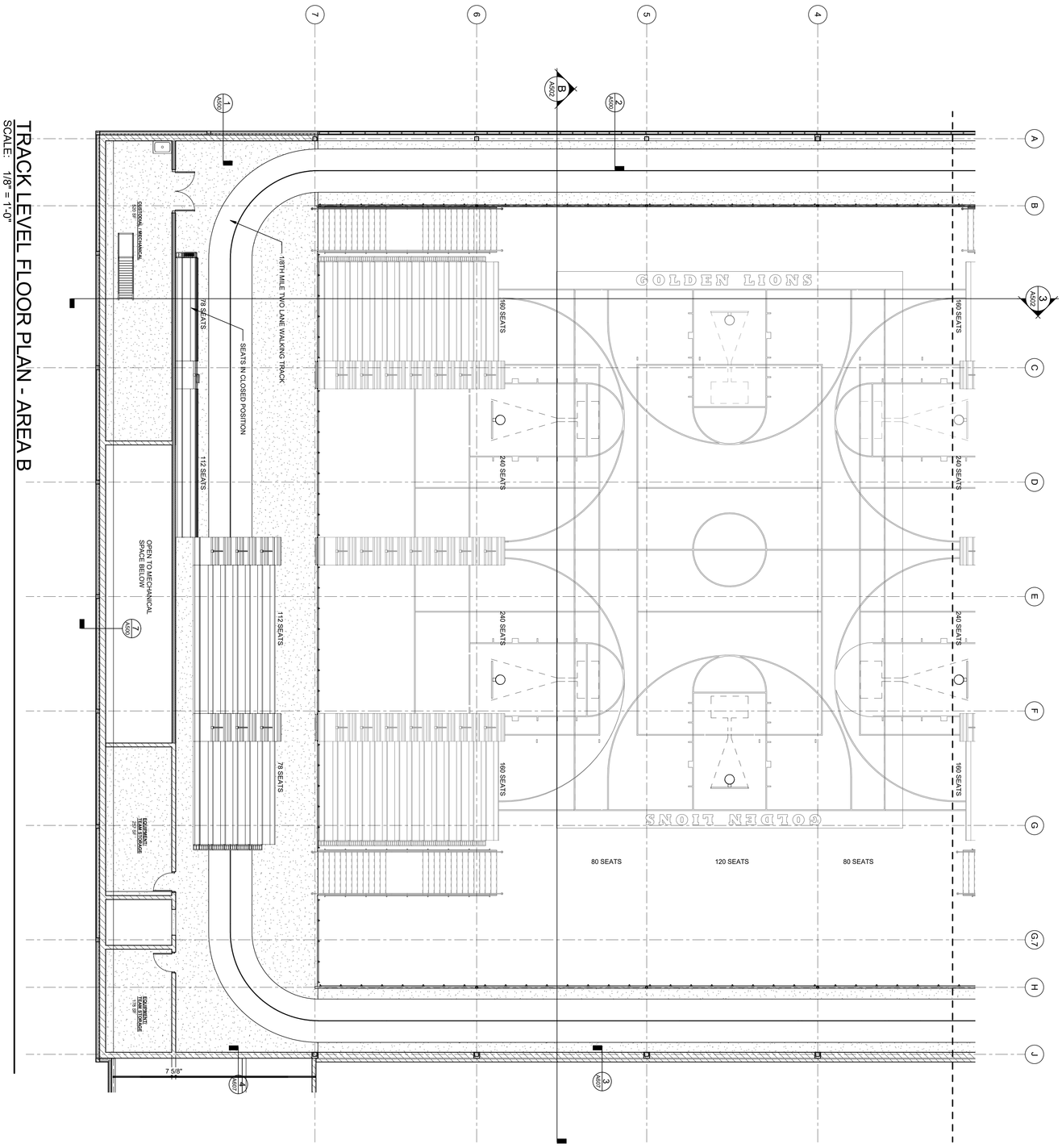
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TRACK LEVEL FLOOR PLAN - AREA A

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TRACK LEVEL FLOOR PLAN - AREA B

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

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TRACK LEVEL FLOOR PLAN - AREA B

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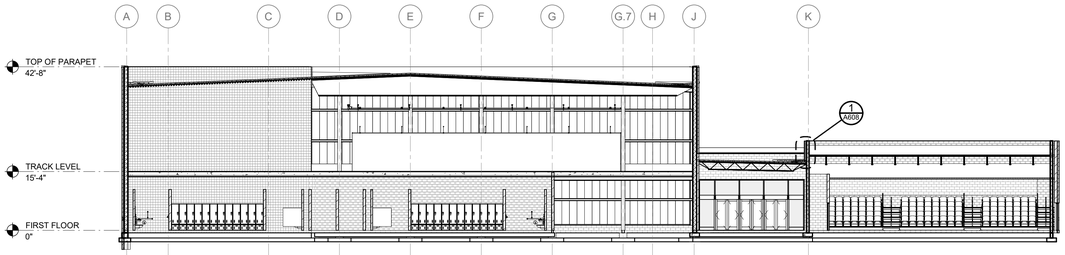
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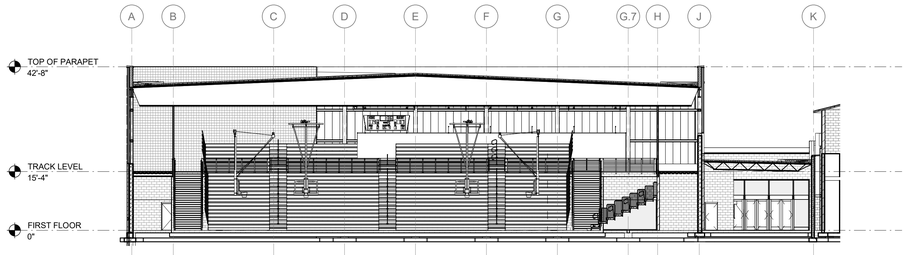
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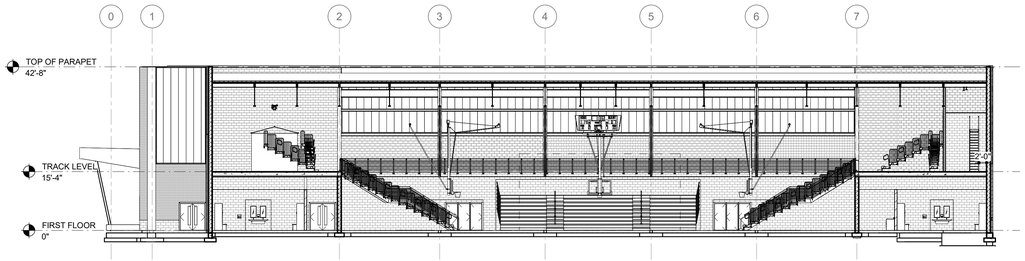
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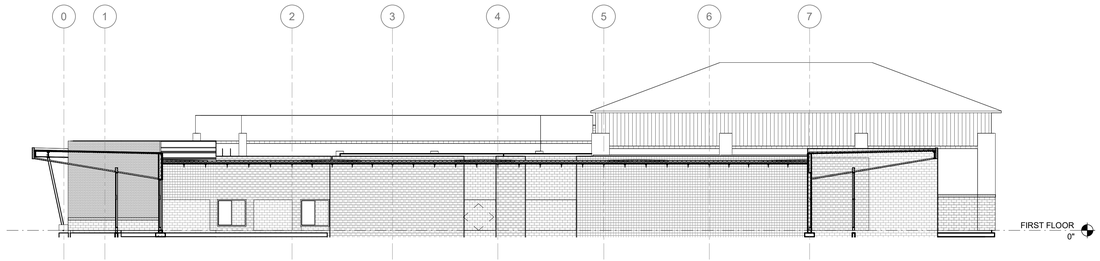
A
A502
BUILDING SECTION
SCALE: 1/16" = 1'-0"



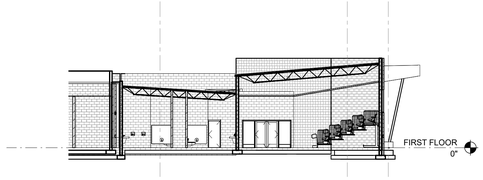
B
A502
BUILDING SECTION
SCALE: 1/16" = 1'-0"



3
A502
BUILDING SECTION
SCALE: 1/16" = 1'-0"



D
A502
BUILDING SECTION
SCALE: 1/16" = 1'-0"



E
A502
BUILDING SECTION
SCALE: 1/16" = 1'-0"

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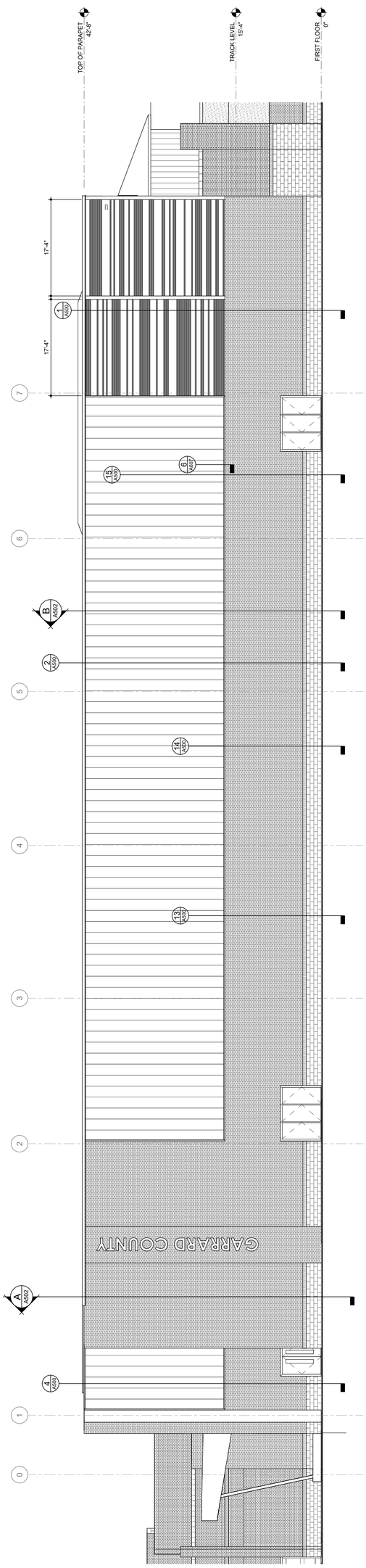
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FINAL PHASE
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BUILDING ELEVATIONS

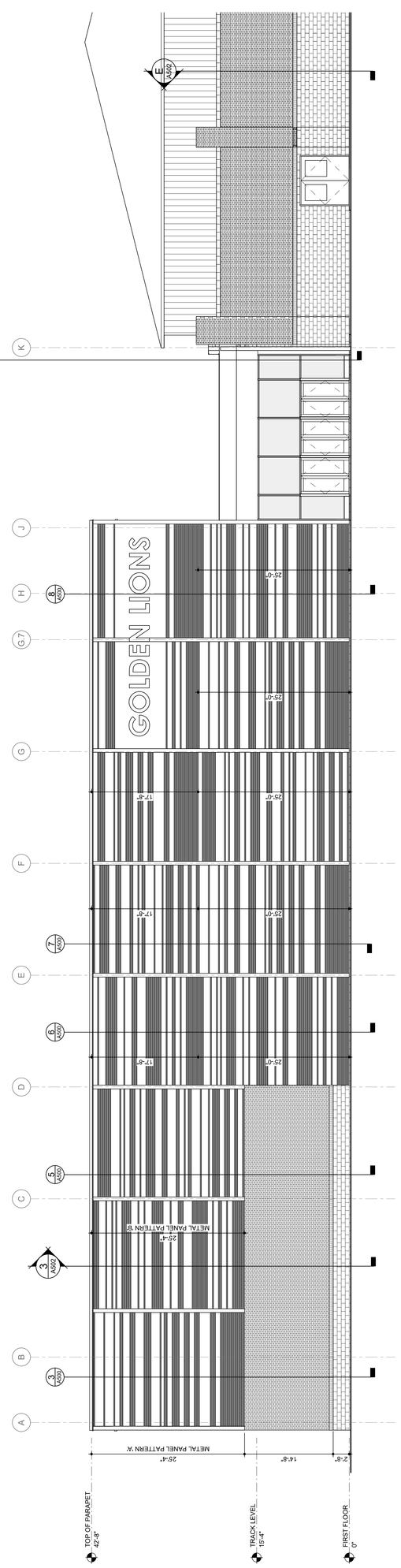
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A BUILDING ELEVATION
A601 SCALE: 1/8" = 1'-0"

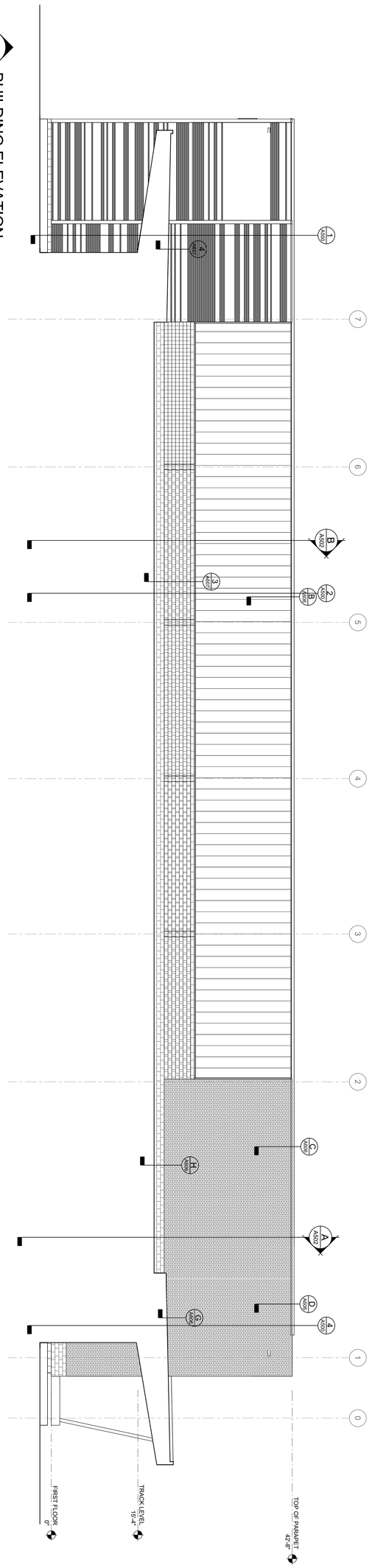


B BUILDING ELEVATION
A601 SCALE: 1/8" = 1'-0"

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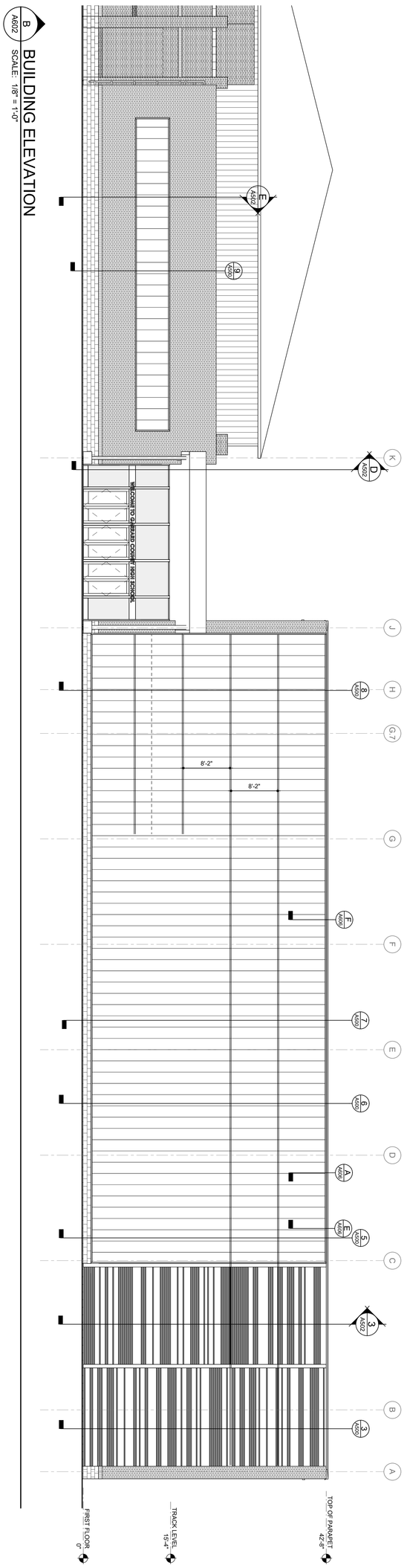
A/A602 BUILDING ELEVATION

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



B/A602 BUILDING ELEVATION

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



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BUILDING ELEVATIONS

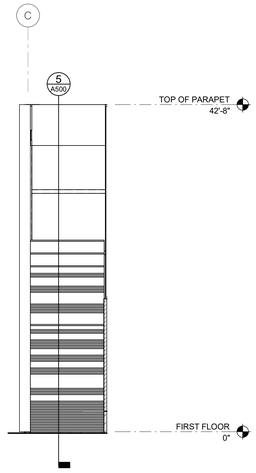
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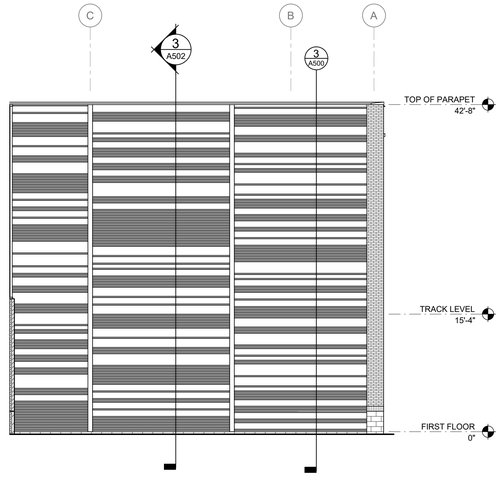
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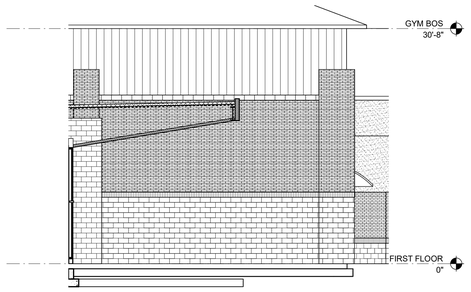
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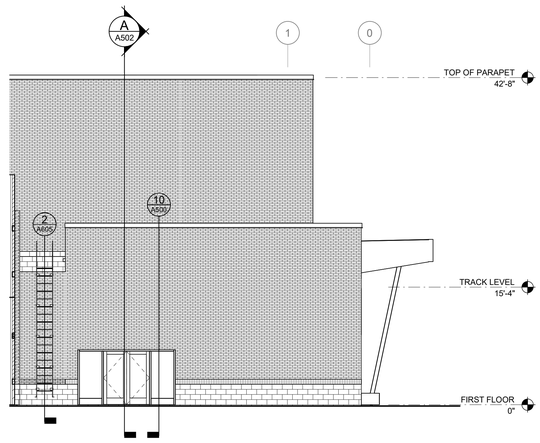
A603 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



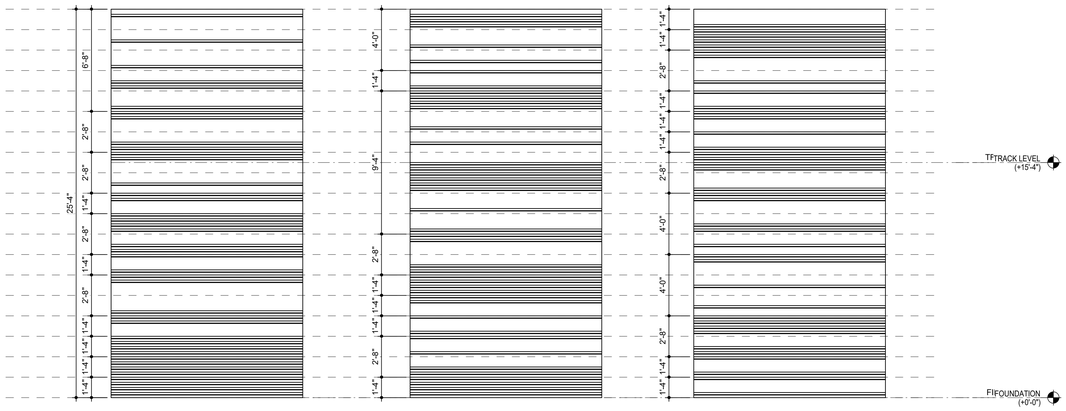
B A603 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



C A603 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



2 A603 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



METAL PANEL PATTERN 'A' METAL PANEL PATTERN 'B' METAL PANEL PATTERN 'C'

METAL WALL PANEL PATTERNS
SCALE: 1/4" = 1'-0"

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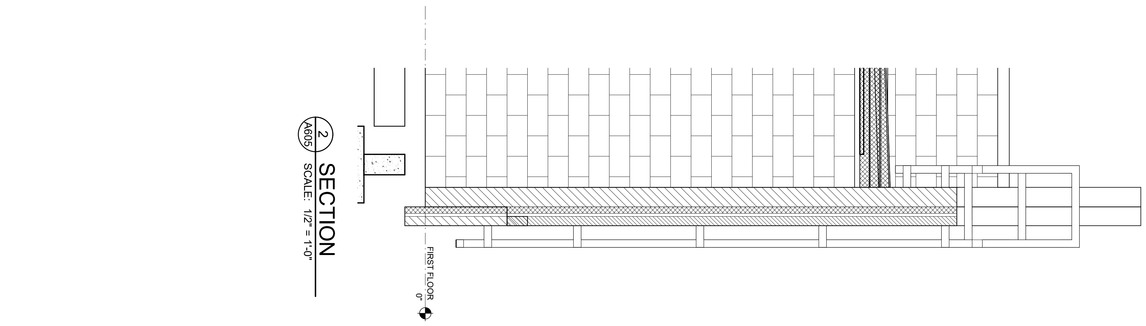
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BUILDING ELEVATIONS

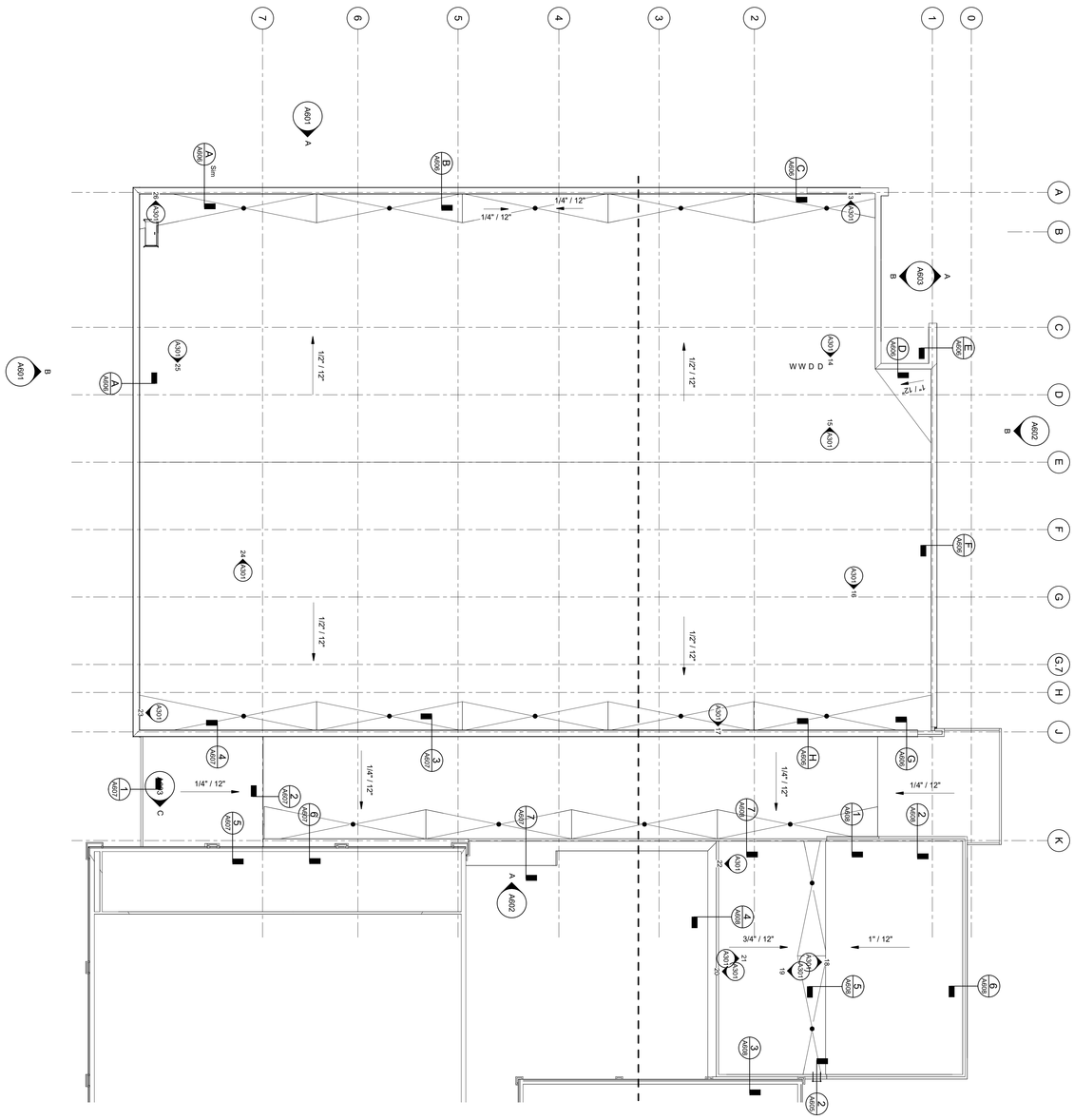
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2 A605 SECTION
SCALE: 1/2" = 1'-0"



ROOF PLAN
SCALE: 1/16" = 1'-0"

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ROOF PLAN

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GENERAL NOTES

DESIGN LOADS

STRUCTURAL RISK CATEGORY ..... CATEGORY III

FLOOR LIVE LOAD

BLEACHERS	100 PSF
CORRIDORS ABOVE FIRST FLOOR	80 PSF
LOBBIES AND FIRST FLOOR CORRIDORS	100 PSF
RESTROOMS	60 PSF
STAGES	150 PSF
STAIRS	100 PSF

ROOF LIVE LOAD ..... 20 PSF MIN

ROOF SNOW LOAD (PER ASCE 7-10)

GROUND SNOW LOAD	P_g = 15 PSF
IMPORTANCE FACTOR	I_s = 1.1
SNOW EXPOSURE FACTOR	C_e = 1.0
THERMAL FACTOR	
(BUILDING)	C_t = 1.0
(CANOPIES)	C_t = 1.2
RAIN ON SNOW SURCHARGE	P_r = 5 PSF
FLAT-ROOF SNOW LOAD* (Pf = 0.7CeCtIsPg)	
(BUILDING)	Pf = 16.6 PSF
(CANOPIES)	Pf = 18.9 PSF
MINIMUM-ROOF SNOW LOAD (IsPg)	Pm = 16.5 PSF

*(INCREASE FOR DRIFTING PER ASCE 7-10, SECTIONS 7.7 & 7.8)

WIND LOAD (PER ASCE 7-10)

ULTIMATE DESIGN WIND SPEED	V_{ULT} = 120 MPH
NOMINAL DESIGN WIND SPEED	V_{ASD} = 93 MPH
WIND EXPOSURE	EXPOSURE C
ENCLOSURE	FULLY ENCLOSED
INTERNAL PRESSURE COEFFICIENT	GC_{pi} = ± 0.18
END ZONE WIDTH	a = 15.6 FT

COMPONENTS & CLADDING EXTERNAL PRESSURE ULTIMATE (LRFD) LOADS (PSF)

EFFECTIVE WIND AREA (SQ FT)	LOCATION PER ASCE 7-10: 1	2	3	4	5
≤ 10	15.6 -38.2	35.0 -64.2	35.0 -64.2	35.0 -37.9	35.0 -46.7
20	14.3 -36.0	32.9 -55.1	32.9 -55.1	32.9 -35.9	32.9 -42.6
50	13.3 -36.0	31.4 -48.3	31.4 -48.3	31.4 -34.3	31.4 -39.5
100	12.3 -35.0	29.8 -41.5	29.8 -41.5	29.8 -32.8	29.8 -36.4
500	↓	↓	↓	26.2 -29.2	26.2 -29.2

NOTES:

1. WIND LOADING PROVIDED ARE ULTIMATE (LRFD) LOADING. FOR ALLOWABLE STRESS DESIGN MULTIPLY LOADS PROVIDED BY 0.6.
2. LOADING PROVIDED IS FOR WORST CASE ROOF HEIGHT. DELEGATED DESIGNERS MAY RECALCULATE LOADS FOR SPECIFIC COMPONENT HEIGHTS USING PARAMETERS SPECIFIED.
3. PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE.
4. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
5. EACH COMPONENT MUST BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE FORCES.
6. FOR COMPONENTS HAVING EFFECTIVE AREAS IN BETWEEN TABULATED VALUES, DESIGN LOADS MAY BE INTERPOLATED. OTHERWISE DESIGN LOAD MUST BE TAKEN FROM THE NEXT LOWEST EFFECTIVE AREA.
7. INTERNAL PRESSURE FOR ENCLOSED BUILDING IS INCLUDED IN ABOVE VALUES.
8. THE NET C&C PRESSURE (INCLUDING INTERNAL PRESSURE) FOR ANY COMPONENT SHALL BE TAKEN LESS THAN 16 PSF ACTING IN EITHER DIRECTION NORMAL TO THE SURFACE.
9. NOTATION:
   - *a:* 10 PERCENT OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF LEAST HORIZONTAL DIMENSION OR 3 FT.
   - *h:* MEAN ROOF HEIGHT, IN FEET, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ROOF ANGLES ≤ 10°.
   - *θ:* ANGLE OF PLANE OF ROOF FROM HORIZONTAL, IN DEGREES.

EARTHQUAKE DESIGN DATA

COUNTY / STATE	GARRARD/ KENTUCKY
IMPORTANCE FACTOR	I_E = 1.0
MAPPED SHORT PERIOD RESPONSE ACCELERATION	S_S = 0.183
MAPPED 1 SECOND PERIOD RESPONSE ACCELERATION	S_1 = 0.094
SITE CLASS	CLASS D
DESIGN SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT	S_{DS} = 0.147
DESIGN 1 SECOND PERIOD SPECTRAL RESPONSE COEFFICIENT	S_{d1} = 0.107
SEISMIC DESIGN CATEGORY	CATEGORY B
BASIC STRUCTURAL SYSTEM	BEARING WALL SYSTEM
SEISMIC RESISTING SYSTEM	INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
RESPONSE MODIFICATION FACTOR	R = 3.5
SEISMIC RESPONSE COEFFICIENT	C_S = 0.0
METHOD OF ANALYSIS	EQUIVALENT LATERAL FORCE PROCEDURE
SEISMIC BASE SHEAR	V = 0.0 KIPS

DESIGN STRESSES

CONCRETE (STRENGTH DESIGN) MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS:

FOOTINGS	f'_c = 3,000 PSI
INTERIOR SLABS ON GRADE, WALLS, CONCRETE ON METAL DECK	f'_c = 4,000 PSI
CONCRETE EXPOSED TO FREEZE/THAW	f'_c = 5,000 PSI
REINFORCING BARS (ASTM A615 GRADE 60)	f_y = 60,000 PSI
WELDED WIRE FABRIC (ASTM A1064)	f_y = 65,000 PSI
WIDE FLANGE AND TEE SHAPES DESIGNATED AS W AND WT (ASTM A992)	f_y = 50,000 PSI
CHANNELS, ANGLES, PLATES AND BARS (ASTM A572)	f_y = 50,000 PSI
STEEL ROOF DECK (ASTM A653)	f_y = 33,000 PSI
COMPOSITE STEEL FLOOR DECK (ASTM A653)	f_y = 50,000 PSI
NON-COMPOSITE STEEL FORM DECK (ASTM A653)	f_y = 50,000 PSI
HOLLOW STRUCTURAL SECTIONS - RECTANGULAR STEEL TUBES (ASTM A500 GRADE C)	f_y = 50,000 PSI
HOLLOW STRUCTURAL SECTIONS - ROUND STEEL TUBES (ASTM A500 GRADE C)	f_y = 46,000 PSI
STEEL JOISTS (K, LH, OR DLH) AS PER SJI SPECIFICATIONS	f_y = 50,000 PSI/MAX f_y = 36,000 PSI MIN
MASONRY ASSEMBLY COMPRESSIVE STRENGTH	$f'm$ = 2,000 PSI
CONCRETE MASONRY UNIT STRENGTH	$f'm$ = 2,800 PSI
TYPE S MORTAR STRENGTH	$f'm$ = 2,000 PSI
MASONRY GROUT (ASTM C476) MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS	$f'm$ = 2,000 PSI
SOIL BEARING PRESSURE FOR FOUNDATIONS (MATERIAL)	2,000 PSF

DESIGN CRITERIA

1. STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2018 KENTUCKY BUILDING CODE, 2ND EDITION (2015 IBC).
2. MAXIMUM ESTIMATED DEFLECTIONS (IN INCHES) ARE AS FOLLOWS:

	LIVE LOAD	DEAD + LIVE LOAD
ROOF MEMBERS	L/360	L/240
FLOOR MEMBERS INTERIOR	L/360	L/240
FLOOR MEMBERS SPANDREL	L/480	L/360

   WHERE L = SPAN LENGTH BETWEEN CENTERLINE OF SUPPORTS (INCHES) FOR CANTILEVERS L = TWICE THE LENGTH OF THE CANTILEVER.
3. NO PROVISION HAS BEEN MADE FOR FUTURE HORIZONTAL OR VERTICAL EXPANSION.

GENERAL

1. THE REQUIREMENTS OF THESE GENERAL NOTES APPLY UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CONTRACT DOCUMENTS, ADDENDA, AND SUPPLEMENTARY INFORMATION AND DISTRIBUTING SUCH TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE PREPARATION AND SUBMITTAL OF SHOP DRAWINGS, FABRICATION, AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES THAT MAY EXIST.
4. ANY DISCREPANCIES BETWEEN STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER.
5. DO NOT SCALE DRAWINGS.
6. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION AND IS THEREFORE DEPENDENT UPON DIAPHRAGM ACTION OF THE ROOF DECK AND FLOOR SLAB AND ATTACHMENT TO THE SHEAR WALLS FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY BRACING REQUIRED TO PROPERLY CONSTRUCT THE BUILDING UNTIL THESE ELEMENTS ARE COMPLETE AND CAPABLE OF PROVIDING THIS SUPPORT.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS TO CONSTRUCT THE STRUCTURE, INCLUDING VERIFICATION OF LOAD CAPACITY OF THE STRUCTURE, NEW OR EXISTING, TO SUPPORT CONSTRUCTION ACTIVITIES, EQUIPMENT, ETC. AND FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED. DAMAGE TO THE STRUCTURE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE CORRECTED BY THE RESPONSIBLE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
8. SHOP DRAWINGS MUST BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION.
9. NON-STRUCTURAL ELEMENTS OF THE BUILDING (ARCHITECTURAL FINISHES, MASONRY VENEER AND ASSOCIATED TIES, INSULATION, SHEATHING, DUCTWORK, PIPING, FOUNDATION/FLOOR/ROOF DRAINS, ETC.) ARE TYPICALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. WHERE NON-STRUCTURAL ELEMENTS ARE SHOWN ON THE STRUCTURAL DRAWINGS, THEY ARE SHOWN FOR REFERENCE AND COORDINATION PURPOSES ONLY. NON-STRUCTURAL ELEMENTS SHALL BE CONSTRUCTED AS SHOWN ON THE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND PLUMBING DRAWINGS.
10. ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS ARE IDEALIZED ELEVATIONS BASED ON DECK THICKNESS AND SLOPES SHOWN ON DRAWINGS AND DO NOT ACCOUNT FOR BEAM OR JOIST CAMBER. IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO COORDINATE ANY CAMBER OF THEIR WORK WITH OTHER TRADES AND ADJUST ELEVATIONS AS NECESSARY TO ACCOUNT FOR DEAD LOAD DEFLECTION AND THIS CAMBER.
11. WALL OPENINGS AND TERMINATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE DIAGRAMMATIC ONLY. WALL TERMINATIONS AND OPENING JAMBS, HEADS, AND SILLS SHALL BE CONSTRUCTED AS SHOWN ON THE ARCHITECTURAL DRAWINGS. WHERE VENEERS WRAP JAMBS, DETAIL AND FABRICATE LINTELS TO BEAR ON SOLID STRUCTURE. DO NOT BEAR LINTELS OR BEAMS ON VENEERS (BRICKS, SIDING, ETC.). IF THE ARCHITECTURAL DRAWINGS DO NOT INCLUDE DETAILS FOR ANY OF THESE CONDITIONS, CONSULT WITH ARCHITECT FOR DIRECTION.
12. EXISTING CONSTRUCTION SHOWN IS BASED ON EXISTING CONSTRUCTION DOCUMENTS AND/OR GENERAL CONSTRUCTION PRACTICE AND IS NOT GUARANTEED TO BE TRUE OR EXACT. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS RELEVANT TO THEIR WORK PRIOR TO CONSTRUCTION.
13. DETAILS LABELED TYPICAL ON THESE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR AND SHALL APPLY REGARDLESS OF WHETHER THEY ARE KEYED ON THE PLANS. CONSTRUCTION NOT SPECIFICALLY INDICATED BY DETAIL OR SECTION SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS.

FOUNDATION CONSTRUCTION

1. FOUNDATIONS ON THIS PROJECT ARE DESIGNED IN ACCORDANCE WITH RECOMMENDATIONS MADE BY _____, GEOTECHNICAL ENGINEERS, IN THEIR REPORT DATED _____. THE GEOTECHNICAL REPORT IS PROVIDED AS REFERENCE INFORMATION AVAILABLE TO BIDDERS, BUT IS NOT PART OF THE CONTRACT DOCUMENTS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL REPORT.
2. ELEVATIONS GIVEN ARE TO THE TOP OF FOOTINGS .
3. ALL FOOTINGS MUST BE SUPPORTED ON BEDROCK OR STRUCTURAL FLOWABLE FILL / LEAN CONCRETE PLACED OVER BEDROCK. REMOVE ALL SOIL BETWEEN PROPOSED FOUNDATION ELEVATION AND BEDROCK.
4. IN GRANULAR SOILS (SAND AND GRAVEL), THE SOIL SHALL BE MECHANICALLY TAMPED TO A HARD SURFACE IMMEDIATELY PRIOR TO PLACING FOOTING.
5. LOCATE EXISTING UNDERGROUND UTILITIES IN AREAS OF CONSTRUCTION. COORDINATE WITH UTILITY COMPANIES FOR ANY SHUT-OFF REQUIREMENTS OF STILL-ACTIVE LINES.
6. WHEN EXCAVATIONS APPROACH THE GROUND WATER LEVEL, THE WATER LEVEL SHALL BE LOWERED BY AN ACCEPTABLE DEWATERING SYSTEM SO THAT THE WATER LEVEL IS MAINTAINED CONTINUOUSLY A MINIMUM OF 2'-0" BELOW THE EXCAVATION.
7. EXISTING FOUNDATIONS:
   - A. EXISTING FOUNDATIONS SHOWN ON DRAWINGS ARE APPROXIMATE. EXACT CONDITIONS MUST BE VERIFIED AT TIME OF CONSTRUCTION.
   - B. WHEN NEW FOOTINGS MEET EXISTING FOOTINGS, THEY SHALL BE STEPPED AT A RATIO OF 2 HORIZONTAL TO 1 VERTICAL.
   - C. UNLESS OTHERWISE NOTED, NEW FOOTINGS SHALL NOT BEAR BELOW EXISTING FOOTINGS.
8. PROVIDE MINIMUM (2) #5 CONTINUOUS IN ALL FOOTINGS DIRECTLY UNDER MASONRY WALLS.
9. BEFORE BACKFILL, ALL WALLS MUST BE ADEQUATELY BRACED. FOR BACKFILL REQUIREMENTS, SEE SPECIFICATIONS AND/OR GEOTECHNICAL ENGINEER'S REPORT.
10. RETAINING WALLS SHALL NOT BE BACKFILLED UNTIL COMPRESSIVE STRENGTH TESTS DEMONSTRATE THAT THE CONCRETE HAS DEVELOPED 100% OF THE REQUIRED 28-DAY COMPRESSIVE STRENGTH FOR THE CLASS OF CONCRETE SPECIFIED. THE CONTRACTOR MAY ELECT TO PREPARE ADDITIONAL TEST CYLINDERS IN ORDER TO DEMONSTRATE THAT THE REQUIRED COMPRESSIVE STRENGTH PRIOR TO THE MANDATORY 28-DAY COMPRESSIVE STRENGTH TESTS. IN NO CASE SHALL WALLS BE BACKFILLED PRIOR TO SEVEN (7) DAYS FROM PLACEMENT.
11. FOR PLACEMENT AND COMPACTION OF FILL UNDER SLABS ON GRADE, SEE SPECIFICATIONS. IF NOT OTHERWISE NOTED, COMPACT ALL FILL TO 98% OF OPTIMUM LABORATORY DENSITY IN ACCORDANCE WITH ASTM D698 STANDARD PROCTOR METHOD. PLACE FILL IN 6" TO 8" LAYERS AND COMPACT WITH VIBRATORY TAMPING EQUIPMENT.
12. WHERE ELECTRICAL CONDUIT CONGREGATES BELOW ELECTRICAL ROOMS AND PANELS, CONTRACTOR SHALL HOLD DOWN SUBGRADE APPROPRIATELY FOR CONDUIT TO BE BELOW SLAB. COVER CONDUIT WITH FLOWABLE FILL (LEAN CONCRETE) TO BOTTOM OF SLAB ELEVATION.
13. BEARING INTO SHALE - ELEVATIONS GIVEN ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT FIELD CONDITIONS.
14. SEE DRILLED PIER NOTES AND DETAILS FOR ADDITIONAL REQUIREMENTS.
15. SHALE CONTAINING PYRITES MUST BE PROTECTED AS INDICATED ON THE DRAWINGS OR IN THE PROJECT SPECIFICATIONS.
16. SEE ARCHITECTURAL AND SITE DRAWINGS FOR CONTOUR AND LAYOUT OF SITE WALKS AND BREEZEWAYS. SLOPE EXTERIOR CONCRETE 1/8"/ FT AWAY FROM BUILDING, UNLESS NOTED OTHERWISE.
17. HIGH PLASTICITY ("FAT") CLAYS WITH A PLASTICITY INDEX OF 30 OR MORE WHICH ARE PRESENT WITHIN 2 FEET OF FINAL SUBGRADE ELEVATION OR FOOTING BEARING ELEVATION SHALL BE UNDERCUT FOR THE ENTIRE BUILDING AREA TO A DISTANCE OF 5 FEET OUTSIDE THE BUILDING FOOTPRINT. PROOFROLL AT UNDERCUT ELEVATION AND FURTHER UNDERCUT SOFT AND YIELDING MATERIALS TO FIRM MATERIAL AT THE DIRECTION OF THE SPECIAL INSPECTOR. BACKFILL UNDERCUT WITH ON-SITE LEAN CLAY SOILS OR BORROW MATERIALS WITH A PLASTICITY INDEX LESS THAN 19.
18. FOUNDATION CONCRETE SHALL BE PLACED IMMEDIATELY FOLLOWING EXCAVATION. A LEAN CONCRETE (1,500 PSI) MUD MAT SHALL BE PLACED OVER THE PREPARED BEARING MATERIALS IF EXCAVATION MUST REMAIN OPEN DURING INCLEMENT WEATHER OR FOR MORE THAN 72 HOURS.
19. CONTRACTOR SHALL EXERCISE CAUTION THAT DENSE GRADED AGGREGATE BLANKET BELOW FLOOR SLAB DOES NOT BECOME SATURATED DURING CONSTRUCTION. CONTRACTOR SHALL CAST FLOOR SLAB OR PROVIDE TEMPORARY PROTECTION FOR SUBGRADE UNTIL SLAB IS CAST TO PREVENT WATER INFILTRATION INTO SUBGRADE.
20. SURFACE RUNOFF SHALL BE DIRECTED AWAY FROM FOUNDATION EXCAVATIONS AND NOT BE PERMITTED TO POND WITHIN THE BUILDING FOOTPRINT. PROVIDE DRAINAGE TRENCHES FROM FOUNDATION EXCAVATIONS TO DIRECT RAINWATER OUT OF EXCAVATIONS.

CONCRETE CONSTRUCTION

1. ALL CONCRETE CONSTRUCTION TO BE IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 301, ACI 318 AND ACI DETAILING MANUAL, EXCEPT THAT CONSTRUCTION AND REMOVAL OF FORMS AND RESHORING SHALL BE INSPECTED BY THE CONTRACTOR'S ENGINEER.
2. FURNISH BAR SUPPORTS WHERE NECESSARY DURING CONSTRUCTION.
3. PROVIDE PIPE SLEEVES AND INSERTS IN CONCRETE WORK WHERE REQUIRED. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.
4. CONSTRUCTION JOINTS SHALL BE POSITIONED SO AS NOT TO CHANGE THE STRUCTURAL DESIGN REQUIREMENTS. FRAMED FLOORS AND ROOFS SHALL HAVE CONSTRUCTION JOINTS SO THAT NO MORE THAN 10,000 S.F. IS IN ANY SINGLE POUR AND THE MAXIMUM LENGTH OF POUR IS 100'-0". RATIO OF LENGTH TO WIDTH OF POUR SHALL NOT EXCEED 2. LOCATION OF ALL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE ENGINEER.
5. WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED.
6. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED 45 DEGREES. MINIMUM CHAMFER TO BE 1/2". CURVE THE LEADING EDGE OF STAIR TREADS TO 1/2" RADIUS.
7. ALL EXPOSED CONCRETE SUBJECTED TO FREEZING AND THAWING TO HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.40 AND 6% +/- 1% OF ENTRAINED AIR.
8. REINFORCING FOR SLABS ON GROUND (IN FLAT SHEETS) SHALL BE IN THE MIDDLE OF THE SLAB EXCEPT AS OTHERWISE NOTED AND SHALL BE POSITIVELY SUPPORTED AND MAINTAINED IN THIS POSITION DURING PLACEMENT OF CONCRETE.
9. SLAB THICKNESS INDICATED OVER STEEL FORM DECK INCLUDES FORM DECK DEPTH. PROVIDE FORM DECK CONTINUOUS OVER AT LEAST THREE SUPPORTS AND WELD TO EACH SUPPORT AT MAXIMUM 12" SPACING. PROVIDE FORM DECK THAT WILL SAFELY SUPPORT ALL CONSTRUCTION LOADS. LIMIT DEFLECTION OF FORM DECK TO 1/240 OF SPAN WHEN LOADED WITH THE WET WEIGHT OF CONCRETE AND CONSTRUCTION LOADS.
10. IN STEEL STAIR TREADS WITH CONCRETE FILL, PROVIDE 4x4-W1.4xW1.4 W.W.F. IN FLAT SHEETS.
11. BEND ALL HORIZONTAL WALL AND FOOTING BARS 1'-0" AROUND CORNERS OR PROVIDE CORNER BARS WITH 2'-0" LAP.
12. PROVIDE FOUNDATION DOWELS FOR ALL WALLS AND PIERS SAME SIZE AND SPACING AS VERTICAL STEEL.
13. PROVIDE FOUNDATION DOWELS FOR MASONRY WALLS SAME SIZE AND SPACING AS VERTICAL STEEL. ALL DOWELS SHALL BE WITHIN 6" LATERALLY OF WALL REINFORCING ABOVE AND IN LINE WITH THE WALL REINFORCING. PROVIDE DOWELS FOR ALL ADDITIONAL WALL REINFORCING AT CORNERS, ENDS, JAMBS, INTERSECTIONS AND BOTH SIDES OF CONTROL JOINTS. ONLY DOWELS AT THESE ADDITIONAL LOCATIONS MAY BE POST INSTALLED / DRILLED AND ADHESIVE FASTENED WITH EMBEDMENT AS REQUIRED TO DEVELOP FULL YIELD STRENGTH OF REINFORCING.
14. HORIZONTAL FLOOR SLAB CONSTRUCTION STRUCTURAL MEMBERS (STEEL JOISTS, UNSHORED STEEL BEAMS, PRE-CAST CONCRETE PLANK, ETC.) SHALL BE FINISHED LEVEL. THE SLAB THICKNESS NOTED IS MINIMUM. ADD CONCRETE AS NECESSARY TO OVERCOME MEMBER DEFLECTIONS. SHORED CONSTRUCTION SHALL BE FINISHED TO A CONSTANT DEPTH.
15. SPLICES ALL REINFORCING SPLICES SHALL BE AS TENSION LAP, U.N.O.
   - A. LAP ALL COMPRESSION SPLICES 30 BAR DIAMETERS OF THE LARGER BAR.
   - B. LAP ALL TENSION SPLICES (ALL SPLICES EXCEPT COLUMN SPLICES, U.N.O.) IN ACCORDANCE WITH THE FOLLOWING TABLE. MODIFY LENGTHS AS NOTED:

BAR SIZE	CONCRETE COMPRESSIVE STRENGTH 3,000 PSI	4,000 PSI	5,000 PSI
#3	21"	19"	17"
#4	29"	26"	22"
#5	36"	31"	28"
#6	43"	37"	33"

1. INCREASE SPLICE LENGTH BY THE FOLLOWING
2. NOTE: INCREASED LENGTHS ARE ACCUMULATIVE

1. HORIZONTAL TOP BARS WITH GREATER THAN 12" OF CONCRETE BELOW +30 %
2. BAR SPACING LESS THAN 2 BAR DIAMETERS +50 %

16. CONCRETE PROTECTION FOR REINFORCEMENT: COVER
   - A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
   - B. CONCRETE EXPOSED TO EARTH OR WEATHER
     - NO. 6 THROUGH NO. 18 BARS 2"
     - NO. 5 BAR, W31 OR D31 WIRE AND SMALLER 1 ½"

PRECAST CONCRETE HOLLOW CORE SLABS

1. PROVIDE 1/8" THICK HIGH-DENSITY PLASTIC BEARING PADS UNDER ALL INTERIOR PRECAST BEARING ON MASONRY OR CONCRETE.
2. HOLLOW CORE SLAB ENDS SHALL BEAR 3-INCHES MINIMUM ON SUPPORTS, UNLESS NOTED OTHERWISE ON DRAWINGS.
3. WHERE HOLLOW CORE SLAB SIDES BEAR ON SUPPORT, SIDE BEARING SHALL BE 1-INCH MINIMUM, UNLESS NOTED OTHERWISE.
4. PRECAST MANUFACTURER SHALL DESIGN AND FURNISH ALL HEADERS REQUIRED AT OPENINGS THROUGH SLABS.
5. ENGINEER WHO IS RESPONSIBLE FOR HOLLOW CORE SLAB DESIGN MUST COORDINATE ALL OPENINGS LARGER THAN 12 INCHES IN DIAMETER OR 12" SQUARE WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. SMALLER HOLES MAY BE FIELD CUT THROUGH PRECAST CORES BY TRADES REQUIRING THEM, AS ACCEPTABLE TO THE PRE-CAST ENGINEER. TRADES FIELD CUTTING HOLES SHALL LOCATE HOLES SO AS TO NOT CUT PRESTRESSING TENDONS.
6. REFER TO STRUCTURAL GENERAL NOTES AND DRAWINGS FOR DESIGN LOADS.
7. DRYPACK BETWEEN PRECAST PLANK AND ALL BEARING WALLS/BEAMS BELOW THAT ARE PARALLEL TO SPAN.
8. SURFACE SATURATE BONDING SURFACE WITH WATER PRIOR TO PLACING CONCRETE TOPPING SLABS.
9. CONTRACTOR SHALL PROVIDE DOUBLE L6x4x3/8 LONG-LEG-BACK-TO-BACK ABOVE ALL DUCT PENETRATIONS THROUGH MASONRY BOND BEAM BELOW PRECAST CONCRETE HOLLOWCORE PLANK. BEAR ANGLES 8" MINIMUM PAST OPENING. MAXIMUM OPENING WIDTH FOR SAID LINTEL TO BE 36" WITH 16" MINIMUM WIDTH MASONRY PIER BETWEEN ADJACENT OPENINGS.
10. AFTER PRECAST CONCRETE UNITS HAVE BEEN PLACED AND SECURED, GROUT OPEN SPACES AT KEYWAYS, CONNECTIONS, AND JOINTS WITH CEMENT GROUT.

LOOSE LINTEL SCHEDULE

1. THIS SCHEDULE IS FOR LINTELS OVER MASONRY OPENINGS NOT OTHERWISE SHOWN OR NOTED ON DRAWINGS, INCLUDING NON-BEARING PARTITION WALLS AND VENEERS.
   - A. ANGLES AND SUPPORT PLATES EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED.
   - B. MINIMUM BEARING LENGTH FOR ANGLES AND WT'S SHALL BE 6" EACH END. MINIMUM BEARING LENGTH FOR TUBES SHALL BE 8" EACH END. SEE TYPICAL DETAILS FOR BOND BEAM CONSTRUCTION.
   - C. PROVIDE STEEL LINTELS ABOVE ALL PENETRATIONS 16" AND WIDER THROUGH MASONRY WALLS OR MASONRY VENEERS; INCLUDING DUCT PENETRATIONS, LOUVERS, GROUPED CONDUITS, WINDOWS, ET CETERA.
   - D. FOR MULTI-WYTHE WALL CONSTRUCTION, PROVIDE LINTEL FOR EACH WYTHE PER SCHEDULE FOR GIVEN WYTHE THICKNESS.
2. FOR 4" MASONRY WALLS PROVIDE:

SPAN LIMITS	ANGLE SIZE
0' TO 4'-0"	L3 1/2x3 1/2x5/16
4'-1" TO 5'-6"	L4x3 1/2x5/16 L.D.V.
5'-7" TO 7'-6"	L5x3 1/2x5/16 L.D.V.
7'-7" TO 9'-6"	L6x3 1/2x3/8 L.D.V.

3. FOR 6" MASONRY WALLS PROVIDE:

SPAN LIMITS	LINTEL SIZE
0" TO 4'-0"	WT5x6.0
4'-1" TO 5'-6"	WT5x8.5
5'-7" TO 9'-6"	(1) 5" x 5/16" PLATE STEM. WELD CONTINUOUSLY BOTH SIDES TO 5" x 1/4" PLATE FLANGE. (MAKE FLANGE PLATE 3/8" THICK AT EXTERIOR OPENINGS.)

4. FOR 8" MASONRY WALLS PROVIDE:

SPAN LIMITS	LINTEL SIZE
0" TO 6'-0"	8" BOND BEAM TYPE ML8 SEE DET E/S401 OR (2) L4x3 1/2x5/16 L.D.V.
6'-1" TO 12'-6"	16" BOND BEAM TYPE ML16 SEE DET E/S401 OR HSS8x4x1/4 + PL 1/4x7 (TYPE 3, SEE DET E/S401)
12'-7" TO 16'-0"	HSS8x4x1/4 + PL 1/4x7 (TYPE 3, SEE DET E/S401)
16'-1" TO 18'-0"	HSS8x4x1/2 + PL 1/4x7 (TYPE 3, SEE DET E/S401)
18'-1" TO 22'-0"	HSS16x4x5/16 + PL 1/4x7 (TYPE 3, SEE DET E/S401)

5. FOR 12" MASONRY WALLS PROVIDE:

SPAN LIMITS	LINTEL SIZE
0" TO 6'-0"	8" BOND BEAM TYPE ML8 SEE DET E/S401 OR (3) L4x3 1/2x5/16 L.D.V.
6'-1" TO 12'-6"	16" BOND BEAM TYPE ML16 SEE DET E/S401 OR HSS8x6x5/16 + PL 1/4x11 (TYPE 3, SEE DET E/S401)
12'-7" TO 16'-0"	HSS8x6x5/16 + PL 1/4x11 (TYPE 3, SEE DET E/S401)
16'-1" TO 25'-0"	HSS16x4x5/16 + PL 1/4x11 (TYPE 3, SEE DET E/S401)

MASONRY WALL CONSTRUCTION

1. MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402).
2. MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602) AND THE PROJECT SPECIFICATIONS. IF THERE ARE ANY CONFLICTS BETWEEN THE TWO, THE MORE RESTRICTIVE REQUIREMENT SHALL BE APPLICABLE.
3. DETERMINE COMPRESSIVE STRENGTH OF MASONRY (f'm) BY THE UNIT STRENGTH METHOD (SECTION 1.4B.2 OF ACI 530.1/ASCE 6/TMS 602). THE STRENGTH OF GROUT SHALL BE DETERMINED BY TESTS IN ACCORDANCE WITH ASTM C1019.
4. MATERIALS:
   - C.M.U. - ASTM C55 OR C90
   - GROUT - ASTM C476
   - MORTAR - TYPE S
5. USE TYPE S MORTAR FOR C.M.U. IN ALL STRUCTURAL BEARING, SHEAR, AND CURTAIN WALLS.
6. INTERSECTING BEARING WALLS SHALL BE ANCHORED BY ONE OF THE FOLLOWING METHODS:
   - A. FIFTY PERCENT OF THE UNITS AT THE INTERSECTION SHALL BE LAID IN AN OVERLAPPING MASONRY ARRANGEMENT, WITH ALTERNATE UNITS HAVING A BEARING OF NOT LESS THAN 3" ON THE UNIT BELOW.
   - B. WALLS SHALL BE TIED BY GALVANIZED STEEL STRAPS 1 1/2" x 1/4" x 24" WITH 2" BEND AT 90° EACH END. GROUT STRAPS SOLID INTO CORES OF BLOCK AT 24" MAXIMUM VERTICAL SPACING.
   - C. THE ABOVE DO NOT APPLY AT CONTROL JOINTS OR WHERE NON-LOAD-BEARING PARTITIONS ABUT BEARING WALLS.
7. CORNERS OF BEARING AND EXTERIOR WALLS SHALL BE BUILT IN RUNNING BOND.
8. ALL STRUCTURAL WALLS S

NOTE:
THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DESIGNING, SUPPLYING, AND INSTALLING ALL TEMPORARY SHORING NECESSARY TO INSTALL NEW STRUCTURAL ELEMENTS. THE DESIGN OF THE SHORING SHALL BE DONE BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF KENTUCKY. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT (FOR THEIR RECORDS) TEMPORARY SHORING DRAWINGS (PLANS AND ANY NECESSARY DETAILS) THAT ARE SEALED, SIGNED AND DATED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

SHORING / BRACING DESIGN AND INSTALLATION

1. THE GENERAL TRADES CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ENGINEERING, SUPPLYING, AND INSTALLING ALL TEMPORARY SHORING AND BRACING NECESSARY TO RESIST GRAVITY AND LATERAL LOADS AS THE EXISTING BUILDING IS SELECTIVELY DEMOLISHED AND RECONSTRUCTED WITH NEW STRUCTURAL ELEMENTS. THE DESIGN OF SHORING SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF KENTUCKY IN CONSIDERATION OF APPLIED, POTENTIAL AND CONSTRUCTION LOADING; CONSTRUCTION METHODS, TECHNIQUES AND SEQUENCE; AND SCHEDULE. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT (FOR THEIR RECORDS) TEMPORARY SHORING DRAWINGS (PLANS AND ALL NECESSARY DETAILS) THAT ARE SEALED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION. SHORING SUBMITTAL SHALL ALSO INCLUDE A WRITTEN DESCRIPTION OF THE INTENDED CONSTRUCTION SEQUENCE, PREPARED BY THE SHORING ENGINEER AND REVIEWED AND APPROVED BY THE CONSTRUCTION MANAGER PRIOR TO SUBMITTAL TO THE ARCHITECT FOR THEIR RECORDS. SHORING SUBMITTAL SHALL INCLUDE WRITTEN DESCRIPTION OF LOADS AND LOAD COMBINATIONS CONSIDERED.
2. SUGGESTED SHORING DETAILS HAVE BEEN INCORPORATED INTO THE CONSTRUCTION DOCUMENTS IN SOME INSTANCES. WHERE PROVIDED, THEY SHALL BE CONSTRUED AS SUGGESTIONS ONLY WHEREIN IF SUCH SCHEME IS USED, THE DESIGN AND DETAILS MUST STILL BE VERIFIED BY (AND FULL RESPONSIBILITY TAKEN) BY THE SHORING ENGINEER.
3. SHORING AND BRACING IS REQUIRED, BUT IS NOT LIMITED TO, THE FOLLOWING:
   A. WHERE DEMOLITION OF FLOOR AND / OR ROOF MEMBERS REMOVE LATERAL BRACING TO WALL, COLUMN, OR PIER MEMBERS.
   B. WHERE NEW OPENINGS IN WALLS MUST BE CREATED.
   C. WHERE DEMOLITION OF BEARING WALLS AND / OR SUPPORT BEAMS REMOVE VERTICAL SUPPORT TO GRAVITY LOAD MEMBERS.
   D. WHERE DEMOLITION OF SHEAR WALLS, BRACED FRAMES, OR OTHER LATERAL LOAD RESISTING SYSTEM REMOVES BUILDING RESISTANCE TO LATERAL WIND, SEISMIC, OR EARTH LOADS.
4. CEASE DEMOLITION OPERATIONS AND NOTIFY ARCHITECT IF ANY EXISTING STRUCTURAL ELEMENT TO REMAIN IN SERVICE DEVELOPS CRACK, BOW, DEFLECTION, ETC. OR IF ANY COMPONENT OF THE EXISTING STRUCTURE APPEARS DAMAGED, CORRODED OR OTHERWISE COMPROMISED.

ROOF, FLOOR, OR WALL OPENINGS

1. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE NUMBER, SIZE, AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED FOR MECHANICAL OR ELECTRICAL ITEMS.
2. SLEEVES AND OPENINGS SHALL BE LOCATED IN A MANNER THAT WILL MAINTAIN THE STRUCTURAL INTEGRITY OF THE ROOF, FLOOR, OR WALL SYSTEM.
3. NO STRUCTURAL ELEMENTS ARE TO BE CUT UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

OPENINGS / PENETRATIONS / ATTACHMENTS TO STRUCTURE BY OTHER TRADES

1. THE CONTRACTOR SHALL COORDINATE AND VERIFY THE NUMBER, SIZE, AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED FOR OTHER TRADES IN STRUCTURAL ELEMENTS.

TO STRUCTURAL STEEL

1. FIELD CUTTING/DRILLING OF HOLES LARGER THAN 3/8" INTO BEAM FLANGES OR COLUMNS IS PROHIBITED EXCEPT WHERE REQUIRED FOR STRUCTURAL STEEL CONNECTIONS.
2. PENETRATIONS / HOLES THROUGH BEAM WEBS MAY BE POSSIBLE. TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING COST TO VERIFY ADEQUACY AND DESIGN AND FOR INSTALLATION COST OF OPENING AND ANY REINFORCEMENT.

TO OPEN WEB STEEL JOIST

1. DO NOT FIELD CUT ANY PORTION OF A STEEL JOIST.
2. FIELD DRILLING OF HOLES OF ANY SIZE INTO THE CHORDS OF A STEEL JOIST IS PROHIBITED EXCEPT WHERE REQUIRED FOR STRUCTURAL STEEL CONNECTIONS.
3. SUSPENDED LOADS OF LESS THAN 100 LBS MAY BE FASTENED THROUGH THE NEUTRAL AXIS OF A SINGLE ANGLE OF THE BOTTOM CHORD (ECCENTRIC TO THE JOIST) USING APPROPRIATELY-SIZED CLAMPING ANCHORS WITHOUT REINFORCEMENT OF THE JOIST. SUSPENDED LOADS OF LESS THAN 250 LBS MAY BE FASTENED CONCENTRICALLY TO THE TOP OR BOTTOM CHORD (BETWEEN THE ANGLES) USING APPROPRIATELY-SIZED HANGERS WITHOUT REINFORCEMENT OF THE JOIST. ONLY ONE CONCENTRATED LOAD IS ALLOWED PER JOIST WEB PANEL. ALL OTHER CONCENTRATED LOADS IN EXCESS OF THESE FORCES SHALL HAVE THE JOIST LOCALLY REINFORCED WITH FIELD-WELDED ANGLE TO THE OPPOSING CHORD'S NEAREST PANEL POINT. SEE STRUCTURAL DRAWINGS.

TO STRUCTURAL PRECAST CONCRETE:

1. DO NOT USE DRILLED OR POWDER-ACTUATED FASTENERS FOR ATTACHING ACCESSORY ITEMS TO PRECAST, PRESTRESSED UNITS. ATTACHMENT TO THE PRECAST PLANK SHALL BE LOCATED AROUND TENDON LAYOUT AND SHALL INCORPORATE FASTENERS DESIGNED FOR USE IN HOLLOW CONCRETE AND THAT DO NOT PENETRATE THE CONCRETE MORE THAN ½" (SUCH AS DROP-IN ANCHORS).
2. CONTRACTORS SHALL COORDINATE PENETRATION REQUIREMENTS WITH STRUCTURAL ENGINEER AND STRUCTURAL MANUFACTURERS. TRADE CONTRACTORS SHALL COORDINATE AND MARK ALL PENETRATIONS LARGER THAN 12 INCHES IN DIAMETER/SQUARE THROUGH PRECAST CONCRETE PLANK DURING THE STRUCTURAL SUBMITTAL PROCESS. REINFORCEMENT OF SUBSEQUENT FIELD CUT OPENING OF 12" OR LARGER SHALL BE THE RESPONSIBILITY OF THE TRADE CONTRACTOR REQUIRING SUCH OPENING.

TO FLOOR DECK, PLANK, ELEVATED SLABS, ROOF DECK

1. NO PENETRATIONS LARGER THAN 12" IN DIAMETER / SQUARE SHALL BE FIELD CUT IN THE STRUCTURAL MEMBER WITHOUT APPROVAL OF THE ENGINEER OF RECORD FOR THAT ELEMENT.
2. CUTTING / CORING OF ADJACENT PENETRATIONS, PERPENDICULAR TO THE STRUCTURAL SPAN, SHALL BE AVOIDED. ADJACENT PENETRATIONS THAT REMOVE MORE THAN 20% OF SUCH STRUCTURAL ELEMENT, IN ANY GIVEN 3-FOOT LENGTH, ARE PROHIBITED.

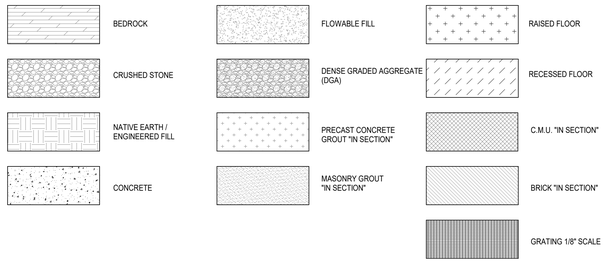
MAINTENANCE STATEMENT AND STRUCTURE LIFESPAN

1. THE ENGINEER MAKES NO CLAIM OR AGREEMENT AS TO THE LIFESPAN OF THE BUILDING STRUCTURE. THE CLIENT AND OWNER SHALL UNDERSTAND THAT STRUCTURAL TYPES DO HAVE LIFESPAN RELATIVE TO INITIAL COST AND MAINTENANCE AND THAT BY REQUESTING OR ACCEPTING A STRUCTURAL SYSTEM OF LOWER INITIAL COST THAT THE USEABLE LIFESPAN WILL DECREASE AND MAINTENANCE INCREASE.
2. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXTEND LIFESPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. THE ENGINEER SHALL NOT BE HELD LIABLE FOR MAINTENANCE REQUIREMENTS OR DETERIORATION RESULTING FROM LACK OF BUILDING MAINTENANCE.
3. A PLANNED PROGRAM OF MAINTENANCE SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO: PAINTING OF STRUCTURAL STEEL AND LINTELS, PROTECTIVE COATING FOR CONCRETE AND TIMBER, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, TIMELY REPAIR OF SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF STRUCTURAL ELEMENTS EXPOSED TO A SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.

STRUCTURAL ABBREVIATIONS

APA	AMERICAN PLYWOOD ASSOCIATION
ARCH	ARCHITECTURAL
B.L.E.	BRICK LEDGE ELEVATION
BOT	BOTTOM
BTWN	BETWEEN
CLR	CLEAR
CANT	CANTILEVER BEAM
C.F.S.	COLD-FORMED STEEL
C.I.P.	CAST-IN-PLACE
CJP	COMPLETE JOINT PENETRATION
C.M.U.	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
D	DEEP
D.G.A.	DENSE GRADED AGGREGATE
DET	DETAIL
DWGS	DRAWINGS
EA	EACH
E.F.	EACH FACE
ELEV	ELEVATION
EMBED	MINIMUM EMBEDMENT DEPTH INTO SUBSTRATE
E.O.S.	EDGE OF SLAB
E.W.	EACH WAY
EX	EXISTING
EXP	EXPANSION
F.F.E.	FINISHED FLOOR ELEVATION
F.R.C.	FIBER REINFORCED CONCRETE
F.R.P.	FIBER REINFORCED POLYMER
F.R.T.	FIRE RESISTANCE TREATED
F.S.	FAR SIDE
FTG	FOOTING
F.V.	FIELD VERIFY
GALV	GALVANIZED
GA	GAUGE
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
LBS	POUNDS
I.C.F.	INSULATED CONCRETE FORM
L.D.H.	LONG DIMENSION HORIZONTAL
L.D.V.	LONG DIMENSION VERTICAL
LVL	LAMINATED VENEER LUMBER
MANUF.	MANUFACTURER
MAX	MAXIMUM
MECH	MECHANICAL
M.E.P.	MECHANICAL/ELECTRICAL/PLUMBING
MIN	MINIMUM
N.S.	NEAR SIDE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.P.H.	OPPOSITE HAND
P.A.F.	POWDER ACTUATED FASTENER
P.E.M.B.	PRE-ENGINEERED METAL BUILDING
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
R	RADIUS
REINF	REINFORCEMENT
R.T.U.	ROOF TOP UNIT (MECHANICAL)
S.C.	SLIP CRITICAL
SIM	SIMILAR
S.O.G.	SLAB ON GRADE
SP	COLUMN SPLICE
S.S.	STAINLESS STEEL
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W	WIDE
W.W.F.	WELDED WIRE FABRIC

MATERIAL LEGEND



NOT FOR CONSTRUCTION

100% DD SET

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GARRARD COUNTY HIGH SCHOOL
FINAL PHASE

FOR THE
GARRARD COUNTY BOARD OF EDUCATION

GENERAL NOTES

DATE: MAY 11, 2022

REVISED				
1	2	3	4	5

SHEET S102

JOB# 22031

DRAWN: MSC

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STRUCTURAL SPECIAL INSPECTIONS CHART

COMPONENT	TEST OR SPECIAL INSPECTION	PERIODIC OR CONTINUOUS	ACCEPTABLE QUALIFICATIONS
FABRICATORS (IBC 1704.2.5)	INSPECT THE FABRICATION OF STRUCTURAL LOAD-BEARING MEMBERS WHERE SUCH WORK IS BEING PERFORMED ON THE PREMISES OF THE FABRICATOR'S SHOP. 1. FABRICATORS SHALL BE EXEMPT FROM SPECIAL INSPECTION WHEN A QUALIFIED CERTIFICATION AUTHORITY HAS PERIODICALLY REVIEWED AND APPROVED FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND FABRICATION PRACTICES. SUBJECT TO COMPLIANCE WITH KENTUCKY BUILDING CODE REQUIREMENTS, QUALIFIED CERTIFICATION AUTHORITIES PROVIDING CERTIFICATION WHICH MAY BE APPLICABLE TO PROJECT INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING. a. STRUCTURAL STEEL FABRICATORS – AISC CERTIFIED. b. PRE-ENGINEERED METAL BUILDING SYSTEM FABRICATORS - IAS INSPECTION PROGRAMS FOR MANUFACTURERS OF METAL BUILDING SYSTEMS, AC472. c. STEEL JOIST FABRICATORS – SJI CERTIFIED. d. METAL PLATE CONNECTED WOOD TRUSS FABRICATORS – TPI CERTIFIED. e. SHOP-FABRICATED COLD-FORMED METAL TRUSSES – CFSEI CERTIFIED. f. PRECAST CONCRETE FABRICATORS – PCI CERTIFIED.	PERIODIC	COMPLY WITH SECTIONS BELOW WHEN REQUIRED
	VERIFY THAT THE FABRICATOR MAINTAINS AND REVIEW FOR COMPLETENESS FABRICATOR'S DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES, WHICH PROVIDE A BASIS FOR CONTROL OF THE WORKMANSHIP AND ABILITY TO CONFORM TO THE APPROVED CONSTRUCTION DOCUMENTS AND REFERENCE STANDARDS. REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK.	PERIODIC	QUALIFIED CERTIFICATION AUTHORITY
	PERFORM SPECIAL INSPECTIONS AT FABRICATOR'S SHOP AS OUTLINED IN THIS CHART FOR EACH TYPE OF CONSTRUCTION.	----	
STEEL (AND OTHER METAL) CONSTRUCTION (IBC 1705.2)	PROVIDE SPECIAL INSPECTION OF THE FABRICATION OF STEEL STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH THE FABRICATORS SECTION IN THIS CHART.	----	
	VERIFY THAT CERTIFICATION NUMBERS ON BOLT, NUT, AND WASHER CONTAINERS CORRESPOND TO THE IDENTIFICATION NUMBERS ON MILL TEST REPORTS AND THAT MANUFACTURER'S SYMBOL AND GRADE MARKINGS APPEAR ON ALL BOLTS AND NUTS. ALSO VERIFY THAT BOLTS, NUTS, AND WASHERS ARE BEING PROPERLY CARED FOR AT THE SITE.	PERIODIC	CWI, SSSI, SWSI
	VERIFY THAT IDENTIFICATION MARKINGS ON STRUCTURAL STEEL MEMBERS CONFORM TO ASTM STANDARDS SPECIFIED ON THE APPROVED CONSTRUCTION DOCUMENTS.	PERIODIC	CWI, SSSI, SWSI
	VERIFY THAT IDENTIFICATION MARKINGS ON WELD FILLER MATERIALS CONFORM TO ASTM STANDARDS SPECIFIED ON THE APPROVED CONSTRUCTION DOCUMENTS. ALSO VERIFY THAT WELD FILLER MATERIAL IS BEING PROPERLY CARED FOR.	PERIODIC	CWI, SSSI, SWSI
	VERIFY THAT ANCHOR RODS AND OTHER EMBEDMENTS THAT ARE TO SUPPORT STRUCTURAL STEEL ARE OF PROPER DIAMETER, GRADE, TYPE, LENGTH, AND EXTENT OF EMBEDMENT PRIOR TO PLACEMENT OF CONCRETE.	PERIODIC	CWI, SSSI, SWSI
	TEST AND INSPECT HIGH-STRENGTH BOLTED CONNECTIONS ACCORDING TO RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS." 1. VERIFY THAT FASTENERS ARE OF CORRECT GRADE, TYPE, DIAMETER, LENGTH, AND SHEAR PLANE LOCATIONS FOR THE JOINT DETAIL. 2. VERIFY THAT CONNECTING ELEMENTS MEET REQUIREMENTS FOR FAYING SURFACE AND HOLE PREPARATION. 3. PROVIDE PRE-INSTALLATION VERIFICATION TESTING OF FASTENER ASSEMBLIES AND METHODS. a. UTILIZE A TENSION CALIBRATOR TO CONFIRM THE SUITABILITY OF THE COMPLETE FASTENER ASSEMBLY FOR PRETENSIONED INSTALLATION AND CONFIRM THE PROCEDURE AND PROPER USE BY THE BOLTING CREW OF THE PRETENSIONING METHOD TO BE USED. b. ENSURE THAT JOINT PLIES ARE BROUGHT TO SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING OPERATION. c. CONFIRM FASTENER COMPONENT IS NOT TURNED BY THE WRENCH PREVENTING ROTATION. d. CONFIRM THAT FASTENERS ARE PRETENSIONED PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID PART TOWARDS THE FREE EDGES. 4. VERIFY THAT FASTENER ASSEMBLIES WITH REQUIRED WASHERS ARE PLACED IN ALL HOLES AND ARE POSITIONED AS REQUIRED. a. VERIFY THAT DIRECT-TENSION INDICATOR GAPS COMPLY WITH ASTM F 959, TABLE 2. b. VERIFY THAT TWIST-OFF-TYPE TENSION-CONTROL ASSEMBLIES HAVE BEEN PROPERLY TIGHTENED. 5. PERFORM PERIODIC INSPECTION OF BEARING TYPE CONNECTIONS. 6. PERFORM CONTINUOUS INSPECTION OF SLIP-CRITICAL TYPE CONNECTIONS.	PERIODIC, U.N.O.	CWI, SSSI, SWSI
	TEST AND INSPECT BLIND EXPANSION BOLTED CONNECTIONS AS FOLLOWS: 1. VERIFY BLIND EXPANSION BOLTS ARE CORRECT TYPE, DIAMETER, AND LENGTH FOR THE JOINT DETAIL. 2. VERIFY THAT CONNECTING ELEMENTS MEET REQUIREMENTS FOR HOLE SIZING. 3. PERIODICALLY VERIFY INSTALLED TORQUE OF 100% OF ALL BLIND EXPANSION BOLTS WITH A CALIBRATED TORQUE WRENCH. COORDINATE MINIMUM INSTALLED TORQUE WITH MANUFACTURER OF BLIND EXPANSION BOLTS INSTALLED.	PERIODIC	SWSI
	INSPECT AND TEST WELDS DURING FABRICATION (WHERE APPLICABLE) AND ERECTION OF STRUCTURAL STEEL, STEEL DECK, AND STUDS/ANCHORS AS FOLLOWS:		
	1. CERTIFY WELDERS AND CONDUCT INSPECTIONS AND TESTS AS REQUIRED. RECORD TYPES AND LOCATIONS OF DEFECTS FOUND IN WORK. RECORD WORK REQUIRED AND PERFORMED TO CORRECT DEFICIENCIES. a. CONFIRM THAT WELDING PROCEDURE SPECIFICATIONS ARE AVAILABLE. b. CONFIRM THAT CONTRACTOR HAS INSTITUTED A *WELDER IDENTIFICATION SYSTEM*.	PERIODIC	CWI, SWSI
	2. INSPECT WELD PROCEDURES AND WELDERS ACCORDING TO THE REQUIREMENTS OF AWS D1.1 AND AISC 360. a. CONFIRM THAT THERE IS NO WELDING OVER CRACKED TACK WELDS. b. CONFIRM THAT ENVIRONMENTAL CONDITIONS ARE BEING PROPERLY CONSIDERED (WIND SPEED, PRECIPITATION, AND TEMPERATURE). c. CONFIRM THAT WELDING PROCEDURE SPECIFICATIONS ARE BEING FOLLOWED (EQUIPMENT SETTINGS, TRAVEL SPEED, MATERIAL USEAGE, SHIELDING TYPE AND FLOW RATE, PREHEATING REQUIREMENTS, MAINTENANCE OF INTERPASS TEMPERATURE, AND PROPER WELDER POSITIONING). d. CONFIRM WELDING TECHNIQUES (INTERPASS AND FINAL CLEANING, EACH PASS WITHIN PROFILE LIMITATIONS, AND THAT EACH PASS MEETS QUALITY REQUIREMENTS).	PERIODIC	CWI, SWSI
	3. USE NON-DESTRUCTIVE TESTING ACCORDING TO AWS D1.1 ON ALL WELDS THAT APPEAR TO HAVE EXCESSIVE INCLUSIONS, POROSITIES, CRACKS, AND INCOMPLETE PENETRATIONS AS DESCRIBED BY AWS D1.1 OR HAVE THE QUESTIONABLE WELD REMOVED AND REWELDED.	PERIODIC	AWS-UT-2
	4. PERFORM OBSERVATION ON THE FIRST TWO WELDS INSTALLED BY EACH WELDER AND SUBSEQUENT NON-DESTRUCTIVE TESTING ACCORDING TO AWS D1.1 ON ALL (100%) COMPLETE PENETRATION AND/OR PARTIAL PENETRATION GROOVE WELDS AND ON ALL SPLICES OF MAIN MEMBERS WHERE THOSE SPLICES ARE REQUIRED. a. CONFIRM JOINT PREPARATION. b. CONFIRM DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, AND BEVEL). c. CONFIRM CLEANLINESS OF WELDS AND BASE MATERIAL (CONDITION OF STEEL SURFACES). d. CONFIRM TACKING (TACK WELD QUALITY AND LOCATION). e. CONFIRM BACKING TYPE AND FIT (AS APPLICABLE) AND REMOVAL SUBSEQUENT TO WELD PLACEMENT. f. PERFORM ULTRASONIC TESTING IN ACCORDANCE WITH AWS D.1.1.	CONTINUOUS	CWI, SWSI
	5. PERFORM INSPECTION ACCORDING TO AWS D1.1 (VISUAL INSPECTION) ON ALL MULTI-PASS FILLET WELDS AND ON ALL SINGLE-PASS FILLET WELDS LARGER THAN 5/16". a. CONFIRM DIMENSIONS (ALIGNMENT, GAPS AT ROOT, ROOT SIZE, LENGTH), SPACING, ORIENTATION, AND LOCATIONS. b. CONFIRM CLEANLINESS OF WELDS AND BASE MATERIAL (CONDITION OF STEEL SURFACES). c. CONFIRM TACKING (TACK WELD QUALITY AND LOCATION). d. CONFIRM VISUAL ACCEPTANCE CRITERIA (CRACK PROHIBITION, WELD/BASE FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT, AND POROSITY).	CONTINUOUS	CWI, SWSI
	6. PERFORM INSPECTION ACCORDING TO AWS D1.1 (VISUAL INSPECTION) ON ALL SINGLE-PASS FILLET WELDS SMALLER THAN 5/16" AND ON ALL FLOOR, FORM, AND ROOF DECK WELDS. a. CONFIRM DIMENSIONS (ALIGNMENT, GAPS AT ROOT, ROOT SIZE, LENGTH), SPACING, ORIENTATION, AND LOCATIONS. b. CONFIRM CLEANLINESS OF WELDS AND BASE MATERIAL (CONDITION OF STEEL SURFACES). c. CONFIRM TACKING (TACK WELD QUALITY AND LOCATION). d. CONFIRM VISUAL ACCEPTANCE CRITERIA (CRACK PROHIBITION, WELD/BASE FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT, AND POROSITY).	PERIODIC	CWI, SWSI
	7. OBSERVE AND DOCUMENT REPAIR ACTIVITIES.	PERIODIC	CWI, SWSI
	INSPECT ALL MECHANICAL FASTENING OF FLOOR, FORM, AND ROOF DECK. VERIFY FASTENER TYPE, LENGTH, AND DIAMETER. CONFIRM PERIMETER AND INTERMEDIATE FASTENER SPACING.	PERIODIC	CWI, SWSI
	IN ADDITION TO VISUAL INSPECTION, INSPECT AND TEST FIELD WELDED SHEAR CONNECTORS ACCORDING TO REQUIREMENTS OF AWS D1.1 AND AS FOLLOWS: 1. VERIFY NUMBER, LOCATION, AND APPLICATION OF ALL WELD SHEAR CONNECTORS. 2. PERFORM BEND TESTS ON A MINIMUM OF 10 PERCENT OF ALL SHEAR CONNECTORS AND WHEN VISUAL INSPECTIONS REVEAL EITHER LESS THAN A CONTINUOUS 360-DEGREE FLASH OR WELDING REPAIRS TO ANY SHEAR CONNECTOR. 3. CONDUCT TESTS ON ADDITIONAL SHEAR CONNECTORS WHEN WELD FRACTURE OCCURS ON SHEAR CONNECTORS ALREADY TESTED, ACCORDING TO REQUIREMENTS OF AWS D1.1.	PERIODIC	CWI, SWSI
	INSPECT ALL STEEL FRAME CONNECTION DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS AND APPROVED STEEL ERECTION SHOP DRAWINGS. 1. VERIFY COMPLETENESS AND CONSTRUCTION OF ALL BRACING, STIFFENING, AND CONNECTIONS. 2. VERIFY LOCATION, COMPLETENESS, ACCURACY, AND JOINT DETAILS OF ALL MEMBERS.	PERIODIC	PE

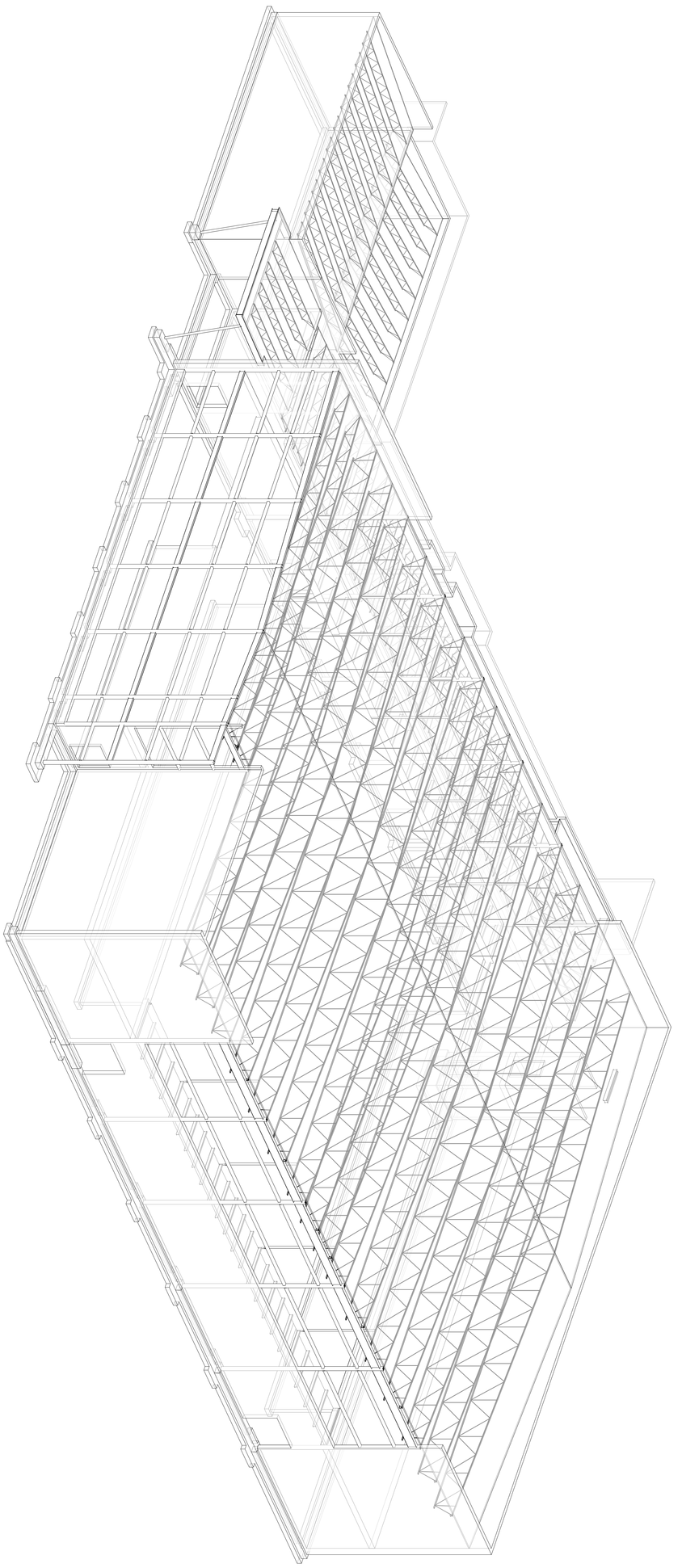
COMPONENT	TEST OR SPECIAL INSPECTION	PERIODIC OR CONTINUOUS	ACCEPTABLE QUALIFICATIONS
STRUCTURAL ANCHORS	WHERE PERIODIC ANCHOR INSPECTION IS PERMITTED, THE SPECIAL INSPECTOR SHALL VERIFY THE INITIAL INSTALLATIONS OF EACH TYPE AND SIZE OF ANCHOR BY CONSTRUCTION PERSONNEL ON SITE. SUBSEQUENT INSTALLATIONS OF THE SAME ANCHOR TYPE AND SIZE BY THE SAME CONSTRUCTION PERSONNEL ARE PERMITTED TO BE PERFORMED IN THE ABSENCE OF THE SPECIAL INSPECTOR. FOR ONGOING INSTALLATIONS OVER AN EXTENDED PERIOD, GREATER THAN THREE MONTHS, THE SPECIAL INSPECTOR MUST MAKE REGULAR INSPECTIONS TO CONFIRM CORRECT HANDLING AND INSTALLATION OF THE ANCHORS.	----	
	INSPECT INSTALLATION OF ALL ADHESIVE ANCHORS THAT RESIST SUSTAINED TENSION LOADS IN HORIZONTAL OR UPWARDLY-INCLINED ORIENTATIONS.	CONTINUOUS	RCSI, SMSI
	ADDITIONAL TO REQUIREMENTS LISTED BELOW, INSPECT ALL POST-INSTALLED ANCHORS AS FOLLOWS: VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANING PROCEDURE, EMBEDMENT DEPTH, SUBSTRATE TYPE (MATERIAL), SUBSTRATE THICKNESS, DRILL BIT TYPE AND SIZE, HOLE DIMENSIONS, ANCHOR SPACING, MINIMUM EDGE DISTANCE, ANCHOR PLUMBNESS (RELATIVE TO HORIZONTAL OR VERTICAL AS APPLICABLE), AND ADHERENCE TO THE ANCHOR MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.	PERIODIC	RCSI, SMSI
	INSPECT DRILLED-IN ADHESIVE TYPE ANCHORS AS FOLLOWS: VERIFY ADHESIVE PRODUCT AND EXPIRATION DATE, PROOF LOAD 25% OF EACH TYPE AND SIZE OF ANCHOR IN ACCORDANCE WITH RECOMMENDATIONS OF THE ANCHOR MANUFACTURER. ADHESIVE ANCHORS AND CAPSULE ANCHORS SHALL NOT BE TORQUE TESTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IF MORE THAN 10% OF THE TESTED ANCHORS FAIL TO ACHIEVE THE SPECIFIED TORQUE OR PROOF LOAD WITHIN THE LIMITS AS DEFINED IN THE SPECIFICATIONS, ALL ANCHORS OF THE SAME DIAMETER AND TYPE AS THE FAILED ANCHOR SHALL BE TESTED, UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. 1. PROOF LOADS SHALL BE APPLIED WITH A CALIBRATED HYDRAULIC RAM. DISPLACEMENT OF ADHESIVE AND CAPSULE ANCHORS AT PROOF LOAD SHALL NOT EXCEED D/10, WHERE D IS THE NOMINAL ANCHOR DIAMETER.	PERIODIC	RCSI, SMSI
	INSPECT 100% OF EXPANSION TYPE MECHANICAL ANCHORS AS FOLLOWS: VERIFY INSTALLED TORQUE OF ANCHORS WITH A CALIBRATED TORQUE WRENCH. COORDINATE MINIMUM INSTALLED TORQUE WITH MANUFACTURER OF ANCHORS INSTALLED.	PERIODIC	RCSI, SMSI
	INSPECT 100% OF CONCRETE AND MASONRY SCREW TYPE ANCHORS AS FOLLOWS: VERIFY INSTALLATION TORQUE (DO NOT EXCEED ANCHOR MANUFACTURER PUBLISHED MAXIMUM INSTALLATION TORQUE), MAXIMUM IMPACT WRENCH TORQUE RATING, AND ANCHOR TIGHTNESS TO SUPPORTED COMPONENT.	PERIODIC	RCSI, SMSI
CONCRETE CONSTRUCTION (IBC 1705.3)	PROVIDE SPECIAL INSPECTION OF THE FABRICATION OF CONCRETE STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH THE FABRICATORS SECTION IN THIS CHART	----	
	INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC	RCSI, ACI-2, NICET-2C
	VERIFY THE USE OF THE PROPER DESIGN MIX.	PERIODIC	RCSI, ACI-2, NICET-2C
	VERIFY USE OF PROPER GRADE AND ASTM DESIGNATION OF REINFORCING STEEL.	PERIODIC	RCSI, ACI-2, NICET-2C
	PERFORM INSPECTION ON PLACEMENT, SPACING, CLEAR COVER, NUMBER, AND SPLICE LAP LENGTHS OF REINFORCING STEEL.	PERIODIC	RCSI, NICET-2C
	PERFORM INSPECTION ACCORDING TO AWS D1.4-1998 ON ALL WELDING OF REINFORCING STEEL.	CONTINUOUS	CWI, AWS-UT-2
	MONITOR CONCRETE QUALITY BY MEANS OF SITE AND LABORATORY TESTS. THE INSPECTION AGENCY IS AUTHORIZED TO REJECT PLASTIC CONCRETE NOT CONFORMING TO SPECIFICATIONS. IMMEDIATELY INFORM THE CONTRACTOR, THE ARCHITECT AND THE STRUCTURAL ENGINEER OF INADEQUACIES IN CONCRETE QUALITY. SAMPLING AND TESTING FOR QUALITY CONTROL DURING CONCRETE PLACEMENT SHALL INCLUDE THE FOLLOWING: 1. TESTING OF COMPOSITE SAMPLES OF FRESH CONCRETE OBTAINED ACCORDING TO ASTM C 172 SHALL BE PERFORMED ACCORDING TO THE FOLLOWING REQUIREMENTS: a. TESTING FREQUENCY: OBTAIN ONE COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE EXCEEDING 5 CU. YD., BUT LESS THAN 25 CU. YD., PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. OR FRACTION THEREOF. b. SLUMP: ASTM C 143; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE. c. AIR CONTENT: ASTM C 231, PRESSURE METHOD, FOR NORMAL-WEIGHT CONCRETE;ONE TEST FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE. d. CONCRETE TEMPERATURE: ASTM C 1064; ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEG F AND BELOW OR 80 DEG F AND ABOVE, AND ONE TEST FOR EACH SET OF COMPOSITE SAMPLE. e. COMPRESSION TEST SPECIMEN: ASTM C 31; ONE SET OF FOUR STANDARD 6" DIAMETER BY 12" OR FIVE STANDARD 4" DIAMETER BY 8" CYLINDERS FOR EACH COMPRESSIVE-STRENGTH TEST, UNLESS OTHERWISE DIRECTED. MOLD AND STORE CYLINDERS FOR LABORATORY-CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURED TEST SPECIMENS ARE REQUIRED. f. COMPRESSIVE-STRENGTH TESTS: ASTM C 39; TEST ONE SPECIMEN AT 7 DAYS, TWO 6"x12" OR THREE 4"x8" SPECIMENS TESTED AT 28 DAYS, AND ONE SPECIMEN RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED. ADDITIONAL CYLINDER TESTS (SUCH AS AT 14 DAYS) FOR CONTRACTOR CONVENIENCE AND SCHEDULING SHALL BE PAID FOR BY THE CONTRACTOR. A COMPRESSIVE-STRENGTH TEST SHALL BE THE AVERAGE COMPRESSIVE STRENGTH FROM A SET OF SPECIFIED NUMBER SPECIMENS OBTAINED FROM SAME COMPOSITE SAMPLE AND TESTED AT AGE INDICATED. g. WHEN FREQUENCY OF TESTING WILL PROVIDE FEWER THAN FIVE STRENGTH TESTS FOR A GIVEN CLASS OF CONCRETE, CONDUCT TESTING FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE USED. h. WHEN STRENGTH OF FIELD-CURED CYLINDERS IS LESS THAN 85 PERCENT OF COMPANION LABORATORY-CURED CYLINDERS, CONTRACTOR SHALL EVALUATE OPERATIONS AND PROVIDE CORRECTIVE PROCEDURES FOR PROTECTING AND CURING THE IN-PLACE CONCRETE. i. STRENGTH OF EACH CONCRETE MIXTURE WILL BE SATISFACTORY IF EVERY AVERAGE OF ANY THREE CONSECUTIVE COMPRESSIVE-STRENGTH TESTS EQUALS OR EXCEEDS SPECIFIED COMPRESSIVE STRENGTH AND NO COMPRESSIVE-STRENGTH TEST VALUE FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI. 2. TEST RESULTS SHALL BE REPORTED IN WRITING TO ARCHITECT, STRUCTURAL ENGINEER, READY-MIX PRODUCER, AND CONTRACTOR WITHIN 48 HOURS OF TESTING. REPORTS OF COMPRESSIVE-STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AND INSPECTING AGENCY, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH IN STRUCTURE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIXTURE PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7- AND 28-DAY TESTS.		
	PERFORM INSPECTION OF CONCRETE PLACEMENT FOR WALLS, COLUMNS, GRADE BEAMS, FOOTINGS, FRAMED CONCRETE SLABS, BEAMS, AND JOISTS TO VERIFY PROPER APPLICATION TECHNIQUES.	CONTINUOUS	RCSI, ACI-2, NICET-1
	PERFORM INSPECTION OF CONCRETE PLACEMENT FOR SUPPORTED SLABS ON DECK AND SLAB ON GRADE TO VERIFY PROPER APPLICATION.	PERIODIC	RCSI, ACI-2, NICET-1
	PERFORM INSPECTION OF CONCRETE CURING PROCEDURES TO VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE, PROTECTION, AND TECHNIQUES.	PERIODIC	RCSI, ACI-2, NICET-1
	PROVIDE INSPECTION OF THE ERECTION OF STRUCTURAL PRECAST CONCRETE MEMBERS.	PERIODIC	RCSI, ACI-2, NICET-1
	TEST THE F-NUMBER TOLERANCES OF CONCRETE SLABS IN ACCORDANCE WITH THE PROVISIONS SET FORTH BY ASTM COMMITTEE E6.21.10. ALL TESTS SHALL BE PERFORMED WITHIN THREE WORKING DAYS AFTER CONCRETE PLACEMENT AND PRIOR TO ANY FORM REMOVAL. 1. SLABS SHALL BE TESTED FOR F-NUMBER TOLERANCES AT GYM, CAFETERIA, ALL CORRIDORS, AND TWO OUT OF EVERY TEN CLASSROOMS. CLASSROOMS TESTED SHALL BE SPACED EVENLY THROUGHOUT THE BUILDING. QUANTITY OF TEST READINGS FOR EACH AREA SHALL BE PER ASTM E1155. a. TEST ONE ADDITIONAL CLASSROOM FOR EACH CLASSROOM NOT WITHIN SPECIFIED F-NUMBER TOLERANCES. 2. SLAB AREAS SHALL BE TESTED FOR F-NUMBER TOLERANCES FOR THE FIRST 10,000 SQUARE FEET PLACED AT EACH LEVEL. THEREAFTER, TEST AN ADDITIONAL 1,000 SQUARE FEET PER 10,000 SQUARE FEET OF SLAB AREA AT EACH LEVEL. QUANTITY OF TEST READINGS FOR EACH AREA SHALL BE PER ASTM E1155.	PERIODIC	RCSI, ACI-2, NICET-1
	NONDESTRUCTIVE TESTING: IMPACT HAMMER, SONOSCOPE, OR OTHER NONDESTRUCTIVE DEVICE MAY BE PERMITTED BUT SHALL NOT BE USED AS THE SOLE BASIS FOR ACCEPTANCE OR REJECTION.	----	
	ADDITIONAL TESTS: TESTING AND INSPECTING AGENCY SHALL MAKE ADDITIONAL TESTS OF CONCRETE WHEN TEST RESULTS INDICATE THAT SLUMP, AIR ENTRAINMENT, COMPRESSIVE STRENGTHS, OR OTHER REQUIREMENTS HAVE NOT BEEN MET, AS DIRECTED BY ARCHITECT. TESTING AND INSPECTING AGENCY MAY CONDUCT TESTS TO DETERMINE ADEQUACY OF CONCRETE BY CORED CYLINDERS COMPLYING WITH ASTM C 42 OR BY OTHER METHODS AS DIRECTED BY ARCHITECT. 1. ADDITIONAL TESTING AND INSPECTING, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE COMPLIANCE OF REPLACED OR ADDITIONAL WORK WITH SPECIFIED REQUIREMENTS.	----	

COMPONENT	TEST OR SPECIAL INSPECTION	PERIODIC OR CONTINUOUS	ACCEPTABLE QUALIFICATIONS
MASONRY CONSTRUCTION (IBC 1705.4)	AT ONSET OF MASONRY CONSTRUCTION AND PERIODICALLY THEREAFTER, VERIFY PROPORTIONS OF SITE-PREPARED MORTAR, CONSTRUCTION OF MORTAR JOINTS, AND LOCATION OF REINFORCEMENT AND CONNECTORS.	PERIODIC	SMSI
	PERFORM INSPECTION TO VERIFY SIZE AND LOCATION OF STRUCTURAL ELEMENTS, TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING ANCHORAGE TO OTHER STRUCTURAL ELEMENTS, FRAMES, AND CONSTRUCTION; AND SPECIFIED SIZE, GRADE, AND TYPE OF REINFORCEMENT.	PERIODIC	SMSI
	PRIOR TO EACH GROUTING OPERATION, VERIFY CLEANLINESS OF GROUT SPACE, PLACEMENT OF ALL REINFORCEMENT AND CONNECTORS, INCLUDING LAP SPLICE LENGTHS, AND PROPORTIONS OF SITE-PREPARED GROUT.	PERIODIC	SMSI
	PERFORM INSPECTION OF GROUT PLACEMENT TO VERIFY COMPLIANCE WITH CONTRACT DOCUMENT PROVISIONS.	CONTINUOUS	SMSI
	PERFORM INSPECTION OF MASONRY CURING PROCEDURES TO VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE, PROTECTION, AND TECHNIQUES.	PERIODIC	SMSI
	FOR CONCRETE MASONRY DESIGNED IN ACCORDANCE WITH THE UNIT STRENGTH METHOD (AS SPECIFIED ON THE GENERAL NOTES), SAMPLE AND TEST GROUT COMPRESSIVE STRENGTH ACCORDING TO ASTM C 1019, MORTAR COMPRESSIVE STRENGTH ACCORDING TO ASTM C780, AND THE FOLLOWING: 1. COMPRESSION TEST SAMPLE: ONE SET OF THREE STANDARD CUBE SPECIMENS FOR EACH COMPRESSIVE-STRENGTH TEST, UNLESS OTHERWISE DIRECTED. MOLD AND STORE CUBES FOR LABORATORY-CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURED TEST SPECIMENS ARE REQUIRED. 2. COMPRESSIVE-STRENGTH TESTS: AT THE COMMENCEMENT OF CONSTRUCTION TAKE SAMPLES PRIOR TO CONSTRUCTION, THE NEXT 4 SAMPLES FOR EACH 2,500 SQ FEET OF WALL CONSTRUCTION, AND THEN FOLLOWING THEREAFTER FOR EACH 5,000 SQ FEET OF WALL CONSTRUCTION. TEST ONE SPECIMEN AT 7 DAYS, ONE SPECIMEN TESTED AT 28 DAYS, AND ONE SPECIMEN RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED.	PERIODIC	SMSI
SOILS (IBC 1705.6)	INSPECT THE EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT, AND LOAD-BEARING REQUIREMENTS FOR COMPLIANCE WITH THE RECOMMENDATIONS OF THE APPROVED GEOTECHNICAL INVESTIGATION REPORT.	PERIODIC	SSI, NICET-2S
	WHERE THE SITE IS SPECIFIED TO BE UNDERCUT BY THE GEOTECHNICAL INVESTIGATION REPORT, VERIFY ALL UNSUITABLE SOILS, DEBRIS, ROCK AND OTHER MATERIALS HAVE BEEN REMOVED FROM BELOW BUILDING FOOTPRINT. 1. VERIFY THAT TOPSOIL HAS BEEN STRIPPED AND REMOVED FROM BUILDING FOOTPRINT. 2. VERIFY ALL EXISTING UNCONTROLLED FILLS, SOFT AND UNSUITABLE SOILS HAVE BEEN REMOVED FROM BELOW APPLICABLE FOUNDATION ELEMENTS. TEST NATIVE MATERIAL AT BASE OF CUT TO ENSURE THAT UNSUITABLE MATERIAL HAS BEEN COMPLETELY REMOVED; NOTIFY ARCHITECT IF UNACCEPTABLE MATERIAL REMAINS AFTER COMPLETION OF SPECIFIED UNDERCUT. 3. FOR SOIL BEARING FOUNDATIONS, VERIFY THAT EXPANSIVE CLAYS AND BEDROCK HAVE BEEN COMPLETELY REMOVED TO ALLOW SUFFICIENT SOIL CUSHION DEPTH AS SPECIFIED. 4. AT FOUNDATIONS BEARING ON EXISTING FILL OR SHALE SOILS, PERFORM DYNAMIC CONE PENETROMETER TESTING AT EACH SPREAD FOOTING WHEN FOUNDATION EXCAVATION IS COMPLETE TO ENSURE BEARING CAPACITY IS WITHIN THE RECOMMENDED NET ALLOWABLE.	PERIODIC	SSI, NICET-2S
	OBSERVE PROOFROLLING OF THE BUILDING PAD AREAS PRIOR TO COMMENCEMENT OF FILL/SUBBASE PLACEMENT, AND DURING FILL PLACEMENT (IF REQUIRED).	PERIODIC	SSI, NICET-2S
	PRIOR TO PLACEMENT OF ANY ENGINEERED FILL, DETERMINE THAT THE SITE HAS BEEN PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE APPROVED GEOTECHNICAL INVESTIGATION REPORT. 1. TEST SAMPLES FROM PROPOSED BORROW ON- AND OFF- SITE SOURCES OF FILL FOR COMPLIANCE WITH THE APPROVED MATERIALS LISTING AND OTHER REQUIREMENTS OF THE GEOTECHNICAL REPORT AND THE SPECIFICATIONS. CLAY SOILS SHALL BE CHECKED FOR ACCEPTABLE PLASTICITY INDEX PRIOR TO MOVING ON SITE. MAXIMUM ORGANIC CONTENT SHALL BE VERIFIED BY INSPECTION OR TEST TO BE BELOW ACCEPTABLE LIMITS.	PERIODIC	SSI, NICET-2S
	DURING PLACEMENT AND COMPACTION OF THE ENGINEERED FILL MATERIAL, VERIFY THAT THE MATERIAL BEING USED, MAXIMUM LIFT THICKNESS, AND IN-PLACE DRY DENSITY COMPLY WITH THE RECOMMENDATIONS OF THE APPROVED GEOTECHNICAL REPORT. 1. SOIL FILLS SHALL BE EXEMPT FROM SPECIAL INSPECTION WHEN TOTAL FILL PLACEMENT IS LESS THAN 12 INCHES DEEP. 2. TESTING AGENCY TO INSPECT AND TEST SUBGRADES AND EACH FILL OR BACKFILL LAYER.	CONTINUOUS	SSI, NICET-2S
	FOOTING SUBGRADE: AT FOOTING SUBGRADES, AT LEAST ONE TEST OF EACH SOIL STRATUM SHALL BE PERFORMED TO VERIFY DESIGN BEARING CAPACITIES. SUBSEQUENT VERIFICATION AND APPROVAL OF OTHER FOOTING SUBGRADES MAY BE BASED ON A VISUAL COMPARISON OF SUBGRADE WITH TESTED SUBGRADE WHEN APPROVED BY ARCHITECT.	PERIODIC	SSI, NICET-2S
	TESTING AGENCY WILL TEST COMPACTION OF SOILS IN PLACE ACCORDING TO ASTM D 1556, ASTM D 2167, ASTM D 6938, AND ASTM D 2937, AS APPLICABLE. TESTS SHALL BE PERFORMED AT THE FOLLOWING LOCATIONS AND FREQUENCIES: 1. BUILDING SLAB AREAS: AT SUBGRADE AND AT EACH COMPACTED FILL AND BACKFILL LAYER, AT LEAST 1 TEST FOR EVERY

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A
S104

ISOMETRIC VIEW



NOTE:
3D VIEWS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY.
3D STRUCTURAL MODEL IS NOT GUARANTEED TO BE COMPLETE OR EXACT.
SEE ALL OTHER SHEETS FOR ACCURATE STRUCTURAL PLANS AND DETAILS

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SHEET	S104
DATE:	MAY 11, 2022
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CHECKED:	ZJW

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ISOMETRIC VIEWS

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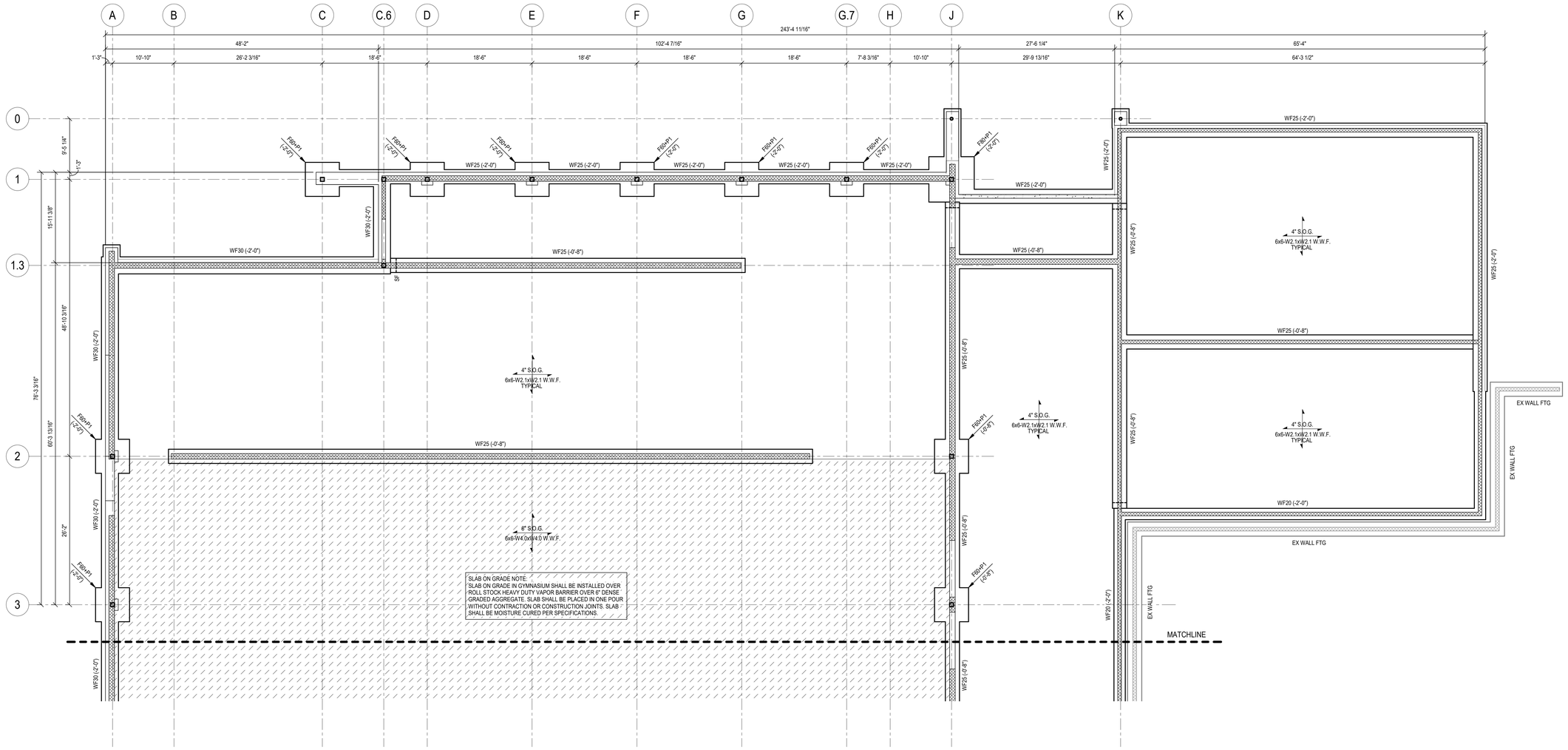
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A S201 FOUNDATION PLAN - AREA A
1/8" = 1'-0"

FOUNDATION PLAN NOTES

1. ELEVATIONS SHOWN ARE TO THE TOP OF THE FOUNDATION AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
2. CENTER ALL WALL FOOTINGS ON WALL CENTERLINE U.N.O.
3. CENTER ALL SPREAD FOOTINGS ON COLUMN GRID INTERSECTION U.N.O.
4. SEE DWG S101 FOR GENERAL NOTES.
5. SEE DWG S102 FOR SPECIAL INSPECTION NOTES.
6. SEE DWGS S301 & S302 FOR TYPICAL FOUNDATION DETAILS.
7. SEE DWG S501 FOR COLUMN SCHEDULE.
8. SLAB ON GRADE SHALL BE PLACED ON VAPOR RETARDER (SEE SPECIFICATIONS) OVER 4" MINIMUM COMPACTED CRUSHED STONE OR DENSE GRADED AGGREGATE.
9. REINFORCE SLABS ON GRADE AT RE-ENTRANT CORNERS PER DETAIL X/XXX. REINFORCING BARS MAY NOT BE SHOWN GRAPHICALLY ON PLAN IN ALL LOCATIONS.
10. ALL FOOTINGS MUST BE SUPPORTED ON UNDISTURBED SOIL CAPABLE OF SUPPORTING DESIGN LOADS WITHOUT APPRECIABLE SETTLEMENT. CONTRACTOR SHALL PROBE BEARING STRATA WITH DRIVEN RODS. REMOVE SHALLOW BEDROCK (AND OVERLYING SOIL) WITHIN ONE FOOTING WIDTH BELOW BOTTOM OF FOOTING, AND REPLACE WITH ENGINEERED SOIL BACKFILL.

---------OR----------

11. ALL FOOTINGS MUST BE SUPPORTED ON BEDROCK OR STRUCTURAL FLOWABLE FILL / LEAN CONCRETE PLACED OVER BEDROCK. REMOVE ALL SOIL BETWEEN PROPOSED FOUNDATION AND BEDROCK.

FOUNDATION LEGEND

F40	= SPREAD FOOTING. SEE SCHEDULE.
WF40	= WALL FOOTING. SEE SCHEDULE.
RWF40	= RETAINING WALL FOOTING. SEE SCHEDULE.
P1	= COLUMN PIER. SEE DETAIL X/XXX.
SF	= STEP FOOTING. SEE DETAIL X/XXX.
(-0'-8")	= TOP OF FOOTING ELEVATION.
2" per foot	= EXTENT OF SLAB DEPRESSION. DEPTH MEASURED FROM ADJACENT TOP OF CONCRETE.
SJ	= SAWN CONTRACTION JOINT. SEE DETAIL X/XXX.
CJ	= CONSTRUCTION JOINT. SEE DETAIL X/XXX.
	= C.M.U. WALL REINFORCED W/ #?@?'' O.C. VERT CENTERED IN CORE.
	= C.M.U. WALL REINFORCED W/ #?@?'' O.C. VERT CENTERED IN CORE.
	= CONCRETE WALL.
	= MASONRY NON-BEARING PARTITION WALL. SEE ARCH DWGS FOR WALL THICKNESS, TYPE AND LAYOUT. COMPOSITE PRECAST CONCRETE FLOOR STRUCTURE TO BE DESIGNED TO SUPPORT PARTITION WEIGHT WITH A MAXIMUM DEFLECTION OF L/600 DUE TO LIVE LOAD, PARTITION WEIGHT AND 10 PSF COLLATERAL DEAD LOAD. WEIGHT OF PARTITION IS AS FOLLOWS: 4" C.M.U. PARTITION 320 PLF 6" C.M.U. PARTITION 340 PLF 8" C.M.U. PARTITION 440 PLF

TAG NOTES

1. TAG NOTE 1.
2. TAG NOTE 2.

WALL FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCING CONT BOTTOM	TRANSVERSE REINFORCING BOTTOM
WF20	2'-0"	1'-0"	(2) #5	#4@96" O.C.
WF25	2'-6"	1'-0"	(3) #5	#4@96" O.C.
WF30	3'-0"	1'-0"	(3) #5	#4@96" O.C.

SPREAD FOOTING SCHEDULE

MARK	LENGTH	WIDTH	THICKNESS	REINFORCING E.W. BOTTOM
F60	6'-0"	6'-0"	1'-0"	(6) #5
F80	8'-0"	8'-0"	1'-0"	(6) #5

PROJECT N W E S TRUE

REFERENCE ELEVATION (0'-0") = ????'-?" SEA LEVEL

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GARRARD COUNTY HIGH SCHOOL
FINAL PHASE

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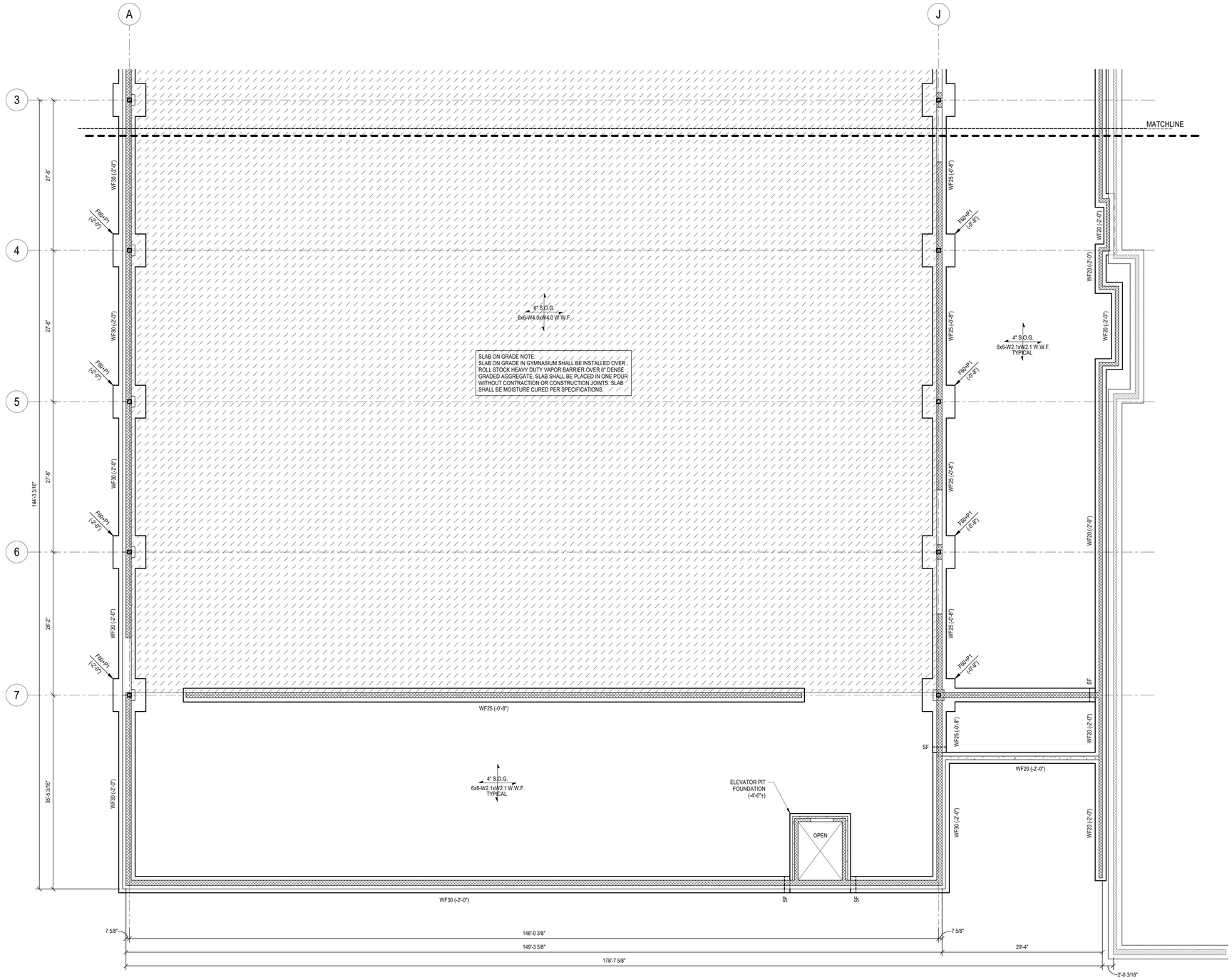
FOUNDATION PLAN - AREA A

DATE: MAY 11, 2022

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SHEET S201
JOB# 22031
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A S202 FOUNDATION PLAN - AREA B

1/8" = 1'-0"

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FOUNDATION PLAN NOTES

1. ELEVATIONS SHOWN ARE TO THE TOP OF THE FOUNDATION AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
2. CENTER ALL WALL FOOTINGS ON WALL CENTERLINE U.N.O.
3. CENTER ALL SPREAD FOOTINGS ON COLUMN GRID INTERSECTION U.N.O.
4. SEE DWG S101 FOR GENERAL NOTES.
5. SEE DWG S102 FOR SPECIAL INSPECTION NOTES.
6. SEE DWGS S301 & S302 FOR TYPICAL FOUNDATION DETAILS.
7. SEE DWG S501 FOR COLUMN SCHEDULE.
8. SLAB ON GRADE SHALL BE PLACED ON VAPOR RETARDER (SEE SPECIFICATIONS) OVER 4" MINIMUM COMPACTED CRUSHED STONE OR DENSE GRADED AGGREGATE.
9. REINFORCE SLABS ON GRADE AT RE-ENTRANT CORNERS PER DETAIL X/XXX. REINFORCING BARS MAY NOT BE SHOWN GRAPHICALLY ON PLAN IN ALL LOCATIONS.
10. ALL FOOTINGS MUST BE SUPPORTED ON UNDISTURBED SOIL CAPABLE OF SUPPORTING DESIGN LOADS WITHOUT APPRECIABLE SETTLEMENT. CONTRACTOR SHALL PROBE BEARING STRATA WITH DRIVEN RODS. REMOVE SHALLOW BEDROCK (AND OVERLYING SOIL) WITHIN ONE FOOTING WIDTH BELOW BOTTOM OF FOOTING, AND REPLACE WITH ENGINEERED SOIL BACKFILL.

----------OR----------

11. ALL FOOTINGS MUST BE SUPPORTED ON BEDROCK OR STRUCTURAL FLOWABLE FILL / LEAN CONCRETE PLACED OVER BEDROCK. REMOVE ALL SOIL BETWEEN PROPOSED FOUNDATION AND BEDROCK.

FOUNDATION LEGEND

F40	= SPREAD FOOTING. SEE SCHEDULE.
WF40	= WALL FOOTING. SEE SCHEDULE.
RWF40	= RETAINING WALL FOOTING. SEE SCHEDULE.
P1	= COLUMN PIER. SEE DETAIL X/XXX.
SF	= STEP FOOTING. SEE DETAIL X/XXX.
(-0'-8")	= TOP OF FOOTING ELEVATION.
2"	= EXTENT OF SLAB DEPRESSION. DEPTH MEASURED FROM ADJACENT TOP OF CONCRETE.
SJ	= SAWN CONTRACTION JOINT. SEE DETAIL X/XXX.
CJ	= CONSTRUCTION JOINT. SEE DETAIL X/XXX.
	= C.M.U. WALL REINFORCED W/ #?@?? O.C. VERT CENTERED IN CORE.
	= C.M.U. WALL REINFORCED W/ #?@?? O.C. VERT CENTERED IN CORE.
	= CONCRETE WALL.
	= MASONRY NON-BEARING PARTITION WALL. SEE ARCH DWGS FOR WALL THICKNESS, TYPE AND LAYOUT. COMPOSITE PRECAST CONCRETE FLOOR STRUCTURE TO BE DESIGNED TO SUPPORT PARTITION WEIGHT WITH A MAXIMUM DEFLECTION OF L/600 DUE TO LIVE LOAD, PARTITION WEIGHT AND 10 PSF COLLATERAL DEAD LOAD. WEIGHT OF PARTITION IS AS FOLLOWS: 4" C.M.U. PARTITION 320 PLF 6" C.M.U. PARTITION 340 PLF 8" C.M.U. PARTITION 440 PLF

TAG NOTES

1. TAG NOTE 1.
2. TAG NOTE 2.

WALL FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCING CONT BOTTOM	TRANSVERSE REINFORCING BOTTOM
WF20	2'-0"	1'-0"	(2) #5	#4@96" O.C.
WF25	2'-6"	1'-0"	(3) #5	#4@96" O.C.
WF30	3'-0"	1'-0"	(3) #5	#4@96" O.C.

SPREAD FOOTING SCHEDULE

MARK	LENGTH	WIDTH	THICKNESS	REINFORCING E.W. BOTTOM
F60	6'-0"	6'-0"	1'-0"	(6) #5
F80	8'-0"	8'-0"	1'-0"	(6) #5

PROJECT N W E S TRUE

REFERENCE ELEVATION (0'-0") = ????-7" SEA LEVEL

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FOUNDATION PLAN - AREA B

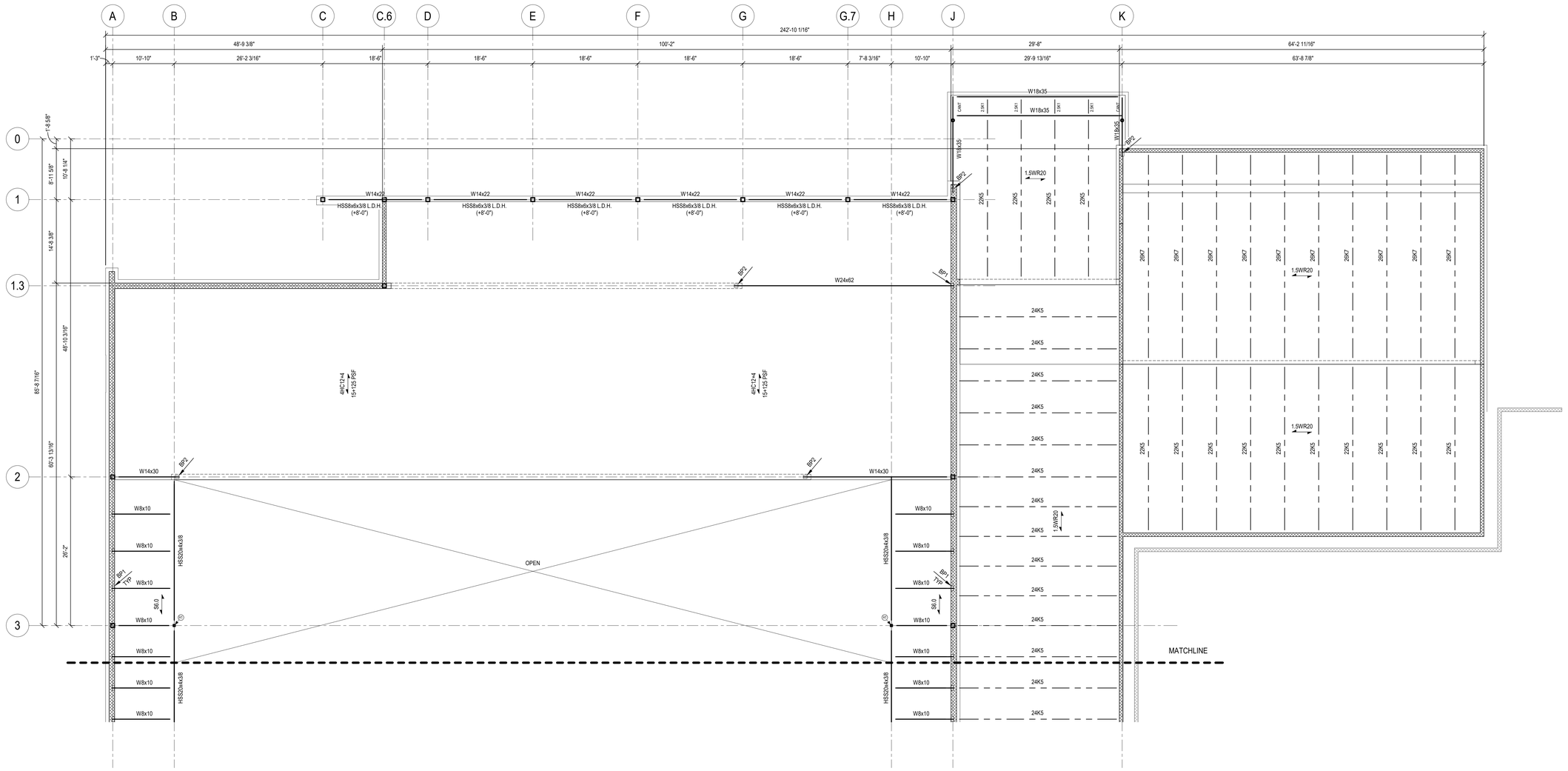
DATE: MAY 11, 2022

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SHEET S202

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CHECKED: ZJW

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A / S203 TRACK LEVEL - AREA A

1/8" = 1'-0"

FRAMING PLAN NOTES

1. ELEVATIONS SHOWN ARE TO THE TOP OF STEEL AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
2. FINISHED TRACK LEVEL ELEVATION (+15'-4").
3. TOP OF TRACK LEVEL STEEL BEAMS = (+15'-0") U.N.O.
4. SEE DWG S101 FOR GENERAL NOTES.
5. SEE DWG S102 FOR SPECIAL INSPECTION NOTES.
6. SEE DWG S401 & S402 FOR TYPICAL FRAMING DETAILS.
7. SEE DWGS S501 FOR COLUMN SCHEDULE.
8. SPACE BEAMS / JOISTS EVENLY THROUGHOUT BAY U.N.O.
9. SIZE AND LOCATION OF ROOF TOP MECHANICAL UNITS SHALL BE COORDINATED WITH THE MECHANICAL CONTRACTOR. OPERATING WEIGHT OF UNIT (INCLUDING CURBS) SHALL NOT EXCEED WEIGHT SHOWN ON PLAN. SEE __/____ FOR ADDITIONAL FRAMING REQUIREMENTS AT UNITS.

TAG NOTES

1. TAG NOTE 1.
2. TAG NOTE 2.

FRAMING LEGEND

- 1.5WR20 = 1 1/2" 20 GA GALVANIZED WIDE RIB STEEL ROOF DECK.
- S5.0 = 4" NORMAL WEIGHT CONCRETE REINFORCED W/ 6x6-W2.1xW2.1 W.W.F. ON 2" 20 GA GALVANIZED COMPOSITE STEEL FLOOR DECK (6" TOTAL THICKNESS).
- [+X'-X"] / [SD=X"] = TOP OF STEEL (BOTTOM OF DECK) SPOT ELEVATION. SLOPE STEEL EVENLY BETWEEN POINTS. DROP STEEL JOIST SUPPORT BEAMS/ BEARING PLATES BY DEPTH OF JOIST SEAT (SIGNIFIED AS SD - SEAT DEPTH). WHERE NO SEAT DEPTH IS SPECIFIED, DEPTH SHALL BE SJI STANDARD FOR TYPE OF JOIST. SEAT DEPTH GIVEN AT CENTERLINE OF GIRDER OR END OF BEARING PLATE NEAREST CENTER OF BEARING WALL.
- W16x26 (15k) / (±0'-0") = STEEL BEAM SIZE. SERVICE LOAD REACTION (KIPS) EACH END. TOP OF STEEL BEAM ELEVATION REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
- 4HC8+2 / 15+50 PSF = PANEL WIDTH (FEET). PRECAST HOLLOW-CORE PLANK. PLANK DEPTH (INCHES). CONCRETE TOPPING SLAB THICKNESS (INCHES). SUPERIMPOSED SERVICE LOAD (DL+LL) (SEE PLANS FOR ADDITIONAL POINT LOADS).
- BC1 = MOMENT CONNECTION. SEE DETAIL X/XXX.
- H7 = STEEL HANGER BELOW. SEE X/XXX FOR SCHEDULE.
- = C.M.U. WALL REINFORCED W/ #?@?'? O.C. VERT CENTERED IN CORE.
- = C.M.U. WALL REINFORCED W/ #?@?'? O.C. VERT CENTERED IN CORE.
- = MASONRY NON-BEARING PARTITION WALL. SEE ARCH DWGS FOR WALL THICKNESS, TYPE AND LAYOUT. COMPOSITE PRECAST CONCRETE FLOOR STRUCTURE TO BE DESIGNED TO SUPPORT PARTITION WEIGHT WITH A MAXIMUM DEFLECTION OF L/600 DUE TO LIVE LOAD, PARTITION WEIGHT AND 10 PSF COLLATERAL DEAD LOAD. WEIGHT OF PARTITION IS AS FOLLOWS:
  - 4" C.M.U. PARTITION 320 PLF
  - 6" C.M.U. PARTITION 340 PLF
  - 8" C.M.U. PARTITION 440 PLF
- = WALL BELOW DECK.
- BP1 = STEEL BEARING PLATE. SEE DETAIL X/XXX.
- PB1 = MASONRY PARTITION BRACE. SEE DETAIL X/XXX.
- BC1 = BEAM COPE. SEE DETAIL X/XXX.
- L1 = STEEL LINTEL. SEE DET X/XXX FOR SCHEDULE.
- ML8 = MASONRY LINTEL. SEE DET X/XXX FOR SCHEDULE.
- FB1 = BEAM BOTTOM FLANGE BRACE. SEE DETAIL X/XXX.
- CANT = CANTILEVER BEAM END. SEE DET X/XX.
- "Z" = EXTENT OF SLAB DEPRESSION. DEPTH MEASURED FROM ADJACENT TOP OF CONCRETE.
- 12 / 1/4 = ROOF SLOPE.
- RD = ROOF DRAIN. SEE DET X/XXX FOR FRAMING REQUIREMENTS. SEE ARCH DWGS FOR LOCATIONS.

PROJECT / TRUE

REFERENCE ELEVATION (0'-0") = ????'-?" SEA LEVEL

NOT FOR CONSTRUCTION

100% DD SET

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2224 Young Dr. | Lexington, KY 40505
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Suite 100
Lexington, Kentucky 40517
859.273.3700

GARRARD COUNTY HIGH SCHOOL
FINAL PHASE

FOR THE
GARRARD COUNTY BOARD OF EDUCATION

TRACK LEVEL/LOW ROOF FRAMING PLAN - AREA A

DATE: MAY 11, 2022

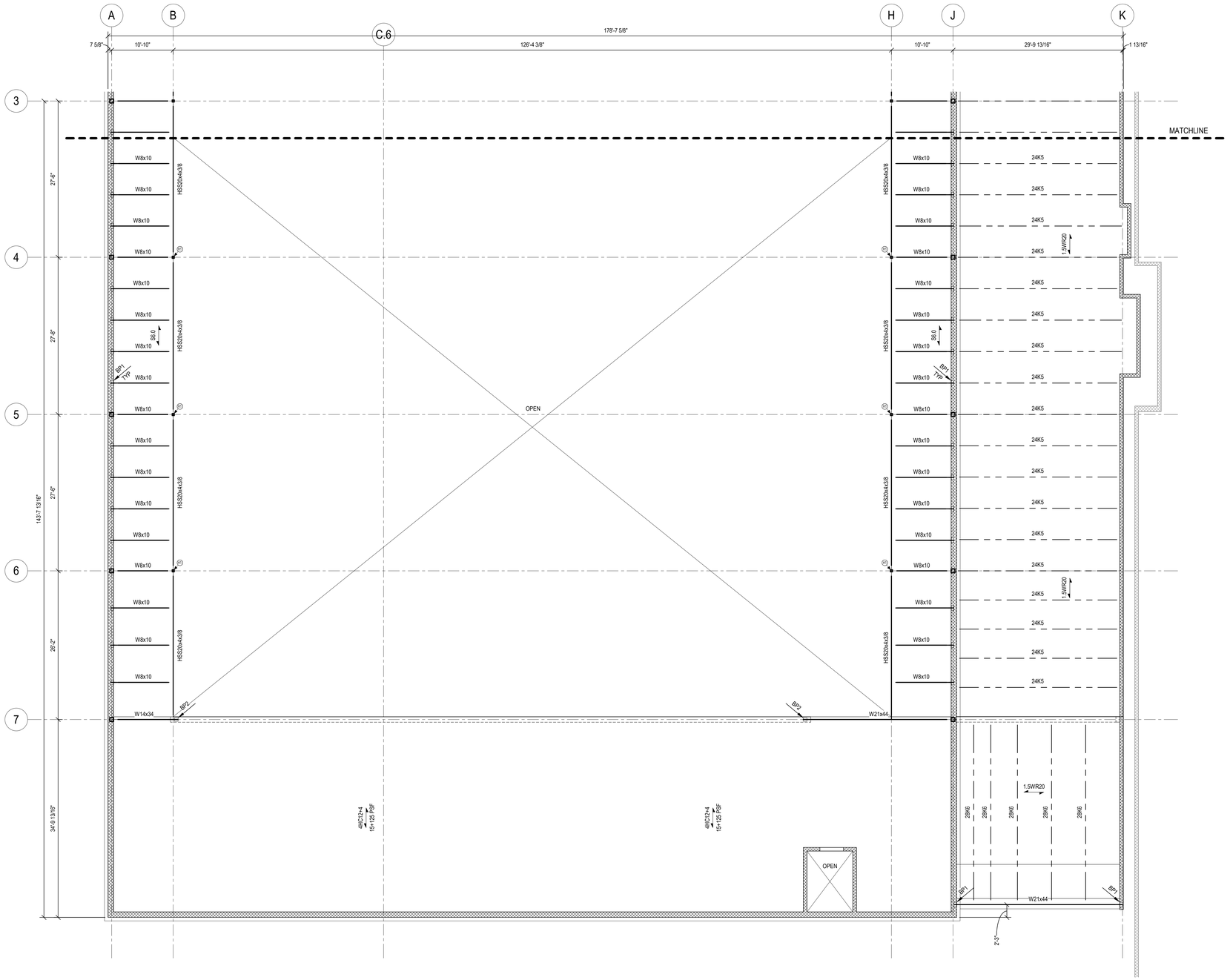
REVISED: 1 2 3 4 5

SHEET S203

DRAWN: JCBM
CHECKED: ZJW

22031
MSC

5/11/2022 12:56:03 PM



A S204 TRACK LEVEL - AREA B

1/8" = 1'-0"

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FRAMING PLAN NOTES

1. ELEVATIONS SHOWN ARE TO THE TOP OF STEEL AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
2. FINISHED TRACK LEVEL ELEVATION (+15'-4").
3. TOP OF TRACK LEVEL STEEL BEAMS = (+15'-0") U.N.O.
4. SEE DWG S101 FOR GENERAL NOTES.
5. SEE DWG S102 FOR SPECIAL INSPECTION NOTES.
6. SEE DWG S401 & S402 FOR TYPICAL FRAMING DETAILS.
7. SEE DWGS S501 FOR COLUMN SCHEDULE.
8. SPACE BEAMS / JOISTS EVENLY THROUGHOUT BAY U.N.O.
9. SIZE AND LOCATION OF ROOF TOP MECHANICAL UNITS SHALL BE COORDINATED WITH THE MECHANICAL CONTRACTOR. OPERATING WEIGHT OF UNIT (INCLUDING CURBS) SHALL NOT EXCEED WEIGHT SHOWN ON PLAN. SEE _____ FOR ADDITIONAL FRAMING REQUIREMENTS AT UNITS.

FRAMING LEGEND

1.0WR20 = 1 1/2" 20 GA GALVANIZED WIDE RIB STEEL ROOF DECK.

3.0DR18 = 3" 18 GA GALVANIZED DEEP RIB STEEL ROOF DECK.

S6.0 = 4" NORMAL WEIGHT CONCRETE REINFORCED W/ 6x6-W2.1xW2.1 W.W.F. ON 2" 20 GA GALVANIZED COMPOSITE STEEL FLOOR DECK (6" TOTAL THICKNESS).

XX'-X" SDXX" = TOP OF STEEL (BOTTOM OF DECK) SPOT ELEVATION. SLOPE STEEL EVENLY BETWEEN POINTS. DROP STEEL JOIST SUPPORT BEAMS/ BEARING PLATES BY DEPTH OF JOIST SEAT (SIGNIFIED AS SD - SEAT DEPTH). WHERE NO SEAT DEPTH IS SPECIFIED, DEPTH SHALL BE SJI STANDARD FOR TYPE OF JOIST. SEAT DEPTH GIVEN AT CENTERLINE OF GIRDER OR END OF BEARING PLATE NEAREST CENTER OF BEARING WALL.

W16x26 (15k) — STEEL BEAM SIZE, SERVICE LOAD REACTION (KIPS) EACH END.
(±0'-0") = TOP OF STEEL BEAM ELEVATION REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").

4HC8x2 — PANEL WIDTH (FEET), PRECAST HOLLOW-CORE PLANK, PLANK DEPTH (INCHES), CONCRETE TOPPING SLAB THICKNESS (INCHES).
15+50 PSF — SUPERIMPOSED SERVICE LOAD (DL+LL) (SEE PLANS FOR ADDITIONAL POINT LOADS).

MC1 = MOMENT CONNECTION. SEE DETAIL X/XXX.

H7 = STEEL HANGER BELOW. SEE X/XXX FOR SCHEDULE.

= C.M.U. WALL REINFORCED W/ #?@?'? O.C. VERT CENTERED IN CORE.

= C.M.U. WALL REINFORCED W/ #?@?'? O.C. VERT CENTERED IN CORE.

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4" C.M.U. PARTITION 320 PLF
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8" C.M.U. PARTITION 440 PLF

= WALL BELOW DECK.

BP1 = STEEL BEARING PLATE. SEE DETAIL X/XXX.

PB1 = MASONRY PARTITION BRACE. SEE DETAIL X/XXX.

BC1 = BEAM COPE. SEE DETAIL X/XXX.

L1 = STEEL LINTEL. SEE DET X/XXX FOR SCHEDULE.

ML8 = MASONRY LINTEL. SEE DET X/XXX FOR SCHEDULE.

FB1 = BEAM BOTTOM FLANGE BRACE. SEE DETAIL X/XXX.

CANT = CANTILEVER BEAM END. SEE DET X/XX.

2" = EXTENT OF SLAB DEPRESSION. DEPTH MEASURED FROM ADJACENT TOP OF CONCRETE.

12 / 1/4 = ROOF SLOPE.

RD = ROOF DRAIN. SEE DET X/XXX FOR FRAMING REQUIREMENTS. SEE ARCH DWGS FOR LOCATIONS.

TAG NOTES

1. TAG NOTE 1.
2. TAG NOTE 2.

PROJECT N E S W

TRUE N E S W

REFERENCE ELEVATION (0'-0") = ????'-?" SEA LEVEL

NOT FOR CONSTRUCTION

100% DD SET

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FINAL PHASE

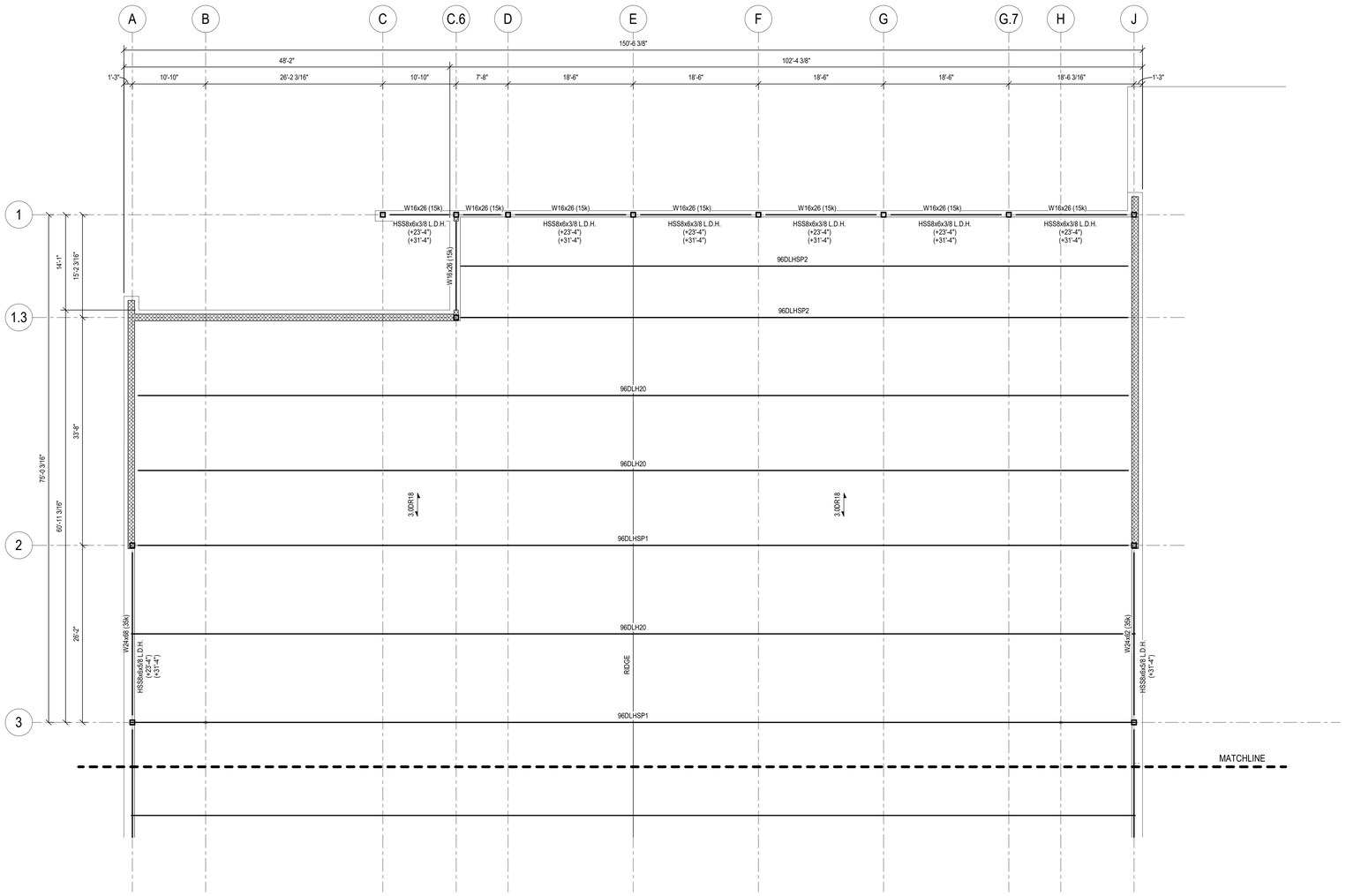
FOR THE
GARRARD COUNTY BOARD OF EDUCATION

TRACK LEVEL/LOW ROOF FRAMING PLAN AREA B

DATE: MAY 11, 2022
REVISED: 1 2 3 4 5

SHEET S204
JOB# 22031
DRAWN: MSC
CHECKED: ZJW

5/11/2022 12:56:04 PM



A
S205
ROOF PLAN - AREA A
1/8" = 1'-0"

FRAMING PLAN NOTES

1. ELEVATIONS SHOWN ARE TO THE TOP OF STEEL AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
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5. SEE DWG S102 FOR SPECIAL INSPECTION NOTES.
6. SEE DWG S401 & S402 FOR TYPICAL FRAMING DETAILS.
7. SEE DWGS S501 FOR COLUMN SCHEDULE.
8. SPACE BEAMS / JOISTS EVENLY THROUGHOUT BAY U.N.O.
9. SIZE AND LOCATION OF ROOF TOP MECHANICAL UNITS SHALL BE COORDINATED WITH THE MECHANICAL CONTRACTOR. OPERATING WEIGHT OF UNIT (INCLUDING CURBS) SHALL NOT EXCEED WEIGHT SHOWN ON PLAN. SEE _____ FOR ADDITIONAL FRAMING REQUIREMENTS AT UNITS.

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3.0DR18 = 3" 18 GA GALVANIZED DEEP RIB STEEL ROOF DECK.

S6.0 = 4" NORMAL WEIGHT CONCRETE REINFORCED W/ 6x6-W2.1xW2.1 W.W.F. ON 2" 20 GA GALVANIZED COMPOSITE STEEL FLOOR DECK (6" TOTAL THICKNESS).

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H1 = STEEL HANGER BELOW. SEE X/XXX FOR SCHEDULE.

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= WALL BELOW DECK.

BP1 = STEEL BEARING PLATE. SEE DETAIL X/XXX.

PB1 = MASONRY PARTITION BRACE. SEE DETAIL X/XXX.

BC1 = BEAM COPE. SEE DETAIL X/XXX.

L1 = STEEL LINTEL. SEE DET X/XXX FOR SCHEDULE.

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12 / 1/4 = ROOF SLOPE.

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TAG NOTES

1 TAG NOTE 1.
2 TAG NOTE 2.

PROJECT N W E S
TRUE

REFERENCE ELEVATION (0'-0") = ????'-?" SEA LEVEL

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GARRARD COUNTY HIGH SCHOOL
FINAL PHASE

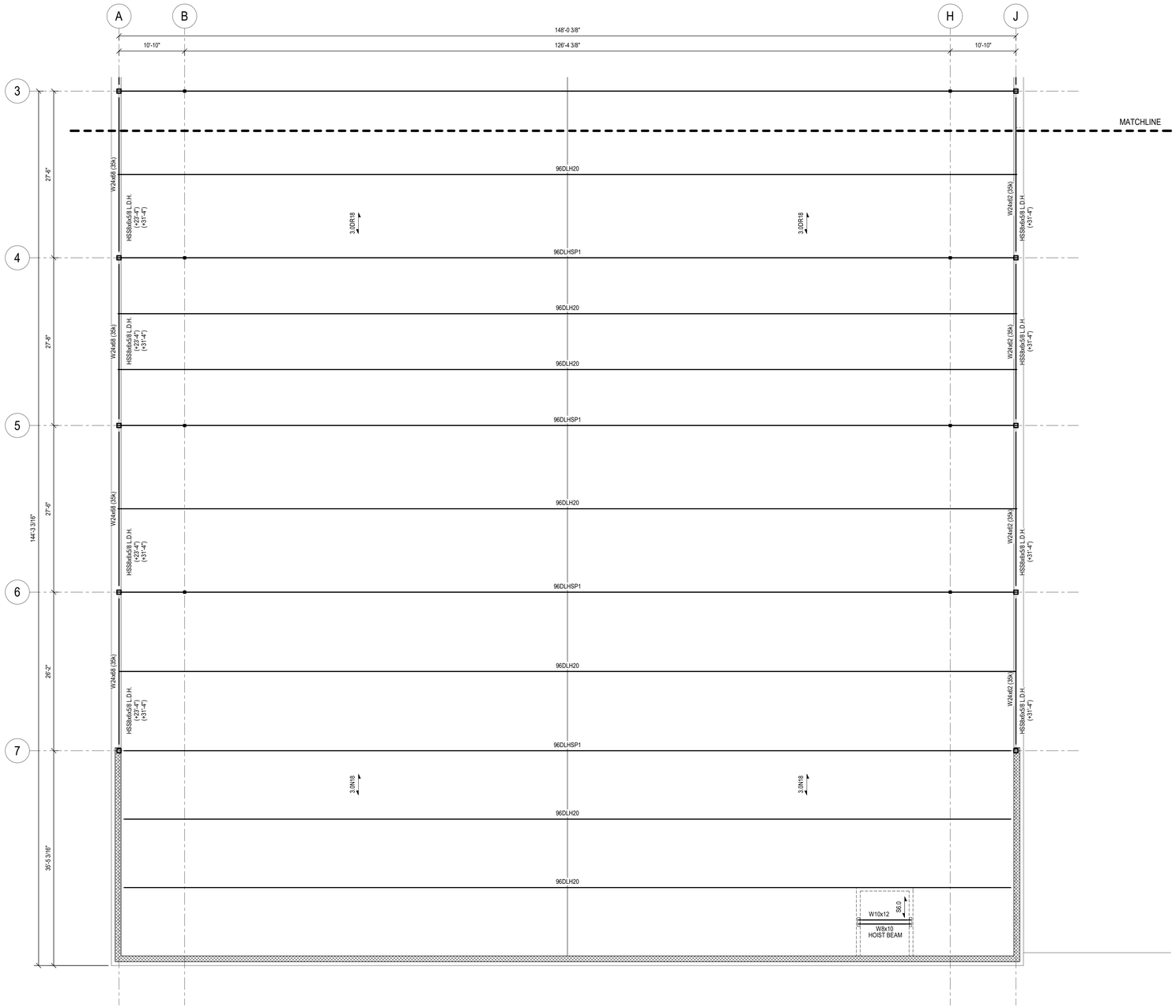
FOR THE
GARRARD COUNTY BOARD OF EDUCATION

ROOF FRAMING PLAN-AREA A

DATE: MAY 11, 2022
REVISED
1 2 3 4 5

SHEET S205
JOB# 22031
DRAWN: MSC
CHECKED: ZJW

5/11/2022 12:56:04 PM



A S206 ROOF PLAN - AREA B

1/8" = 1'-0"

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FRAMING PLAN NOTES

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9. SIZE AND LOCATION OF ROOF TOP MECHANICAL UNITS SHALL BE COORDINATED WITH THE MECHANICAL CONTRACTOR. OPERATING WEIGHT OF UNIT (INCLUDING CURBS) SHALL NOT EXCEED WEIGHT SHOWN ON PLAN. SEE _____ FOR ADDITIONAL FRAMING REQUIREMENTS AT UNITS.

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MC1 — = MOMENT CONNECTION. SEE DETAIL X/XXX.

ST — = STEEL HANGER BELOW. SEE X/XXX FOR SCHEDULE.

= C.M.U. WALL REINFORCED W/ #?@?? O.C. VERT CENTERED IN CORE.

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8" C.M.U. PARTITION 440 PLF

= WALL BELOW DECK.

BP1 — = STEEL BEARING PLATE. SEE DETAIL X/XXX.

PB1 — = MASONRY PARTITION BRACE. SEE DETAIL X/XXX.

BC1 — = BEAM COPE. SEE DETAIL X/XXX.

L1 — = STEEL LINTEL. SEE DET X/XXX FOR SCHEDULE.

ML8 — = MASONRY LINTEL. SEE DET X/XXX FOR SCHEDULE.

FB1 — = BEAM BOTTOM FLANGE BRACE. SEE DETAIL X/XXX.

CANT — = CANTILEVER BEAM END. SEE DET X/XX.

2" — = EXTENT OF SLAB DEPRESSION. DEPTH MEASURED FROM ADJACENT TOP OF CONCRETE.

12 / 1/4 — = ROOF SLOPE.

RD — = ROOF DRAIN. SEE DET X/XXX FOR FRAMING REQUIREMENTS. SEE ARCH DWGS FOR LOCATIONS.

TAG NOTES

1. TAG NOTE 1.
2. TAG NOTE 2.

PROJECT N W E S — TRUE

REFERENCE ELEVATION (0'-0") = ????-?' SEA LEVEL

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FINAL PHASE

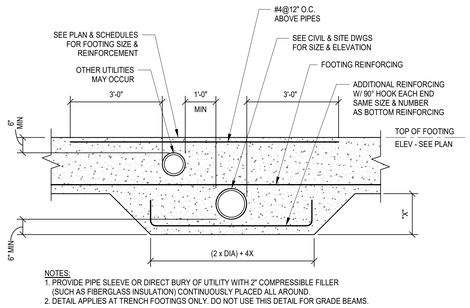
FOR THE
GARRARD COUNTY BOARD OF EDUCATION

ROOF FRAMING PLAN AREA B

DATE: MAY 11, 2022
REVISED: 1 2 3 4 5

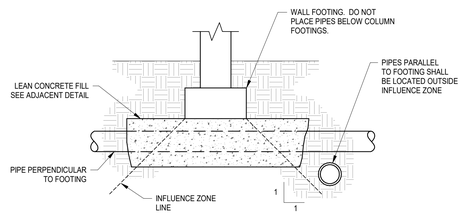
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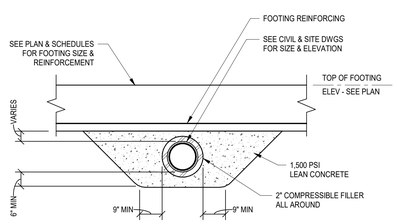
NOTES:
1. PROVIDE PIPE SLEEVE OR DIRECT BURY OF UTILITY WITH 2" COMPRESSIBLE FILLER (SUCH AS FIBERGLASS INSULATION) CONTINUOUSLY PLACED ALL AROUND.
2. DETAIL APPLIES AT TRENCH FOOTINGS ONLY. DO NOT USE THIS DETAIL FOR GRADE BEAMS.

A S301 TYPICAL FOOTING PENETRATION/SLEEVE DETAIL
1/2" = 1'-0"



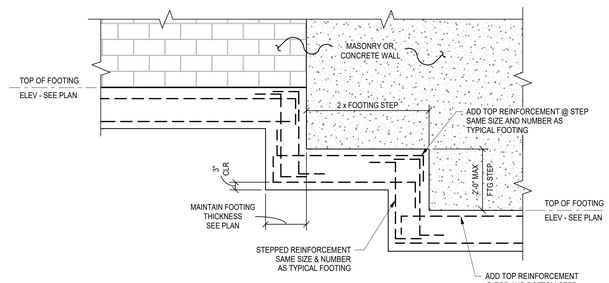
INFLUENCE ZONE

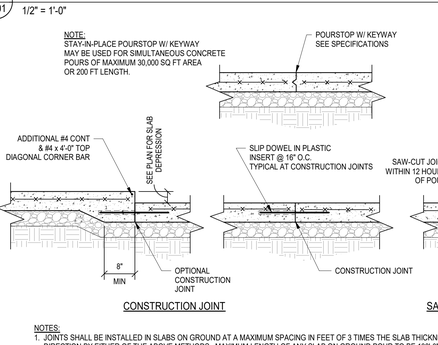
B S301 TYPICAL UTILITY LINE BELOW FOOTING DETAIL
1/2" = 1'-0"



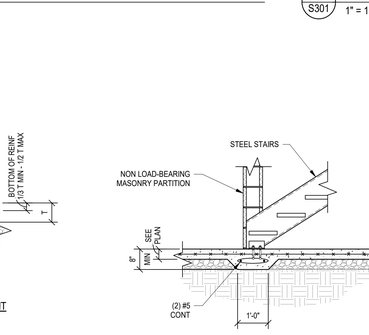
NOTES:
1. PROVIDE CONCRETE PROTECTION AROUND UTILITY LINE WHEN LINE IS WITHIN FOOTING INFLUENCE ZONE. SEE ADJACENT DETAIL FOR INFLUENCE ZONE DEFINITION.
2. DETAIL APPLIES WHEREVER TOP OF PIPE IS WITHIN 4 PIPE DIAMETERS TO BOTTOM OF FOOTING OR IF UTILITY IS INSTALLED AFTER FOOTING PLACEMENT (REGARDLESS OF DEPTH).
3. PROVIDE PIPE SLEEVE OR DIRECT BURY OF UTILITY WITH 2" COMPRESSIBLE FILLER (SUCH AS FIBERGLASS INSULATION) CONTINUOUSLY PLACED ALL AROUND.

C S301 TYPICAL STEP FOOTING DETAIL
1/2" = 1'-0"



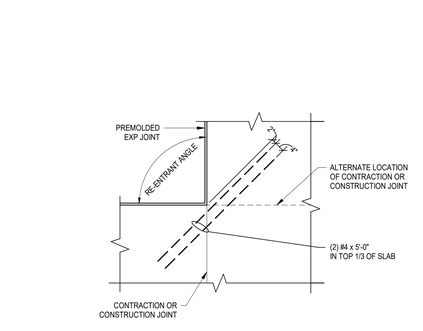


D S301 TYPICAL STEEL COLUMN, PIER, AND FOOTING DETAIL
1/2" = 1'-0"



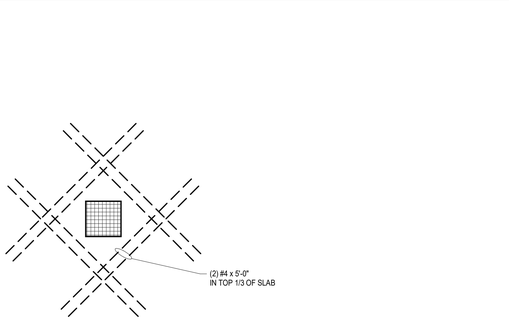
NOTE:
WHERE BAR SIZES DIFFER, LAP FOR LARGER SIZE.

E S301 TYPICAL CONCRETE WALL REINFORCING DETAIL
1/2" = 1'-0"



NOTE:
WHERE BAR SIZES DIFFER, LAP FOR LARGER SIZE.

F S301 TYPICAL CONCRETE WALL REINFORCING DETAIL
1/2" = 1'-0"



NOTES:
1. MAXIMUM LENGTH OF WALL POUR = 40'-0".
2. PERMIT 48 HOURS BETWEEN ADJACENT POURS.
3. SEE PLANS FOR ADDITIONAL JOINT LOCATIONS.
4. FOR STEM WALLS THAT ARE BELOW GRADE (BOTH SIDES), MAXIMUM POUR LENGTH MAY BE INCREASED TO 60'-0".

G S301 TYPICAL CONCRETE WALL CONSTRUCTION JOINT DETAIL
1/2" = 1'-0"

PLAN

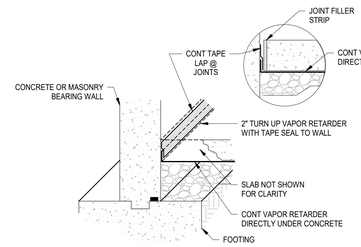
PLAN

SECTION
TYPICAL INTERIOR COLUMN

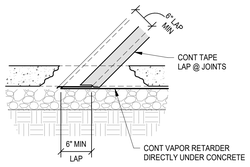
SECTION
TYPICAL PERIMETER COLUMN

H S301 TYPICAL STEEL COLUMN AND FOOTING DETAIL
1/2" = 1'-0"

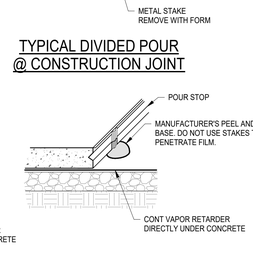
NOTES:
1. PROVIDE VAPOR RETARDER THAT IS RESISTANT TO DETERIORATION WHEN TESTED ACCORDING TO ASTM E 154. SEE SPECIFICATION SECTION 033000.
2. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.
3. SEAL ALL PENETRATIONS AND REPAIR ALL DAMAGED SURFACES WITH APPROVED JOINT TAPE OR MASTIC.
4. PREPARE ALL SURFACES FOR PROPER ADHESION WITH APPROVED TAPE. ALL SURFACES SHALL BE CLEAN, DRY, AND FROST FREE.
5. TURN UP BARRIER AT ALL EXTERIOR OR INTERIOR WALL SURFACES AND SEAL WITH APPROVED TAPE.



TYPICAL @ WALL

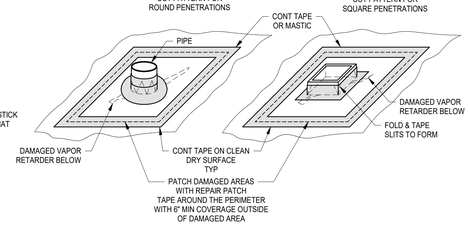


TYPICAL @ SEAM



TYPICAL DIVIDED POUR
@ CONSTRUCTION JOINT

OPTIONAL SIMULTANEOUS POUR
@ CONSTRUCTION JOINT



TYPICAL PIPE REPAIR TYPICAL RECTANGULAR REPAIR

J S301 TYPICAL VAPOR RETARDER DETAILS
1" = 1'-0"

CONSTRUCTION JOINT

SAWN CONTRACTION JOINT

NOTES:
1. JOINTS SHALL BE INSTALLED IN SLABS ON GROUND AT A MAXIMUM SPACING IN FEET OF 3 TIMES THE SLAB THICKNESS IN INCHES IN EACH DIRECTION BY EITHER OF THE ABOVE METHODS. MAXIMUM LENGTH OF ANY SLAB ON GROUND POUR TO BE 100'-0" BETWEEN CONSTRUCTION JOINTS. RATIO OF LENGTH TO WIDTH SHALL NOT EXCEED 2. THIS SPACING OF JOINTS SHALL APPLY UNLESS SPECIFICALLY SHOWN OTHERWISE.
2. WELDED WIRE FABRIC SHALL BE DISCONTINUOUS THROUGH CONSTRUCTION JOINTS.

K S301 SLAB ON GROUND JOINT DETAIL
3/4" = 1'-0"

L S301 TYPICAL THICKENED SLAB BELOW MASONRY PARTITIONS AND STEEL STAIRS DETAIL
1/2" = 1'-0"

M S301 TYPICAL SLAB ON GRADE JOINT AT RE-ENTRANT CORNER
1/2" = 1'-0"

N S301 TYPICAL SLAB REINFORCEMENT AT FLOOR BOXES, TRENCH DRAINS, ETC DETAIL
1/2" = 1'-0"

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FINAL PHASE

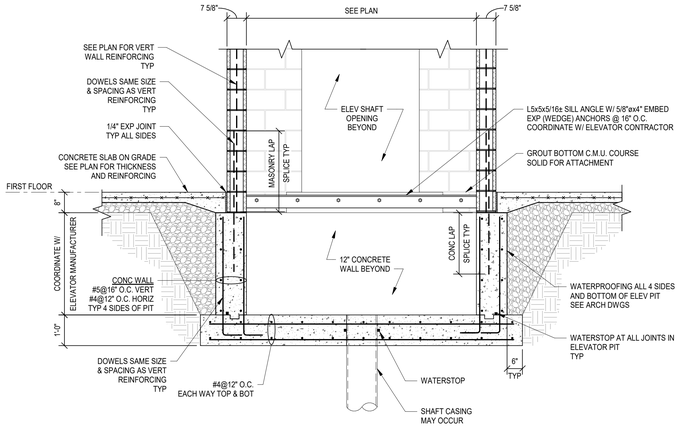
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TYPICAL FOUNDATION DETAILS

DATE: MAY 11, 2022
REVISED: 1 2 3 4 5

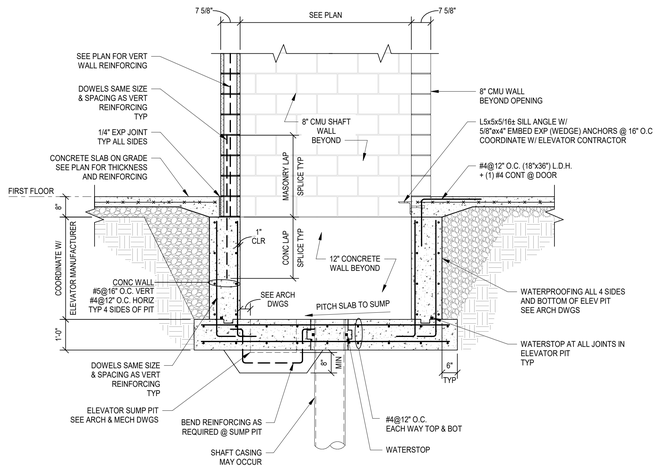
SHEET S301
JOB# 22031
DRAWN: MSC
CHECKED: ZJW

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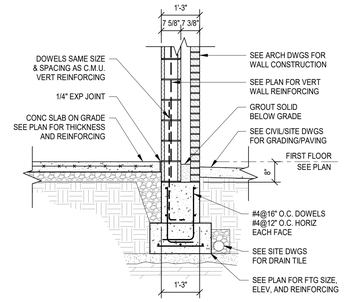
A S302 ELEVATOR PIT SECTION

1/2" = 1'-0"



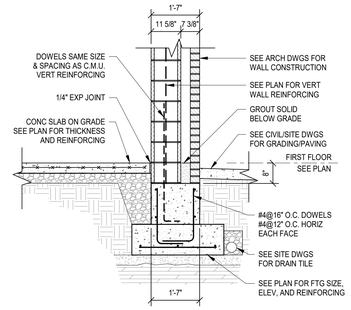
B S302 ELEVATOR PIT SECTION @ DOOR

1/2" = 1'-0"



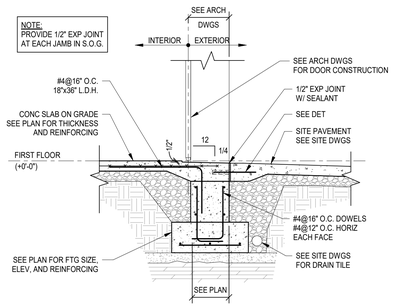
C S302 SECTION

1/2" = 1'-0"



D S302 SECTION

1/2" = 1'-0"



E S302 SECTION

1/2" = 1'-0"

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FINAL PHASE

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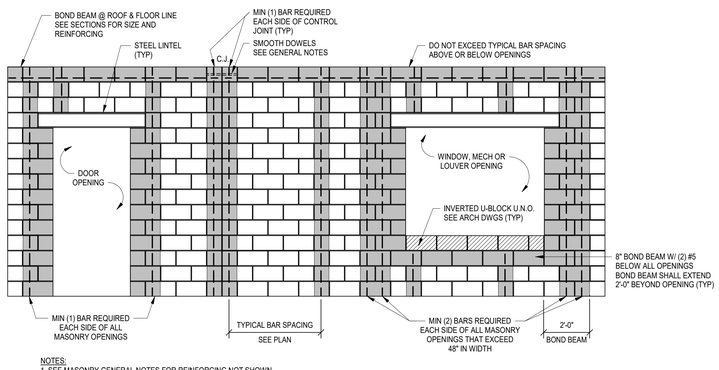
TYPICAL FOUNDATION DETAILS

DATE: MAY 11, 2022	REVISED
1	
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SHEET S302

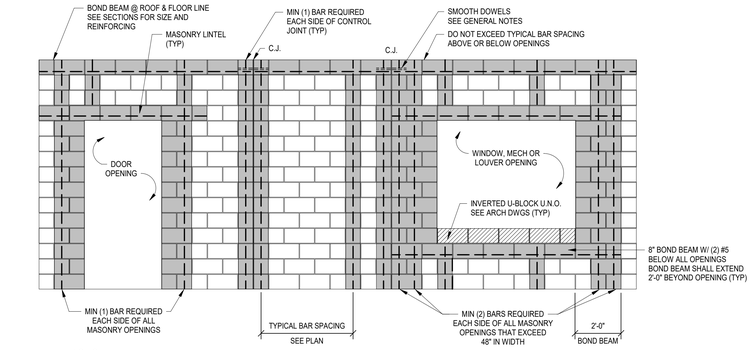
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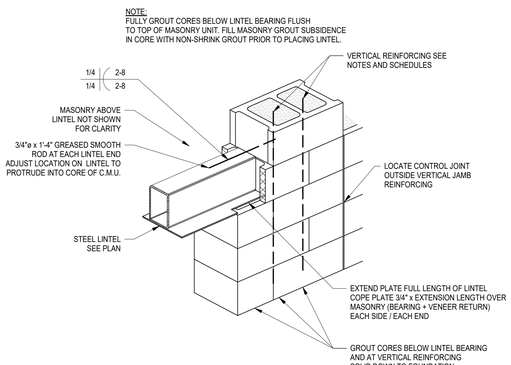
NOTES:
1. SEE MASONRY GENERAL NOTES FOR REINFORCING NOT SHOWN AND GROUTING PROCEDURES.
2. CONTROL JOINTS SHALL EXTEND FULL HEIGHT OF WALL AND ALIGN FROM FLOOR TO FLOOR.
3. CONTROL JOINTS SHALL BE LOCATED OUTSIDE MASONRY OPENING JAMB REINFORCING.

A S401 TYPICAL MASONRY WALL REINFORCING DETAIL
3/4" = 1'-0"



NOTES:
1. SEE MASONRY GENERAL NOTES FOR REINFORCING NOT SHOWN AND GROUTING PROCEDURES.
2. CONTROL JOINTS SHALL EXTEND FULL HEIGHT OF WALL AND ALIGN FROM FLOOR TO FLOOR.
3. CONTROL JOINTS SHALL BE LOCATED OUTSIDE MASONRY OPENING JAMB REINFORCING.

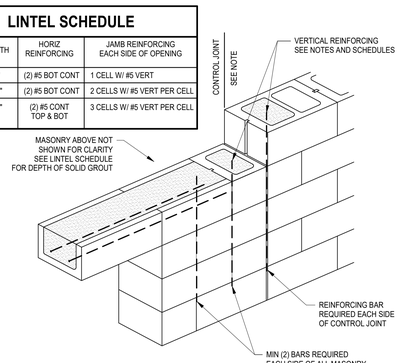
B S401 TYPICAL MASONRY WALL REINFORCING DETAIL
3/4" = 1'-0"



C S401 TYPICAL STEEL LINTEL BEARING DETAIL
3/4" = 1'-0"

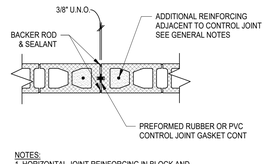
LINTEL SCHEDULE

MARK	DEPTH	HORIZ REINFORCING	JAMB REINFORCING EACH SIDE OF OPENING
ML8	8"	(2) #5 BOT CONT	1 CELL W/ #5 VERT
ML16	16"	(2) #5 BOT CONT	2 CELLS W/ #5 VERT PER CELL
ML24	24"	(2) #5 CONT TOP & BOT	3 CELLS W/ #5 VERT PER CELL



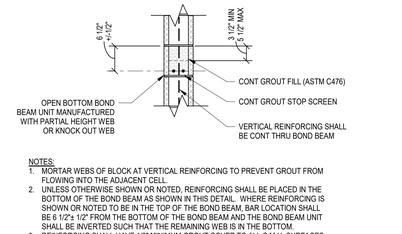
NOTES:
1. PROVIDE CONTROL JOINTS OFFSET 24" FROM OPENING ON BOTH SIDES OF OPENINGS WIDER THAN 6'-8" AND ON ONE SIDE OF OPENINGS 6'-8" WIDE AND LESS.
2. REINFORCING SHALL HAVE 1/2" MINIMUM GROUT COVER TO SURFACE OF BOND BEAM.
3. REINFORCING SHALL BE LOCATED 3" MAXIMUM FROM BOTTOM OF LINTEL BLOCK.

D S401 TYPICAL MASONRY LINTEL BEARING DETAIL
3/4" = 1'-0"



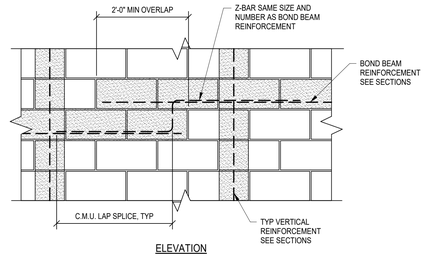
NOTES:
1. HORIZONTAL JOINT REINFORCING IN BLOCK AND BRICK SHALL BE DISCONTINUOUS AT CONTROL JOINTS.
2. SEE ARCHITECTURAL DRAWINGS FOR CONTROL JOINT LOCATIONS.
3. UNLESS OTHERWISE SHOWN OR NOTED, SPACING OF CONTROL JOINTS SHALL NOT EXCEED 25 FEET AT EXTERIOR WALLS AND 32 FEET AT INTERIOR WALLS.

E S401 TYPICAL C.M.U. CONTROL JOINT DETAIL (C.J.)
3/4" = 1'-0"



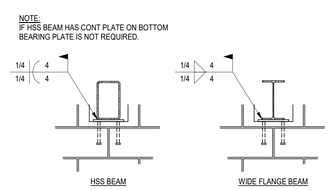
NOTES:
1. MORTAR WEBS OF BLOCK AT VERTICAL REINFORCING TO PREVENT GROUT FROM FLOWING INTO THE ADJACENT CELL.
2. UNLESS OTHERWISE SHOWN OR NOTED, REINFORCING SHALL BE PLACED IN THE BOTTOM OF THE BOND BEAM AS SHOWN IN THIS DETAIL. WHERE REINFORCING IS SHOWN OR NOTED TO BE IN THE TOP OF THE BOND BEAM, BAR LOCATION SHALL BE 6 1/2"± 1/2" FROM THE BOTTOM OF THE BOND BEAM AND THE BOND BEAM UNIT SHALL BE INVERTED SUCH THAT THE REMAINING WEB IS IN THE BOTTOM.
3. REINFORCING SHALL HAVE 1/2" MINIMUM GROUT COVER TO ALL C.M.U. SURFACES.
4. GROUT STOP SCREEN SHALL BE DUR-O-STOP AS MANUFACTURED BY DUR-O-WAL OR OTHER APPROVED EQUIVALENT.
5. USE LINTEL BLOCK WHERE BOND BEAM OCCURS DIRECTLY ABOVE WINDOW, DOOR OR LOUVER OPENING.

F S401 TYPICAL C.M.U. BOND BEAM DETAIL
3/4" = 1'-0"



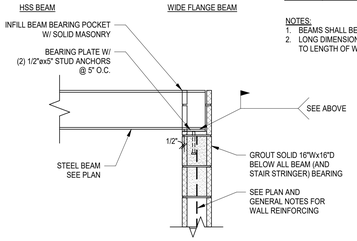
ELEVATION

G S401 TYPICAL C.M.U. BOND BEAM STEP DETAIL
3/4" = 1'-0"

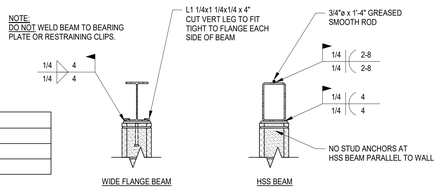


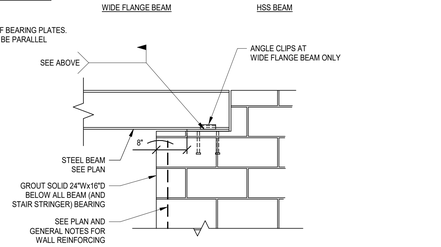
MARK	SIZE
BP1	---
BP2	---
BP3	---

NOTES:
1. BEAMS SHALL BEAR FULL LENGTH OF BEARING PLATES.
2. LONG DIMENSION OF PLATES SHALL BE PARALLEL TO LENGTH OF WALL U.N.O.



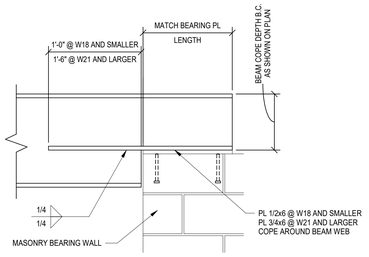
DETAIL AT BEAM PERPENDICULAR TO WALL





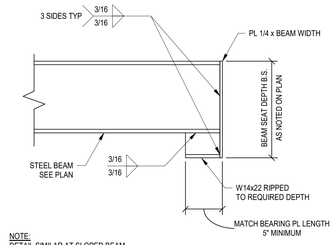
DETAIL AT BEAM PARALLEL TO WALL

H S401 TYPICAL BEAM BEARING ON MASONRY DETAIL
3/4" = 1'-0"



NOTE:
DETAIL SIMILAR AT SLOPED BEAM. SLOPE SEAT TO PROVIDE LEVEL BEARING.

J S401 BEAM COPE DETAIL
3/4" = 1'-0"



NOTE:
DETAIL SIMILAR AT SLOPED BEAM. SLOPE SEAT TO PROVIDE LEVEL BEARING.

K S401 BEAM SEAT DETAIL
3/4" = 1'-0"

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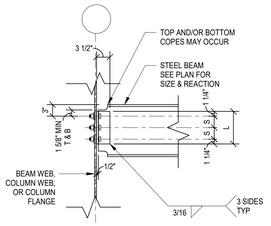
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TYPICAL FRAMING DETAILS

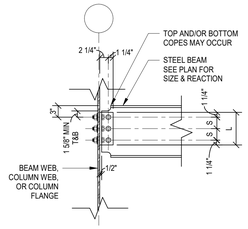
DATE: MAY 11, 2022
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JOB# 22031
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CHECKED: ZJW

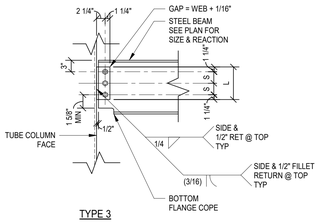
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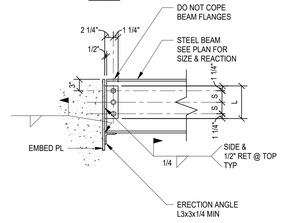
TYPE 1



TYPE 2



TYPE 3



TYPE 4

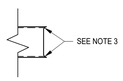
CONNECTION CAPACITY TABLE						
NO. OF BOLTS ASTM A325-N	LENGTH OF ANGLE L (INCHES)	CONNECTION CAPACITY (KIPS)				
		TYPE 1	TYPE 2	TYPE 3	TYPE 4
2	5 1/2	19	14	14	14
3	8 1/2	35	24	24	32
4	11 1/2	58	42	42	53
5	14 1/2	87	63	63	76
6	17 1/2	122	88	88	100
7	20 1/2	151	116	116	125
8	23 1/2	169	154	149	149
9	26 1/2	185	177	173	173
10	29 1/2	202	230	197	197

NOTES:
1. ALL CONNECTION ANGLES L4x3 1/2x5/16, ASTM A572 GR 50, N.S. & F.S.
2. ALL BOLTS ASTM A325-N, 3/4"ø.
3. ALL WELDS E70XX.
4. BOLT SPACING (S) = 3".
5. SHORT HORIZONTAL SLOTTED HOLES MAY BE USED.
6. WELD AT ERECTION ANGLE TO BE DETERMINED BY FABRICATOR/ERECTOR CONSIDERING MEMBER WEIGHTS AND ERECTION FORCES.

A S402 TYPICAL DOUBLE ANGLE SHEAR CONNECTION DETAIL

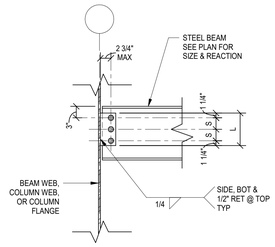
3/4" = 1'-0"

NOTES:
1. FIELD WELD SHALL BE MADE PRIOR TO APPLICATION OF ROOF OR WALL DEAD LOAD.
2. REMOVE ERECTION PLATES AFTER COMPLETION OF FIELD WELD. GRIND SMOOTH WHERE EXPOSED TO VIEW FROM ANY VANTAGE POINT.
3. WHERE BEAM WIDTH MATCHES SUPPORT WIDTH COPE BEAM AROUND SUPPORT CORNERS TO FIT SHAPE.
4. WHERE BEAM WIDTH IS NARROWER THAN SUPPORT FACE PROVIDE FILLET WELD ALL AROUND.
5. WHERE ABUTTING TUBE IS WIDER THAN SUPPORT, PROVIDE 3/8" THICK END PLATE MATCHING BEAM DIMENSIONS WITH PARTIAL PENETRATION GROOVE WELD ALL AROUND.
6. WELD AT ERECTION PLATES TO BE DETERMINED BY FABRICATOR/ERECTOR CONSIDERING ORIENTATION OF PL, MEMBER WEIGHTS, AND ERECTION FORCES.



D S402 TYPICAL TUBE TO TUBE CONNECTION DETAIL

3/4" = 1'-0"

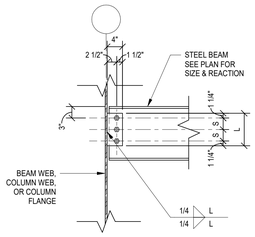


CONNECTION CAPACITY TABLE		
NO. OF BOLTS ASTM A325-N	LENGTH OF ANGLE L (INCHES)	CONNECTION CAPACITY (KIPS)
2	5 1/2	9
3	8 1/2	18
4	11 1/2	28
5	14 1/2	38
6	17 1/2	48
7	20 1/2	58
8	23 1/2	68
9	26 1/2	77
10	29 1/2	87

NOTES:
1. ALL CONNECTION ANGLES, L4x3x3/8 SLO.
2. ALL BOLTS ASTM A325-N, 3/4"ø.
3. ALL WELDS E70XX.
4. BOLT SPACING (S) = 3".
5. SHORT HORIZONTAL SLOTTED HOLES MAY BE USED AT SUPPORTED BEAM CONNECTION. STANDARD-SIZED HOLES SHALL BE USED IN CONNECTION AT SUPPORT WHERE BOTH LEGS ARE BOLTED.
6. BOTH LEGS MAY BE BOLTED WITH NO REDUCTION IN CONNECTION CAPACITY AS LONG AS THE BOLTS THROUGH THE SUPPORTING MEMBER ARE NOT SHARED WITH A CONNECTION ON THE OPPOSITE SIDE OF THE SUPPORT.

2 S402 TYPICAL SINGLE ANGLE SHEAR CONNECTION DETAIL

3/4" = 1'-0"

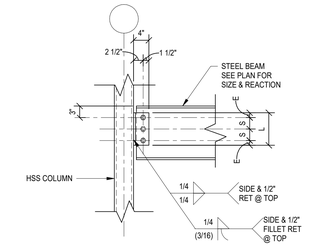


CONNECTION CAPACITY TABLE		
NO. OF BOLTS ASTM A325-N	LENGTH OF PLATE L (INCHES)	CONNECTION CAPACITY (KIPS)
2	5 1/2	12
3	8 1/2	23
4	11 1/2	30
5	14 1/2	40
6	17 1/2	50

NOTES:
1. ALL CONNECTION PLATES, 3/8" THICK.
2. ALL BOLTS ASTM A325-N, 3/4"ø.
3. ALL WELDS E70XX.
4. BOLT SPACING (S) = 3".
5. SHORT HORIZONTAL SLOTTED HOLES MAY BE USED.
6. SINGLE PLATE SHEAR CONNECTIONS ARE NOT PERMITTED WHERE THE REACTION EXCEEDS 50 KIPS, AT FIELD APPLIED CONNECTIONS, OR CONNECTIONS TO COLUMNS (OTHER THAN AT MOMENT CONNECTIONS, SKEWED CONNECTIONS, PIPE COLUMNS, TUBE COLUMNS WITH FACE DIMENSION 4" OR LESS, OR CONNECTIONS WITH REACTIONS LESS THAN 15 KIPS).
7. WHERE CONNECTION PLATE IS SKEWED UP TO 10° RELATIVE TO THE PERPENDICULAR CONDITION, PROVIDE FILLET WELDS AS SHOWN. WHERE PLATE IS SKEWED BETWEEN 10° AND 45°, ADJUST WELDS PER AISC STEEL MANUAL GUIDELINES. WHERE PLATE IS SKEWED BETWEEN 45° AND 60°, PROVIDE CJP WELD WITH BACKER BAR FOR PLATE-TO-SUPPORT CONNECTION.

B S402 TYPICAL SINGLE PLATE SHEAR CONNECTION DETAIL

3/4" = 1'-0"



CONNECTION CAPACITY TABLE				
NO. OF BOLTS ASTM A325-N	3/4"ø BOLTS		1"ø BOLTS	
	LENGTH OF WT L (INCHES)	CONNECTION CAPACITY (KIPS)	LENGTH OF ST L (INCHES)	CONNECTION CAPACITY (KIPS)
2	5 1/2	12	6 1/2	25
3	8 1/2	18	9 1/2	35
4	11 1/2	26	12 1/2	46
5	14 1/2	36	15 1/2	63
6	17 1/2	46	18 1/2	76
7	20 1/2	56	21 1/2	88
8	23 1/2	66	24 1/2	100

NOTES:
1. USE WT4x7.5 CONNECTIONS WITH 3/4"ø BOLTS.
2. USE ST4x11.5 CONNECTIONS WITH 1"ø BOLTS.
3. ALL BOLTS ASTM A325-N.
4. ALL WELDS E70XX.
5. BOLT SPACING (S) = 3".
6. EDGE DISTANCE (E) = 1 1/4" @ 3/4"ø BOLTS. EDGE DISTANCE (E) = 1 3/4" @ 1"ø BOLTS.
7. SHORT HORIZONTAL SLOTTED HOLES MAY BE USED.

C S402 TYPICAL WT SHEAR CONNECTION DETAIL

3/4" = 1'-0"

NOT FOR CONSTRUCTION

100% DD SET

BROWN+KUBICAN STRUCTURAL ENGINEERS
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Lexington, Kentucky 40517
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GARRARD COUNTY HIGH SCHOOL
FINAL PHASE

FOR THE
GARRARD COUNTY BOARD OF EDUCATION

TYPICAL FRAMING DETAILS

DATE: MAY 11, 2022

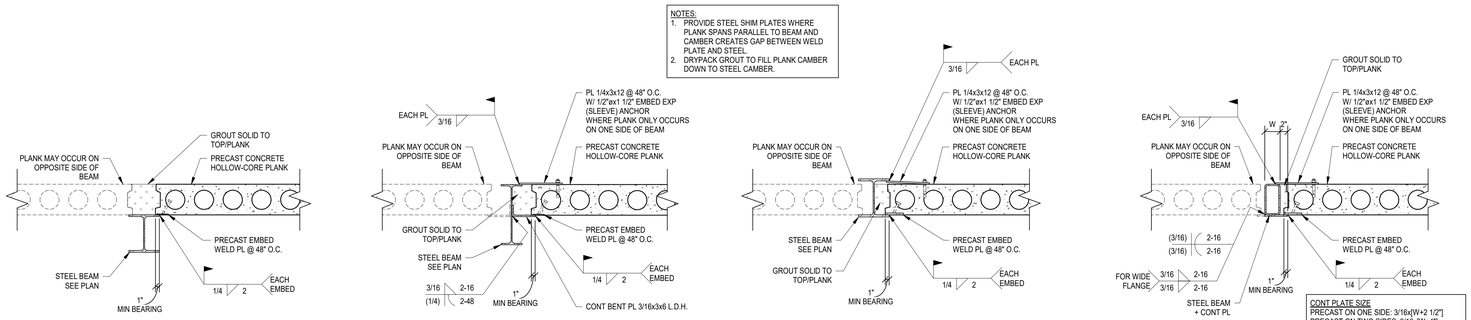
REVISED				
1	2	3	4	5

SHEET S402

JOB# 22031
DRAWN: MSC
CHECKED: ZJW

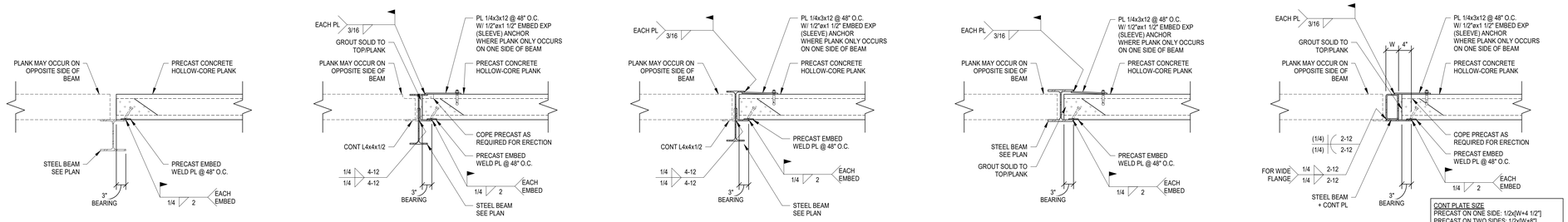
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NOTES:
1. PROVIDE STEEL SHIM PLATES WHERE PLANK SPANS PARALLEL TO BEAM AND CAMBER CREATES GAP BETWEEN WELD PLATE AND STEEL.
2. DRYPACK GROUT TO FILL PLANK CAMBER DOWN TO STEEL CAMBER.



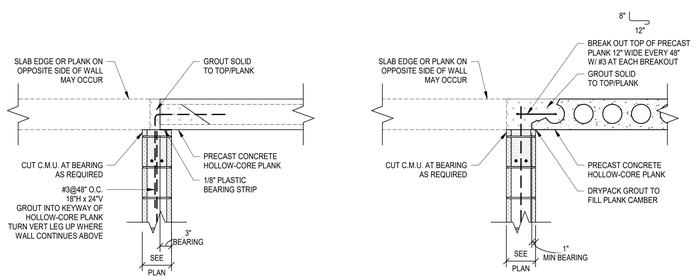
CONT PLATE SIZE
PRECAST ON ONE SIDE: 3/16x[W+2 1/2"]
PRECAST ON TWO SIDES: 3/16x[W+4"]
EXTEND PL TO BEAR ON SUPPORTING WALL

PLANK PARALLEL TO STEEL BEAM

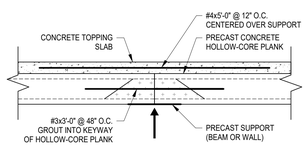


CONT PLATE SIZE
PRECAST ON ONE SIDE: 1/2x[W+4 1/2"]
PRECAST ON TWO SIDES: 1/2x[W+8"]
EXTEND PL TO BEAR ON SUPPORTING WALL

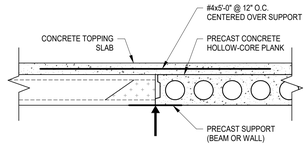
PLANK PERPENDICULAR TO STEEL BEAM



PLANK BEARING ON MASONRY



INTERIOR PLANK BEARING (NO WALL ABOVE)



ADDITONAL REINFORCEMENT AT PRECAST SUPPORT

(PLANK DIRECTION MAY VARY)

TYPICAL PRECAST CONCRETE HOLLOW-CORE PLANK CONNECTION DETAILS

A S403

3/4" = 1'-0"

NOT FOR CONSTRUCTION

100% DD SET

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TYPICAL FRAMING DETAILS

DATE: MAY 11, 2022
REVISED: 1 2 3 4 5

SHEET S403
JOB# 22031
DRAWN: MSC
CHECKED: ZJW

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MECHANICAL GENERAL NOTES

A COORDINATE THE LOCATION OF DRAINS, THERMOSTATS, GAS OUTLETS, ETC., WITH ALL CASEWORK EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC., PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE CONTRACTOR.

B THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC., OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

C WHERE WORK IS REQUIRED ABOVE EXISTING LAY-IN, PLASTER OR GYPSUM BOARD CEILINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REINSTALLATION (OR REPLACEMENT, IF DAMAGED) OF ALL CEILING OR TILE AND GRID MEMBERS NECESSARY TO PERFORM HIS WORK. NEW TILE AND GRID SHALL MATCH THE SURROUNDING AREAS. ALL PATCHING WORK SHALL MATCH ADJACENT SURFACES.

D ALL NEW WORK SHALL BE HUNG FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES, WHETHER EXISTING OR NEW.

E COORDINATE ALL WORK WITH PROJECT PHASING REQUIREMENTS.

F PATCH, REPAIR AND PAINT OR PROVIDE WALL COVERING FOR (TO OWNER'S STANDARDS) EXISTING WALLS, CEILINGS, ETC., THAT ARE TO REMAIN IF DAMAGED DURING CONSTRUCTION. REPAIRS SHALL MATCH ADJACENT SURFACES TO THE SATISFACTION OF THE ARCHITECT AND OWNER.

G OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, FEDERAL, MUNICIPALITY, UTILITY COMPANY, COMMONWEALTH OF KENTUCKY, ETC.)

H CONTRACTOR SHALL BE AWARE OF UNSEEN PLUMBING, HVAC AND ELECTRICAL WORK DURING DEMOLITION. IF ITEMS ARE UNCOVERED DURING DEMOLITION THEN FIELD VERIFY THE USE OF THE ITEMS AND PLAN AN ALTERNATE ROUTE TO RUN THESE ITEMS. THEN CONTACT THE ENGINEERS TO REVIEW THE ROUTING.

I IF AREA OF CONSTRUCTION HAS A POST TENSION FLOOR SLAB. CONTRACTOR SHALL USE ULTRA SOUND OR OTHER APPROVED METHODS TO SURVEY THE EXISTING FLOOR STRUCTURE BEFORE MAKING ANY AND ALL FLOOR PENETRATIONS.

J WHERE FIRE PROOFING IS SPRAYED ON EXISTING STRUCTURE ALL EXISTING CONDUITS, WATER, HYDRONIC, STEAM, CHILLED WATER, FIRE PROTECTION LINES, MED GAS, ETC. SHALL BE LOWERED TO BE BELOW FULL THICKNESS OF FIRE PROOFING WITH NO INTERFERENCE.

K ALL PENETRATIONS OF FIRE AND SMOKE RATED ASSEMBLIES SHALL BE APPROPRIATELY FIRE STOPPED PER AN APPROVED U.L. LISTED STANDARD. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO INSULATED PIPING PENETRATIONS.

L ALL WORK REQUIRING DOWNTIME OF ANY AREA IN THE BUILDING SHALL BE SCHEDULED 2 WEEKS IN ADVANCE, AND SHALL COMPLY WITH INTERIM LIFE SAFETY MEASURES.

M ALL DUCTWORK, PIPING, CONDUITS, ETC. IN ROOMS WITH CEILINGS SHALL BE ABOVE CEILING EXCEPT AS NOTED.

N INSTALL AIR VENTS AT HIGH POINTS IN PIPING AND DRAINS IN LOW POINTS. USE CARE TO AVOID FREEZING OF EXTERIOR VENTS.

O LOCATIONS OF PIPING, DUCTS AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.

P ALL OFFSETS IN DUCTS AND PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS WHERE NECESSARY.

Q COORDINATE ALL HVAC WORK WITH ELECTRICAL, PLUMBING AND OTHER TRADES TO AVOID INTERFERENCE WITH PIPING, DUCTS, CONDUIT AND OTHER EQUIPMENT.

R INSTALL ALL PIPING, DUCTWORK AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTION. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION. PROVIDE RECOMMENDED ACCESS AND SERVICE CLEARANCES FOR ALL EQUIPMENT.

S SEAL AIRTIGHT AROUND ALL DUCTS AND PIPING PENETRATIONS THROUGH WALLS, FLOORS AND ROOF. PROVIDE FIRE STOPPING IN FIRE PARTITION.

T SEAL ALL NEW DUCTWORK JOINTS WITH UNITED MCGILL, IRONGRIP 601 OR EQUAL WATER BASED SEALANT.

U ALL MOTOR DRIVEN EQUIPMENT SHALL BE INSTALLED WITH FLEXIBLE CONNECTIONS TO DUCTWORK, PIPING, ETC., UNLESS OTHERWISE NOTED.

V THE CONTRACTOR SHALL RELOCATE OR AVOID ANY EXISTING EQUIPMENT APPURTENANCES, ETC., THAT CONFLICT WITH NEW WORK.

W WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.

X DOUBLE WIDTH TURNING VANES SHALL BE INSTALLED IN ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK ELBOWS. TURNING VANES NOT REQUIRED FOR KITCHEN EXHAUSTS.

Y ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.

Z DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT USED AS BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.

AA VALVES, BALANCING DAMPERS OR ANY MECHANICAL/ELECTRICAL ITEM REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT. ADDITIONALLY ALL SUCH ITEMS SHALL NOT BE LOCATED AN UNREASONABLE DISTANCE ABOVE THE CEILINGS. IN GENERAL ALL SUCH ITEMS UNLESS INDICATED OTHERWISE SHALL BE MOUNTED SIX TO TWELVE INCHES ABOVE THE CEILING. IF IN DOUBT, CONTACT ENGINEER PRIOR TO INSTALLING.

AB ALL MANHOLES, VAULTS AND SIMILAR UNDERGROUND STRUCTURES SHALL HAVE THE TOP ELEVATION SET FLUSH WITH FINISHED GRADE UNLESS SPECIFICALLY NOTED OTHERWISE.

AC PIPING SHALL NOT BE LOCATED UNDER A FOOTER OR IN THE ZONE OF INFLUENCE. THE ZONE OF INFLUENCE IS THE AREA UNDER THE FOOTER WITHIN A 45 DEGREE ANGLE PROJECTING DOWN FROM THE BOTTOM EDGE OF THE FOOTER OF ALL SIDES OF THE FOOTER. ADDITIONALLY, GREASE TRAPS, MANHOLES, VAULTS AND OTHER UNDERGROUND STRUCTURES SHALL BE HELD AWAY FROM BUILDING WALLS FAR ENOUGH TO BE OUTSIDE OF THE ZONE OF INFLUENCE.

AD THE DOCUMENTS COMPLY WITH 2006 IMC, 2007 KBC, AND 2009 IECC.

AE THE DOCUMENTS COMPLY WITH 2006 IMC, 2007 KBC, AND ASHRAE 90.1-2007.

AF WORK IN CONFINED AREAS SHALL BE IN ACCORDANCE WITH THE OWNER'S SAFETY POLICY REQUIREMENTS.

ABBREVIATIONS

AC	ALTERNATING CURRENT
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFR	ABOVE FINISHED ROOF
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AHJ	AUTHORITY HAVING JURISDICTION
AMP	AMPERE (AMP, AMPS)
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
APD	AIR PRESSURE DROP
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS
ATU	AIR TERMINAL UNIT
AVG	AVERAGE
BAS	BUILDING AUTOMATION SYSTEM
BHP	BREAK HORSEPOWER
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
C.I.	CAST IRON
CLG	CEILING
CLR	CLEAR
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
COND	CONDENS (-ER, -ING, -ATION, -ATE)
CONT	CONTINU (-ED, -OUS)
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
CV	VALVE FLOW COEFFICIENT
dB	DECIBEL
DB	DRY BULB
DBT	DRY BULB TEMPERATURE
DC	DIRECT CURRENT
DD	DUCT SMOKE DETECTOR
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE (-S)
DIA	DIAMETER (-S)
DN	DOWN
DWG	DRAWING
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVA (-TION, -TOR)
ENGR	ENGINEER
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EVAP	EVAPORAT (-E, -ING, -ED, -OR, -ION)
EWT	ENTERING WATER TEMPERATURE
EXP	EXPANSION
EXT	EXTERIOR
FA	FREE AREA

ABBREVIATIONS (CONTINUED)

FD	FIRE DAMPER
FL	FLOOR
FLA	FULL LOAD AMPS
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET **OR** FOOT
FUT	FUTURE
FV	FACE VELOCITY
GA	GAGE/GAUGE
GAL	GALLON (-S)
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
H	HUMIDITY
HD	HEAD
HG	MERCURY
HORIZ	HORIZONTAL
HP	H (-ORSEPOWER, -EAT PUMP)
HR	HOUR (-S)
HVAC	HEATING, VENTILATING, & AIR-CONDITIONING
Hz	HERTZ
ID	I (-DENTIFICATION, -NSIDE DIAMETER, -NSIDE DIMENSION)
IN	INCH (-ES)
INSUL	INSULAT (-ED, -ION)
INT	INTER (-IOR, -ERVAL)
IPS	IRON PIPE SIZE
kW	KILOWATT
kWh	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LF	LINEAR FEET/FOOT
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	BTU PER HOUR [THOUSANDS]
MCA	MINIMUM CIRCUIT AMPS
MFG	MANUFACTURER
MIN	MIN (-IMUM, -UTE)
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION [AMPS]
MTG	MOUNTING
N/A	NOT APPLICABLE
NC	NOISE CRITERIA **OR** NORMALLY CLOSED
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
NIC	NOT IN CONTRACT

ABBREVIATIONS (CONTINUED)

NO	NORMALLY OPEN **OR** NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DI (-AMETER, -MENSION)
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OR	OPEN RECEPTACLE
OZ	OUNCE (-S)
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PH	PHASE [ELECTRICAL]
PLBG	PLUMBING
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE (STEAM, WATER, GAS)
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	PPSI GAUGE
RH	RELATIVE HUMIDITY [%]
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SD	SMOKE DAMPER
SP	STATIC PRESSURE
SQ	SQUARE
SQ FT	SQUARE FEET **OR** FOOT
SQ IN	SQUARE INCH **OR** INCHES
TAB	TESTING AND BALANCING
TBD	TO BE DETERMINED
TE	TOP ELEVATION
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLT (-AGE, -S)
VAR	VARI (-ABLE, -IES)
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VFD	VARIABLE FEQUENCY DRIVE
W	WATT (-AGE, -S)
WB	WET BULB
WBT	WET BULB TEMPERATURE
WPD	WATER PRESSURE DROP
WT	WEIGHT
W/	WITH
W/O	WITHOUT
%	PERCENT
ΔP	DIFFERENTIAL PRESSURE
ΔT	TEMPERATURE DIFFERENCE
℄	CENTERLINE

GENERAL SYMBOLS

#	TAGGED NOTE DESIGNATOR
1	REVISION TRIANGLE
ROOM NAME [SEE #]	ROOM TAG
TAG XXX-# INSTANCE XXXX	EQUIPMENT TAG
	POINT OF CONNECTION / CONNECT TO EXISTING
	POINT OF DEMOLITION

HVAC LEGEND

	SUPPLY AIR DIFFUSER
	RETURN AIR DIFFUSER
	EXHAUST AIR DIFFUSER
	TRANSFER AIR DIFFUSER W/ SOUND ATTENUATING BOOT
	SIDEWALL DIFFUSER/GRILLE
	SIDEWALL DIFFUSER/GRILLE
TAG XXX AIRFLOW #_###	AIR DEVICE TAG (REGISTER, GRILLE, DIFFUSER,LOUVER)
##x##	RECTANGULAR DUCT
#ø	ROUND/SPIRAL DUCT
##/##	FLAT OVAL DUCT
SA	SUPPLY AIR DUCT
RA	RETURN AIR DUCT
EA	EXHAUST AIR DUCT
OA	OUTSIDE AIR DUCT
TA	TRANSFER AIR DUCT
CAE	COMBUSTION AIR EXHAUST DUCT
CAI	COMBUSTION AIR INTAKE DUCT
SA	SA AIR DUCT TURNING UP
SA	SA AIR DUCT TURNING DOWN
RA	RA AIR DUCT TURNING UP
RA	RA AIR DUCT TURNING DOWN
EA	EA AIR DUCT TURNING UP
EA	EA AIR DUCT TURNING DOWN
E(XXX)	EXISTING DUCT - (XXX) DENOTES SYSTEM
D(XXX)	DUCT TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
A(XXX)	DUCT TO BE ABANDONED IN PLACE - (XXX) DENOTES SYSTEM
	MITERED ELBOW WITH TURNING VANES
	FLEXIBLE DUCT
T	THERMOSTAT
T	TEMPERATURE SENSOR
H	HUMIDITY SENSOR
C	CARBON DIOXIDE SENSOR
T/C	TEMPERATURE & CARBON DIOXIDE SENSOR
VERT. HORIZ.	MANUAL BALANCING/VOLUME DAMPER
VERT. HORIZ.	MOTORIZED DAMPER
VERT. HORIZ.	FIRE DAMPER
VERT. HORIZ.	SMOKE DAMPER
VERT. HORIZ.	COMBINATION FIRE & SMOKE DAMPER

MECHANICAL PIPING LEGEND

	PIPE ELBOW TURNING UP
	PIPE ELBOW TURNING DOWN
	PIPE TEE; CONNECTION ON TOP
	PIPE TEE; CONNECTION ON BOTTOM
	PIPE CAP
—BFW—	BOILER FEEDWATER
—CAI/E—	COMBUSTION AIR INTAKE/EXHAUST
—CBS/R—	CHILLED BEAM SUPPLY/RETURN
—CD—	CONDENSATE DRAIN
—CHWS/R—	CHILLED WATER SUPPLY/RETURN
—CST—	CLEAN STEAM PIPING
—CWS/R—	CONDENSER WATER SUPPLY/RETURN
—DTS/R—	DUAL TEMP. WATER SUPPLY/RETURN
—GS/R—	GEOTHERMAL WATER SUPPLY/RETURN
—HPC—	HIGH PRESSURE STEAM CONDENSATE
—HPS(#)—	HIGH PRESSURE STEAM; (#) DENOTES PRESSURE
—HPS/R—	HEAT PUMP WATER SUPPLY/RETURN
—HRS/R—	HEAT RECOVERY SUPPLY/RETURN PIPING
—HWS/R—	HEATING WATER SUPPLY/RETURN
—LPC—	LOW PRESSURE STEAM CONDENSATE
—LPS(#)—	LOW PRESSURE STEAM; (#) DENOTES PRESSURE
—MPC—	MEDIUM PRESSURE STEAM RETURN
—MPS(#)—	MEDIUM PRESSURE STEAM; (#) DENOTES PRESSURE
—SPD—	STEAM CONDENSATE PUMPED DISCHARGE
—SVT—	STEAM VENT PIPING
-- D(XXX) --	PIPING TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
—E(XXX)—	EXISTING PIPING - (XXX) DENOTES SYSTEM
—A(XXX)—	ABANDONED IN PLACE PIPING - (XXX) DENOTES SYSTEM
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	AUTOMATIC AIR VENT (AAV)
	MANUAL AIR VENT (MAV)
	MANUAL BALANCING VALVE (BV)
	BALL VALVE
	BUTTERFLY VALVE
	TRIPLE DUTY VALVE (TDV)
	STRAINER
	MANUAL ISOLATION VALVE
	GLOBE VALVE
	OS&Y (GATE) VALVE
	PRESSURE REDUCING VALVE (STEAM, GAS, WATER, ETC.)
	AUTO-FLOW CONTROL VALVE
	CHECK VALVE
	DOUBLE CHECK VALVE ASSEMBLY
	FLEXIBLE PIPE CONNECTION
	FLOW METER (VENTURI)
	PIPING UNION
	FLOW SWITCH
	PRESSURE SWITCH
	TAMPER SWITCH
	THERMOMETER
T	PETE'S PLUG; TEMPERATURE/PRESSURE PORT

MECHANICAL DEMOLITION NOTES

A THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR AREAS IN WHICH THE CEILING IS REMAINING. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE EXISTING CEILING AS REQUIRED AND REINSTALLATION. TEMPORARILY SUPPORT LIGHTS, DIFFUSERS, CEILING ETC. REPLACE BROKEN CEILING TILES WITH NEW AT NO ADDITIONAL COST TO OWNER. FIELED VERIFY EXACT REQUIREMENTS.

B DURING SPRINKLER SYSTEM OUTAGES THE CONTRACTORS SHALL PROVIDE FIRE WATCH OF AREAS WITH OUTAGES.

C ALL WALLS AND FLOOR SLABS SHALL BE REPAIRED TO MATCH EXISTING AND TO A LIKE NEW CONDITION. ALL RATED WALLS AND FLOOR SLABS SHALL BE PATCHED AND REPAIRED TO MAINTAIN RATING.

D ALL EXISTING BUILDING FINISHES SHALL BE PROTECTED DURING THE DEMOLITION PHASE.

E HEAVY DASHED LINES INDICATE ITEMS FOR REMOVAL (UON) AND LIGHT SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

F COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH THE OWNER.

G ALL OUTAGES SHALL BE SCHEDULED THROUGH THE UK CPMD PROJECT REPRESENTATIVE FOR PROPER COORDINATION. A REQUEST FOR AN OUTAGE SHALL BE SUBMITTED IN WRITING A MINIMUM OF TWO WEEKS IN ADVANCE.

H ALL DUCTWORK, PIPING, CONDUIT, ETC. SHALL BE INSTALLED A MINIMUM OF 4" ABOVE THE TOP OF THE CEILING GRID PER UK STANDARDS.

MECHANICAL PHASING NOTES

A THIS PROJECT INTERFACES EXTENSIVELY WITH EXISTING BUILDING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. AS AN EXAMPLE, MAIN GAS SERVICE, WATER SERVICE, ELECTRICAL SERVICE, HVAC SERVICES, STEAM GENERATION, ETC., WILL BE AFFECTED AND REPLACED OR MOVED DURING THIS PROJECT. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC. CONTRACTOR SHALL COORDINATE ALL SAID WORK WITH THE OWNER AND APPLICABLE UTILITIES PER THE CONTRACT DOCUMENTS.

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED ON THIS PROJECT

APPLICABLE BUILDING CODES

APPLICABLE BUILDING CODES	DOCUMENT	YEAR
ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES	ANSI A117.1	2009
FIRE SPRINKLER CODE	NFPA 13	2013
INTERNATIONAL BUILDING CODE (IBC)	STATE EDITION	2015
ASHRAE 90.1	STATE EDITION	2010
INTERNATIONAL FIRE CODE (IFC)	STATE EDITION	2015
INTERNATIONAL FUEL GAS CODE (IFGC)	STATE EDITION	2015
INTERNATIONAL MECHANICAL CODE (IMC)	STATE EDITION	2015
INTERNATIONAL PLUMBING CODE (IPC)	STATE EDITION	2015
INTERNATIONAL EXISTING BUILDING CODE (IEBC)	STATE EDITION	2009
NATIONAL ELECTRIC CODE (NEC)	NFPA 70	2017
NATIONAL FIRE ALARM & SIGNALING CODE	NFPA 72	2013
UNIFORM STATEWIDE BUILDING CODE		2018

Sheet List - Mechanical

SHEET #	SHEET NAME
M-101	PERFORMANCE GYM - AIR DISTRIBUTION PLAN - FIRST FLOOR - AREA A
M-102	PERFORMANCE GYM - AIR DISTRIBUTION PLAN - FIRST FLOOR - AREA B
M-103	PERFORMANCE GYM - AIR DISTRIBUTION PLAN - TRACK LEVEL - AREA A
M-104	PERFORMANCE GYM - AIR DISTRIBUTION PLAN - TRACK LEVEL - AREA B
M-201	PERFORMANCE GYM - HYDRONICS PLAN - FIRST FLOOR - AREA A
M-202	PERFORMANCE GYM - HYDRONICS PLAN - FIRST FLOOR - AREA B
M-301	ENLARGED VIEWS/SECTIONS
M-302	DETAILS
M-303	DETAILS
M-401	SCHEDULES
M-402	SCHEDULES
M-501	CONTROLS
M-502	CONTROLS
MU-101	MECHANICAL SITE PLAN DEMO PLAN
MU-103	ENLARGED MECHANICAL SITE PLAN
MU-104	ENLARGED MECHANICAL SITE PLAN
MU-105	MECHANICAL SITE DETAILS
M-001	MECHANICAL LEGEND
MU-102	MECHANICAL OVERALL SITE UILITY PLAN

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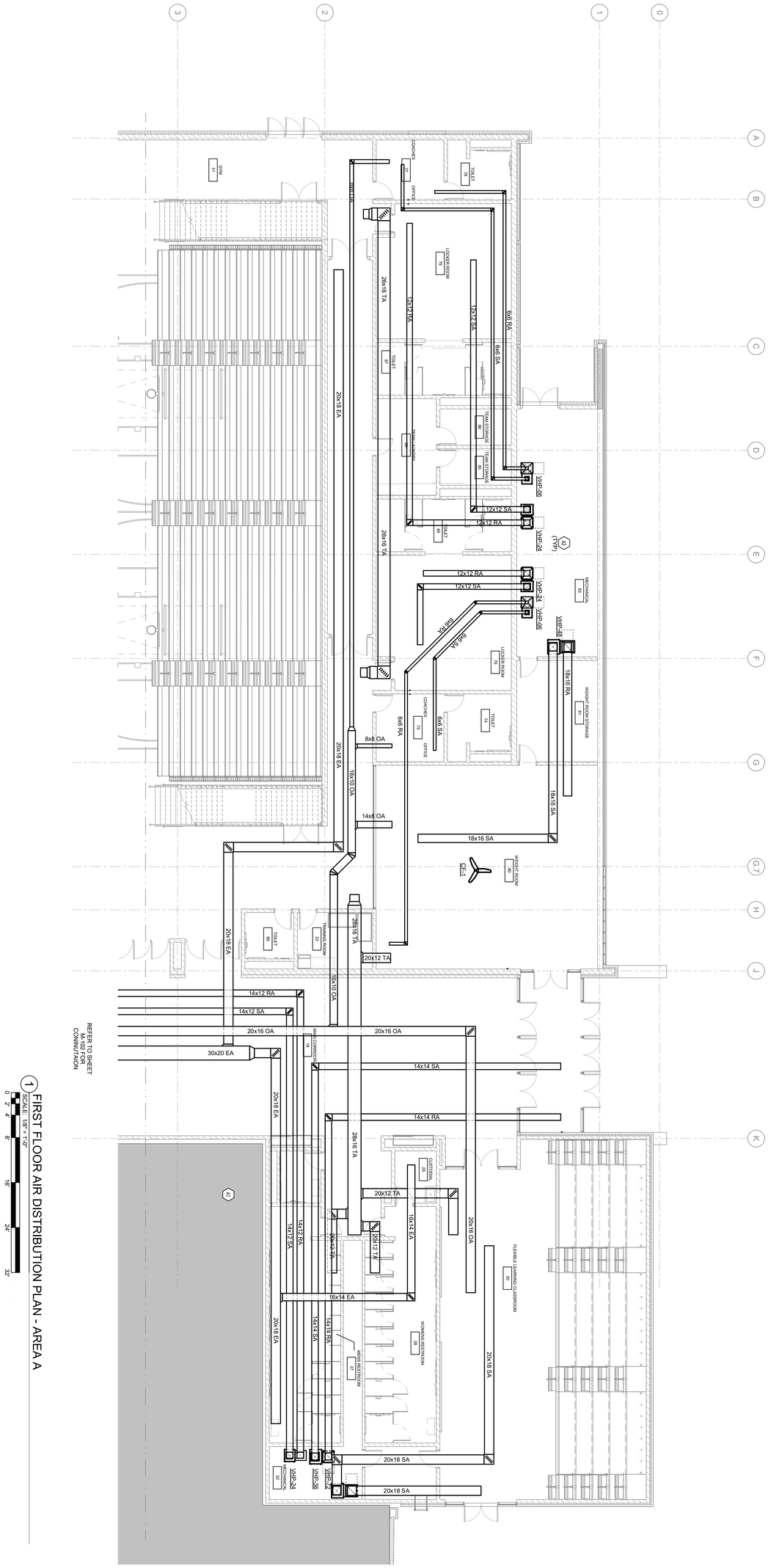
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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX
FOR THE GARRARD COUNTY BOARD OF EDUCATION
MECHANICAL LEGEND

DATE:	REVISED
Issue Date	1
	2
	3
	4
	5

SHEET M-001
JOB# 2113
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1 FIRST FLOOR AIR DISTRIBUTION PLAN - AREA A
SCALE: 1/8" = 1'-0"
0 2' 4' 8' 16' 24' 32'

TAGGED NOTES

A1 HATCHED AREA INDICATES EXISTING PORTION OF BUILDING.
A3 REFER TO VERTICAL HEAT PUMP INSTALLATION DETAIL TYPICAL OF ALL VERTICAL HEAT PUMPS UNLESS NOTED OTHERWISE

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PERFORMANCE GYM - AIR DISTRIBUTION PLAN - FIRST FLOOR - AREA A

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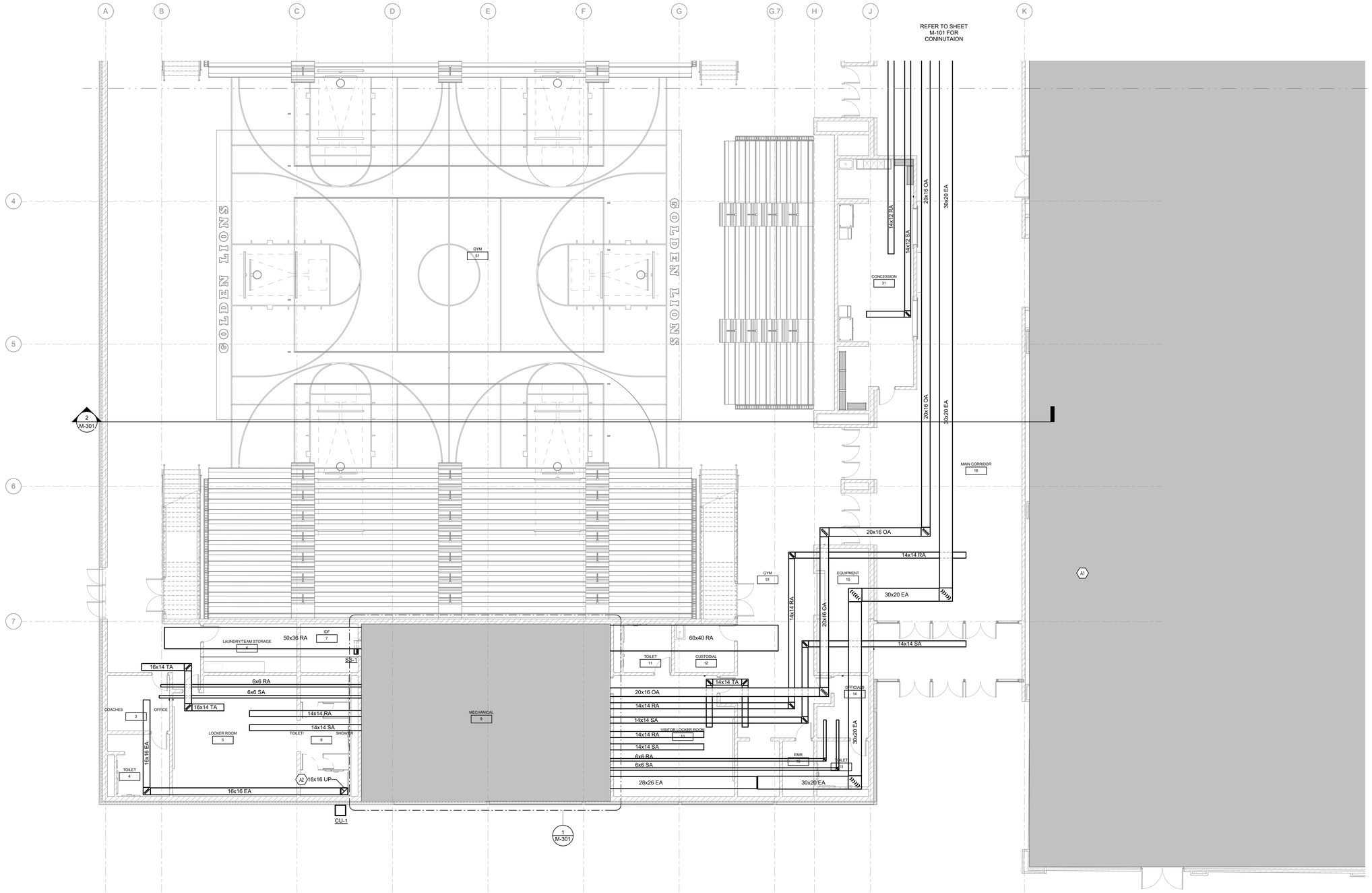
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TAGGED NOTES

A1 HATCHED AREA INDICATES EXISTING PORTION OF BUILDING.
A2 REFER TO SHEET M-104 FOR CONTINUATION.



1 FIRST FLOOR AIR DISTRIBUTION PLAN - AREA B
SCALE: 1/8" = 1'-0"
0 2' 4' 8' 16' 24' 32'

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PERFORMANCE GYM - AIR DISTRIBUTION PLAN - FIRST FLOOR - AREA B

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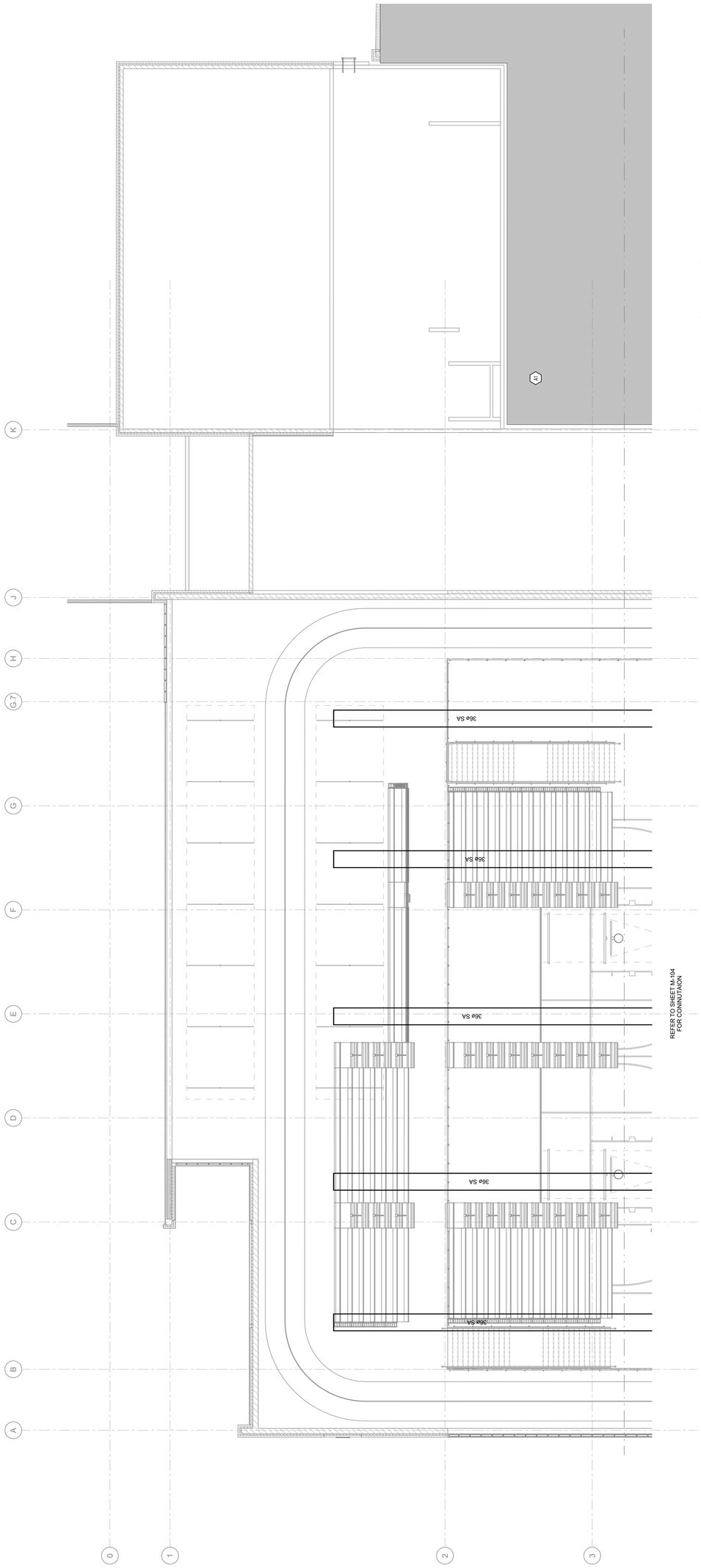
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PERFORMANCE GYM - AIR DISTRIBUTION PLAN - TRACK LEVEL - AREA A

SHEET	DATE:	REVISED
M-103	Issue Date	
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TAGGED NOTES
A1 HATCHED AREA INDICATES EXISTING PORTION OF BUILDING.



1 TRACK LEVEL AIR DISTRIBUTION PLAN - AREA A
SCALE: 1/8" = 1'-0"
0 2' 4' 8' 16' 24' 32'

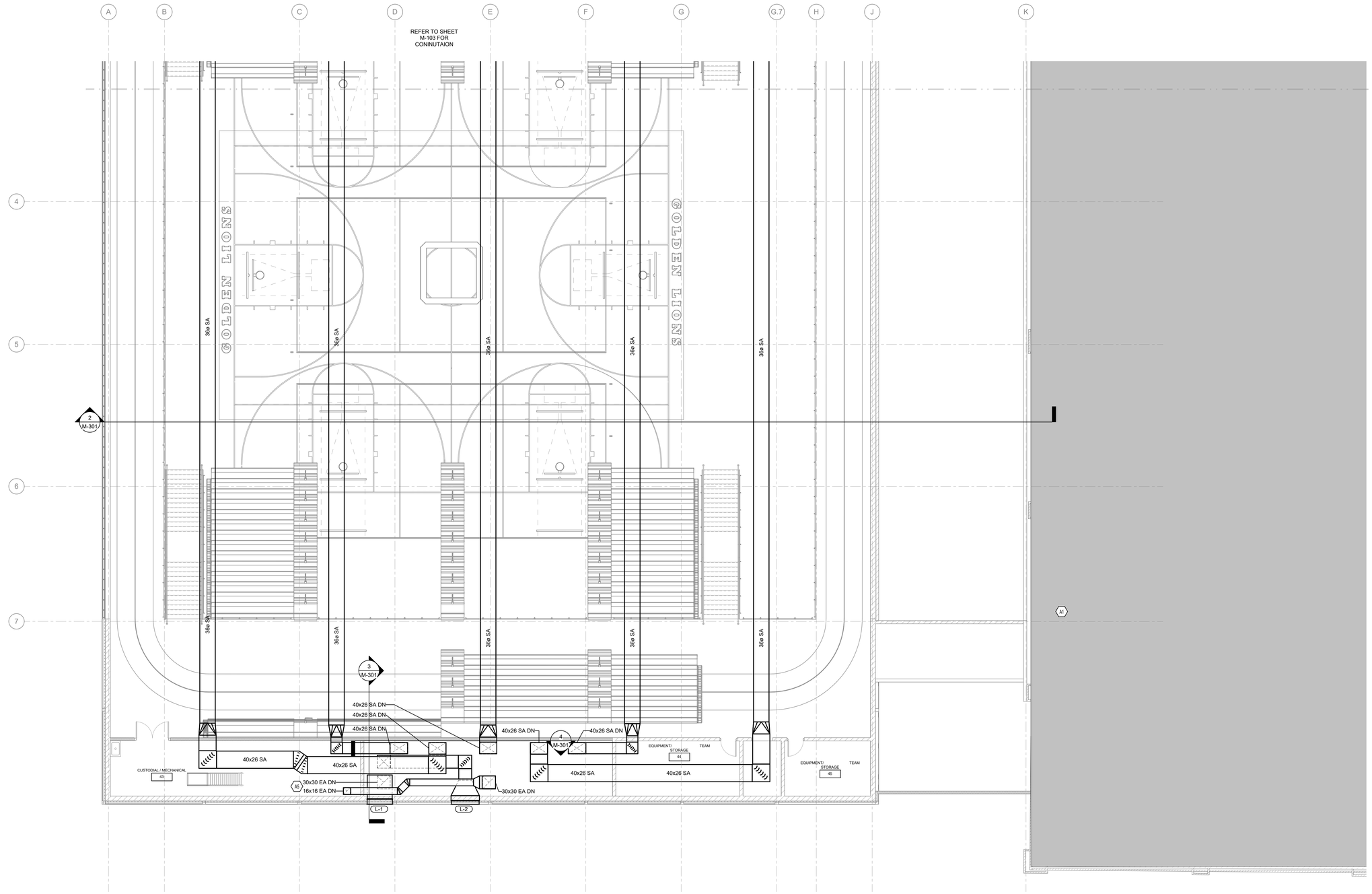
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TAGGED NOTES

(##)

A1 HATCHED AREA INDICATES EXISTING PORTION OF BUILDING.

A5 REFER TO MECHANICAL ROOM 9 ENLARGED PLAN ON SHEET M-301 FOR CONTINUATION.



1 TRACK LEVEL AIR DISTRIBUTION PLAN - AREA B

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

0 2' 4' 8' 16' 24' 32'

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PERFORMANCE GYM - AIR DISTRIBUTION PLAN - TRACK LEVEL - AREA B

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SHEET M-104

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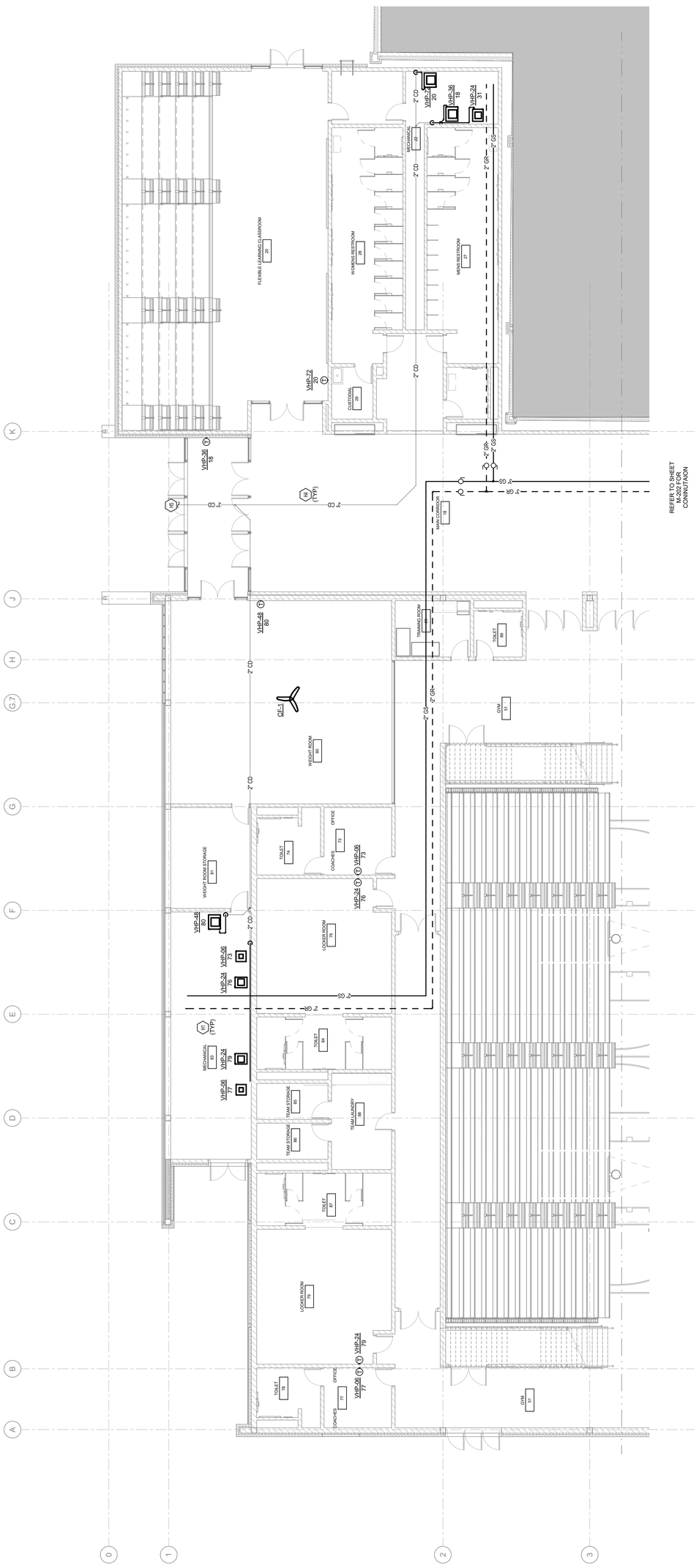
H1 REFER TO VERTICAL HEAT PUMP INSTALLATION DETAIL. TYPICAL OF ALL VERTICAL HEAT PUMPS UNLESS NOTED OTHERWISE

H4 UNDERSLAB PIPING: INSTALL PIPING IN SAND ALL UNDERSLAB PIPING SHALL BE A MINIMUM SIZE OF 2" DIAMETER.

H5 REFER TO SITE PLAN FOR CONTINUATION.

HP RUNOUT SCHEDULE

MARK	GS/GR SIZE (Ø)	CONDENSATE SIZE(Ø)
VHP-36	1-1/4"	3/4"
VHP-24	1-1/4"	1"
VHP-36	1-1/4"	1"
VHP-48	2"	1"
VHP-72	2"	1"
VHP-4268	3"	2"



1 FIRST FLOOR HYDRONICS PLAN - AREA A
SCALE: 1/8" = 1'-0"
0 2' 4' 8' 16' 24' 32'

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PERFORMANCE GYM - HYDRONICS PLAN - FIRST FLOOR - AREA A

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SHEET	DATE:
M-201	Issue Date
	REVISED
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	5

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HP RUNOUT SCHEDULE

MARK	GS/GR SIZE (Ø)	CONDENSATE SIZE(Ø)
VHP-06	3/4"	3/4"
VHP-24	1-1/4"	1"
VHP-36	1-1/4"	1"
VHP-48	2"	1"
VHP-72	2"	1"
VHP-250	3"	2"

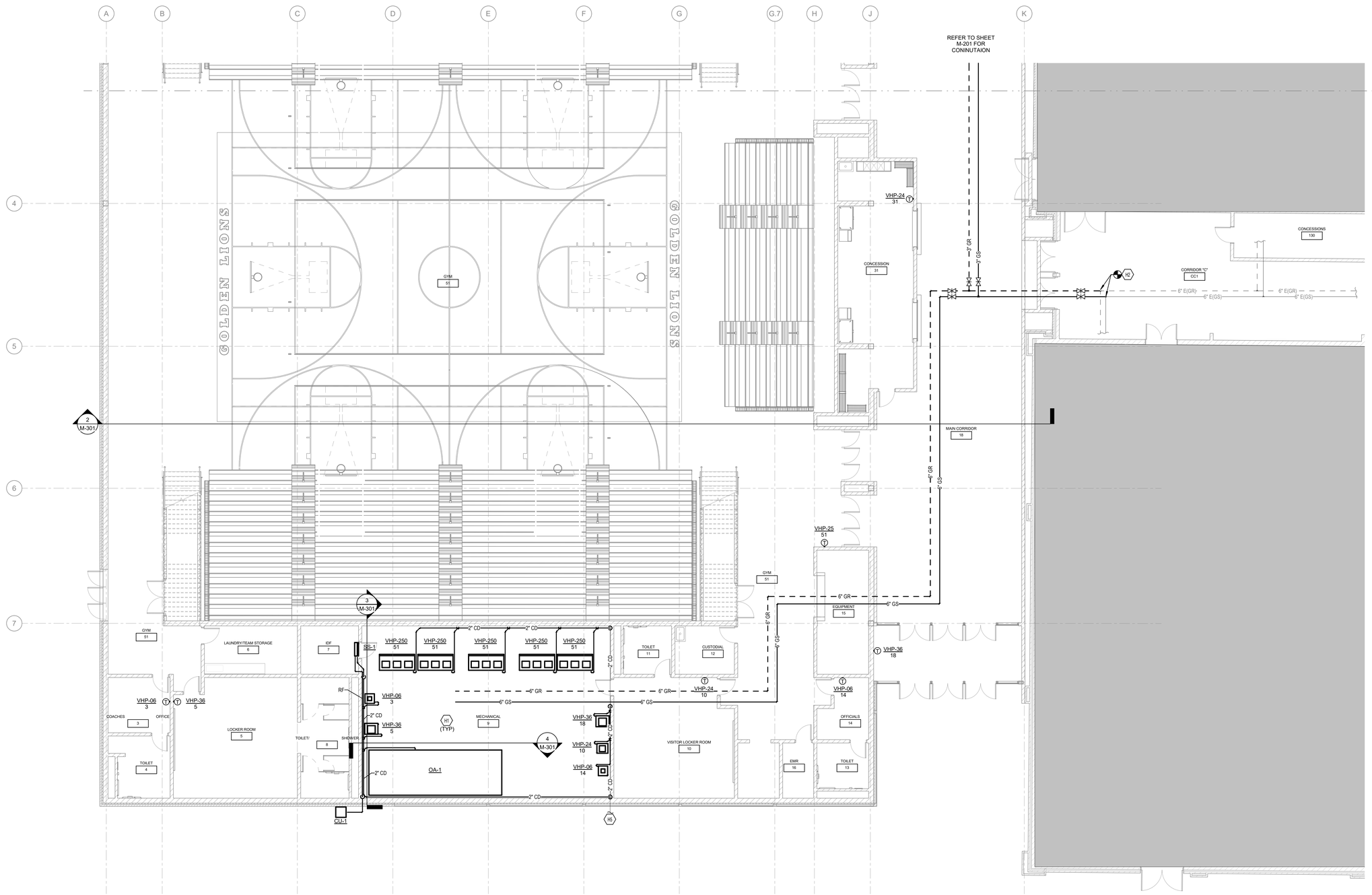
TAGGED NOTES

##

H1 REFER TO VERTICAL HEAT PUMP INSTALLATION DETAIL. TYPICAL OF ALL VERTICAL HEAT PUMPS UNLESS NOTED OTHERWISE.

H2 CONNECT TO EXISTING GEOTHERMAL PIPING WITHIN EXISTING PORTION OF BUILDING.

H5 REFER TO SITE PLAN FOR CONTINUATION.



1 FIRST FLOOR HYDRONICS PLAN - AREA B

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

0 2' 4' 8' 16' 24' 32'

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PERFORMANCE GYM - HYDRONICS PLAN - FIRST FLOOR - AREA B

DATE:	Issue Date	REVISED
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SHEET M-202

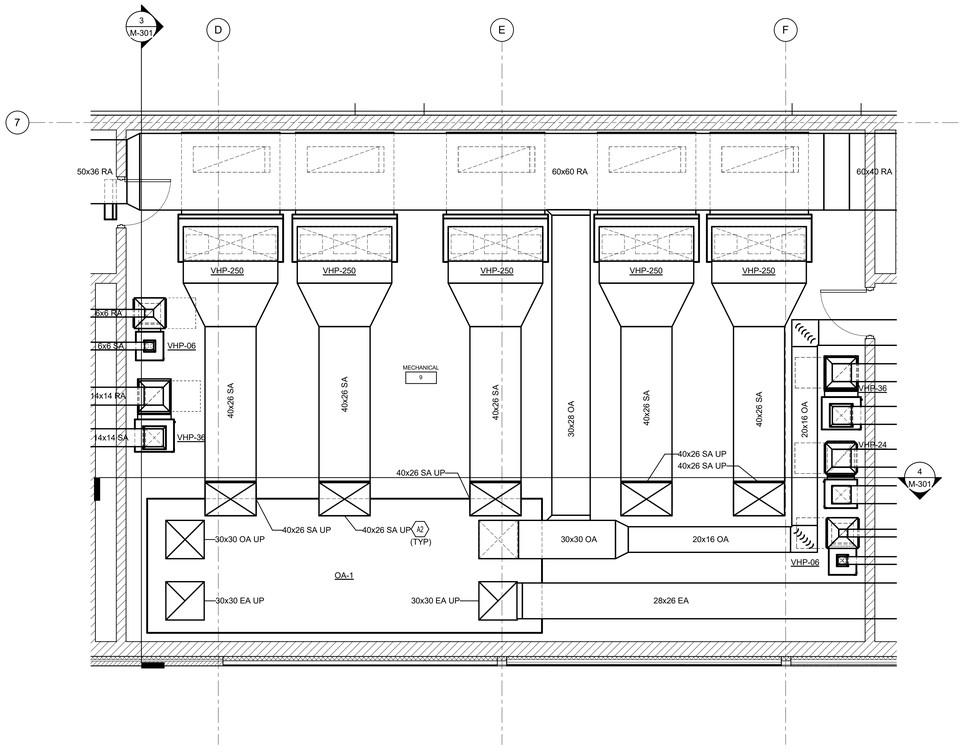
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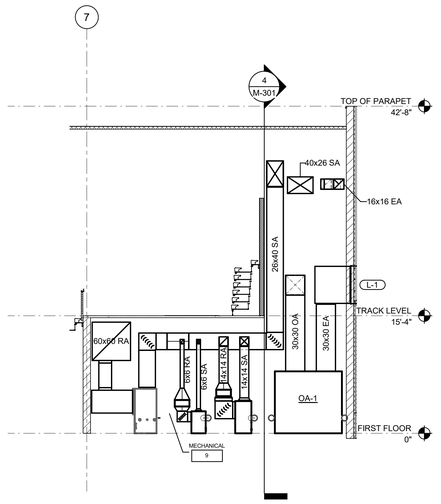
TAGGED NOTES

A2 REFER TO SHEET M-104 FOR CONTINUATION.

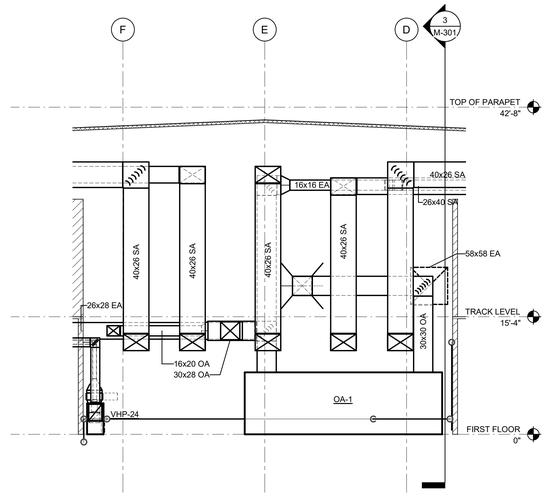
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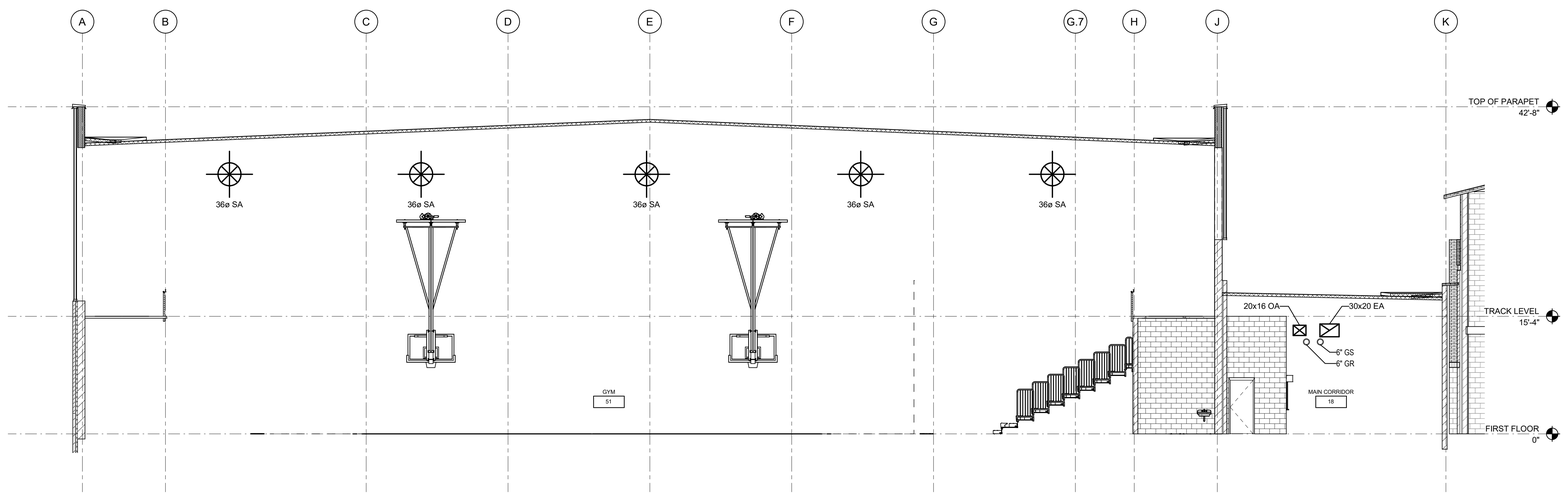
1 M-301 **MECH ROOM 9 ENLARGED VIEW**
1/4" = 1'-0"



3 M-301 **MECHANICAL ROOM 9 SECTION A**
1/8" = 1'-0"



4 M-301 **MECHANICAL ROOM 9 SECTION B**
1/8" = 1'-0"



2 M-301 **GYM SECTION**
1/8" = 1'-0"

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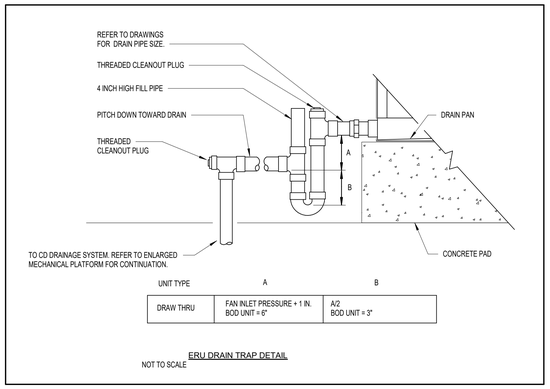
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ENLARGED VIEWS/SECTIONS

DATE: Issue Date	REVISED	1	2	3	4	5

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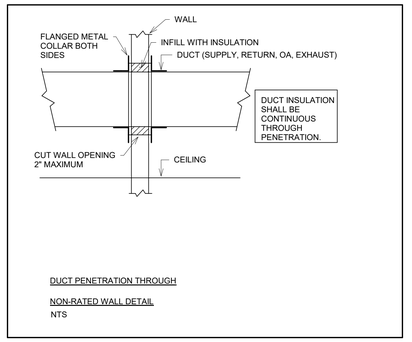


UNIT TYPE	A	B
DRAW THRU	FAN INLET PRESSURE + 1 IN. BOD UNIT = 6"	A/2 BOD UNIT = 3"

ERU DRAIN TRAP DETAIL

NOT TO SCALE

1 OUTSIDE AIR UNIT DRAIN TRAP DETAIL
SCALE: NONE

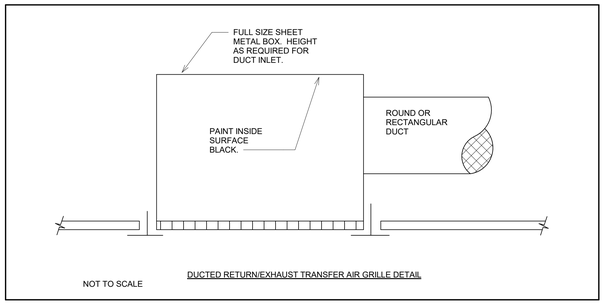


DUCT PENETRATION THROUGH

NON-RATED WALL DETAIL

NTS

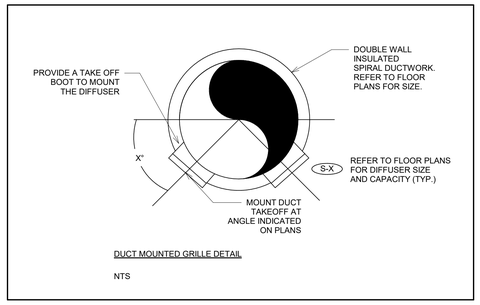
2 DUCT PENETRATION THROUGH NON-RATED WALL DETAIL
SCALE: NONE



NOT TO SCALE

DUCTED RETURN/EXHAUST TRANSFER AIR GRILLE DETAIL

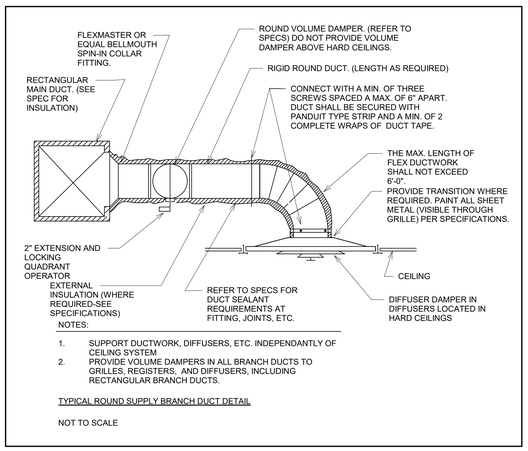
3 DUCTED RETURN/EXHAUST AIR GRILLE DETAIL
SCALE: NONE



DUCT MOUNTED GRILLE DETAIL

NTS

4 REGISTER DUCT TAKEOFF DETAIL
SCALE: NONE



NOTES:

1. SUPPORT DUCTWORK, DIFFUSERS, ETC. INDEPENDANTLY OF CEILING SYSTEM
2. PROVIDE VOLUME DAMPERS IN ALL BRANCH DUCTS TO GRILLES, REGISTERS, AND DIFFUSERS, INCLUDING RECTANGULAR BRANCH DUCTS.

TYPICAL ROUND SUPPLY BRANCH DUCT DETAIL

NOT TO SCALE

5 TYPICAL ROUND SUPPLY BRANCH DUCT DETAIL
SCALE: NONE

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DETAILS

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Issue Date						

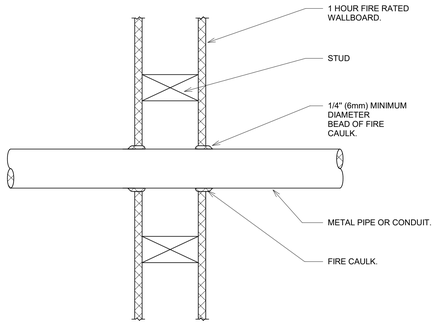
SHEET M-302

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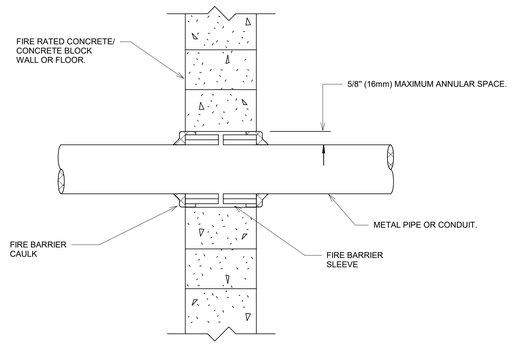
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NOTES.

1. FORCE THE CAULK INTO THE ANNULAR SPACE TO THE MAXIMUM EXTENT POSSIBLE, FLUSH WITH THE EXTERIOR OF THE PENETRATION SURFACE.
2. FINISH CAULKING WITH A 1/4" (6mm) MINIMUM BEAD CAULK APPLIED TO THE PERIMETER OF THE CONDUIT/PIPE AT ITS EGRESS FROM THE WALL.
3. THE MAXIMUM ANNULAR SPACE IS NOT TO EXCEED 3/16" (5mm). (IF IT DOES PATCH WALL AND PENETRATE WALL AT ANOTHER LOCATION).
4. INSTALL THE FIRESTOP ON BOTH SIDES OF THE WALL.
5. FIRE STOPPING IS CRITICAL AND MUST BE ACCOMPLISHED. ALL PIPES MUST BE FIRESTOPPED WHERE THEY PENETRATE FIRE RESISTIVE, FIRE RATED, AND SMOKE RESISTIVE WALLS OR FLOORS.
6. ALL PENETRATIONS WILL BE REVIEWED BY THE ENGINEER. PRIOR TO INSPECTION ALL CEILING TILES BENEATH THE PENETRATIONS SHALL BE REMOVED BY THE CONTRACTOR.

1 PENETRATION FIRESTOP FOR METAL PIPE/CONDUIT THROUGH ONE HOUR WALL
SCALE: NONE



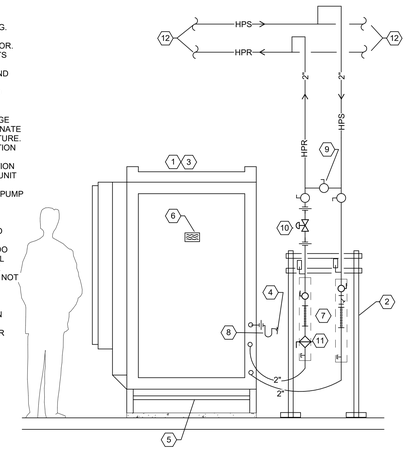
NOTES

1. THE MAXIMUM ANNULAR SPACE AROUND THE METAL PIPE OR CONDUIT IS 5/8" (16mm). (IF THE ANNULAR SPACE EXCEEDS 5/8" PATCH THE WALL AND PENETRATE WALL AT ANOTHER LOCATION).
2. WRAP THE 3M MODEL# FS-195 WRAP/STRIP AROUND THE PIPE/CONDUIT, FOIL SIDE OUT. TO FILL THE SPACE BETWEEN THE PIPE/CONDUIT AND THE WALL OPENING. THE 3M MODEL# FS-195 WRAP/STRIP SHOULD BE TIGHTLY SECURED WITH ALUMINUM FOIL TAPE OR STEEL TIE WIRE AND PUSHED INTO THE OPENING UNTIL THE TOP EDGE OF THE WRAP IS FLUSH WITH THE WALL SURFACE. THE IDENTICAL INSTALLATION SHOULD BE INSTALLED ON THE OTHER SIDE OF THE WALL.
3. USE 3M MODEL# CP 25N/S(NO SAG) CAULK TO FILL THE AREA BETWEEN THE FS-195 WRAP/STRIP AND THE EDGES OF THE OPENING AND ANY VOIDS IN THE 3M MODEL# FS-195 WRAP/STRIP. A FILLM OF CP 25 CAULK SHOULD COAT ALL EXPOSED EDGES OF THE FS-195 WRAP/STRIP AND COMPLETELY SEAL THE AREA BETWEEN THE FS-195 WRAP/STRIP. THE PIPE/CONDUIT AND THE WALL SURFACE.
4. FIRE STOPPING IS CRITICAL AND MUST BE ACCOMPLISHED. ALL PIPES MUST BE FIRESTOPPED WHERE THEY PENETRATE FIRE RESISTIVE, FIRE RATED, AND SMOKE RESISTIVE WALLS OR FLOORS.
5. A FOUR-HOUR TRAINING SESSION SHALL BE CONDUCTED BY MANUFACTURER OF THE FIRESTOPPING MATERIAL. THIS SHALL BE DONE PRIOR TO THE INSTALLATION OF THE MATERIAL. CONTACT ENGINEER TO ADVISE OF THE DATE AND TIME OF THIS MEETING.
6. ALL PENETRATIONS WILL BE REVIEWED BY THE ENGINEER PRIOR TO INSPECTION ALL CEILING TILES BENEATH THE PENETRATIONS SHALL BE REMOVED BY THE CONTRACTOR.

2 PENETRATION FIRESTOP FOR METAL PIPE/CONDUIT THROUGH A CONCRETE WALL
SCALE: NONE

TAG NOTES: (X)

1. TRANSITION SA DUCTWORK TO UNIT OPENING. PROVIDE FLEXIBLE CONNECTION AT UNIT.
2. PROVIDE UNI-STRUT RACK SECURED TO FLOOR. RACK SHALL BE CONSTRUCTED TO SUPPORTS VERTICAL PIPE DROPS.
3. REFER TO THE DRAWINGS FOR DUCT SIZE AND CONTINUATION.
4. PROVIDE MANUFACTURER'S RECOMMENDED CONDENSATE DRAIN PIPE. REFER TO THE DRAWINGS FOR CONTINUATION.
5. MOUNT UNIT ON 4" CONCRETE PAD FOR LARGE VERTICAL HEAT PUMPS. CAREFULLY COORDINATE UNIT AND DUCT CONNECTIONS WITH STRUCTURE. PROVIDE MOUNTING BRACKETS WITH VIBRATION ISOLATION GROMMETS TO SECURE UNIT TO CONCRETE PAD. PROVIDE VIBRATION ISOLATION PAD (RUBBER/CORK) BETWEEN BOTTOM OF UNIT AND CONCRETE STAND.
6. IDENTIFICATION PLACARD TO INCLUDE HEAT PUMP TAG.
7. PROVIDE HOSE KITS PER SPECIFICATIONS.
8. CONDENSATE DRAIN TRAP SIZED PER MANUFACTURERS INSTRUCTIONS. REFER TO DRAWINGS FOR CONTINUATION.
9. BALL VALVE BYPASS FOR FLUSHING LINES. DO NOT FLUSH LINES THRU HOSE KITS, CONTROL VALVE, OR HEAT PUMPS. CLOSE BALL VALVE AFTER SYSTEM FLUSHING IS COMPLETE. DO NOT INSTALL BYPASS LINE DIRECTLY ABOVE THE POWER DISCONNECT.
10. 2-WAY VALVE.
11. AUTOMATIC BALANCING VALVE PROVIDED ON HOSE KIT.
12. REFER TO ENLARGED MECHANICAL PLAN FOR CONTINUATION.
13. PROVIDE MANUFACTURER SUPPLIED FILTER.



3 HEAT PUMP SCHEMATIC FOR VHP-250
SCALE: NONE

NOT FOR CONSTRUCTION

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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

FOR THE GARRARD COUNTY BOARD OF EDUCATION

DETAILS

DATE: Issue Date	REVISED	1	2	3	4	5

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SCHEDULE - OUTSIDE AIR UNIT

MARK	MANUFACTURER	MODEL #	UNIT CONFIGURATION	SERVICE	LOCATION	PHYSICAL DATA				SUPPLY FAN												EXHAUST FAN											REMARKS
						WIDTH (IN.)	LENGTH (IN.)	HEIGHT (IN.)	WEIGHT (LBS)	TOTAL SA CFM	FAN MOTOR TYPE	# OF FANS	FAN RPM	E.S.P. (" WC)	T.S.P. (" WC)	RATED H.P. (PER FAN)	B.H.P. (PER FAN)	VOLT.	PH.	MCA	MOP	OP. FREQ.	TOTAL EA CFM	FAN MOTOR TYPE	# OF FANS	FAN RPM	E.S.P. (" WC)	T.S.P. (" WC)	RATED H.P. (PER FAN)	B.H.P. (PER FAN)	VOLT.	PH.	MCA	MOP	OP. FREQ.	
OA-1	ANNEXAIR	ERP-E-07																															

MARK	DUAL TEMPERATURE COIL																																	
	COIL ROWS	NO. OF COILS	MAX. FIN SPACING (FINS/IN)	COOLING PEFORMANCE																HEATING PERFORMANCE													
				FACE AND BYPASS	COOLING CAPACITY (MBH)	COOLING CAPACITY SENSIBLE (MBH)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	MAX. FACE VELOCITY (FPM)	MAX. AIR PRESSURE DROP (IN. WG)	EWT (°F)	LWT (°F)	WATER FLOW RATE (GPM)	MAX. WATER PRESSURE DROP (FT)	TOTAL HEATING CAP. (MBH)	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	MAX. FACE VELOCITY (FPM)	MAX. AIR PRESSURE DROP (IN. WG.)	WATER FLOW RATE (GPM)	MAX. WATER PRESSURE DROP (FT HD)										
OA-1																																	

MARK	ENERGY RECOVERY WHEEL PERFORMANCE																								FILTER SECTION											
	WINTER OPERATION									SUMMER OPERATION											ELECTRIC DATA			OA FILTER							EA FILTER						
	OUTSIDE AIR				EXHAUST AIR					OUTSIDE AIR				EXHAUST AIR																						
	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	TOTAL CAPCITY (MBH)	TOTAL EFFECTIVENESS	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	TOTAL CAPCITY (MBH)	TOTAL EFFECTIVENESS	APD OA (IN WG)	APD EA (IN WG)	HP	VOLTAGE	PHASE	TYPE	FILTER EFFICIENCY	NO OF FILTERS	WIDTH (IN)	HEIGHT (IN)	FACE VELOCITY (FPM)	PRESSURE DROP (CLEAN) ("WC)	PRESSURE DROP (DIRTY) ("WC)	TYPE	FILTER EFFICIENCY	NO OF FILTERS	WIDTH (IN)	HEIGHT (IN)	FACE VELOCITY (FPM)	PRESSURE DROP (CLEAN) ("WC)	PRESSURE DROP (DIRTY) ("WC)
OA-1																																				

REMARKS:
1. TYPE OF CONSTRUCTION: THERMO-COMPOSITE.
2. DIRECT DRIVE FANS PROVIDED.
3. ONE VFD PROVIDED PER FAN BANK.
4. EXHAUST FAN INCLUDES THE WHEEL PURGE CFM.
5. WINTER LAT IS BASED ON FROST CONTROL BY VFD.
6. 100% OUTSIDE AIR.
7. PROVIDE INTEGRAL 2 WAY CONTROL VALVE.
8. REFER TO OUTSIDE AIR UNIT DETAIL FOR ADDITIONAL REQUIREMENTS.
9. ACCEPTABLE ALTERNATE MANUFACTURERS INCLUDE CLIMATECRAFT AND ENERGY LABS.

SCHEDULE - WATER SOURCE HEAT PUMP

MARK	MANUFACTURER	MODEL #	TYPE	NOM. CFM.	ESP (IN.WG.)	GPM	WATER PD (FT. H20)	COMPRESSORS	STAGES	WEIGHT (LB)	DIMENSIONS (IN)			ELECTRICAL				HEATING								COOLING										CONDENSATE PIPE SIZE	HPS/HPR PIPE SIZE	REMARKS
											LENGTH	WIDTH	HEIGHT	VOLTAGE	PHASE	MCA	MOCP	EAT (DB) (°F)	EWT (°F)	PART			FULL			EAT (DB)	EAT (WB)	EWT (°F)	PART				FULL						
																				HEATING CAPACITY (BTU/HR)	HEAT OF ABSORPTION (BTU/HR)	COP @ ARI	HEATING CAPACITY (BTU/HR)	HEAT OF ABSORPTIO N (BTU/HR)	COP @ ARI				TOTAL CAPACITY (BTU/HR)	SENSIBLE CAPACITY (BTU/HR)	HEAT OF REJECTION (BTU/HR)	EER @ ARI	TOTAL CAPACITY (BTU/HR)	SENSIBLE CAPACITY (BTU/HR)	HEAT OF REJECTION (BTU/HR)	EER @ ARI			
VHP-06	CLIMATEMASTER																																			
VHP-24	CLIMATEMASTER																																			
VHP-36	CLIMATEMASTER																																			
VHP-48	CLIMATEMASTER																																			
VHP-72	CLIMATEMASTER																																			
VHP-250	CLIMATEMASTER																																			

REMARKS:
1. ACCEPTABLE ALTERNATE MANUFACTURERS INCLUDE, CLIMATEMASTER, & TRANE.
2. PROVIDE WITH INTEGRAL DISCONNECT.
3. ALL HEAT PUMPS TO BE EXTENDED RANGE WATER SOURCE.
4. COORDINATE "HAND" OF UNIT WITH FLOOR PLANS. REFER TO DRAWINGS.
5. CONTROLS CONTRACTOR TO PROVIDE FIELD MOUNTED CONTROLLER FOR INTERFACE WITH BAS. HEAT PUMP MANUFACTURER TO PROVIDE EQUIPMENT TO ACCOMODATE FIELD MOUNTED CONTROLS. COORDINATE WITH CONTROLS CONTRACTOR BEFORE ORDERING.
6. PROVIDE HEAT PUMP WITH STAINLESS STEEL DRAIN PAN AND CONDENSATE OVERFLOW SWITCH WITH INTEGRAL CONDENSATE TRAPS.
7. PROVIDE FACTORY START-UP UTILIZING MANUFACTURERS STANDARD FORMS.
8. VERTICAL HEAT PUMPS SERVING GYM ARE TO BE PROVIDED WITH FULLY MODULATING COMPRESSORS WITH 100% MODULATION.
9. PROVIDE NEW COMPLETE SET OF REPLACEMENT FILTERS FOR ALL HEAT PUMPS.
10. PROVIDE PHASE AND BROWNOUT PROTECTION FOR ALL HEAT PUMPS WITH 3 PHASE POWER.
11. VSHP-120 SHALL BE PROVIDED WITH HOT GAS REHEAT FOR DEHUMIDIFCATION.
12. REFER TO HEAT PUMP DETAILS FOR ADDITIONAL REQUIREMENTS

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SCHEDULE - LOUVER

MARK	MANUFACTURER	MODEL #	SERVICE	CFM	LENGTH (IN)	HEIGHT (IN)	FREE AREA	VELOCITY (FPM)	APD (IN. WG.)	REMARKS
L-1	RUSKIN	ELF375DX								
L-2	RUSKIN	ELF375DX								

REMARKS:
1. ACCEPTABLE MANUFACTURERS INCLUDE GREENHECK, AWV, OR EQUAL.
2. PROVIDE WITH BIRDSCREEN.
3. FACTORY PAINTED OFFSITE. COLOR TO BE SELECTED BY ARCHITECT.
4. COORDINATE INSTALLATION WITH MASONARY COURSING.
5. REFER TO MECHANICAL DRAWINGS FOR INSTALLATION HEIGHT.
6. LOUVER SHALL BE FEMA 361 STORM RATED.

SCHEDULE - MINI SPLIT SYSTEM INDOOR UNIT

MARK	MODEL #	MANUF.	DIMENSIONS (IN.)			WEIGHT (LBS)	AIRFLOW (CFM)	ELECTRICAL		REMARKS
			DEPTH	WIDTH	HEIGHT			VOLTAGE	PHASE	
SS-1	FTXS18LVJU	DAIKIN	13	41	10	31	583		1	ALL

SCHEDULE - MINI SPLIT SYSTEM OUTDOOR UNIT

MARK	MANUF.	MODEL #	DIMENSIONS (IN.)			WEIGHT (LBS)	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	HEATING CAPACITY (MBH)	MINIMUM SEER	ELECTRICAL			
			LENGTH	WIDTH	HEIGHT						MCA	MOCP	VOLTAGE	PHASE
CU-1	FTXS18LVJU	DAIKIN												

REMARKS:
1. ACCEPTABLE MANUFACTURER'S INCLUDE SAMSUNG AND LG
2. MAINTAIN MANUFACTURER'S CLEARANCES.
3. PROVIDE WITH INTEGRAL DISCONNECT
4. COOLING CAPACITY IS BASED ON 80F DB/67F WB EAT AND 95F DB AMBIENT.
5. HEATING CAPACITY IS BASED ON 70F INDOOR AND 47F AMBIENT.
6. PROVIDE SINGLE POINT ELECTRICAL CONNECTION. INDOOR UNIT IS POWERED BY THE OUTDOOR UNIT.
7. SIZE ALL REFRIGERANT PIPING PER MANUFACTURERS INSTRUCTIONS. REVIEW ALL PIPING RUNS WITH THE MANUFACTURER. PROVIDE ALL COMPONENTS NECESSARY FOR PROPER OPERATION. R410 REFRIGERANT.
8. REFER TO CONTROLS SPECIFICATIONS FOR REQUIRED INTERFACE TO DDC SYSTEM. PROVIDE COMPATIBLE INTERFACE TO BUILDING DDC SYSTEM.
9. REMOTE WALL THERMOSTAT.
10. PROVIDE LOW AMBIENT COOLING KIT.

SCHEDULE - REGISTERS, GRILLES, AND DIFFUSERS

MARK	MANUFACTURER	MODEL #	TYPE	GRILLE SIZE	DUCT INLET SIZE	DUCT BRANCH SIZE	MAX CFM	P.D.	NOISE CRITERIA	THROW PATTERN	REMARKS

REMARKS:
1. ACCEPTABLE MANUFACTURERS INCLUDE TITUS, METALAIRE, & KRUEGER
2. COLOR SHALL BE SELECTED BY ARCHITECT.
3. COORDINATE MOUNTING TYPE (LAY-IN, GYP BOARD, ETC.) WITH ARCHITECTURAL DRAWINGS.
4. FOR MODELS 4FFL, PROVIDE MANUFACTURER SUPPLIED 1" THICK FILTER.

CIRCULATION FAN SCHEDULE

MARK	MANUFACTURER	MODEL #	TYPE	WEIGHT	ELECTRICAL DATA			REMARKS
					FLA	VOLTAGE	PHASE	
CF-1	BIG ASS FANS	HAIKU						

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MECHANICAL CONTROL LEGEND

AFF	ABOVE FINISHED FLOOR
AFMS	AIR FLOW MONITORING STATION
AI	ANALOG INPUT
AO	ANALOG OUTPUT
BAS	BUILDING AUTOMATION SYSTEM
BP	BOOSTER PUMP
CCF	100 CUBIC FEET NATURAL GAS
CMD	COMMAND
CO2	CARBON DIOXIDE
CR	CONDENSER RETURN
CS	CONDENSER SUPPLY
CSR	CURRENT SENSOR RELAY
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DAT	DISCHARGE AIR TEMPERATURE
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DP	DEWPOINT
DPR	DAMPER
EA	EXHAUST AIR PATH
FBD	FACE AND BYPASS DAMPER
HL	HIGH LIMIT
HP	HEAT PUMP
HR	HEAT PUMP RETURN
HS	HEAT PUMP SUPPLY
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
LL	LOW LIMIT
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
MAT	MIXED AIR TEMPERATURE
MAU	MAKE-UP AIR UNIT
MIN	MINIMUM
NSW	NON-SOFTENED WATER
NC	NORMALLY CLOSED
O/C	OCCUPIED COOLING SETPOINT
O/H	OCCUPIED HEATING SETPOINT
OA	OUTSIDE AIR PATH
OAD	OUTSIDE AIR DAMPER
OAH	OUTSIDE AIR HUMIDITY
OAT	OUTSIDE AIR TEMPERATURE
OCC	OCCUPANCY
OVR	OVERRIDE VIA USER INTERFACE
PRESS	PRESSURE
RA	RETURN AIR PATH
RF	RETURN FAN
RH	RELATIVE HUMIDITY
SA	SUPPLY AIR PATH

SETPT	SETPOINT
SF	SUPPLY FAN
SFA	SUPPLY FAN ARRAY
STS	STATUS
SW	SOFT WATER
TCC	TEMPERATURE CONTROL CONTRACTOR
TEMP	TEMPERATURE
U/C	UNOCCUPIED COOLING SETPOINT
U/H	UNOCCUPIED HEATING SETPOINT
VFD	VARIABLE FREQUENCY DRIVE
Ta	AVERAGING TEMPERATURE SENSOR
Ts	INSERTION TEMPERATURE SENSOR
H	HUMIDITY SENSOR
h	ENTHALPY SENSOR
LL	LOW LIMIT TEMPERATURE SENSOR
P	PRESSURE SENSOR
DP	DUCT STATIC PRESSURE SENSOR
DPSW	DIFFERENTIAL PRESSURE SWITCH
ES	DAMPER END SWITCH
DPS	DIFFERENTIAL PRESSURE SENSOR
C	START/STOP COMMAND
M	MOTORIZED DAMPER
F	FLOW METER
CS	CURRENT SENSOR
SD	DUCT MOUNTED SMOKE DETECTOR
COS	CONDENSATE OVERFLOW SWITCH
DSP-HL	DUCT STATIC PRESSURE HIGH LIMIT
DSP-LL	DUCT STATIC PRESSURE LOW LIMIT
ZN-DP	ZONE DEW POINT
ZN-OCC	ZONE OCCUPANCY SENSOR
ZN-T	ZONE TEMPERATURE - 48" AFF
H/W	HEATING COIL
Co2	CARBON DIOXIDE SENSOR
C/W	CHILLED WATER COIL
E/R	ENERGY RECOVERY COIL
HUMID	HUMIDIFIER

GENERAL CONTROL REQUIREMENTS:

A. ALL EQUIPMENT SHALL HAVE BACNET COMPATIBLE CONTROLLERS UNLESS OTHERWISE NOTED. ALL BACNET CONTROLLED EQUIPMENT SHALL BE CONNECTED WITH THE BASE FRONT END WITH REMOTE ACCESS FOR FACILITY OPERATORS.
B. ALL HARDWARE, EQUIPMENT, AND THE BAS FRONT END MUST FULLY COMPLY WITH THE CONTROLS SPECIFICATIONS.
C. A VALVE EXERCISE PROGRAM SHALL BE INCLUDED AS PART OF THE DDC SYSTEM TO OPEN AND CLOSE AUTOMATIC CONTROL VALVES AND ACTUATORS 2 FULL STROKES DURING AN UNOCCUPIED PERIOD EVERY WEEK.
D. ALL POINT NAMES SHALL HAVE A STANDARDIZED NAMING CONVENTION TO BE COORDINATED AND APPROVED BY CMTA.
E. ALL EQUIPMENT TO HAVE UNIQUE TAG. COORDINATE NAMING WITH MECHANICAL PLANS AND EQUIPMENT LABELING.
F. FOR UNITS THAT SERVE THE SAME SPACE, LEADER/FOLLOWER PROGRAMMING LOGIC OR OTHER PROGRAMMING METHODS SHALL BE IMPLEMENTED TO AVOID SIMULTANEOUS HEATIN AND COOLING.
G. ALL FANS AND PUMPING MONITORED BY THE BAS SHALL HAVE RUN HOURS ACCUMULATED.
H. GRAPHICS SHALL INCLUDE A SUMMARY TABLE FOR EACH EQUIPMENT TYPE WITH MORE THAN 1 PIECE OF EQUIPMENT. COORDINATE PERTINENT OPERATING PARAMETERS FOR EACH SYSTEM TYPE WITH CMTA.
I. PROVIDE CMTA ACCESS TO ALL DATA, PROGRAMMING LOGIC, WIRE SHEETS, ETC. ALL SHALL BE EXPOSED TO CMTA FOR REVIEW COMMENT, AND TROUBLESHOOTING. PROVIDE CMTA WITH ALL ACCESS, LICENSES, ETC. AS REQUIRED. A CONTROLS PROGRAMMING SOFTWARE PACKAGE SHALL BE PROVIDED TO CMTA AND THE OWNER FOR ACCESS TO UNITARY CONTROLS PROGRAMMING LOGIC.
J. PROVIDE ALL INSTALLATION, SUPERVISION, LABOR, AND MATERIAL (IE CONDUIT, WIRE, CABLE, ETC) AS REQUIRED TO INSTALL THE ENTIRE CONTROLS SYSTEM PER DOCUMENT REQUIREMENTS.
K. PROVIDE ENGINEERED DRAWINGS, STARTUP, DATABASE PROGRAMMING, STANDARD COLOR GRAPHICS, INCLUDING THERMOGRAPHIC SITE PLAN, EQUIPMENT, FLOORPLANS, ETC.
L. ALL EXPOSED WIRING, WIRING IN WALLS, HARD CEILINGS, AND MECHANICAL ROOMS SHALL BE IN CONDUIT. ALL CONCEALED WIRING SHALL BE PLENUM RATED WIRE NEATLY SUPPORTED UTILIZING BRIDAL RINGS.
M. INCLUDE 1-YEAR PARTS WARRANTY, 1-YEAR LABOR WARRANTY, AND ONE YEAR JACE SOFTWARE MAINTEANCE AGREEMENT (SMA) FROM THE SIGNED DATE OF FINAL COMPLETION OF EACH SCHOOL. REFER TO COMMISSIONING REQUIREMENTS FOR ADDITIONAL VERIFICATION AND TESTING REQUIREMENTS AND INCLUDE ALL COSTS REQUIRED TO ACCOMMODATE COMMISSIONING OF BUILDING CONTROL SYSTEM. REFER TO RELATED COMMISSIONING SPECIFICATION FOR FURTHER DETAIL.
N. ALL DEVICES THAT ARE ON THE BAS MUST HAVE A WARNING LABEL ON THE EQUIPMENT THAT IS CONTROLLED USING REMOTE PROGRAMMING AND CAN START AT ANY TIME.
O. ALL THERMOSTATS TO HAVE UNOCCUPIED OVERRIDE BUTTON THAT GIVES OCCUPANT 90 MINUTES (ADJ.) OF OCCUPIED OPERATION WHEN PRESSED. THERMOSTATS SHALL HAVE AN OVERRIDE AND SHALL DISPLAY ROOM TEMPERATURE BUT ABLE TO BE PROGRAMMED TO SHOW ONLY SETPOINT IF DESIRED. ALL THERMOSTATS WILL MONITOR TEMPERATURE. ALL THERMOSTATS SHALL HAVE A WARMER/COOLER WHEEL OR SLIDE FOR OCCUPANCY ADJUSTMENT AT THE SPACE THAT SHALL BE LIMTED BY OPERATOR PROGRAMMING. WHERE SPECIFIED IN THE INDIVIDUAL FACILITY BID PACKAGE SECTION, THERMOSTATS SHALL MONITOR SPACE TEMPERATURE AND/OR RELATIVE HUMIDITY.

CONTROL GRAPHIC REQUIREMENTS:

A. SETPOINTS & SOFT SETBACK: EACH UNIT USED FOR SPACE CONDITIONING SHALL, ON THE GRAPHIC, SHOW CURRENT HEATING AND COOLING SETPOINT, UNOCCUPIED AND OCCUPIED HEATING AND COOLING SETPOINT, AND TIME FOR WHICH SPACE SHALL CHANGE STATUS (IE. FROM OCCUPIED TO UNOCCUPIED OR UNOCCUPIED TO OCCUPIED). tHESE SETPOINTS SHALL BE ADJUSTABLE ON THE GRAPHIC PAGE. ALL TEMPERATURE ADJUSTMENT VALUES (TEMPERATURE RESETS, DEMAND LIMITING, OCCUPANT ADJUST, ETC.) SHALL BE SHOWN ON THE GRAPHICS.
B. TRENDS ON GRAPHICS: ALL TRENDED POINTS SHALL BE MADE AVAILABLE THROUGH THE GRAPHICAL INTERFACE.
C. SAMPLES FOR REVIEW: PROVIDE A SAMPLE OF EACH FOR REVIEW WITH SUBMITTALS OR UNDER SEPARATE COVER.
D. ANIMATION LINKED TO STATUS. ANY ANIMATION SUCH AS FLOWING PIPE ARROWS SHALL BE LINKED TO THE STATUS OF THE EQUIPMENT. FOR EXAMPLE, DO NOT SHOW MOVING PIPE ARROWS FOR PUMPS THAT ARE OFF.
E. COLORS: USE BACKGROUND COLOR AS DIRECTED BY CMTA (WHITE OR BLACK).
F. ALARMS: EQUIPMENT GRAPHICS PAGE SHALL HAVE SECTION THAT CLEARLY DISPLAYS ANY SYSTEM RELATED ALARMS IN EFFECT.
G. GRAPHICS SHALL HAVE ROOM NAMES, ROOM NUMBERS, AND UNIT DESCRIPTORS SHOWN. THE GRAPHICS SHALL SHOW OUTSIDE AIR TEMPERATURE AND THE CURRENT FACILITY ELECTRIC DEMAND LEVEL (KW). BOUNDARIES SHALL BE DEPICTED OF WHAT UNITS SERVE WHICH AREAS. COLOR CODEING OR BOUNDARY OUTLINE OR OTHER APPROVED METHOD. CMTA SHALL BE PROVIDED WITH AN EXAMPLE AND APPROVE THE METHOD USED. GRAPHICS SHALL INCLUDE SECTION THAT CLEARLY DISPLAYS CURRENT ALARMS WITH LINK TO ASSOCIATED SYSTEM.

CONTROLS POINTS LIST CLARIFICATION:

ALL POINTS LISTS WITHIN THIS DOCUMENT INCLUDE THE DESIGNATIONS AV AND BV. THESE REPRESENT ANALOG VALUES AND BINARY VALUES RESPECTIVELY. THESE DESIGNATIONS WILL DIFFER BY EQUIPMENT AS FOLLOWS:

A. IF EQUIPMENT IS FUNISHED WITH A FACTORY BACNET CONTROLLER, ALL AVAILABLE POINTS ARE BROUGHT IN THROUGH INTEGRATION BY CONTROLS CONTRACTOR. POINTS ALL FUNCTION AS SOFTWARE POINTS EVEN IF SENSOR REQUIRE TO BE FIELD INSTALLED AND WILL ALL BE DESIGNATED AS VIRTUAL POINTS. AV/BV SENSORS WILL BE FURNISHED WITH THE EQUIPMENT, UNLESS OTHERWISE NOTED. CONFIRM AVAILABLE POINTS AND CONFIGURATION WITH CMTA UPON EQUIPMENT SELECTION.
B. IF EQUIPMENT IS FURNISHED WITH A TERMINAL STRIP FOR CONNECTION TO A THIRD PARTY CONTROLLER BY THE CONTROLS CONTRACTOR. THE INPUTS AND OUTPUTS FUNCTION AS HARDWARE POINTS WHILE THE VIRTUAL POINTS FUNCTION AS SOFTWARE POINTS. CONFIRM AVAILABLE POINTS AND CONFIGURATION WITH CMTA UPON EQUIPMENT SELECTION.

EQUIPMENT SCHEDULING REQUIREMENTS:

EQUIPMENT SCHEDULES:

EVERY SYSTEM SHALL OPERATE ACCORDING TO A USER DEFINABLE SCHEDULE. COORDINATE FINAL SCHEDULES AND GROUPS WITH CMTA PRIOR TO IMPLEMENTATION. COORDINATE FINAL SCHEDULING CAPABILITY WITH OTHER BID REQUIREMENTS.

NORMAL SCHEDULE - THESE ARE THE BASIC NORMAL WEEKLY SCHEDULES THAT ARE ENTERED AND RETAINED. THESE MAY BE PUT IN AT ANY LEVEL CHOSEN BY THE USER (EQUIPMENT, ZONE, SCHOOL, OR DISTRICT) AND MUST BE ADJUSTABLE. AN ADJUSTABLE STAGED OR OPTIMAL START ALGORITHM MUST BE INCLUDED TO ENABLE SPACES TO MEET NORMAL SCHEDULE OCCUPIED SETPOINT BY NORMAL SCHEDULE START TIME.

HOLIDAY SCHEDULE - THESE SCHEDULES PUT EQUIPMENT, ZONES, SCHOOLS, OR THE DISTRICT IN UNOCCUPIED MODE WHILE "NORMAL" SCHEDULES REMAIN INTACT. WHEN SCHOOL IS CANCELLED OR OVER BREAKS. MANY TIMES, THESE ARE PUT IN AT DISTRICT OR SCHOOL LEVEL. HOLIDAY TAKES PRIORITY OVER "NORMAL" SO THAT SCHOOLS/ZONES/EQUIPEMNT OPERATE AS UNOCCUPIED.

OVERRIDE SCHEDULES - TURNS EQUIPMENT OR AREAS TO OCCUPIED MODE WHILE "HOLIDAY" OR "NORMAL" IS RETAINED. OVERRIDE TAKE PRIORITY OVER "HOLIDAY" AND "NORMAL"

VENTILATION SCHEDULE - THIS SCHEDULE SHALL CONTROL THE OPERATION OF THE SCHEDULED BUILDING EXHAUST FANS AND OUTSIDE AIR VENTILATION EQUIPMENT AND DAMPERS. THIS SCHEDULE SHALL CLOSE THE VENTILATION OFF AND TURN OFF THE BUILDING EXHAUST FANS DURING UNOCCUPIED PERIODS TO ENABLE BETTER TEMPERATURE AND HUMIDITY CONTROL. DURING THE SUMMER WHEN THE ECONOMIZER IS ENABLED, VENTILATION WILL BE ALLOWED.

SUMMER MODE OPERATION - DURING THE SUMMER MONTHS, THE BUILDING SHALL OPERATE AT REDUCED OCCUPANCY LOAD. THIS MODE SHALL ONLY AFFECT SPECIFIED EQUIPMENT WITHIN THE BUILDING THAT HAS REGULAR SUMMER OCCUPANCY. REMAINING EQUIPMENT WITHIN THE BUILDING SHALL OPERATE UNDER THEIR OWN SCHEDULE GROUPS IN THE UNOCCUPIED MODE TO CONTROL SPACE TEMPERATURE AND HUMIDTY WHILE IN SETBACK. COORDINATE FINAL SCHEDULE GROUPS WITH CMTA PRIOR TO IMPLEMENTATION.

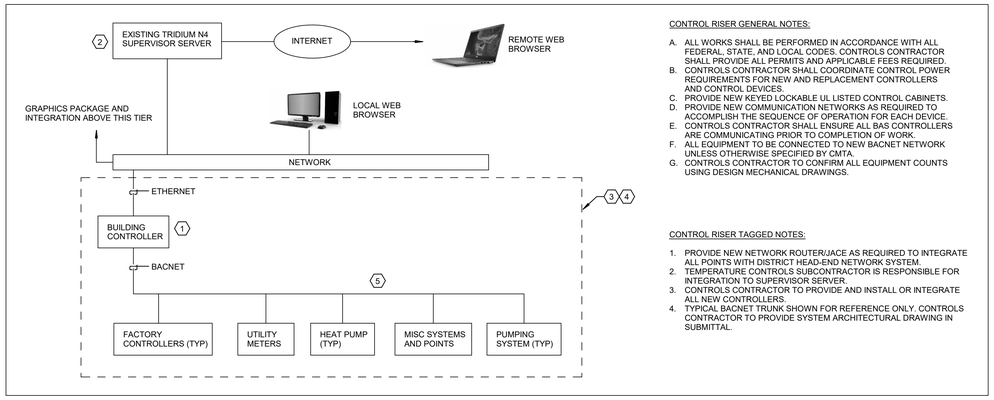
SNOW DAY OPERATION - FUNCTIONALITY SHALL BE BUILT INTO THE CONTROLS TO ALLOW FOR THE OVERRIDE OF ALL SCHEDULES INTO AN UNOCCUPIED STATE DUE TO THE SUDDEN CANCELLATION OF SCHOOL OR SIMILAR EVENT. SYSTEM OVERRIDE SWITCHES SHALL REMAIN IN PLACE AS STATED IN EACH SYSTEMS CONTROL SEQUENCE TO ALLOW FOR ISOLATED SPACES TO BE PLACED IN OCCUPIED MODE DURING SCHEDULED UNOCCUPIED HOURS.

SYSTEM SHALL HAVE ABILITY TO PUT A BUILDING, GROUP, OR PIECE OF EQUIPMENT INTO OVERRIDE. FOR EXAMPLE, THIS WOULD APPLY TO TYPICAL K-12 SUMMER OPERATION. ALL SCHOOLS ARE TYPICALLY TURNED TO UNOCCUPIED VIA A HOLIDAY THAT OVERRIDES THE NORMAL SCHEDULE. HOWEVER, SHCOOL EVENTS WILL REQUIRE CERTAIN AREAS OR PIECES OF EQUIPMENT TO BE TURNED ON AT ANY GIVEN SCHOOL. THE OVERRIDE FUNCTION ALLOWS THESE TO BE TURNED ON, WHILE THE DISTRICT WIDE SUMMER HOLIDAY REMAINS IN FORCE FOR ALL SCHOOLS.

BASE/DEFAULT TIME IN ALL SCHEDULES SHALL BE UNOCCUPIED. IF THERE IS NO EVENT, OR NO SCHEDULE, THE ITEM IS TO BE UNOCCUPIED. DO NOT REQUIRE THE USER TO PUT IN BOTH UNOCCUPIED TIME AND OCCUPIED TIME FOR SCHEDULES. ONLY OCCUPIED TIME IS TO BE INPUT BY USER. IF A PIECE OF EQUIPMENT IS TO BE OCCUPIED/ENABLED 24 HOURS PER DAY, THE SCHEDULE SHALL BE PUT IN AS 24 HOURS PER DAY. DO NOT CHANGE DEFAULT TO OCCUPIED.

BASE BUILDING GROUPS ARE AS FOLLOWS:
GYMASIUM: INCLUDES HEAT PUMPS SERVING SPACES 154, 154B, 154A, VA-2, AND 155.
AUDITORIUM: INCLUDES HEAT PUMPS SERVING SPACES 156, 158, VA-3, AND 155
BAND: INCLUDES HEAT PUMPS SERVING SPACES 163, 159, 159E, 159C, 163G, 163B, 159A, C105
ADMIN: ALL HEAT PUMPS WITHIN ADMIN AREA AND VA-1 AND ADJACENT ENTRY LOBBY.
MEDIA CENTER: INCLUDES HEAT PUMP SERVING SPACE 107
KITCHEN: INCLUDES HEAT PUMPS SERVING SPACES 149, 149C, 150, 149F, AND C104.
NORTH CLASSROOM GROUP: INCLUDES ALL HEAT PUMPS SERVING EDUCATIONAL SPACES WTIHIN AREA C, FIRST AND SECOND FLOORS.
SOUTH CLASSROOM GROUP: INCLUDES ALL HEAT PUMPS SERVING EDUCATIONAL SPACES WTIHIN AREA E, FIRST AND SECOND FLOORS.
CENTRAL CLASSROOM GROUP: INCLUDES ALL HEAT PUMPS SERVING EDUCATIONAL SPACES WITHIN AREAS D AND F, FIRST AND SECOND FLOORS.

SEE EXAMPLE SCHEDULE BELOW:



CONTROL RISER GENERAL NOTES:

A. ALL WORKS SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL CODES. CONTROLS CONTRACTOR SHALL PROVIDE ALL PERMITS AND APPLICABLE FEES REQUIRED.
B. CONTROLS CONTRACTOR SHALL COORDINATE CONTROL POWER REQUIREMENTS FOR NEW AND REPLACEMENT CONTROLLERS AND CONTROL DEVICES.
C. PROVIDE NEW KEYED LOCKABLE UL LISTED CONTROL CABINETS.
D. PROVIDE NEW COMMUNICATION NETWORKS AS REQUIRED TO ACCOMPLISH THE SEQUENCE OF OPERATION FOR EACH DEVICE.
E. CONTROLS CONTRACTOR SHALL ENSURE ALL BAS CONTROLLERS ARE COMMUNICATING PRIOR TO COMPLETION OF WORK.
F. ALL EQUIPMENT TO BE CONNECTED TO NEW BACNET NETWORK UNLESS OTHERWISE SPECIFIED BY CMTA.
G. CONTROLS CONTRACTOR TO CONFIRM ALL EQUIPMENT COUNTS USING DESIGN MECHANICAL DRAWINGS.

CONTROL RISER TAGGED NOTES:

1. PROVIDE NEW NETWORK ROUTER/JACE AS REQUIRED TO INTEGRATE ALL POINTS WITH DISTRICT HEAD-END NETWORK SYSTEM.
2. TEMPERATURE CONTROLS SUBCONTRACTOR IS RESPONSIBLE FOR INTEGRATION TO SUPERVISOR SERVER.
3. CONTROLS CONTRACTOR TO PROVIDE AND INSTALL OR INTEGRATE ALL NEW CONTROLLERS.
4. TYPICAL BACNET TRUNK SHOWN FOR REFERENCE ONLY. CONTROLS CONTRACTOR TO PROVIDE SYSTEM ARCHITECTURAL DRAWING IN SUBMITTAL.

NOT FOR CONSTRUCTION

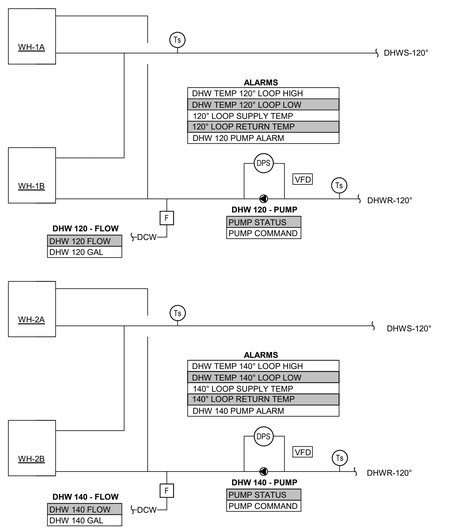
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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX
FOR THE GARRARD COUNTY BOARD OF EDUCATION
CONTROLS

DOMESTIC/KITCHEN HOT WATER SYSTEM
LOCATION: MECHANICAL PLATFORM
AREA SERVED: OCCUPIED/UNOCCUPIED
HW SYSTEM STATUS

OA T	OA H	DATE & TIME
°F	%RH	



DOMESTIC HOT WATER SYSTEM CONTROL SCHEMATIC

DOMESTIC HOT WATER SYSTEM (WH-1A, WH-1B, WH-2A, WH-2B) SEQUENCE OF OPERATION:

1. General:
   A. High school domestic hot water is provided via two independent water heating systems - a 120 degree domestic hot water system which supplies general purpose domestic hot water to most fixtures throughout the building and a 140 degree domestic hot water system which supplies 140 degree domestic hot water to select fixtures within the culinary and kitchen areas of the high school. Each system consists of redundant gas hot water heaters paired with a hot water recirculating pump.
   B. Water Heaters operate independently on their own controls. Provide wire to monitor dry alarm contact for each and report to BAS.
2. Recirculating pumps sequence of operation:
   A. The domestic hot water system and the kitchen hot water system shall be enabled whenever the building or an applicable zone of control is scheduled to be occupied. Refer to zones of control as outlined on sheet M8.0.
   B. When the domestic hot water system is enabled, the domestic hot water recirculating pumps which serve both the 120 degree and 140 degree hot water systems shall run constantly. When the building is scheduled unoccupied, the pumps shall be off. Pumps shall have a building warming feature where they start and run 2 hours (adj.) before the building is scheduled to be occupied.
3. Alarms:
   A. BAS shall monitor the water supply temp of the 120 degree water system and alarm if setpoint exceeds 125°F (adj) when occupied.
   B. BAS shall monitor the water supply temp of the 140 degree water system and alarm if setpoint exceeds 145°F (adj) when occupied.
   C. BAS shall monitor the water supply temp of the 120 degree water system and alarm if setpoint falls below 110°F (adj) when occupied.
   D. BAS shall monitor the water supply temp of the 140 degree water system and alarm if setpoint falls below 130°F (adj) when occupied.

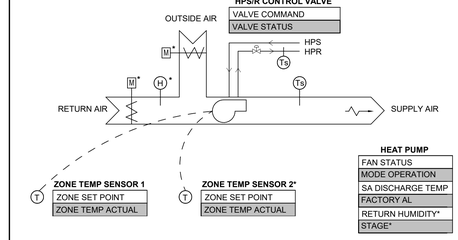
* Alarms which indicate a notification in points list above shall provide a mobile notification to building operator. All other alarms shall be visible in the building alarms report but will not provide mobile notification to owner.
** Refer to Trends schematic for all required trends associated with fans.

POINT LIST - DOMESTIC WATER HEATING SYSTEM

POINT DESCRIPTION	BI	BO	BV	AI	AO	AV	OVR	ALARMS	GRAPHIC	TREND
120 DHW FLOW				X					Yes	Yes
120 DHW GALLONS					X				Yes	Yes
120 DHW PUMP CMD		X					X		Yes	No
120 DHW PUMP STS	X							120 DHW PUMP ALARM	Yes	No
120 DHW RETURN TEMPERATURE				X					Yes	Yes
120 DHW SUPPLY TEMPERATURE				X					Yes	No
140 DHW FLOW				X					Yes	Yes
140 DHW GALLONS					X				Yes	Yes
140 DHW PUMP CMD		X					X		Yes	No
140 DHW PUMP STS	X							140 DHW PUMP ALARM	Yes	No
140 DHW RETURN TEMPERATURE				X					Yes	No
140 DHW SUPPLY TEMPERATURE				X					Yes	Yes
WH-1A ALARM	X							DRY CONTACT	Yes	No
WH-1B ALARM	X							DRY CONTACT	Yes	No
WH-2A ALARM	X							DRY CONTACT	Yes	No
WH-2B ALARM	X							DRY CONTACT	Yes	No

GROUND SOURCE HEAT PUMP
LOCATION:
AREA SERVED:
SCHEDULE: OCCUPIED/UNOCCUPIED

OA T	OA H	DATE & TIME
°F	%RH	



*IF APPLICABLE, REFER TO SEQUENCE.

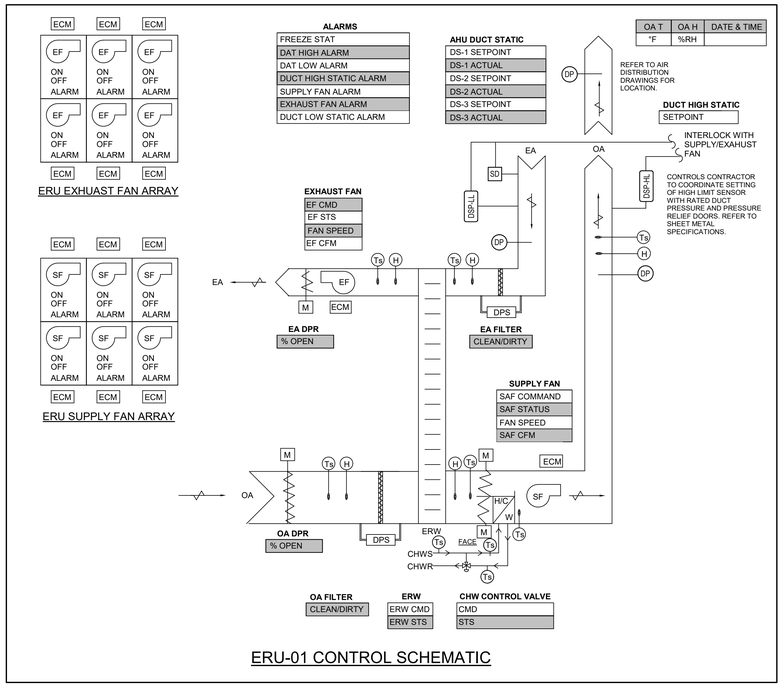
GROUND SOURCE HEAT PUMPS

POINT LIST - GROUND SOURCE HEAT PUMPS

POINT DESCRIPTION	BI	BO	BV	AI	AO	AV	OVR	ALARMS	GRAPHIC	TREND
AG SHOP ROLLUP DOOR STS	X							COLD WEATHER ALARM	Yes	No
FACTORY AL			X					FACTORY	Yes	No
FAN CMD		X					X		Yes	No
FAN STS	X							FAN ALARM	Yes	No
HPR LEAVING WATER TEMPERATURE				X					Yes	Yes
HPS/R VALVE COMMAND		X					X		Yes	No
HPS/R VALVE STATUS	X							VALVE ALARM	Yes	No
MODE OF OPERATION			X						Yes	No
OUTSIDE AIR DAMPER CMD*					X		X		Yes	Yes
OUTSIDE AIR DAMPER STS*					X			DAMPER ALARM	Yes	No
REMOTE ALARM RESET		X					X		Yes	No
RETURN AIR DAMPER POSITION*					X				Yes	Yes
RETURN AIR MOTORIZED DAMPER*						X	X		Yes	No
RETURN HUMIDITY*					X			HIGH ALARM	Yes	Yes
UNIT DISCHARGE AIR TEMPERATURE					X			HIGH/LOW ALARM	Yes	Yes
ZONE 2 TEMPERATURE ACTUAL*					X				Yes	Yes
ZONE 2 TEMPERATURE SETPOINT*						X	X	HIGH/LOW ALARM	Yes	No
ZONE TEMP ACTUAL					X				Yes	Yes
ZONE TEMP SET POINT						X	X	HIGH/LOW ALARM	Yes	No

ALTERNATE - GEOTHERMAL CENTRAL PLANT SEQUENCE OF OPERATION:

1. GENERAL:
   A. THE SYSTEM SHALL OPERATE UNDER THE CONTROL OF A LOCAL, STAND-ALONE, MICROPROCESSOR BASED BAS CONTROLLER FIELD INSTALLED IN THE MAIN MECHANICAL ROOM.
   B. TWO PRIMARY SYSTEM PUMPS ARE TO VARY FLOW TO BUILDING HEAT PUMPS AS REQUIRED TO MAINTAIN BUILDING LOOP PRESSURE SETPOINT.
   C. TWO PRIMARY GEOTHERMAL PUMPS ARE TO VARY FLOW TO THE GEOTHERMAL WELLFIELD AS REQUIRED TO MAINTAIN A DIFFERENTIAL WELLFIELD TEMPERATURE SETPOINT.
2. BUILDING LOOP PUMPS SEQUENCE OF OPERATION:
   A. PUMPS SHALL OPERATE IN A LEAD/LAG ARRANGEMENT, ROTATING THE LEAD PUMP EVERY 12 HOURS (ADJ) OF RUNTIME.
   B. OCCUPIED OPERATION:
      a. REFER TO RELATED BUILDING SCHEDULES. SHOULD ANY ZONE BE SCHEDULED AS OCCUPIED, THE PUMPING SYSTEM SHALL RUN ACCORDING TO THE FOLLOWING SCHEDULE.
      b. SHOULD MORE THAN 5 HEAT PUMPS (ADJ.) REQUIRE TO RUN, THE PUMPS SHALL INITIATE AND RUN PER SEQUENCE.
      c. IN THE EVENT THAT LESS THAN 5 HEAT PUMPS (ADJ.) REQUIRE TO RUN, THE BUILDING PUMPS SHALL BE OFF AND ALL HEAT PUMPS SHALL BE PREVENTED FROM RUNNING.
      d. OCCUPIED-OVERRIDE: SHOULD ANY SINGLE ZONE FALL GREATER THAN 2 DEGREES OUT OF SETPOINT WHEN SYSTEM IS OFF, INITIATE SYSTEM AND RUN TO MAINTAIN BUILDING PRESSURE.
   C. UNOCCUPIED OPERATION:
      a. SHOULD MORE THAN 15 HEAT PUMPS (ADJ.) REQUIRE TO RUN, THE PUMPS SHALL INITIATE AND RUN PER SEQUENCE.
      b. IN THE EVENT THAT LESS THAN 15 HEAT PUMPS (ADJ.) REQUIRE TO RUN, THE BUILDING PUMPS SHALL BE OFF AND ALL HEAT PUMPS SHALL BE PREVENTED FROM RUNNING.
      c. UNOCCUPIED OVERRIDE: IN THE EVENT THAT EITHER A SPECIFIC ZONE TEMPERATURE FALLS BELOW 50 DEGREES OR A BUILDING HEAT PUMP IS MANUALLY OVERRIDDEN TO ITS OVERRIDE FUNCTION, THE BUILDING PUMPS SHALL BE INITIATED EVEN IF THE MINIMUM HEAT PUMP LIMIT FOR OCCUPIED OPERATION IS NOT MET.
   D. WHEN COMMANDED TO RUN PER THE ABOVE CONDITIONS, THE BUILDING PUMPS SHALL ACTIVATE AND SHALL VARY FLOW TO MAINTAIN A REMOTE PRESSURE SETPOINT OF XX PSI (ADJ.). PLEASE NOTE THAT PSI SETPOINT MUST BE SET IN COORDINATION WITH THE TEST AND BALANCE CONTRACTOR AND SHOULD BE OPTIMIZED. REFER TO TEST AND BALANCE SPECIFICATION AND SET ACCORDINGLY. MULTIPLE PRESSURE SENSORS ARE LOCATED THROUGHOUT (REFER TO DRAWINGS). SYSTEM TO CONTROL TO WORST-CASE DIFFERENTIAL PRESSURE.
   E. MINIMUM FLOW BYPASS VALVE: THE BAS SHALL MONITOR THE TOTAL NUMBER OF HEAT PUMPS WHICH ARE CALLING FOR WATERFLOW FROM THE SYSTEM. IF THIS TOTAL NUMBER OF ACTIVE ZONES FALLS BELOW 30 (ADJ.), THE REMOTE BYPASS VALVE SHALL BE OPENED. SHOULD THE ACTIVE ZONES RISE ABOVE THIS SETPOINT, THE REMOTE BYPASS VALVE SHALL BE CLOSED.
   F. BUILDING LOOP PUMP FILTER: THE BUILDING LOOP PUMP IS PROVIDED WITH A DEDICATED CARTRIDGE FILTER WITH ASSOCIATED PUMP. PUMP SHALL RUN ANY TIME MAIN LOOP PUMPS ARE OPERATIONAL AND WILL BE OFF ANY TIME MAIN LOOP PUMPS ARE OFF. DIFFERENTIAL PRESSURE SENSOR TO BE PROVIDED ACCROSS FILTER. CALIBRATE WITH TEST AND BALANCE CONTRACTOR AND RECORD INITIAL PRESSURE SETPOINT. SHOULD INITIAL PRESSURE SETPOINT RAISE BY MORE THAN 10 PSI (ADJ.), PROVIDE A NOTICE TO BUILDING OPERATOR TO CHANGE FILTER.
   G. BUILDING SYSTEM FILL LINE MONITORING: BUILDING FILL LINE IS TO BE PROVIDED WITH FLOW METER AND SHUT-OFF VALVE. FLOW METER SHALL TAKE A ROLLING TOTAL GALLONS MAKEUP WATER FOR THE PAST 24 HOURS. SHOULD THIS VALUE EXCEED 5 GALLONS (ADJ.), SHUT MAKEUP WATER VALVE AND PROVIDE ALARM TO BUILDING OPERATOR.
3. GEOTHERMAL LOOP PUMPS SEQUENCE OF OPERATION:
   A. PUMPS SHALL OPERATE IN A LEAD/LAG ARRANGEMENT, ROTATING THE LEAD PUMP EVERY 12 HOURS (ADJ) OF RUNTIME.
   B. OCCUPIED OPERATION:
      a. IF THE BUILDING LOOP SUPPLY TEMPERATURE IS BETWEEN 55 DEGREES (ADJ.) AND 65 DEGREES (ADJ.), THE GEOTHERMAL LOOP PUMPS SHALL BE OFF.
      b. IF THE BUILDING LOOP SUPPLY TEMPERATURE FALLS OUTSIDE THESE PARAMETERS, THE GEOTHERMAL LOOP PUMPS WILL INITIATE TO MINIMUM SPEED AND INCREASE SPEED AS REQUIRED TO MAINTAIN A DIFFERENTIAL TEMPERATURE ACCROSS THE WELLFIELD OF 10 DEGREES (ADJ.).
   C. UNOCCUPIED OPERATION:
      a



ERU-01 CONTROL SCHEMATIC

POINT LIST - ERU-01											
POINT DESCRIPTION	BI	BO	BV	AI	AO	AV	OVR	ALARMS	GRAPHIC	TREND
CHW COIL BYPASS DAMPER CMD					X		X		Yes	No
CHW COIL BYPASS DAMPER STS				X				DAMPER ALM	Yes	Yes
CHW COIL ENTERING AIR HUMIDITY				X					Yes	No
CHW COIL ENTERING AIR TEMPERATURE				X					Yes	No
CHW COIL FACE DAMPER CMD					X		X		Yes	No
CHW COIL FACE DAMPER STS				X				DAMPER ALM	Yes	Yes
CHW COIL LEAVING AIR TEMPERATURE				X				FREEZE STAT	Yes	Yes
CHW MIXED TEMPERATURE				X					Yes	Yes
CHW VALVE CMD					X		X		Yes	Yes
CHW VALVE STS				X				CHW VALVE ALM	Yes	No
CHWR TEMPERATURE				X					Yes	Yes
CHWS TEMPERATURE				X					Yes	Yes
DEHUMIDIFICATION COMMAND		X					X		Yes	Yes
DISCHARGE AIR HUMIDITY				X					Yes	Yes
DISCHARGE AIR STATIC PRESSURE				X				HIGH LIMIT - INTERLOCK WITH SA FAN	Yes	Yes
DISCHARGE AIR TEMP				X				LOW LIMIT	Yes	Yes
DUCT STATIC PRESSURE #1				X					Yes	No
DUCT STATIC PRESSURE #2				X					Yes	No
DUCT STATIC PRESSURE #3				X					Yes	No
DUCT STATIC PRESSURE SETPOINT					X		X		Yes	No
ENERGY RECOVERY WHEEL CMD		X					X		Yes	No
ENERGY RECOVERY WHEEL STS	X							ERW ALARM	Yes	No
EXHAUST AIR DAMPER CMD					X				Yes	No
EXHAUST AIR DAMPER STS				X				DAMPER ALM	Yes	No
EXHAUST AIR FAN ALARM			X					FROM MOTOR CONTROL PANEL	Yes	No
EXHAUST AIR FAN CFM (EACH FAN AND TOTAL)					X				Yes	Yes
EXHAUST AIR HUMIDITY				X					Yes	No
EXHAUST AIR TEMPERATURE				X					Yes	No
EXHAUST FAN COMMAND		X							Yes	No
EXHAUST FAN SPEED (EACH FAN AND AVERAGE)				X	X				Yes	Yes
EXHAUST FAN STATUS	X								Yes	No
FILTER STATUS (RA AND OA FILTER)				X				HIGH PRESSURE (REFER TO SEQUENCE)	Yes	Yes
OUTSIDE AIR DAMPER CMD					X				Yes	No
OUTSIDE AIR DAMPER STS				X				DAMPER ALM	Yes	No
OUTSIDE AIR INLET HUMIDITY				X					Yes	Yes
OUTSIDE AIR INLET TEMPERATURE				X					Yes	Yes
RETURN AIR HUMIDITY	X								Yes	Yes
RETURN AIR SMOKE DETECTOR	X							INTERLOCK WITH SA FAN	Yes	No
RETURN AIR STATIC PRESSURE				X				LOW LIMIT - INTERLOCK WITH SA FAN	Yes	Yes
RETURN AIR TEMPERATURE	X								Yes	Yes
SUPPLY AIR FAN ALARM			X					FROM MOTOR CONTROL PANEL	Yes	No
SUPPLY AIR FAN CFM (EACH FAN AND TOTAL)				X					Yes	Yes
SUPPLY FAN COMMAND		X							Yes	No
SUPPLY FAN SPEED (EACH FAN AND AVERAGE)				X					Yes	Yes
SUPPLY FAN STATUS	X								Yes	No

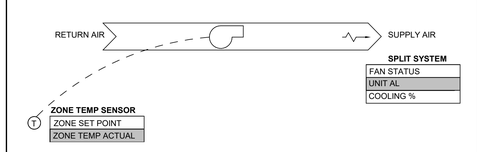
ERU-1 SEQUENCE OF OPERATION

1. General:
   A. ERU-1 is the sole unit responsible for the ventilation of WC High School. It is a 30k CFM air handler with a demand control ventilation sequence of control which coordinates with networked VAV boxes to vary the supply of ventilation air to meet building occupancy schedules, etc. Refer to VAV box sequence of control for additional detail.
   B. The unit is sized with diversity in mind. Refer to test and balance specifications for additional details on unit balance.
   C. The unit will be provided with complete field mounted controls. EC motors provided by manufacturer will require some interface with supplied motor control panel. The controls contractor shall coordinate with manufacturer during shop drawing review period to ensure that all coordination required to achieve the sequence of operation takes place prior to the ordering of equipment.
   D. Unit conditioning is provided by dedicated combination chilled/hot water heating system. Refer to related controls schematic, this sheet for details.
2. Occupancy Schedule:
   A. Refer to Controls General Notes for occupancy Schedule.
   B. The unit shall be placed into occupied or unoccupied mode from the DDC control system. Refer to scheduling requirements for additional information.
3. Supply and Exhaust Fan Control:
   A. Both supply and exhaust fan array are to be provided with a networked airflow monitoring system which will calculate for each fan and for the total array the CFM of each fan at all times. Accuracy to be +/- 1%.
   B. Supply and Exhaust fan will be started and stopped from the local DDC Panel per the schedule. When the start command is issued the outside air and exhaust air dampers will open. When the dampers are full open, an end switch will engage an EP which will then allow the fan to start. If the end switch fails to engage the EP the fan will not be allowed to start. If for this or any other reason the supply fan status does not match the commanded value an alarm will be generated. When the supply fan status indicates the fan has started, the control sequence will be enabled.
   C. The supply and exhaust fan shall be controlled from their respective EC motors and associated motor control panel. Controls contractor to provide wiring, sensors, and programming to detect both
   D. The supply fan will operate to maintain duct static pressure. Refer to the control drawings for the number of duct mounted static pressure sensors which shall control the supply fan to maintain a duct static pressure setpoint of 0.6" (adj.) at all locations. Coordinate initial static pressure setpoint with TAB contractor. Pressure setpoint shall be as low as feasible to maintain proper system operation. The locations of the duct static pressure sensors are also shown on the drawings. Fan supply static pressure optimization shall be utilized by polling of associated VAV and CAV air valve positions and adjusting the supply fan static pressure control using a PID loop.
   E. The exhaust fan shall normally operate off of a 3000 cfm (adj.) differential from supply fan airflow. Coordinate setting of fan speeds at both maximum and minimum flows. Refer to test and balance specification for additional detail and provide support to test and balance contractor as required. Typical all air balance support. Fan speeds shall adjust proportionally between these two values.
   F. Exhaust fan offset overrides. In the event that additional exhaust is added via temporary sources, the following additional exhaust shall be automatically added to the defaul exhaust fan offset value. Please note that all such overrides are to be automatically cancelled should the outside air temperature fall below 30 degrees (adj) or rise above 90 degrees (adj):
      a. The BAS shall monitor the status of fume hood exhaust fans - EF-1 and 2. in the event that either fume hood is activated, increase offset for exhaust offset an additional 750 cfm (adj.) per fan.
      b. The BAS shall monitor the status of the main Kitchen hood exhaust fan. Refer to foodservice drawings. In the event that the kitchen hood exhaust fan is activiated, increase offset for exhaust fan an additional 1250 cfm (adj.).
      c. The BAS shall monitor the status of the convection oven Kitchen hood exhaust fan. Refer to foodservice drawings. In the event that the convection oven kitchen hood exhaust fan is activiated, increase offset for exhaust fan an additional 1500 cfm (adj.).
      d. The BAS shall monitor the status of the Dishwasher Hood exhaust fan. Refer to foodservice drawings. In the event that the dishwasher hood exhaust fan is activated, increase offset for exhaust fan an additional 1200 cfm (adj.).
      e. The BAS shall monitor the status of each of the culinary arts Hood exhaust fans. Refer to foodservice drawings. In the event that either culinary arts hood exhaust fan is activated, increase offset for exhaust fan an additional 1500 cfm (adj.) per fan.
      f. The BAS shall monitor the status of welding exhaust fan EF-6. In the event that the welding exhaust fan is activated, increase offset for exhaust offset an additional 2,000 cfm (adj.).
4. Supply Air Temperature Controls - Cooling:
   A. Mode determination shall only take place when the unit is in occupied mode. When the coil EAT is greater than or equal to 80°F (adj.), cooling mode shall be enabled.
   B. When the unit determines that cooling is required, send a signal to the chilled/hot water system to initiate cooling mode.
   C. When unit CHWS temperature sensor detects a water temperature of less than or equal to 48°F (adj.), modulate the 3-way chilled water control valve as required to maintain 60°F (adj.) supply air temperature downstream of coil. Bypass damper shall be closed.
   D. For bypass damper modulation, refer to dehumidification mode sequence.
5. Dehumidification Mode:
   A. This mode shall be activated if the exhaust air dewpoint is 65°F (adj.) or higher.
   B. The CHWS must be placed in cooling mode. The three way control valve shall modulate to maintain a leaving coil temperature of 55°F. The ERV coil face and bypass dampers shall modulate to control to a unit LAT of 65°F (adj.). The face and bypass dampers must be programmed to limit bypass airflow to 50% maximum. In dedumidification mode, discharge air temperature setpoint may be allowed to drift to meet this requirement.
   C. The unit shall release from dehumidification mode and return to its previous state once the exhaust dewpoint falls below 60°F.
6. Supply Air Temperature Controls - Heating:
   A. Mode determination shall only take place when the unit is in occupied mode. When the coil EAT is less than or equal to 66°F (adj.), heating mode shall be enabled.
   B. When the unit determines that heating is required, send a signal to the chilled/hot water systerm to initiate heating mode.
   C. When unit CHWS temperature sensor detects a water temperature of greater than or equal to 100°F (adj.), modulate 3-way hot water control valve as required to maintain 70°F (adj.) unit discharge air temperature. Bypass damper will be closed.
7. Freeze Protection: If the leaving coil temperature falls below 40°F (adj.) then the supply fan and exhaust fan shall shut down, the outside air damper and exhaust air damper shall close. This shall require a manual reset.
8. Energy Recovery Wheel Control
   A. Upon entering the occupied mode of operation, the controller shall enable the energy recovery sequence if one of the following conditions is met:
      a. The outdoor air temperature is 5 degrees (adj.) below the return air temperature.
      b. The outdoor air temperature is 5 degrees (adj.) above the return air temperature.
      c. When return air dewpoint is 5°F (adj.) less than outdoor air dewpoint
9. Over Pressurization Control: A static pressure sensor shall be located at the ERU supply air outlet in the discharge ductwork. If the pressure in the supply plenum exceeds 4 .0" W.G. (adj.) the fan shall be shut down. Upon correction of the problem, the system shall be reset and unit shall return to normal operation. This shall be a manual reset.
10. Under Pressurization Control: A static pressure sensor shall be located at the ERU supply air outlet in the discharge ductwork. If the pressure in the supply plenum exceeds -4 .0" W.G. (adj.) the fan shall be shut down. Upon correction of the problem, the system shall be reset and unit shall return to normal operation. This shall be a manual reset.
11. Unoccupied Mode: In the unoccupied mode, the ERU shall be "off". The outside air damper and exhaust air damper shall be closed. The exhaust fan, the supply fan, and the energy recovery wheel shall be disabled.
12. Smoke Shutdown: Smoke detectors shall be located in the exhaust air stream. If smoke is detected, the supply and exhaust fans shall de-activate and an audio/visual alarm shall activate. Upon correction of the problem, the system shall be reset and unit shall return to normal operation. The smoke detectors shall provide a supervisory signal to the Fire Alarm System.
13. Filter Monitoring: Each filter in the air handler will be provided with an analogue input which tracks the actual pressure drop across the filter. Coordinate alarm for each filter such that is adjustable by the user. Initial setpoint to be at 0.5 " WC (adj.) greater than the initial filter pressure drop with clean filters. Coordinate with test and balance contractor to obtain this setpoint and program accordingly.

* Alarms which indicate a notification in points list above shall provide a mobile notification to building operator. All other alarms shall be visible in the building alarms report but will not provide mobile notification to owner.
** Refer to Trends schematic for all required trends associated with fans.

IDF/MDF SPLIT SYSTEMS
LOCATION:
AREA SERVED:
SCHEDULE: OCCUPIED/UNOCCUPIED

OA T	OA H	DATE & TIME
°F	%RH	



SPLIT SYSTEMS

POINT LIST - SPLIT SYSTEMS

POINT DESCRIPTION	DI	DO	AI	AO	OVERRIDE	NOTIFICATION
COOLING %				X		
COOLING MODE STS	X					
COOLING SETPOINT				X	X	
SUPPLY FAN SPEED				X		
SPACE TEMPERATURE			X	X		
UNIT ALM		X				X

SPLIT SYSTEM SEQUENCEOF CONTROL

1. Factory Mounted Controls: Unit to be provided with factory mounted controls and land control wire to terminal strip unit. Controls contractor responsible for running control wire from occupancy sensors and between indoor and outdoor units as well as any supplemental sensors shipped loose with equipment.
2. Occupancy Schedule:
   A. Unit shall always remain on to maintain setpoint.
3. Supply Fan Control:
   A. Supply fan shall cycle as required to maintain temperature setpoint.
4. Supply Air Temperature Controls - Cooling:
   A. Occupied Mode: Cooling temperature setpoint shall be 72°F (adj.).
   B. Unoccupied Mode: Unoccupied cooling temperature setpoint shall be 78°F (adj.).
   C. When setpoint is exceeded, unit shall be automatically activated into cooling mode and supply fan shall stage with DX coil, compressors and condenser fans to maintain space setpoint.
5. Unit Alarms: The unit currently lists 100 different alarms available through the factory mounted controller. Pull all alarms and associated alarm codes into the BAS and upon recieving the alarm from the factory mounted controller. All alarms shall be itemized and called out with both the alarm code and a description of the alarm at the BAS.

* Alarms which indicate a notification in points list above shall provide a mobile notification to building operator. All other alarms shall be visible in the building alarms report but will not provide mobile notification to owner.

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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
CONTROLS

DATE: Issue Date	REVISED
1	
2	
3	
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SHEET M-502
JOB# 2113
DRAWN: CLS
CHECKED: DGC

5/11/2022 11:35:15 AM

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
LIGHTING CONTROLS		
LIGHT SWITCH; LOW VOLTAGE (WHEN PRESENT, # INDICATES QUANTITY OF CHANNELS)	46"	$ #
EXAM LIGHT SWITCH	46"	$ X
NIGHT LIGHT SWITCH WITH CONSTANTLY ILLUMINATED HANDLE	46"	$ N
SURGICAL LIGHT INTENSITY CONTROL	46"	$ SL
LOW VOLTAGE DIMMER SWITCH (WHEN PRESENT, # INDICATES QUANTITY OF CHANNELS)	46"	$ DI
GRAPHIC TOUCHSCREEN CONTROL STATION	46"	$ G
LINE VOLTAGE SWITCH	46"	$ LV
LINE VOLTAGE THREE-WAY, FOUR-WAY SWITCH	46"	$ LV3 $ LV4
LINE VOLTAGE THREE-WAY, FOUR-WAY DIMMER SWITCH	46"	$ LV3D $ LV4D
KEYED SWITCH	46"	$ K
OCCUPANCY OR VACANCY SENSOR SWITCH	46"	$ OS $ VS
OCCUPANCY OR VACANCY SENSOR SWITCH WITH DIMMING	46"	$ DOS
LIGHT SWITCH FOR UNDER-CABINET LIGHTS	46"	$ U
ILLUMINATED HANDLE LIGHT SWITCH (ILLUMINATED WHEN LOAD IS OFF)	46"	$ IL
PILOT LIGHT SWITCH (ILLUMINATED WHEN LOAD IS ON)	46"	$ PL
TIMER SWITCH	46"	$ T
OCCUPANCY OR VACANCY SENSOR, CEILING MOUNT	CLG	OS VS
OCCUPANCY SENSOR, CORNER MOUNT	CLG	OS
DAYLIGHT SENSOR	AS NOTED	DS
PHOTOCELL	AS NOTED	PC
LIGHTING RELAY	AS NOTED	LR
EMERGENCY AUTOMATIC TRANSFER SWITCH FOR LIGHTING CONTROLS (REFER TO DETAIL)	CLG	ER
POWER OUTLETS		
SIMPLEX RECEPTACLE (TEXT INDICATES NEMA TYPE)	1'-6"	
DUPLEX RECEPTACLE	1'-6"	
SLASH THROUGH ANY DEVICE INDICATES MOUNTING ABOVE COUNTERTOP 4" ABOVE BACKSPLASH		
'G' INDICATES INTEGRAL GROUND FAULT PROTECTION (GFCI)	1'-6"	
DEAD-FRONT GFCI DEVICE, LABEL AND INSTALL IN READILY ACCESSIBLE LOCATION		
DUPLEX RECEPTACLE WITH TWO INTEGRAL USB CHARGING PORTS	1'-6"	
USB CHARGING OUTLET WITH FOUR INTEGRAL USB PORTS	1'-6"	
GANG RECEPTACLE IN COMBINATION WITH SWITCH (PROVIDE DIVIDER IF LIGHTING CIRCUIT IS 277V)	46"	OS
DUPLEX RECEPTACLE, CEILING MOUNTED	CLG	
QUADRUPLEX RECEPTACLE	1'-6"	
JUNCTION BOX, CEILING OR WALL		
VOLTAGE/2 POLE RECEPTACLE, TEXT INDICATES NEMA TYPE	1'-6"	
VOLTAGE/3 POLE RECEPTACLE, TEXT INDICATES NEMA TYPE	1'-6"	
'T' INDICATES SAFETY TYPE, TAMPER RESISTANT OUTLET(S)		
SS INDICATES SURGE SUPPRESION TYPE OUTLET(S)		SS
GROUND FAULT PROTECTED DUPLEX WITH WEATHER-PROOF "WHILE IN USE" TYPE DIE-CAST METAL COVERPLATE WITH LOCKABLE ENCLOSURE AT OUTLET - SEE SPECIFICATIONS	2'-2"	WP
DUPLEX FOR ELECTRIC WATER COOLER; COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR TO CONCEAL OUTLET BEHIND COOLER, PROVIDE READILY ACCESSIBLE GFI DEVICE AT 18" ADJACENT TO WATER COOLER		EWC
BOX ON ANY DEVICE INDICATES SURFACE MOUNTED BACKBOX/WIREMOLD		
CIRCLE ON ANY DEVICE INDICATES DEVICE FED FROM STUB UP CONDUIT		
FIRE ALARM		
MAIN CONTROL PANEL CENTRAL PROCESSING UNIT (CPU)	6'-6" TO TOP	FACP
REMOTE L.C.D. FIRE ALARM ANNUNCIATOR	54"	FAA
REMOTE FIRE ALARM ANNUNCIATOR W/ MICROPHONE	54"	FAMM
LOCAL OPERATOR CONSOLE	54"	LOC
SMOKE EVACUATION CONTROL PANEL	54"	SECP
POWER SUPPLY/CONTROL FOR AUDIO/VISUAL DEVICES	46"	NAC
TRANSPONDER CABINET	46"	TRAN
GRAPHICS DISPLAY TERMINAL		GDT
FIRE ALARM CONTROL EXTENDER		EXT
POST INDICATOR VALVE		PIV
PULL STATION : DOUBLE ACTION	46" TO LEVER	F
KEYED, LOCKED PULL STATION : DOUBLE ACTION. STATION SHALL ONLY BE OPERABLE VIA KEY IN POSSESSION OF STAFF.	46" TO LEVER	FK
AUDIO/VISUAL NOTIFICATION APPLIANCE	WALL, CLG	
AUDIO-ONLY NOTIFICATION APPLIANCE	WALL, CLG	
VISUAL-ONLY NOTIFICATION APPLIANCE	WALL, CLG	
BELL / LIGHT	80"	BL
BELL ONLY	80"	B
PHOTO-ELECTRIC SMOKE DETECTOR	CLG	SD
PHOTO-ELECTRIC SMOKE DETECTOR FOR PATIENT ROOM MONITORING (SEE RISER)	CLG	SD P
PROJECTED BEAM SMOKE DETECTOR; EMITTER (BE) AND RECEIVER (BR)		BE BR
HEAT DETECTOR	CLG	HD
CARBON MONOXIDE DUCT DETECTOR	ABOVE CEILING	CO
CARBON MONOXIDE ALARM: SINGLE STATION W/SOUNDER BASE	CLG	CM
CARBON MONOXIDE AUDIO/VISUAL NOTIFICATION APPLIANCE	WALL	CM
DOOR HOLDER : WALL TYPE	WALL	DH
DOOR HOLDER : CLOSURE TYPE	ABV DOOR	DH C
DUCT SMOKE DETECTOR	ABV CLG	DD
CONNECTION TO SPRINKLER FLOW SWITCH WITH ADDRESSABLE MODULE		FS
CONNECTION TO SPRINKLER TAMPER SWITCH WITH ADDRESSABLE MODULE		TS
PRESSURE SWITCH		PS
ISOLATION MODULE	WALL	I
ZONE ADDRESSABLE MODULE		Z
H.V.A.C. SMOKE DAMPER CONNECTION		SM
FLUSH MOUNTED REMOTE ALARM INDICATING STATION/TEST SWITCH	7'-6"	RT
FIREMAN'S PHONE JACK	4'-6"	FP
FIREMAN'S KNOX BOX CONNECTION		KB
ADDRESSABLE RELAY MODULE		R
INDICATES VANDAL-PROOF POLYCARBONATE COVER, VANDAL PROOF COVERS SHALL BE UL LISTED FOR USE WITH THE SPECIFIC DEVICE THEY ARE PROTECTING		VR
INDICATES CHIME AUDIBLE NOTIFICATION		CH
DEVICE USED FOR ELEVATOR CONTROL		EL

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
LIGHTING FIXTURES AND EQUIPMENT		
REFER TO LUMINAIRE SCHEDULE FOR EXACT FIXTURE SPECIFICATIONS, MOUNTING HEIGHTS, ETC.		
SURFACE OR SUSPENDED CEILING FIXTURE		
RECESSED CEILING FIXTURE		
POLE MOUNTED AREA LIGHT WITH CONCRETE BASE		
LIGHTED BOLLARD WITH CONCRETE BASE		
EMERGENCY BATTERY WALL-PACK		
WALL MOUNT FIXTURE		
TRACK COMPLETE WITH POWER SUPPLIES AND FIXTURE HEADS		
FLOODLIGHT		
EXIT LIGHT (CEILING, END, WALL MOUNT) WITH OR WITHOUT DIRECTIONAL ARROWS, WITH OR WITHOUT EGRESS HEADS		
STRIP FIXTURE		
CROSS-HATCHING INDICATES LIGHT IS POWERED FROM THE EMERGENCY-CRITICAL BRANCH		
PARALLEL-HATCHING INDICATES LIGHT IS POWERED FROM THE EMERGENCY-LIFE SAFETY BRANCH		
REMOTE LIGHT FIXTURE DRIVER	AS NOTED	RD
REMOTE BATTERY BACKUP	AS NOTED	RB
CENTRAL BATTERY INVERTER	AS NOTED	INV
MISCELLANEOUS		
CONDUIT CONCEALED IN WALLS OR IN CEILING SPACE: ARROW(S) INDICATE(S) HOME RUN & # OF CIRCUITS: HASHMARKS INDICATE # OF CONDUCTORS.		
NON-REVERSING MOTOR STARTER SNAP SWITCH	AS NOTED	$ M
MOMENTARY CONTACT SWITCH	46"	$ MC
HAND-OFF-AUTO 3-POSTION SWITCH	46"	$ HOA
DISCONNECT SWITCH	5'-0"	
MAGNETIC STARTER	5'-0"	
MAGNETIC COMBINATION STARTER	5'-0"	
VARIABLE FREQUENCY DRIVE	5'-0"	
ENCLOSED FLUSH MTD. CIRCUIT BREAKER	5'-0"	
MUSHROOM SWITCH	46"	
PUSHBUTTON STATION WITH 1, 2, OR 3 BUTTONS.	46"	
PANELBOARD, SURFACE OR FLUSH MOUNTED, HATCHING INDICATES EMERGENCY	6'-6" TO TOP	
TRANSFORMER	AS NOTED	
EQUIPMENT HARDWIRE CONNECTION (SEE DETAIL)		
KITCHEN EQUIPMENT OUTLET COUPLING CONNECTION (SEE DETAIL)		
MOTOR CONNECTION, REFER TO EQUIPMENT CONNECTION SCHEDULE		
PLUMBING FIXTURE SOLENOID VALVE/ELECTRIC EYE SENSOR CONNECTION. COORDINATE EXACT CONNECTION REQUIREMENTS WITH MANUFACTURER.		
PLUMBING FIXTURE ELECTRIC EYE TRANSFORMER CONNECTION. TRANSFORMER SHALL BE 120V-24V. MOUNT ABOVE SUSPENDED ACCESSIBLE CEILING IN J-BOX. PROVIDE ADDITIONAL TRANSFORMERS OF SAME TYPE AS/IF NEEDED		
PROVIDE CONNECTION TO HAND DRYER (SEE ARCHITECTURAL SPECIFICATIONS)	VERIFY WITH ARCHITECT	
SURGE PROTECTION DEVICE (SURFACE OR FLUSH MOUNTED)		SPD
GENERATOR ANNUNCIATOR PANEL (SURFACE OR FLUSH MOUNTED) - SEE SPECIFICATIONS	46"	GEN-A
CONDUIT UP		
CONDUIT DOWN		
FLEXIBLE CONDUIT		
GROUND BUS BAR ON INSULATED STANDOFFS	2'-0"	
BUS DUCT, AMPERAGES AS NOTED	AS SHOWN	
WIREWAY WITH REMOVABLE COVER (SIZE AS NOTED)	AS SHOWN	
TRENCH DUCT (SIZE AS NOTED)	AS SHOWN	
WIRE BASKET CABLE TRAY, SIZE AS NOTED	AS SHOWN	
LADDER CABLE TRAY, SIZE AS NOTED	AS SHOWN	
SOLID BOTTOM CABLE TRAY, SIZE AS NOTED	AS SHOWN	
J-HOOK PATHWAY		
EQUIPMENT TAG, REFER TO EQUIPMENT SCHEDULE		EQUIP-#
MECHANICAL EQUIPMENT DESIGNATOR (SEE MECH. SCHEDULES)		EQUIP-#
TAGGED NOTE		
REVISION TAG		
LINETYPE LEGEND		
	EXISTING	
	DEMOLISHED	
	NEW	

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
ABBREVIATIONS		
UNLESS OTHERWISE NOTED		UON
OWNER FURNISHED CONTRACTOR INSTALLED		OFCI
OWNER FURNISHED OWNER INSTALLED		OFOI
CONTRACTOR FURNISHED CONTRACTOR INSTALLED		CFCI
CONTRACTOR FURNISHED OWNER INSTALLED		CFOI
INDICATES EMERGENCY POWER		EM
WIREGUARD - PROVIDE MANUFACTURER'S SPECIFIC GUARD FOR DEVICE NOTED		WG
WEATHERPROOF - NEMA-3R, WET LOCATION LISTED. PROVIDE COVERS, RATINGS, ETC, AS SUITABLE FOR OUTDOORS.		WP
EXPLOSION PROOF - PROVIDE WIRING METHODS, ENCLOSURES, RATINGS, ETC. AS SUITABLE FOR HAZARDOUS LOCATION.		XP
SPECIAL OUTLETS		
FLOORBOX, AS SCHEDULED	FLOOR	FBF
POKE-THRU, AS SCHEDULED	FLOOR	PTH
WALLBOX, AS SCHEDULED	WALL	WBF
AUDIO/VISUAL SYSTEM OUTLET WITH DUPLEX RECEPTACLE; REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	AV
COMBINATION POWER AND DATA OUTLET LOCATION, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	
COMBINATION POWER AND DATA OUTLET LOCATION, GFCI DUPLEX RECEPTACLE, REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	
OVERHEAD PROJECTOR: PROVIDE DUPLEX RECEPTACLE, ONE DATA, HDMI, 3.5mm AUDIO, AND VGA OUTLET ON (3) PLATES	CLG	
SPECIAL VIDEO SYSTEM SIGNAL INPUT		-NA-
SURFACE PLUG-MOLD		
SURFACE WIRE-MOLD		
POWER POLE AS NOTED		PP
TELEVISION		
TELEVISION HEADEND (SPLITTERS/AMPLIFIERS/DISTRIBUTION)	46"	TV
TELEVISION SYSTEM OUTLET WITH DUPLEX RECEPTACLE, COORDINATE LOCATION WITH WALL BRACKET WHERE APPLICABLE	7'-0"	T
OVERHEAD PAGING		
PAGING SPEAKER: CEILING	CLG	
PAGING SPEAKER W/ VOLUME CONTROL	CLG	
PAGING SPEAKER: WALL	8'-0"	
RECESSED WALL MOUNTED PAGING SPEAKER DUKANE 5A606 SPEAKER: ATLAS 417-8WD	8'-0"	
VANDAL PROOF / WEATHERPROOF WALL MOUNTED PAGING SPEAKER; QUAM VP1	SEE FLOOR PLANS	V
EXTERIOR VANDAL PROOF / WEATHERPROOF WALL MOUNTED PAGING SPEAKER, SHALL BE PAINTED COLOR SELECTED BY ARCHITECT/OWNER: QUAM VP6	SEE FLOOR PLANS	WP
WALL MOUNTED PAGING HORN	9'-0"	
CALL INITIATION STATION	46"	
WALL VOLUME CONTROL	46"	
PAGING MICROPHONE	1'-6"	
PANIC BUTTON (MOUNTING PER DRAWINGS)	46", UNDER DESK	
NOTIFICATION LIGHT (MOUNTING PER DRAWINGS)	7'-6", CLG	
LCD WALL DISPLAY		LCD
PAGING SYSTEM HEADEND	46"	PA
CLOCKS		
TYPICAL CLOCK MOUNTING HEIGHTS: FOR CEILING HEIGHTS < 9'-8" : MOUNT CENTER OF BACKBOX AT 8" BELOW CEILING. FOR CEILING HEIGHTS >= 9'-8" : MOUNT CENTER OF BACKBOX AT 9'-0" AFF.		
ANALOG CLOCK: SINGLE FACE	SEE ABOVE	
ANALOG CLOCK: DUAL FACE	SEE ABOVE	
DIGITAL CLOCK: SINGLE FACE	SEE ABOVE	HC
DIGITAL CLOCK: DUAL FACE	SEE ABOVE	HDC
CLOCK SYSTEM HEAD END	84"	CLOCK
AV SYSTEMS		
PROJECTOR WITH MOUNT (CEILING OR WALL AS INDICATED)	REFER TO DRAWINGS	
LOCAL SOUND SPEAKER: CEILING	CLG	LS
WIRELESS MICROPHONE ANTENNA	CLG	MA
LOCAL SOUND SPEAKER: WALL	REFER TO SPECS.	LS
MICROPHONE INPUT: # INDICATES NUMBER OF INPUTS.	1'-6"	MI
WIRELESS MICROPHONE ANTENNA, WALL MOUNT	REFER TO SPECS.	MA
AV INPUT (OR OUTPUT) WALL PLATE: REFER TO DRAWINGS AND SPECIFICATIONS FOR TYPE AND QUANTITY OF CONNECTIONS.	1'-6"	AV
BLUETOOTH INPUT MODULE	1'-6"	BT
AV TOUCHSCREEN CONTROL STATION	46"	TP
LOCAL SOUND SYSTEM HEADEND	REFER TO SPECS.	LS
PANEL FURNITURE		
PANEL FURNITURE DUPLEX RECEPTACLE. PROVIDE ALL WIRING AS REQUIRED, COORDINATE EXACT INSTALLATION REQUIREMENTS AND LOCATIONS WITH OWNER'S PANEL FURNITURE VENDOR		
PANEL FURNITURE QUADRUPLEX RECEPTACLE. PROVIDE ALL WIRING AS REQUIRED, COORDINATE EXACT INSTALLATION REQUIREMENTS AND LOCATIONS WITH OWNER'S PANEL FURNITURE VENDOR		
PANEL FURNITURE DATA/VOICE OUTLET. PROVIDE ALL WIRING AS REQUIRED, COORDINATE EXACT INSTALLATION REQUIREMENTS AND LOCATIONS WITH OWNER'S PANEL FURNITURE VENDOR		JD
POWER CONNECTION TO PANEL FURNITURE. PROVIDE SEAL-TIGHT CONDUIT CONNECTION FROM RECESSED WALL BOX TO PANEL FURNITURE. PROVIDE FINAL CONNECTIONS TO PANEL FURNITURE AS REQUIRED BY PANEL FURNITURE VENDOR	1'-6"	FP
COMBINATION POWER AND LOW VOLTAGE CONNECTION TO PANEL FURNITURE. PROVIDE SEAL-TIGHT CONDUIT CONNECTION FROM RECESSED WALL BOX TO PANEL FURNITURE. PROVIDE FINAL CONNECTIONS TO PANEL FURNITURE AS REQUIRED BY PANEL FURNITURE VENDOR	1'-6"	FF

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
SECURITY PANIC ALARM		
PANIC ALARM BUTTON	SEE DRAWINGS	P
PANIC ALARM ANNUNCIATOR	46"	PA
PANIC ALARM STROBE - REFER TO SPECIFICATIONS FOR LENS AND HOUSING COLOR	SAME AS FIRE ALARM	P S
PANIC ALARM POWER SUPPLY CABINET	5'-0"	SECP
SECURITY INTERCOM		
AUDIO/VIDEO INTERCOM STATION: MASTER WITH SELECTIVE DOOR CONTROLS, POWER SUPPLIES & DOOR RELAY CONTACTS AS REQUIRED FOR OPERATION OF ANY DOOR IN THE SYSTEM AND VIEWING OF ANY AUDIO/VIDEO INTERCOM REMOTE ON THE SYSTEM. AIPHONE#IX-MV W/DESK STAND - COLOR BY ARCHITECT.	DESK MOUNT	M
AUDIO/VIDEO INTERCOM STATION: REMOTE WITH FLUSH-MTD S.S. ENCLOSURE. AIPHONE #IX-DVF.	46"	R
SECURITY ACCESS CONTROL		
DOOR ALARM	DOOR FRAME	DA DM
DOOR POSITION SWITCH	DOOR FRAME	DP
MAGNETIC LOCK(S)	ABV DOOR	ML
ELECTRIC LOCKSET	AT LATCH	EL
DOOR DELAYED EGRESS/ELECTRIFIED PANIC MECHANISM	ABV DOOR	DE
ELECTRIC STRIKE	AT LATCH	ES
AUTOMATIC DOOR CONNECTION (MAY ALSO HAVE ELECTRIC STRIKE/MAG.LOCK/ELECTRIFIED PANIC CONNECTION - SEE ARCHITECTURAL HARDWARE SPECIFICATIONS)	CLG	AD
DOOR RELEASE PUSH-PLATE / INFRA-RED OPERATOR STATION. PROVIDE ANY ADDITIONAL ROUGH-IN FOR "EMERGENCY RELEASE" OPERATOR STATIONS AS REQUIRED.	46"	PT
DOOR RELEASE KEYSWITCH STATION	6'-0"	KS
DOOR RELEASE KEYPAD STATION	46"	KP
DOOR RELEASE PROXIMITY READER STATION. PROVIDE ANY ADDITIONAL ROUGH-IN FOR "EMERGENCY RELEASE" OPERATOR STATIONS AS REQUIRED.	46"	RS
SAME AS "PR" EXCEPT MULLION MOUNT	46"	PR M
MOTION SENSOR DOOR CONTROL	CLG	MS MS
PUSH-TO-EXIT BUTTON	46"	PE
REMOTE DOOR RELEASE PUSH-BUTTON	8" ACT	RB
RECESSED JUNCTION BOX	SEE DRAWINGS	JB
ACCESS CONTROL HEADEND	5'-0"	SECA
SECURITY CCTV VIDEO SURVEILLANCE		
CCTV CAMERA: CEILING MOUNT DOME (TEXT INDICATES TYPE) REFER TO SCHEDULE FOR TYPES	CLG	
CCTV CAMERA: WALL MOUNT DOME (TEXT INDICATES TYPE) REFER TO SCHEDULE FOR TYPES	WALL	
INDICATES EXTERIOR CAMERA RATED FOR CONDITIONS, WET LOCATION LISTED, WITH AUXILLARY HEATER		WP
INDICATES CAMERA WITH PAN/TILT/ZOOM FUNCTION		PTZ
CCTV HEAD END	SEE DRAWINGS	SECA
SECURITY INTRUSION DETECTION		
MOTION DETECTOR (WALL OR CEILING MOUNT)	CLG	MD MD
GLASS BREAK SENSOR (WALL OR CEILING MOUNT)	CLG	GB GB
LOCAL SOUNDER	SEE DRAWINGS	LS LS
INTRUSION DETECTION KEYPAD CONTROLLER	46"	ID
SECURITY SYSTEM HEAD END	5'-0"	SEC
DATA / VOICE		
DATA OUTLET - NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA JACKS. NO NUMBER INDICATES 1 JACK.	1'-6"	JD
VOICE OUTLET - NUMBER BESIDE OUTLET INDICATES NUMBER OF VOICE JACKS. NO NUMBER INDICATES 1 JACK.	1'-6"	
COMBINATION OUTLET - NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA/VOICE JACKS	1'-6"	2D/1V
SLASH THROUGH ANY DEVICE INDICATES MOUNTING ABOVE COUNTERTOP 4" ABOVE BACKSPLASH		
OUTLET (VOICE ONLY) : PAYPHONE TYPE	AS REQ'D.	PAY
DATA RACK: TWO POST. REFER TO COMMUNICATIONS RISERS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.		
DATA RACK: FOUR POST. REFER TO COMMUNICATIONS RISERS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.		
TELECOMMUNICATIONS SYSTEM BACKBOARD. PROVIDE 96"H x 3/4"D FIRE-RETARDENT PLYWOOD BACKBOARD WITH TWO (2) COATS OF NON-CONDUCTIVE, FIRE-RETARDANT LIGHT GRAY PAINT. #3/0 TO GROUND BAR AT MAIN SERVICE SWITCHBOARD, 30-FT GROUND BAR AND A 6'-0", #3 AWG PIGTAIL AT BACKBOARD. INSTALL BOARD AT 2' AFF. (LENGTH OF BOARD AS INDICATED ON FLOOR PLAN)		
WIRELESS ACCESS POINT OUTLET WITH PROVISIONS FOR (2 DATA OUTLET FOR ANTENNA. PROVIDE A COMPLETE DATA OUTLET WITH FACEPLATE ABOVE CEILING, MOUNTED AT AN ACCESSIBLE HEIGHT NO MORE THAN 24" ABOVE CEILING. AT EACH OUTLET, PROVIDE A 20' COIL OF CABLE AHEAD OF THE OUTLET FOR ADJUSTMENT OF FINAL OUTLET LOCATION. THE CONTRACTOR SHALL COORDINATE EXACT LOCATIONS WITH THE OWNER AND ADJUST OUTLET LOCATIONS AT SUBSTANTIAL COMPLETION TO ACCOMMODATE OWNER'S WAP LOCATIONS.	CEILING	WAP
	WALL	WAP

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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

FOR THE GARRARD COUNTY BOARD OF EDUCATION

ELECTRICAL LEGEND

DATE:	Issue Date
REVISED	
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SHEET E-001

JOB# 2113

DRAWN: Author

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ELECTRICAL GENERAL NOTES

A EACH CONTRACTOR, PROPOSER, SUPPLIER AND/OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS TO AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS. VERIFY SAME WITH SHOP DRAWINGS.

B ADDITIONAL ELECTRICAL REQUIREMENTS MAY BE SHOWN ON PLANS FROM OTHER DISCIPLINES IN THIS SET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL PLANS AND SPECIFICATIONS FOR A COMPLETE UNDERSTANDING OF THE PROJECT REQUIREMENTS.

C WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ALL LOCAL, STATE, AND NATIONAL CODES. INCLUDING BUT NOT LIMITED TO NFPA 70 (NEC), NFPA 72, INTERNATIONAL BUILDING CODES, ETC.

D CONTRACTOR SHALL FOLLOW SEISMIC RESTRAINT AND DESIGN REQUIREMENTS CONTAINED IN LATEST ADOPTED STATE AND INTERNATIONAL BUILDING CODES, WITH ALL AMENDMENTS AS ADOPTED BY THE CURRENT LEGISLATION. REFER TO ELECTRICAL AND STRUCTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

E ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC. MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSER'S DISCRETION.

F INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC. IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING OR THE COLLECTION OF CONDENSATION THEREON. IF IN DOUBT, CONTACT THE ENGINEER.

G ADVISE THE ENGINEER OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM.

H WHERE CONFLICTS ARE FOUND BETWEEN DRAWINGS, DETAILS, OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NOTIFY ARCHITECT OF DISCREPANCY IN WRITING.

I DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE.

J OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC.).

K MOUNTING HEIGHTS FOR WALL MOUNTED DEVICES INDICATED ABOVE FINISHED FLOOR ARE TO CENTER OF DEVICE UON. MOUNTING HEIGHTS TO CEILING SUSPENDED DEVICES ARE TO BOTTOM OF DEVICE UON.

L INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEER PRIOR TO INSTALLATION FOR CLARIFICATION.

M DO NOT RECESS PANELBOARD TUBS OR OTHER FLUSH-MOUNTED EQUIPMENT IN WALLS THAT HAVE A FIRE RATING. NO INSTALLATION SHALL DIMINISH OR VOID FIRE RESISTIVE RATINGS IN ANYWAY.

N THE PURPOSE AND INTENT OF ALL OF THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE, FUNCTIONAL, SAFE, LIKE-NEW FACILITY. ANYTHING LESS SHALL BE UNACCEPTABLE.

O ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT MEETING THIS CRITERION SHALL BE REMOVED AND REINSTALLED SATISFACTORILY. FINAL DETERMINATION OF THE ACCEPTABILITY OF THE QUALITY OF WORK RESIDES WITH THE ENGINEER

P ALL WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE FULLY GUARANTEED FOR ONE FULL CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AS DOCUMENTED BY THE ENGINEER, UNLESS LONGER WARRANTY PERIODS FOR EQUIPMENT ARE SPECIFIED.

Q UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL EQUIPMENT AND/OR MATERIALS WITHIN OCCUPIED SPACES OR EXPOSED TO VIEW ON THE BUILDING EXTERIOR SHALL BE PRIMED AND FINISHED SO AS TO COMPLEMENT ADJACENT SURFACE, UNLESS OTHERWISE NOTED. COORDINATE WORK AND COLORS WITH ARCHITECT.

R WHERE PENETRATING ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATION IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANYWAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING MANUFACTURER AND ARCHITECT.

S THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES, CASH CONTRIBUTIONS OR OTHER COSTS THAT THE UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (ELECTRIC, TELEPHONE, TELEVISION, DATA, ETC.).

T COORDINATE WITH ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND CASEWORK DETAILS FOR LOCATION OF ADDITIONAL RECEPTACLES, UTILITY OUTLETS, ELECTRICAL DEVICES, ETC.

U CEILING-MOUNTED ELECTRICAL DEVICES SHALL BE CENTERED IN 2'X2' CEILING TILE AND INSTALLED CENTERED ON 2' DIMENSION OF 2'X4' TILE AND ON CENTERLINE OR A QUARTER POINT ON 4' DIMENSION.

V ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTORS' EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.

W CHECK ALL THREE PHASE MOTORS WITH A PHASE ROTATION METER, PRIOR TO PLACING IN SERVICE.

X PROVIDE DETAILED SHOP DRAWINGS TO ENGINEER PRIOR TO PURCHASING OR INSTALLING ANY EQUIPMENT

Y DEVIATIONS IN SIZES, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEER OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.

Z THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR WHOMEVER HOLDS THE PRIME CONTRACT(S) FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING AND TIMELINESS OF THE WORK OF ALL TRADES, CONTRACTORS, SUPPLIERS, INSTALLERS, ETC. POOR OR UNTIMELY WORK ON THE PART OF ANY SUBCONTRACTOR SHALL BE RESOLVED BY THE PARTY WHO ENGAGED THEM ON THIS PROJECT.

AA WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEER BEFORE AFFECTING INSTALLATION. REFER ALSO TO ARCHITECTURAL INTERIOR AND EXTERIOR ELEVATIONS, CEILING HEIGHTS AND OTHER DETAILS OF THESE DOCUMENTS, AS APPLICABLE.

AB WHERE FIRE-RATED CEILING ASSEMBLIES ARE NOTED, PROVIDE UL-LISTED FIRE-RATED GYPSUM BOARD OR PRE-MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, CEILING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.

AC COORDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, GAS OUTLETS, ETC. WITH ALL CASEWORK, KITCHEN EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC. PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).

AD ALL ELECTRICAL COMPONENTS OR EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITER'S LABORATORIES OR OTHER APPROVED LISTING AGENCY. APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.

AE ALL WIRING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF SPLICES. CONDUCTORS, WHETHER SINGLE OR MULTI-PAIR, SHALL BE INSTALLED CONTINUOUS INSOFAR AS POSSIBLE FROM TERMINAL POINT TO TERMINAL POINT.

AF NO CONDUIT, SUPPORTS, ETC. SHALL BE RUN THROUGH ACCESS CLEARANCES OF EQUIPMENT BY OTHER TRADES (I.E. VAV BOXES). COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

AG ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE OR SUB-SERVICE FOR SAFETY PURPOSES. PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC. OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

AH ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, DIRECTLY FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING.

AI WHERE INTERRUPTING AN EXISTING UTILITY OR SERVICE DELIBERATELY OR ACCIDENTALLY, THE RESPONSIBLE CONTRACTOR SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME, PROVIDING PREMIUM TIME AS NEEDED.

AJ REFER TO ARCHITECTURAL WALL ELEVATIONS (WHERE GIVEN) FOR HEIGHTS AND MOUNTING RELATIONSHIP OF OUTLETS AND EQUIPMENT. IF IN DOUBT, CONTACT ENGINEER FOR DIRECTION PRIOR TO ROUGH IN.

AK FLUSH OR PEDESTAL TYPE FLOOR OUTLETS/BOXES, AS INDICATED ON PLAN, SHALL BE LOCATED BY DIMENSIONS PROVIDED BY THE ARCHITECT, UNLESS OTHERWISE SHOWN ON PLANS. IF IN DOUBT, CONTACT THE ENGINEER PRIOR TO ROUGHING-IN ANY WORK.

AL AS APPLICABLE, REFER TO ARCHITECTURAL PHASING PLANS AND PHASING BOUNDARIES ON THESE DRAWINGS FOR SEQUENCING OF WORK, FULL EXTENT OF AREAS INVOLVED, EXTENT OF CEILING WORK, ETC. PROVIDE TEMPORARY CONNECTIONS FOR CIRCUITS AND WORK AS REQUIRED TO MAINTAIN SEQUENCE OF THE WORK FROM PHASE TO PHASE.

AM THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR HIS WORK. ALL CUTTING AND PATCHING SHALL BE IN ACCORDANCE WITH THE ARCHITECT'S STANDARDS FOR SUCH WORK.

AN ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEER FOR CLARIFICATIONS PRIOR TO INSTALLING ANY SUCH WORK.

AO INTERRUPTION OF ANY EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER, GENERAL CONTRACTOR, UTILITY COMPANY AS NECESSARY, AND THE ARCHITECT, AT LEAST TWO WEEKS IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED TWO WEEKS IN ADVANCE, IN WRITING. IF UTILITY COMPANY REQUIRES A LONGER NOTIFICATION PERIOD, SO PROVIDE.

AP WHERE BACKBOXES ARE LOCATED IN THE SAME VERTICAL CHANNEL/STUD SPACE ON OPPOSITE SIDES OF THE SAME WALL, PROVIDE SOUND-INSULATING PUTTY AROUND BOXES AS REQUIRED TO ELIMINATE SOUND TRANSMISSION FROM ROOM TO ROOM.

AQ JUNCTION BOXES LOCATED ABOVE ACCESSIBLE CEILINGS SHALL BE LOCATED NO MORE THAN 36" ABOVE CEILING LEVEL. LABEL EACH BOX IN AREA OF WORK WITH A PERMANENT MARKER OR IN ACCORDANCE WITH SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

AR ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES, NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL AGENCIES OR DEPARTMENTS HAVING JURISDICTION. IF ANY CONFLICTS OR DISCREPANCIES OCCUR THE MOST STRINGENT SHALL APPLY.

AS DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE CONTRACTOR.

AT NOISY WORK, WORK OUTSIDE CONSTRUCTION BARRIERS, WORK IN OCCUPIED AREAS, ETC. SHALL BE PERFORMED AFTER HOURS OR ON WEEKENDS. COORDINATE EXACT SCHEDULING WITH FACILITY PRIOR TO CONSTRUCTION.

AU ALL ITEMS HAVING KEYED LOCKS/OPERATORS SHALL HAVE CORED LOCKS/OPERATORS. ALL KEYING SHALL MATCH THE OWNER'S EXISTING KEY-WAYS. COORDINATE EXACT REQUIREMENTS WITH OWNER PRIOR TO CONSTRUCTION.

AV REFER TO ARCHITECTURAL PLANS FOR PHASING REQUIREMENTS. WORK SHALL BE COMPLETED IN PHASES PER THE PHASING PLAN AND AS COORDINATED WITH OWNER AND GENERAL CONTRACTOR. PROVIDE ALL REQUIRED INCREMENTAL INSPECTIONS, CERTIFICATIONS, ETC. AND ALL TEMPORARY SERVICES AS REQUIRED BY OWNER TO ACCOMPLISH THE PHASING PLAN.

ELECTRICAL DEMOLITION NOTES

A DOTTED LINES INDICATE ITEMS FOR REMOVAL (UON) AND SOLID HALFTONE LINES INDICATE EXISTING ITEMS TO REMAIN.

B THE CONTRACTOR SHALL MAINTIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO REMAIN. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE-DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.

C LOCATIONS OF DEVICES, CONNECTIONS, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES. THEY ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO VARIATION FROM EXISTING CONDITIONS. CERTAIN EXISTING ELEMENTS MAY NOT BE INDICATED AT ALL. THE CONTRACTOR PROPOSING TO DO ANY PART OF THE WORK INDICATED HEREON SHALL VISIT THIS SITE AND DETERMINE TO HIS SATISFACTION THAT THEY MAY COMPLETE ALL WORK REQUIRED FOR THE BID WHICH HE PROPOSES.

D REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES / FIXTURES / ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON). CONTRACTOR SHALL PATCH AND REPAIR ANY EXISTING WALLS, FLOORS OR CEILINGS WHERE DEVICES ARE SHOWN TO BE REMOVED (PATCH AND REPAIR TO RECEIVE NEW FINISHES - SEE ARCHITECTURAL PLANS).

E COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.

F COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.

G PROVIDE TEMPORARY EMERGENCY EXIT LIGHTS AT CONSTRUCTION BARRIERS AS REQUIRED.

H CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS / CEILINGS AS REQUIRED WHERE DEVICES ARE BEING REMOVED OR INSTALLED.

I UNUSED/ABANDONED CONDUCTORS DISCOVERED ABOVE ACCESSIBLE CEILINGS SHALL BE REMOVED IN ACCORDANCE WITH NEC REQUIREMENTS.

J EXISTING ELECTRICAL SYSTEMS IN CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED TO PERMIT INSTALLATION OF DEVICES AND EQUIPMENT SHOWN ON PLANS.

K CONTRACTOR SHALL SEAL ALL EXISTING AND NEW PENETRATIONS OF BUILDING ENVELOPE (EXTERIOR WALLS, ROOF, ETC.) WATER-TIGHT AND AS APPROVED BY ARCHITECT AND ENGINEER. ROOFING SHALL BE RESTORED BY A LICENSED ROOFING CONTRACTOR BASED ON WRITTEN INSTRUCTIONS AND DETAILS FROM ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ROOF WARRANTY. REFER TO ARCHITECTURAL AND ENGINEERING PLANS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS.

L DEVICES INDICATED WITH AN "R" SHALL BE REMOVED AND RELOCATED. REMOVE, PROTECT, AND REINSTALL IN NEW LOCATION INDICATED ON NEW WORK PLANS. INTERCEPT AND EXTEND ALL EXISTING CABLING TO NEW LOCATION. CLEAN AND RE-LAMP RELOCATED LUMINAIRES.

M ALL EXISTING PANELS AFFECTED BY THIS CONTRACTOR'S WORK SHALL BE PROVIDED WITH NEW TYPE-WRITTEN PANEL DIRECTORIES AND INSERT SLEEVES. PANEL DIRECTORIES SHALL NOT USE ROOM NAMES OR NUMBERS FROM THESE DRAWINGS. DIRECTORIES SHALL BE DETAILED AND COORDINATED WITH OWNER'S SUITE NUMBERS, FINAL ROOM NUMBERS, IT RACK NAMES, WORKSTATION DESIGNATIONS, ETC. UNUSED BREAKERS SHALL BE IN OFF POSITION.

N CONTRACTOR TO VERIFY THAT THERE ARE NO ELECTRICAL CIRCUITS IN CHASES BEING REMOVED UNDER DEMOLITION WHICH REMAIN IN SERVICE AND CANNOT BE RESPONSIBLE. SHOULD SUCH CIRCUITS BE ENCOUNTERED, THE CONTRACTOR IS TO REROUTE AND RECONNECT AS REQUIRED TO MAINTAIN SERVICE.

ELECTRICAL LIGHTING NOTES

A REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C # 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. ALSO, MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

D LOCATE CHAIN-HUNG INDUSTRIAL FIXTURES IN MECHANICAL ROOMS TO AVOID DUCTWORK AND PIPING, TO MAXIMIZE AVAILABLE LIGHT. SPACE AROUND EQUIPMENT, AIR HANDLERS, ETC. TO PROVIDE ADEQUATE LIGHTING TO ALL AREAS OF ROOM. PROVIDE ADDITIONAL FIXTURES OF SAME TYPE AS NEEDED TO FULFILL THIS REQUIREMENT.

E LOCATE EXIT SIGNS FOR MAXIMUM VIEWING AREA TO IDENTIFY EGRESS PATHS AS INDICATED ON PLANS. COORDINATE LOCATIONS SUCH THAT ARCHITECTURAL FEATURES OR EQUIPMENT FROM OTHER TRADES DO NOT OBSTRUCT VIEW.

F LUMINAIRES INDICATED WITH MULTI-LEVEL SWITCHING SHALL HAVE SIMILAR LAMPS CONTROLLED TOGETHER, I.E. INBOARD AND OUTBOARD LAMPS OR RIGHT AND LEFT HAND LAMPS.

G ALL LIGHTING FIXTURE LENSES, PARABOLIC LOUVERS, DOWNLIGHTING ALZAK CONES AND "PARACUBE" LOUVERS SHALL BE HANDLED WITH COTTON GLOVES DURING INSTALLATION AND LAMPING TO AVOID FINGERPRINTS OR DIRT DEPOSITS. IT IS PREFERRED THAT FIXTURES BE SHIPPED AND INSTALLED WITH CLEAR PLASTIC BAGS TO PROTECT LOUVERS. AT CLOSE OF PROJECT, AND AFTER CONSTRUCTION AIR FILTERS ARE CHANGED, REMOVE BAGS. ANY LOUVER OR CONE SHOWING DIRT OR FINGER PRINTS SHALL BE CLEANED WITH SOLVENT RECOMMENDED BY THE MANUFACTURER, OR REPLACED AS NECESSARY IN ORDER TO TURN OVER TO THE OWNER NEW FIXTURES AT OCCUPANCY.

H RECESSED LUMINAIRES SHALL BE SECURED SUCH THAT THE FORCE REQUIRED INSERTING LAMPS, TRIMS, LENSES, LOUVERS, OR DOOR FRAMES DOES NOT SHIFT HOUSING. ALL TRIMS SHALL BE COMPLETELY FLUSH WITH FINISHED CEILINGS AT COMPLETION OF CONSTRUCTION.

I CONTRACTOR SHALL PROVIDE UNSWITCHED CONDUCTOR TO ALL EXIT SIGNS, EMERGENCY INVERTER BATTERY PACKS, AND NIGHT LIGHTS AS REQUIRED.

ELECTRICAL POWER NOTES

A REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C # 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

D RECEPTACLES THAT ARE CONTROLLED BY AN AUTOMATIC MEANS SUCH AS OCCUPANCY SENSOR OR ENERGY MANAGEMENT SYSTEM SHALL BE MARKED IN ACCORDANCE WITH NEC 406.3(E).

E LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

ELECTRICAL SYSTEMS NOTES

A REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

D REFER TO "SYSTEM INSTALLATION MATRIX" (ON SYSTEMS LEGEND SHEET) AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS OF EACH SYSTEM.

E THE CONTRACTOR SHALL ROUTE ALL "SYSTEM CONDUIT STUB-UPS" TO THE NEAREST CORRIDOR CABLING PATH (SEE "STUB-UP" DETAILS). REFER TO CABLING PATH INSTALLATION DETAIL FOR ADDITIONAL REQUIREMENTS.

F CONTRACTOR SHALL PAINT ALL SYSTEMS CONDUIT STUB-UPS LIGHT BLUE FOR SYSTEMS CABLING INTO THE CORRIDOR CABLING PATH. PROVIDE PULL STRINGS IN ALL NEW CONDUIT RUNS FOR SYSTEM CABLING INSTALLATION.

ELECTRICAL FIRE ALARM NOTES

A THIS RISER IS PARTIAL. ALL THE DEVICES CONNECTED TO THE "FACP" UNITS ARE NOT SHOWN. THE CONTRACTOR SHALL REFER TO THE ELECTRICAL FLOOR PLANS FOR THE COMPLETE FIRE ALARM SYSTEM.

B THE EXTENT OF ALL FIRE ALARM SYSTEM WORK IS INDICATED OR IMPLIED ON THE CONTRACT DRAWINGS.

C FIELD VERIFY THE EXACT NUMBER AND LOCATIONS OF ALL MECHANICALLY RELATED ITEMS (SPRINKLER CONNECTIONS, EXTINGUISHING SYSTEMS, SMOKE DAMPERS, RANGE HOOD SUPPRESSION SYSTEMS, ETC.) AND MAKE CONNECTIONS AS REQUIRED/INDICATED.

D PROVIDE CONNECTIONS TO ALL FIRE PROTECTION TAMPER AND FLOW SWITCHES VIA ZONE ADDRESSABLE MODULES AS REQUIRED. CONTRACTOR SHALL VERIFY ALL LOCATIONS WITH FIRE PROTECTION SYSTEM SHOP DRAWINGS. CONTRACTOR SHALL PROVIDE A UNIT PRICE FOR COMPLETE INSTALLATION OF A CONNECTION TO EXISTING FIRE PROTECTION SWITCHES.

E ALL FIRE ALARM STROBE LIGHTS SHALL BE SYNCHRONIZED TO ACCOMMODATE BUILDING STANDARDS AS REQUIRED.

F TAP SPEAKERS TO PROVIDE SUFFICIENT AUDIBILITY FOR AREA SERVED.

G SMOKE DETECTORS SHALL NOT BE LOCATED CLOSER THAN 36" TO SUPPLY, RETURN OR EXHAUST AIR OPENINGS NOR CLOSER THAN 12" TO WALL/ CEILING INTERSECTIONS.

H AIR HANDLING UNITS SHALL ONLY SHUT DOWN WHEN SMOKE IS DETECTED AT THAT PARTICULAR AIR HANDLING UNIT (UON). SMOKE DAMPERS SHALL CLOSE ONLY WHEN SMOKE IS DETECTED AT THAT PARTICULAR SMOKE DAMPER BY ACTIVATION OF THE CONTROLLING SMOKE DETECTOR. REFER TO THE SPECIFICATIONS FOR FURTHER REQUIREMENTS.

I PROVIDE DUCT SMOKE DETECTORS WITH REMOTE TEST SWITCH/INDICATOR LIGHT AT 7'-6" ABOVE FINISH FLOOR IN WALL IN AREA BELOW DETECTOR.

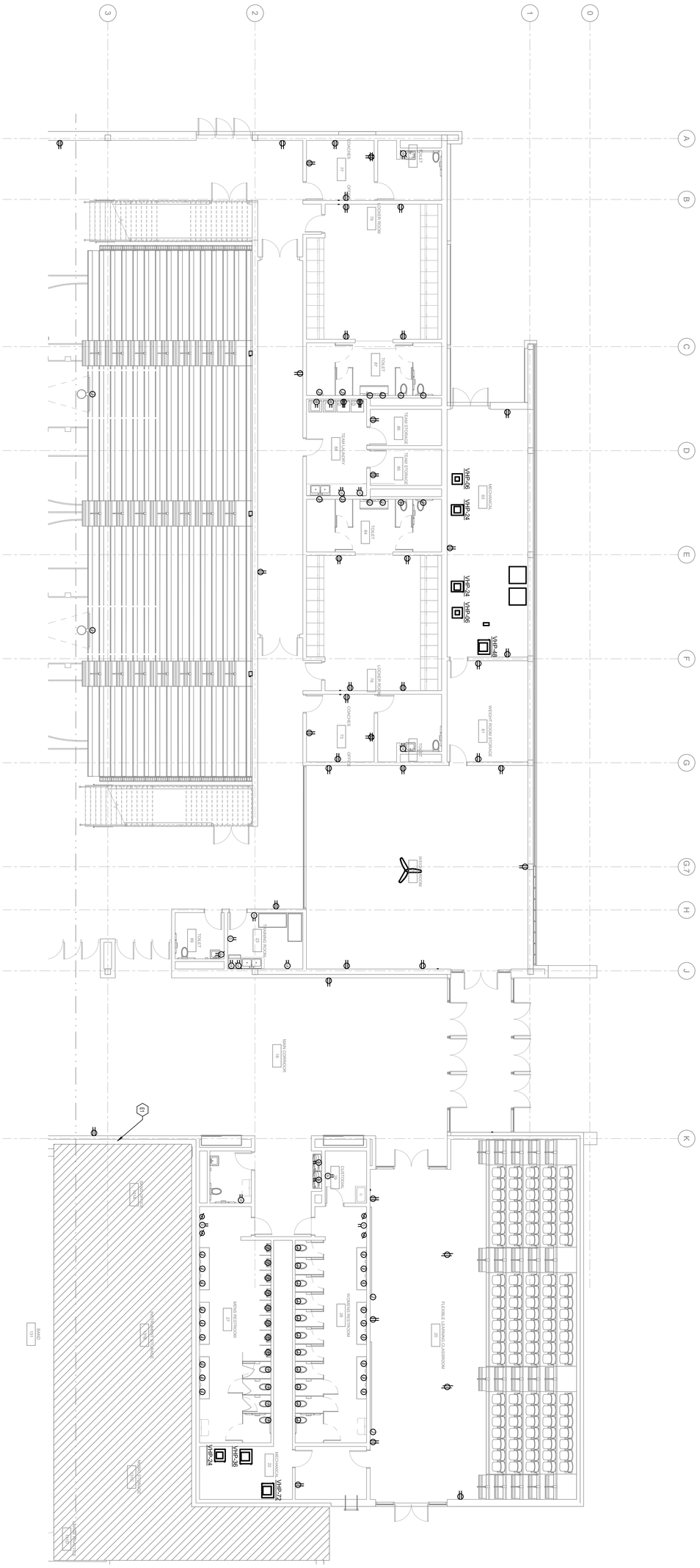
J RISER DIAGRAM IS FOR BID PURPOSES ONLY. SYSTEM SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH WIRING DIAGRAMS OBTAINED FROM MANUFACTURER, THAT HAVE BEEN APPROVED BY THE STATE FIRE MARSHAL'S OFFICE OR AUTHORITY HAVING JURISDICTION.

K PROVIDE FIRE ALARM MANUFACTURER WITH LOCATION DESCRIPTIONS FOR ALL FIRE ALARM DEVICES AS SOON AS POSSIBLE AFTER AWARD OF CONTRACT FOR PRE-PROGRAMMING OF FIRE ALARM SYSTEM. COORDINATE DESCRIPTIONS WITH BUILDING OWNER. UTILIZE FINAL ROOM NAMES AND NUMBERS, NOT NAMES AND NUMBERS FROM FLOOR PLANS.

L EACH FIRE ALARM DEVICE SHALL BE LABELED WITH SELF ADHESIVE POLYESTER COATED PRINTED LABELS INDICATING DEVICE ADDRESS AND CIRCUIT PER FIRE ALARM SHOP DRAWINGS.

M MODIFY AND/OR EXPAND EXISTING CONTROL PANEL(S) AND ANNUNCIATOR(S) TO ACCOMMODATE AS REQUIRED TO SUPPORT ADDITIONAL DEVICES SHOW

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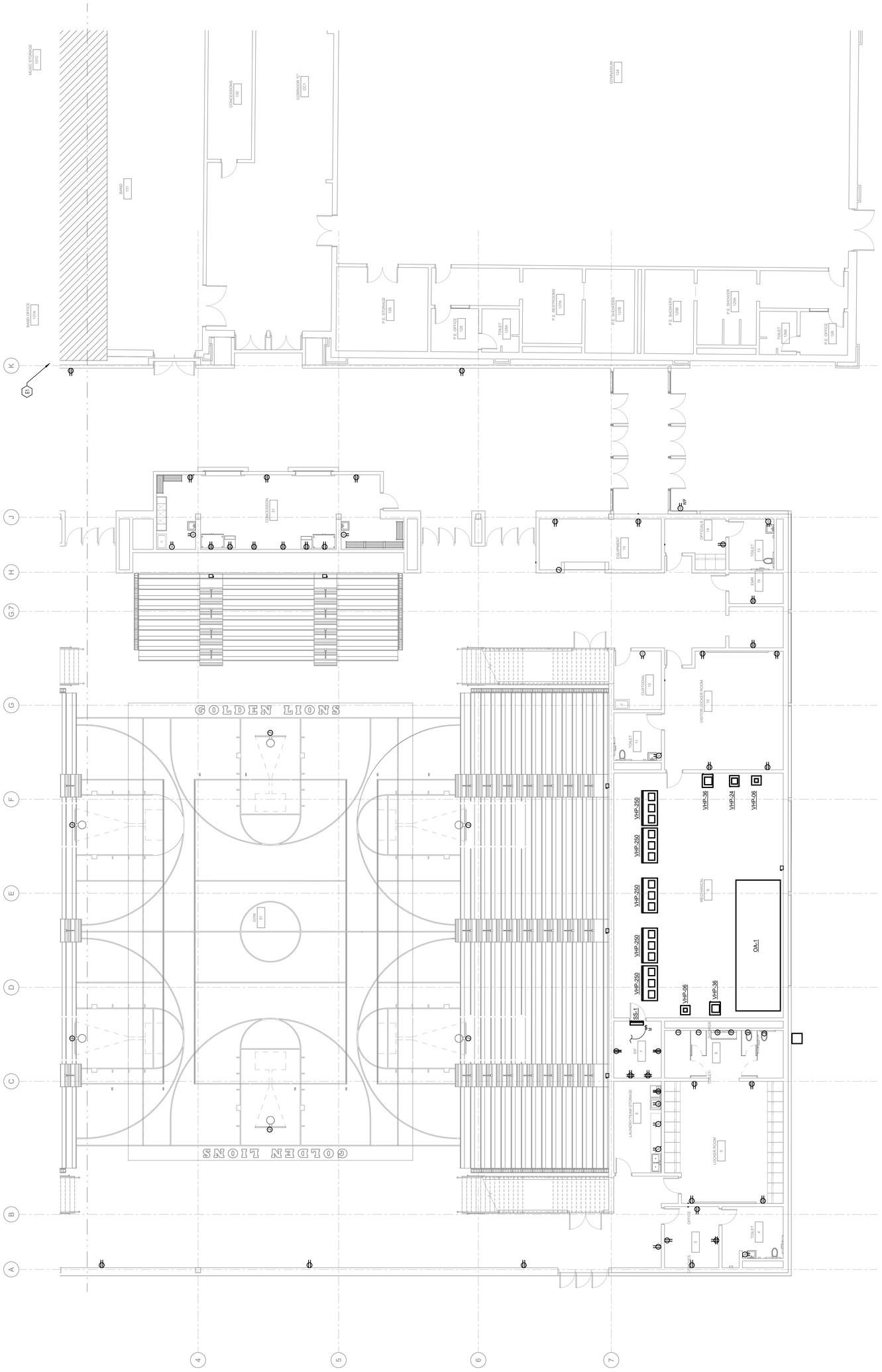
GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
FEBFORMANCE GYM - ELECTRICAL POWER PLAN - FIRST FLOOR - AREA B

SHEET	DATE:	REVISED
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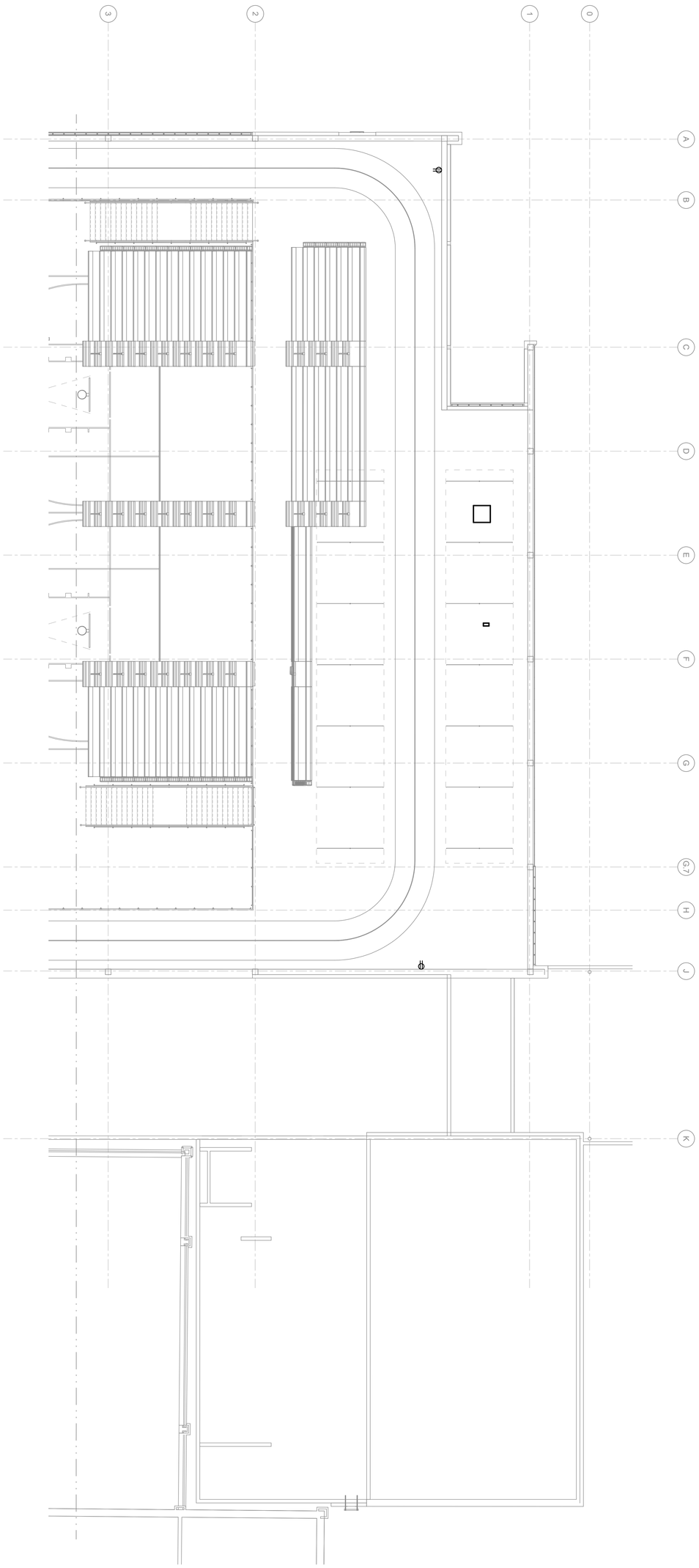
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E1 NO NEW WORK TO BE DONE IN EXISTING SCHOOL.



1 FIRST FLOOR ELECTRICAL POWER PLAN - AREA B
SCALE: 1/8" = 1'-0"
0 2 4 8 16 24 32

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1 PERFORMANCE GYM - ELECTRICAL POWER PLAN - AREA A

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

0 2' 4' 8' 16' 24' 32'

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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

FOR THE
GARRARD COUNTY BOARD OF EDUCATION

PERFORMANCE GYM - ELECTRICAL POWER PLAN - TRACK LEVEL - AREA A

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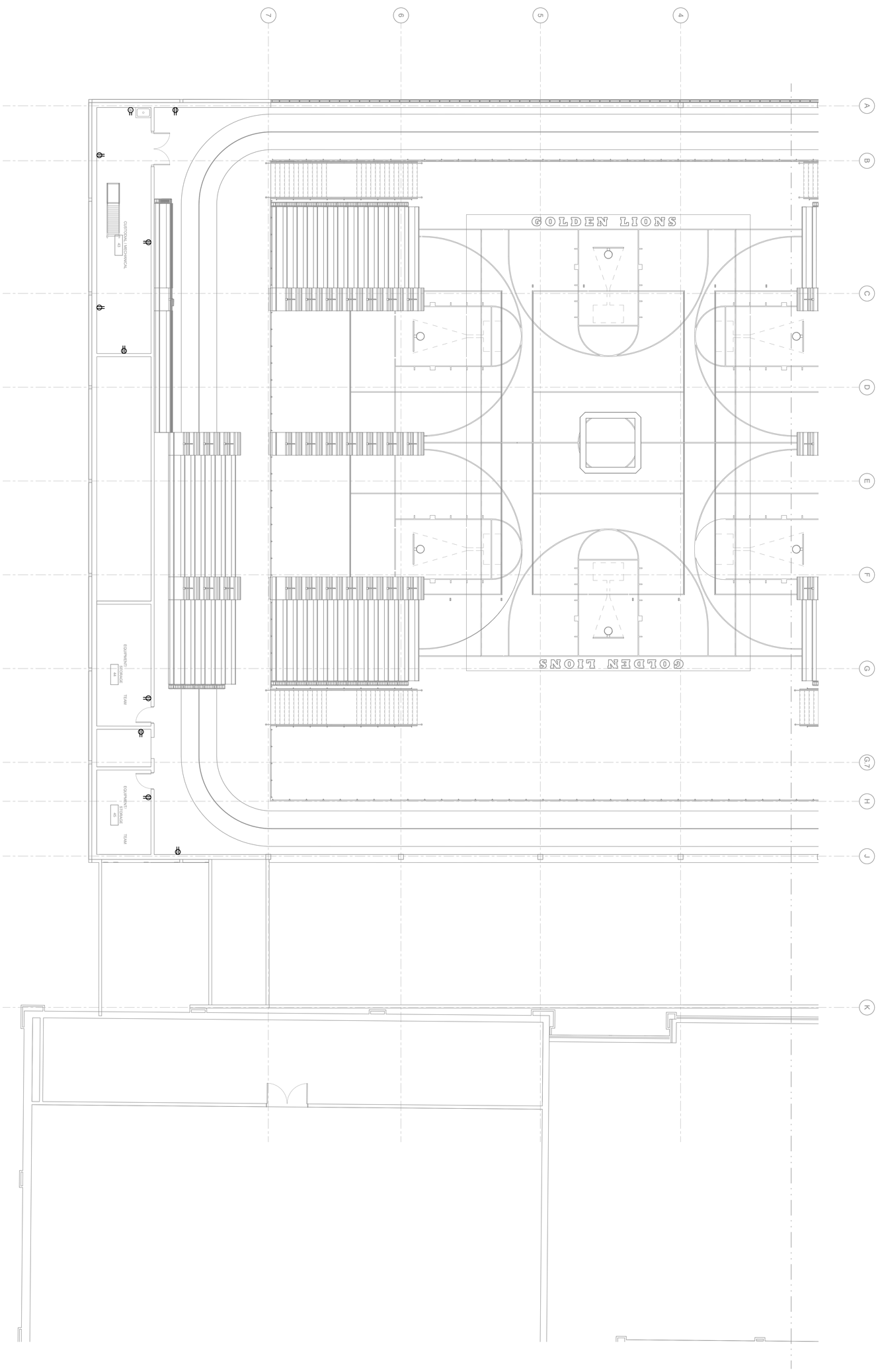
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1 PERFORMANCE GYM - ELECTRICAL POWER PLAN - AREA B

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

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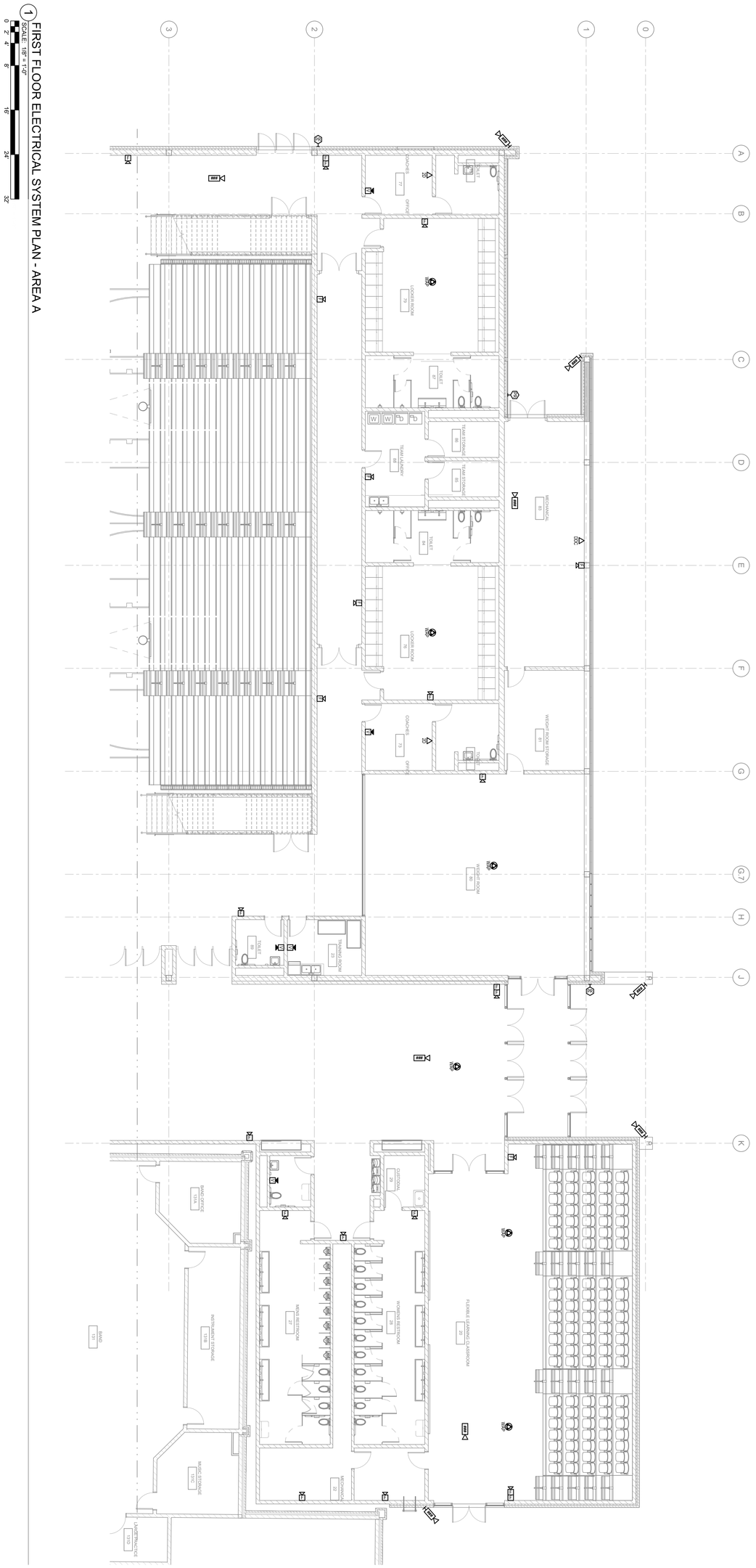
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1 FIRST FLOOR ELECTRICAL SYSTEM PLAN - AREA A

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

0 2' 4' 8' 16' 24' 32'

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PERFORMANCE GYM - ELECTRICAL SYSTEMS PLAN - FIRST FLOOR - AREA A

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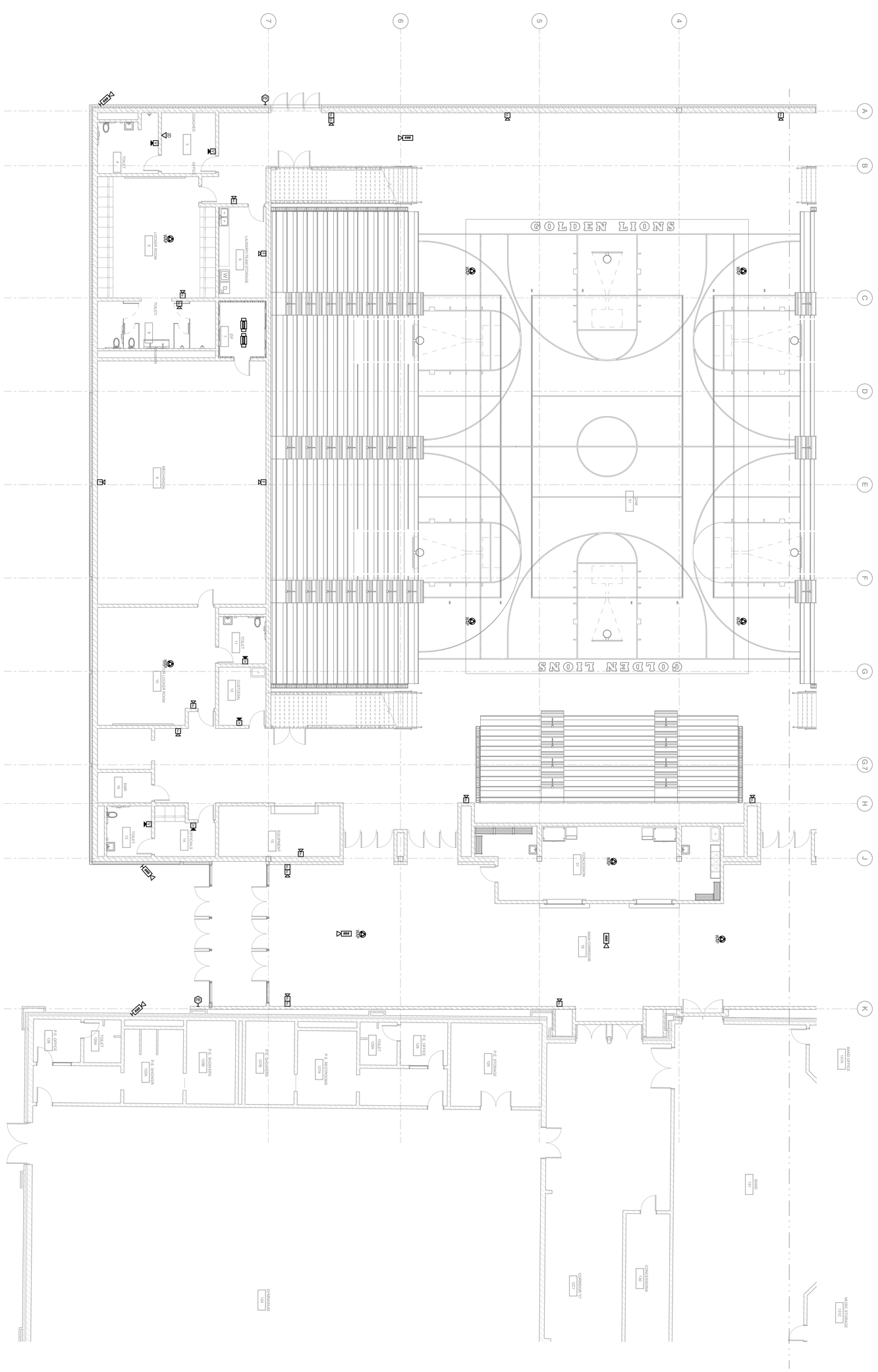
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1 FIRST FLOOR ELECTRICAL SYSTEM PLAN - AREA B

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

0 2' 4' 8' 16' 24' 32'



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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

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PERFORMANCE GYM - ELECTRICAL SYSTEMS PLAN - FIRST FLOOR - AREA B

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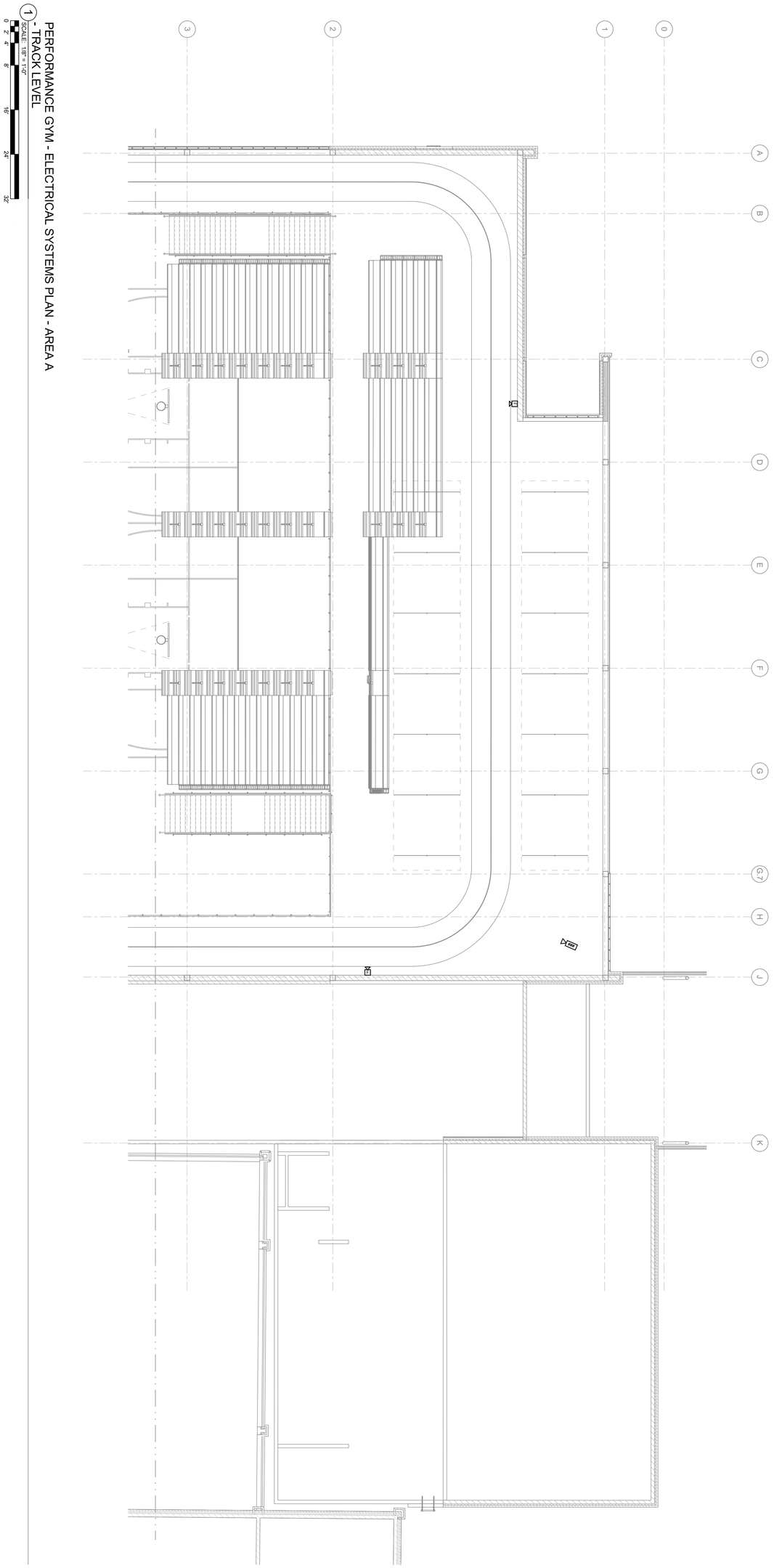
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PERFORMANCE GYM - ELECTRICAL SYSTEMS PLAN - AREA A

1 - TRACK LEVEL

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

0 2" 4" 8" 16" 24" 32"



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PERFORMANCE GYM - ELECTRICAL SYSTEMS PLAN - TRACK LEVEL - AREA A

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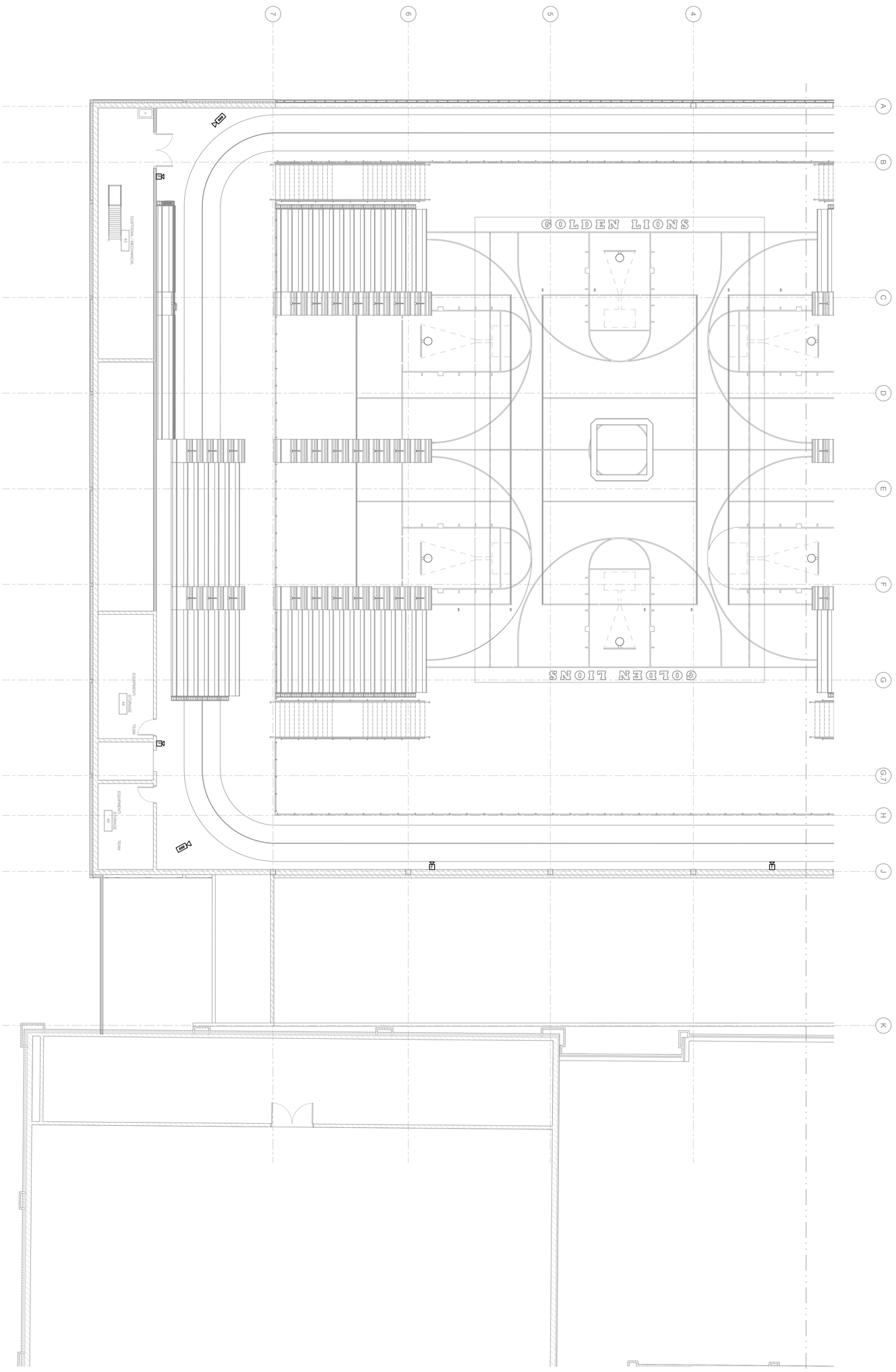
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PERFORMANCE GYM - ELECTRICAL SYSTEMS PLAN - AREA B - TRACK LEVEL

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

0 2' 4' 8' 16' 24' 32'



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PERFORMANCE GYM - ELECTRICAL SYSTEMS PLAN - TRACK LEVEL - AREA B

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PLUMBING GENERAL NOTES

A. COORDINATE THE LOCATION OF DRAINS, THERMOSTATS, GAS OUTLETS, ETC., WITH ALL CASEWORK EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC., PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE CONTRACTOR.

B. THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC., OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

C. WHERE WORK IS REQUIRED ABOVE EXISTING LAY-IN, PLASTER OR GYPSUM BOARD CEILINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REINSTALLATION (OR REPLACEMENT, IF DAMAGED) OF ALL CEILING OR TILE AND GRID MEMBERS NECESSARY TO PERFORM HIS WORK. NEW TILE AND GRID SHALL MATCH THE SURROUNDING AREAS. ALL PATCHING WORK SHALL MATCH ADJACENT SURFACES.

D. ALL NEW WORK SHALL BE HUNG FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES, WHETHER EXISTING OR NEW.

E. COORDINATE ALL WORK WITH PROJECT PHASING REQUIREMENTS.

F. PATCH, REPAIR AND PAINT OR PROVIDE WALL COVERING FOR (TO OWNER'S STANDARDS) EXISTING WALLS, CEILINGS, ETC., THAT ARE TO REMAIN IF DAMAGED DURING CONSTRUCTION. REPAIRS SHALL MATCH ADJACENT SURFACES TO THE SATISFACTION OF THE ARCHITECT AND OWNER.

G. OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, FEDERAL, MUNICIPALITY, UTILITY COMPANY, COMMONWEALTH OF KENTUCKY, ETC.)

H. CONTRACTOR SHALL BE AWARE OF UNSEEN PLUMBING WORK DURING DEMOLITION. IF ITEMS ARE UNCOVERED DURING DEMOLITION THEN FIELD VERIFY THE USE OF THE ITEMS AND PLAN AN ALTERNATE ROUTE TO RUN THESE ITEMS. THEN CONTACT THE ENGINEERS TO REVIEW THE ROUTING.

I. IF AREA OF CONSTRUCTION HAS A POST TENSION FLOOR SLAB. CONTRACTOR SHALL USE ULTRA SOUND OR OTHER APPROVED METHODS TO SURVEY THE EXISTING FLOOR STRUCTURE BEFORE MAKING ANY AND ALL FLOOR PENETRATIONS.

J. WHERE FIRE PROOFING IS SPRAYED ON EXISTING STRUCTURE ALL EXISTING CONDUITS, WATER, HYDRONIC, STEAM, CHILLED WATER, FIRE PROTECTION LINES, MED GAS, ETC. SHALL BE LOWERED TO BE BELOW FULL THICKNESS OF FIRE PROOFING WITH NO INTERFERENCE.

K. ALL PENETRATIONS OF FIRE AND SMOKE RATED ASSEMBLIES SHALL BE APPROPRIATELY FIRE STOPPED PER AN APPROVED U.L. LISTED STANDARD. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO INSULATED PIPING PENETRATIONS.

L. ALL WORK REQUIRING DOWNTIME OF ANY AREA IN THE BUILDING SHALL BE SCHEDULED 2 WEEKS IN ADVANCE, AND SHALL COMPLY WITH INTERIM LIFE SAFETY MEASURES.

M. ALL PIPING IN ROOMS WITH CEILINGS SHALL BE ABOVE CEILING EXCEPT AS NOTED.

N. IN ACCORDANCE WITH K.R.S. ALL PLUMBING WORK SHALL BE CONSTRUCTED IN COMPLIANCE WITH PLANS APPROVED BY AND BEARING THE APPROVAL STAMP OF THE KENTUCKY DIVISION OF PLUMBING AND/OR THE DIVISION OF WATER. THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL HE HAS RECEIVED SUCH APPROVED PLANS.

O. LOCATIONS OF PIPING AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.

P. ALL OFFSETS IN PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS WHERE NECESSARY.

Q. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES OR OTHER COSTS THAT ANY UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (GAS, SEWER, WATER, ETC.).

R. INSTALL ALL PIPING AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTION. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION. PROVIDE RECOMMENDED ACCESS AND SERVICE CLEARANCES FOR ALL EQUIPMENT.

S. SEAL AIRTIGHT AROUND ALL DUCTS AND PIPING PENETRATIONS THROUGH WALLS, FLOORS AND ROOF. PROVIDE FIRE STOPPING IN FIRE PARTITION.

T. THE CONTRACTOR SHALL RELOCATE OR AVOID ANY EXISTING EQUIPMENT APPURTENANCES, ETC., THAT CONFLICT WITH NEW WORK.

U. WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.

V. DOUBLE WIDTH TURNING VANES SHALL BE INSTALLED IN ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK ELBOWS. TURNING VANES NOT REQUIRED FOR KITCHEN EXHAUSTS.

W. ANY VIBRATING, OSCILLIATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.

X. DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT USED AS BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.

Y. VALVES, BALANCING DAMPERS OR ANY MECHANICAL/ELECTRICAL ITEM REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT. ADDITIONALLY ALL SUCH ITEMS SHALL NOT BE LOCATED AN UNREASONABLE DISTANCE ABOVE THE CEILINGS. IN GENERAL ALL SUCH ITEMS UNLESS INDICATED OTHERWISE SHALL BE MOUNTED SIX TO TWELVE INCHES ABOVE THE CEILING. IF IN DOUBT, CONTACT ENGINEER PRIOR TO INSTALLING.

Z. ALL MANHOLES, VAULTS AND SIMILAR UNDERGROUND STRUCTURES SHALL HAVE THE TOP ELEVATION SET FLUSH WITH FINISHED GRADE UNLESS SPECIFICALLY NOTED OTHERWISE.

AA. WHEN RUNNING ANY TYPE OF PIPING BELOW A FOOTER, OR IN THE ZONE OF INFLUENCE THE PIPING SHALL BE BACKFILLED WITH CEMENTITIOUS FLOWABLE FILL PER SPECIFICATIONS. WHENEVER POSSIBLE, LOCATE PIPING OUTSIDE OF THE ZONE OF INFLUENCE. THE ZONE OF INFLUENCE IS THE AREA UNDER THE FOOTER WITHIN A 45 DEGREE ANGLE PROJECTING DOWN FROM THE BOTTOM EDGE OF THE FOOTER OF ALL SIDES OF THE FOOTER. ADDITIONALLY, GREASE TRAPS, MANHOLES, VAULTS AND OTHER UNDERGROUND STRUCTURES SHALL BE HELD AWAY FROM BUILDING WALLS FAR ENOUGH TO BE OUTSIDE OF THE ZONE OF INFLUENCE.

AB. THE DOCUMENTS COMPLY WITH 2006 IMC, 2007 KBC, AND 2009 IECC.

AC. THE DOCUMENTS COMPLY WITH 2006 IMC, 2007 KBC, AND ASHRAE 90.1-2007.

AD. WORK IN CONFINED AREAS SHALL BE IN ACCORDANCE WITH THE OWNER'S SAFETY POLICY REQUIREMENTS.

PLUMBING DEMOLITION NOTES

A. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR AREAS IN WHICH THE CEILING IS REMAINING. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE EXISTING CEILING AS REQUIRED AND REINSTALLATION. TEMPORARILY SUPPORT LIGHTS, DIFFUSERS, CEILING ETC. REPLACE BROKEN CEILING TILES WITH NEW AT NO ADDITIONAL COST TO OWNER. FIELED VERIFY EXACT REQUIREMENTS.

B. DURING SPRINKLER SYSTEM OUTAGES THE CONTRACTORS SHALL PROVIDE FIRE WATCH OF AREAS WITH OUTAGES.

C. ALL WALLS AND FLOOR SLABS SHALL BE REPAIRED TO MATCH EXISTING AND TO A LIKE NEW CONDITION. ALL RATED WALLS AND FLOOR SLABS SHALL BE PATCHED AND REPAIRED TO MAINTAIN RATING.

D. ALL EXISTING BUILDING FINISHES SHALL BE PROTECTED DURING THE DEMOLITION PHASE.

E. HEAVY DASHED LINES INDICATE ITEMS FOR REMOVAL (UON) AND LIGHT SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

F. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH THE OWNER.

G. ALL OUTAGES SHALL BE SCHEDULED THROUGH THE UK CPMD PROJECT REPRESENTATIVE FOR PROPER COORDINATION. A REQUEST FOR AN OUTAGE SHALL BE SUBMITTED IN WRITING A MINIMUM OF TWO WEEKS IN ADVANCE.

H. ALL DUCTWORK, PIPING, CONDUIT, ETC. SHALL BE INSTALLED A MINIMUM OF 4" ABOVE THE TOP OF THE CEILING GRID PER UK STANDARDS.

PLUMBING HAZARDOUS MATERIALS NOTES

A. THE CONTRACTOR IT IS HEREBY ADVISED THAT IS POSSIBLE THAT ASBESTOS AND/OR OTHER HAZARDOUS MATERIALS ARE OR WERE PRESENT IN THIS BUILDING(S). ANY WORKER, OCCUPANT, VISITOR, ETC., WHO ENCOUNTERS ANY MATERIAL OF WHOSE CONTENT THEY ARE NOT CERTAIN SHALL PROMPTLY REPORT THE EXISTENCE AND LOCATION OF THAT MATERIAL TO THE OWNER. FURTHERMORE, THE CONTRACTOR SHALL INSURE THAT NO ONE COMES NEAR TO OR IN CONTACT WITH ANY SUCH MATERIAL OR FUMES THEREFROM UNTIL ITS CONTENT CAN BE ASCERTAINED TO BE NON-HAZARDOUS.

B. CMTA, INC. HAS NO EXPERTISE IN THE DETERMINATION OF THE PRESENCE OF ANY HAZARDOUS MATERIAL. THEREFORE, NO ATTEMPT HAS BEEN MADE BY CMTA TO IDENTIFY THE EXISTENCE OR LOCATION OF ANY SUCH HAZARDOUS MATERIAL. FURTHERMORE, CMTA NOR ANY AFFILIATE HEREOF WILL NOT OFFER OR MAKE ANY RECOMMENDATIONS RELATIVE TO THE REMOVAL, HANDLING OR DISPOSAL OF SUCH MATERIAL.

C. IF THE WORK WHICH IS TO BE PERFORMED INTERFACES, CONNECTS OR RELATES IN ANY PHYSICAL WAY WITH OR TO EXISTING COMPONENTS WHICH CONTAIN OR BEAR ANY HAZARDOUS MATERIAL, ASBESTOS BEING ONE, THEN IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO CONTACT THE OWNER AND SO ADVISE HIM IMMEDIATELY.

D. THE CONTRACTOR BY EXECUTION OF THE CONTRACT FOR ANY WORK AND/OR BY THE ACCOMPLISHMENT OF ANY WORK THEREBY AGREE TO BRING NO CLAIM RELATIVE TO HAZARDOUS MATERIALS FOR NEGLIGENCE, BREACH OF CONTRACT, INDEMNITY, OR ANY OTHER SUCH ITEM AGAINST CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS OR CONSULTANTS. ALSO, THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS AND CONSULTANTS HARMLESS FROM ANY SUCH RELATED CLAIMS WHICH MAY BE BROUGHT BY ANY SUBCONTRACTORS, SUPPLIERS OR ANY OTHER THIRD PARTIES.

E. THE CONTRACTOR IS DIRECTED TO THE SPECIFICATIONS FOR FURTHER INFORMATION.

PLUMBING PHASING NOTES

A. THIS PROJECT INTERFACES EXTENSIVELY WITH EXISTING BUILDING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. AS AN EXAMPLE, MAIN GAS SERVICE, WATER SERVICE, ELECTRICAL SERVICE, HVAC SERVICES, STEAM GENERATION, ETC., WILL BE AFFECTED AND REPLACED OR MOVED DURING THIS PROJECT. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC. CONTRACTOR SHALL COORDINATE ALL SAID WORK WITH THE OWNER AND APPLICABLE UTILITIES PER THE CONTRACT DOCUMENTS.

ABBREVIATIONS

AC	ALTERNATING CURRENT
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFR	ABOVE FINISHED ROOF
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AHJ	AUTHORITY HAVING JURISDICTION
AMP	AMPERE (AMP, AMPS)
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
APD	AIR PRESSURE DROP
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS
AVG	AVERAGE
BAS	BUILDING AUTOMATION SYSTEM
BHP	BREAK HORSEPOWER
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
C.I.	CAST IRON
CLG	CEILING
CLR	CLEAR
CO	CARBON MONOXIDE
COND	CONDENS (-ER, -ING, -ATION, -ATE)
CONT	CONTINU (-ED, -OUS)
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
CV	VALVE FLOW COEFFICIENT
dB	DECIBEL
DB	DRY BULB
DC	DIRECT CURRENT
DD	DUCT SMOKE DETECTOR
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE (-S)
DIA	DIAMETER (-S)
DN	DOWN
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVA (-TION, -TOR)
ENGR	ENGINEER
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EVAP	EVAPORAT (-E, -ING, -ED, -OR, -ION)
EWT	ENTERING WATER TEMPERATURE
EXP	EXPANSION
EXT	EXTERIOR
FA	FREE AREA

ABBREVIATIONS (CONTINUED)

FL	FLOOR
FLA	FULL LOAD AMPS
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET **OR** FOOT
FUT	FUTURE
FV	FACE VELOCITY
GA	GAGE/GAUGE
GAL	GALLON (-S)
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
H	HUMIDITY
HD	HEAD
HG	MERCURY
HORIZ	HORIZONTAL
HP	H (-ORSEPOWER, -EAT PUMP)
HR	HOUR (-S)
HVAC	HEATING, VENTILATING, & AIR-CONDITIONING
Hz	HERTZ
ID	I (-DENTIFICATION, -NSIDE DIAMETER, -NSIDE DIMENSION)
IN	INCH (-ES)
INSUL	INSULAT (-ED, -ION)
INT	INTER (-IOR, -ERVAL)
IPS	IRON PIPE SIZE
kW	KILOWATT
kWh	KILOWATT HOUR
LBS	POUNDS
LF	LINEAR FEET/FOOT
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	BTU PER HOUR [THOUSANDS]
MCA	MINIMUM CIRCUIT AMPS
MFG	MANUFACTURER
MIN	MIN (-IMUM, -UTE)
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION [AMPS]
MTG	MOUNTING
N/A	NOT APPLICABLE
NC	NOISE CRITERIA **OR** NORMALLY CLOSED
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
NIC	NOT IN CONTRACT

ABBREVIATIONS (CONTINUED)

NO	NORMALLY OPEN **OR** NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DI (-AMETER, -MENSION)
OFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OR	OPEN RECEPTACLE
OZ	OUNCE (-S)
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PH	PHASE [ELECTRICAL]
PLBG	PLUMBING
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE (STEAM, WATER, GAS)
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	PPSI GAUGE
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SQ	SQUARE
SQ FT	SQUARE FEET **OR** FOOT
SQ IN	SQUARE INCH **OR** INCHES
TAB	TESTING AND BALANCING
TBD	TO BE DETERMINED
TE	TOP ELEVATION
TEMP	TEMPERATURE
TPA	TRAP PRIMER ADAPTER
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLT (-AGE, -S)
VAR	VARI (-ABLE, -IES)
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VFD	VARIABLE FEQUENCY DRIVE
W	WATT (-AGE, -S)
WB	WET BULB
WBT	WET BULB TEMPERATURE
WPD	WATER PRESSURE DROP
WT	WEIGHT
W/	WITH
W/O	WITHOUT
%	PERCENT
ΔP	DIFFERENTIAL PRESSURE
ΔT	TEMPERATURE DIFFERENCE
℄	CENTERLINE

GENERAL SYMBOLS

(#)	TAGGED NOTE DESIGNATOR
1	REVISION TRIANGLE
	ROOM TAG
TAG XXX-# / INSTANCE XXX	EQUIPMENT TAG
XXX / # #	DOMESTIC WATER RISER TAG
XXX / # #	SANITARY, WASTE, & VENT RISER TAG
XXX / # F	FIRE SUPPRESSION RISER TAG
	POINT OF CONNECTION / CONNECT TO EXISTING
	POINT OF DEMOLITION
D(XXX)	PIPING TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
E(XXX)	EXISTING PIPING - (XXX) DENOTES SYSTEM
A(XXX)	ABANDONED IN PLACE PIPING - (XXX) DENOTES SYSTEM

VALVE SYMBOL LEGEND

	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	AUTOMATIC AIR VENT (AAV)
	MANUAL AIR VENT (MAV)
	MANUAL BALANCING VALVE (BV)
	BALL VALVE
	BUTTERFLY VALVE
	TRIPLE DUTY VALVE (TDV)
	STRAINER
	MANUAL ISOLATION VALVE
	GLOBE VALVE
	OS&Y (GATE) VALVE
	PRESSURE REDUCING VALVE (STEAM, GAS, WATER, ETC.)
	AUTO-FLOW CONTROL VALVE
	CHECK VALVE
	DOUBLE CHECK VALVE ASSEMBLY

PLUMBING PIPING LEGEND

	PIPE ELBOW TURNING UP
	PIPE ELBOW TURNING DOWN
	PIPE TEE; CONNECTION ON TOP
	PIPE TEE; CONNECTION ON BOTTOM
	PIPE CAP
AVT	ACID VENT
AW	ACID WASTE
CA	COMPRESSED AIR
CAI/E	COMBUSTION AIR INTAKE/EXHAUST
CBS/R	CHILLED BEAM SUPPLY/RETURN
CD	CONDENSATE DRAIN
CO2	CARBON DIOXIDE
CST	CLEAN STEAM PIPING
DCW	DOMESTIC COLD WATER (DCW)
DHW / DHW(#°F)	DOMESTIC HOT WATER (DHW)
DHR / DHR(#°F)	RECIRCULATED DOMESTIC HOT WATER (DHR)
HPC	HIGH PRESSURE STEAM CONDENSATE
HPS(#)	HIGH PRESSURE STEAM: (#) DENOTES PRESSURE
HPS/R	HEAT PUMP WATER SUPPLY/RETURN
HRS/R	HEAT RECOVERY SUPPLY/RETURN PIPING
HWS/R	HEATING WATER SUPPLY/RETURN
LPC	LOW PRESSURE STEAM CONDENSATE
LPS(#)	LOW PRESSURE STEAM: (#) DENOTES PRESSURE
MPC	MEDIUM PRESSURE STEAM RETURN
MPS(#)	MEDIUM PRESSURE STEAM: (#) DENOTES PRESSURE
SPD	STEAM CONDENSATE PUMPED DISCHARGE
SVT	STEAM VENT PIPING

PLUMBING SYMBOL LEGEND

	FLEXIBLE PIPE CONNECTION
	FLOW METER (VENTURI)
	PIPING UNION
P	FLOW SWITCH
P	PRESSURE SWITCH
P	TAMPER SWITCH
	THERMOMETER
T	PETE'S PLUG; TEMPERATURE/PRESSURE PORT

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	CW	HW	VENT	WASTE/DRAIN	VOLTAGE	EXTERNAL CHECK VALVE
FD-1	FLOOR DRAIN - 6" DIA. ; ZURN, ZN-415 OR EQUAL FLOOR DRAIN WITH 6" DIAMETER TOP, TYPE "B" NICKEL BRONZE STRAINER, 4" DRAIN OUTLET AND TRAP PRIMER CONNECTION.	-	-	2"	4"	Yes	Yes
P-1	WATER CLOSET - WALL MOUNTED- MANUAL FLUSH VALVE : VITREOUS CHINA, ELONGATED BOWL, SIPHON JET, 1.50" BACK SPUD INLET, CHINA BOLT CAPS AND WHITE OPEN FRONT PLATIC SEAT WITH SELF-SUSTAINING CHECK HINGES. TOP OF THE SEAT SHALL BE MOUNTED AT 15" AFF. PROVIDE WITH WALL CARRIER.	1-1/2"	-	2"	4"	Yes	Yes
P-1A	WATER CLOSET - FLOOR MOUNTED - MANUAL FLUSH VALVE - ADA COMPLIANT : VITREOUS CHINA, ELONGATED BOWL, SIPHON JET, 1.50" BACK SPUD INLET, CHINA BOLT CAPS AND WHITE OPEN FRONT PLASTIC SEAT WITH SELF-SUSTAINING CHECK HINGES. PROVIDE WITH MANUAL FLUSH VLAVE. TOP OF THE SEAT SHALL BE MOUNTED AT 18" AFF, PROVIDE WITH WALL CARRIER.	1-1/2"	-	2"	4"	Yes	Yes
P-2	URINAL - CONCEALED SENSOR FLUSH VALVE: VITREOUS CHINA SIPHON JET URINAL WITH 3/4" BACK SPUD INLET, 2" I.P.S. OUTLET, FLOOR MOUNTED WALL CARRIER AND SLOAN'S MODEL 195-1 ES-S OR EQUAL CONCEALED SENSOR OPERATED 1.0 GPF FLUSH VALVE WITH EL-154 TRANSFORMER, MOUNT WITH LIP AT 24" AFF.	3/4"	-	2"	2"	Yes	Yes
P-3	MOP BASIN : FIAT MODEL NO MSB-2424, 24"X24"X10" HIGH MOLDED STONE MOP SERVICE BASIN IN WHITE DRIFT COLOR, 3" DRAIN, SERVICE FAUCET, HOSE AND BRACKET COMBINATION, MOP HANGER BRACKET, STRAINER AND VINYL BUMPERGUARD.	3/4"	3/4"	2"	3"	Yes	Yes
P-4A	LAVATORY - WALL HUNG W/ SINGLE LEVER FAUCET - ADA COMPLIANT : VIRTREOUS CHINA, 20"X18" WALL HUNG LAVATORY WITH 4" FAUCET CENTERS, CONCEALED ARMS AND 4" HIGH BACKSPLASH. PROVIDE WITH VANDAL RESISTANT SINGLE LEVER FAUCET, CHROM PLATED 3/8" SUPPLIES WITH STOPS, GRID DRAIN, A KENTUCKY CODE P-TRAP, TAILPIECE AND ESCUTCHEONS. PROVIDE WITH FLOOR MOUNTED WALL CARRIER. MOUNT LAVATORY AT A HEIGHT LEAVING A CLEARANCE OF AT LEAST 29" FROM THE FLOOR TO THE APRON AND THE RIM AT A A MAXIMUM OF 34" AFF. PROVIDE ON THE EXPOSED WASTE PIPE AND WATER SUPPLY LINES A TRAP-WRAP INSULATION KIT WITH A VINYL AND PLASTIC COVERING.	1/2"	1/2"	2"	2"	Yes	Yes
P-5	WASH BASIN - WALL MOUNTED - ADA COMPLIANT: BRADLEY VERAGE WASH BASIN MODELS LVAD1 AND LVAD3. PROVIDE WITH CONCEALED ARM VARRIER, ACCESS PANEL AND BRADLET VERGE ZEN SERIES FAUCETS WITH ZEN SERIES SOAP DISPENSERS IN THE BRUSHED BLACK SAINLESS FINISHES. BRADLEY LVA SERIES OR EQUAL EQUIVALENT. PROVIDE WITH 0.5 GPM TOUCH-FREE DUAL SENSOR FAUCET WITH POLISHED CHROME FINISH. BRADLEY VERGE ZEN-SERIES OR EQUAL EQUIVALENT. ADA OFFSET GRID DRAIN, 3/8" ANGLE SUPPLIES WITH STOPS, WEST-VIRGINIA CODE P-TRAP, TAILPIECE AND ESCUTCHEONS.	3/4"	3/4"	1-1/2"	2"	Yes	Yes
P-7	HIGH AND LOWE DRINKING FOUNTAIN WITH BOTTLER FILLER - ADA COMPLIANT - ELKAY, AMBIENT, VANDAL RESISTANT OR EQUIVALENT. RECETOR WITH SANIARY SENSOR ACTIVATION BOTTLE FILLER, BARRIER FREE DRINKING FOUNTAIN, 18 GUAGE STAINLESS STEEL BASIN, WITH FRONT PUSH BUTTON OPERATOR, WALL MOUNTED WITH CARRIER.	1/2"	-	2"	2"	Yes	Yes
P-8	SHOWER - ZURN Z-7101-TEMP-GARD OR APPROVED EQUIVALENT PRESSURE BALANCING SHOWER MIZING VALVE WITH ADJUSTABLE STOP SCREW TO LIMIT HANGLE TURN, BRASS DIVERTER VALVE.	3/4"	3/4"	2"	2"	No	Yes
P-8A	SHOWER - ADA COMPLIANT : ZURN Z-7101-TEMP-GARD OR APPROVED EQUIVALENT PRESSURE BALANCING SHOWER MIXING VALVE WITH ADJUSTABLE STOP SCREW TO LIMIT HANDLE TURN, BRASS DIVERTER VALVE, HAND/WALL SHOWER HEAD, 60" FLEXIBLE METALLIC HOSE; 24" MOUNTING SLIDE BAR, WALL CONNECTION AND FLANGE. SLIDE BAR SHALL BE INSTALLED SO CNETER LINE OF VALVE IS 18" FROM EDGE OF SHOWER ENTRANCE.	3/4"	3/4"	2"	2"	Yes	Yes
P-9	WASHER BOX : RECESSED STAINLESS STEEL BOX WITH 1/2" BOTTOM HOT AND COLD WATER HOSE CONNECTIONS AND 2" DRAIN.	3/4"	3/4"	2"	2"	Yes	Yes
P-AL	DOUBLE COMPARTMENT SINK W/ GOOSENECK FAUCET : DOUBLE COMPARTMENT STAINLESS STEEL SINK, 20"X37" O.D., 14"X16" I.D., 18 GAUGE, 61/2" DEEP, REAR FAUCET LEDGE WITH 8" CENTERS. PROVIDE WITH CHROME PLATED GOOSENECK FAUCET WITH 4" BLADES AND SWING SPOUT. PROVIDE WITH CHROME SUPPLIES, STOPS, TAILPIECE, KENTUCKY CODE P-TRAP, CRUMB CUP STRAINER DRAINS, CONTINUOUS WASTE AND ESCUTCHEONS.	1/2"	1/2"	2"	2"	Yes	Yes
TP-1	TRAP PRIMER TYPE-1 - PRECISIONS PLUMBING PRODUCTS PRIME-TIME OR EQUAL ELECTRONIC TRAP PRIMING MANIFOLD, WITH ATMOSPHERIC VACUUM BREAKER, PRE-SET 24 HOUR CLOCK, MANUAL OVERRIDE SWITCH, 120 VOLT SOLENOID VALVE WITH 120V/3WIRE CONNECTION. PROVIDE IN 12" X 12" X 4" SURFACE MOUNTED METAL CABINET. PROVIDE WITH 10 OPENING MANIFOLD, UN-USED MANIFOLD OPENING SHALL BE CAPPED. INSTALL UNITED AS REQUIRED BY MANUFACTURER.	3/4"	-	-	-	Yes	No

Sheet List - Plumbing

SHEET #	SHEET NAME
P-101	PERFORMANCE GYM - PLUMBING PLAN - UNDERSLAB - AREA A
P-102	PERFORMANCE GYM - PLUMBING PLAN - UNDERSLAB - AREA B
P-103	PERFORMANCE GYM - PLUMBING PLAN - FIRST LEVEL - AREA A
P-104	PERFORMANCE GYM - PLUMBING PLAN - FIRST LEVEL - AREA B
P-105	PERFORMANCE GYM - PLUMBING PLAN - TRACK LEVEL - AREA A
P-106	PERFORMANCE GYM - PLUMBING PLAN - TRACK LEVEL - AREA B
P-200	PLUMBING RISER - AREA A
P-201	PLUMBING RISER - AREA B
P-300	ENLARGED PLUMBING VIEWS
P-301	ENLARGED PLUMBING VIEWS
P-400	PLUMBING DETAILS AND SCHEDULES
P-500	PLUMBING SITE DEMO PLAN
P-501	PLUMBING SITE PLAN
P-001	PLUMBING LEGEND

APPLICABLE BUILDING CODES

APPLICABLE BUILDING CODES	DOCUMENT	YEAR
ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES	ANSI A117.1	2009
FIRE SPRINKLER CODE	NFPA 13	2013
INTERNATIONAL BUILDING CODE (IBC)	STATE EDITION	2015
INTERNATIONAL ENERGY CONSERVATION CODE (IECC) OR ASHRAE 90.1	STATE EDITION	2012
INTERNATIONAL FIRE CODE (IFC)	STATE EDITION	2015
INTERNATIONAL FUEL GAS CODE (IFGC)	STATE EDITION	2015
INTERNATIONAL MECHANICAL CODE (IMC)	STATE EDITION	2015
INTERNATIONAL PLUMBING CODE (IPC)	STATE EDITION	2015
INTERNATIONAL EXISTING

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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
PERFORMANCE GYM - PLUMBING PLAN - UNDERSLAB - AREA A

SHEET	DATE: Issue Date
P-101	REVISED
JOB# 2113	1
DRAWN: Author	2
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	4
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TAGGED NOTES
P34 PLAN LAYOUT OF THE PERFORMANCE GYM. REFER TO SHEET P-300 FOR CONTINUATION

REFER TO SHEET P-300
FOR WORK IN THIS AREA

REFER TO SHEET P-300
FOR WORK IN THIS AREA

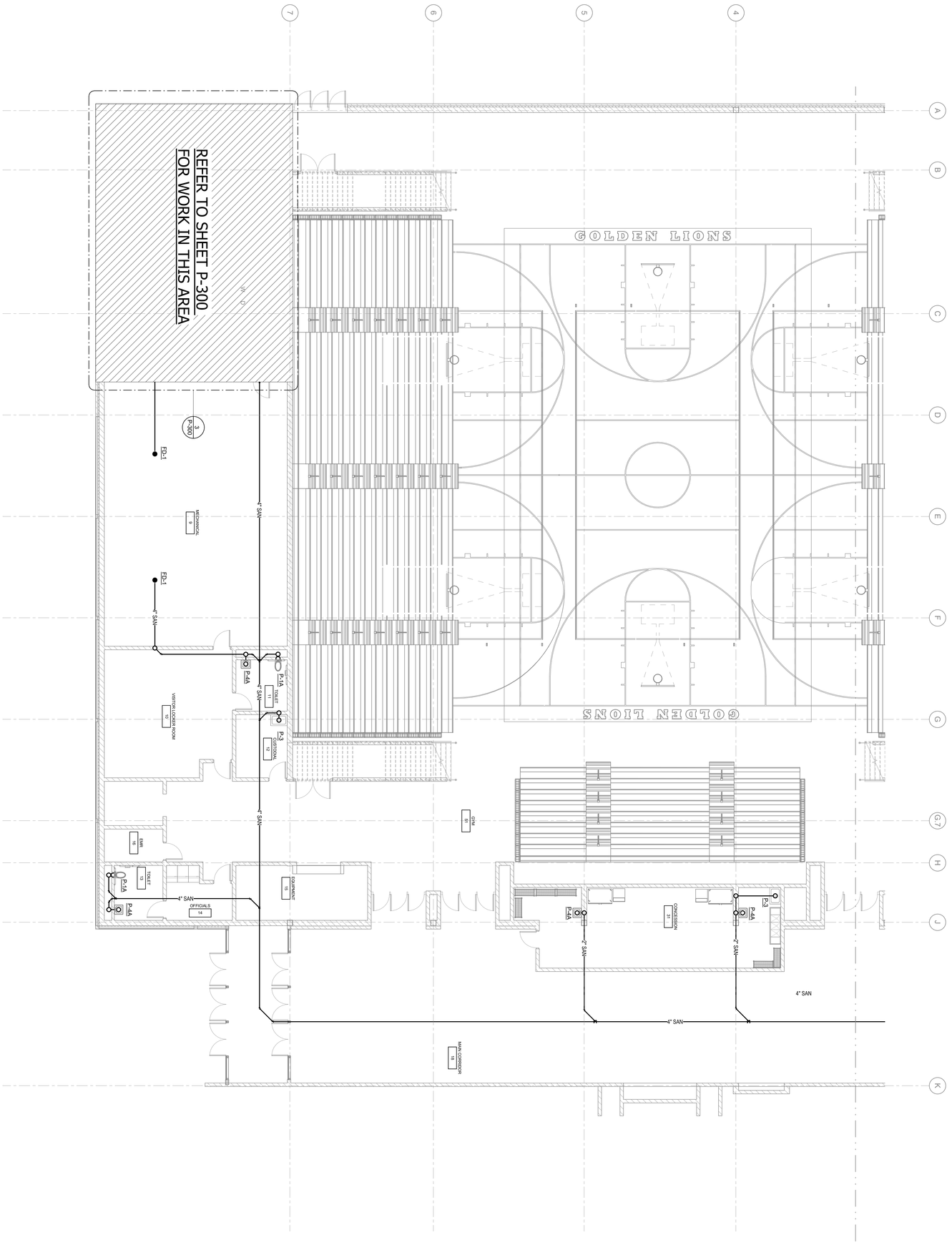
1 UNDERSLAB PLUMBING PLAN - AREA A
SCALE: 1/8" = 1'-0"

5/11/2022 2:59:16 PM

1 UNDERSLAB PLUMBING PLAN - AREA B

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

0 1' 2' 4' 8' 12' 16'



TAGGED NOTES

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SHEET	P-102
DATE:	Issue Date
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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

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PERFORMANCE GYM - PLUMBING PLAN - UNDERSLAB - AREA B

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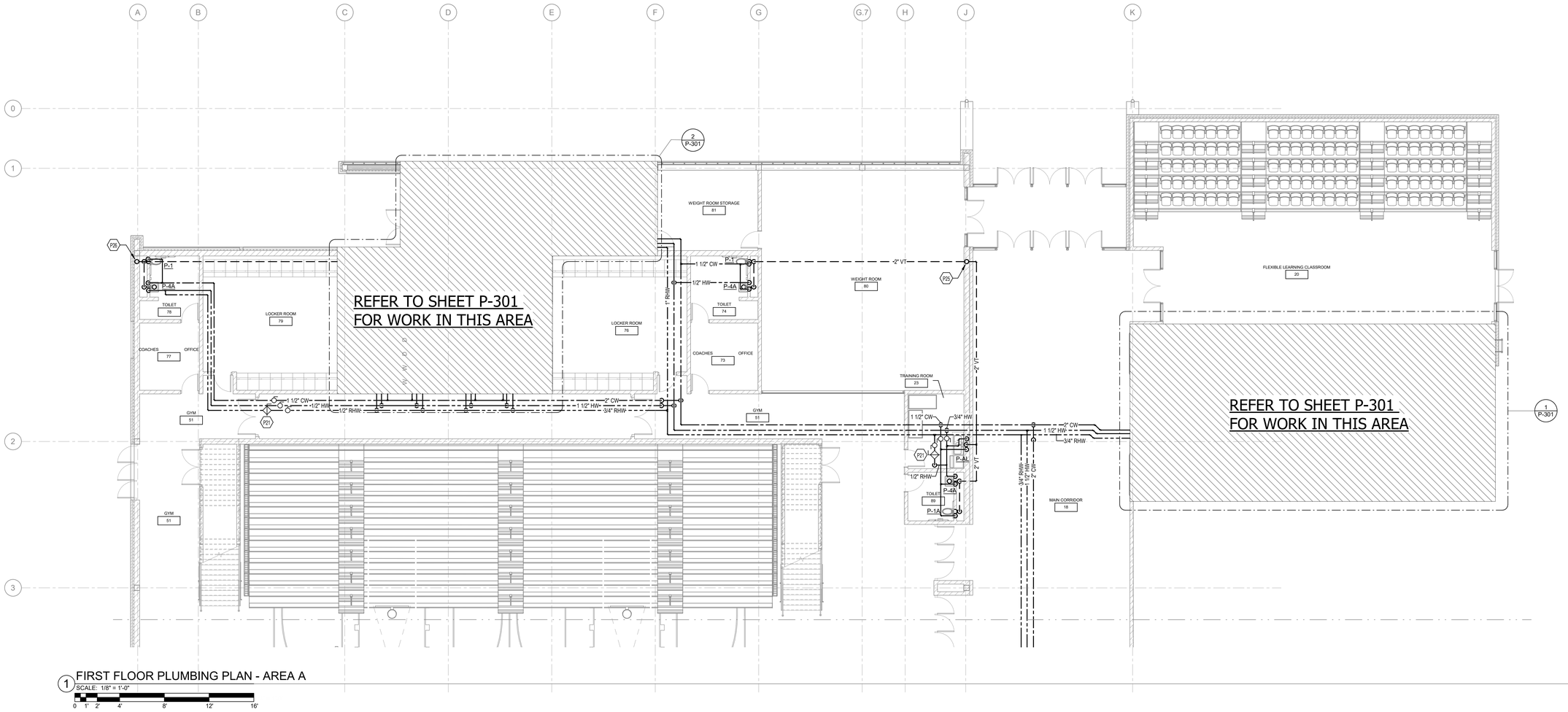
TAGGED NOTES

(##)

P21 BALANCE TO 1/2 GPM.

P25 2" VENT PIPE UP TO THE TRACK LEVEL THROUGH CMU WALL. REFER TO SHEET P-105 FOR CONTINUATION.

P26 3" VENT PIPE UP TO THE TRACK LEVEL THROUGH CMU WALL. REFER TO SHEET P-105 FOR CONTINUATION.



1 FIRST FLOOR PLUMBING PLAN - AREA A

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

0 1' 2' 4' 8' 12' 16'

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PERFORMANCE GYM - PLUMBING PLAN - FIRST LEVEL - AREA A

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SHEET P-103

JOB# 2113

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CHECKED: Checker

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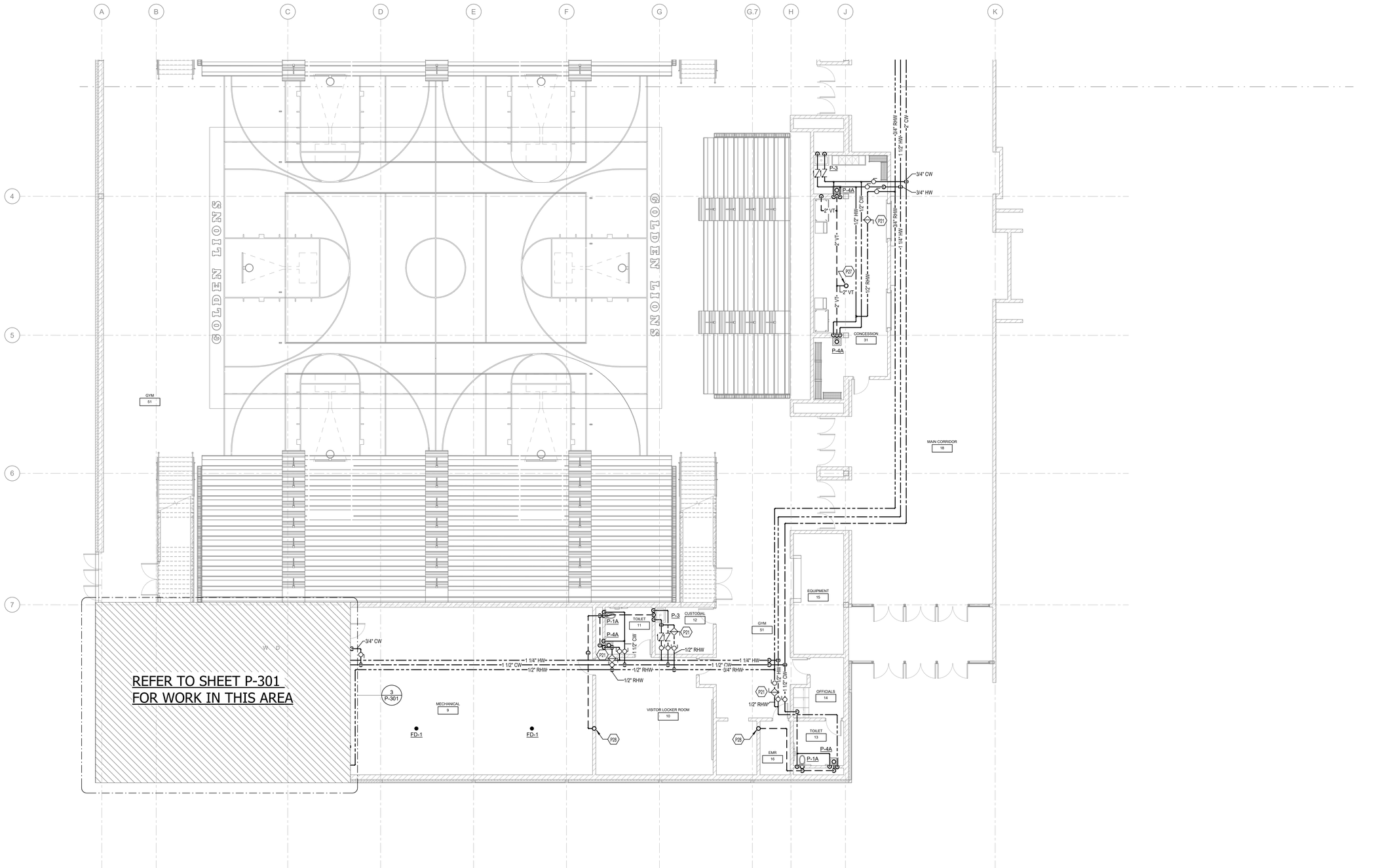
TAGGED NOTES

##

P21 BALANCE TO 1/2 GPM.

P27 2" VENT PIPE UP TO THE ROOF. REFER TO SHEET P-106 FOR CONTINUATION.

P28 2" VENT PIPE UP TO THE TRACK LEVEL THROUGH CMU WALL. REFER TO SHEET P-106 FOR CONTINUATION.



1 FIRST FLOOR PLUMBING PLAN - AREA B

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

0 1' 2' 4' 8' 12' 16'

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PERFORMANCE GYM - PLUMBING PLAN - FIRST LEVEL - AREA B

DATE:	Issue Date
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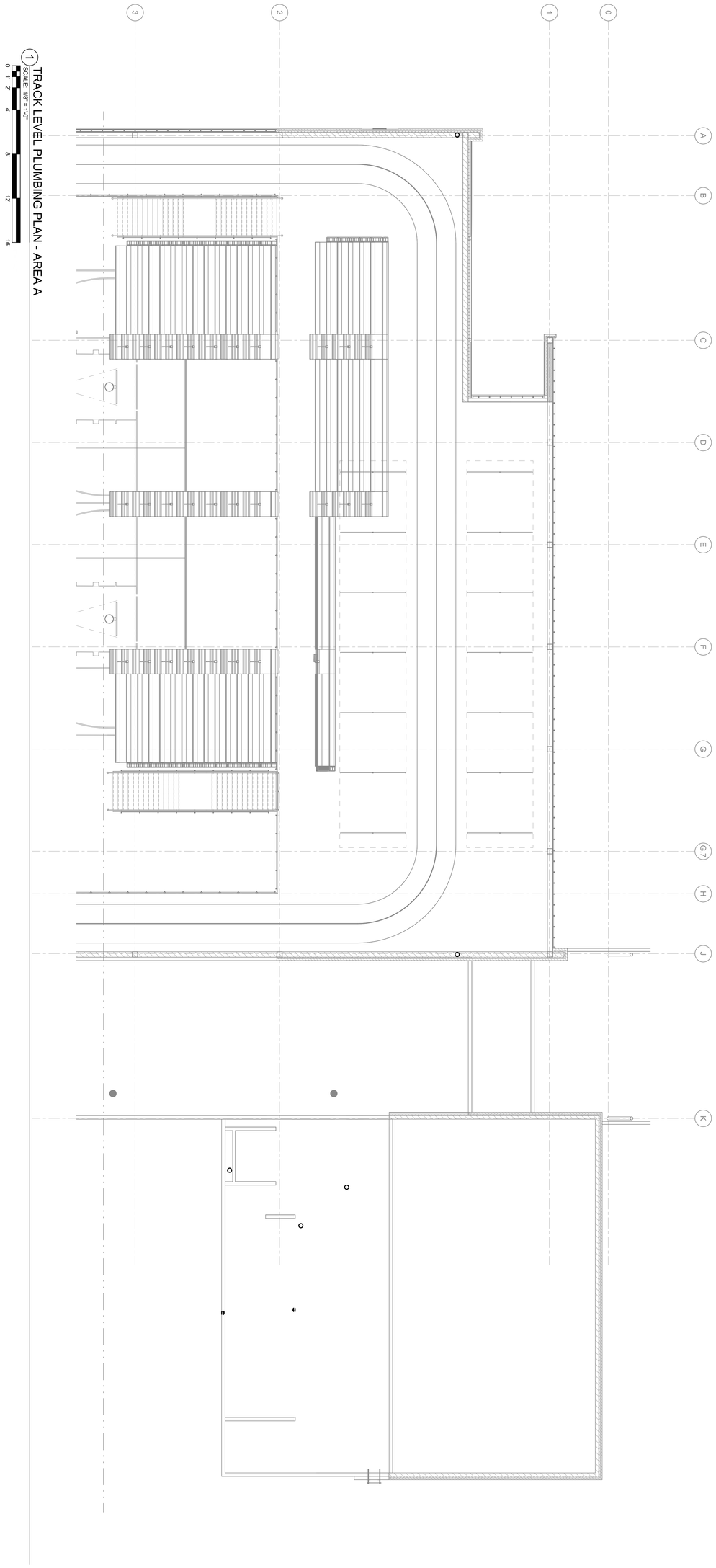
SHEET P-104

JOB# 2113

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1 TRACK LEVEL PLUMBING PLAN - AREA A

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

0 1' 2' 4' 8' 12' 16'

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PERFORMANCE GYM - PLUMBING PLAN - TRACK LEVEL - AREA A

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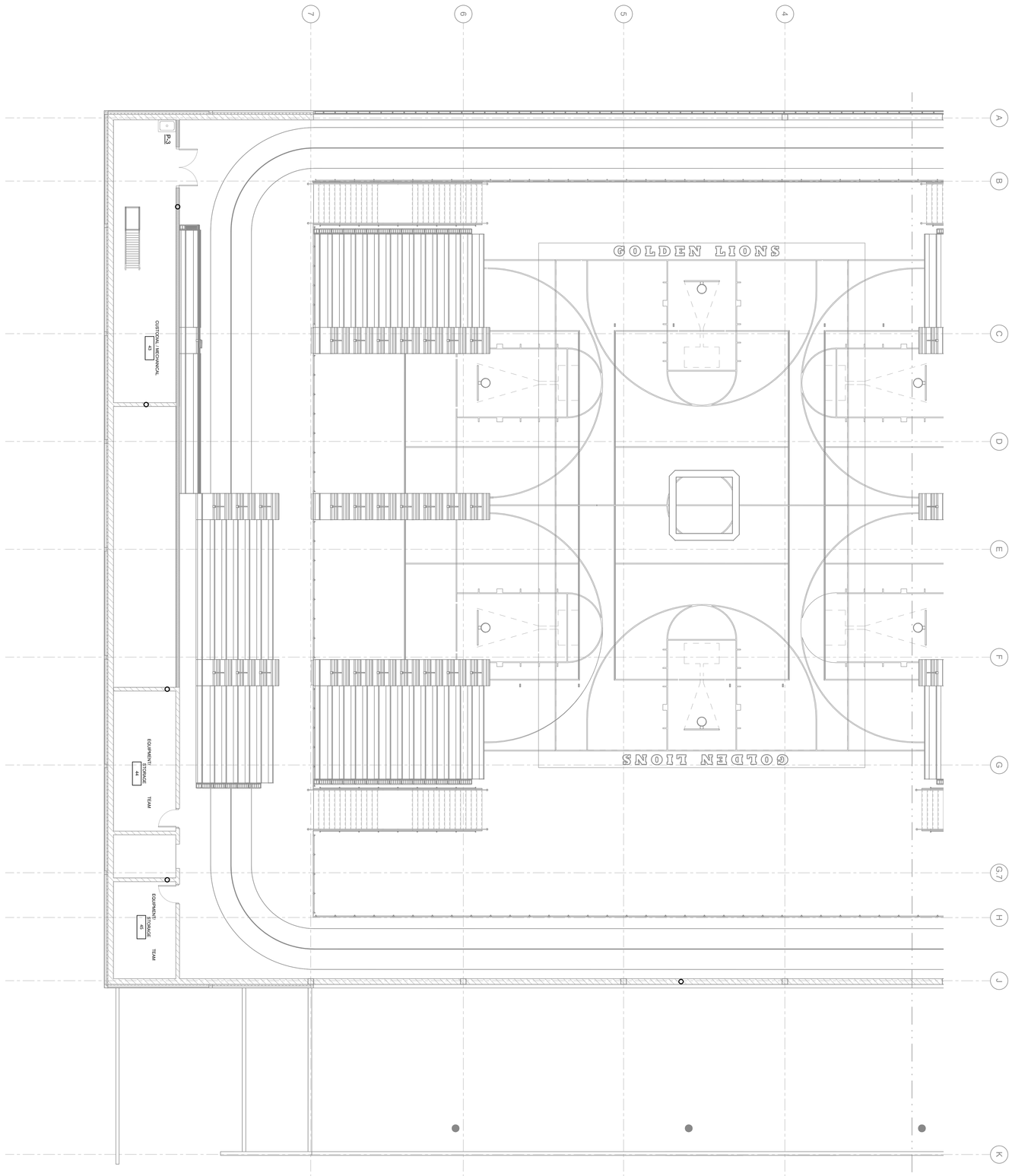
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1 TRACK LEVEL PLUMBING PLAN - AREA B

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

0 1 2 4 8 12 16'

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SHEET	P-106
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PERFORMANCE GYM - PLUMBING PLAN - TRACK LEVEL - AREA B

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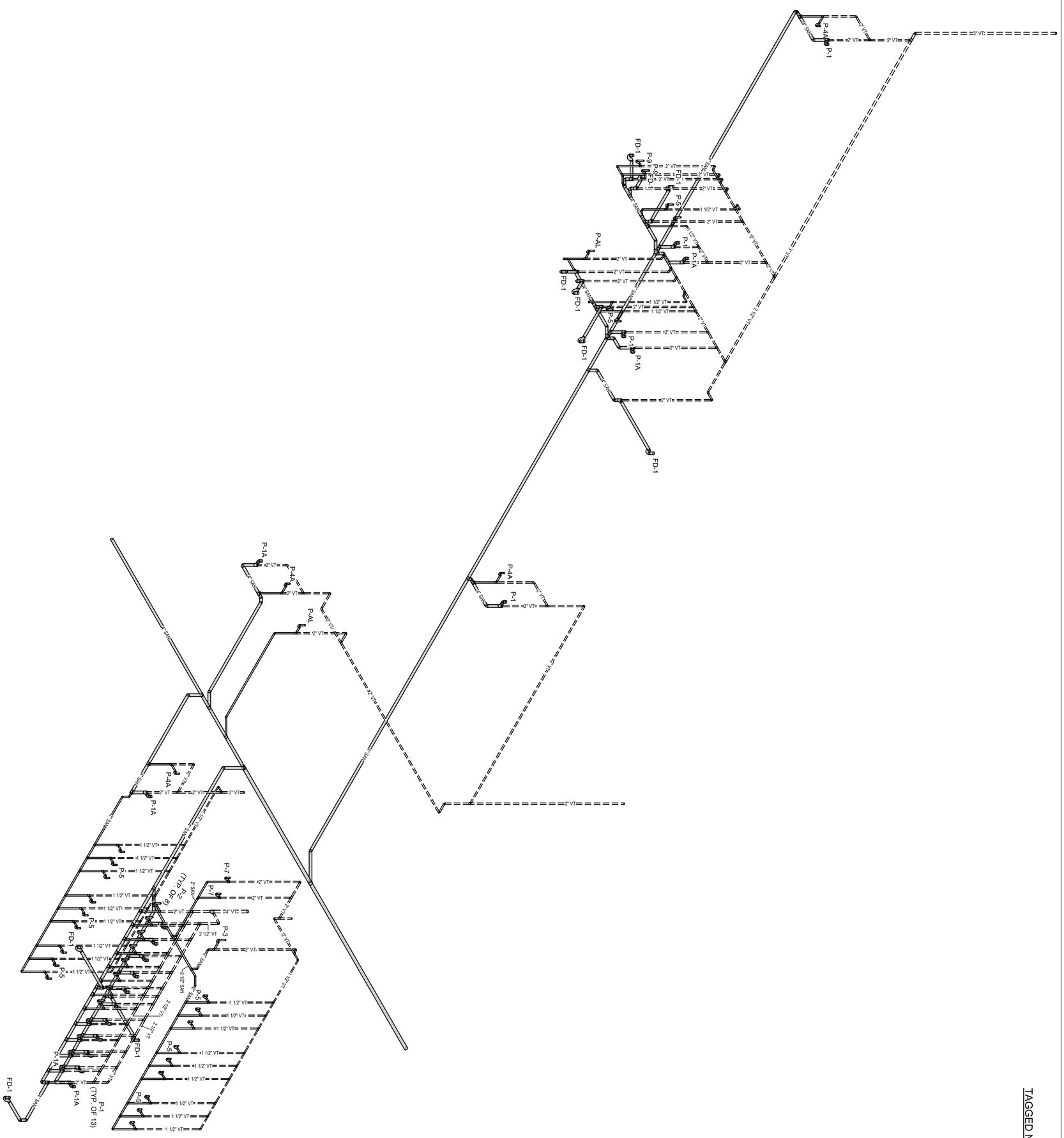
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1 PLUMBING RISER - AREA A

SCALE: 0 1' 2' 4' 8' 12' 16'



TAGGED NOTES

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P-200	REVISED	FOR THE GARRARD COUNTY BOARD OF EDUCATION	228 E. Reynolds Road Suite One Lexington, Kentucky 40517 859.273.3700
JOB# 2113	1	PLUMBING RISER - AREA A	
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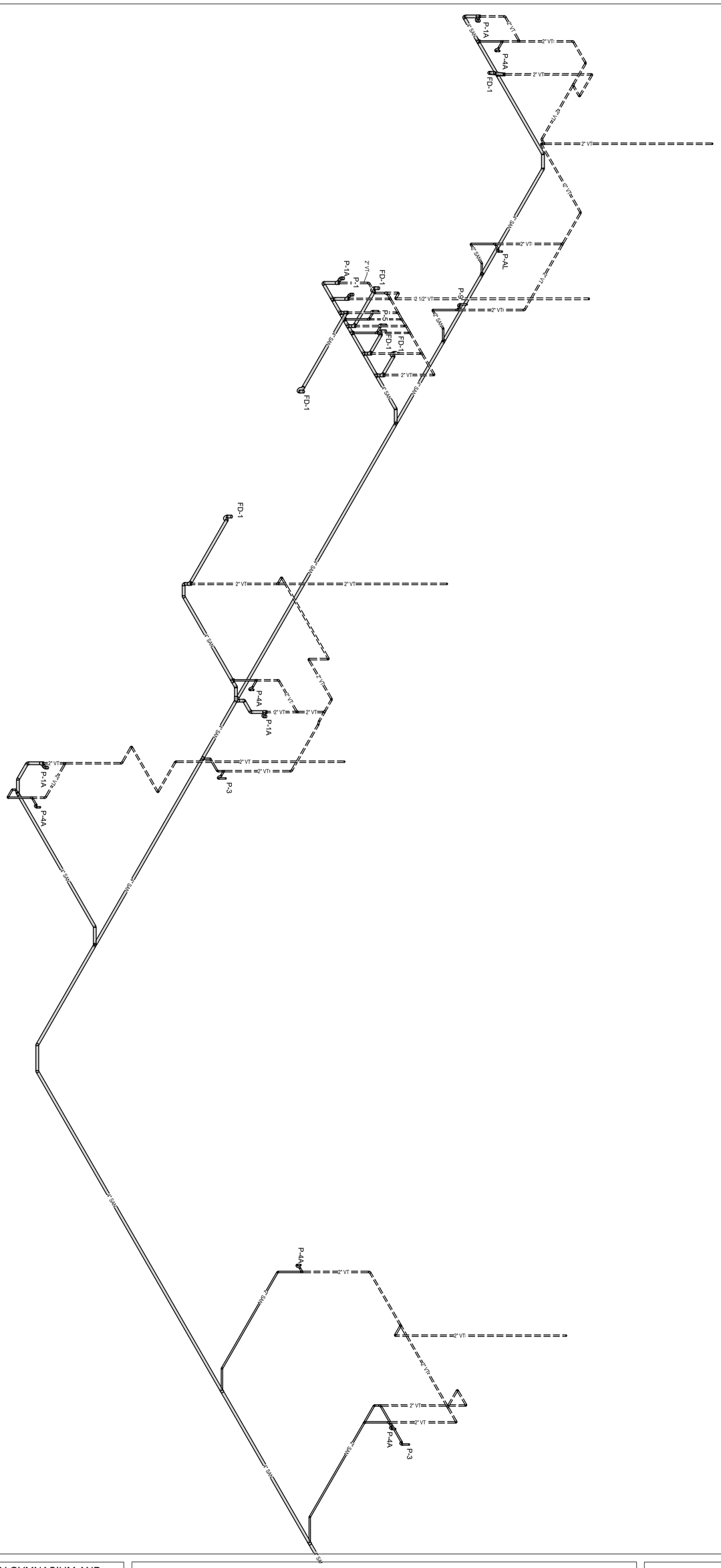
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1 PLUMBING RISER - AREA B

SCALE: 0 1' 2' 4' 8' 12' 16'



SHEET	P-201
DATE:	Issue Date
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PLUMBING RISER - AREA B

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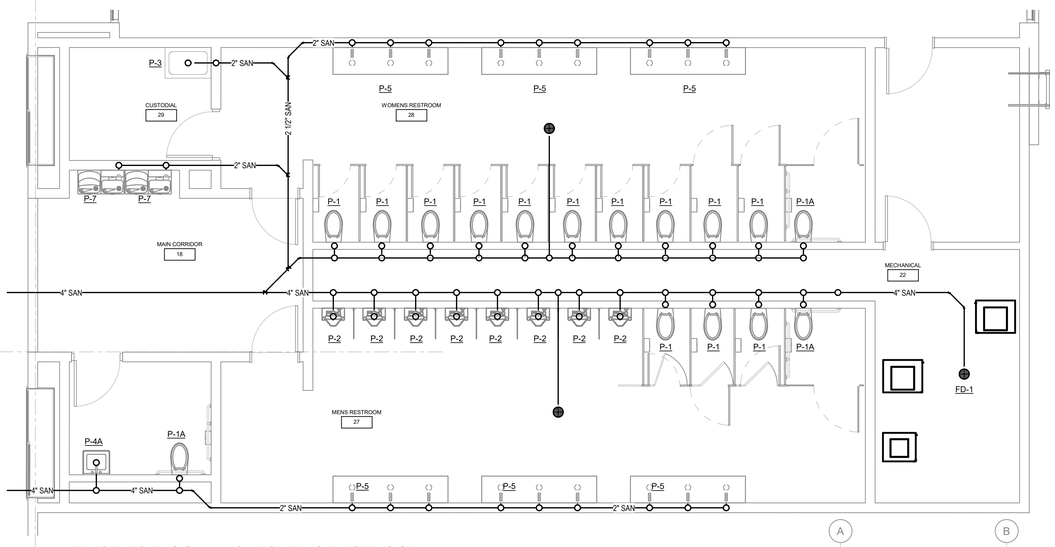
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TAGGED NOTES

#



1 | P-101

MENS RESTROOM 27 & WOMENS RESTROOM 28 ENLARGED UNDERSLAB PLUMBING VIEW

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

2 | P-101

TOILET 84 & TOILET 87 ENLARGED UNDERSLAB PLUMBING VIEW

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

3 | P-102

LOCKER ROOM 5 ENLARGED UNDERSLAB PLUMBING VIEW

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

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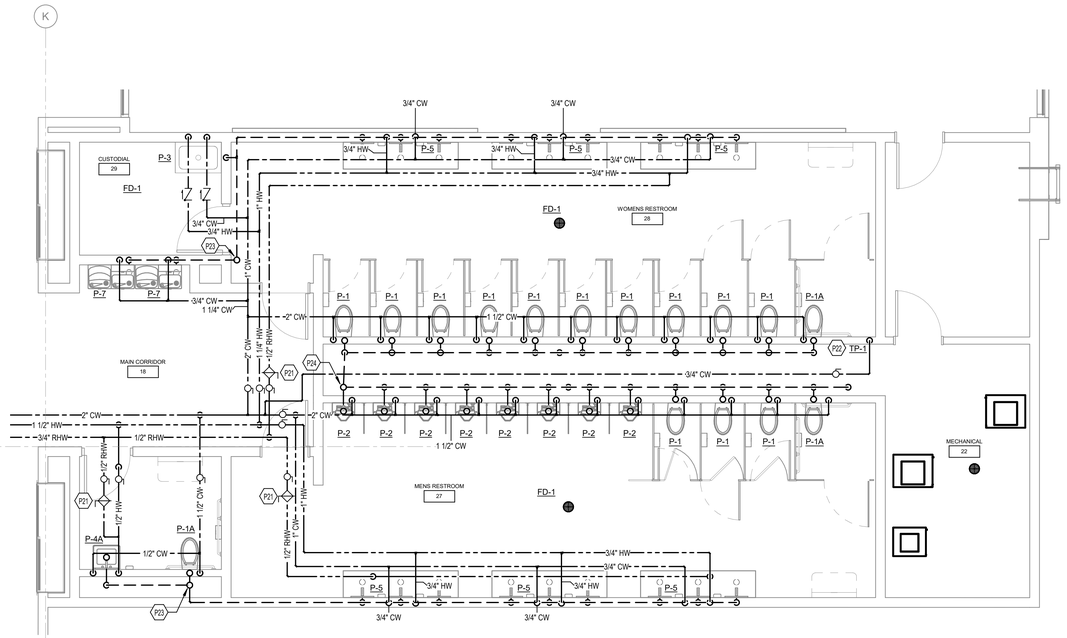
ENLARGED PLUMBING VIEWS

SHEET	P-300
DATE:	Issue Date
REVISED	
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JOB#	2113
DRAWN:	Author
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TAGGED NOTES

P18	TRAP PRIMER SHALL SERVE ALL FLOOR DRAINS IN TOILET 84, TOILET 87 AND MECHANICAL 83.
P19	PROVIDE 2.50" BACKFLOW PREVENTOR.
P20	REFER TO WATER HEATER DETAIL FOR PIPING CONNECTIONS ON SHEET P-400.
P21	BALANCE TO 1/2 GPM.
P22	TRAP PRIMER SHALL SERVE MENS RESTROOM 27, WOMENS RESTROOM 28 AND MECHANICAL 22.
P23	2" VENT PIPE UP TO THE ROOF. REFER TO SHEET P-105 FOR CONTINUATION.
P24	4" VENT PIPE UP TO THE ROOF. REFER TO SHEET P-105 FOR CONTINUATION.
P29	2" VENT PIPE UP TO THE TRACK LEVEL. REFER TO SHEET P-106 FOR CONTINUATION.
P30	2.50" VENT PIPE UP TO THE TRACK LEVEL THROUGH CMU WALL. REFER TO SHEET P-106 FOR CONTINUATION.
P31	TRAP PRIMER TO SERVE FLOOR DRAINS IN TOILET 4, TOILET/SHOWER 8 AND MECHANICAL 9.

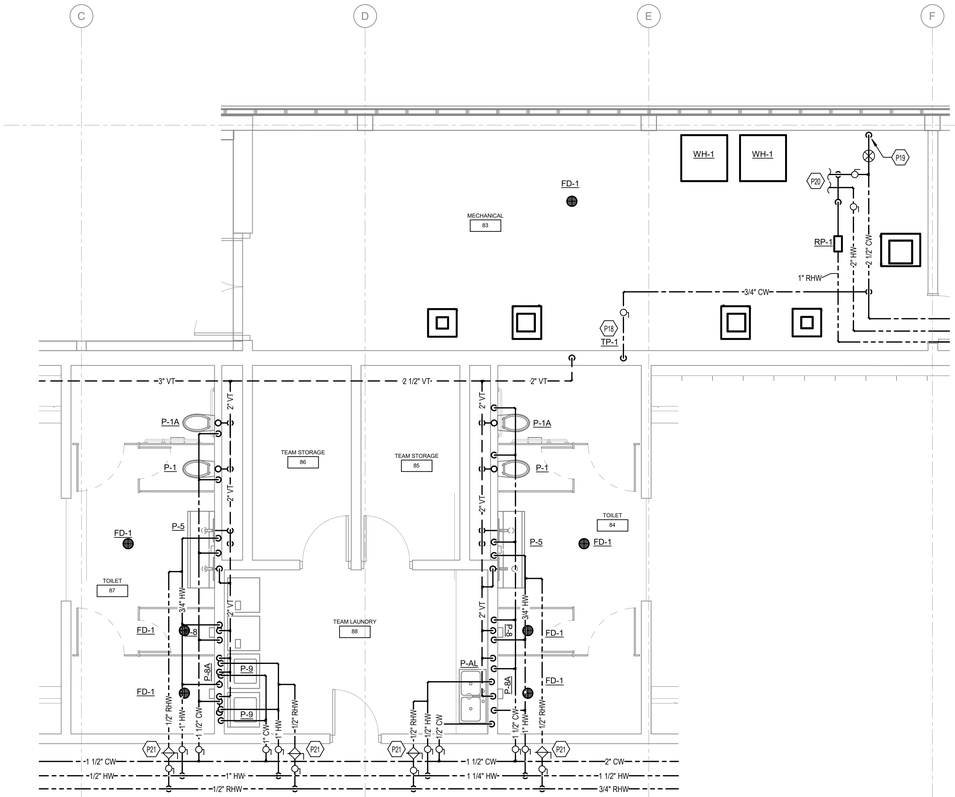


1 / 1 P-103

MENS RESTROOM 27 & WOMENS RESTROOM 28 ENLARGED PLUMBING VIEW

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

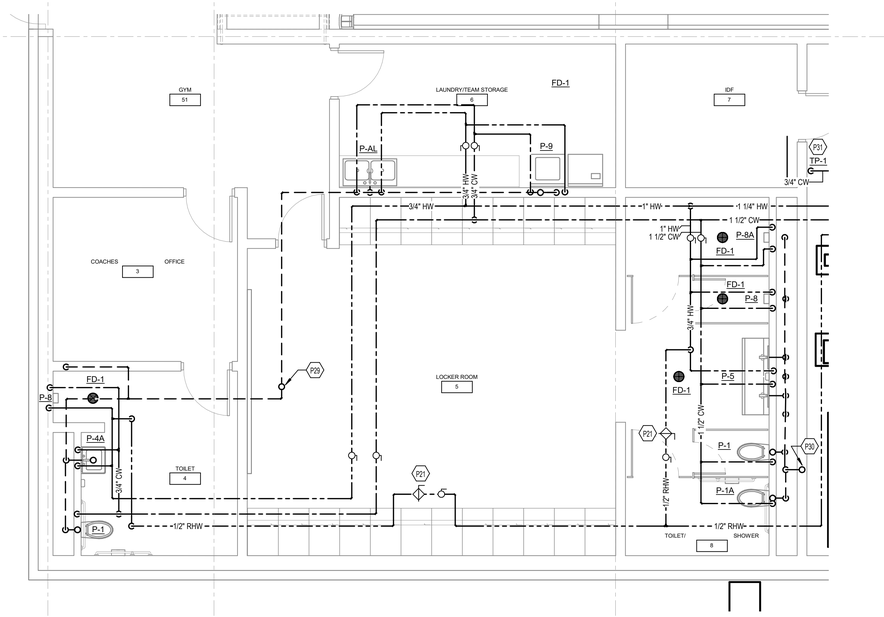


2 / 1 P-103

TOILET 84 & TOILET 87 ENLARGED PLUMBING VIEW

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'



3 / 1 P-104

LOCKER ROOM 5 ENLARGED PLUMBING VIEW

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

FOR THE

GARRARD COUNTY BOARD OF EDUCATION

ENLARGED PLUMBING VIEWS

DATE:	Issue Date
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WATER HEATER SCHEDULE - ELECTRIC

MARK	MANUFACTURER	MODEL #	SERVICE	STORAGE (GAL)	RECOVERY @ 100°F RISE (GPH)	KW	VOLTAGE	PHASE	REMARKS
WH-1									

DOMESTIC HOT WATER RECIRCULATION PUMP SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	GPM	PRESS DROP (FT HEAD)	MOTOR HP	VOLTAGE	PHASE	REMARKS
RP-1									

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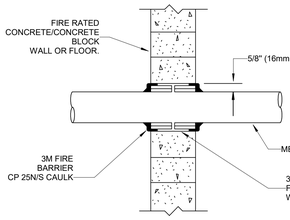
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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
PLUMBING DETAILS AND SCHEDULES

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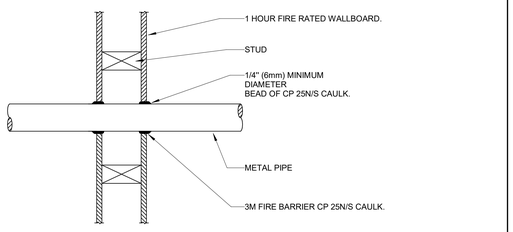
1. THE MAXIMUM ANNULAR SPACE AROUND THE METAL PIPE OR CONDUIT IS 5/8" (16mm). (IF THE ANNULAR SPACE EXCEEDS 5/8" PATCH THE WALL AND PENETRATE WALL AT ANOTHER LOCATION).
2. WRAP THE 3M MODEL# FS-195 WRAP/STRIP AROUND THE PIPE/CONDUIT, FOIL SIDE OUT. TO FILL THE SPACE BETWEEN THE PIPE/CONDUIT AND THE WALL OPENING. THE 3M MODEL# FS-195 WRAP/STRIP SHOULD BE TIGHTLY SECURED WITH ALUMINUM FOIL TAPE OR STEEL TIE WIRE AND PUSHED INTO THE OPENING UNTIL THE TOP EDGE OF THE WRAP IS FLUSH WITH THE WALL SURFACE. THE IDENTICAL INSTALLATION SHOULD BE INSTALLED ON THE OTHER SIDE OF THE WALL.
3. USE 3M MODEL# CP 25N/S(NO SAG) CAULK TO FILL THE AREA BETWEEN THE FS-195 WRAP/STRIP AND THE EDGES OF THE OPENING AND ANY VOIDS IN THE 3M MODEL# FS-195 WRAP/STRIP. A FILL OF CP 25 CAULK SHOULD COAT ALL EXPOSED EDGES OF THE FS-195 WRAP/STRIP AND COMPLETELY SEAL THE AREA BETWEEN THE FS-195 WRAP/STRIP, THE PIPE/CONDUIT AND THE WALL SURFACE.

PENETRATION FIRESTOP FOR METAL PIPE/CONDUIT THROUGH A CONCRETE WALL

NOT TO SCALE

FIRE STOPPING NOTES:

1. FIRE STOPPING IS CRITICAL AND MUST BE ACCOMPLISHED. ALL PIPES MUST BE FIRESTOPPED WHERE THEY PENETRATE FIRE RESISTIVE, FIRE RATED, AND SMOKE RESISTIVE WALLS OR FLOORS. ALL FLOORS CORRIDOR WALLS, STAIR WALLS, MECHANICAL ROOM WALLS, STORAGE ROOM WALLS AND OTHER HAZARDOUS ROOM WALLS ARE ONE HOUR RATED.
2. A FOUR-HOUR TRAINING SESSION SHALL BE CONDUCTED BY MANUFACTURER OF THE FIRESTOPPING MATERIAL. THIS SHALL BE DONE PRIOR TO THE INSTALLATION OF THE MATERIAL. CONTACT HOSPITAL ENGINEER AND CMTA TO ADVISE OF DATE AND TIME OF THIS MEETING.
3. ALL PENETRATIONS WILL BE REVIEWED BY THE HOSPITAL ENGINEER OR CMTA. PRIOR TO INSPECTION, ALL CEILING TILES BENEATH THE PENETRATIONS SHALL BE REMOVED BY THE CONTRACTOR.

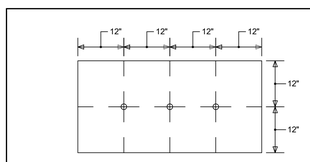


NOTES:

1. FORCE THE 3M MODEL# CP 25N/S CAULK INTO THE ANNULAR SPACE TO THE MAXIMUM EXTENT POSSIBLE, FLUSH WITH THE EXTERIOR OF THE PENETRATION SURFACE.
2. FINISH CAULKING WITH A 1/4" (6mm) MINIMUM BEAD OF CP 25N/S CAULK APPLIED TO THE PERIMETER OF THE CONDUIT/PIPE AT ITS EGRESS FROM THE WALL.
3. THE MAXIMUM ANNULAR SPACE IS NOT TO EXCEED 3/16" (5mm). (IF IT DOES PATCH WALL AND PENETRATE WALL AT ANOTHER LOCATION).
4. INSTALL THE 3M FIRESTOP ON BOTH SIDES OF THE WALL.

PENETRATION FIRESTOP FOR METAL PIPE/CONDUIT THROUGH ONE HOUR WALL

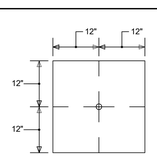
NOT TO SCALE



SPRINKLER HEADS MAY BE INSTALLED IN 2x4 CEILING TILES IN ANY OF THE THREE LOCATIONS INDICATED ABOVE. NO EXCEPTIONS!

2x4 CEILING TILE DETAIL

SCALE: NONE



SPRINKLER HEADS TO BE INSTALLED IN CENTER OF 2x2 CEILING TILES.

2x2 CEILING TILE DETAIL

SCALE: NONE

FIRE PROTECTION PHASING NOTES

A THIS PROJECT INTERFACES EXTENSIVELY WITH EXISTING BUILDING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. AS AN EXAMPLE, MAIN GAS SERVICE, WATER SERVICE, ELECTRICAL SERVICE, HVAC SERVICES, STEAM GENERATION, ETC., WILL BE AFFECTED AND REPLACED OR MOVED DURING THIS PROJECT. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC. CONTRACTOR SHALL COORDINATE ALL SAID WORK WITH THE OWNER AND APPLICABLE UTILITIES PER THE CONTRACT DOCUMENTS.

FIRE PROTECTION HAZARDOUS MATERIALS NOTES

A THE CONTRACTOR IT IS HEREBY ADVISED THAT IS POSSIBLE THAT ASBESTOS AND/OR OTHER HAZARDOUS MATERIALS ARE OR WERE PRESENT IN THIS BUILDING(S). ANY WORKER, OCCUPANT, VISITOR, ETC., WHO ENCOUNTERS ANY MATERIAL OF WHOSE CONTENT THEY ARE NOT CERTAIN SHALL PROMPTLY REPORT THE EXISTENCE AND LOCATION OF THAT MATERIAL TO THE OWNER. FURTHERMORE, THE CONTRACTOR SHALL INSURE THAT NO ONE COMES NEAR TO OR IN CONTACT WITH ANY SUCH MATERIAL OR FUMES THEREFROM UNTIL ITS CONTENT CAN BE ASCERTAINED TO BE NON-HAZARDOUS.

B CMTA, INC. HAS NO EXPERTISE IN THE DETERMINATION OF THE PRESENCE OF ANY HAZARDOUS MATERIAL. THEREFORE, NO ATTEMPT HAS BEEN MADE BY CMTA TO IDENTIFY THE EXISTENCE OR LOCATION OF ANY SUCH HAZARDOUS MATERIAL. FURTHERMORE, CMTA NOR ANY AFFILIATE HEREOF WILL NOT OFFER OR MAKE ANY RECOMMENDATIONS RELATIVE TO THE REMOVAL, HANDLING OR DISPOSAL OF SUCH MATERIAL.

C IF THE WORK WHICH IS TO BE PERFORMED INTERFACES, CONNECTS OR RELATES IN ANY PHYSICAL WAY WITH OR TO EXISTING COMPONENTS WHICH CONTAIN OR BEAR ANY HAZARDOUS MATERIAL, ASBESTOS BEING ONE, THEN IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO CONTACT THE OWNER AND SO ADVISE HIM IMMEDIATELY.

D THE CONTRACTOR BY EXECUTION OF THE CONTRACT FOR ANY WORK AND/OR BY THE ACCOMPLISHMENT OF ANY WORK THEREBY AGREE TO BRING NO CLAIM RELATIVE TO HAZARDOUS MATERIALS FOR NEGLIGENCE, BREACH OF CONTRACT, INDEMNITY, OR ANY OTHER SUCH ITEM AGAINST CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS OR CONSULTANTS. ALSO, THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS AND CONSULTANTS HARMLESS FROM ANY SUCH RELATED CLAIMS WHICH MAY BE BROUGHT BY ANY SUBCONTRACTORS, SUPPLIERS OR ANY OTHER THIRD PARTIES.

E THE CONTRACTOR IS DIRECTED TO THE SPECIFICATIONS FOR FURTHER INFORMATION.

FIRE PROTECTION GENERAL NOTES

A COORDINATE THE LOCATION OF DRAINS, THERMOSTATS, GAS OUTLETS, ETC., WITH ALL CASEWORK EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC., PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE CONTRACTOR.

B THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC., OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

C WHERE WORK IS REQUIRED ABOVE EXISTING LAY-IN, PLASTER OR GYPSUM BOARD CEILINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REINSTALLATION (OR REPLACEMENT, IF DAMAGED) OF ALL CEILING OR TILE AND GRID MEMBERS NECESSARY TO PERFORM HIS WORK. NEW TILE AND GRID SHALL MATCH THE SURROUNDING AREAS. ALL PATCHING WORK SHALL MATCH ADJACENT SURFACES.

D ALL NEW WORK SHALL BE HUNG FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES, WHETHER EXISTING OR NEW.

E COORDINATE ALL WORK WITH PROJECT PHASING REQUIREMENTS.

F PATCH, REPAIR AND PAINT OR PROVIDE WALL COVERING FOR (TO OWNER'S STANDARDS) EXISTING WALLS, CEILINGS, ETC., THAT ARE TO REMAIN IF DAMAGED DURING CONSTRUCTION. REPAIRS SHALL MATCH ADJACENT SURFACES TO THE SATISFACTION OF THE ARCHITECT AND OWNER.

G OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, FEDERAL, MUNICIPALITY, UTILITY COMPANY, COMMONWEALTH OF KENTUCKY, ETC.)

H CONTRACTOR SHALL BE AWARE OF UNSEEN PLUMBING WORK DURING DEMOLITION. IF ITEMS ARE UNCOVERED DURING DEMOLITION THEN FIELD VERIFY THE USE OF THE ITEMS AND PLAN AN ALTERNATE ROUTE TO RUN THESE ITEMS. THEN CONTACT THE ENGINEERS TO REVIEW THE ROUTING.

I IF AREA OF CONSTRUCTION HAS A POST TENSION FLOOR SLAB. CONTRACTOR SHALL USE ULTRA SOUND OR OTHER APPROVED METHODS TO SURVEY THE EXISTING FLOOR STRUCTURE BEFORE MAKING ANY AND ALL FLOOR PENETRATIONS.

J WHERE FIRE PROOFING IS SPRAYED ON EXISTING STRUCTURE ALL EXISTING CONDUITS, WATER, HYDRONIC, STEAM, CHILLED WATER, FIRE PROTECTION LINES, MED GAS, ETC. SHALL BE LOWERED TO BE BELOW FULL THICKNESS OF FIRE PROOFING WITH NO INTERFERENCE.

K ALL PENETRATIONS OF FIRE AND SMOKE RATED ASSEMBLIES SHALL BE APPROPRIATELY FIRE STOPPED PER AN APPROVED U.L. LISTED STANDARD. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO INSULATED PIPING PENETRATIONS.

L ALL WORK REQUIRING DOWNTIME OF ANY AREA IN THE BUILDING SHALL BE SCHEDULED 2 WEEKS IN ADVANCE, AND SHALL COMPLY WITH INTERIM LIFE SAFETY MEASURES.

M ALL PIPING IN ROOMS WITH CEILINGS SHALL BE ABOVE CEILING EXCEPT AS NOTED.

N IN ACCORDANCE WITH K.R.S. ALL PLUMBING WORK SHALL BE CONSTRUCTED IN COMPLIANCE WITH PLANS APPROVED BY AND BEARING THE APPROVAL STAMP OF THE KENTUCKY DIVISION OF PLUMBING AND/OR THE DIVISION OF WATER. THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL HE HAS RECEIVED SUCH APPROVED PLANS.

O LOCATIONS OF PIPING AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.

P ALL OFFSETS IN PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS WHERE NECESSARY.

Q THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES OR OTHER COSTS THAT ANY UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (GAS, SEWER, WATER, ETC.).

R INSTALL ALL PIPING AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTION. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION. PROVIDE RECOMMENDED ACCESS AND SERVICE CLEARANCES FOR ALL EQUIPMENT.

S SEAL AIRTIGHT AROUND ALL DUCTS AND PIPING PENETRATIONS THROUGH WALLS, FLOORS AND ROOF. PROVIDE FIRE STOPPING IN FIRE PARTITION.

T THE CONTRACTOR SHALL RELOCATE OR AVOID ANY EXISTING EQUIPMENT APPURTENANCES, ETC., THAT CONFLICT WITH NEW WORK.

U WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.

V DOUBLE WIDTH TURNING VANES SHALL BE INSTALLED IN ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK ELBOWS. TURNING VANES NOT REQUIRED FOR KITCHEN EXHAUSTS.

W ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.

X DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT USED AS BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.

Y VALVES, BALANCING DAMPERS OR ANY MECHANICAL/ELECTRICAL ITEM REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT. ADDITIONALLY ALL SUCH ITEMS SHALL NOT BE LOCATED AN UNREASONABLE DISTANCE ABOVE THE CEILINGS. IN GENERAL ALL SUCH ITEMS UNLESS INDICATED OTHERWISE SHALL BE MOUNTED SIX TO TWELVE INCHES ABOVE THE CEILING. IF IN DOUBT, CONTACT ENGINEER PRIOR TO INSTALLING.

Z ALL MANHOLES, VAULTS AND SIMILAR UNDERGROUND STRUCTURES SHALL HAVE THE TOP ELEVATION SET FLUSH WITH FINISHED GRADE UNLESS SPECIFICALLY NOTED OTHERWISE.

AA WHEN RUNNING ANY TYPE OF PIPING BELOW A FOOTER, OR IN THE ZONE OF INFLUENCE THE PIPING SHALL BE BACKFILLED WITH CEMENTITIOUS FLOWABLE FILL PER SPECIFICATIONS. WHENEVER POSSIBLE, LOCATE PIPING OUTSIDE OF THE ZONE OF INFLUENCE. THE ZONE OF INFLUENCE IS THE AREA UNDER THE FOOTER WITHIN A 45 DEGREE ANGLE PROJECTING DOWN FROM THE BOTTOM EDGE OF THE FOOTER OF ALL SIDES OF THE FOOTER. ADDITIONALLY, GREASE TRAPS, MANHOLES, VAULTS AND OTHER UNDERGROUND STRUCTURES SHALL BE HELD AWAY FROM BUILDING WALLS FAR ENOUGH TO BE OUTSIDE OF THE ZONE OF INFLUENCE.

AB THE DOCUMENTS COMPLY WITH 2006 IMC, 2007 KBC, AND 2009 IECC.

AC THE DOCUMENTS COMPLY WITH 2006 IMC, 2007 KBC, AND ASHRAE 90.1-2007.

AD WORK IN CONFINED AREAS SHALL BE IN ACCORDANCE WITH THE OWNER'S SAFETY POLICY REQUIREMENTS.

ABBREVIATIONS

ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
CLG	CEILING
CLR	CLEAR
DN	DOWN
ENGR	ENGINEER
EQ	EQUAL
ETR	EXISTING TO REMAIN
EXT	EXTERIOR
FVC	FIRE VALVE CABINET
FL	FLOOR
FLA	FULL LOAD AMPS
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPC	FIRE PROTECTION CONTRACTOR
FT	FEET **OR** FOOT
FUT	FUTURE
GA	GAGE/GAUGE
GAL	GALLON (-S)
GC	GENERAL CONTRACTOR
HORIZ	HORIZONTAL
ID	I (-DENTIFICATION, -NSIDE DIAMETER, -NSIDE DIMENSION)
IN	INCH (-ES)
INT	INTER (-IOR, -ERVAL)
IPS	IRON PIPE SIZE
LBS	POUNDS
LF	LINEAR FEET/FOOT
MAX	MAXIMUM
MFG	MANUFACTURER
MIN	MIN (-IMUM, -UTE)
MISC	MISCELLANEOUS
MTG	MOUNTING
N/A	NOT APPLICABLE
NC	NOISE CRITERIA **OR** NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN **OR** NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DI (-AMETER, -MENSION)
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
PC	PLUMBING CONTRACTOR
PLBG	PLUMBING
PRV	PRESSURE REDUCING VALVE (STEAM, WATER, GAS)
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	PPSI GAUGE
SQ FT	SQUARE FEET **OR** FOOT
TBD	TO BE DETERMINED

ABBREVIATIONS (CONTINUED)

TE	TOP ELEVATION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
WT	WEIGHT
W/	WITH
W/O	WITHOUT
%	PERCENT
℄	CENTERLINE

GENERAL SYMBOLS

(#)	TAGGED NOTE DESIGNATOR
1	REVISION TRIANGLE
ROOM NAME [SEE X]	ROOM TAG
TAG XXX-# INSTANCE XXXX	EQUIPMENT TAG
	POINT OF CONNECTION / CONNECT TO EXISTING
	POINT OF DEMOLITION

MECHANICAL PIPING LEGEND

	PIPE ELBOW TURNING UP
	PIPE ELBOW TURNING DOWN
	PIPE TEE; CONNECTION ON TOP
	PIPE TEE; CONNECTION ON BOTTOM
	PIPE CAP
FP	FIRE PROTECTION PIPING
D(XXX)	PIPING TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
E(XXX)	EXISTING PIPING - (XXX) DENOTES SYSTEM
A(XXX)	ABANDONED IN PLACE PIPING - (XXX) DENOTES SYSTEM
	STRAINER
	MANUAL ISOLATION VALVE
	GLOBE VALVE
	OS&Y (GATE) VALVE
	PRESSURE REDUCING VALVE (STEAM, GAS, WATER, ETC.)
	CHECK VALVE
	DOUBLE CHECK VALVE ASSEMBLY
	FLEXIBLE PIPE CONNECTION
	PIPING UNION
FS	FLOW SWITCH
PS	PRESSURE SWTICH
TS	TAMPER SWITCH
	PETE'S PLUG; TEMPERATURE/PRESSURE PORT
	SEMI-RECESSED SPRINKLER HEAD WITH REMOVABLE ESCUTCHEON PLATE
	UPRIGHT TYPE SPRINKLER HEAD
	SIDEWALL TYPE SPRINKLER HEAD

APPLICABLE BUILDING CODES

APPLICABLE BUILDING CODES	DOCUMENT	YEAR
ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES	ANSI A117.1	2009
FIRE SPRINKLER CODE	NFPA 13	2013
INTERNATIONAL BUILDING CODE (IBC)	STATE EDITION	2015
INTERNATIONAL ENERGY CONSERVATION CODE (IECC) OR ASHRAE 90.1	STATE EDITION	2012 OR 2010
INTERNATIONAL FIRE CODE (IFC)	STATE EDITION	2015
INTERNATIONAL FUEL GAS CODE (IFGC)	STATE EDITION	2015
INTERNATIONAL MECHANICAL CODE (IMC)	STATE EDITION	2015
INTERNATIONAL PLUMBING CODE (IPC)	STATE EDITION	2015
INTERNATIONAL EXISTING BUILDING CODE (IEBC)	STATE EDITION	2009
NATIONAL ELECTRIC CODE (NEC)	NFPA 70	2017
NATIONAL FIRE ALARM & SIGNALING CODE	NFPA 72	2013
UNIFORM STATEWIDE BUILDING CODE		2018

FLOW DATA - PAV A FIRE PUMP	
STATIC PSI:	259
RESIDUAL PSI:	150
FLOW:	1500 GPM
DURATION:	CONTINUOUS
DATE & TIME:	08/06/2018
SOURCE OF WATER:	PAV A FIRE PUMP
SOURCE OF DATA:	KENTUCKY AMERICAN WATER
HAZARD:	LIGHT & ORDINARY
OCCUPANCY OF BUILDING:	HOSPITAL

FLOW DATA - PAV CC FIRE PUMP	
STATIC PSI:	135
RESIDUAL PSI:	128
FLOW:	1500 GPM
DURATION:	CONTINUOUS
DATE & TIME:	08/04/2017
SOURCE OF WATER:	UK MARKEY/PAV CC FIRE PUMP
SOURCE OF DATA:	KENTUCKY AMERICAN WATER
HAZARD:	LIGHT & ORDINARY
OCCUPANCY OF BUILDING:	HOSPITAL

FLOW DATA - WHITNEY FIRE PUMP	
STATIC PSI:	121
RESIDUAL PSI:	112
FLOW:	1150 GPM
DURATION:	CONTINUOUS
DATE & TIME:	1/9/2014
SOURCE OF WATER:	CITY SUPPLY
SOURCE OF DATA:	BROWN SPRINKLER CORP.
HAZARD:	LIGHT & ORDINARY
OCCUPANCY OF BUILDING:	BANK

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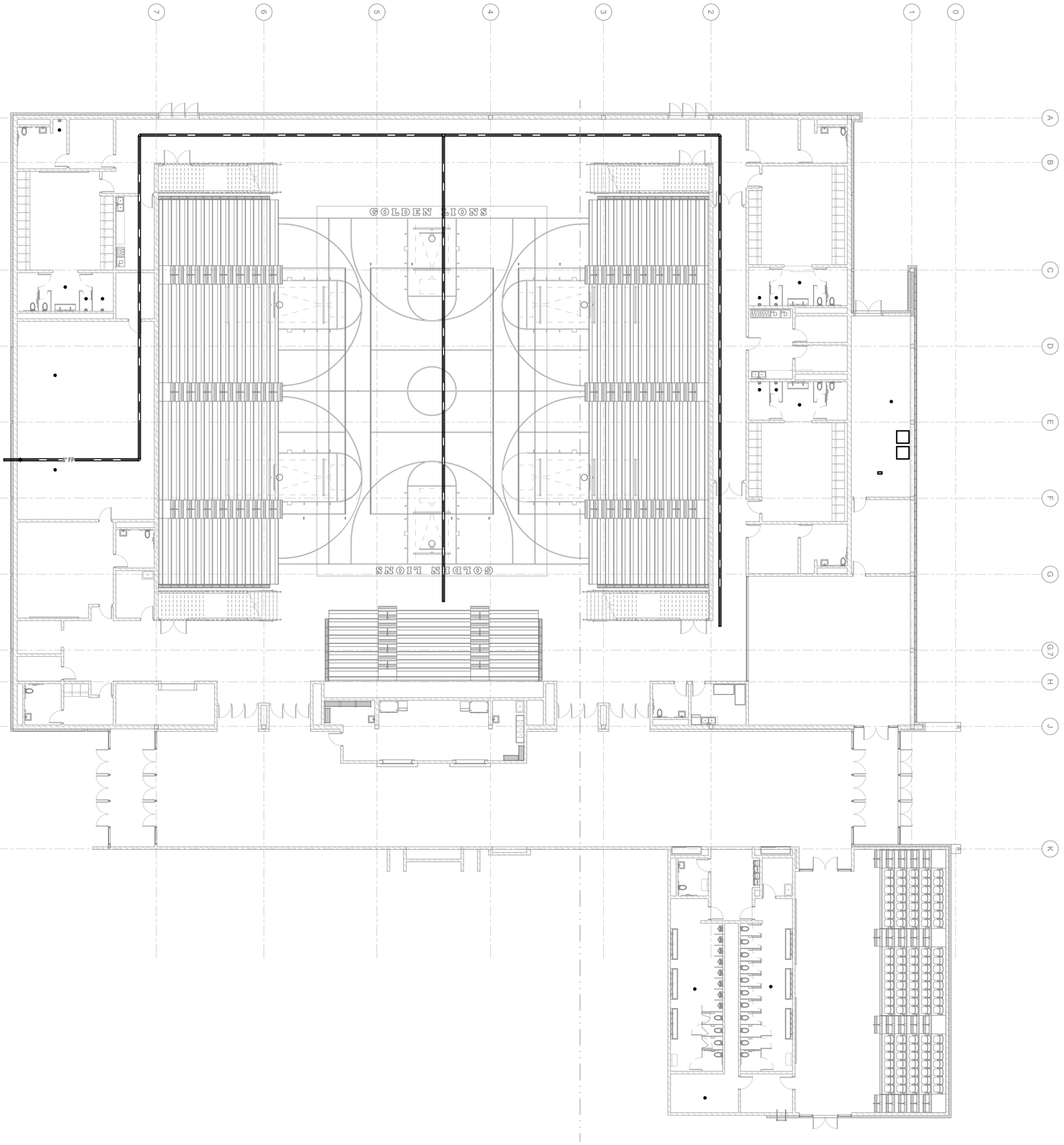
GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
FIRE SUPPRESSION LEGEND

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1 FIRST FLOOR FIRE SUPPRESSION PLAN

SCALE: 3/32" = 1'-0"

0 1 2 4 8 12 16

TAGGED NOTES

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SHEET	F-101
DATE:	Issue Date
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JOB#	2113
DRAWN:	Author
CHECKED:	Checker

GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

FOR THE
GARRARD COUNTY BOARD OF EDUCATION

FIRST FLOOR FIRE SUPPRESSION PLAN

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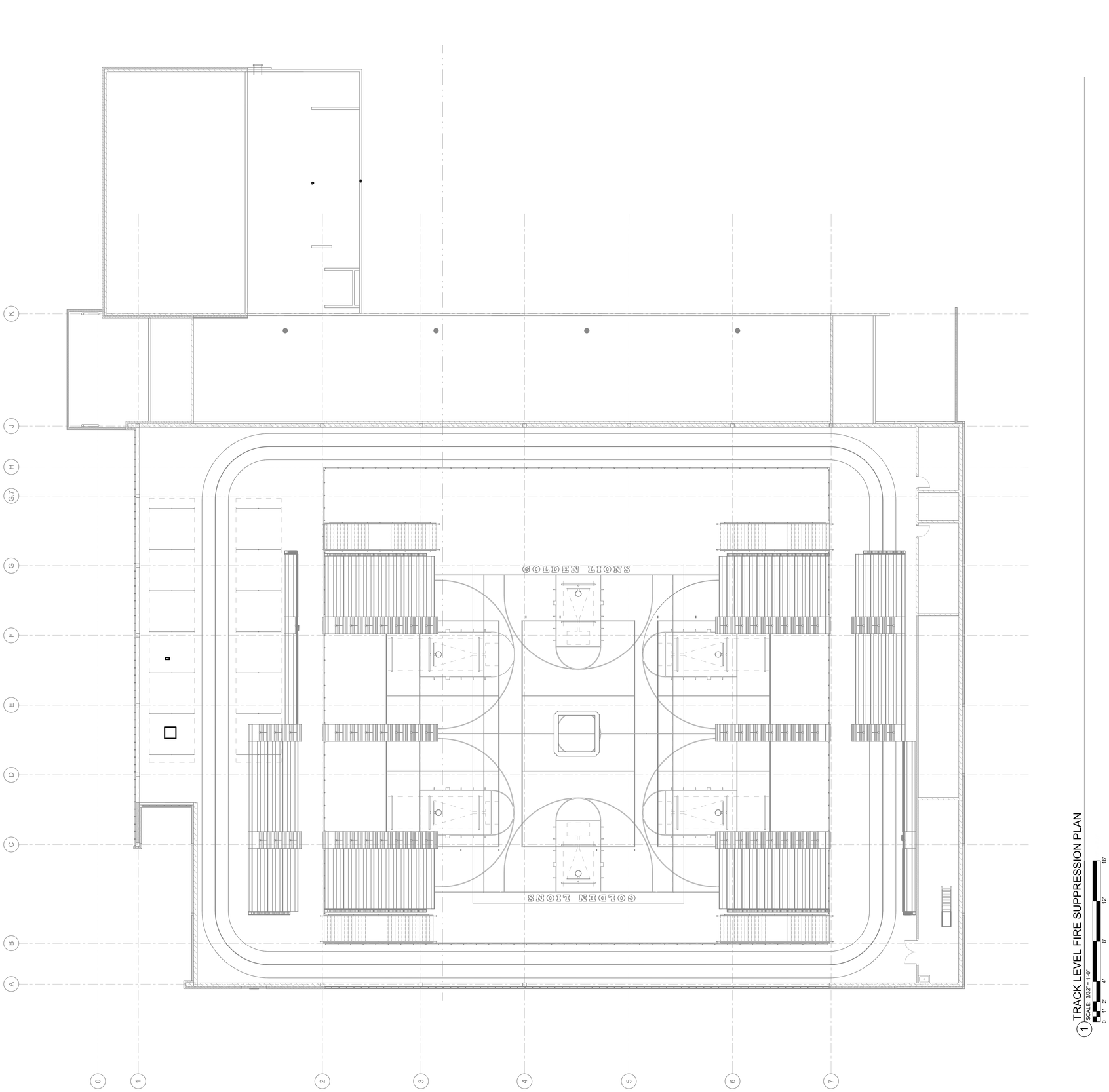
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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX
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TRACK LEVEL FIRE SUPPRESSION PLAN

SHEET	F-102	
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1 TRACK LEVEL FIRE SUPPRESSION PLAN
SCALE: 3/32" = 1'-0"
0 1' 2' 4' 8' 12' 16'

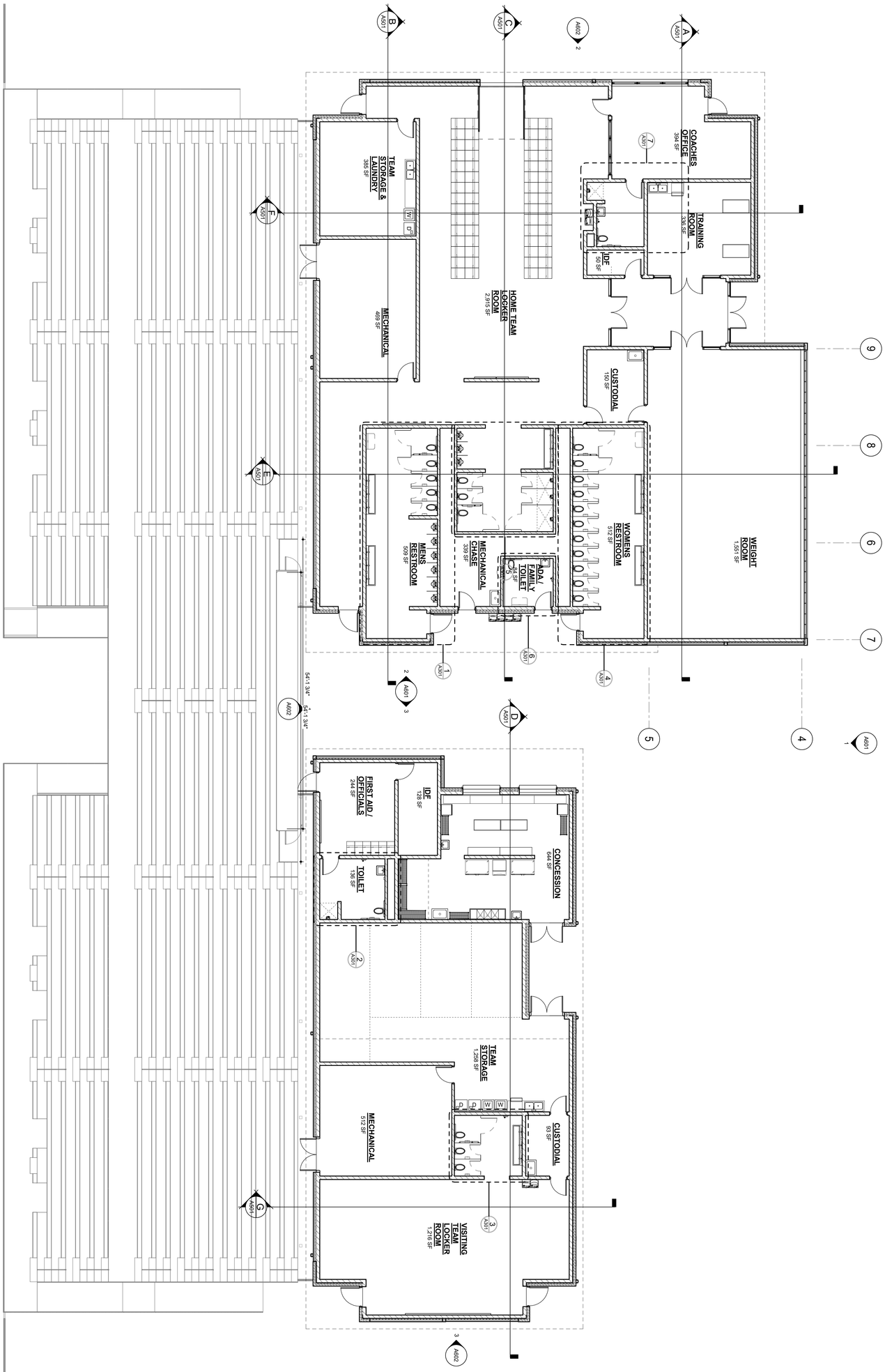
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GARRARD COUNTY
GOLDEN LIONS

5/12/2022 10:32:42 AM

FIRST FLOOR PLAN

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



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GARRARD COUNTY HIGH SCHOOL
FINAL PHASE

ATHLETIC FACILITIES
FOR THE
GARRARD COUNTY BOARD OF EDUCATION

FIRST FLOOR PLAN

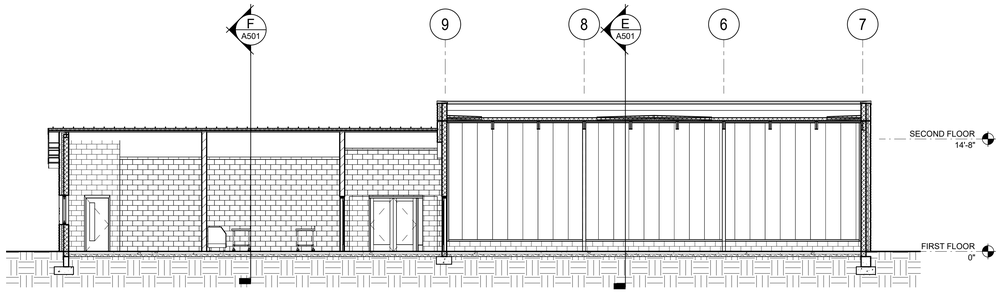
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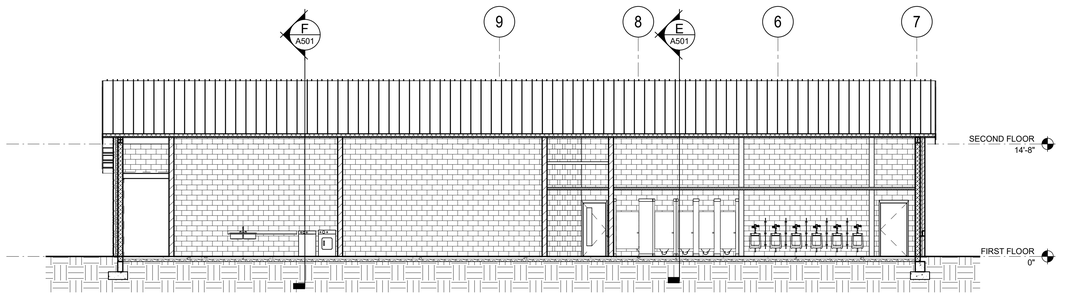
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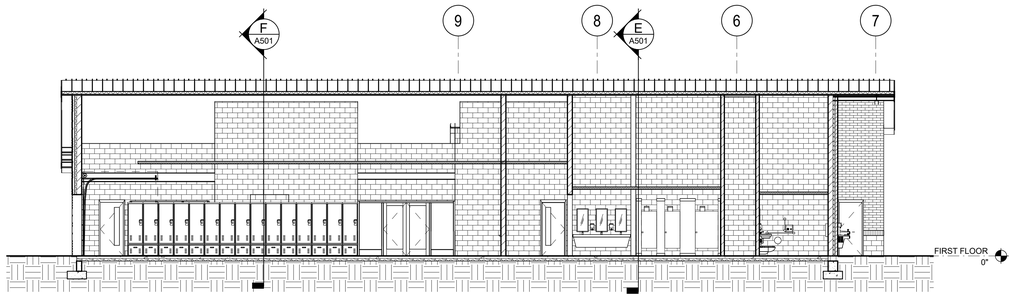
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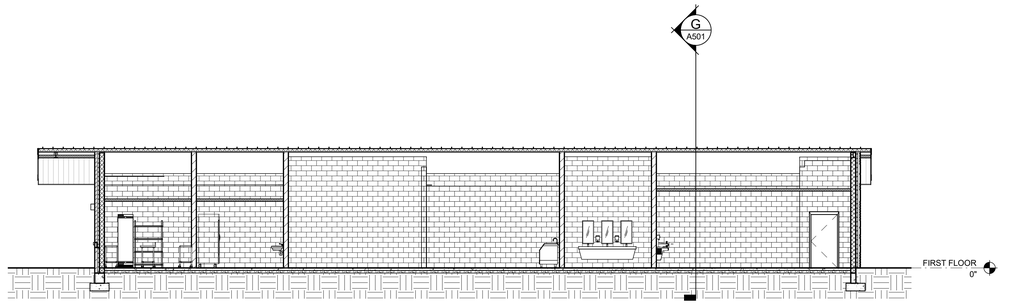
A A501 BUILDING SECTION
SCALE: 1/8" = 1'-0"



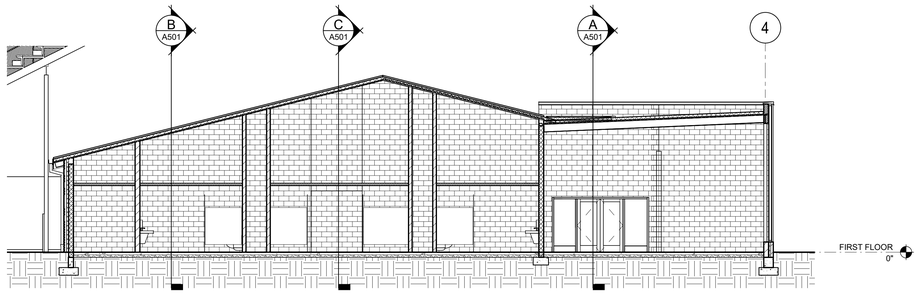
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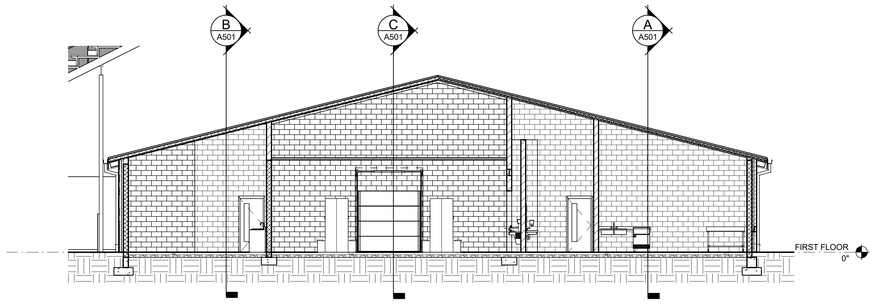
C A501 BUILDING SECTION
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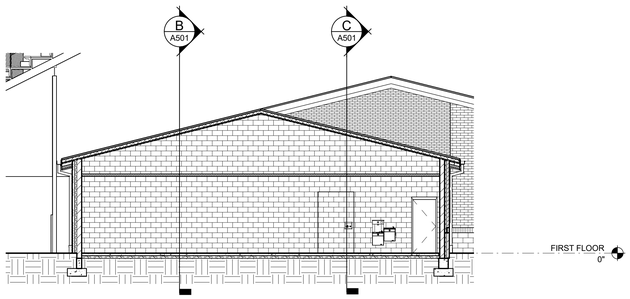
D A501 BUILDING SECTION
SCALE: 1/8" = 1'-0"



E A501 BUILDING SECTION
SCALE: 1/8" = 1'-0"



F A501 BUILDING SECTION
SCALE: 1/8" = 1'-0"



G A501 BUILDING SECTION
SCALE: 1/8" = 1'-0"

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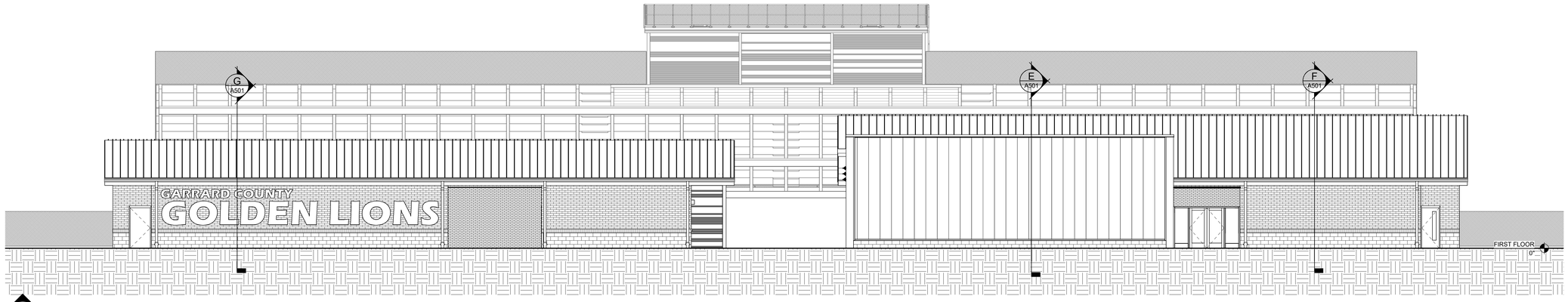
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FINAL PHASE
ATHLETIC FACILITIES
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
BUILDING SECTIONS

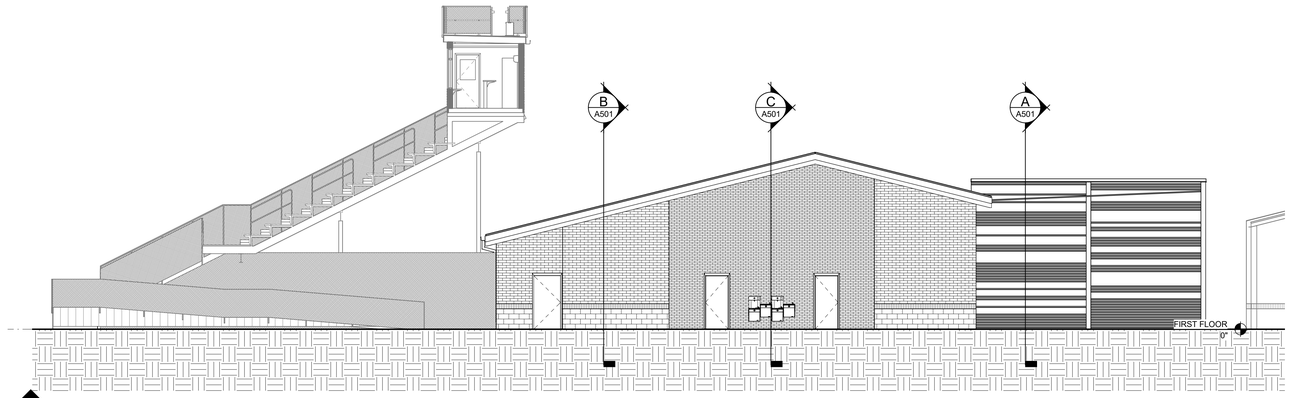
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DRAWN: DWV
CHECKED: DMS

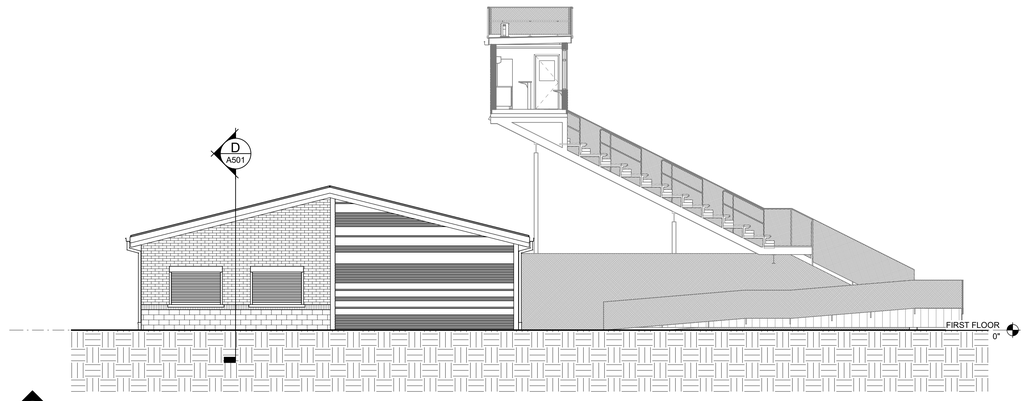
5/12/2022 10:32:46 AM



1 A601 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



2 A601 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



3 A601 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"

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GARRARD COUNTY HIGH SCHOOL
FINAL PHASE
ATHLETIC FACILITIES
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
BUILDING ELEVATIONS

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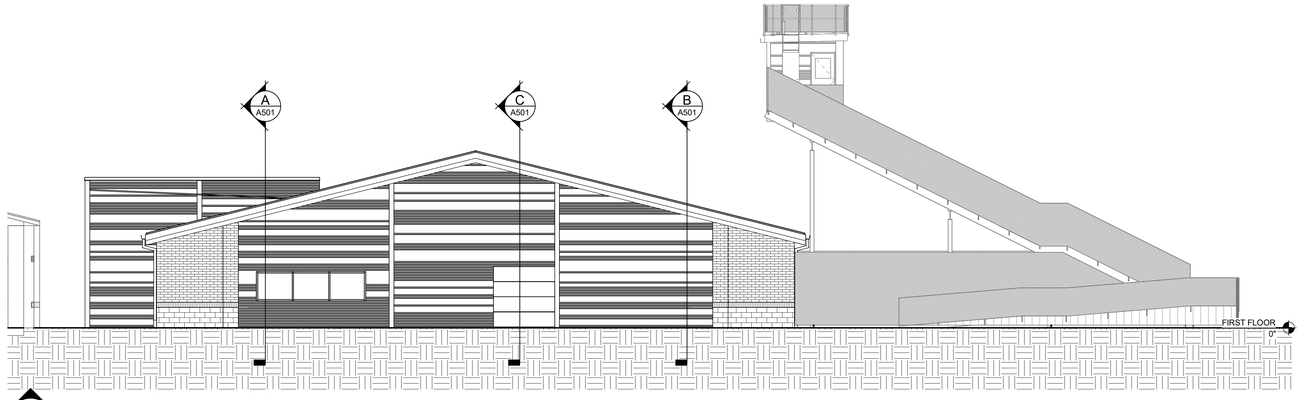
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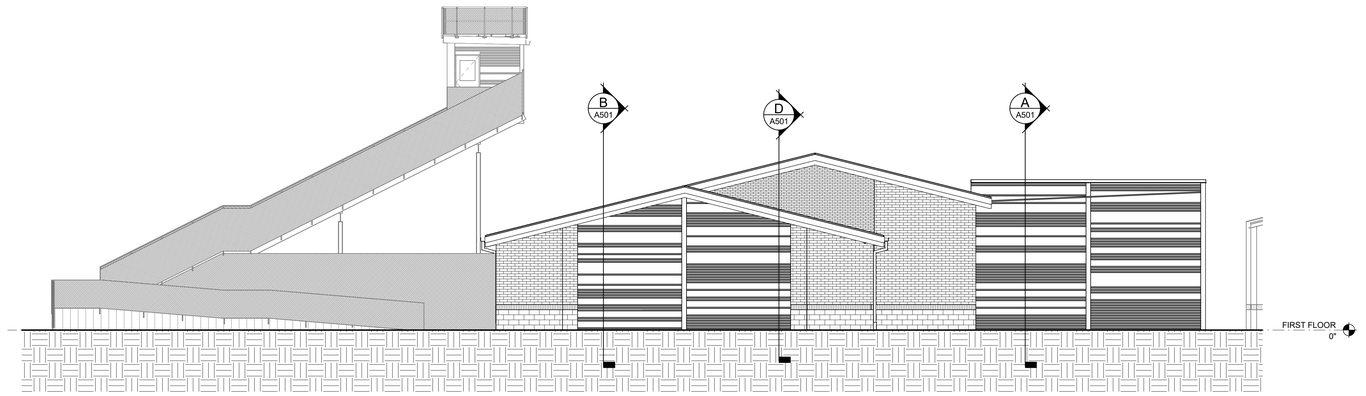
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1 / A602 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



2 / A602 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



3 / A602 DETAIL
SCALE: 1/8" = 1'-0"

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FINAL PHASE
ATHLETIC FACILITIES
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
BUILDING ELEVATIONS

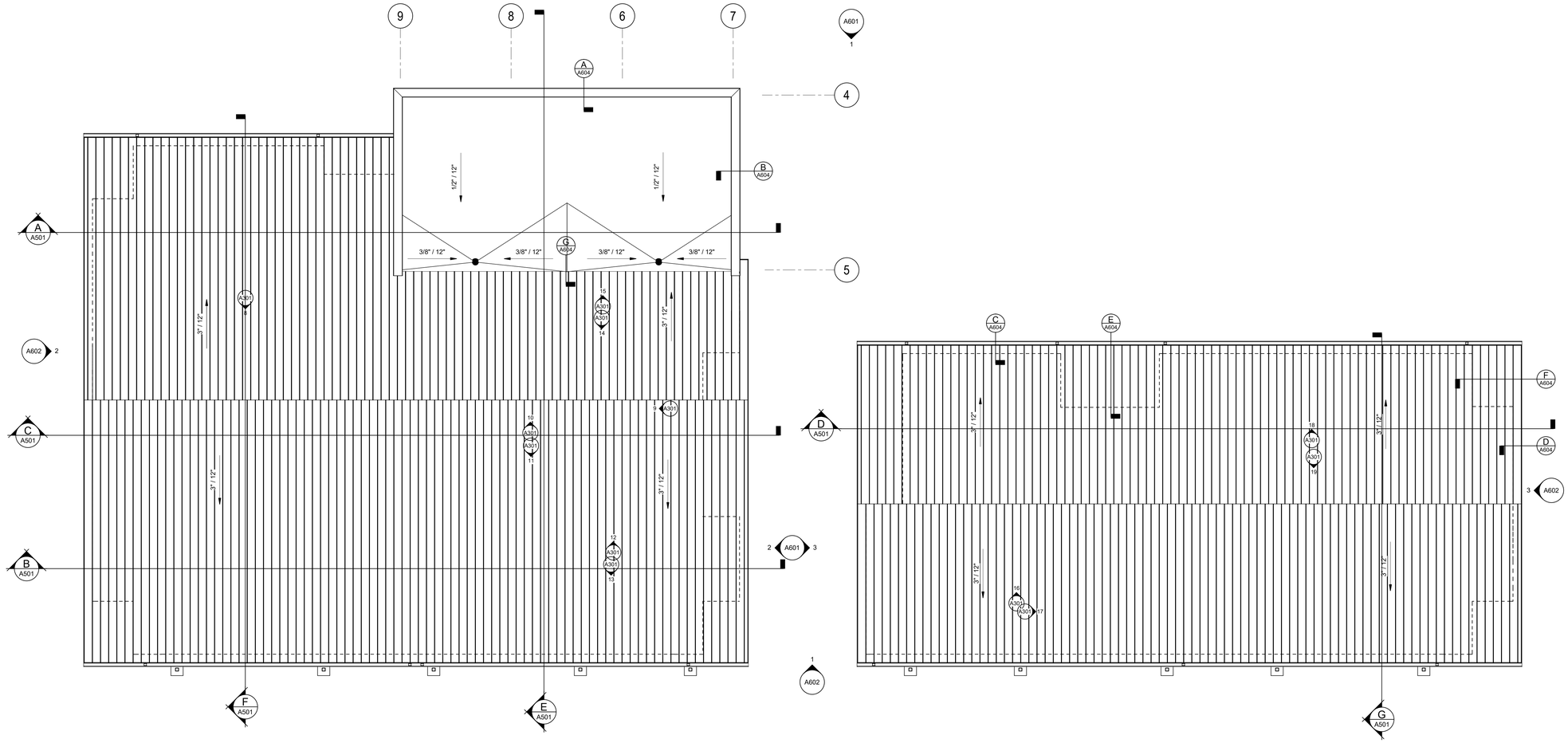
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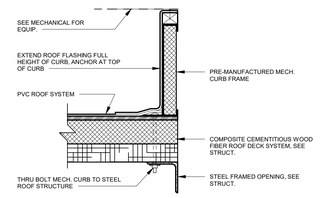
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SHEET NOTES

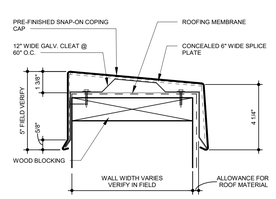


ROOF PLAN

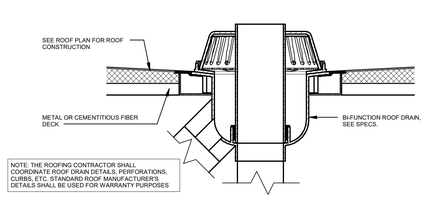
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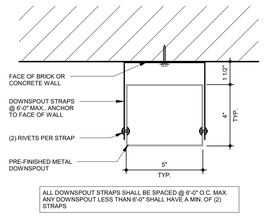
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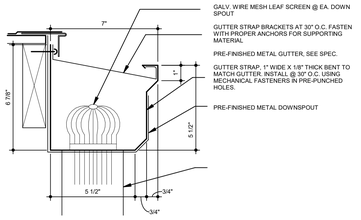
3 A603 DETAIL
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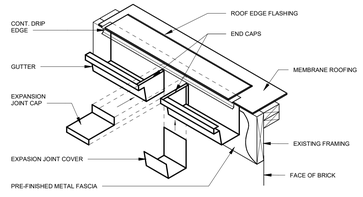
2 A603 DETAIL
SCALE: 1 1/2" = 1'-0"



5 A603 DETAIL
SCALE: 3" = 1'-0"



6 A603 DETAIL
SCALE: 3" = 1'-0"



7 A603 DETAIL
SCALE: 1" = 1'-0"

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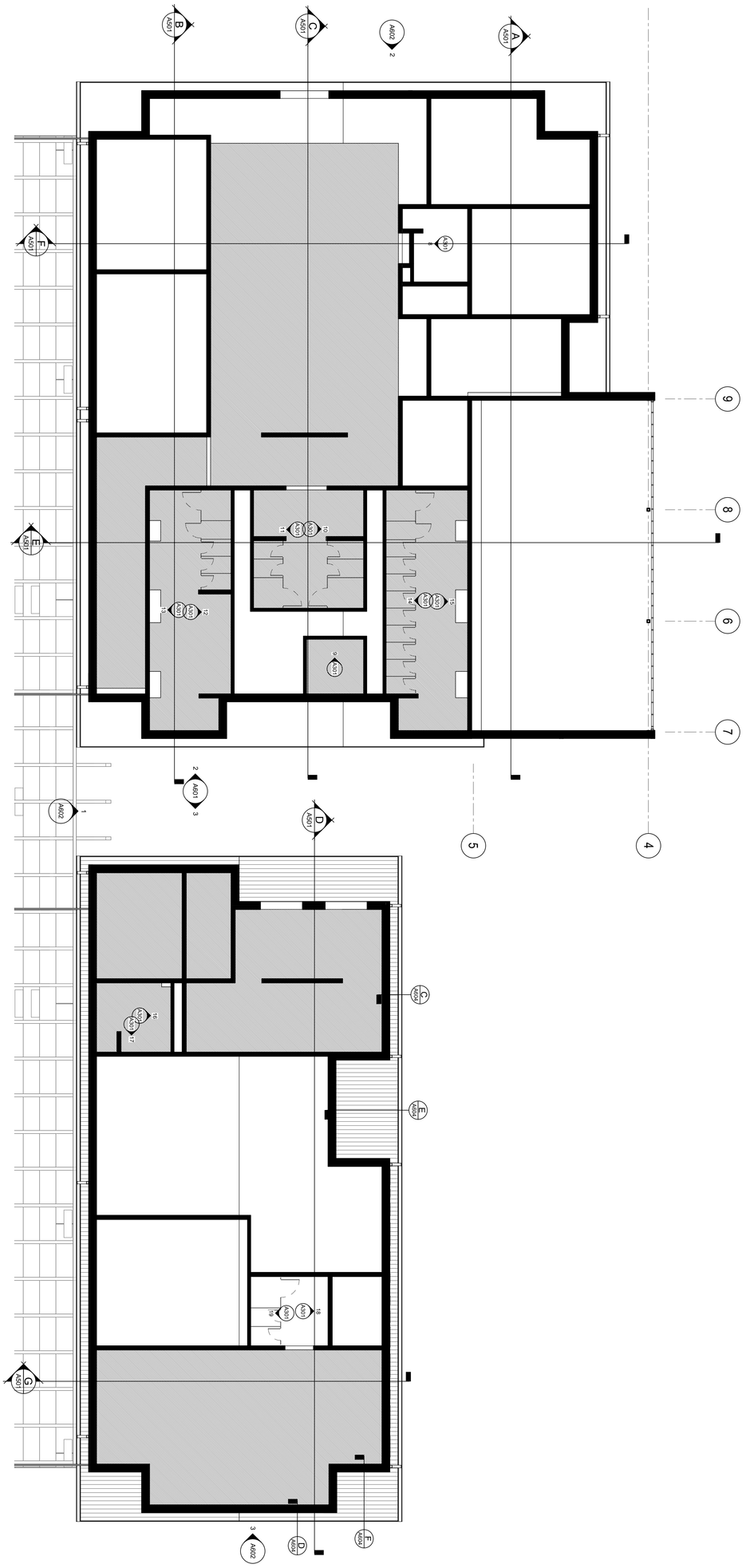
GARRARD COUNTY HIGH SCHOOL
FINAL PHASE
ATHLETIC FACILITIES
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
ROOF PLAN AND TYPICAL ROOF DETAILS

DATE: MAY 11, 2022

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GENERAL NOTES

DESIGN LOADS

STRUCTURAL RISK CATEGORY ..... CATEGORY III

FLOOR LIVE LOAD

SLABS ON GRADE	150 PSF
BLEACHERS	100 PSF
LOBBIES AND FIRST FLOOR CORRIDORS	100 PSF
RESTROOMS	60 PSF

ROOF LIVE LOAD ..... 20 PSF MIN

ROOF SNOW LOAD (PER ASCE 7-10)

GROUND SNOW LOAD	P_g = 15 PSF
IMPORTANCE FACTOR	Is = 1.1
SNOW EXPOSURE FACTOR	Ce = 1.0
THERMAL FACTOR	
(BUILDING)	Ct = 1.0
(CANOPIES)	Ct = 1.2
RAIN ON SNOW SURCHARGE	Pr = 5 PSF
FLAT-ROOF SNOW LOAD* (P_f = 0.7CeCtIsPg)	
(BUILDING)	P_f = 16.6 PSF
(CANOPIES)	P_f = 18.9 PSF
MINIMUM ROOF SNOW LOAD (IsPg)	P_{min} = 16.5 PSF
SLOPED-ROOF SNOW LOAD* (P_s = Cs Pf)	
(BUILDING)	P_s = 9.2 PSF

*(INCREASE FOR DRIFTING PER ASCE 7-10, SECTIONS 7.7 & 7.8)

WIND LOAD (PER ASCE 7-10)

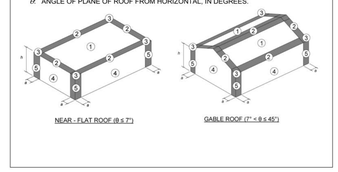
ULTIMATE DESIGN WIND SPEED	V_{ULT} = 120 MPH
NOMINAL DESIGN WIND SPEED	V_{ASD}= 93 MPH
WIND EXPOSURE	EXPOSURE C
ENCLOSURE	FULLY ENCLOSED
INTERNAL PRESSURE COEFFICIENT	GC_{pi} = ± 0.18
END ZONE WIDTH	a = 5 FT

COMPONENTS & CLADDING EXTERNAL PRESSURE ULTIMATE (LRFD) LOADS (PSF)

EFFECTIVE WIND AREA (SQ FT)	LOCATION PER ASCE 7-10: 1	2	3	4	5
≤10	9.7 -23.8	9.7 -38.9	9.7 -60.1	23.8 -25.8	23.8 -31.9
20	9.1 -23.2	9.1 -35.7	9.1 -49.8	22.7 -24.7	22.7 -29.7
50	8.3 -22.4	8.3 -30.1	8.3 -36.1	21.3 -23.3	21.3 -26.9
100	7.7 -21.8	7.7 -25.9	7.7 -25.8	20.2 -22.2	20.2 -24.7
500	↓	↓	↓	17.7 -19.8	17.7 -19.8

NOTES:

1. WIND LOADING PROVIDED ARE ULTIMATE (LRFD) LOADING. FOR ALLOWABLE STRESS DESIGN MULTIPLY LOADS PROVIDED BY 0.6.
2. LOADING PROVIDED IS FOR WORST CASE ROOF HEIGHT. DELEGATED DESIGNERS MAY RECALCULATE LOADS FOR SPECIFIC COMPONENT HEIGHTS USING PARAMETERS SPECIFIED.
3. PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE.
4. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
5. EACH COMPONENT MUST BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE FORCES.
6. FOR COMPONENTS HAVING EFFECTIVE AREAS IN BETWEEN TABULATED VALUES, DESIGN LOADS MAY BE INTERPOLATED. OTHERWISE DESIGN LOAD MUST BE TAKEN FROM THE NEXT LOWEST EFFECTIVE AREA.
7. INTERNAL PRESSURE FOR ENCLOSED BUILDING IS INCLUDED IN ABOVE VALUES.
8. THE NET PRESSURE (INCLUDING INTERNAL PRESSURE) FOR ANY COMPONENT SHALL NOT BE TAKEN LESS THAN 16 PSF ACTING IN EITHER DIRECTION NORMAL TO THE SURFACE
9. NOTATION:
   - *a*: 10 PERCENT OF LEAST HORIZONTAL DIMENSION OR 0.4h, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF LEAST HORIZONTAL DIMENSION OR 3 FT.
   - *h*: MEAN ROOF HEIGHT, IN FEET, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ROOF ANGLES $\theta \leq 10°$
   - θ: ANGLE OF PLANE OF ROOF FROM HORIZONTAL, IN DEGREES.



EARTHQUAKE DESIGN DATA

COUNTY / STATE	GARRARD/ KENTUCKY
IMPORTANCE FACTOR	Ie = 1.0
MAPPED SHORT PERIOD RESPONSE ACCELERATION	Ss = 0.183
MAPPED 1 SECOND PERIOD RESPONSE ACCELERATION	S1 = 0.094
SITE CLASS	CLASS D
DESIGN SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT	Sds = 0.147
DESIGN 1 SECOND PERIOD SPECTRAL RESPONSE COEFFICIENT	Sd1 = 0.107
SEISMIC DESIGN CATEGORY	CATEGORY B
BASIC STRUCTURAL SYSTEM	BEARING WALL SYSTEM
SEISMIC RESISTING SYSTEM	INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
RESPONSE MODIFICATION FACTOR	R = 3.5
SEISMIC RESPONSE COEFFICIENT	Cs = 0.0
METHOD OF ANALYSIS	EQUIVALENT LATERAL FORCE PROCEDURE
SEISMIC BASE SHEAR	= 0.0 KIPS

DESIGN STRESSES

CONCRETE (STRENGTH DESIGN) MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS:

FOOTINGS	f'c = 3,000 PSI
INTERIOR SLABS ON GRADE, PIERS, WALLS	f'c = 4,000 PSI
CONCRETE EXPOSED TO FREEZE/THAW	f'c = 5,000 PSI
REINFORCING BARS (ASTM A615 GRADE 60)	fy = 60,000 PSI
WELDED WIRE FABRIC (ASTM A1064)	fy = 65,000 PSI
WIDE FLANGE AND TEE SHAPES DESIGNATED AS W AND WT (ASTM A992)	fy = 50,000 PSI
CHANNELS, ANGLES, PLATES AND BARS (ASTM A572)	fy = 50,000 PSI
STEEL ROOF DECK (ASTM A653)	fy = 33,000 PSI
HOLLOW STRUCTURAL SECTIONS - RECTANGULAR STEEL TUBES (ASTM A500 GRADE C)	fy = 50,000 PSI
MASONRY ASSEMBLY COMPRESSIVE STRENGTH	f'm = 2,000 PSI
CONCRETE MASONRY UNIT STRENGTH	f'm = 2,800 PSI
TYPE S MORTAR STRENGTH	f'm = 2,000 PSI
MASONRY GROUT (ASTM C476) MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS	f'm = 2,000 PSI
SOIL BEARING PRESSURE FOR FOUNDATIONS (MATERIAL)	2,000 PSF

DESIGN CRITERIA

1. STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2018 KENTUCKY BUILDING CODE, 2ND EDITION (2015 IBC).
2. MAXIMUM ESTIMATED DEFLECTIONS (IN INCHES) ARE AS FOLLOWS:

	LIVE LOAD	DEAD + LIVE LOAD
ROOF MEMBERS	L/360	L/240
FLOOR MEMBERS INTERIOR	L/360	L/240
FLOOR MEMBERS SPANDREL	L/480	L/360

WHERE L = SPAN LENGTH BETWEEN CENTERLINE OF SUPPORTS (INCHES) FOR CANTILEVERS L = TWICE THE LENGTH OF THE CANTILEVER.

3. NO PROVISION HAS BEEN MADE FOR FUTURE HORIZONTAL OR VERTICAL EXPANSION.

GENERAL

1. THE REQUIREMENTS OF THESE GENERAL NOTES APPLY UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CONTRACT DOCUMENTS, ADDENDA, AND SUPPLEMENTARY INFORMATION AND DISTRIBUTING SUCH TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE PREPARATION AND SUBMITTAL OF SHOP DRAWINGS, FABRICATION, AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES THAT MAY EXIST.
4. ANY DISCREPANCIES BETWEEN STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER.
5. DO NOT SCALE DRAWINGS.
6. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION AND IS THEREFORE DEPENDENT UPON DIAPHRAGM ACTION OF THE ROOF DECK AND FLOOR SLAB AND ATTACHMENT TO SHEAR WALLS AND FRAMES FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY BRACING REQUIRED TO PROPERLY CONSTRUCT THE BUILDING UNTIL THESE ELEMENTS ARE COMPLETE AND CAPABLE OF PROVIDING THIS SUPPORT.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS TO CONSTRUCT THE STRUCTURE, INCLUDING VERIFICATION OF LOAD CAPACITY OF THE STRUCTURE, NEW OR EXISTING, TO SUPPORT CONSTRUCTION ACTIVITIES, EQUIPMENT, ETC. AND FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED. DAMAGE TO THE STRUCTURE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE CORRECTED BY THE RESPONSIBLE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
8. SHOP DRAWINGS MUST BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION.
9. NON-STRUCTURAL ELEMENTS OF THE BUILDING (ARCHITECTURAL FINISHES, MASONRY VENEER AND ASSOCIATED TIES, INSULATION, SHEATHING, DUCTWORK, PIPING, FOUNDATIONS/DOOR/DOOR FRAMES, ETC.) TYPICALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. WHERE NON-STRUCTURAL ELEMENTS ARE SHOWN ON THE STRUCTURAL DRAWINGS, THEY ARE SHOWN FOR REFERENCE AND DESIGN INTENT ONLY. NON-STRUCTURAL ELEMENTS SHALL BE CONSTRUCTED AS SHOWN ON THE ARCHITECTURAL, ELECTRICAL, MECHANICAL AND PLUMBING DRAWINGS.
10. ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS ARE IDEALIZED ELEVATIONS BASED ON DECK THICKNESS AND SLOPES SHOWN ON DRAWINGS AND DO NOT ACCOUNT FOR BEAM OR JOIST CAMBER. IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO COORDINATE ANY CAMBER OF THEIR WORK WITH OTHER TRADES AND ADJUST ELEVATIONS AS NECESSARY TO ACCOUNT FOR DEAD LOAD DEFLECTION AND THIS CAMBER.
11. WALL OPENINGS AND TERMINATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE DIAGRAMMATIC ONLY. WALL TERMINATIONS AND OPENING JAMBS, HEADS, AND SILLS SHALL BE CONSTRUCTED AS SHOWN ON THE ARCHITECTURAL DRAWINGS. WHERE VENEERS WRAP JAMBS, DETAIL AND FABRICATE LINTELS TO BEAR ON SOLID STRUCTURE. DO NOT BEAR LINTELS OR BEAMS ON VENEERS (BRICKS, SIDING, ETC.). IF THE ARCHITECTURAL DRAWINGS DO NOT INCLUDE DETAILS FOR ANY OF THESE CONDITIONS, CONSULT WITH ARCHITECT FOR DIRECTION.
12. EXISTING CONSTRUCTION SHOWN IS BASED ON EXISTING CONSTRUCTION DOCUMENTS AND/OR GENERAL CONSTRUCTION PRACTICE AND IS NOT GUARANTEED TO BE TRUE OR EXACT. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS RELEVANT TO THEIR WORK PRIOR TO CONSTRUCTION.
13. DETAILS LABELED TYPICAL ON THESE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR AND SHALL APPLY REGARDLESS OF WHETHER THEY ARE KEYED ON THE PLANS. CONSTRUCTION NOT SPECIFICALLY INDICATED BY DETAIL OR SECTION SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS.

FOUNDATION CONSTRUCTION

1. FOUNDATIONS ON THIS PROJECT ARE DESIGNED IN ACCORDANCE WITH RECOMMENDATIONS MADE BY _____, GEOTECHNICAL ENGINEERS, IN THEIR REPORT DATED _____. THE GEOTECHNICAL REPORT IS PROVIDED AS REFERENCE INFORMATION AVAILABLE TO BIDDERS, BUT IS NOT PART OF THE CONTRACT DOCUMENTS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL REPORT.
2. ELEVATIONS GIVEN ARE TO THE TOP OF FOOTINGS AND GRADE BEAMS.
3. ALL FOOTINGS MUST BE SUPPORTED ON BEDROCK OR STRUCTURAL FLOWABLE FILL / LEAN CONCRETE PLACED OVER BEDROCK. REMOVE ALL SOIL BETWEEN PROPOSED FOUNDATION ELEVATION AND BEDROCK.
4. IN GRANULAR SOILS (SANDS AND GRAVEL) THE SOIL SHALL BE MECHANICALLY TAMPED TO A HARD SURFACE IMMEDIATELY PRIOR TO PLACING FOOTINGS.
5. LOCATE EXISTING UNDERGROUND UTILITIES IN AREAS OF CONSTRUCTION. COORDINATE WITH UTILITY COMPANIES FOR ANY SHUT-OFF REQUIREMENTS OF STILL-ACTIVE LINES.
6. WHEN EXCAVATIONS APPROACH THE GROUND WATER LEVEL, THE WATER LEVEL SHALL BE LOWERED BY AN ACCEPTABLE DEWATERING SYSTEM SO THAT THE WATER LEVEL IS MAINTAINED CONTINUOUSLY A MINIMUM OF 2'-0" BELOW THE EXCAVATION.
7. EXISTING FOUNDATIONS:
   A. EXISTING FOUNDATIONS SHOWN ON DRAWINGS ARE APPROXIMATE. EXACT CONDITIONS MUST BE VERIFIED AT TIME OF CONSTRUCTION.
   B. WHEN NEW FOOTINGS MEET EXISTING FOOTINGS, THEY SHALL BE STEPPED AT A RATIO OF 2 HORIZONTAL TO 1 VERTICAL.
   C. UNLESS OTHERWISE NOTED, NEW FOOTINGS SHALL NOT BEAR BELOW EXISTING FOOTINGS.
8. PROVIDE MINIMUM (2) #5 CONTINUOUS IN ALL FOOTINGS DIRECTLY UNDER MASONRY WALLS.
9. BEFORE BACKFILL, ALL WALLS MUST BE ADEQUATELY BRACED. FOR BACKFILL REQUIREMENTS, SEE SPECIFICATIONS AND/OR GEOTECHNICAL ENGINEER'S REPORT.
10. RETAINING WALLS SHALL NOT BE BACKFILLED UNTIL COMPRESSIVE STRENGTH TESTS DEMONSTRATE THAT THE CONCRETE HAS DEVELOPED 100% OF THE REQUIRED 28-DAY COMPRESSIVE STRENGTH FOR THE CLASS OF CONCRETE SPECIFIED. THE CONTRACTOR MAY ELECT TO PREPARE ADDITIONAL TEST CYLINDERS IN ORDER TO DEMONSTRATE THAT THE REQUIRED COMPRESSIVE STRENGTH PRIOR TO THE MANDATORY 28-DAY COMPRESSIVE STRENGTH TESTS. IN NO CASE SHALL WALLS BE BACKFILLED PRIOR TO SEVEN (7) DAYS FROM PLACEMENT.
11. FOR PLACEMENT AND COMPACTION OF FILL UNDER SLABS ON GRADE, SEE SPECIFICATIONS. IF NOT OTHERWISE NOTED, COMPACT ALL FILL TO 98% OF OPTIMUM LABORATORY DENSITY IN ACCORDANCE WITH ASTM D698 STANDARD PROCTOR METHOD. PLACE FILL IN 6" TO 8" LAYERS AND COMPACT WITH VIBRATORY TAMPING EQUIPMENT.
12. WHERE ELECTRICAL CONDUIT CONGREGATES BELOW ELECTRICAL ROOMS AND PANELS, CONTRACTOR SHALL HOLD DOWN SUBGRADE APPROPRIATELY FOR CONDUIT TO BE BELOW SLAB. COVER CONDUIT WITH FLOWABLE FILL (LEAN CONCRETE) TO BOTTOM OF SLAB ELEVATION.
13. BEARING INTO SHALE - ELEVATIONS GIVEN ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT FIELD CONDITIONS.
14. SEE DRILLED PIER NOTES AND DETAILS FOR ADDITIONAL REQUIREMENTS.
15. SHALE CONTAINING PYRITES MUST BE PROTECTED AS INDICATED ON THE DRAWINGS OR IN THE PROJECT SPECIFICATIONS.
16. SEE ARCHITECTURAL AND SITE DRAWINGS FOR CONTOUR AND LAYOUT OF SITE WALKS AND BREEZEWAYS. SLOPE EXTERIOR CONCRETE 1/8"/ FT AWAY FROM BUILDING, UNLESS NOTED OTHERWISE.
17. HIGH PLASTICITY ("FAT") CLAYS WITH A PLASTICITY INDEX OF 30 OR MORE WHICH ARE PRESENT WITHIN 2 FEET OF FINAL SUBGRADE ELEVATION OR FOOTING BEARING ELEVATION SHALL BE UNDERCUT FOR THE ENTIRE BUILDING AREA TO A DISTANCE OF 5 FEET OUTSIDE THE BUILDING FOOTPRINT. PROOFROLL AT UNDERCUT ELEVATION AND FURTHER UNDERCUT SOFT AND YIELDING MATERIALS TO FIRM MATERIAL AT THE DIRECTION OF THE SPECIAL INSPECTOR. BACKFILL UNDERCUT WITH ON-SITE LEAN CLAY SOILS OR BORROW MATERIALS WITH A PLASTICITY INDEX LESS THAN 18.
18. FOUNDATION CONCRETE SHALL BE PLACED IMMEDIATELY FOLLOWING EXCAVATION. A LEAN CONCRETE (1,500 PSI) MUD MAT SHALL BE PLACED OVER THE PREPARED BEARING MATERIALS IF EXCAVATION MUST REMAIN OPEN DURING INCLEMENT WEATHER OR FOR MORE THAN 72 HOURS.
19. CONTRACTOR SHALL EXERCISE CAUTION THAT DENSE GRADED AGGREGATE BLANKET BELOW FLOOR SLAB DOES NOT BECOME SATURATED DURING CONSTRUCTION. CONTRACTOR SHALL CAST FLOOR SLAB OR PROVIDE TEMPORARY PROTECTION FOR SUBGRADE UNTIL SLAB IS CAST TO PREVENT WATER INFILTRATION INTO SUBGRADE.
20. SURFACE RUNOFF SHALL BE DIRECTED AWAY FROM FOUNDATION EXCAVATIONS AND NOT BE PERMITTED TO POND WITHIN THE BUILDING FOOTPRINT. PROVIDE DRAINAGE TRENCHES FROM FOUNDATION EXCAVATIONS TO DIRECT RAINWATER OUT OF EXCAVATIONS.

CONCRETE CONSTRUCTION

1. ALL CONCRETE CONSTRUCTION TO BE IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 301, ACI 318 AND ACI DETAILING MANUAL, EXCEPT THAT CONSTRUCTION AND REMOVAL OF FORMS AND RESHORING SHALL BE INSPECTED BY THE CONTRACTOR'S ENGINEER.
2. FURNISH BAR SUPPORTS WHERE NECESSARY DURING CONSTRUCTION.
3. PROVIDE PIPE SLEEVES AND INSERTS IN CONCRETE WORK WHERE REQUIRED. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.
4. CONSTRUCTION JOINTS SHALL BE POSITIONED SO AS NOT TO CHANGE THE STRUCTURAL DESIGN REQUIREMENTS. FRAMED FLOORS AND ROOFS SHALL HAVE CONSTRUCTION JOINTS SO THAT NO MORE THAN 1000 S.F. IS IN ANY SINGLE POUR AND THE MAXIMUM LENGTH OF POUR IS 100'-0". RATIO OF LENGTH TO WIDTH OF POUR SHALL NOT EXCEED 2. LOCATION OF ALL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE ENGINEER.
5. WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED.
6. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED 45 DEGREES. MINIMUM CHAMFER TO BE 3/4", EXCEPT THE LEADING EDGE OF STAIR TREADS TO 1/2" RADIUS.
7. ALL EXPOSED CONCRETE SUBJECTED TO FREEZING AND THAWING TO HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.40 AND 6% +/- 1% OF ENTRAINED AIR.
8. REINFORCING FOR SLABS ON GROUND (IN FLAT SHEETS) SHALL BE IN THE MIDDLE OF THE SLAB EXCEPT AS OTHERWISE NOTED AND SHALL BE POSITIVELY SUPPORTED AND MAINTAINED IN POSITION DURING PLACEMENT OF CONCRETE.
9. BEND ALL HORIZONTAL WALL AND FOOTING BARS 1'-0" AROUND CORNERS OR PROVIDE CORNER BARS WITH 2'-0" LAP.
10. PROVIDE FOUNDATION DOWELS FOR ALL WALLS, PIERS, AND COLUMNS SAME SIZE AND SPACING AS VERTICAL STEEL.
11. PROVIDE FOUNDATION DOWELS FOR MASONRY WALLS SAME SIZE AND SPACING AS VERTICAL STEEL. ALL DOWELS SHALL BE WITHIN 8" LATERALLY OF WALL REINFORCING ABOVE AND IN LINE WITH THE WALL REINFORCING. PROVIDE DOWELS FOR ALL ADDITIONAL WALL REINFORCING AT CORNERS, ENDS, JAMBS, INTERSECTIONS AND BOTH SIDES OF CONTROL JOINTS. ONLY DOWELS AT THESE ADDITIONAL LOCATIONS MAY BE POST INSTALLED / DRILLED AND ADHESIVE FASTENED WITH EMBEDMENT AS REQUIRED TO DEVELOP FULL YIELD STRENGTH OF REINFORCING.
12. WHERE POCKETS OR OPENINGS ARE REQUIRED IN CONCRETE WALL FOR STEEL BEAMS OR COLUMNS, FILL POCKET WITH CONCRETE AFTER THE STEEL MEMBER HAS BEEN INSTALLED.
13. SPLICES: ALL REINFORCING SPLICES SHALL BE AS TENSION LAP, U.N.O.
   A. LAP ALL COMPRESSION SPLICES 30 BAR DIAMETERS OF THE LARGER BAR.
   B. LAP ALL TENSION LAP SPLICES EXCEPT COLUMN SPLICES (U.N.O.) IN ACCORDANCE WITH THE FOLLOWING TABLE. MODIFY LENGTHS AS NOTED:

BAR SIZE	CONCRETE COMPRESSIVE STRENGTH		
	3,000 PSI	4,000 PSI	5,000 PSI
#3	21"	19"	17"
#4	29"	25"	22"
#5	36"	31"	28"
#6	43"	37"	33"
#7	62"	54"	48"
#8	71"	62"	55"
#9	80"	70"	62"
#10	90"	78"	70"
#11	100"	87"	78"

1. INCREASE SPLICE LENGTH BY THE FOLLOWING:
2. NOTE: INCREASED LENGTHS ARE ACCUMULATIVE
   1. HORIZONTAL TOP BARS WITH GREATER THAN 12" OF CONCRETE BELOW +30 %
   2. BAR SPACING LESS THAN 2 BAR DIAMETERS +50 %
   3. LIGHTWEIGHT CONCRETE +30 %
   4. EPOXY-COATED TOP BARS +30 %
   5. EPOXY-COATED OTHER BARS +50 %

14. CONCRETE PROTECTION FOR REINFORCEMENT: COVER
   A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ..... 3"
   B. CONCRETE EXPOSED TO EARTH OR WEATHER
      NO. 6 THROUGH NO. 18 BARS ..... 2"
      NO. 5 BAR, W31 OR D31 WIRE AND SMALLER ..... 1 ½"

LOOSE LINTEL SCHEDULE

1. THIS SCHEDULE IS FOR LINTELS OVER MASONRY OPENINGS NOT OTHERWISE SHOWN OR NOTED ON DRAWINGS, INCLUDING NON-BEARING PARTITION WALLS AND VENEERS.
   A. ANGLES AND SUPPORT PLATES EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED.
   B. MINIMUM BEARING LENGTH FOR ANGLES AND WT'S SHALL BE 6" EACH END. MINIMUM BEARING LENGTH FOR TUBES SHALL BE 8" EACH END. SEE TYPICAL DETAILS FOR BOND BEAM CONSTRUCTION.
   C. PROVIDE LINTELS ABOVE ALL PENETRATIONS 16" AND WIDER THROUGH MASONRY WALLS OR MASONRY VENEERS; INCLUDING DUCT PENETRATIONS, LOUVERS, GROUPED CONDUITS, WINDOWS, ET CETERA.
   D. FOR MULTI-WYTHE WALL CONSTRUCTION, PROVIDE LINTEL FOR EACH WYTHE PER SCHEDULE FOR GIVEN WYTHE THICKNESS.
2. FOR 4" MASONRY WALLS PROVIDE:

SPAN LIMITS	ANGLE SIZE
0" TO 4'-0"	L3 1/2x3 1/2x5/16
4'-1" TO 5'-6"	L4x3 1/2x5/16 L.D.V.
5'-7" TO 7'-0"	L5x3 1/2x5/16 L.D.V.
7'-7" TO 9'-6"	L6x3 1/2x3/8 L.D.V.

3. FOR 6" MASONRY WALLS PROVIDE:

SPAN LIMITS	LINTEL SIZE
0" TO 4'-0"	WT5x6.0
4'-1" TO 5'-6"	WT5x8.5
5'-7" TO 9'-6"	(1) 5" x 5/16" PLATE STEM. WELD CONTINUOUSLY BOTH SIDES TO 5" x 1/4" PLATE FLANGE. (MAKE FLANGE PLATE 3/8" THICK AT EXTERIOR OPENINGS.)

4. FOR 8" MASONRY WALLS PROVIDE:

SPAN LIMITS	LINTEL SIZE
0" TO 6'-0"	8" BOND BEAM TYPE ML8 SEE DET E/S401 OR (2) L4x3 1/2x5/16 L.D.V.
6'-1" TO 12'-6"	16" BOND BEAM TYPE ML16 SEE DET E/S401 OR HSS8x4x1/4 + PL 1/4x7 (TYPE 3, SEE DET E/S401)
12'-7" TO 16'-0"	HSS8x4x1/4 + PL 1/4x7 (TYPE 3, SEE DET E/S401)
16'-1" TO 18'-0"	HSS8x4x1/2 + PL 1/4x7 (TYPE 3, SEE DET E/S401)
18'-1" TO 22'-0"	HSS16x4x5/16 + PL 1/4x7 (TYPE 3, SEE DET E/S401)

5. FOR 12" MASONRY WALLS PROVIDE:

SPAN LIMITS	LINTEL SIZE
0" TO 6'-0"	8" BOND BEAM TYPE ML8 SEE DET E/S401 OR (3) L4x3 1/2x5/16 L.D.V.
6'-1" TO 12'-6"	16" BOND BEAM TYPE ML16 SEE DET E/S401 OR HSS8x8x5/16 + PL 1/4x11 (TYPE 3, SEE DET E/S401)
12'-7" TO 16'-0"	HSS8x8x5/16 + PL 1/4x11 (TYPE 3, SEE DET E/S401)
16'-1" TO 25'-0"	HSS16x4x5/16 + PL 1/4x11 (TYPE 3, SEE DET E/S401)

MASONRY WALL CONSTRUCTION

1. MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402).
2. MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1/ASCE 6/TMS 602) AND THE PROJECT SPECIFICATIONS. IF THERE ARE ANY CONFLICTS BETWEEN THE TWO, THE MORE RESTRICTIVE REQUIREMENT SHALL BE APPLICABLE.
3. DETERMINE COMPRESSIVE STRENGTH OF MASONRY (f'm) BY THE UNIT STRENGTH METHOD (SECTION 1.4B.2 OF ACI 530.1/ASCE 6/TMS 602). THE STRENGTH OF GROUT SHALL BE DETERMINED BY TESTS IN ACCORDANCE WITH ASTM C1019.

——— OR ———

3. DETERMINE COMPRESSIVE STRENGTH OF MASONRY (f'm) BY THE PRISM TEST METHOD (SECTION 1.4B.3 OF ACI 530.1/ASCE 6/TMS 602).
   A. A TEST SHALL CONSIST OF THREE SPECIMENS.
   B. ESTABLISH 28-DAY PRISM TESTS FOR THE MATERIALS TO BE USED FOR CONSTRUCTION. USE SEVEN-DAY TESTS DURING CONSTRUCTION.
   C. TESTING DURING CONSTRUCTION SHALL CONSIST OF A MINIMUM OF ONE TEST FOR EACH 5,000 S.F. OF WALL, BUT NOT LESS THAN THREE SUCH TESTS FOR ANY BUILDING.
4. MATERIALS:

C.M.U. -	ASTM C55 OR C90
GROUT -	ASTM C476
MORTAR -	TYPE S

5. USE TYPE S MORTAR FOR C.M.U. IN ALL STRUCTURAL BEARING, SHEAR, AND CURTAIN WALLS.
6. INTERSECTING BEARING WALLS SHALL BE ANCHORED BY ONE OF THE FOLLOWING METHODS:
   A. FIFTY PERCENT OF THE UNITS AT THE INTERSECTION SHALL BE LAID IN AN OVERLAPPING MASONRY BONDING PATTERN, WITH ALTERNATE UNITS HAVING A BEARING OF NOT LESS THAN 3" ON THE UNIT BELOW.
   B. WALLS SHALL BE TIED BY GALVANIZED METAL STRAPS 1 1/2" x 1/4" x 24" WITH 2" BEND AT 90° EACH END. GROUT STRAPS SOLID INTO CORES OF BLOCK AT 24" MAXIMUM VERTICAL SPACING.
   C. THE ABOVE DO NOT APPLY AT CONTROL JOINTS OR WHERE NON-LOAD-BEARING PARTITIONS ABUT BEARING WALLS.
7. CORNERS OF BEARING AND EXTERIOR WALLS SHALL BE BUILT IN RUNNING BOND.
8. ALL STRUCTURAL WALLS SHALL BE LAID IN RUNNING BOND. STACK BOND IS NOT ALLOWED.
9. PROVIDE A MINIMUM OF 16" DEPTH OF SOLID MASONRY UNDER THE BEARING ENDS OF ALL BEAMS AND LH AND DLH SERIES JOISTS, AND 8" DEPTH OF SOLID MASONRY UNDER THE BEARING ENDS OF ALL K SERIES JOISTS AND SLABS. GROUT CELLS (2 MINIMUM) BELOW LINTEL BEARING AT JAMBS DOWN TO FOUNDATION OR BOND BEAM, WHICHEVER OCCURS FIRST.
10. PROVIDE SOLID MASONRY MORTARED INTO PLACE AROUND BEARING ENDS OF ALL BEAMS AND JOISTS. COMPLETELY FILL BEARING POCKETS. CUT MASONRY NEATLY AT EXPOSED CONDITIONS.
11. NO CHASES, RISERS, CONDUITS, OR TOOTHING OF MASONRY SHALL OCCUR IN MASONRY WALLS WITHIN 18 INCHES OF BEAM BEARING CENTERLINE.
12. PROVIDE SHOP DRAWINGS THAT INDICATE SIZE, SPACING, BENDING DETAILS, AND TYPE OF ALL REINFORCING BARS PLACED IN MASONRY WALLS. COMPLY WITH ACI SP-066(04) "ACI DETAILING MANUAL." PROVIDE ELEVATIONS OF ALL REINFORCED WALLS SHOWING LOCATIONS OF ALL HORIZONTAL AND VERTICAL DEFORMED BAR REINFORCING, DEPTH/WIDTH OF GROUTING, OPENINGS, TOP OF BOND BEAM ELEVATIONS, AND DIMENSIONED LOCATIONS OF CONTROL JOINTS. COORDINATE SIZE AND LOCATION OF ALL WALL PENETRATIONS WITH MEP CONTRACTORS, AND DIMENSION ON WALL ELEVATIONS, PRIOR TO SUBMITTAL OF SHOP DRAWINGS. INCOMPLETE SUBMITTALS WILL BE REJECTED WITHOUT REVIEW.
13. PROVIDE HORIZONTAL JOINT REINFORCEMENT PER ASTM A951, GALVANIZED, AT 16" CENTERS VERTICALLY. SEE SPECIFICATIONS FOR WIRE NOT OTHERWISE NOTED. PROVIDE A GALVANIZED LADDER TYPE JOINT REINFORCEMENT.
14. WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED.
15. LAP SPLICE HORIZONTAL REINFORCING CENTERED IN CORES TO BE IN ACCORDANCE WITH THE FOLLOWING TABLE.

BAR SIZE	WALL THICKNESS	
	8" CMU	12" CMU
#3	18"	18"
#4	25"	25"
#5	31"	31"

16. SEE DETAILS AND SCHEDULES FOR LOCATIONS AND SIZES OF HORIZONTAL AND VERTICAL REINFORCEMENT.
17. REINFORCE BOND BEAMS WITH (2) #5 CONTINUO

GENERAL NOTES CONTINUED:

SUBSTITUTED UPON REVIEW AND APPROVAL FROM THE STRUCTURAL ENGINEER. FASTENERS SHALL BE ZINC PLATED WITH A MINIMUM ZINC THICKNESS OF 5 MICRONS.

13. ALL WELDED CONNECTIONS SHALL BE IN ACCORDANCE WITH THE ANSI/AWS D1.3 "STRUCTURAL WELDING CODE," LATEST EDITION.
14. ALL LOADBEARING AND EXTERIOR WALLS SHALL BE BRACED BY EITHER 150U50-54 COLD ROLLED CHANNEL, RUN HORIZONTALLY THROUGH THE STUD PUNCHOUTS AND ATTACHED TO EACH STUD, OR BY MINIMUM 1 1/2" WIDE x 20 GA STEEL STRAP RUN HORIZONTALLY ON BOTH SIDES OF STUDS AND ATTACHED TO EACH STUD. VERTICAL SPACING OF THE BRACING IS LIMITED TO A MAXIMUM OF 48" THROUGHOUT THE HEIGHT OF THE FRAMING. THE BRIDGING SHALL BE MADE TAUT DURING INSTALLATION AND SHALL NOT SAG OR BOW ALONG ITS LENGTH.
15. BRIDGING AND SHEAR WALL STRAPS SHALL BE IN PLACE PRIOR TO PLACEMENT OF SUPERIMPOSED LOADS ON STUD OR JOIST ASSEMBLIES. ALL SHALL BE TAUT BY PRE-TENSIONING. PRE-TENSIONING LOAD SHALL NOT EXCEED VALUES LISTED IN TABLE BELOW. INTERPOLATION MAY BE UTILIZED.

ONE-INCH WIDE STRAP BASE STEEL THICKNESS (MILS)	MAXIMUM ALLOWABLE PRETENSION LOAD PER INCH WIDTH (LBS)
33	75
43	100
54	180
68	230

16. STUDS AND JOIST ENDS SHALL BE SAWN TO FIT SQUARELY AND EVENLY AGAINST THE CONNECTING MEMBER. STUDS SHALL NOT BE THERMALLY CUT.
17. ALIGN BEARING WALL STUDS DIRECTLY BELOW FLOOR JOISTS AND ROOF TRUSSES. SEE PLAN FOR LAYOUT.
18. CONSTRUCT ALL CORNERS AND INTERSECTIONS WITH NOT LESS THAN THREE STUDS.
19. PROVIDE AND INSTALL A MINIMUM OF TWO FULL-HEIGHT STUDS (IN ADDITION TO JACK STUD OR STUDS) AT THE JAMBS OF ALL OPENINGS (WINDOWS, DOORS, LOUVERS, ETC.) EXCEEDING 2'-0" IN WIDTH.
20. SPLICES OR CUTOUTS IN THE FLANGES OF EXTERIOR WALL STUDS ARE PROHIBITED. EXTERIOR WALL STUDS SHALL RUN FULL HEIGHT FROM FLOOR TO FLOOR OR FLOOR TO ROOF WITHOUT SPLICE.
21. SEE HEADER SCHEDULE FOR HEADER SIZE AND NUMBER OF JACK STUDS.
22. SEE COLD-FORMED METAL FRAMING SCHEDULE FOR MATERIAL SIZES AND SPACINGS.
23. WHERE A DEFLECTION CLIP OR STATICRIGID CLIP IS NOTED TO COLD-FORMED FRAMING, CLIP SHALL OCCUR AT EACH MEMBER IN THE FRAMING SYSTEM UNLESS NOTED OTHERWISE (e.g. CLIP NOTED TO STUD WALL FRAMING SHALL OCCUR AT EACH STUD IN THE WALL SYSTEM).
24. THE OWNER MAY EMPLOY AN INDEPENDENT TESTING AGENCY TO PERFORM FIELD TESTS AND INSPECTION OF COLD-FORMED CONSTRUCTION FOR CONFORMANCE WITH CONTRACT DOCUMENTS. THE CONTRACTOR SHALL FACILITATE AND ALLOW ACCESS TO THE WORK FOR TESTS AND INSPECTIONS TO BE PERFORMED.
25. SUBMIT REPORTS DETAILING RESULTS OF ALL INSPECTIONS AND TESTING TO THE ARCHITECT/ENGINEER FOR APPROVAL WITHIN FIVE DAYS OF COMPLETION OF THE TESTS.
26. FIELD MODIFICATIONS OF COLD-FORMED STEEL SYSTEMS SHALL NOT BE ALLOWED WITHOUT PRIOR APPROVAL BY ENGINEER OF RECORD.

SITE OBSERVATION BY THE STRUCTURAL ENGINEER

1. THE ENGINEER HAS NO CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES; FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK; FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK; OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY ACTS OR OMISSIONS OF THE CONTRACTOR, ANY SUBCONTRACTOR, MATERIAL SUPPLIER, OR AGENTS THEREOF. THE ENGINEER DOES NOT GUARANTEE THE PERFORMANCE OF THE CONTRACTOR AND SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO PERFORM ITS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR APPLICABLE LAWS, CODES, RULES, OR REGULATIONS. THE CONTRACTOR SHALL MAINTAIN SOLE RESPONSIBILITY FOR DEFECTS AND DEFICIENCIES, INCLUDING PROVIDING TESTING AND INSPECTION ONCE SUCH ARE DISCOVERED, AND FOR PROVIDING ENGINEERED CORRECTIVE ACTION FOR DESIGN TEAM REVIEW.
3. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF BROWN+KUBICAN, PSC IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY, QUANTITY, OR ACCURACY OF THE CONSTRUCTION WORK, BUT RATHER PERIODIC IN EFFORT TO INFORM THE CLIENT ABOUT GENERAL PROGRESS AND TO ADVISE THE CLIENT ABOUT OBSERVED DEFECTS AND DEFICIENCIES IN THE WORK OF THE CONTRACTOR.

ROOF, FLOOR, OR WALL OPENINGS

1. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE NUMBER, SIZE, AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED FOR MECHANICAL OR ELECTRICAL ITEMS.
2. SLEEVES AND OPENINGS SHALL BE LOCATED IN A MANNER THAT WILL MAINTAIN THE STRUCTURAL INTEGRITY OF THE ROOF, FLOOR, OR WALL SYSTEM.
3. NO STRUCTURAL ELEMENTS ARE TO BE CUT UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

OPENINGS / PENETRATIONS / ATTACHMENTS TO STRUCTURE BY OTHER TRADES

1. THE CONTRACTOR SHALL COORDINATE AND VERIFY THE NUMBER, SIZE, AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED FOR OTHER TRADES IN STRUCTURAL ELEMENTS.

TO STRUCTURAL STEEL

1. FIELD CUTTING/DRILLING OF HOLES LARGER THAN 3/8" INTO BEAM FLANGES OR COLUMNS IS PROHIBITED EXCEPT WHERE REQUIRED FOR STRUCTURAL STEEL CONNECTIONS.
2. PENETRATIONS / HOLES THROUGH BEAM WEBS MAY BE POSSIBLE. TRADE CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING COST TO VERIFY ADEQUACY AND DESIGN AND FOR INSTALLATION COST OF OPENING AND ANY REINFORCEMENT.

TO COLD-FORMED METAL TRUSSES / JOISTS / RAFTERS / BEAMS

1. DO NOT USE DRILLED ANCHORS (WHICH CAUSE SECTION LOSS AND TENSION PUNCHING) THROUGH THE HORIZONTAL CHORDS OR FLANGES OF COLD-FORMED STEEL FRAMING. DO NOT USE DRILLED ANCHORS OR ECCENTRIC CLAMP CONNECTIONS (WHICH CAUSE SECTION LOSS / TENSION PUNCHING OR FLANGE TWISTING) THROUGH THE FLANGES OF COLD-FORMED STEEL FRAMING.
2. ALL CONNECTIONS TO COLD-FORMED STEEL STRUCTURAL FRAMING SHALL HAVE SHEAR PLATES THAT USE SELF-DRILLING SCREWS (IN SHEAR) TO THE VERTICAL FACE OF THE MEMBER WEB / TRUSS CHORD.

TO FLOOR DECK, PLANK, ELEVATED SLABS, ROOF DECK

1. NO PENETRATIONS LARGER THAN 12" IN DIAMETER / SQUARE SHALL BE FIELD CUT IN THE STRUCTURAL MEMBER WITHOUT APPROVAL OF THE ENGINEER OF RECORD FOR THAT ELEMENT.
2. CUTTING / CORING OF ADJACENT PENETRATIONS, PERPENDICULAR TO THE STRUCTURAL SPAN, SHALL BE AVOIDED. ADJACENT PENETRATIONS THAT REMOVE MORE THAN 20% OF SUCH STRUCTURAL ELEMENT, IN ANY GIVEN 3-FOOT LENGTH, ARE PROHIBITED.

MAINTENANCE STATEMENT AND STRUCTURE LIFESPAN

1. THE ENGINEER MAKES NO CLAIM OR AGREEMENT AS TO THE LIFESPAN OF THE BUILDING STRUCTURE. THE CLIENT AND OWNER SHALL UNDERSTAND THAT STRUCTURAL TYPES DO HAVE LIFESPAN RELATIVE TO INITIAL COST AND MAINTENANCE AND THAT BY REQUESTING OR ACCEPTING A STRUCTURAL SYSTEM OF LOWER INITIAL COST THAT THE USEABLE LIFESPAN WILL DECREASE AND MAINTENANCE INCREASE.
2. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXTEND LIFESPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. THE ENGINEER SHALL NOT BE HELD LIABLE FOR MAINTENANCE REQUIREMENTS OR DETERIORATION RESULTING FROM LACK OF BUILDING MAINTENANCE.
3. A PLANNED PROGRAM OF MAINTENANCE SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO: PAINTING OF STRUCTURAL STEEL AND LINTELS, PROTECTIVE COATING FOR CONCRETE AND TIMBER, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, TIMELY REPAIR OF SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF STRUCTURAL ELEMENTS EXPOSED TO A SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.

NOT FOR CONSTRUCTION

100% DD

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GARRARD COUNTY CONCESSION FIELD HOUSE
FINAL PHASE

FOR THE
GARRARD COUNTY BOARD OF EDUCATION

GENERAL NOTES

DATE: MAY 11, 2022

REVISED	1	2	3	4	5

SHEET S102

JOB# 2113
DRAWN: MSC, GMD
CHECKED: ZJW

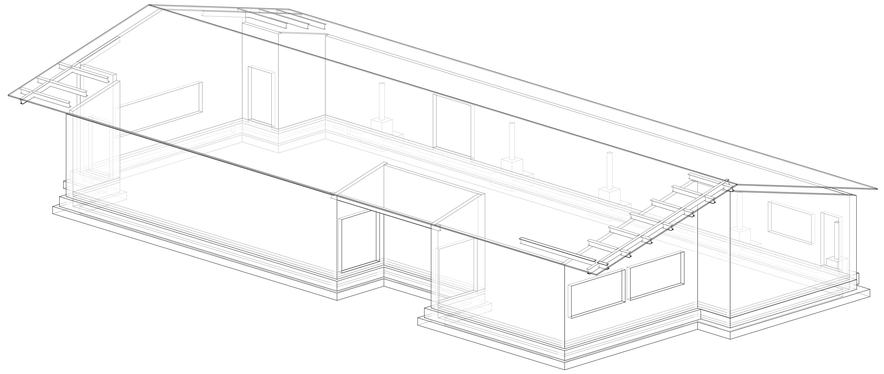
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STRUCTURAL SPECIAL INSPECTIONS CHART

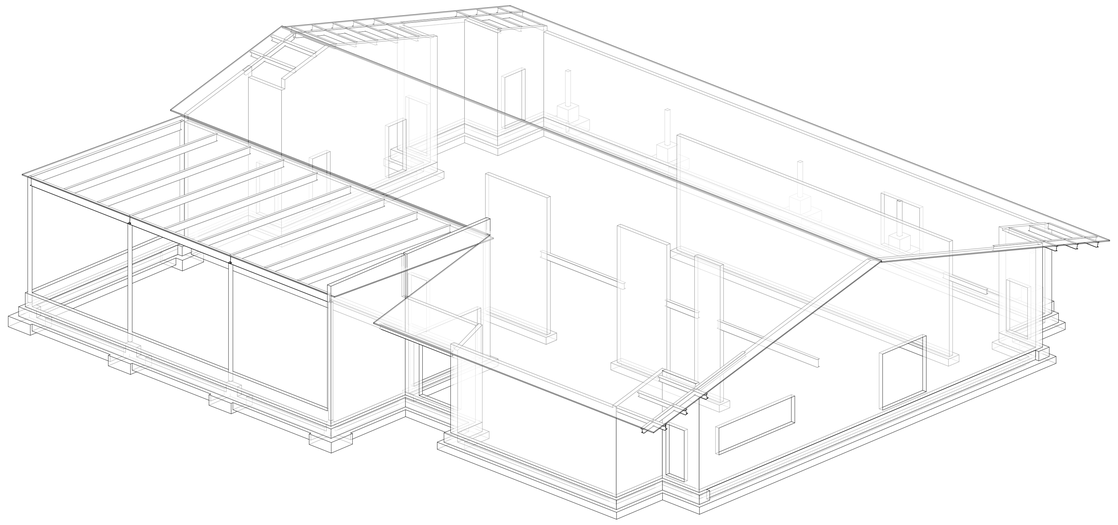
COMPONENT	TEST OR SPECIAL INSPECTION	PERIODIC OR CONTINUOUS	ACCEPTABLE QUALIFICATIONS
FABRICATORS (IBC 1704.2.5)	INSPECT THE FABRICATION OF STRUCTURAL LOAD-BEARING MEMBERS WHERE SUCH WORK IS BEING PERFORMED ON THE PREMISES OF THE FABRICATOR'S SHOP. 1. FABRICATORS SHALL BE EXEMPT FROM SPECIAL INSPECTION WHEN A QUALIFIED CERTIFICATION AUTHORITY HAS PERIODICALLY REVIEWED AND APPROVED FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND FABRICATION PRACTICES. SUBJECT TO COMPLIANCE WITH KENTUCKY BUILDING CODE REQUIREMENTS, QUALIFIED CERTIFICATION AUTHORITIES PROVIDING CERTIFICATION WHICH MAY BE APPLICABLE TO PROJECT INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: a. STRUCTURAL STEEL FABRICATORS – AISC CERTIFIED. b. PRE-ENGINEERED METAL BUILDING SYSTEM FABRICATORS - IAS INSPECTION PROGRAMS FOR MANUFACTURERS OF METAL BUILDING SYSTEMS, AC472. c. STEEL JOIST FABRICATORS – SJI CERTIFIED. d. METAL PLATE CONNECTED WOOD TRUSS FABRICATORS – TPI CERTIFIED. e. SHOP-FABRICATED COLD-FORMED METAL TRUSSES – CFSEI CERTIFIED. f. PRECAST CONCRETE FABRICATORS – PCI CERTIFIED.	PERIODIC	COMPLY WITH SECTIONS BELOW WHEN REQUIRED
	VERIFY THAT THE FABRICATOR MAINTAINS AND REVIEW FOR COMPLETENESS FABRICATOR'S DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES, WHICH PROVIDE A BASIS FOR CONTROL OF THE WORKMANSHIP AND ABILITY TO CONFORM TO THE APPROVED CONSTRUCTION DOCUMENTS AND REFERENCE STANDARDS. REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK.	PERIODIC	QUALIFIED CERTIFICATION AUTHORITY
	PERFORM SPECIAL INSPECTIONS AT FABRICATOR'S SHOP AS OUTLINED IN THIS CHART FOR EACH TYPE OF CONSTRUCTION.	----	
STEEL (AND OTHER METAL) CONSTRUCTION (IBC 1705.2)	PROVIDE SPECIAL INSPECTION OF THE FABRICATION OF STEEL STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH THE FABRICATORS SECTION IN THIS CHART.	----	
	VERIFY THAT CERTIFICATION NUMBERS ON BOLT, NUT, AND WASHER CONTAINERS CORRESPOND TO THE IDENTIFICATION NUMBERS ON MILL TEST REPORTS AND THAT MANUFACTURER'S SYMBOL AND GRADE MARKINGS APPEAR ON ALL BOLTS AND NUTS. ALSO VERIFY THAT BOLTS, NUTS, AND WASHERS ARE BEING PROPERLY CARED FOR AT THE SITE.	PERIODIC	CWI, SSSI, SWSI
	VERIFY THAT IDENTIFICATION MARKINGS ON STRUCTURAL STEEL MEMBERS CONFORM TO ASTM STANDARDS SPECIFIED ON THE APPROVED CONSTRUCTION DOCUMENTS.	PERIODIC	CWI, SSSI, SWSI
	VERIFY THAT IDENTIFICATION MARKINGS ON WELD FILLER MATERIALS CONFORM TO ASTM STANDARDS SPECIFIED ON THE APPROVED CONSTRUCTION DOCUMENTS. ALSO VERIFY THAT WELD FILLER MATERIAL IS BEING PROPERLY CARED FOR.	PERIODIC	CWI, SSSI, SWSI
	VERIFY THAT ANCHOR RODS AND OTHER EMBEDMENTS THAT ARE TO SUPPORT STRUCTURAL STEEL ARE OF PROPER DIAMETER, GRADE, TYPE, LENGTH, AND EXTENT OF EMBEDMENT PRIOR TO PLACEMENT OF CONCRETE.	PERIODIC	CWI, SSSI, SWSI
	TEST AND INSPECT HIGH-STRENGTH BOLTED CONNECTIONS ACCORDING TO RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS." 1. VERIFY THAT FASTENERS ARE OF CORRECT GRADE, TYPE, DIAMETER, LENGTH, AND SHEAR PLANE LOCATIONS FOR THE JOINT DETAIL. 2. VERIFY THAT CONNECTING ELEMENTS MEET REQUIREMENTS FOR FAYING SURFACE AND HOLE PREPARATION. 3. PROVIDE PRE-INSTALLATION VERIFICATION TESTING OF FASTENER ASSEMBLIES AND METHODS. a. UTILIZE A TENSION CALIBRATOR TO CONFIRM THE SUITABILITY OF THE COMPLETE FASTENER ASSEMBLY FOR PRETENSIONED INSTALLATION AND CONFIRM THE PROCEDURE AND PROPER USE BY THE BOLTING CREW OF THE PRETENSIONING METHOD TO BE USED. b. ENSURE THAT JOINT PLIES ARE BROUGHT TO SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING OPERATION. c. CONFIRM FASTENER COMPONENT IS NOT TURNED BY THE WRENCH PREVENTING ROTATION. d. CONFIRM THAT FASTENERS ARE PRETENSIONED PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID PART TOWARDS THE FREE EDGES. 4. VERIFY THAT FASTENER ASSEMBLIES WITH REQUIRED WASHERS ARE PLACED IN ALL HOLES AND ARE POSITIONED AS REQUIRED. a. VERIFY THAT DIRECT-TENSION INDICATOR GAPS COMPLY WITH ASTM F 959, TABLE 2. b. VERIFY THAT TWIST-OFF-TYPE TENSION-CONTROL ASSEMBLIES HAVE BEEN PROPERLY TIGHTENED. 5. PERFORM PERIODIC INSPECTION OF BEARING TYPE CONNECTIONS. 6. PERFORM CONTINUOUS INSPECTION OF SLIP-CRITICAL TYPE CONNECTIONS.	PERIODIC, U.N.O.	CWI, SSSI, SWSI
	TEST AND INSPECT BLIND EXPANSION BOLTED CONNECTIONS AS FOLLOWS: 1. VERIFY BLIND EXPANSION BOLTS ARE CORRECT TYPE, DIAMETER, AND LENGTH FOR THE JOINT DETAIL. 2. VERIFY THAT CONNECTING ELEMENTS MEET REQUIREMENTS FOR HOLE SIZING. 3. PERIODICALLY VERIFY INSTALLED TORQUE OF 100% OF ALL BLIND EXPANSION BOLTS WITH A CALIBRATED TORQUE WRENCH. COORDINATE MINIMUM INSTALLED TORQUE WITH MANUFACTURER OF BLIND EXPANSION BOLTS INSTALLED.	PERIODIC	SWSI
	INSPECT AND TEST WELDS DURING FABRICATION (WHERE APPLICABLE) AND ERECTION OF STRUCTURAL STEEL, STEEL DECK, AND STUDS/ANCHORS AS FOLLOWS: 1. CERTIFY WELDERS AND CONDUCT INSPECTIONS AND TESTS AS REQUIRED. RECORD TYPES AND LOCATIONS OF DEFECTS FOUND IN WORK. RECORD WORK REQUIRED AND PERFORMED TO CORRECT DEFICIENCIES. a. CONFIRM THAT WELDING PROCEDURE SPECIFICATIONS ARE AVAILABLE. b. CONFIRM THAT CONTRACTOR HAS INSTITUTED A *WELDER IDENTIFICATION SYSTEM*.	PERIODIC	CWI, SWSI
	2. INSPECT WELD PROCEDURES AND WELDERS ACCORDING TO THE REQUIREMENTS OF AWS D1.1 AND AISC 360. a. CONFIRM THAT THERE IS NO WELDING OVER CRACKED TACK WELDS. b. CONFIRM THAT ENVIRONMENTAL CONDITIONS ARE BEING PROPERLY CONSIDERED (WIND SPEED, PRECIPITATION, AND TEMPERATURE). c. CONFIRM THAT WELDING PROCEDURE SPECIFICATIONS ARE BEING FOLLOWED (EQUIPMENT SETTINGS, TRAVEL SPEED, MATERIAL USEAGE, SHIELDING TYPE AND FLOW RATE, PREHEATING REQUIREMENTS, MAINTENANCE OF INTERPASS TEMPERATURE, AND PROPER WELDER POSITIONING). d. CONFIRM WELDING TECHNIQUES (INTERPASS AND FINAL CLEANING, EACH PASS WITHIN PROFILE LIMITATIONS, AND THAT EACH PASS MEETS QUALITY REQUIREMENTS).	PERIODIC	CWI, SWSI
	3. USE NON-DESTRUCTIVE TESTING ACCORDING TO AWS D1.1 ON ALL WELDS THAT APPEAR TO HAVE EXCESSIVE INCLUSIONS, POROSITIES, CRACKS, AND INCOMPLETE PENETRATIONS AS DESCRIBED BY AWS D1.1 OR HAVE THE QUESTIONABLE WELD REMOVED AND REWELDED.	PERIODIC	AWS-UT-2
	4. PERFORM OBSERVATION ON THE FIRST TWO WELDS INSTALLED BY EACH WELDER AND SUBSEQUENT NON-DESTRUCTIVE TESTING ACCORDING TO AWS D1.1 ON ALL (100%) COMPLETE PENETRATION AND/OR PARTIAL PENETRATION GROOVE WELDS AND ON ALL SPLICES OF MAIN MEMBERS WHERE THOSE SPLICES ARE REQUIRED. a. CONFIRM JOINT PREPARATION. b. CONFIRM DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, AND BEVEL). c. CONFIRM CLEANLINESS OF WELDS AND BASE MATERIAL (CONDITION OF STEEL SURFACES). d. CONFIRM TACKING (TACK WELD QUALITY AND LOCATION). e. CONFIRM BACKING TYPE AND FIT (AS APPLICABLE) AND REMOVAL SUBSEQUENT TO WELD PLACEMENT. f. PERFORM ULTRASONIC TESTING IN ACCORDANCE WITH AWS D.1.1 FOR STEEL MATERIAL 5/16" THICK AND GREATER. FOR THINNER MATERIAL, PERFORM VISUAL OBSERVATIONS IN ACCORDANCE WITH AWS D1.1.	CONTINUOUS	CWI, SWSI
	5. PERFORM INSPECTION ACCORDING TO AWS D1.1 (VISUAL INSPECTION) ON ALL MULTI-PASS FILLET WELDS AND ON ALL SINGLE-PASS FILLET WELDS LARGER THAN 5/16". a. CONFIRM DIMENSIONS (ALIGNMENT, GAPS AT ROOT, ROOT SIZE, LENGTH), SPACING, ORIENTATION, AND LOCATIONS. b. CONFIRM CLEANLINESS OF WELDS AND BASE MATERIAL (CONDITION OF STEEL SURFACES). c. CONFIRM TACKING (TACK WELD QUALITY AND LOCATION). d. CONFIRM VISUAL ACCEPTANCE CRITERIA (CRACK PROHIBITION, WELD/BASE FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT, AND POROSITY).	CONTINUOUS	CWI, SWSI
	6. PERFORM INSPECTION ACCORDING TO AWS D1.1 (VISUAL INSPECTION) ON ALL SINGLE-PASS FILLET WELDS 5/16" AND SMALLER AND ON ALL FLOOR, FORM, AND ROOF DECK WELDS. a. CONFIRM DIMENSIONS (ALIGNMENT, GAPS AT ROOT, ROOT SIZE, LENGTH), SPACING, ORIENTATION, AND LOCATIONS. b. CONFIRM CLEANLINESS OF WELDS AND BASE MATERIAL (CONDITION OF STEEL SURFACES). c. CONFIRM TACKING (TACK WELD QUALITY AND LOCATION). d. CONFIRM VISUAL ACCEPTANCE CRITERIA (CRACK PROHIBITION, WELD/BASE FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT, AND POROSITY).	PERIODIC	CWI, SWSI
	7. OBSERVE AND DOCUMENT REPAIR ACTIVITIES.	PERIODIC	CWI, SWSI
	INSPECT ALL MECHANICAL FASTENING OF FLOOR, FORM, AND ROOF DECK. VERIFY FASTENER TYPE, LENGTH, AND DIAMETER. CONFIRM PERIMETER AND INTERMEDIATE FASTENER SPACING.	PERIODIC	CWI, SWSI
	IN ADDITION TO VISUAL INSPECTION, INSPECT AND TEST FIELD WELDED SHEAR CONNECTORS ACCORDING TO REQUIREMENTS OF AWS D1.1 AND AS FOLLOWS: 1. VERIFY NUMBER, LOCATION, AND APPLICATION OF ALL WELD SHEAR CONNECTORS. 2. PERFORM BEND TESTS ON A MINIMUM OF 10 PERCENT OF ALL SHEAR CONNECTORS AND WHEN VISUAL INSPECTIONS REVEAL EITHER LESS THAN A CONTINUOUS 360-DEGREE FLASH OR WELDING REPAIRS TO ANY SHEAR CONNECTOR. 3. CONDUCT TESTS ON ADDITIONAL SHEAR CONNECTORS WHEN WELD FRACTURE OCCURS ON SHEAR CONNECTORS ALREADY TESTED, ACCORDING TO REQUIREMENTS OF AWS D1.1.	PERIODIC	CWI, SWSI
	INSPECT ALL STEEL FRAME CONNECTION DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS AND APPROVED STEEL ERECTION SHOP DRAWINGS. 1. VERIFY COMPLETENESS AND CONSTRUCTION OF ALL BRACING, STIFFENING, AND CONNECTIONS. 2. VERIFY LOCATION, COMPLETENESS, ACCURACY, AND JOINT DETAILS OF ALL MEMBERS.	PERIODIC	PE

COMPONENT	TEST OR SPECIAL INSPECTION	PERIODIC OR CONTINUOUS	ACCEPTABLE QUALIFICATIONS
COLD-FORMED STEEL (STRUCTURAL) CONSTRUCTION	PROVIDE SPECIAL INSPECTION OF THE FABRICATION OF LIGHT-GAUGE, COLD-FORMED METAL STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH THE FABRICATORS SECTION IN THIS CHART.	----	
	VERIFY USE OF PROPER METAL GAUGE AND YIELD STRENGTH OF COLD-FORMED METAL PRODUCTS. VERIFY PROPER SCREW SIZE AND PENETRATION.	PERIODIC	SSSI, PE
	PERFORM INSPECTION OF LIGHT-GAUGE, COLD-FORMED METAL CONSTRUCTION TO VERIFY INSTALLATION OF BLOCKING, FASTENERS, AND FASTENING WITH THE CONTRACT DOCUMENT PROVISIONS.	PERIODIC	SSSI, PE
	PERFORM INSPECTION OF SHEAR WALL, SHEET DIAPHRAGMS, AND STRAP BRACING. 1. VERIFY GRADE AND THICKNESS OF SHEAR PANELS. 2. VERIFY THE SIZE AND QUANTITY OF FRAMING MEMBERS AT PANEL EDGES. 3. VERIFY SCREW DIAMETER, LENGTH, AND SPACING. 4. VERIFY INSTALLATION OF SHEAR WALL HOLD-DOWN ANCHORS.	PERIODIC	SSSI, PE
	VERIFY THE INSTALLATION OF ALL PERMANENT BRACING OF LIGHT-GAUGE, COLD-FORMED METAL TRUSS ASSEMBLIES IN ACCORDANCE WITH THE APPROVED TRUSS SHOP DRAWINGS AND STRUCTURAL DRAWINGS. 1. VERIFY PLACEMENT OF ALL COMPRESSION WEB MEMBER BRACING, LAPS, FASTENING, AND INTERMITTENT CROSS BRACING. 2. VERIFY PLACEMENT OF ALL CHORD BRACING, LAPS, FASTENING, AND INTERMITTENT CROSS BRACING. 3. VERIFY CONNECTION OF ALL TRUSS TO TRUSS GIRDER CONNECTIONS. 4. VERIFY INSTALLATION OF ALL PERIMETER UPLIFT CONNECTIONS TO SUPPORTING STRUCTURE.	PERIODIC	SSSI, PE
STRUCTURAL ANCHORS	WHERE PERIODIC ANCHOR INSPECTION IS PERMITTED, THE SPECIAL INSPECTOR SHALL VERIFY THE INITIAL INSTALLATIONS OF EACH TYPE AND SIZE OF ANCHOR BY CONSTRUCTION PERSONNEL ON SITE. SUBSEQUENT INSTALLATIONS OF THE SAME ANCHOR TYPE AND SIZE BY THE SAME CONSTRUCTION PERSONNEL ARE PERMITTED TO BE PERFORMED IN THE ABSENCE OF THE SPECIAL INSPECTOR. FOR ONGOING INSTALLATIONS OVER AN EXTENDED PERIOD, GREATER THAN THREE MONTHS, THE SPECIAL INSPECTOR MUST MAKE REGULAR INSPECTIONS TO CONFIRM CORRECT HANDLING AND INSTALLATION OF THE ANCHORS.	----	
	INSPECT INSTALLATION OF ALL ADHESIVE ANCHORS THAT RESIST SUSTAINED TENSION LOADS IN HORIZONTAL OR UPWARDLY-INCLINED ORIENTATIONS.	CONTINUOUS	RCSI, SMSI
	ADDITIONAL TO REQUIREMENTS LISTED BELOW, INSPECT ALL POST-INSTALLED ANCHORS AS FOLLOWS: VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANING PROCEDURE, EMBEDMENT DEPTH, SUBSTRATE TYPE (MATERIAL), SUBSTRATE THICKNESS, DRILL BIT TYPE AND SIZE, HOLE DIMENSIONS, ANCHOR SPACING, MINIMUM EDGE DISTANCE, ANCHOR PLUMBNESS (RELATIVE TO HORIZONTAL OR VERTICAL AS APPLICABLE), AND ADHERENCE TO THE ANCHOR MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.	PERIODIC	RCSI, SMSI
	INSPECT DRILLED-IN ADHESIVE TYPE ANCHORS AS FOLLOWS: VERIFY ADHESIVE PRODUCT AND EXPIRATION DATE. PROOF LOAD 25% OF EACH TYPE AND SIZE OF ANCHOR IN ACCORDANCE WITH RECOMMENDATIONS OF THE ANCHOR MANUFACTURER. ADHESIVE ANCHORS AND CAPSULE ANCHORS SHALL NOT BE TORQUE TESTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IF MORE THAN 10% OF THE TESTED ANCHORS FAIL TO ACHIEVE THE SPECIFIED TORQUE OR PROOF LOAD WITHIN THE LIMITS AS DEFINED IN THE SPECIFICATIONS, ALL ANCHORS OF THE SAME DIAMETER AND TYPE AS THE FAILED ANCHOR SHALL BE TESTED, UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. 1. PROOF LOADS SHALL BE APPLIED WITH A CALIBRATED HYDRAULIC RAM. DISPLACEMENT OF ADHESIVE AND CAPSULE ANCHORS AT PROOF LOAD SHALL NOT EXCEED D/10, WHERE D IS THE NOMINAL ANCHOR DIAMETER.	PERIODIC	RCSI, SMSI
	INSPECT 100% OF EXPANSION TYPE MECHANICAL ANCHORS AS FOLLOWS: VERIFY INSTALLED TORQUE OF ANCHORS WITH A CALIBRATED TORQUE WRENCH. COORDINATE MINIMUM INSTALLED TORQUE WITH MANUFACTURER OF ANCHORS INSTALLED.	PERIODIC	RCSI, SMSI
	INSPECT 100% OF CONCRETE AND MASONRY SCREW TYPE ANCHORS AS FOLLOWS: VERIFY INSTALLATION TORQUE (DO NOT EXCEED ANCHOR MANUFACTURER PUBLISHED MAXIMUM INSTALLATION TORQUE), MAXIMUM IMPACT WRENCH TORQUE RATING, AND ANCHOR TIGHTNESS TO SUPPORTED COMPONENT.	PERIODIC	RCSI, SMSI
CONCRETE CONSTRUCTION (IBC 1705.3)	PROVIDE SPECIAL INSPECTION OF THE FABRICATION OF CONCRETE STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH THE FABRICATORS SECTION IN THIS CHART	----	
	INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC	RCSI, ACI-2, NICET-2C
	VERIFY THE USE OF THE PROPER DESIGN MIX.	PERIODIC	RCSI, ACI-2, NICET-2C
	VERIFY USE OF PROPER GRADE AND ASTM DESIGNATION OF REINFORCING STEEL.	PERIODIC	RCSI, ACI-2, NICET-2C
	PERFORM INSPECTION ON PLACEMENT, SPACING, CLEAR COVER, NUMBER, AND SPLICE LAP LENGTHS OF REINFORCING STEEL.	PERIODIC	RCSI, NICET-2C
	PERFORM INSPECTION ACCORDING TO AWS D1.4-1998 ON ALL WELDING OF REINFORCING STEEL.	CONTINUOUS	CWI, AWS-UT-2
	MONITOR CONCRETE QUALITY BY MEANS OF SITE AND LABORATORY TESTS. THE INSPECTION AGENCY IS AUTHORIZED TO REJECT PLASTIC CONCRETE NOT CONFORMING TO SPECIFICATIONS. IMMEDIATELY INFORM THE CONTRACTOR, THE ARCHITECT AND THE STRUCTURAL ENGINEER OF INADEQUACIES IN CONCRETE QUALITY. SAMPLING AND TESTING FOR QUALITY CONTROL DURING CONCRETE PLACEMENT SHALL INCLUDE THE FOLLOWING: 1. TESTING OF COMPOSITE SAMPLES OF FRESH CONCRETE OBTAINED ACCORDING TO ASTM C 172 SHALL BE PERFORMED ACCORDING TO THE FOLLOWING REQUIREMENTS: a. TESTING FREQUENCY: OBTAIN ONE COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE EXCEEDING 5 CU. YD., BUT LESS THAN 25 CU. YD., PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. OR FRACTION THEREOF. b. SLUMP: ASTM C 143, ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE. c. AIR CONTENT: ASTM C 231, PRESSURE METHOD, FOR NORMAL-WEIGHT CONCRETE; ONE TEST FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE. d. CONCRETE TEMPERATURE: ASTM C 1064; ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEG F AND BELOW OR 80 DEG F AND ABOVE, AND ONE TEST FOR EACH SET OF COMPOSITE SAMPLE. e. COMPRESSION TEST SPECIMEN: ASTM C 31; ONE SET OF FOUR STANDARD 6" DIAMETER BY 12" OR FIVE STANDARD 4" DIAMETER BY 8" CYLINDERS FOR EACH COMPRESSIVE-STRENGTH TEST, UNLESS OTHERWISE DIRECTED. MOLD AND STORE CYLINDERS FOR LABORATORY-CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURED TEST SPECIMENS ARE REQUIRED. f. COMPRESSIVE-STRENGTH TESTS: ASTM C 39; TEST ONE SPECIMEN AT 7 DAYS, TWO 6"x12" OR THREE 4"x8" SPECIMENS TESTED AT 28 DAYS, AND ONE SPECIMEN RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED. ADDITIONAL CYLINDER TESTS (SUCH AS AT 14 DAYS) FOR CONTRACTOR CONVENIENCE AND SCHEDULING SHALL BE PAID FOR BY THE CONTRACTOR. A COMPRESSIVE-STRENGTH TEST SHALL BE THE AVERAGE COMPRESSIVE STRENGTH FROM A SET OF SPECIFIED NUMBER SPECIMENS OBTAINED FROM SAME COMPOSITE SAMPLE AND TESTED AT AGE INDICATED. g. WHEN FREQUENCY OF TESTING WILL PROVIDE FEWER THAN FIVE STRENGTH TESTS FOR A GIVEN CLASS OF CONCRETE, CONDUCT TESTING FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE USED. h. WHEN STRENGTH OF FIELD-CURED CYLINDERS IS LESS THAN 85 PERCENT OF COMPANION LABORATORY-CURED CYLINDERS, CONTRACTOR SHALL EVALUATE OPERATIONS AND PROVIDE CORRECTIVE PROCEDURES FOR PROTECTING AND CURING THE IN-PLACE CONCRETE. i. STRENGTH OF EACH CONCRETE MIXTURE WILL BE SATISFACTORY IF EVERY AVERAGE OF ANY THREE CONSECUTIVE COMPRESSIVE-STRENGTH TESTS EQUALS OR EXCEEDS SPECIFIED COMPRESSIVE STRENGTH AND NO COMPRESSIVE-STRENGTH TEST VALUE FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI. 2. TEST RESULTS SHALL BE REPORTED IN WRITING TO ARCHITECT, STRUCTURAL ENGINEER, READY-MIX PRODUCER, AND CONTRACTOR WITHIN 48 HOURS OF TESTING. REPORTS OF COMPRESSIVE-STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AND INSPECTING AGENCY, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH IN STRUCTURE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIXTURE PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7- AND 28-DAY TESTS.	CONTINUOUS	RCSI, ACI-2, NICET-1
	PERFORM INSPECTION OF CONCRETE PLACEMENT FOR WALLS, COLUMNS, GRADE BEAMS, FOOTINGS, FRAMED CONCRETE SLABS, BEAMS, AND JOISTS TO VERIFY PROPER APPLICATION TECHNIQUES.	CONTINUOUS	RCSI, ACI-2, NICET-1
	PERFORM INSPECTION OF CONCRETE PLACEMENT FOR SUPPORTED SLABS ON DECK AND SLAB ON GRADE TO VERIFY PROPER APPLICATION.	PERIODIC	RCSI, ACI-2, NICET-1
	PERFORM INSPECTION OF CONCRETE CURING PROCEDURES TO VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE, PROTECTION, AND TECHNIQUES.	PERIODIC	RCSI, ACI-2, NICET-1
	PROVIDE INSPECTION OF THE ERECTION OF STRUCTURAL PRECAST CONCRETE MEMBERS.	PERIODIC	RCSI, ACI-2, NICET-1
	TEST THE F-NUMBER TOLERANCES OF CONCRETE SLABS IN ACCORDANCE WITH THE PROVISIONS SET FORTH BY ASTM COMMITTEE E6.21.10. ALL TESTS SHALL BE PERFORMED WITHIN THREE WORKING DAYS AFTER CONCRETE PLACEMENT AND PRIOR TO ANY FORM REMOVAL. 1. SLAB AREAS SHALL BE TESTED FOR F-NUMBER TOLERANCES FOR THE FIRST 10,000 SQUARE FEET PLACED AT EACH LEVEL. THEREAFTER, TEST AN ADDITIONAL 1,000 SQUARE FEET PER 10,000 SQUARE FEET OF SLAB AREA AT EACH LEVEL. QUANTITY OF TEST READINGS FOR EACH AREA SHALL BE PER ASTM E1155.	PERIODIC	RCSI, ACI-2, NICET-1
	NONDESTRUCTIVE TESTING: IMPACT HAMMER, SONOSCOPE, OR OTHER NONDESTRUCTIVE DEVICE MAY BE PERMITTED BUT SHALL NOT BE USED AS THE SOLE BASIS FOR ACCEPTANCE OR REJECTION.	----	
	ADDITIONAL TESTS: TESTING AND INSPECTING AGENCY SHALL MAKE ADDITIONAL TESTS OF CONCRETE WHEN TEST RESULTS INDICATE THAT SLUMP, AIR ENTRAINMENT, COMPRESSIVE STRENGTHS, OR OTHER REQUIREMENTS HAVE NOT BEEN MET, AS DIRECTED BY ARCHITECT. TESTING AND INSPECTING AGENCY MAY CONDUCT TESTS TO DETERMINE ADEQUACY OF CONCRETE BY CORED CYLINDERS COMPLYING WITH ASTM C 42 OR BY OTHER METHODS AS DIRECTED BY ARCHITECT. 1. ADDITIONAL TESTING AND INSPECTING, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE COMPLIANCE OF REPLACED OR ADDITIONAL WORK WITH SPECIFIED REQUIREMENTS.	----	

COMPONENT	TEST OR SPECIAL INSPECTION	PERIODIC OR CONTINUOUS	ACCEPTABLE QUALIFICATIONS
MASONRY CONSTRUCTION (IBC 1705.4)	AT ONSET OF MASONRY CONSTRUCTION AND PERIODICALLY THEREAFTER, VERIFY PROPORTIONS OF SITE-PREPARED MORTAR, CONSTRUCTION OF MORTAR JOINTS, AND LOCATION OF REINFORCEMENT AND CONNECTORS.	PERIODIC	SMSI
	PERFORM INSPECTION TO VERIFY SIZE AND LOCATION OF STRUCTURAL ELEMENTS; TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING ANCHORAGE TO OTHER STRUCTURAL ELEMENTS, FRAMES, AND CONSTRUCTION; AND SPECIFIED SIZE, GRADE, AND TYPE OF REINFORCEMENT.	PERIODIC	SMSI
	PRIOR TO EACH GROUTING OPERATION, VERIFY CLEANLINESS OF GROUT SPACE, PLACEMENT OF ALL REINFORCEMENT AND CONNECTORS, INCLUDING LAP SPLICE LENGTHS, AND PROPORTIONS OF SITE-PREPARED GROUT.	PERIODIC	SMSI
	PERFORM INSPECTION OF GROUT PLACEMENT TO VERIFY COMPLIANCE WITH CONTRACT DOCUMENT PROVISIONS.	CONTINUOUS	SMSI
	PERFORM INSPECTION OF MASONRY CURING PROCEDURES TO VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE, PROTECTION, AND TECHNIQUES.	PERIODIC	SMSI
	FOR CONCRETE MASONRY DESIGNED IN ACCORDANCE WITH THE UNIT STRENGTH METHOD (AS SPECIFIED ON THE GENERAL NOTES), SAMPLE AND TEST GROUT COMPRESSIVE STRENGTH ACCORDING TO ASTM C 1019. MORTAR COMPRESSIVE STRENGTH ACCORDING TO ASTM C780, AND THE FOLLOWING: 1. COMPRESSION TEST SAMPLE: ONE SET OF THREE STANDARD CUBE SPECIMENS FOR EACH COMPRESSIVE-STRENGTH TEST, UNLESS OTHERWISE DIRECTED. MOLD AND STORE CUBES FOR LABORATORY-CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURED TEST SPECIMENS ARE REQUIRED. 2. COMPRESSIVE-STRENGTH TESTS: AT THE COMMENCEMENT OF CONSTRUCTION TAKE SAMPLES PRIOR TO CONSTRUCTION, THE NEXT 4 SAMPLES FOR EACH 2,500 SQ FEET OF WALL CONSTRUCTION, AND THEN FOLLOWING THEREAFTER FOR EACH 5,000 SQ FEET OF WALL CONSTRUCTION. TEST ONE SPECIMEN AT 7 DAYS, ONE SPECIMEN TESTED AT 28 DAYS, AND ONE SPECIMEN RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED.	PERIODIC	SMSI
SOILS (IBC 1705.6)	INSPECT THE EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT, AND LOAD-BEARING REQUIREMENTS FOR COMPLIANCE WITH THE RECOMMENDATIONS OF THE APPROVED GEOTECHNICAL INVESTIGATION REPORT.	PERIODIC	SSI, NICET-2S
	WHERE THE SITE IS SPECIFIED TO BE UNDERCUT BY THE GEOTECHNICAL INVESTIGATION REPORT, VERIFY ALL UNSUITABLE SOILS, DEBRIS, ROCK AND OTHER MATERIALS HAVE BEEN REMOVED FROM BELOW BUILDING FOOTPRINT. 1. VERIFY THAT TOPSOIL HAS BEEN STRIPPED AND REMOVED FROM BUILDING FOOTPRINT. 2. VERIFY ALL EXISTING UNCONTROLLED FILLS, SOFT AND UNSUITABLE SOILS HAVE BEEN REMOVED FROM BELOW APPLICABLE FOUNDATION ELEMENTS. TEST NATIVE MATERIAL AT BASE OF CUT TO ENSURE THAT UNSUITABLE MATERIAL HAS BEEN COMPLETELY REMOVED. NOTIFY ARCHITECT IF UNACCEPTABLE MATERIAL REMAINS AFTER COMPLETION OF SPECIFIED UNDERCUT. 3. FOR SOIL BEARING FOUNDATIONS, VERIFY THAT EXPANSIVE CLAYS AND BEDROCK HAVE BEEN COMPLETELY REMOVED TO ALLOW SUFFICIENT SOIL CUSHION DEPTH AS SPECIFIED. 4. AT FOUNDATIONS BEARING ON EXISTING FILL OR SHALE SOILS, PERFORM DYNAMIC CONE PENETROMETER TESTING AT EACH SPREAD FOOTING WHEN FOUNDATION EXCAVATION IS COMPLETE TO ENSURE BEARING CAPACITY IS WITHIN THE RECOMMENDED NET ALLOWABLE.	PERIODIC	SSI, NICET-2S
	OBSERVE PROOFROLLING OF THE BUILDING PAD AREAS PRIOR TO COMMENCEMENT OF FILL/SUBBASE PLACEMENT, AND DURING FILL PLACEMENT (IF REQUIRED).	PERIODIC	SSI, NICET-2S
	PRIOR TO PLACEMENT OF ANY ENGINEERED FILL, DETERMINE THAT THE SITE HAS BEEN PREPARED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE APPROVED GEOTECHNICAL INVESTIGATION REPORT. 1. TEST SAMPLES FROM PROPOSED BORROW ON- AND OFF- SITE SOURCES OF FILL FOR COMPLIANCE WITH THE APPROVED MATERIALS LISTING AND OTHER REQUIREMENTS OF THE GEOTECHNICAL REPORT AND THE SPECIFICATIONS. CLAY SOILS SHALL BE CHECKED FOR



A
S104
CONCESSION BUILDING - ISOMETRIC VIEW



B
S104
LOCKER ROOM - ISOMETRIC VIEW

NOTE:
3D VIEWS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY.
3D STRUCTURAL MODEL IS NOT GUARANTEED TO BE COMPLETE OR EXACT.
SEE ALL OTHER SHEETS FOR ACCURATE STRUCTURAL PLANS AND DETAILS.

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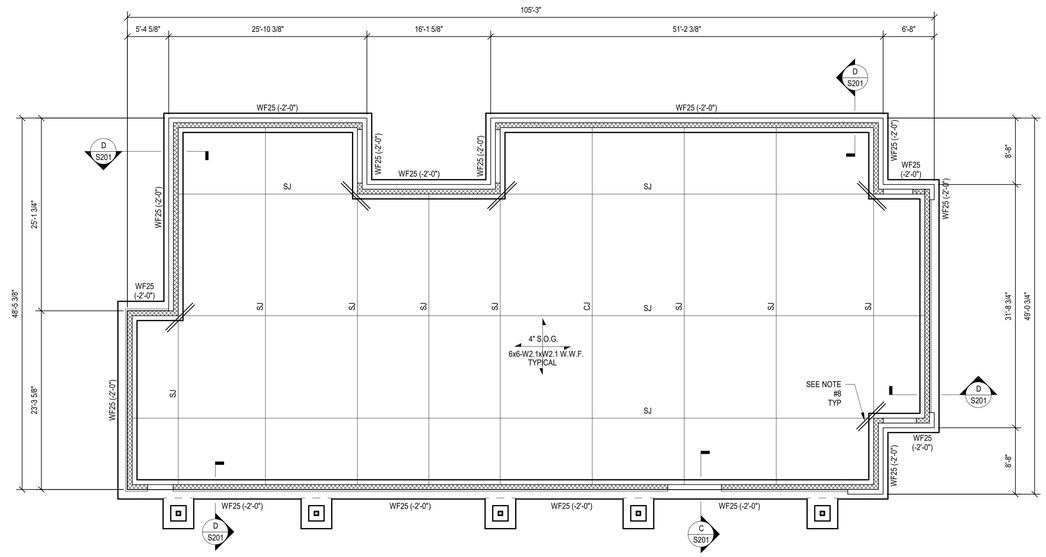
GARRARD COUNTY CONCESSION FIELD HOUSE
FINAL PHASE
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
ISOMETRIC VIEWS

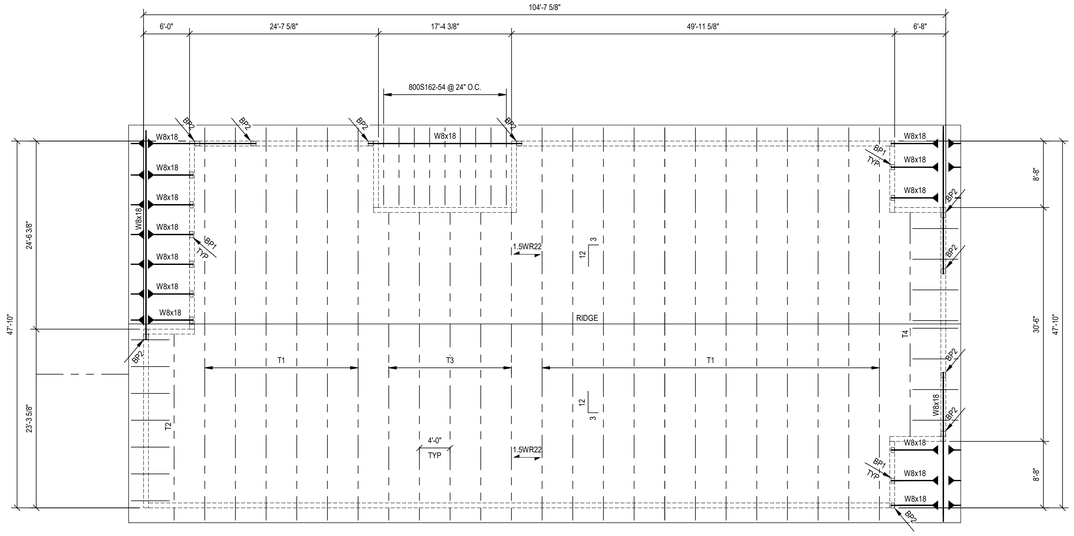
DATE: MAY 11, 2022
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SHEET
S104

JOB# 2113
DRAWN: MSC, GMD
CHECKED: ZJW

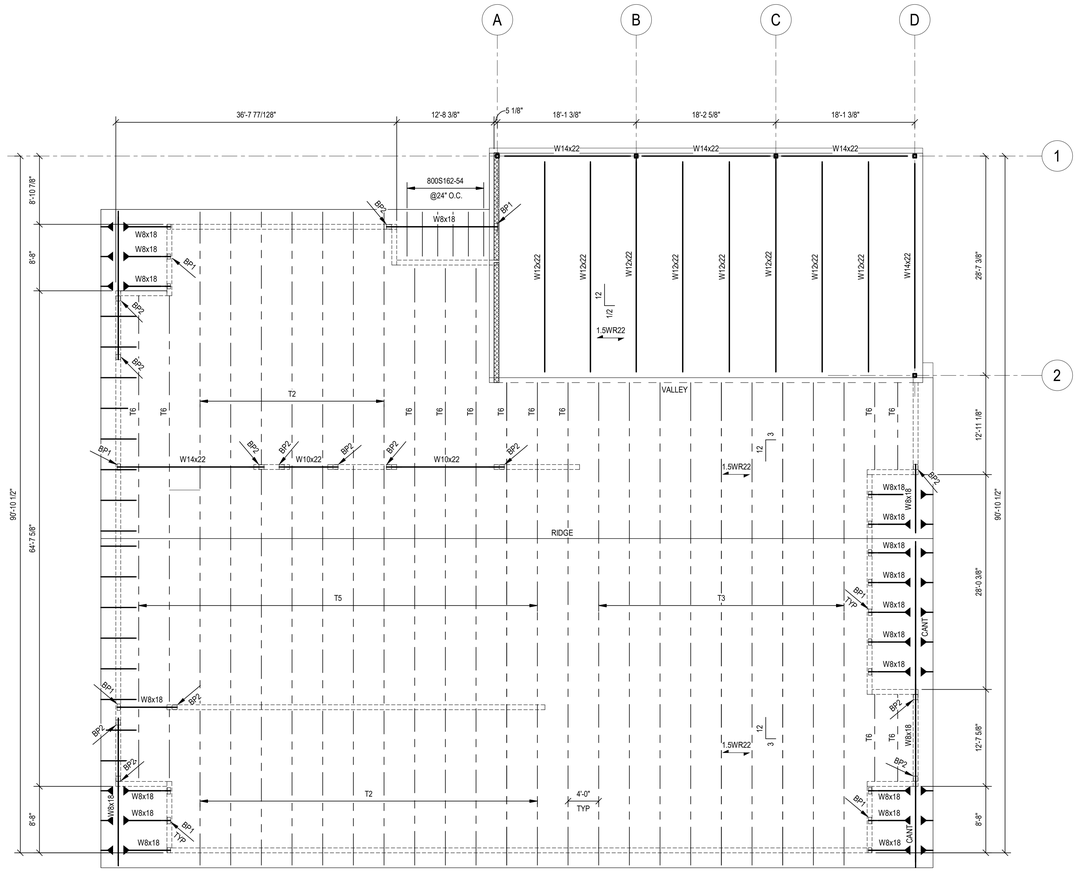
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105'-3"
5'-4 5/8"
25'-10 3/8"
16'-1 5/8"
51'-2 3/8"
6'-8"
WF25 (-2'-0")
WF25 (-2'-0")
WF25 (-2'-0")



B S202 FRAMING PLAN - CONCESSION BUILDING

1/8" = 1'-0"



A S202 FRAMING PLAN - LOCKER ROOM

1/8" = 1'-0"

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FRAMING PLAN NOTES

1. ELEVATIONS SHOWN ARE TO THE TOP OF STEEL AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
2. SEE DWG S101 & S102 FOR GENERAL NOTES.
3. SEE DWG S102 FOR SPECIAL INSPECTION NOTES.
4. SEE DWG S401 FOR TYPICAL FRAMING DETAILS.
5. SEE DWGS S501 FOR COLUMN SCHEDULE.
6. SPACE BEAMS / JOISTS EVENLY THROUGHOUT BAY U.N.O.
7. SIZE AND LOCATION OF ROOF TOP MECHANICAL UNITS SHALL BE COORDINATED WITH THE MECHANICAL CONTRACTOR. OPERATING WEIGHT OF UNIT (INCLUDING CURBS) SHALL NOT EXCEED WEIGHT SHOWN ON PLAN. SEE __/____ FOR ADDITIONAL FRAMING REQUIREMENTS AT UNITS.

FRAMING LEGEND

1.5WR22 = 1 1/2" 22 GA GALVANIZED WIDE RIB STEEL ROOF DECK.

X'-X" (X'-X") = TOP OF STEEL (BOTTOM OF DECK) SPOT ELEVATION. SLOPE STEEL EVENLY BETWEEN POINTS. DROP STEEL JOIST SUPPORT BEAMS/ BEARING PLATES BY DEPTH OF JOIST SEAT (SIGNIFIED AS SD - SEAT DEPTH). WHERE NO SEAT DEPTH IS SPECIFIED, DEPTH SHALL BE SJI STANDARD FOR TYPE OF JOIST. SEAT DEPTH GIVEN AT CENTERLINE OF GIRDER OR END OF BEARING PLATE NEAREST CENTER OF BEARING WALL.

W16x26 (15k) = STEEL BEAM SIZE. SERVICE LOAD REACTION (KIPS) EACH END.

(±0'-0") = TOP OF STEEL BEAM ELEVATION REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").

= C.M.U. WALL REINFORCED W/ #5@48" O.C. VERT CENTERED IN CORE.

= CONCRETE WALL.

= MASONRY NON-BEARING PARTITION WALL. SEE ARCH DWGS FOR WALL THICKNESS, TYPE AND LAYOUT.

= WALL BELOW DECK.

BP1 = STEEL BEARING PLATE. SEE DETAIL X/XXX.

MP1 = MASONRY PARTITION BRACE. SEE DETAIL X/XXX.

L1 = STEEL LINTEL. SEE DET X/XXX FOR SCHEDULE.

ML8 = MASONRY LINTEL. SEE DET X/XXX FOR SCHEDULE.

FB1 = BEAM BOTTOM FLANGE BRACE. SEE DETAIL X/XXX.

CANT = CANTILEVER BEAM END. SEE DET X/XX.

12 / 1/4 = ROOF SLOPE.

RD = ROOF DRAIN. SEE DET X/XXX FOR FRAMING REQUIREMENTS. SEE ARCH DWGS FOR LOCATIONS.

TAG NOTES

1 = TAG NOTE 1.

2 = TAG NOTE 2.

PROJECT N E S W

TRUE N E S W

REFERENCE ELEVATION (0'-0") = ????'-?" SEA LEVEL

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FINAL PHASE

FOR THE
GARRARD COUNTY BOARD OF EDUCATION

ROOF FRAMING PLAN

DATE:	REVISED	1	2	3	4	5
MAY 11, 2022						

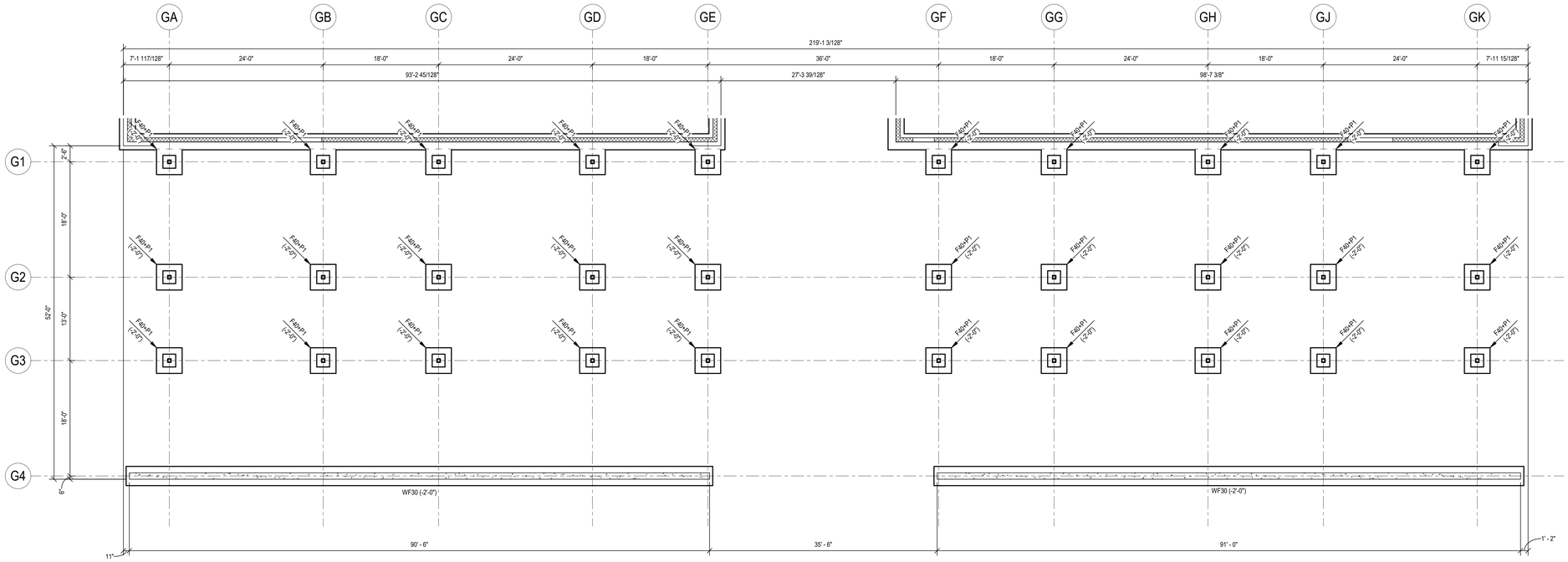
SHEET S202

JOB# 2113

DRAWN: MSC, GMD

CHECKED: ZJW

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1 S203 FOUNDATION PLAN - GRAND STAND

1/8" = 1'-0"

FOUNDATION PLAN NOTES

1. ELEVATIONS SHOWN ARE TO THE TOP OF THE FOUNDATION AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
2. CENTER ALL WALL FOOTINGS ON WALL CENTERLINE U.N.O.
3. CENTER ALL SPREAD FOOTINGS ON COLUMN GRID INTERSECTION U.N.O.
4. SEE DWG S101 FOR GENERAL NOTES.
5. SEE DWG S102 FOR SPECIAL INSPECTION NOTES.
6. SEE DWGS S301 FOR TYPICAL FOUNDATION DETAILS.
7. SLAB ON GRADE SHALL BE PLACED ON VAPOR RETARDER (SEE SPECIFICATIONS) OVER 4" MINIMUM COMPACTED CRUSHED STONE OR DENSE GRADED AGGREGATE.
8. REINFORCE SLABS ON GRADE AT RE-ENTRANT CORNERS PER DETAIL X/XXX. REINFORCING BARS MAY NOT BE SHOWN GRAPHICALLY ON PLAN IN ALL LOCATIONS.
9. ALL FOOTINGS MUST BE SUPPORTED ON UNDISTURBED SOIL CAPABLE OF SUPPORTING DESIGN LOADS WITHOUT APPRECIABLE SETTLEMENT. CONTRACTOR SHALL PROBE BEARING STRATA WITH DRIVEN RODS, REMOVE SHALLOW BEDROCK (AND OVERLYING SOIL) WITHIN ONE FOOTING WIDTH BELOW BOTTOM OF FOOTING, AND REPLACE WITH ENGINEERED SOIL BACKFILL.

----------OR----------

10. ALL FOOTINGS MUST BE SUPPORTED ON BEDROCK OR STRUCTURAL FLOWABLE FILL / LEAN CONCRETE PLACED OVER BEDROCK. REMOVE ALL SOIL BETWEEN PROPOSED FOUNDATION AND BEDROCK.

FOUNDATION LEGEND

F40	= SPREAD FOOTING. SEE SCHEDULE.
WF40	= WALL FOOTING. SEE SCHEDULE.
SF	= STEP FOOTING. SEE DETAIL X/XXX.
(-0'-8")	= TOP OF FOOTING ELEVATION.
SJ	= SAWN CONTRACTION JOINT. SEE DETAIL X/XXX.
CJ	= CONSTRUCTION JOINT. SEE DETAIL X/XXX.
	= C.M.U. WALL REINFORCED W/ #5@48" O.C. VERT CENTERED IN CORE.
	= CONCRETE WALL.
	= MASONRY NON-BEARING PARTITION WALL. SEE ARCH DWGS FOR WALL THICKNESS, TYPE AND LAYOUT.

TAG NOTES

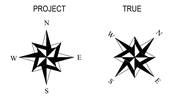
1. TAG NOTE 1.
2. TAG NOTE 2.

WALL FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCING CONT BOTTOM	TRANSVERSE REINFORCING BOTTOM
WF20	2'-0"	1'-0"	(2) #5	#4@96" O.C.
WF25	2'-6"	1'-0"	(3) #5	#4@96" O.C.
WF30	3'-0"	1'-0"	(3) #5	#4@96" O.C.

SPREAD FOOTING SCHEDULE

MARK	LENGTH	WIDTH	THICKNESS	REINFORCING E.W. BOTTOM
F40	4'-0"	4'-0"	1'-6"	(8) #4



REFERENCE ELEVATION (0'-0") = ????'-?" SEA LEVEL

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GARRARD COUNTY CONCESSION FIELD HOUSE
FINAL PHASE
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
FOUNDATION PLAN GRANDSTAND

DATE: MAY 11, 2022

REVISED	1	2	3	4	5

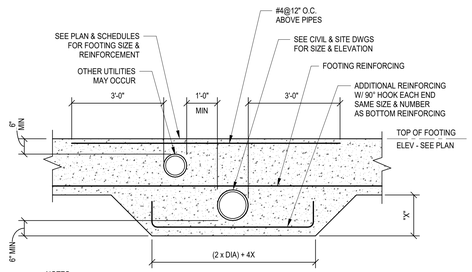
SHEET S203

JOB# 2113

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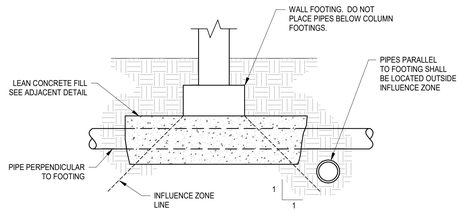
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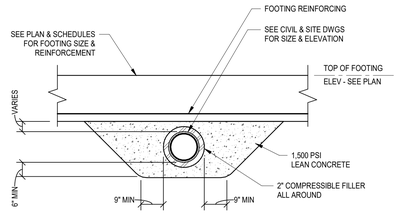
NOTES:
1. PROVIDE PIPE SLEEVE OR DIRECT BURY OF UTILITY WITH 2" COMPRESSIBLE FILLER (SUCH AS FIBERGLASS INSULATION) CONTINUOUSLY PLACED ALL AROUND.
2. DETAIL APPLIES AT TRENCH FOOTINGS ONLY. DO NOT USE THIS DETAIL FOR GRADE BEAMS.

A S301 TYPICAL FOOTING PENETRATION/SLEEVE DETAIL
1/2" = 1'-0"

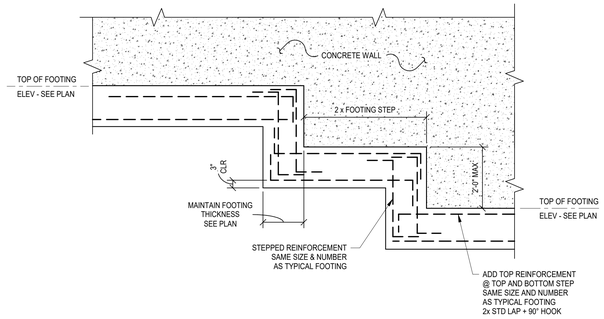


INFLUENCE ZONE

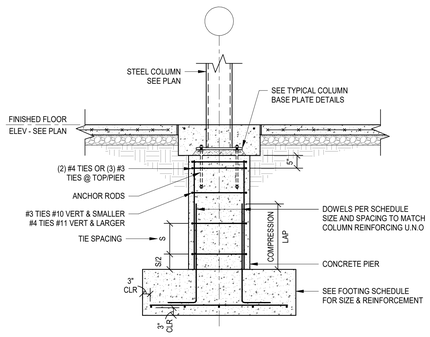
B S301 TYPICAL UTILITY LINE BELOW FOOTING DETAIL
1/2" = 1'-0"



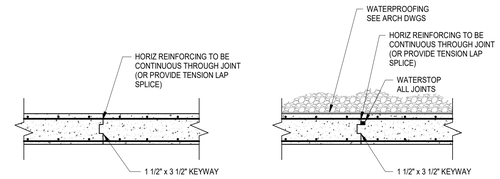
NOTES:
1. PROVIDE CONCRETE PROTECTION AROUND UTILITY LINE WHEN LINE IS WITHIN FOOTING INFLUENCE ZONE. SEE ADJACENT DETAIL FOR INFLUENCE ZONE DEFINITION.
2. DETAIL APPLIES WHEREVER TOP OF PIPE IS WITHIN 4 PIPE DIAMETERS TO BOTTOM OF FOOTING OR IF UTILITY IS INSTALLED AFTER FOOTING PLACEMENT (REGARDLESS OF DEPTH).
3. PROVIDE PIPE SLEEVE OR DIRECT BURY OF UTILITY WITH 2" COMPRESSIBLE FILLER (SUCH AS FIBERGLASS INSULATION) CONTINUOUSLY PLACED ALL AROUND.



C S301 TYPICAL STEP FOOTING DETAIL
1/2" = 1'-0"

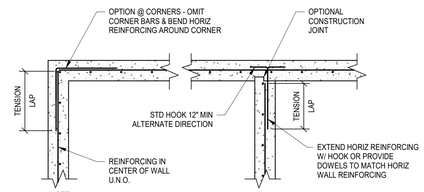


D S301 TYPICAL STEEL COLUMN, PIER, AND FOOTING DETAIL
1/2" = 1'-0"



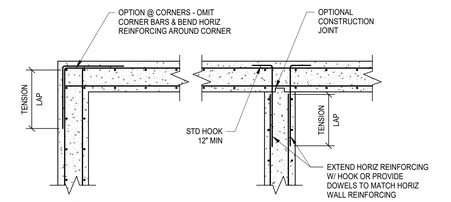
NOTES:
1. MAXIMUM LENGTH OF WALL POUR = 40'-0".
2. PERMIT 48 HOURS BETWEEN ADJACENT POURS.
3. SEE PLANS FOR ADDITIONAL JOINT LOCATIONS.
4. FOR STEM WALLS THAT ARE BELOW GRADE (BOTH SIDES), MAXIMUM POUR LENGTH MAY BE INCREASED TO 60'-0".

E S301 TYPICAL CONCRETE WALL CONSTRUCTION JOINT DETAIL
1/2" = 1'-0"



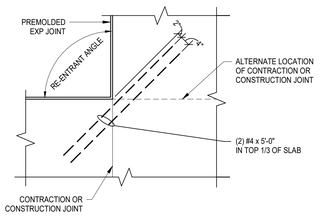
NOTE:
WHERE BAR SIZES DIFFER, LAP FOR LARGER SIZE.

F S301 TYPICAL CONCRETE WALL REINFORCING DETAIL
1/2" = 1'-0"

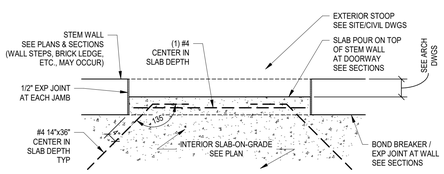


NOTE:
WHERE BAR SIZES DIFFER, LAP FOR LARGER SIZE.

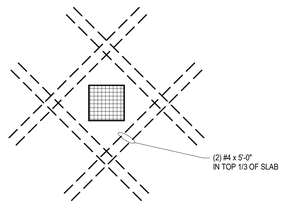
G S301 TYPICAL CONCRETE WALL REINFORCING DETAIL
1/2" = 1'-0"



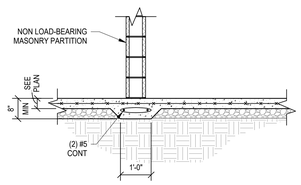
H S301 TYPICAL SLAB ON GRADE JOINT AT RE-ENTRANT CORNER
1/2" = 1'-0"



J S301 TYPICAL SLAB-ON-GRADE REINFORCING AT EXTERIOR DOOR DETAIL
1/2" = 1'-0"

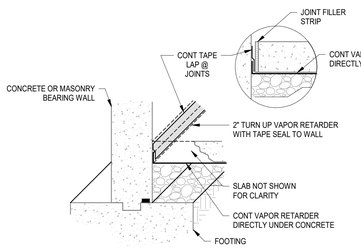


K S301 TYPICAL SLAB REINFORCEMENT AT FLOOR BOXES, TRENCH DRAINS, ETC DETAIL
1/2" = 1'-0"

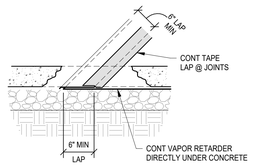


L S301 TYPICAL THICKENED SLAB BELOW MASONRY PARTITIONS
1/2" = 1'-0"

NOTES:
1. PROVIDE VAPOR RETARDER THAT IS RESISTANT TO DETERIORATION WHEN TESTED ACCORDING TO ASTM E 154. SEE SPECIFICATION SECTION 033000.
2. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.
3. SEAL ALL PENETRATIONS AND REPAIR ALL DAMAGED SURFACES WITH APPROVED JOINT TAPE OR MASTIC.
4. PREPARE ALL SURFACES FOR PROPER ADHESION WITH APPROVED TAPE. ALL SURFACES SHALL BE CLEAN, DRY, AND FROST FREE.
5. TURN UP BARRIER AT ALL EXTERIOR OR INTERIOR WALL SURFACES AND SEAL WITH APPROVED TAPE.

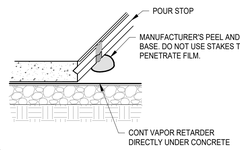


TYPICAL @ WALL

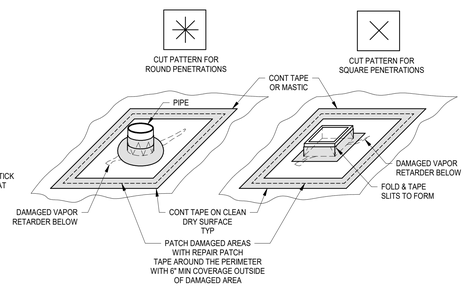


TYPICAL @ SEAM

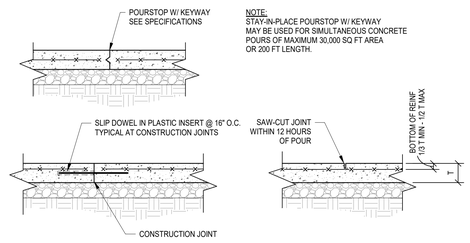
TYPICAL DIVIDED POUR @ CONSTRUCTION JOINT



OPTIONAL SIMULTANEOUS POUR @ CONSTRUCTION JOINT



TYPICAL PIPE REPAIR TYPICAL RECTANGULAR REPAIR



CONSTRUCTION JOINT SAWN CONTRACTION JOINT

NOTES:
1. JOINTS SHALL BE INSTALLED IN SLABS ON GROUND AT A MAXIMUM SPACING IN FEET OF 3 TIMES THE SLAB THICKNESS IN INCHES IN EACH DIRECTION BY EITHER OF THE ABOVE METHODS. MAXIMUM LENGTH OF ANY SLAB ON GROUND POUR TO BE 100'-0" BETWEEN CONSTRUCTION JOINTS. RATIO OF LENGTH TO WIDTH SHALL NOT EXCEED 2. THIS SPACING OF JOINTS SHALL APPLY UNLESS SPECIFICALLY SHOWN OTHERWISE.
2. REINFORCING SHALL BE DISCONTINUOUS THROUGH CONSTRUCTION JOINTS.

M S301 TYPICAL VAPOR RETARDER DETAILS
1" = 1'-0"

N S301 SLAB ON GROUND JOINT DETAIL
3/4" = 1'-0"

NOT FOR CONSTRUCTION

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GARRARD COUNTY CONCESSION FIELD HOUSE
FINAL PHASE
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
TYPICAL FOUNDATION DETAILS

DATE:	REVISED	1	2	3	4	5
MAY 11, 2022						

SHEET S301
JOB# 2113
DRAWN: MSC, GMD
CHECKED: ZJW

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SHEET	S302
JOB#	2113
DRAWN:	Author
CHECKED:	Checker
DATE:	MAY 11, 2022
REVISED	
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GARRARD COUNTY CONCESSION FIELD HOUSE
FINAL PHASE

FOR THE
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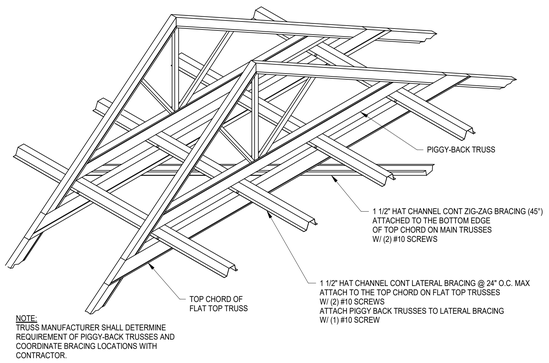
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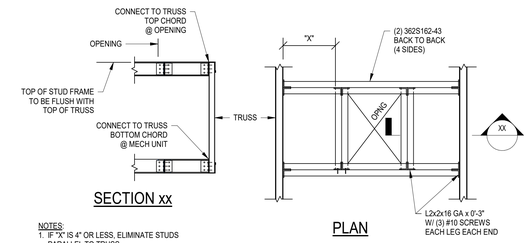
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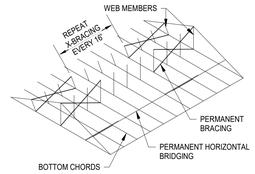
NOTE:
TRUSS MANUFACTURER SHALL DETERMINE REQUIREMENT OF PIGGY-BACK TRUSSES AND COORDINATE BRACING LOCATIONS WITH CONTRACTOR.

A S401 TYPICAL PIGGY-BACK TRUSS DETAIL
3/4" = 1'-0"



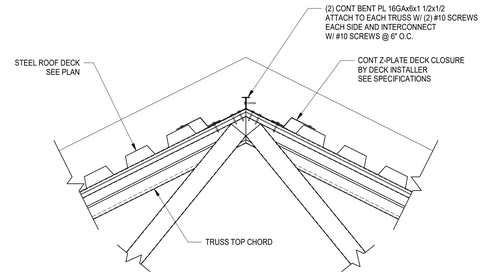
NOTES:
1. IF "X" IS 4" OR LESS, ELIMINATE STUDS PARALLEL TO TRUSS.
2. PROVIDE STUD FRAME FOR ALL OPENINGS GREATER THAN 10" DIAMETER OR SQUARE.
3. PROVIDE STUDS BENEATH THE PERIMETER OF ALL ROOF TOP EQUIPMENT. ROOF DECK PENETRATION MAY OR MAY NOT OCCUR.
4. PROVIDE STUD FRAME AT ALL ROOF DRAINS AND EXHAUST FANS REGARDLESS OF ROOF PENETRATION SIZE.
5. CONTRACTOR TO VERIFY SIZE AND LOCATION OF ALL OPENINGS. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DWGS.

B S401 TYPICAL ROOF FRAME AT TRUSS OPENING DETAIL
3/4" = 1'-0"

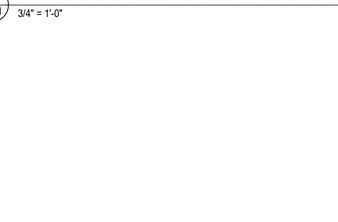


NOTES:
1. SEE PLANS FOR BUILDING PERMANENT BRACING LOCATIONS.
2. TOP CHORDS AND SOME MEMBERS ARE NOT SHOWN FOR CLARITY.
3. PERMANENT BRACING FOR INDIVIDUAL MEMBERS OF A TRUSS COMPONENT (SHOWN ON TRUSS DESIGN DRAWINGS) SHALL BE INSTALLED IN ADDITION TO PERMANENT BRACING SHOWN ON BUILDING DESIGN DRAWINGS.
4. LAP ALL BRACING A MINIMUM OF TWO TRUSSES.
5. TYP PERMANENT X-BRACING IS A 362S162-43 STUD ATTACHED TO EACH TRUSS W/ (2) #10 SCREWS. SLOPE ALONG WEB MEMBERS AT 30°- 45°.
6. TYP PERMANENT BOTTOM CHORD HORIZONTAL BRIDGING IS HAT CHANNEL PER ARCHITECTURAL DWGS. ATTACH TO EACH TRUSS W/ (2) #10 SCREWS MIN.

C S401 TYPICAL MINIMUM PERMANENT TRUSS BRACING
3/4" = 1'-0"



D S401 TYPICAL RIDGE PLATE DETAIL
1 1/2" = 1'-0"



END BEARING

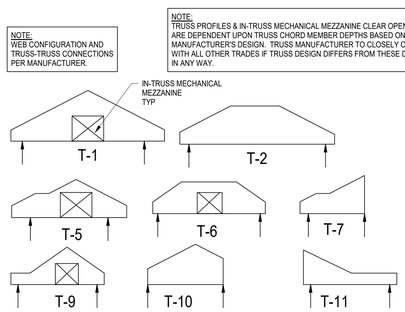


INTERIOR BEARING

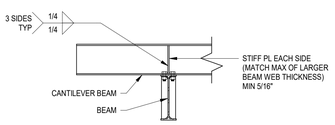
E S401 TYPICAL TRUSS BEARING DETAIL AT STEEL
1 1/2" = 1'-0"

NOTE:
WEB CONFIGURATION AND TRUSS-TRUSS CONNECTIONS PER MANUFACTURER.

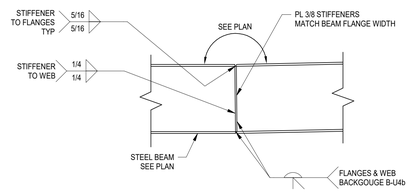
NOTE:
TRUSS PROFILES & IN-TRUSS MECHANICAL MEZZANINE CLEAR OPENINGS ARE DEPENDENT UPON TRUSS CHORD MEMBER DEPTHS BASED ON TRUSS MANUFACTURER'S DESIGN. TRUSS MANUFACTURER TO CLOSELY COORDINATE WITH ALL OTHER TRADES IF TRUSS DESIGN DIFFERS FROM THESE DRAWINGS IN ANY WAY.



F S401 TYPICAL LIGHT GAUGE METAL TRUSS PROFILES
3/4" = 1'-0"

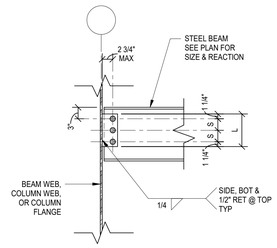


G S401 TYPICAL CANTILEVER BEAM DETAILS
3/4" = 1'-0"



BB1

H S401 TYPICAL BENT BEAM DETAILS
3/4" = 1'-0"

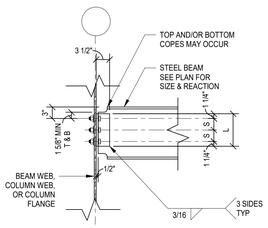


CONNECTION CAPACITY TABLE

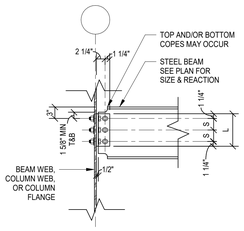
NO. OF BOLTS ASTM A325-N	LENGTH OF ANGLE L (INCHES)	CONNECTION CAPACITY (KIPS)
2	5 1/2	9
3	8 1/2	18
4	11 1/2	28
5	14 1/2	38
6	17 1/2	48
7	20 1/2	58
8	23 1/2	68
9	26 1/2	77
10	29 1/2	87

NOTES:
1. ALL CONNECTION ANGLES, L4x3x3/8 SLO.
2. ALL BOLTS ASTM A325-N, 3/4"ø.
3. ALL WELDS E70XX.
4. BOLT SPACING (S) = 3".
5. SHORT HORIZONTAL SLOTTED HOLES MAY BE USED AT SUPPORTED BEAM CONNECTION. STANDARD-SIZED HOLES SHALL BE USED IN CONNECTION AT SUPPORT WHERE BOTH LEGS ARE BOLTED.
6. BOTH LEGS MAY BE BOLTED WITH NO REDUCTION IN CONNECTION CAPACITY AS LONG AS THE BOLTS THROUGH THE SUPPORTING MEMBER ARE NOT SHARED WITH A CONNECTION ON THE OPPOSITE SIDE OF THE SUPPORT.

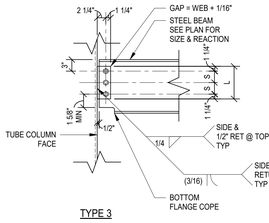
J S401 TYPICAL SINGLE ANGLE SHEAR CONNECTION DETAIL
3/4" = 1'-0"



TYPE 1



TYPE 2



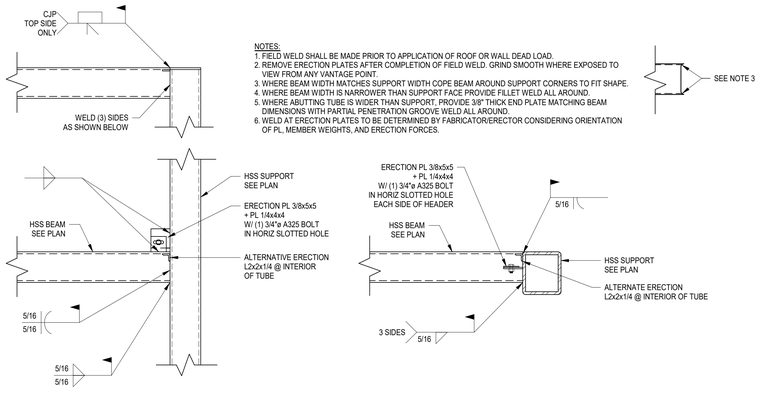
TYPE 3

CONNECTION CAPACITY TABLE

NO. OF BOLTS ASTM A325-N	LENGTH OF ANGLE L (INCHES)	CONNECTION CAPACITY (KIPS)		
		TYPE 1	TYPE 2	TYPE 3
2	5 1/2	19	14	14
3	8 1/2	35	24	24
4	11 1/2	58	42	42
5	14 1/2	87	63	63
6	17 1/2	122	88	88

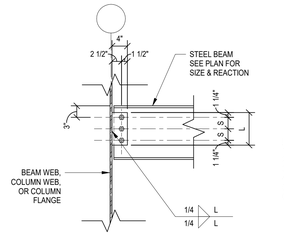
NOTES:
1. ALL CONNECTION ANGLES L4x3 1/2x5/16, ASTM A572 GR 50, N.S. & F.S.
2. ALL BOLTS ASTM A325-N, 3/4"ø.
3. ALL WELDS E70XX.
4. BOLT SPACING (S) = 3".
5. SHORT HORIZONTAL SLOTTED HOLES MAY BE USED.
6. WELD AT ERECTION ANGLE TO BE DETERMINED BY FABRICATOR/ERECTOR CONSIDERING MEMBER WEIGHTS AND ERECTION FORCES.

K S401 TYPICAL DOUBLE ANGLE SHEAR CONNECTION DETAIL
3/4" = 1'-0"



NOTES:
1. FIELD WELD SHALL BE MADE PRIOR TO APPLICATION OF ROOF OR WALL DEAD LOAD.
2. REMOVE ERECTION PLATES AFTER COMPLETION OF FIELD WELD. GRIND SMOOTH WHERE EXPOSED TO VIEW FROM ANY VANTAGE POINT.
3. WHERE BEAM WIDTH MATCHES SUPPORT WIDTH COPE BEAM AROUND SUPPORT CORNERS TO FIT SHAPE.
4. WHERE BEAM WIDTH IS NARROWER THAN SUPPORT FACE PROVIDE FILLET WELD ALL AROUND.
5. WHERE ABUTTING TUBE IS WIDER THAN SUPPORT, PROVIDE 3/8" THICK END PLATE MATCHING BEAM DIMENSIONS WITH PARTIAL PENETRATION GROOVE WELD ALL AROUND.
6. WELD AT ERECTION PLATES TO BE DETERMINED BY FABRICATOR/ERECTOR CONSIDERING ORIENTATION OF PL, MEMBER WEIGHTS, AND ERECTION FORCES.

L S401 TYPICAL TUBE TO TUBE CONNECTION DETAIL
3/4" = 1'-0"

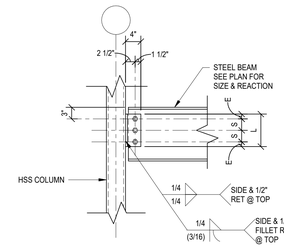


CONNECTION CAPACITY TABLE

NO. OF BOLTS ASTM A325-N	LENGTH OF PLATE L (INCHES)	CONNECTION CAPACITY (KIPS)
2	5 1/2	12
3	8 1/2	23
4	11 1/2	30
5	14 1/2	40
6	17 1/2	50

NOTES:
1. ALL CONNECTION PLATES, 3/8" THICK.
2. ALL BOLTS ASTM A325-N, 3/4"ø.
3. ALL WELDS E70XX.
4. BOLT SPACING (S) = 3".
5. SHORT HORIZONTAL SLOTTED HOLES MAY BE USED.
6. SINGLE PLATE SHEAR CONNECTIONS ARE NOT PERMITTED WHERE THE REACTION EXCEEDS 50 KIPS, AT FIELD APPLIED CONNECTIONS, OR CONNECTIONS TO COLUMNS (OTHER THAN AT MOMENT CONNECTIONS, SKEWED CONNECTIONS, PIPE COLUMNS, TUBE COLUMNS WITH FACE DIMENSION 4" OR LESS, OR CONNECTIONS WITH REACTIONS LESS THAN 15 KIPS).
7. WHERE CONNECTION PLATE IS SKEWED UP TO 10° RELATIVE TO THE PERPENDICULAR CONDITION, PROVIDE FILLET WELDS AS SHOWN. WHERE PLATE IS SKEWED BETWEEN 10° AND 45°, ADJUST WELDS PER AISC STEEL MANUAL GUIDELINES. WHERE PLATE IS SKEWED BETWEEN 45° AND 60°, PROVIDE CJP WELD WITH BACKER BAR FOR PLATE-TO-SUPPORT CONNECTION.

M S401 TYPICAL SINGLE PLATE SHEAR CONNECTION DETAIL
3/4" = 1'-0"



CONNECTION CAPACITY TABLE

NO. OF BOLTS ASTM A325-N	3/4"ø BOLTS		1"ø BOLTS	
	LENGTH OF WT L (INCHES)	CONNECTION CAPACITY (KIPS)	LENGTH OF ST L (INCHES)	CONNECTION CAPACITY (KIPS)
2	5 1/2	12	6 1/2	25
3	8 1/2	18	9 1/2	35
4	11 1/2	26	12 1/2	46
5	14 1/2	36	15 1/2	63
6	17 1/2	46	18 1/2	76
7	20 1/2	56	21 1/2	88
8	23 1/2	66	24 1/2	100

NOTES:
1. USE WT4x7.5 CONNECTIONS WITH 3/4"ø BOLTS.
2. USE ST4x11.5 CONNECTIONS WITH 1"ø BOLTS.
3. ALL BOLTS ASTM A325-N.
4. ALL WELDS E70XX.
5. BOLT SPACING (S) = 3".
6. EDGE DISTANCE (E) = 1 1/4" @ 3/4"ø BOLTS. EDGE DISTANCE (E) = 1 3/4" @ 1"ø BOLTS.
7. SHORT HORIZONTAL SLOTTED HOLES MAY BE USED.

N S401 TYPICAL WT SHEAR CONNECTION DETAIL
3/4" = 1'-0"

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GARRARD COUNTY BOARD OF EDUCATION
TYPICAL FRAMING DETAILS

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MECHANICAL GENERAL NOTES

A COORDINATE THE LOCATION OF DRAINS, THERMOSTATS, GAS OUTLETS, ETC., WITH ALL CASEWORK EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC., PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE CONTRACTOR.

B THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC., OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

D ALL NEW WORK SHALL BE HUNG FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES, WHETHER EXISTING OR NEW.

E COORDINATE ALL WORK WITH PROJECT PHASING REQUIREMENTS.

G OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, FEDERAL, MUNICIPALITY, UTILITY COMPANY, COMMONWEALTH OF KENTUCKY, ETC.)

I IF AREA OF CONSTRUCTION HAS A POST TENSION FLOOR SLAB. CONTRACTOR SHALL USE ULTRA SOUND OR OTHER APPROVED METHODS TO SURVEY THE EXISTING FLOOR STRUCTURE BEFORE MAKING ANY AND ALL FLOOR PENETRATIONS.

J WHERE FIRE PROOFING IS SPRAYED ON EXISTING STRUCTURE ALL EXISTING CONDUITS, WATER, HYDRONIC, STEAM, CHILLED WATER, FIRE PROTECTION LINES, MED GAS, ETC. SHALL BE LOWERED TO BE BELOW FULL THICKNESS OF FIRE PROOFING WITH NO INTERFERENCE.

K ALL PENETRATIONS OF FIRE AND SMOKE RATED ASSEMBLIES SHALL BE APPROPRIATELY FIRE STOPPED PER AN APPROVED U.L. LISTED STANDARD. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO INSULATED PIPING PENETRATIONS.

L ALL WORK REQUIRING DOWNTIME OF ANY AREA IN THE BUILDING SHALL BE SCHEDULED 2 WEEKS IN ADVANCE, AND SHALL COMPLY WITH INTERIM LIFE SAFETY MEASURES.

M ALL DUCTWORK, PIPING, CONDUITS, ETC. IN ROOMS WITH CEILINGS SHALL BE ABOVE CEILING EXCEPT AS NOTED.

N INSTALL AIR VENTS AT HIGH POINTS IN PIPING AND DRAINS IN LOW POINTS. USE CARE TO AVOID FREEZING OF EXTERIOR VENTS.

O LOCATIONS OF PIPING, DUCTS AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.

P ALL OFFSETS IN DUCTS AND PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS WHERE NECESSARY.

Q COORDINATE ALL HVAC WORK WITH ELECTRICAL, PLUMBING AND OTHER TRADES TO AVOID INTERFERENCE WITH PIPING, DUCTS, CONDUIT AND OTHER EQUIPMENT.

R INSTALL ALL PIPING, DUCTWORK AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTION. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION. PROVIDE RECOMMENDED ACCESS AND SERVICE CLEARANCES FOR ALL EQUIPMENT.

S SEAL AIRTIGHT AROUND ALL DUCTS AND PIPING PENETRATIONS THROUGH WALLS, FLOORS AND ROOF. PROVIDE FIRE STOPPING IN FIRE PARTITION.

T SEAL ALL NEW DUCTWORK JOINTS WITH UNITED MCGILL, IRONGRIP 601 OR EQUAL WATER BASED SEALANT.

U ALL MOTOR DRIVEN EQUIPMENT SHALL BE INSTALLED WITH FLEXIBLE CONNECTIONS TO DUCTWORK, PIPING, ETC., UNLESS OTHERWISE NOTED.

W WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.

X DOUBLE WIDTH TURNING VANES SHALL BE INSTALLED IN ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK ELBOWS. TURNING VANES NOT REQUIRED FOR KITCHEN EXHAUSTS.

Y ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.

Z DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT USED AS BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.

AA VALVES, BALANCING DAMPERS OR ANY MECHANICAL/ELECTRICAL ITEM REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT. ADDITIONALLY ALL SUCH ITEMS SHALL NOT BE LOCATED AN UNREASONABLE DISTANCE ABOVE THE CEILINGS. IN GENERAL ALL SUCH ITEMS UNLESS INDICATED OTHERWISE SHALL BE MOUNTED SIX TO TWELVE INCHES ABOVE THE CEILING. IF IN DOUBT, CONTACT ENGINEER PRIOR TO INSTALLING.

AB ALL MANHOLES, VAULTS AND SIMILAR UNDERGROUND STRUCTURES SHALL HAVE THE TOP ELEVATION SET FLUSH WITH FINISHED GRADE UNLESS SPECIFICALLY NOTED OTHERWISE.

AF WORK IN CONFINED AREAS SHALL BE IN ACCORDANCE WITH THE OWNER'S SAFETY POLICY REQUIREMENTS.

MECHANICAL PHASING NOTES

A THIS PROJECT INTERFACES EXTENSIVELY WITH EXISTING BUILDING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. AS AN EXAMPLE, MAIN GAS SERVICE, WATER SERVICE, ELECTRICAL SERVICE, HVAC SERVICES, STEAM GENERATION, ETC., WILL BE AFFECTED AND REPLACED OR MOVED DURING THIS PROJECT. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC. CONTRACTOR SHALL COORDINATE ALL SAID WORK WITH THE OWNER AND APPLICABLE UTILITIES PER THE CONTRACT DOCUMENTS.

ABBREVIATIONS

AC	ALTERNATING CURRENT
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFR	ABOVE FINISHED ROOF
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AHJ	AUTHORITY HAVING JURISDICTION
AMP	AMPERE (AMP, AMPS)
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
APD	AIR PRESSURE DROP
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS
ATU	AIR TERMINAL UNIT
AVG	AVERAGE
BAS	BUILDING AUTOMATION SYSTEM
BHP	BREAK HORSEPOWER
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
C.I.	CAST IRON
CLG	CEILING
CLR	CLEAR
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
COND	CONDENS (-ER, -ING, -ATION, -ATE)
CONT	CONTINU (-ED, -OUS)
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
CV	VALVE FLOW COEFFICIENT
dB	DECIBEL
DB	DRY BULB
DBT	DRY BULB TEMPERATURE
DC	DIRECT CURRENT
DD	DUCT SMOKE DETECTOR
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE (-S)
DIA	DIAMETER (-S)
DN	DOWN
DWG	DRAWING
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVA (-TION, -TOR)
ENGR	ENGINEER
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EVAP	EVAPORAT (-E, -ING, -ED, -OR, -ION)
EWT	ENTERING WATER TEMPERATURE
EXP	EXPANSION
EXT	EXTERIOR
FA	FREE AREA

ABBREVIATIONS (CONTINUED)

FD	FIRE DAMPER
FL	FLOOR
FLA	FULL LOAD AMPS
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET **OR** FOOT
FUT	FUTURE
FV	FACE VELOCITY
GA	GAGE/GAUGE
GAL	GALLON (-S)
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
H	HUMIDITY
HD	HEAD
HG	MERCURY
HORIZ	HORIZONTAL
HP	H (-ORSEPOWER, -EAT PUMP)
HR	HOUR (-S)
HVAC	HEATING, VENTILATING, & AIR-CONDITIONING
Hz	HERTZ
ID	I (-DENTIFICATION, -NSIDE DIAMETER, -NSIDE DIMENSION)
IN	INCH (-ES)
INSUL	INSULAT (-ED, -ION)
INT	INTER (-IOR, -ERVAL)
IPS	IRON PIPE SIZE
kW	KILOWATT
kWh	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LF	LINEAR FEET/FOOT
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	BTU PER HOUR [THOUSANDS]
MCA	MINIMUM CIRCUIT AMPS
MFG	MANUFACTURER
MIN	MIN (-IMUM, -UTE)
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION [AMPS]
MTG	MOUNTING
N/A	NOT APPLICABLE
NC	NOISE CRITERIA **OR** NORMALLY CLOSED
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
NIC	NOT IN CONTRACT

ABBREVIATIONS (CONTINUED)

NO	NORMALLY OPEN **OR** NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DI (-AMETER, -MENSION)
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OR	OPEN RECEPTACLE
OZ	OUNCE (-S)
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PH	PHASE [ELECTRICAL]
PLBG	PLUMBING
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE (STEAM, WATER, GAS)
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	PPSI GAUGE
RH	RELATIVE HUMIDITY [%]
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SD	SMOKE DAMPER
SP	STATIC PRESSURE
SQ	SQUARE
SQ FT	SQUARE FEET **OR** FOOT
SQ IN	SQUARE INCH **OR** INCHES
TAB	TESTING AND BALANCING
TBD	TO BE DETERMINED
TE	TOP ELEVATION
TEMP	TEMPERATURE
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLT (-AGE, -S)
VAR	VARI (-ABLE, -IES)
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VFD	VARIABLE FEQUENCY DRIVE
W	WATT (-AGE, -S)
WB	WET BULB
WBT	WET BULB TEMPERATURE
WPD	WATER PRESSURE DROP
WT	WEIGHT
W/	WITH
W/O	WITHOUT
%	PERCENT
ΔP	DIFFERENTIAL PRESSURE
ΔT	TEMPERATURE DIFFERENCE
℄	CENTERLINE

GENERAL SYMBOLS

#	TAGGED NOTE DESIGNATOR
1	REVISION TRIANGLE
ROOM NAME [SEE #]	ROOM TAG
TAG XXX-# INSTANCE XXXX	EQUIPMENT TAG
	POINT OF CONNECTION / CONNECT TO EXISTING
	POINT OF DEMOLITION

HVAC LEGEND

	SUPPLY AIR DIFFUSER
	RETURN AIR DIFFUSER
	EXHAUST AIR DIFFUSER
	TRANSFER AIR DIFFUSER W/ SOUND ATTENUATING BOOT
	SIDEWALL DIFFUSER/GRILLE
	SIDEWALL DIFFUSER/GRILLE
TAG (XXX) AIRFLOW #,###	AIR DEVICE TAG (REGISTER, GRILLE, DIFFUSER,LOUVER)
##x##	RECTANGULAR DUCT
#ø	ROUND/SPIRAL DUCT
##/##	FLAT OVAL DUCT
SA	SUPPLY AIR DUCT
RA	RETURN AIR DUCT
EA	EXHAUST AIR DUCT
OA	OUTSIDE AIR DUCT
TA	TRANSFER AIR DUCT
CAE	COMBUSTION AIR EXHAUST DUCT
CAI	COMBUSTION AIR INTAKE DUCT
SA	SA AIR DUCT TURNING UP
SA	SA AIR DUCT TURNING DOWN
RA	RA AIR DUCT TURNING UP
RA	RA AIR DUCT TURNING DOWN
EA	EA AIR DUCT TURNING UP
EA	EA AIR DUCT TURNING DOWN
E(XXX)	EXISTING DUCT - (XXX) DENOTES SYSTEM
D(XXX)	DUCT TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
A(XXX)	DUCT TO BE ABANDONED IN PLACE - (XXX) DENOTES SYSTEM
	MITERED ELBOW WITH TURNING VANES
	FLEXIBLE DUCT
T	THERMOSTAT
T	TEMPERATURE SENSOR
H	HUMIDITY SENSOR
C	CARBON DIOXIDE SENSOR
TC	TEMPERATURE & CARBON DIOXIDE SENSOR
VERT. HORIZ.	MANUAL BALANCING/VOLUME DAMPER
VERT. HORIZ.	MOTORIZED DAMPER
VERT. HORIZ.	FIRE DAMPER
VERT. HORIZ.	SMOKE DAMPER
VERT. HORIZ.	COMBINATION FIRE & SMOKE DAMPER

MECHANICAL PIPING LEGEND

	PIPE ELBOW TURNING UP
	PIPE ELBOW TURNING DOWN
	PIPE TEE; CONNECTION ON TOP
	PIPE TEE; CONNECTION ON BOTTOM
	PIPE CAP
BFW	BOILER FEEDWATER
CAI/E	COMBUSTION AIR INTAKE/EXHAUST
CBS/R	CHILLED BEAM SUPPLY/RETURN
CD	CONDENSATE DRAIN
CHWS/R	CHILLED WATER SUPPLY/RETURN
CST	CLEAN STEAM PIPING
CWS/R	CONDENSER WATER SUPPLY/RETURN
DTS/R	DUAL TEMP. WATER SUPPLY/RETURN
GS/R	GEOTHERMAL WATER SUPPLY/RETURN
HPC	HIGH PRESSURE STEAM CONDENSATE
HPS(#)	HIGH PRESSURE STEAM; (#) DENOTES PRESSURE
HPS/R	HEAT PUMP WATER SUPPLY/RETURN
HRS/R	HEAT RECOVERY SUPPLY/RETURN PIPING
HWS/R	HEATING WATER SUPPLY/RETURN
LPC	LOW PRESSURE STEAM CONDENSATE
LPS(#)	LOW PRESSURE STEAM; (#) DENOTES PRESSURE
MPC	MEDIUM PRESSURE STEAM RETURN
MPS(#)	MEDIUM PRESSURE STEAM; (#) DENOTES PRESSURE
SPD	STEAM CONDENSATE PUMPED DISCHARGE
SVT	STEAM VENT PIPING
D(XXX)	PIPING TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
E(XXX)	EXISTING PIPING - (XXX) DENOTES SYSTEM
A(XXX)	ABANDONED IN PLACE PIPING - (XXX) DENOTES SYSTEM
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	AUTOMATIC AIR VENT (AAV)
	MANUAL AIR VENT (MAV)
	MANUAL BALANCING VALVE (BV)
	BALL VALVE
	BUTTERFLY VALVE
	TRIPLE DUTY VALVE (TDV)
	STRAINER
	MANUAL ISOLATION VALVE
	GLOBE VALVE
	OS&Y (GATE) VALVE
	PRESSURE REDUCING VALVE (STEAM, GAS, WATER, ETC.)
	AUTO-FLOW CONTROL VALVE
	CHECK VALVE
	DOUBLE CHECK VALVE ASSEMBLY
	FLEXIBLE PIPE CONNECTION
	FLOW METER (VENTURI)
	PIPING UNION
	FLOW SWITCH
	PRESSURE SWITCH
	TAMPER SWITCH
	THERMOMETER
	PETE'S PLUG; TEMPERATURE/PRESSURE PORT

APPLICABLE BUILDING CODES

APPLICABLE BUILDING CODES	DOCUMENT	YEAR
ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES	ANSI A117.1	2009
FIRE SPRINKLER CODE	NFPA 13	2013
INTERNATIONAL BUILDING CODE (IBC)	STATE EDITION	2015
ASHRAE 90.1	STATE EDITION	2010
INTERNATIONAL FIRE CODE (IFC)	STATE EDITION	2015
INTERNATIONAL FUEL GAS CODE (IFGC)	STATE EDITION	2015
INTERNATIONAL MECHANICAL CODE (IMC)	STATE EDITION	2015
INTERNATIONAL PLUMBING CODE (IPC)	STATE EDITION	2015
INTERNATIONAL EXISTING BUILDING CODE (IEBC)	STATE EDITION	2009
NATIONAL ELECTRIC CODE (NEC)	NFPA 70	2017
NATIONAL FIRE ALARM & SIGNALING CODE	NFPA 72	2013
UNIFORM STATEWIDE BUILDING CODE		2018

Sheet List - Mechanical

SHEET #	SHEET NAME
M-101	CONCESSION RESTROOM LOCKER ROOM - AIR DISTRIBUTION PLAN
M-202	CONCESSION RESTROOM LOCKER ROOM - HYDRONICS
M-301	DETAILS
M-302	DETAILS
M-401	SCHEDULES
M-402	SCHEDULES
M-501	CONTROLS
M-502	CONTROLS
M-001	MECHANICAL LEGEND

NOTE: NOT ALL SYMBOLS AND ABBREVIATIONS MAY BE USED ON THIS PROJECT

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MECHANICAL LEGEND

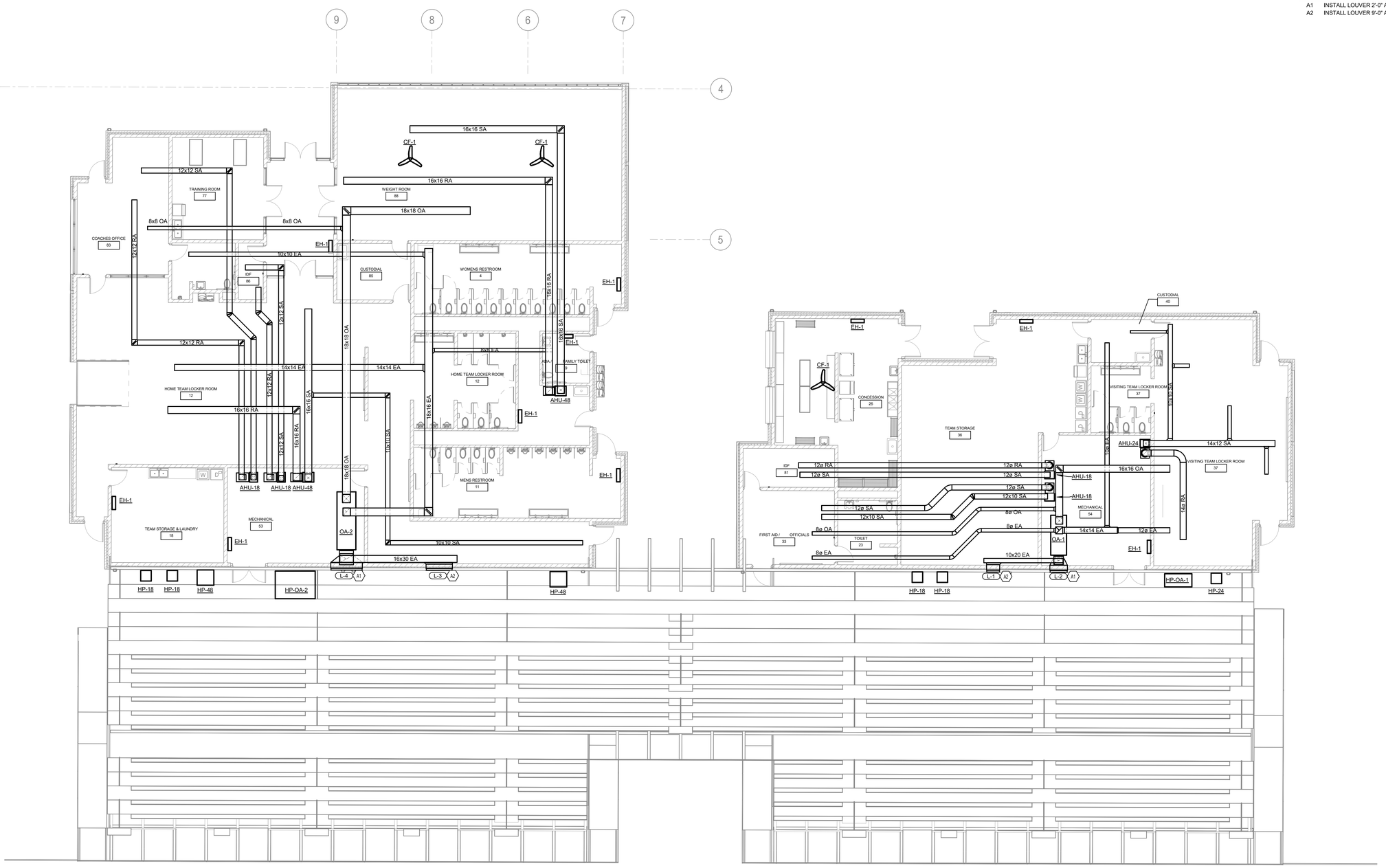
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SHEET M-001
JOB# 2113
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TAGGED NOTES

A1 INSTALL LOUVER 2'-0" AFF TO BOTTOM OF LOUVER
A2 INSTALL LOUVER 9'-0" AFF TO BOTTOM OF LOUVER

##



1 CONCESSION/LOCKER ROOM - AIR DISTRIBUTION
SCALE: 1/8" = 1'-0"
0 2' 4' 8' 16' 24' 32'

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CONCESSION RESTROOM LOCKER ROOM - AIR DISTRIBUTION PLAN

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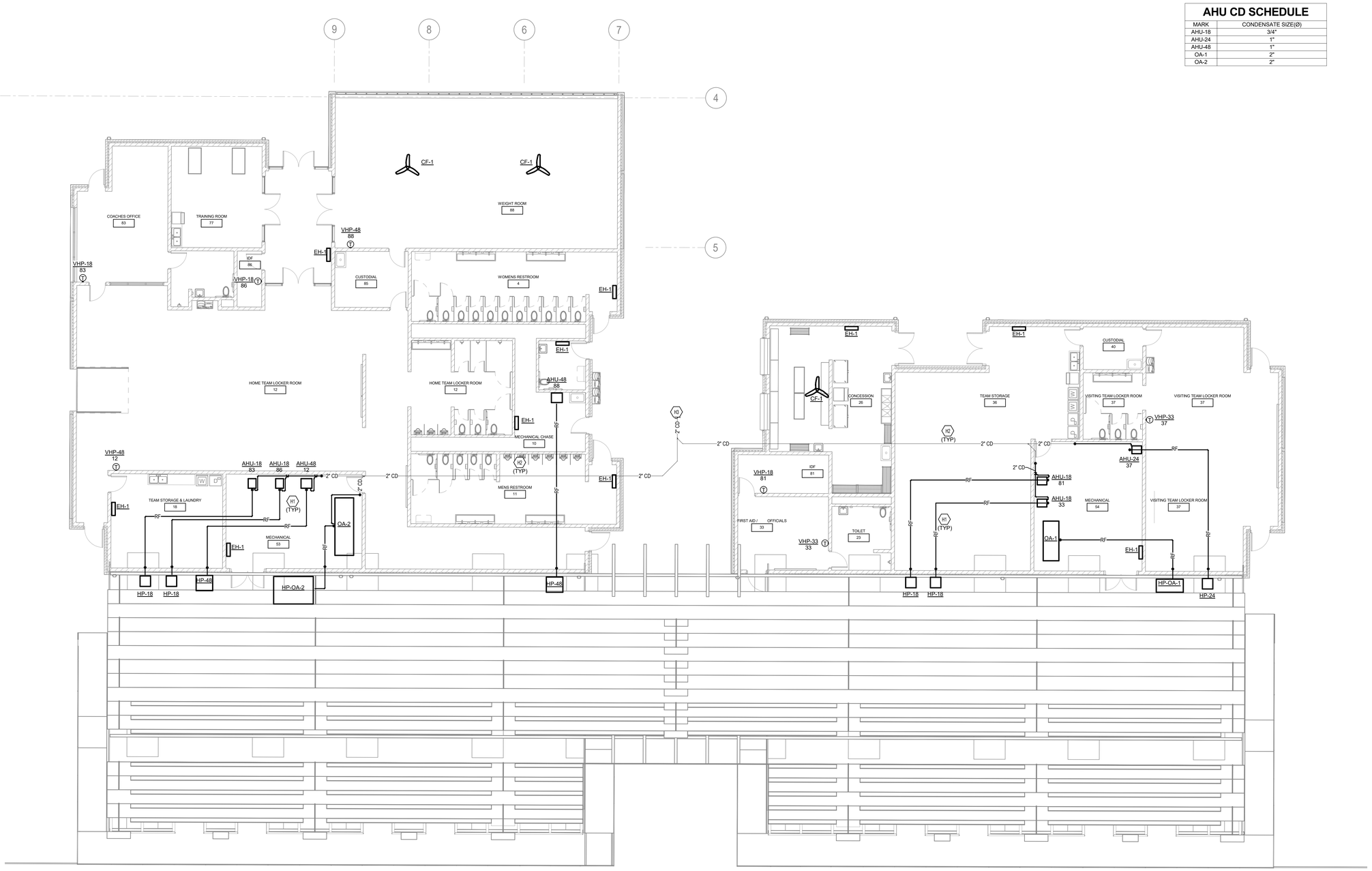
TAGGED NOTES

##

H1 SIZE REFRIGERANT PIPING PER MANUFACTUERS REQUIREMENTS.
H2 UNDERSLAB PIPING INIDCATED AS THIN LINE.
H3 REFER TO SITE PLAN FOR CONTINUATION OF CONDENSATE PIPING.

AHU CD SCHEDULE

MARK	CONDENSATE SIZE(Ø)
AHU-18	3/4"
AHU-24	1"
AHU-48	1"
OA-1	2"
OA-2	2"



1 CONECESSION/LOCKER ROOM - FIRST FLOOR - HYDRONICS
SCALE: 1/8" = 1'-0"
0 2' 4' 8' 16' 24' 32'

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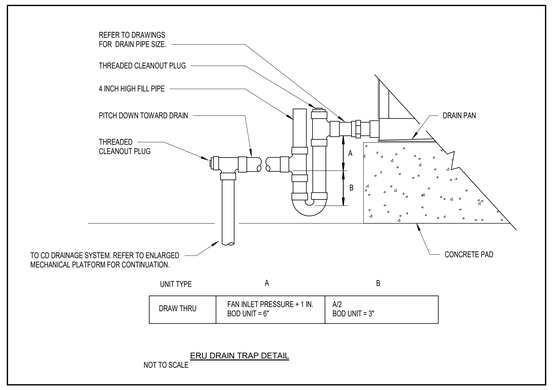
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CONCESSION RESTROOM LOCKER ROOM - HYDRONICS

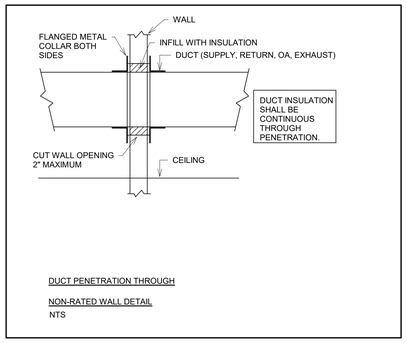
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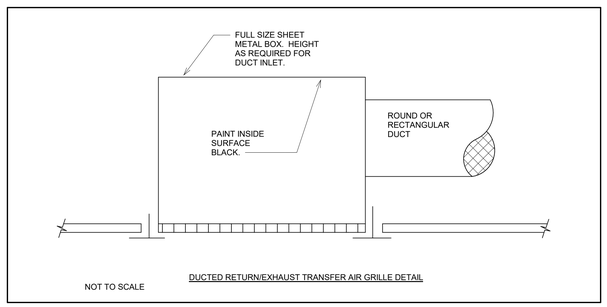
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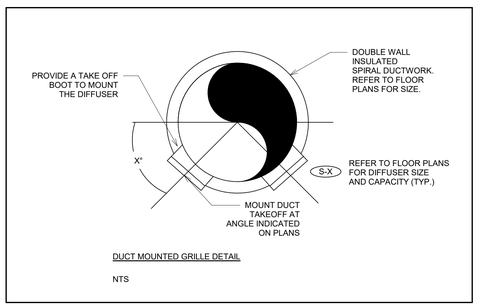
1 AIR HANDLING UNIT DRAIN TRAP DETAIL
SCALE: NONE



2 DUCT PENETRATION THROUGH NON-RATED WALL DETAIL
SCALE: NONE



3 DUCTED RETURN/EXHAUST AIR GRILLE DETAIL
SCALE: NONE



4 REGISTER DUCT TAKEOFF DETAIL
SCALE: NONE

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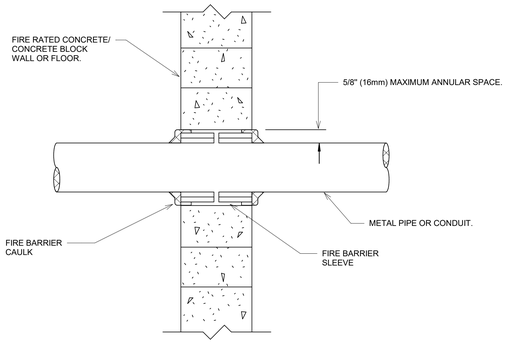
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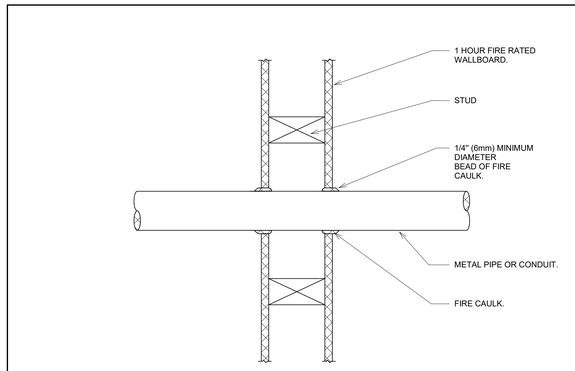


NOTES

1. THE MAXIMUM ANNULAR SPACE AROUND THE METAL PIPE OR CONDUIT IS 5/8" (16mm). (IF THE ANNULAR SPACE EXCEEDS 5/8" PATCH THE WALL AND PENETRATE WALL AT ANOTHER LOCATION).
2. WRAP THE 3M MODEL# FS-195 WRAP/STRIP AROUND THE PIPE/CONDUIT, FOIL SIDE OUT, TO FILL THE SPACE BETWEEN THE PIPE/CONDUIT AND THE WALL OPENING. THE 3M MODEL# FS-195 WRAP/STRIP SHOULD BE TIGHTLY SECURED WITH ALUMINUM FOIL TAPE OR STEEL TIE WIRE AND PUSHED INTO THE OPENING UNTIL THE TOP EDGE OF THE WRAP IS FLUSH WITH THE WALL SURFACE. THE IDENTICAL INSTALLATION SHOULD BE INSTALLED ON THE OTHER SIDE OF THE WALL.
3. USE 3M MODEL# CP 25N/S/NO SAG) CAULK TO FILL THE AREA BETWEEN THE FS-195 WRAP/STRIP AND THE EDGES OF THE OPENING AND ANY VOIDS IN THE 3M MODEL# FS-195 WRAP/STRIP. A FILLM OF CP 25 CAULK SHOULD COAT ALL EXPOSED EDGES OF THE FS-195 WRAP/STRIP AND COMPLETELY SEAL THE AREA BETWEEN THE FS-195 WRAP/STRIP, THE PIPE/CONDUIT AND THE WALL SURFACE.
4. FIRE STOPPING IS CRITICAL AND MUST BE ACCOMPLISHED. ALL PIPES MUST BE FIRESTOPPED WHERE THEY PENETRATE FIRE RESISTIVE, FIRE RATED, AND SMOKE RESISTIVE WALLS OR FLOORS.
5. A FOUR-HOUR TRAINING SESSION SHALL BE CONDUCTED BY MANUFACTURER OF THE FIRESTOPPING MATERIAL. THIS SHALL BE DONE PRIOR TO THE INSTALLATION OF THE MATERIAL. CONTACT ENGINEER TO ADVISE OF THE DATE AND TIME OF THIS MEETING.
6. ALL PENETRATIONS WILL BE REVIEWED BY THE ENGINEER PRIOR TO INSPECTION ALL CEILING TILES BENEATH THE PENETRATIONS SHALL BE REMOVED BY THE CONTRACTOR.

PENETRATION FIRESTOP FOR METAL PIPE/CONDUIT THROUGH A CONCRETE WALL

1 SCALE: NONE



NOTES

1. FORCE THE CAULK INTO THE ANNULAR SPACE TO THE MAXIMUM EXTENT POSSIBLE, FLUSH WITH THE EXTERIOR OF THE PENETRATION SURFACE.
2. FINISH CAULKING WITH A 1/4" (6mm) MINIMUM BEAD CAULK APPLIED TO THE PERIMETER OF THE CONDUIT/PIPE AT ITS EGRESS FROM THE WALL.
3. THE MAXIMUM ANNULAR SPACE IS NOT TO EXCEED 3/16" (5mm). (IF IT DOES PATCH WALL AND PENETRATE WALL AT ANOTHER LOCATION).
4. INSTALL THE FIRESTOP ON BOTH SIDES OF THE WALL.
5. FIRE STOPPING IS CRITICAL AND MUST BE ACCOMPLISHED. ALL PIPES MUST BE FIRESTOPPED WHERE THEY PENETRATE FIRE RESISTIVE, FIRE RATED, AND SMOKE RESISTIVE WALLS OR FLOORS.
6. ALL PENETRATIONS WILL BE REVIEWED BY THE ENGINEER. PRIOR TO INSPECTION ALL CEILING TILES BENEATH THE PENETRATIONS SHALL BE REMOVED BY THE CONTRACTOR.

PENETRATION FIRESTOP FOR METAL PIPE/CONDUIT THROUGH ONE HOUR WALL

2 SCALE: NONE

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SCHEDULE - LOUVER

MARK	MANUFACTURER	MODEL #	SERVICE	CFM	LENGTH (IN)	HEIGHT (IN)	FREE AREA	VELOCITY (FPM)	APD (IN. WG.)	REMARKS
L-1	RUSKIN	ELF375DX								
L-2	RUSKIN	ELF375DX								
L-3	RUSKIN	ELF375DX								
L-4	RUSKIN	ELF375DX								

REMARKS:
1. ACCEPTABLE MANUFACTURERS INCLUDE GREENHECK, AWV, OR EQUAL.
2. PROVIDE WITH BIRDSCREEN.
3. FACTORY PAINTED OFFSITE. COLOR TO BE SELECTED BY ARCHITECT.
4. COORDINATE INSTALLATION WITH MASONARY COURSING.
5. REFER TO MECHANICAL DRAWINGS FOR INSTALLATION HEIGHT.
6. LOUVER SHALL BE FEMA 361 STORM RATED.

SCHEDULE - REGISTERS, GRILLES, AND DIFFUSERS

MARK	MANUFACTURER	MODEL #	TYPE	GRILLE SIZE	DUCT INLET SIZE	DUCT BRANCH SIZE	MAX CFM	P.D.	NOISE CRITERIA	THROW PATTERN	REMARKS
S-1	TITUS	TDC-AA									

REMARKS:
1. ACCEPTABLE MANUFACTURERS INCLUDE TITUS, METALAIRE, & KRUEGER
2. COLOR SHALL BE SELECTED BY ARCHITECT.
3. COORDINATE MOUNTING TYPE (LAY-IN, GYP BOARD, ETC.) WITH ARCHITECTURAL DRAWINGS.
4. FOR MODELS 4FFL, PROVIDE MANUFACTURER SUPPLIED 1" THICK FILTER.

SCHEDULE - OUTSIDE AIR UNIT

MARK	MANUFACTURER	MODEL #	UNIT CONFIGURATION	SERVICE	LOCATION	PHYSICAL DATA				SUPPLY FAN												EXHAUST FAN												REMARKS
						WIDTH (IN.)	LENGTH (IN.)	HEIGHT (IN.)	WEIGHT (LBS)	TOTAL SA CFM	FAN MOTOR TYPE	# OF FANS	FAN RPM	E.S.P. (" WC)	T.S.P. (" WC)	RATED H.P. (PER FAN)	B.H.P. (PER FAN)	VOLT.	PH.	MCA	MOP	OP. FREQ.	TOTAL EA CFM	FAN MOTOR TYPE	# OF FANS	FAN RPM	E.S.P. (" WC)	T.S.P. (" WC)	RATED H.P. (PER FAN)	B.H.P. (PER FAN)	VOLT.	PH.	MCA	MOP	OP. FREQ.	
OA-1	AAON	V3-BRB-2																																
OA-2	AAON	V3-DRB-2																																

MARK	DUAL TEMPERATURE COIL																																	
	COIL ROWS	NO. OF COILS	MAX. FIN SPACING (FINS/IN)	COOLING PEFORMANCE															HEATING PERFORMANCE														
				FACE AND BYPASS	COOLING CAPACITY (MBH)	COOLING CAPACITY SENSIBLE (MBH)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	MAX. FACE VELOCITY (FPM)	MAX. AIR PRESSURE DROP (IN. WG)	EWT (°F)	LWT (°F)	WATER FLOW RATE (GPM)	MAX. WATER PRESSURE DROP (FT)	TOTAL HEATING CAP. (MBH)	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	MAX. FACE VELOCITY (FPM)	MAX. AIR PRESSURE DROP (IN. WG.)	WATER FLOW RATE (GPM)	MAX. WATER PRESSURE DROP (FT HD)										
OA-1																																		
OA-2																																		

MARK	ENERGY RECOVERY WHEEL PERFORMANCE																				ELECTRIC DATA			FILTER SECTION													
	WINTER OPERATION										SUMMER OPERATION													OA FILTER							EA FILTER						
	OUTSIDE AIR				EXHAUST AIR						OUTSIDE AIR				EXHAUST AIR																						
	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	TOTAL CAPCITY (MBH)	TOTAL EFFECTIVENESS	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	TOTAL CAPACITY (MBH)	TOTAL EFFECTIVENESS	APD OA (IN WG)	APD EA (IN WG)	HP	VOLTAGE	PHASE	TYPE	FILTER EFFICIENCY	NO OF FILTERS	WIDTH (IN)	HEIGHT (IN)	FACE VELOCITY (FPM)	PRESSURE DROP (CLEAN) ("WC)	PRESSURE DROP (DIRTY) ("WC)	TYPE	FILTER EFFICIENCY	NO OF FILTERS	WIDTH (IN)	HEIGHT (IN)	FACE VELOCITY (FPM)	PRESSURE DROP (CLEAN) ("WC)	PRESSURE DROP (DIRTY) ("WC)
OA-1																																				
OA-2																																				

HEAT PUMP SCHEDULE

MARK	MANUF.	MODEL #	DIMENSIONS (IN.)			NET WEIGHT (LBS)	CAPACITY@AHRI (BTUH)	COP@17F	EER@AHRI	ELECTRICAL				REMARKS
			LENGTH	WIDTH	HEIGHT					MCA	VOLTAGE	MOCP	PHASE	
HP-OA-1	AAON	CFA-004												
HP-OA-2	AAON	CFA-018												

REMARKS:
1. ACCEPTABLE MANUFACTURERS INCLUDE DAIKIN, TRANE, YORK, CARRIER, & AAON.
2. PROVIDE WITH FACE AND BYPASS DAMPER.

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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
SCHEDULES

DATE: Issue Date
REVISED
1 2 3 4 5

SHEET M-401
JOB# 2113
DRAWN: CLS
CHECKED: DGC

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INDOOR AIR HANDLER SCHEDULE

MARK	MANUFACTURER	MODEL #	HEIGHT	WIDTH	DEPTH	WEIGHT	AIRFLOW (CFM)	FAN ELECTRIC DATA				ELECTRIC HEAT DATA					
								VOLTAGE	PHASE	MCA	MOP	KW	AMPS	MCA	MOCP	VOLTAGE	PHASE
AHU-18	GUARDIAN	REP14L18B21S															
AHU-24	GUARDIAN	REP14L25B21S															
AHU-48	GUARDIAN	REP1448B21S															

OUTDOOR HEAT PUMP SCHEDULE

MARK	MANUF.	MODEL #	DIMENSIONS (IN.)			NET WEIGHT (LBS)	CAPACITY@AHRI (BTUH)	COP@17F	EER@AHRI	ELECTRICAL				REMARKS
			LENGTH	WIDTH	HEIGHT					MCA	VOLTAGE	MOCP	PHASE	
HP-18	GUARDIAN	REP14L18B21S												
HP-24	GUARDIAN	REP14L24B21S												
HP-48	GUARDIAN	REP14L48B21S												

REMARKS:
1. ACCEPTABLE MANUFACTURERS INCLUDE DAIKIN, TRANE, YORK, CARRIER, & AAON.
2. PROVIDE NEC COMLIANT DISCONNECT MEANS.
3. 3 POINTS OF POWER CONNECTION. POWER CONNECTION FOR INDOOR FAN ASSEMBLY, POWER CONNECTION FOR ELECTRIC HEAT, POWER CONNECTION OUTDOOR HEAT PUMP.

ELECTRIC HEATER SCHEDULE

MARK	MANUFACTURER	MODEL #	TYPE	DIMENSIONS (IN)			KW	ELECTRICAL DATA		REMARKS
				LENGTH	WIDTH	HEIGHT		VOLTAGE	PHASE	
EH-1	MARKEL	5100 SERIES					3 kW			

REMARKS:
1. PROVIDE WITH NEC COMPLIANT DISCONNECT MEANS.
2. PROVIDE WITH INTEGRAL THERMOSTAT.
3. PROVIDE WITH THERMAL OVERLOAD PROTECTION.

CIRCULATION FAN SCHEDULE

MARK	MANUFACTURER	MODEL #	TYPE	WEIGHT	ELECTRICAL DATA			REMARKS
					FLA	VOLTAGE	PHASE	
CF-1	BIG ASS FANS	HAIKU						

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MECHANICAL CONTROL LEGEND

AFF	ABOVE FINISHED FLOOR
AFMS	AIR FLOW MONITORING STATION
AI	ANALOG INPUT
AO	ANALOG OUTPUT
BAS	BUILDING AUTOMATION SYSTEM
BP	BOOSTER PUMP
CCF	100 CUBIC FEET NATURAL GAS
CMD	COMMAND
CO2	CARBON DIOXIDE
CR	CONDENSER RETURN
CS	CONDENSER SUPPLY
CSR	CURRENT SENSOR RELAY
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DAT	DISCHARGE AIR TEMPERATURE
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
DP	DEWPOINT
DPR	DAMPER
EA	EXHAUST AIR PATH
FBD	FACE AND BYPASS DAMPER
HL	HIGH LIMIT
HP	HEAT PUMP
HR	HEAT PUMP RETURN
HS	HEAT PUMP SUPPLY
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
LL	LOW LIMIT
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
MAT	MIXED AIR TEMPERATURE
MAU	MAKE-UP AIR UNIT
MIN	MINIMUM
NSW	NON-SOFTENED WATER
NC	NORMALLY CLOSED
O/C	OCCUPIED COOLING SETPOINT
O/H	OCCUPIED HEATING SETPOINT
OA	OUTSIDE AIR PATH
OAD	OUTSIDE AIR DAMPER
OAH	OUTSIDE AIR HUMIDITY
OAT	OUTSIDE AIR TEMPERATURE
OCC	OCCUPANCY
OVR	OVERRIDE VIA USER INTERFACE
PRESS	PRESSURE
RA	RETURN AIR PATH
RF	RETURN FAN
RH	RELATIVE HUMIDITY
SA	SUPPLY AIR PATH

SETPT	SETPOINT
SF	SUPPLY FAN
SFA	SUPPLY FAN ARRAY
STS	STATUS
SW	SOFT WATER
TCC	TEMPERATURE CONTROL CONTRACTOR
TEMP	TEMPERATURE
U/C	UNOCCUPIED COOLING SETPOINT
U/H	UNOCCUPIED HEATING SETPOINT
VFD	VARIABLE FREQUENCY DRIVE
(Ta)	AVERAGING TEMPERATURE SENSOR
(Ts)	INSERTION TEMPERATURE SENSOR
(H)	HUMIDITY SENSOR
(h)	ENTHALPY SENSOR
(LL)	LOW LIMIT TEMPERATURE SENSOR
(P)	PRESSURE SENSOR
(DP)	DUCT STATIC PRESSURE SENSOR
DPSW	DIFFERENTIAL PRESSURE SWITCH
ES	DAMPER END SWITCH
(DPS)	DIFFERENTIAL PRESSURE SENSOR
C	START/STOP COMMAND
M	MOTORIZED DAMPER
F	FLOW METER
CS	CURRENT SENSOR
SD	DUCT MOUNTED SMOKE DETECTOR
COS	CONDENSATE OVERFLOW SWITCH
DSP-HL	DUCT STATIC PRESSURE HIGH LIMIT
DSP-LL	DUCT STATIC PRESSURE LOW LIMIT
ZN-DP	ZONE DEW POINT
ZN-OCC	ZONE OCCUPANCY SENSOR
ZN-T	ZONE TEMPERATURE - 48" AFF
H / W	HEATING COIL
Co2	CARBON DIOXIDE SENSOR
C / W	CHILLED WATER COIL
E / R	ENERGY RECOVERY COIL
HUMID	HUMIDIFIER

GENERAL CONTROL REQUIREMENTS:

A. ALL EQUIPMENT SHALL HAVE BACNET COMPATIBLE CONTROLLERS UNLESS OTHERWISE NOTED. ALL BACNET CONTROLLED EQUIPMENT SHALL BE CONNECTED WITH THE BASE FRONT END WITH REMOTE ACCESS FOR FACILITY OPERATORS.
B. ALL HARDWARE, EQUIPMENT, AND THE BAS FRONT END MUST FULLY COMPLY WITH THE CONTROLS SPECIFICATIONS.
C. A VALVE EXERCISE PROGRAM SHALL BE INCLUDED AS PART OF THE DDC SYSTEM TO OPEN AND CLOSE AUTOMATIC CONTROL VALVES AND ACTUATORS 2 FULL STROKES DURING AN UNOCCUPIED PERIOD EVERY WEEK.
D. ALL POINT NAMES SHALL HAVE A STANDARDIZED NAMING CONVENTION TO BE COORDINATED AND APPROVED BY CMTA.
E. ALL EQUIPMENT TO HAVE UNIQUE TAG. COORDINATE NAMING WITH MECHANICAL PLANS AND EQUIPMENT LABELING.
F. FOR UNITS THAT SERVE THE SAME SPACE, LEADER/FOLLOWER PROGRAMMING LOGIC OR OTHER PROGRAMMING METHODS SHALL BE IMPLEMENTED TO AVOID SIMULTANEOUS HEATIN AND COOLING.
G. ALL FANS AND PUMPING MONITORED BY THE BAS SHALL HAVE RUN HOURS ACCUMULATED.
H. GRAPHICS SHALL INCLUDE A SUMMARY TABLE FOR EACH EQUIPMENT TYPE WITH MORE THAN 1 PIECE OF EQUIPMENT. COORDINATE PERTINENT OPERATING PARAMETERS FOR EACH SYSTEM TYPE WITH CMTA.
I. PROVIDE CMTA ACCESS TO ALL DATA, PROGRAMMING LOGIC, WIRE SHEETS, ETC. ALL SHALL BE EXPOSED TO CMTA FOR REVIEW COMMENT, AND TROUBLESHOOTING. PROVIDE CMTA WITH ALL ACCESS, LICENSES, ETC. AS REQUIRED. A CONTROLS PROGRAMMING SOFTWARE PACKAGE SHALL BE PROVIDED TO CMTA AND THE OWNER FOR ACCESS TO UNITARY CONTROLS PROGRAMMING LOGIC.
J. PROVIDE ALL INSTALLATION, SUPERVISION, LABOR, AND MATERIAL (IE CONDUIT, WIRE, CABLE, ETC) AS REQUIRED TO INSTALL THE ENTIRE CONTROLS SYSTEM PER DOCUMENT REQUIREMENTS.
K. PROVIDE ENGINEERED DRAWINGS, STARTUP, DATABASE PROGRAMMING, STANDARD COLOR GRAPHICS, INCLUDING THERMOGRAPHIC SITE PLAN, EQUIPMENT, FLOORPLANS, ETC.
L. ALL EXPOSED WIRING, WIRING IN WALLS, HARD CEILINGS, AND MECHANICAL ROOMS SHALL BE IN CONDUIT. ALL CONCEALED WIRING SHALL BE PLENUM RATED WIRE NEATLY SUPPORTED UTILIZING BRIDAL RINGS.
M. INCLUDE 1-YEAR PARTS WARRANTY, 1-YEAR LABOR WARRANTY, AND ONE YEAR JACE SOFTWARE MAINTEANCE AGREEMENT (SMA) FROM THE SIGNED DATE OF FINAL COMPLETION OF EACH SCHOOL. REFER TO COMMISSIONING REQUIREMENTS FOR ADDITIONAL VERIFICATION AND TESTING REQUIREMENTS AND INCLUDE ALL COSTS REQUIRED TO ACCOMMODATE COMMISSIONING OF BUILDING CONTROL SYSTEM. REFER TO RELATED COMMISSIONING SPECIFICATION FOR FURTHER DETAIL.
N. ALL DEVICES THAT ARE ON THE BAS MUST HAVE A WARNING LABEL ON THE EQUIPMENT THAT IS CONTROLLED USING REMOTE PROGRAMMING AND CAN START AT ANY TIME.
O. ALL THERMOSTATS TO HAVE UNOCCUPIED OVERRIDE BUTTON THAT GIVES OCCUPANT 90 MINUTES (ADJ.) OF OCCUPIED OPERATION WHEN PRESSED. THERMOSTATS SHALL HAVE AN OVERRIDE AND SHALL DISPLAY ROOM TEMPERATURE BUT ABLE TO BE PROGRAMMED TO SHOW ONLY SETPOINT IF DESIRED. ALL THERMOSTATS WILL MONITOR TEMPERATURE. ALL THERMOSTATS SHALL HAVE A WARMER/COOLER WHEEL OR SLIDE FOR OCCUPANCY ADJUSTMENT AT THE SPACE THAT SHALL BE LIMITED BY OPERATOR PROGRAMMING. WHERE SPECIFIED IN THE INDIVIDUAL FACILITY BID PACKAGE SECTION, THERMOSTATS SHALL MONITOR SPACE TEMPERATURE AND/OR RELATIVE HUMIDITY.

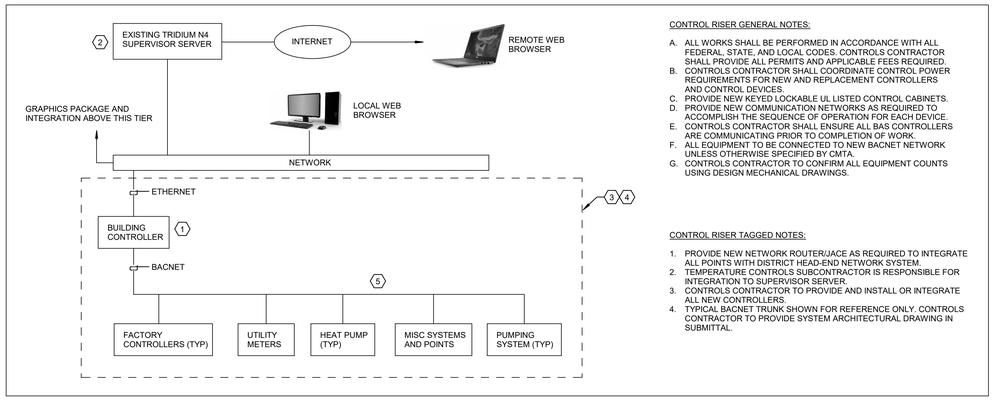
CONTROL GRAPHIC REQUIREMENTS:

A. SETPOINTS & SOFT SETBACK: EACH UNIT USED FOR SPACE CONDITIONING SHALL, ON THE GRAPHIC, SHOW CURRENT HEATING AND COOLING SETPOINT, UNOCCUPIED AND OCCUPIED HEATING AND COOLING SETPOINT, AND TIME FOR WHICH SPACE SHALL CHANGE STATUS (IE. FROM OCCUPIED TO UNOCCUPIED OR UNOCCUPIED TO OCCUPIED). THESE SETPOINTS SHALL BE ADJUSTABLE ON THE GRAPHIC PAGE. ALL TEMPERATURE ADJUSTMENT VALUES (TEMPERATURE RESETS, DEMAND LIMITING, OCCUPANT ADJUST, ETC.) SHALL BE SHOWN ON THE GRAPHICS.
B. TRENDS ON GRAPHICS: ALL TRENDED POINTS SHALL BE MADE AVAILABLE THROUGH THE GRAPHICAL INTERFACE.
C. SAMPLES FOR REVIEW: PROVIDE A SAMPLE OF EACH FOR REVIEW WITH SUBMITTALS OR UNDER SEPARATE COVER.
D. ANIMATION LINKED TO STATUS. ANY ANIMATION SUCH AS FLOWING PIPE ARROWS SHALL BE LINKED TO THE STATUS OF THE EQUIPMENT. FOR EXAMPLE, DO NOT SHOW MOVING PIPE ARROWS FOR PUMPS THAT ARE OFF.
E. COLORS: USE BACKGROUND COLOR AS DIRECTED BY CMTA (WHITE OR BLACK).
F. ALARMS: EQUIPMENT GRAPHICS PAGE SHALL HAVE SECTION THAT CLEARLY DISPLAYS ANY SYSTEM RELATED ALARMS IN EFFECT.
G. GRAPHICS SHALL HAVE ROOM NAMES, ROOM NUMBERS, AND UNIT DESCRIPTORS SHOWN. THE GRAPHICS SHALL SHOW OUTSIDE AIR TEMPERATURE AND THE CURRENT FACILITY ELECTRIC DEMAND LEVEL (KW). BOUNDARIES SHALL BE DEPICTED OF WHAT UNITS SERVE WHICH AREAS. COLOR CODEING OR BOUNDARY OUTLINE OR OTHER APPROVED METHOD. CMTA SHALL BE PROVIDED WITH AN EXAMPLE AND APPROVE THE METHOD USED. GRAPHICS SHALL INCLUDE SECTION THAT CLEARLY DISPLAYS CURRENT ALARMS WITH LINK TO ASSOCIATED SYSTEM.

CONTROLS POINTS LIST CLARIFICATION:

ALL POINTS LISTS WITHIN THIS DOCUMENT INCLUDE THE DESIGNATIONS AV AND BV. THESE REPRESENT ANALOG VALUES AND BINARY VALUES RESPECTIVELY. THESE DESIGNATIONS WILL DIFFER BY EQUIPMENT AS FOLLOWS:

A. IF EQUIPMENT IS FUNISHED WITH A FACTORY BACNET CONTROLLER, ALL AVAILABLE POINTS ARE BROUGHT IN THROUGH INTEGRATION BY CONTROLS CONTRACTOR. POINTS ALL FUNCTION AS SOFTWARE POINTS EVEN IF SENSOR REQUIRE TO BE FIELD INSTALLED AND WILL ALL BE DESIGNATED AS VIRTUAL POINTS. AV/BV SENSORS WILL BE FURNISHED WITH THE EQUIPMENT, UNLESS OTHERWISE NOTED. CONFIRM AVAILABLE POINTS AND CONFIGURATION WITH CMTA UPON EQUIPMENT SELECTION.
B. IF EQUIPMENT IS FURNISHED WITH A TERMINAL STRIP FOR CONNECTION TO A THIRD PARTY CONTROLLER BY THE CONTROLS CONTRACTOR, THE INPUTS AND OUTPUTS FUNCTION AS HARDWARE POINTS WHILE THE VIRTUAL POINTS FUNCTION AS SOFTWARE POINTS. CONFIRM AVAILABLE POINTS AND CONFIGURATION WITH CMTA UPON EQUIPMENT SELECTION.



CONTROL RISER GENERAL NOTES:

A. ALL WORKS SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL CODES. CONTROLS CONTRACTOR SHALL PROVIDE ALL PERMITS AND APPLICABLE FEES REQUIRED.
B. CONTROLS CONTRACTOR SHALL COORDINATE CONTROL POWER REQUIREMENTS FOR NEW AND REPLACEMENT CONTROLLERS AND CONTROL DEVICES.
C. PROVIDE NEW KEYED LOCKABLE UL LISTED CONTROL CABINETS.
D. PROVIDE NEW COMMUNICATION NETWORKS AS REQUIRED TO ACCOMPLISH THE SEQUENCE OF OPERATION FOR EACH DEVICE.
E. CONTROLS CONTRACTOR SHALL ENSURE ALL BAS CONTROLLERS ARE COMMUNICATING PRIOR TO COMPLETION OF WORK.
F. ALL EQUIPMENT TO BE CONNECTED TO NEW BACNET NETWORK UNLESS OTHERWISE SPECIFIED BY CMTA.
G. CONTROLS CONTRACTOR TO CONFIRM ALL EQUIPMENT COUNTS USING DESIGN MECHANICAL DRAWINGS.

CONTROL RISER TAGGED NOTES:

1. PROVIDE NEW NETWORK ROUTER/JACE AS REQUIRED TO INTEGRATE ALL POINTS WITH DISTRICT HEAD-END NETWORK SYSTEM.
2. TEMPERATURE CONTROLS SUBCONTRACTOR IS RESPONSIBLE FOR INTEGRATION TO SUPERVISOR SERVER.
3. CONTROLS CONTRACTOR TO PROVIDE AND INSTALL OR INTEGRATE ALL NEW CONTROLLERS.
4. TYPICAL BACNET TRUNK SHOWN FOR REFERENCE ONLY. CONTROLS CONTRACTOR TO PROVIDE SYSTEM ARCHITECTURAL DRAWING IN SUBMITTAL.

EQUIPMENT SCHEDULING REQUIREMENTS:

EQUIPMENT SCHEDULES:

EVERY SYSTEM SHALL OPERATE ACCORDING TO A USER DEFINABLE SCHEDULE. COORDINATE FINAL SCHEDULES AND GROUPS WITH CMTA PRIOR TO IMPLEMENTATION. COORDINATE FINAL SCHEDULING CAPABILITY WITH OTHER BID REQUIREMENTS.

NORMAL SCHEDULE - THESE ARE THE BASIC NORMAL WEEKLY SCHEDULES THAT ARE ENTERED AND RETAINED. THESE MAY BE PUT IN AT ANY LEVEL CHOSEN BY THE USER (EQUIPMENT, ZONE, SCHOOL, OR DISTRICT) AND MUST BE ADJUSTABLE. AN ADJUSTABLE STAGED OR OPTIMAL START ALGORITHM MUST BE INCLUDED TO ENABLE SPACES TO MEET NORMAL SCHEDULE OCCUPIED SETPOINT BY NORMAL SCHEDULE START TIME.

HOLIDAY SCHEDULE - THESE SCHEDULES PUT EQUIPMENT, ZONES, SCHOOLS, OR THE DISTRICT IN UNOCCUPIED MODE WHILE "NORMAL" SCHEDULES REMAIN INTACT. WHEN SCHOOL IS CANCELLED OR OVER BREAKS, MANY TIMES, THESE ARE PUT IN AT DISTRICT OR SCHOOL LEVEL. HOLIDAY TAKES PRIORITY OVER "NORMAL" SO THAT SCHOOLS/ZONES/EQUIPEMNT OPERATE AS UNOCCUPIED.

OVERRIDE SCHEDULES - TURNS EQUIPMENT OR AREAS TO OCCUPIED MODE WHILE "HOLIDAY" OR "NORMAL" IS RETAINED. OVERRIDE TAKE PRIORITY OVER "HOLIDAY" AND "NORMAL"

VENTILATION SCHEDULE - THIS SCHEDULE SHALL CONTROL THE OPERATION OF THE SCHEDULED BUILDING EXHAUST FANS AND OUTSIDE AIR VENTILATION EQUIPMENT AND DAMPERS. THIS SCHEDULE SHALL CLOSE THE VENTILATION OFF AND TURN OFF THE BUILDING EXHAUST FANS DURING UNOCCUPIED PERIODS TO ENABLE BETTER TEMPERATURE AND HUMIDITY CONTROL. DURING THE SUMMER WHEN THE ECONOMIZER IS ENABLED, VENTILATION WILL BE ALLOWED.

SUMMER MODE OPERATION - DURING THE SUMMER MONTHS, THE BUILDING SHALL OPERATE AT REDUCED OCCUPANCY LOAD. THIS MODE SHALL ONLY AFFECT SPECIFIED EQUIPMENT WITHIN THE BUILDING THAT HAS REGULAR SUMMER OCCUPANCY. REMAINING EQUIPMENT WITHIN THE BUILDING SHALL OPERATE UNDER THEIR OWN SCHEDULE GROUPS IN THE UNOCCUPIED MODE TO CONTROL SPACE TEMPERATURE AND HUMIDITY WHILE IN SETBACK. COORDINATE FINAL SCHEDULE GROUPS WITH CMTA PRIOR TO IMPLEMENTATION.

SNOW DAY OPERATION - FUNCTIONALITY SHALL BE BUILT INTO THE CONTROLS TO ALLOW FOR THE OVERRIDE OF ALL SCHEDULES INTO AN UNOCCUPIED STATE DUE TO THE SUDDEN CANCELLATION OF SCHOOL OR SIMILAR EVENT. SYSTEM OVERRIDE SWITCHES SHALL REMAIN IN PLACE AS STATED IN EACH SYSTEMS CONTROL SEQUENCE TO ALLOW FOR ISOLATED SPACES TO BE PLACED IN OCCUPIED MODE DURING SCHEDULED UNOCCUPIED HOURS.

SYSTEM SHALL HAVE ABILITY TO PUT A BUILDING, GROUP, OR PIECE OF EQUIPMENT INTO OVERRIDE. FOR EXAMPLE, THIS WOULD APPLY TO TYPICAL K-12 SUMMER OPERATION. ALL SCHOOLS ARE TYPICALLY TURNED TO UNOCCUPIED VIA A HOLIDAY THAT OVERRIDES THE NORMAL SCHEDULE. HOWEVER, SHCOOL EVENTS WILL REQUIRE CERTAIN AREAS OR PIECES OF EQUIPMENT TO BE TURNED ON AT ANY GIVEN SCHOOL. THE OVERRIDE FUNCTION ALLOWS THESE TO BE TURNED ON, WHILE THE DISTRICT WIDE SUMMER HOLIDAY REMAINS IN FORCE FOR ALL SCHOOLS.

BASE/DEFAULT TIME IN ALL SCHEDULES SHALL BE UNOCCUPIED. IF THERE IS NO EVENT, OR NO SCHEDULE, THE ITEM IS TO BE UNOCCUPIED. DO NOT REQUIRE THE USER TO PUT IN BOTH UNOCCUPIED TIME AND OCCUPIED TIME FOR SCHEDULES. ONLY OCCUPIED TIME IS TO BE INPUT BY USER. IF A PIECE OF EQUIPMENT IS TO BE OCCUPIED/ENABLED 24 HOURS PER DAY, THE SCHEDULE SHALL BE PUT IN AS 24 HOURS PER DAY. DO NOT CHANGE DEFAULT TO OCCUPIED.

BASE BUILDING GROUPS ARE AS FOLLOWS:
GYMASIUM: INCLUDES HEAT PUMPS SERVING SPACES 154, 154B, 154A, VA-2, AND 155.
AUDITORIUM: INCLUDES HEAT PUMPS SERVING SPACES 156, 158, VA-3, AND 155
BAND: INCLUDES HEAT PUMPS SERVING SPACES 163, 159, 159E, 159C, 163G, 163D, 163B, 159A, C105
ADMIN: ALL HEAT PUMPS WITHIN ADMIN AREA AND VA-1 AND ADJACENT ENTRY LOBBY.
MEDIA CENTER: INCLUDES HEAT PUMP SERVING SPACE 107
KITCHEN: INCLUDES HEAT PUMPS SERVING SPACES 149, 149C, 150, 149F, AND C104.
NORTH CLASSROOM GROUP: INCLUDES ALL HEAT PUMPS SERVING EDUCATIONAL SPACES WTIHIN AREA C, FIRST AND SECOND FLOORS.
SOUTH CLASSROOM GROUP: INCLUDES ALL HEAT PUMPS SERVING EDUCATIONAL SPACES WTIHIN AREA E, FIRST AND SECOND FLOORS.
CENTRAL CLASSROOM GROUP: INCLUDES ALL HEAT PUMPS SERVING EDUCATIONAL SPACES WITHIN AREAS D AND F, FIRST AND SECOND FLOORS.

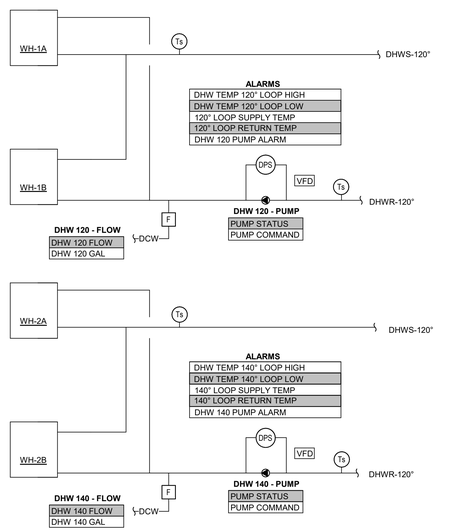
SEE EXAMPLE SCHEDULE BELOW:

BUILDING SCHEDULE

SEMESTER	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
FALL	8AM-4PM	8AM-4PM	8AM-4PM	8AM-4PM	8AM-4PM	UNOCCUPIED	UNOCCUPIED
SPRING	8AM-4PM	8AM-4PM	8AM-4PM	8AM-4PM	8AM-4PM	UNOCCUPIED	UNOCCUPIED
SUMMER	8AM-4PM	8AM-4PM	8AM-4PM	8AM-4PM	8AM-4PM	UNOCCUPIED	UNOCCUPIED

DOMESTIC/KITCHEN HOT WATER SYSTEM
LOCATION: MECHANICAL PLATFORM
AREA SERVED: OCCUPIED/UNOCCUPIED
HW SYSTEM STATUS

OA T	OA H	DATE & TIME
°F	%RH	



DOMESTIC HOT WATER SYSTEM CONTROL SCHEMATIC

POINT LIST - DOMESTIC WATER HEATING SYSTEM

POINT DESCRIPTION	BI	BO	BV	AI	AO	AV	OVR	ALARMS	GRAPHIC	TREND
120 DHW FLOW				X					Yes	Yes
120 DHW GALLONS					X				Yes	Yes
120 DHW PUMP CMD		X					X		Yes	No
120 DHW PUMP STS	X							120 DHW PUMP ALARM	Yes	No
120 DHW RETURN TEMPERATURE				X					Yes	Yes
120 DHW SUPPLY TEMPERATURE				X					Yes	No
140 DHW FLOW				X					Yes	Yes
140 DHW GALLONS					X				Yes	Yes
140 DHW PUMP CMD		X					X		Yes	No
140 DHW PUMP STS	X							140 DHW PUMP ALARM	Yes	No
140 DHW RETURN TEMPERATURE				X					Yes	No
140 DHW SUPPLY TEMPERATURE				X					Yes	Yes
WH-1A ALARM	X							DRY CONTACT	Yes	No
WH-1B ALARM	X							DRY CONTACT	Yes	No
WH-2A ALARM	X							DRY CONTACT	Yes	No
WH-2B ALARM	X							DRY CONTACT	Yes	No

DOMESTIC HOT WATER SYSTEM (WH-1A, WH-1B, WH-2A, WH-2B) SEQUENCE OF OPERATION:

1. General:
   A. High school domestic hot water is provided via two independent water heating systems - a 120 degree domestic hot water system which supplies general purpose domestic hot water to most fixtures throughout the building and a 140 degree domestic hot water system which supplies 140 degree domestic hot water to select fixtures within the culinary and kitchen areas of the high school. Each system consists of redundant gas hot water heaters paired with a hot water recirculating pump.
   B. Water Heaters operate independently on their own controls. Provide wire to monitor dry alarm contact for each and report to BAS.
2. Recirculating pumps sequence of operation:
   A. The domestic hot water system and the kitchen hot water system shall be enabled whenever the building or an applicable zone of control is scheduled to be occupied. Refer to zones of control as outlined on sheet M8.0.
   B. When the domestic hot water system is enabled, the domestic hot water recirculating pumps which serve both the 120 degree and 140 degree hot water systemts shall run constantly. When the building is scheduled unoccupied, the pumps shall be off. Pumps shall have a building warming feature where they start and run 2 hours (adj.) before the building is scheduled to be occupied.
3. Alarms:
   A. BAS shall monitor the water supply temp of the 120 degree water system and alarm if setpoint exceeds 125°F (adj) when occupied.
   B. BAS shall monitor the water supply temp of the 140 degree water system and alarm if setpoint exceeds 145°F (adj) when occupied.
   C. BAS shall monitor the water supply temp of the 120 degree water system and alarm if setpoint falls below 110°F (adj) when occupied.
   D. BAS shall monitor the water supply temp of the 140 degree water system and alarm if setpoint falls below 130°F (adj) when occupied.

* Alarms which indicate a notification in points list above shall provide a mobile notification to building operator. All other alarms shall be visible in the building alarms report but will not provide mobile notification to owner.
** Refer to Trends schematic for all required trends associated with fans.

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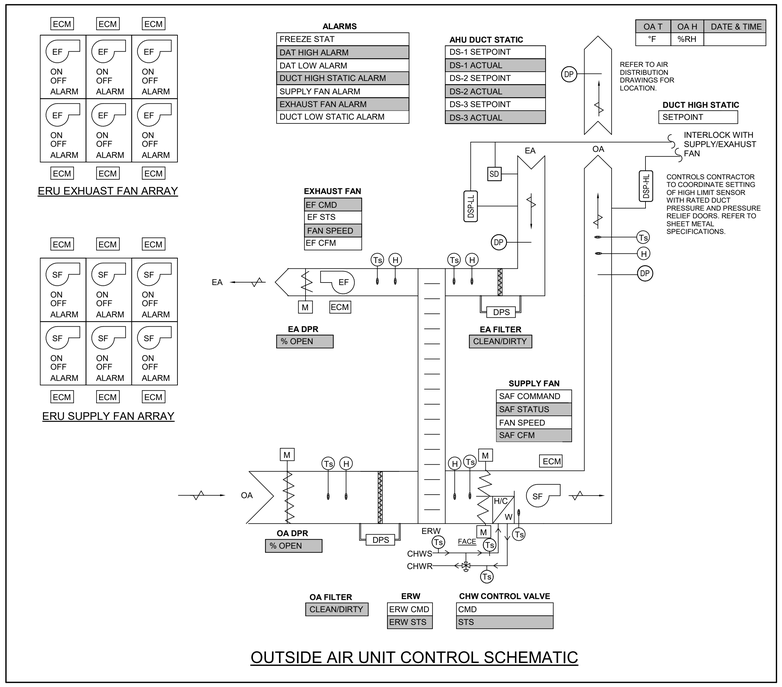
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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX
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OUTSIDE AIR UNIT CONTROL SCHEMATIC

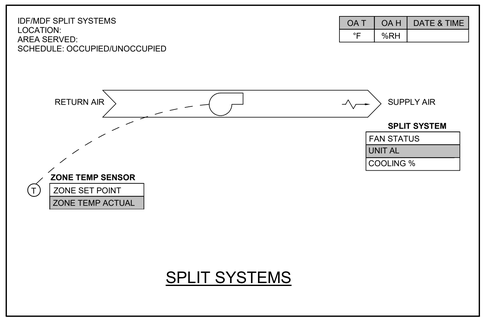
POINT LIST - ERU-01

POINT DESCRIPTION	BI	BO	BV	AI	AO	AV	OVR	ALARMS	GRAPHIC	TREND
CHW COIL BYPASS DAMPER CMD					X		X		Yes	No
CHW COIL BYPASS DAMPER STS				X				DAMPER ALM	Yes	Yes
CHW COIL ENTERING AIR HUMIDITY				X					Yes	No
CHW COIL ENTERING AIR TEMPERATURE				X					Yes	No
CHW COIL FACE DAMPER CMD					X		X		Yes	No
CHW COIL FACE DAMPER STS				X				DAMPER ALM	Yes	Yes
CHW COIL LEAVING AIR TEMPERATURE				X				FREEZE STAT	Yes	Yes
CHW MIXED TEMPERATURE				X					Yes	Yes
CHW VALVE CMD					X		X		Yes	Yes
CHW VALVE STS				X				CHW VALVE ALM	Yes	No
CHWR TEMPERATURE				X					Yes	Yes
CHWS TEMPERATURE				X					Yes	Yes
DEHUMIDIFICATION COMMAND		X					X		Yes	Yes
DISCHARGE AIR HUMIDITY				X					Yes	Yes
DISCHARGE AIR STATIC PRESSURE				X				HIGH LIMIT - INTERLOCK WITH SA FAN	Yes	Yes
DISCHARGE AIR TEMP				X				LOW LIMIT	Yes	Yes
DUCT STATIC PRESSURE #1				X					Yes	No
DUCT STATIC PRESSURE #2				X					Yes	No
DUCT STATIC PRESSURE #3				X					Yes	No
DUCT STATIC PRESSURE SETPOINT					X		X		Yes	No
ENERGY RECOVERY WHEEL CMD		X					X		Yes	No
ENERGY RECOVERY WHEEL STS	X							ERW ALARM	Yes	No
EXHAUST AIR DAMPER CMD					X				Yes	No
EXHAUST AIR DAMPER STS				X				DAMPER ALM	Yes	No
EXHAUST AIR FAN ALARM			X					FROM MOTOR CONTROL PANEL	Yes	No
EXHAUST AIR FAN CFM (EACH FAN AND TOTAL)					X				Yes	Yes
EXHAUST AIR HUMIDITY				X					Yes	No
EXHAUST AIR TEMPERATURE				X					Yes	No
EXHAUST FAN COMMAND		X							Yes	No
EXHAUST FAN SPEED (EACH FAN AND AVERAGE)				X	X				Yes	Yes
EXHAUST FAN STATUS	X								Yes	No
FILTER STATUS (RA AND OA FILTER)				X				HIGH PRESSURE (REFER TO SEQUENCE)	Yes	Yes
OUTSIDE AIR DAMPER CMD					X				Yes	No
OUTSIDE AIR DAMPER STS				X				DAMPER ALM	Yes	No
OUTSIDE AIR INLET HUMIDITY				X					Yes	Yes
OUTSIDE AIR INLET TEMPERATURE				X					Yes	Yes
RETURN AIR HUMIDITY	X								Yes	Yes
RETURN AIR SMOKE DETECTOR	X							INTERLOCK WITH SA FAN	Yes	No
RETURN AIR STATIC PRESSURE				X				LOW LIMIT - INTERLOCK WITH SA FAN	Yes	Yes
RETURN AIR TEMPERATURE	X								Yes	Yes
SUPPLY AIR FAN ALARM			X					FROM MOTOR CONTROL PANEL	Yes	No
SUPPLY AIR FAN CFM (EACH FAN AND TOTAL)				X					Yes	Yes
SUPPLY FAN COMMAND		X							Yes	No
SUPPLY FAN SPEED (EACH FAN AND AVERAGE)				X					Yes	Yes
SUPPLY FAN STATUS	X								Yes	No

ERU-1 SEQUENCE OF OPERATION

1. General:
   - A. ERU-1 is the sole unit responsible for the ventilation of WC High School. It is a 30k CFM air handler with a demand control ventilation sequence of control which coordinates with networked VAV boxes to vary the supply of ventilation air to meet building occupancy schedules, etc. Refer to VAV box sequence of control for additional detail.
   - B. The unit is sized with diversity in mind. Refer to test and balance specifications for additional details on unit balance.
   - C. The unit will be provided with complete field mounted controls. EC motors provided by manufacturer will require some interface with supplied motor control panel. The controls contractor shall coordinate with manufacturer during shop drawing review period to ensure that all coordination required to achieve the sequence of operation takes place prior to the ordering of equipment.
   - D. Unit conditioning is provided by dedicated combination chilled/hot water heating system. Refer to related controls schematic, this sheet for details.
2. Occupancy Schedule:
   - A. Refer to Controls General Notes for occupancy Schedule.
   - B. The unit shall be placed into occupied or unoccupied mode from the DDC control system. Refer to scheduling requirements for additional information.
3. Supply and Exhaust Fan Control:
   - A. Both supply and exhaust fan array are to be provided with a networked airflow monitoring system which will calculate for each fan and for the total array the CFM of each fan at all times. Accuracy to be +/- 1%.
   - B. Supply and Exhaust fan will be started and stopped from the local DDC Panel per the schedule. When the start command is issued the outside air and exhaust air dampers will open. When the dampers are full open, an end switch will engage an EP which will then allow the fan to start. If the end switch fails to engage the EP the fan will not be allowed to start. If for this or any other reason the supply fan status does not match the commanded value an alarm will be generated. When the supply fan status indicates the fan has started, the control sequence will be enabled.
   - C. The supply and exhaust fan shall be controlled from their respective EC motors and associated motor control panel. Controls contractor to provide wiring, sensors, and programming to detect both
   - D. The supply fan will operate to maintain duct static pressure. Refer to the control drawings for the number of duct mounted static pressure sensors which shall control the supply fan to maintain a duct static pressure setpoint of 0.6" (adj.) at all locations. Coordinate initial static pressure setpoint with TAB contractor. Pressure setpoint shall be as low as feasible to maintain proper system operation. The locations of the duct static pressure sensors are also shown on the drawings. Fan supply static pressure optimization shall be utilized by polling of associated VAV and CAV air valve positions and adjusting the supply fan static pressure control using a PID loop.
   - E. The exhaust fan shall normally operate off of a 3000 cfm (adj.) differential from supply fan airflow. Coordinate setting of fan speeds at both maximum and minimum flows. Refer to test and balance specification for additional detail and provide support to test and balance contractor as required. Typical all air balance support. Fan speeds shall adjust proportionally between these two values.
   - F. Exhaust fan offset overrides. In the event that additional exhaust is added via temporary sources, the following additional exhaust shall be automatically added to the defaul exhaust fan offset value. Please note that all such overrides are to be automatically cancelled should the outside air temperature fall below 30 degrees (adj) or rise above 90 degrees (adj):
     - a. The BAS shall monitor the status of fume hood exhaust fans - EF-1 and 2. in the event that either fume hood is activated, increase offset for exhaust offset an additional 750 cfm (adj.) per fan.
     - b. The BAS shall monitor the status of the main Kitchen hood exhaust fan. Refer to foodservice drawings. In the event that the kitchen hood exhaust fan is activated, increase offset for exhaust fan an additional 1250 cfm (adj.).
     - c. The BAS shall monitor the status of the convection oven Kitchen hood exhaust fan. Refer to foodservice drawings. In the event that the convection oven kitchen hood exhaust fan is activated, increase offset for exhaust fan an additional 1500 cfm (adj.).
     - d. The BAS shall monitor the status of the Dishwasher Hood exhaust fan. Refer to foodservice drawings. In the event that the dishwasher hood exhaust fan is activated, increase offset for exhaust fan an additional 1200 cfm (adj.).
     - e. The BAS shall monitor the status of each of the culinary arts Hood exhaust fans. Refer to foodservice drawings. In the event that either culinary arts hood exhaust fan is activated, increase offset for exhaust fan an additional 1500 cfm (adj.) per fan.
     - f. The BAS shall monitor the status of welding exhaust fan EF-6. In the event that the welding exhaust fan is activated, increase offset for exhaust offset an additional 2,000 cfm (adj.).
4. Supply Air Temperature Controls - Cooling:
   - A. Mode determination shall only take place when the unit is in occupied mode. When the coil EAT is greater than or equal to 80°F (adj.), cooling mode shall be enabled.
   - B. When the unit determines that cooling is required, send a signal to the chilled/hot water system to initiate cooling mode.
   - C. When unit CHWS temperature sensor detects a water temperature of less than or equal to 48°F (adj.), modulate the 3-way chilled water control valve as required to maintain 60°F (adj.) supply air temperature downstream of coil. Bypass damper shall be closed.
   - D. For bypass damper modulation, refer to dehumidification mode sequence.
5. Dehumidification Mode:
   - A. This mode shall be activated if the exhaust air dewpoint is 65°F (adj.) or higher.
   - B. The CHWS must be placed in cooling mode. The three way control valve shall modulate to maintain a leaving coil temperature of 55ºF. The ERV coil face and bypass dampers shall modulate to control to a unit LAT of 65ºF (adj.). The face and bypass dampers must be programmed to limit bypass airflow to 50% maximum. In dedumidification mode, discharge air temperature setpoint may be allowed to drift to meet this requirement.
   - C. The unit shall release from dehumidification mode and return to its previous state once the exhaust dewpoint falls below 60ºF.
6. Supply Air Temperature Controls - Heating:
   - A. Mode determination shall only take place when the unit is in occupied mode. When the coil EAT is less than or equal to 66°F (adj.), heating mode shall be enabled.
   - B. When the unit determines that heating is required, send a signal to the chilled/hot water systerm to initiate heating mode.
   - C. When unit CHWS temperature sensor detects a water temperature of greater than or equal to 100°F (adj.), modulate 3-way hot water control valve as required to maintain 70°F (adj.) unit discharge air temperature. Bypass damper will be closed.
7. Freeze Protection: If the leaving coil temperature falls below 40°F (adj.) then the supply fan and exhaust fan shall shut down, the outside air damper and exhaust air damper shall close. This shall require a manual reset.
8. Energy Recovery Wheel Control
   - A. Upon entering the occupied mode of operation, the controller shall enable the energy recovery sequence if one of the following conditions is met:
     - a. The outdoor air temperature is 5 degrees (adj.) below the return air temperature.
     - b. The outdoor air temperature is 5 degrees (adj.) above the return air temperature.
     - c. When return air dewpoint is 5°F (adj.) less than outdoor air dewpoint
9. Over Pressurization Control: A static pressure sensor shall be located at the ERU supply air outlet in the discharge ductwork. If the pressure in the supply plenum exceeds 4 .0" W.G. (adj.) the fan shall be shut down. Upon correction of the problem, the system shall be reset and unit shall return to normal operation. This shall be a manual reset.
10. Under Pressurization Control: A static pressure sensor shall be located at the ERU supply air outlet in the discharge ductwork. If the pressure in the supply plenum exceeds -4 .0" W.G. (adj.) the fan shall be shut down. Upon correction of the problem, the system shall be reset and unit shall return to normal operation. This shall be a manual reset.
11. Unoccupied Mode: In the unoccupied mode, the ERU shall be "off". The outside air damper and exhaust air damper shall be closed. The exhaust fan, the supply fan, and the energy recovery wheel shall be disabled.
12. Smoke Shutdown: Smoke detectors shall be located in the exhaust air stream. If smoke is detected, the supply and exhaust fans shall de-activate and an audio/visual alarm shall activate. Upon correction of the problem, the system shall be reset and unit shall return to normal operation. The smoke detectors shall provide a supervisory signal to the Fire Alarm System.
13. Filter Monitoring: Each filter in the air handler will be provided with an analogue input which tracks the actual pressure drop across the filter. Coordinate alarm for each filter such that is adjustable by the user. Initial setpoint to be at 0.5 " WC (adj.) greater than the initial filter pressure drop with clean filters. Coordinate with test and balance contractor to obtain this setpoint and program accordingly.

* Alarms which indicate a notification in points list above shall provide a mobile notification to building operator. All other alarms shall be visible in the building alarms report but will not provide mobile notification to owner.
** Refer to Trends schematic for all required trends associated with fans.



SPLIT SYSTEMS

POINT LIST - SPLIT SYSTEMS

POINT DESCRIPTION	DI	DO	AI	AO	OVERRIDE	NOTIFICATION
COOLING %				X		
COOLING MODE STS	X					
COOLING SETPOINT				X	X	
SUPPLY FAN SPEED				X		
SPACE TEMPERATURE			X	X		
UNIT ALM		X				X

SPLIT SYSTEM SEQUENCEOF CONTROL

1. Factory Mounted Controls: Unit to be provided with factory mounted controls and land control wire to terminal strip unit. Controls contractor responsible for running control wire from occupancy sensors and between indoor and outdoor units as well as any supplemental sensors shipped loose with equipment.
2. Occupancy Schedule:
   - A. Unit shall always remain on to maintain setpoint.
3. Supply Fan Control:
   - A. Supply fan shall cycle as required to maintain temperature setpoint.
4. Supply Air Temperature Controls - Cooling:
   - A. Occupied Mode: Cooling temperature setpoint shall be 72ºF (adj.).
   - B. Unoccupied Mode: Unoccupied cooling temperature setpoint shall be 78ºF (adj.).
   - C. When setpoint is exceeded, unit shall be automatically activated into cooling mode and supply fan shall stage with DX coil, compressors and condenser fans to maintain space setpoint.
5. Unit Alarms: The unit currently lists 100 different alarms available through the factory mounted controller. Pull all alarms and associated alarm codes into the BAS and upon recieving the alarm from the factory mounted controller. All alarms shall be itemized and called out with both the alarm code and a description of the alarm at the BAS.

* Alarms which indicate a notification in points list above shall provide a mobile notification to building operator. All other alarms shall be visible in the building alarms report but will not provide mobile notification to owner.

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DESCRIPTION	MOUNTING HEIGHT	SYMBOL
LIGHTING CONTROLS		
LIGHT SWITCH; LOW VOLTAGE (WHEN PRESENT, # INDICATES QUANTITY OF CHANNELS)	46"	$ #
EXAM LIGHT SWITCH	46"	$ X
NIGHT LIGHT SWITCH WITH CONSTANTLY ILLUMINATED HANDLE	46"	$ N
SURGICAL LIGHT INTENSITY CONTROL	46"	$ SL
LOW VOLTAGE DIMMER SWITCH (WHEN PRESENT, # INDICATES QUANTITY OF CHANNELS)	46"	$ D#
GRAPHIC TOUCHSCREEN CONTROL STATION	46"	$ G
LINE VOLTAGE SWITCH	46"	$ LV
LINE VOLTAGE THREE-WAY, FOUR-WAY SWITCH	46"	$ LV3 $ LV4
LINE VOLTAGE THREE-WAY, FOUR-WAY DIMMER SWITCH	46"	$ LV3D $ LV4D
KEYED SWITCH	46"	$ K
OCCUPANCY OR VACANCY SENSOR SWITCH	46"	$ OS $ VS
OCCUPANCY OR VACANCY SENSOR SWITCH WITH DIMMING	46"	$ DOS
LIGHT SWITCH FOR UNDER-CABINET LIGHTS	46"	$ U
ILLUMINATED HANDLE LIGHT SWITCH (ILLUMINATED WHEN LOAD IS OFF)	46"	$ IL
PILOT LIGHT SWITCH (ILLUMINATED WHEN LOAD IS ON)	46"	$ PL
TIMER SWITCH	46"	$ T
OCCUPANCY OR VACANCY SENSOR, CEILING MOUNT	CLG	OS VS
OCCUPANCY SENSOR, CORNER MOUNT	CLG	OS
DAYLIGHT SENSOR	AS NOTED	PC
PHOTOCELL	AS NOTED	PC
LIGHTING RELAY	AS NOTED	LR
EMERGENCY AUTOMATIC TRANSFER SWITCH FOR LIGHTING CONTROLS (REFER TO DETAIL)	CLG	ER
POWER OUTLETS		
SIMPLEX RECEPTACLE (TEXT INDICATES NEMA TYPE)	1'-6"	
DUPLEX RECEPTACLE	1'-6"	
SLASH THROUGH ANY DEVICE INDICATES MOUNTING ABOVE COUNTERTOP 4" ABOVE BACKSPLASH		
'G' INDICATES INTEGRAL GROUND FAULT PROTECTION (GFCI)	1'-6"	
DEAD FRONT GFCI DEVICE, LABEL AND INSTALL IN READILY ACCESSIBLE LOCATION		
DUPLEX RECEPTACLE WITH TWO INTEGRAL USB CHARGING PORTS	1'-6"	
USB CHARGING OUTLET WITH FOUR INTEGRAL USB PORTS	1'-6"	
GANG RECEPTACLE IN COMBINATION WITH SWITCH (PROVIDE DIVIDER IF LIGHTING CIRCUIT IS 277V)	46"	CS
DUPLEX RECEPTACLE, CEILING MOUNTED	CLG	
QUADRUPLEX RECEPTACLE	1'-6"	
JUNCTION BOX, CEILING OR WALL		
VOLTAGE/2 POLE RECEPTACLE, TEXT INDICATES NEMA TYPE	1'-6"	
VOLTAGE/3 POLE RECEPTACLE, TEXT INDICATES NEMA TYPE	1'-6"	
'T' INDICATES SAFETY TYPE, TAMPER RESISTANT OUTLET(S)		
SS INDICATES SURGE SUPPRESION TYPE OUTLET(S)		SS
GROUND FAULT PROTECTED DUPLEX WITH WEATHER-PROOF "WHILE IN USE" TYPE DIE-CAST METAL COVERPLATE WITH LOCKABLE ENCLOSURE AT OUTLET - SEE SPECIFICATIONS	2'-2"	WP
DUPLEX FOR ELECTRIC WATER COOLER; COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR TO CONCEAL OUTLET BEHIND COOLER, PROVIDE READILY ACCESSIBLE GFI DEVICE AT 18" ADJACENT TO WATER COOLER		EWC
BOX ON ANY DEVICE INDICATES SURFACE MOUNTED BACKBOX/WIREMOLD		
CIRCLE ON ANY DEVICE INDICATES DEVICE FED FROM STUB UP CONDUIT		
FIRE ALARM		
MAIN CONTROL PANEL CENTRAL PROCESSING UNIT (CPU)	6'-6" TO TOP	FACP
REMOTE L.C.D. FIRE ALARM ANNUNCIATOR	54"	FAA
REMOTE FIRE ALARM ANNUNCIATOR W/ MICROPHONE	54"	FAAM
LOCAL OPERATOR CONSOLE	54"	LOC
SMOKE EVACUATION CONTROL PANEL	54"	SECP
POWER SUPPLY/CONTROL FOR AUDIO/VISUAL DEVICES	46"	NAC
TRANSPONDER CABINET	46"	TRAN
GRAPHICS DISPLAY TERMINAL		GDT
FIRE ALARM CONTROL EXTENDER		EXT
POST INDICATOR VALVE		PIV
PULL STATION : DOUBLE ACTION	46" TO LEVER	P
KEYED, LOCKED PULL STATION : DOUBLE ACTION; STATION SHALL ONLY BE OPERABLE VIA KEY IN POSSESSION OF STAFF.	46" TO LEVER	PK
AUDIO/VISUAL NOTIFICATION APPLIANCE	WALL, CLG	
AUDIO-ONLY NOTIFICATION APPLIANCE	WALL, CLG	
VISUAL-ONLY NOTIFICATION APPLIANCE	WALL, CLG	
BELL / LIGHT	80"	BL
BELL ONLY	80"	B
PHOTO-ELECTRIC SMOKE DETECTOR	CLG	SD
PHOTO-ELECTRIC SMOKE DETECTOR FOR PATIENT ROOM MONITORING (SEE RISER)	CLG	SDP
PROJECTED BEAM SMOKE DETECTOR; EMITTER (BE) AND RECEIVER (BR)		BE BR
HEAT DETECTOR	CLG	HD
CARBON MONOXIDE DUCT DETECTOR	ABOVE CEILING	DD
CARBON MONOXIDE ALARM: SINGLE STATION W/SOUNDER BASE	CLG	CM
CARBON MONOXIDE AUDIO/VISUAL NOTIFICATION APPLIANCE	WALL	CM
DOOR HOLDER : WALL TYPE	WALL	DH
DOOR HOLDER : CLOSURE TYPE	ABV DOOR	DHC
DUCT SMOKE DETECTOR	ABV CLG	DD
CONNECTION TO SPRINKLER FLOW SWITCH WITH ADDRESSABLE MODULE		FS
CONNECTION TO SPRINKLER TAMPER SWITCH WITH ADDRESSABLE MODULE		TS
PRESSURE SWITCH		PS
ISOLATION MODULE	WALL	I
ZONE ADDRESSABLE MODULE		ZM
H.V.A.C. SMOKE DAMPER CONNECTION		SM
FLUSH MOUNTED REMOTE ALARM INDICATING STATION/TEST SWITCH	7'-6"	R
FIREMAN'S PHONE JACK	4'-6"	FP
FIREMAN'S KNOX BOX CONNECTION		KB
ADDRESSABLE RELAY MODULE		R
INDICATES VANDAL-PROOF POLYCARBONATE COVER; VANDAL PROOF COVERS SHALL BE UL LISTED FOR USE WITH THE SPECIFIC DEVICE THEY ARE PROTECTING		VR
INDICATES CHIME AUDIBLE NOTIFICATION		CH
DEVICE USED FOR ELEVATOR CONTROL		EL

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
LIGHTING FIXTURES AND EQUIPMENT		
REFER TO LUMINAIRE SCHEDULE FOR EXACT FIXTURE SPECIFICATIONS, MOUNTING HEIGHTS, ETC.		
SURFACE OR SUSPENDED CEILING FIXTURE		
RECESSED CEILING FIXTURE		
POLE MOUNTED AREA LIGHT WITH CONCRETE BASE		
LIGHTED BOLLARD WITH CONCRETE BASE		
EMERGENCY BATTERY WALL-PACK		
WALL MOUNT FIXTURE		
TRACK COMPLETE WITH POWER SUPPLIES AND FIXTURE HEADS		
FLOODLIGHT		
EXIT LIGHT (CEILING, END, WALL MOUNT) WITH OR WITHOUT DIRECTIONAL ARROWS, WITH OR WITHOUT EGRESS HEADS		
STRIP FIXTURE		
CROSS-HATCHING INDICATES LIGHT IS POWERED FROM THE EMERGENCY-CRITICAL BRANCH		
PARALLEL-HATCHING INDICATES LIGHT IS POWERED FROM THE EMERGENCY-LIFE SAFETY BRANCH		
REMOTE LIGHT FIXTURE DRIVER	AS NOTED	RD
REMOTE BATTERY BACKUP	AS NOTED	RB
CENTRAL BATTERY INVERTER	AS NOTED	INV
MISCELLANEOUS		
CONDUIT CONCEALED IN WALLS OR IN CEILING SPACE: ARROW(S) INDICATE(S) HOME RUN & # OF CIRCUITS: HASHMARKS INDICATE # OF CONDUCTORS.		
NON-REVERSING MOTOR STARTER SNAP SWITCH	AS NOTED	$ M
MOMENTARY CONTACT SWITCH	46"	$ MC
HAND-OFF-AUTO 3-POSITION SWITCH	46"	$ HOA
DISCONNECT SWITCH	5'-0"	
MAGNETIC STARTER	5'-0"	
MAGNETIC COMBINATION STARTER	5'-0"	
VARIABLE FREQUENCY DRIVE	5'-0"	
ENCLOSED FLUSH MTD. CIRCUIT BREAKER	5'-0"	
MUSHROOM SWITCH	46"	
PUSHBUTTON STATION WITH 1, 2, OR 3 BUTTONS.	46"	
PANELBOARD, SURFACE OR FLUSH MOUNTED, HATCHING INDICATES EMERGENCY	6'-6" TO TOP	
TRANSFORMER	AS NOTED	
EQUIPMENT HARDWIRE CONNECTION (SEE DETAIL)		
KITCHEN EQUIPMENT OUTLET COUPLING CONNECTION (SEE DETAIL)		
MOTOR CONNECTION. REFER TO EQUIPMENT CONNECTION SCHEDULE		
PLUMBING FIXTURE SOLENOID VALVE/ELECTRIC EYE SENSOR CONNECTION. COORDINATE EXACT CONNECTION REQUIREMENTS WITH MANUFACTURER.		
PLUMBING FIXTURE ELECTRIC EYE TRANSFORMER CONNECTION. TRANSFORMER SHALL BE 120V-24V. MOUNT ABOVE SUSPENDED ACCESSIBLE CEILING IN J-BOX. PROVIDE ADDITIONAL TRANSFORMERS OF SAME TYPE AS/F NEEDED		
PROVIDE CONNECTION TO HAND DRYER (SEE ARCHITECTURAL SPECIFICATIONS)	VERIFY WITH ARCHITECT	
SURGE PROTECTION DEVICE (SURFACE OR FLUSH MOUNTED)		SPD
GENERATOR ANNUNCIATOR PANEL (SURFACE OR FLUSH MOUNTED) - SEE SPECIFICATIONS	46"	GEN-A
CONDUIT UP		
CONDUIT DOWN		
FLEXIBLE CONDUIT		
GROUND BUS BAR ON INSULATED STANDOFFS	2'-0"	
BUS DUCT, AMPERAGES AS NOTED	AS SHOWN	
WIREWAY WITH REMOVABLE COVER (SIZE AS NOTED)	AS SHOWN	
TRENCH DUCT (SIZE AS NOTED)	AS SHOWN	
WIRE BASKET CABLE TRAY, SIZE AS NOTED	AS SHOWN	
LADDER CABLE TRAY, SIZE AS NOTED	AS SHOWN	
SOLID BOTTOM CABLE TRAY, SIZE AS NOTED	AS SHOWN	
J-HOOK PATHWAY		
EQUIPMENT TAG, REFER TO EQUIPMENT SCHEDULE		EQUIP-#
MECHANICAL EQUIPMENT DESIGNATOR (SEE MECH. SCHEDULES)		EQUIP-#
TAGGED NOTE		
REVISION TAG		

LINETYPE LEGEND	
	EXISTING
	DEMOLISHED
	NEW

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
ABBREVIATIONS		
UNLESS OTHERWISE NOTED		UON
OWNER FURNISHED CONTRACTOR INSTALLED		OFCI
OWNER FURNISHED OWNER INSTALLED		OFOI
CONTRACTOR FURNISHED CONTRACTOR INSTALLED		CFCI
CONTRACTOR FURNISHED OWNER INSTALLED		CFOI
INDICATES EMERGENCY POWER		EM
WIREGUARD - PROVIDE MANUFACTURER'S SPECIFIC GUARD FOR DEVICE NOTED		WG
WEATHERPROOF - NEMA-3R, WET LOCATION LISTED. PROVIDE COVERS, RATINGS, ETC, AS SUITABLE FOR OUTDOORS.		WP
EXPLOSION PROOF - PROVIDE WIRING METHODS, ENCLOSURES, RATINGS, ETC. AS SUITABLE FOR HAZARDOUS LOCATION.		XP
SPECIAL OUTLETS		
FLOORBOX, AS SCHEDULED	FLOOR	FSF
POKE-THRU, AS SCHEDULED	FLOOR	PTH
WALLBOX, AS SCHEDULED	WALL	WBX
AUDIO/VISUAL SYSTEM OUTLET WITH DUPLEX RECEPTACLE; REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	AV
COMBINATION POWER AND DATA OUTLET LOCATION; REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	
COMBINATION POWER AND DATA OUTLET LOCATION, GFCI DUPLEX RECEPTACLE; REFER TO ASSOCIATED DETAIL FOR ADDITIONAL INFORMATION	1'-6"	
OVERHEAD PROJECTOR: PROVIDE DUPLEX RECEPTACLE, ONE DATA, HDMI, 3.5mm AUDIO, AND VGA OUTLET ON (3) PLATES	CLG	
SPECIAL VIDEO SYSTEM SIGNAL INPUT		-NA-
SURFACE PLUG-MOLD		
SURFACE WIRE-MOLD		
POWER POLE AS NOTED		PP
TELEVISION		
TELEVISION HEADEND (SPLITTERS/AMPLIFIERS/DISTRIBUTION)	46"	TV
TELEVISION SYSTEM OUTLET WITH DUPLEX RECEPTACLE, COORDINATE LOCATION WITH WALL BRACKET WHERE APPLICABLE	7'-0"	T
OVERHEAD PAGING		
PAGING SPEAKER: CEILING	CLG	
PAGING SPEAKER W/ VOLUME CONTROL	CLG	
PAGING SPEAKER: WALL	8'-0"	
RECESSED WALL MOUNTED PAGING SPEAKER DUKANE 5A606 SPEAKER, ATLAS 417-8WD	8'-0"	
VANDAL PROOF / WEATHERPROOF WALL MOUNTED PAGING SPEAKER; QUAM VP1	SEE FLOOR PLANS	V
EXTERIOR VANDAL PROOF / WEATHERPROOF WALL MOUNTED PAGING SPEAKER, SHALL BE PAINTED COLOR SELECTED BY ARCHITECT/OWNER. QUAM VP6	SEE FLOOR PLANS	WP
WALL MOUNTED PAGING HORN	9'-0"	
CALL INITIATION STATION	46"	
WALL VOLUME CONTROL	46"	
PAGING MICROPHONE	1'-6"	
PANIC BUTTON (MOUNTING PER DRAWINGS)	46", UNDER DESK	
NOTIFICATION LIGHT (MOUNTING PER DRAWINGS)	7'-6", CLG	
LCD WALL DISPLAY		LCD
PAGING SYSTEM HEADEND	46"	PA
CLOCKS		
TYPICAL CLOCK MOUNTING HEIGHTS: FOR CEILING HEIGHTS < 9'-8", MOUNT CENTER OF BACKBOX AT 8" BELOW CEILING. FOR CEILING HEIGHTS >= 9'-8" , MOUNT CENTER OF BACKBOX AT 9'-0" AFF.		
ANALOG CLOCK: SINGLE FACE	SEE ABOVE	
ANALOG CLOCK: DUAL FACE	SEE ABOVE	
DIGITAL CLOCK: SINGLE FACE	SEE ABOVE	DSC
DIGITAL CLOCK: DUAL FACE	SEE ABOVE	DSC
CLOCK SYSTEM HEAD END	84"	CLOCK
AV SYSTEMS		
PROJECTOR WITH MOUNT (CEILING OR WALL AS INDICATED)	REFER TO DRAWINGS	P
LOCAL SOUND SPEAKER: CEILING	CLG	LS
WIRELESS MICROPHONE ANTENNA	CLG	MA
LOCAL SOUND SPEAKER: WALL	REFER TO SPECS.	LS
MICROPHONE INPUT: # INDICATES NUMBER OF INPUTS.	1'-6"	M
WIRELESS MICROPHONE ANTENNA, WALL MOUNT	REFER TO SPECS.	MA
AV INPUT (OR OUTPUT) WALL PLATE. REFER TO DRAWINGS AND SPECIFICATIONS FOR TYPE AND QUANTITY OF CONNECTIONS.	1'-6"	AV
BLUETOOTH INPUT MODULE	1'-6"	BT
AV TOUCHSCREEN CONTROL STATION	46"	C
LOCAL SOUND SYSTEM HEADEND	REFER TO SPECS.	LS
PANEL FURNITURE		
PANEL FURNITURE DUPLEX RECEPTACLE. PROVIDE ALL WIRING AS REQUIRED; COORDINATE EXACT INSTALLATION REQUIREMENTS AND LOCATIONS WITH OWNER'S PANEL FURNITURE VENDOR		
PANEL FURNITURE QUADRUPLEX RECEPTACLE. PROVIDE ALL WIRING AS REQUIRED, COORDINATE EXACT INSTALLATION REQUIREMENTS AND LOCATIONS WITH OWNER'S PANEL FURNITURE VENDOR		
PANEL FURNITURE DATA/VOICE OUTLET. PROVIDE ALL WIRING AS REQUIRED; COORDINATE EXACT INSTALLATION REQUIREMENTS AND LOCATIONS WITH OWNER'S PANEL FURNITURE VENDOR		2D
POWER CONNECTION TO PANEL FURNITURE. PROVIDE SEAL-TIGHT CONDUIT CONNECTION FROM RECESSED WALL BOX TO PANEL FURNITURE, PROVIDE FINAL CONNECTIONS TO PANEL FURNITURE AS REQUIRED BY PANEL FURNITURE VENDOR	1'-6"	FP
COMBINATION POWER AND LOW VOLTAGE CONNECTION TO PANEL FURNITURE. PROVIDE SEAL-TIGHT CONDUIT CONNECTION FROM RECESSED WALL BOX TO PANEL FURNITURE, PROVIDE FINAL CONNECTIONS TO PANEL FURNITURE AS REQUIRED BY PANEL FURNITURE VENDOR	1'-6"	FF

DESCRIPTION	MOUNTING HEIGHT	SYMBOL
SECURITY PANIC ALARM		
PANIC ALARM BUTTON	SEE DRAWINGS	P
PANIC ALARM ANNUNCIATOR	46"	PA
PANIC ALARM STROBE - REFER TO SPECIFICATIONS FOR LENS AND HOUSING COLOR	SAME AS FIRE ALARM	PA S
PANIC ALARM POWER SUPPLY CABINET	5'-0"	SECP
SECURITY INTERCOM		
AUDIO/VIDEO INTERCOM STATION: MASTER WITH SELECTIVE DOOR CONTROLS, POWER SUPPLIES & DOOR RELAY CONTACTS AS REQUIRED FOR OPERATION OF ANY DOOR IN THE SYSTEM AND VIEWING OF ANY AUDIO/VIDEO INTERCOM REMOTE ON THE SYSTEM. AIPHONEIRX-MV W/DESK STAND - COLOR BY ARCHITECT.	DESK MOUNT	M
AUDIO/VIDEO INTERCOM STATION: REMOTE WITH FLUSH-MTD S.S. ENCLOSURE. AIPHONE #IX-DVF.	46"	R
SECURITY ACCESS CONTROL		
DOOR ALARM	DOOR FRAME	DA
DOOR POSITION SWITCH	DOOR FRAME	DP
MAGNETIC LOCK(S)	ABV DOOR	ML
ELECTRIC LOCKSET	AT LATCH	EL
DOOR DELAYED EGRESS/ELECTRIFIED PANIC MECHANISM	ABV DOOR	DE
ELECTRIC STRIKE	AT LATCH	ES
AUTOMATIC DOOR CONNECTION (MAY ALSO HAVE ELECTRIC STRIKE/MAG-LOCK/ELECTRIFIED PANIC CONNECTION - SEE ARCHITECTURAL HARDWARE SPECIFICATIONS)	CLG	AD
DOOR RELEASE PUSH-PLATE / INFRA-RED OPERATOR STATION. PROVIDE ANY ADDITIONAL ROUGH-IN FOR "EMERGENCY RELEASE" OPERATOR STATIONS AS REQUIRED.	46"	P
DOOR RELEASE KEYSWITCH STATION	6'-0"	K
DOOR RELEASE KEYPAD STATION	46"	KP
DOOR RELEASE PROXIMITY READER STATION. PROVIDE ANY ADDITIONAL ROUGH-IN FOR "EMERGENCY RELEASE" OPERATOR STATIONS AS REQUIRED.	46"	R
SAME AS "PR" EXCEPT MULLION MOUNT	46"	R M
MOTION SENSOR DOOR CONTROL	CLG	R MS
PUSH-TO-EXIT BUTTON	46"	PE
REMOTE DOOR RELEASE PUSH-BUTTON	8" ACT	RB
RECESSED JUNCTION BOX	SEE DRAWINGS	R R
ACCESS CONTROL HEADEND	5'-0"	SECA
SECURITY CCTV VIDEO SURVEILLANCE		
CCTV CAMERA: CEILING MOUNT DOME (TEXT INDICATES TYPE) REFER TO SCHEDULE FOR TYPES	CLG	
CCTV CAMERA: WALL MOUNT DOME (TEXT INDICATES TYPE) REFER TO SCHEDULE FOR TYPES	WALL	
INDICATES EXTERIOR CAMERA RATED FOR CONDITIONS, WET LOCATION LISTED, WITH AUXILLARY HEATER		WP
INDICATES CAMERA WITH PAN/TILT/ZOOM FUNCTION		PTZ
CCTV HEAD END	SEE DRAWINGS	SECA
SECURITY INTRUSION DETECTION		
MOTION DETECTOR (WALL OR CEILING MOUNT)	CLG	MD
GLASS BREAK SENSOR (WALL OR CEILING MOUNT)	CLG	GB
LOCAL SOUNDER	SEE DRAWINGS	LS
INTRUSION DETECTION KEYPAD CONTROLLER	46"	K
SECURITY SYSTEM HEAD END	5'-0"	SEC
DATA / VOICE		
DATA OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA JACKS. NO NUMBER INDICATES 1 JACK.	1'-6"	2D
VOICE OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF VOICE JACKS. NO NUMBER INDICATES 1 JACK.	1'-6"	
COMBINATION OUTLET : NUMBER BESIDE OUTLET INDICATES NUMBER OF DATA/VOICE JACKS	1'-6"	2D/1V
SLASH THROUGH ANY DEVICE INDICATES MOUNTING ABOVE COUNTERTOP 4" ABOVE BACKSPLASH		
OUTLET (VOICE ONLY) : PAYPHONE TYPE	AS REQ'D.	PAY
DATA RACK: TWO POST. REFER TO COMMUNICATIONS RISERS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.		
DATA RACK: FOUR POST. REFER TO COMMUNICATIONS RISERS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.		
TELECOMMUNICATIONS SYSTEM BACKBOARD. PROVIDE 96"H x 3/4"D FIRE-RETARDENT PLYWOOD BACKBOARD WITH TWO (2) COATS OF NON-CONDUCTIVE, FIRE-RETARDANT LIGHT GRAY PAINT. #3/0 TO GROUND BAR AT MAIN SERVICE SWITCHBOARD, 30-FT GROUND BAR AND A 6'-0", #3 AWG PIGTAIL AT BACKBOARD. INSTALL BOARD AT 2" AFF. (LENGTH OF BOARD AS INDICATED ON FLOOR PLAN)		
WIRELESS ACCESS POINT OUTLET WITH PROVISIONS FOR (2 DATA OUTLET FOR ANTENNA. PROVIDE A COMPLETE DATA OUTLET WITH FACEPLATE ABOVE CEILING, MOUNTED AT AN ACCESSIBLE HEIGHT NO MORE THAN 24" ABOVE CEILING. AT EACH OUTLET, PROVIDE A 20' COIL OF CABLE AHEAD OF THE OUTLET FOR ADJUSTMENT OF FINAL OUTLET LOCATION. THE CONTRACTOR SHALL COORDINATE EXACT LOCATIONS WITH THE OWNER AND ADJUST OUTLET LOCATIONS AT SUBSTANTIAL COMPLETION TO ACCOMMODATE OWNER'S WAP LOCATIONS.	CEILING WALL	WAP WAP

NOT FOR CONSTRUCTION

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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

FOR THE Owner

ELECTRICAL LEGEND

DATE:	REVISED	1	2	3	4	5
Issue Date						

SHEET E-001

JOB# Project Number

DRAWN: Author

CHECKED: Checker

5/11/2022 5:03:19 PM

ELECTRICAL GENERAL NOTES

A EACH CONTRACTOR, PROPOSER, SUPPLIER AND/OR MANUFACTURER SHALL REFER TO ALL DOCUMENTS PERTAINING TO THIS PROJECT AND COORDINATE ACCORDINGLY SO AS TO ENSURE ADEQUACY OF FIT, COMPLIANCE WITH SPECIFICATIONS, PROPER VOLTAGE AND CURRENT CHARACTERISTICS TO AVOID CONFLICT WITH ANY OTHER BUILDINGS SYSTEMS. VERIFY SAME WITH SHOP DRAWINGS.

B ADDITIONAL ELECTRICAL REQUIREMENTS MAY BE SHOWN ON PLANS FROM OTHER DISCIPLINES IN THIS SET. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL PLANS AND SPECIFICATIONS FOR A COMPLETE UNDERSTANDING OF THE PROJECT REQUIREMENTS.

C WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ALL LOCAL, STATE, AND NATIONAL CODES. INCLUDING BUT NOT LIMITED TO NFPA 70 (NEC), NFPA 72, INTERNATIONAL BUILDING CODES, ETC.

D CONTRACTOR SHALL FOLLOW SEISMIC RESTRAINT AND DESIGN REQUIREMENTS CONTAINED IN LATEST ADOPTED STATE AND INTERNATIONAL BUILDING CODES, WITH ALL AMENDMENTS AS ADOPTED BY THE CURRENT LEGISLATION. REFER TO ELECTRICAL AND STRUCTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

E ALL OFFSETS, TURNS, FITTINGS, TRIM, DETAIL, ETC. MAY NOT BE INDICATED, BUT SHALL BE PROVIDED AS REQUIRED. ADDITIONAL ALLOWANCES SHALL BE INCLUDED FOR SAME AT EACH PROPOSER'S DISCRETION.

F INSTALL NO PIPING, CONDUIT, DUCTWORK, ETC. IN A LOCATION OR IN A MANNER WHICH WILL ALLOW FREEZING OR THE COLLECTION OF CONDENSATION THEREON. IF IN DOUBT, CONTACT THE ENGINEER.

G ADVISE THE ENGINEER OF ANY CONFLICTS, ERRORS, OMISSIONS, ETC. AT LEAST TEN DAYS PRIOR TO BID DATE, TO ALLOW CLARIFICATION BY WRITTEN ADDENDUM.

H WHERE CONFLICTS ARE FOUND BETWEEN DRAWINGS, DETAILS, OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. NOTIFY ARCHITECT OF DISCREPANCY IN WRITING.

I DEVIATION FROM SPECIFICATIONS OR PLANS REQUIRES PRIOR WRITTEN APPROVAL FROM THE ENGINEERS AND MUST BE SUBMITTED IN WRITING NO LATER THAN TEN DAYS PRIOR TO THE BID DATE.

J OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, STATE, FEDERAL, MUNICIPALITY, UTILITY COMPANY, OSHA, ETC.).

K MOUNTING HEIGHTS FOR WALL MOUNTED DEVICES INDICATED ABOVE FINISHED FLOOR ARE TO CENTER OF DEVICE UON. MOUNTING HEIGHTS TO CEILING SUSPENDED DEVICES ARE TO BOTTOM OF DEVICE UON.

L INSTALL EQUIPMENT, MATERIALS, ETC. IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DIRECTIONS. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEER PRIOR TO INSTALLATION FOR CLARIFICATION.

M DO NOT RECESS PANELBOARD TUBS OR OTHER FLUSH-MOUNTED EQUIPMENT IN WALLS THAT HAVE A FIRE RATING. NO INSTALLATION SHALL DIMINISH OR VOID FIRE RESISTIVE RATINGS IN ANYWAY.

N THE PURPOSE AND INTENT OF ALL OF THE DOCUMENTS PERTAINING TO THIS PROJECT IS TO PROVIDE A COMPLETE, FUNCTIONAL, SAFE, LIKE-NEW FACILITY. ANYTHING LESS SHALL BE UNACCEPTABLE.

O ALL SYSTEMS, EQUIPMENT AND MATERIALS ARE TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. WORK NOT MEETING THIS CRITERION SHALL BE REMOVED AND REINSTALLED SATISFACTORILY. FINAL DETERMINATION OF THE ACCEPTABILITY OF THE QUALITY OF WORK RESIDES WITH THE ENGINEER

P ALL WORK, MATERIALS, EQUIPMENT, ETC. SHALL BE FULLY GUARANTEED FOR ONE FULL CALENDAR YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION AS DOCUMENTED BY THE ENGINEER, UNLESS LONGER WARRANTY PERIODS FOR EQUIPMENT ARE SPECIFIED.

Q UNLESS OTHERWISE SPECIFIED OR INDICATED, ALL EQUIPMENT AND/OR MATERIALS WITHIN OCCUPIED SPACES OR EXPOSED TO VIEW ON THE BUILDING EXTERIOR SHALL BE PRIMED AND FINISHED SO AS TO COMPLEMENT ADJACENT SURFACE, UNLESS OTHERWISE NOTED. COORDINATE WORK AND COLORS WITH ARCHITECT.

R WHERE PENETRATING ROOFING MEMBRANE OR OTHER MATERIALS USED FOR WEATHERPROOFING THE BUILDING, MAKE SUCH PENETRATION IN A WAY THAT WILL NOT VOID OR DIMINISH THE ROOFING WARRANTY OR INTEGRITY IN ANYWAY. COORDINATE ALL SUCH PENETRATIONS WITH THE ROOFING MANUFACTURER AND ARCHITECT.

S THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES, CASH CONTRIBUTIONS OR OTHER COSTS THAT THE UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (ELECTRIC, TELEPHONE, TELEVISION, DATA, ETC.).

T COORDINATE WITH ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND CASEWORK DETAILS FOR LOCATION OF ADDITIONAL RECEPTACLES, UTILITY OUTLETS, ELECTRICAL DEVICES, ETC.

U CEILING-MOUNTED ELECTRICAL DEVICES SHALL BE CENTERED IN 2'X2' CEILING TILE AND INSTALLED CENTERED ON 2' DIMENSION OF 2'X4' TILE AND ON CENTERLINE OR A QUARTER POINT ON 4' DIMENSION.

V ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTORS' EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.

W CHECK ALL THREE PHASE MOTORS WITH A PHASE ROTATION METER, PRIOR TO PLACING IN SERVICE.

X PROVIDE DETAILED SHOP DRAWINGS TO ENGINEER PRIOR TO PURCHASING OR INSTALLING ANY EQUIPMENT

Y DEVIATIONS IN SIZES, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT PRIME SPECIFIED SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEER OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.

Z THE CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR WHOMEVER HOLDS THE PRIME CONTRACT(S) FOR THIS CONSTRUCTION IS RESPONSIBLE FOR THE COORDINATION, APPEARANCE, SCHEDULING AND TIMELINESS OF THE WORK OF ALL TRADES, CONTRACTORS, SUPPLIERS, INSTALLERS, ETC. POOR OR UNTIMELY WORK ON THE PART OF ANY SUBCONTRACTOR SHALL BE RESOLVED BY THE PARTY WHO ENGAGED THEM ON THIS PROJECT.

AA WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEER BEFORE AFFECTING INSTALLATION. REFER ALSO TO ARCHITECTURAL INTERIOR AND EXTERIOR ELEVATIONS, CEILING HEIGHTS AND OTHER DETAILS OF THESE DOCUMENTS, AS APPLICABLE.

AB WHERE FIRE-RATED CEILING ASSEMBLIES ARE NOTED, PROVIDE UL-LISTED FIRE-RATED GYPSUM BOARD OR PRE-MANUFACTURED ENCLOSURES ABOVE LUMINAIRES, CEILING DEVICES, ETC. IN OR ON CEILING, AS REQUIRED TO MAINTAIN CEILING RATINGS.

AC COORDINATE THE LOCATION OF DRAINS, ELECTRICAL OUTLETS, GAS OUTLETS, ETC. WITH ALL CASEWORK, KITCHEN EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC. PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE RESPONSIBLE CONTRACTOR(S).

AD ALL ELECTRICAL COMPONENTS OR EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITER'S LABORATORIES OR OTHER APPROVED LISTING AGENCY. APPROVAL AND LABELING OF INDIVIDUAL COMPONENTS ON AN ASSEMBLY IS NOT ACCEPTABLE AS MEETING THIS REQUIREMENT, UNLESS WAIVED BY THE ENGINEER IN WRITING.

AE ALL WIRING SYSTEMS SHALL BE INSTALLED WITH A MINIMUM OF SPLICES. CONDUCTORS, WHETHER SINGLE OR MULTI-PAIR, SHALL BE INSTALLED CONTINUOUS INSOFAR AS POSSIBLE FROM TERMINAL POINT TO TERMINAL POINT.

AF NO CONDUIT, SUPPORTS, ETC. SHALL BE RUN THROUGH ACCESS CLEARANCES OF EQUIPMENT BY OTHER TRADES (I.E. VAV BOXES). COORDINATE WITH ALL TRADES PRIOR TO CONSTRUCTION.

AG ALL CONTRACTORS SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE OR SUB-SERVICE FOR SAFETY PURPOSES. PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC. OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

AH ALL SUPPORTS FOR EQUIPMENT, DEVICES OR FIXTURES SHALL BE UNIQUE, DIRECTLY FROM THE BUILDING STRUCTURE. DO NOT SUPPORT WORK FROM OTHER TRADES EQUIPMENT OR SUPPORTS WITHOUT WRITTEN PERMISSION FROM THE ENGINEER AND CONSENT OF THE OTHER TRADE, IN WRITING.

AI WHERE INTERRUPTING AN EXISTING UTILITY OR SERVICE DELIBERATELY OR ACCIDENTALLY, THE RESPONSIBLE CONTRACTOR SHALL WORK CONTINUOUSLY AS NEEDED TO RESTORE SAME, PROVIDING PREMIUM TIME AS NEEDED.

AJ REFER TO ARCHITECTURAL WALL ELEVATIONS (WHERE GIVEN) FOR HEIGHTS AND MOUNTING RELATIONSHIP OF OUTLETS AND EQUIPMENT. IF IN DOUBT, CONTACT ENGINEER FOR DIRECTION PRIOR TO ROUGH IN.

AK FLUSH OR PEDESTAL TYPE FLOOR OUTLETS/BOXES, AS INDICATED ON PLAN, SHALL BE LOCATED BY DIMENSIONS PROVIDED BY THE ARCHITECT, UNLESS OTHERWISE SHOWN ON PLANS. IF IN DOUBT, CONTACT THE ENGINEER PRIOR TO ROUGHING-IN ANY WORK.

AL AS APPLICABLE, REFER TO ARCHITECTURAL PHASING PLANS AND PHASING BOUNDARIES ON THESE DRAWINGS FOR SEQUENCING OF WORK, FULL EXTENT OF AREAS INVOLVED, EXTENT OF CEILING WORK, ETC. PROVIDE TEMPORARY CONNECTIONS FOR CIRCUITS AND WORK AS REQUIRED TO MAINTAIN SEQUENCE OF THE WORK FROM PHASE TO PHASE.

AM THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR HIS WORK. ALL CUTTING AND PATCHING SHALL BE IN ACCORDANCE WITH THE ARCHITECT'S STANDARDS FOR SUCH WORK.

AN ALL WORK SHALL BE CONCEALED UNLESS SPECIFICALLY INDICATED TO BE EXPOSED, OR REQUIRED TO BE EXPOSED. IF IN DOUBT, CONTACT THE ENGINEER FOR CLARIFICATIONS PRIOR TO INSTALLING ANY SUCH WORK.

AO INTERRUPTION OF ANY EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER, GENERAL CONTRACTOR, UTILITY COMPANY AS NECESSARY, AND THE ARCHITECT, AT LEAST TWO WEEKS IN ADVANCE OF ANTICIPATED INTERRUPTION. A SCHEDULE FOR THESE OUTAGES SHALL BE DEVELOPED AND AGREED UPON BETWEEN THE PARTIES MENTIONED TO AVOID UNNECESSARY INCONVENIENCE TO THE OWNER OR ANY AFFECTED PARTY. NOTIFY THE UTILITY COMPANY OF ANY ANTICIPATED SERVICES REQUIRED TWO WEEKS IN ADVANCE, IN WRITING. IF UTILITY COMPANY REQUIRES A LONGER NOTIFICATION PERIOD, SO PROVIDE.

AP WHERE BACKBOXES ARE LOCATED IN THE SAME VERTICAL CHANNEL/STUD SPACE ON OPPOSITE SIDES OF THE SAME WALL, PROVIDE SOUND-INSULATING PUTTY AROUND BOXES AS REQUIRED TO ELIMINATE SOUND TRANSMISSION FROM ROOM TO ROOM.

AQ JUNCTION BOXES LOCATED ABOVE ACCESSIBLE CEILINGS SHALL BE LOCATED NO MORE THAN 36" ABOVE CEILING LEVEL. LABEL EACH BOX IN AREA OF WORK WITH A PERMANENT MARKER OR IN ACCORDANCE WITH SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.

AR ALL MATERIALS FURNISHED AND ALL WORK INSTALLED SHALL COMPLY WITH THE CURRENT EDITION OF THE NATIONAL ELECTRICAL CODES, NATIONAL FIRE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION, THE REQUIREMENTS OF LOCAL UTILITY COMPANIES, AND WITH THE REQUIREMENTS OF ALL GOVERNMENTAL AGENCIES OR DEPARTMENTS HAVING JURISDICTION. IF ANY CONFLICTS OR DISCREPANCIES OCCUR THE MOST STRINGENT SHALL APPLY.

AS DO NOT SCALE FROM DRAWINGS, AS PRINTING DISTORTS SCALE. WORK SHALL BE LAID OUT FROM DIMENSIONED DRAWINGS, OR DIMENSIONS SUPPLIED TO THE CONTRACTOR.

AT NOISY WORK, WORK OUTSIDE CONSTRUCTION BARRIERS, WORK IN OCCUPIED AREAS, ETC. SHALL BE PERFORMED AFTER HOURS OR ON WEEKENDS. COORDINATE EXACT SCHEDULING WITH FACILITY PRIOR TO CONSTRUCTION.

AU ALL ITEMS HAVING KEYED LOCKS/OPERATORS SHALL HAVE CORED LOCKS/OPERATORS. ALL KEYING SHALL MATCH THE OWNER'S EXISTING KEY-WAYS. COORDINATE EXACT REQUIREMENTS WITH OWNER PRIOR TO CONSTRUCTION.

AV REFER TO ARCHITECTURAL PLANS FOR PHASING REQUIREMENTS. WORK SHALL BE COMPLETED IN PHASES PER THE PHASING PLAN AND AS COORDINATED WITH OWNER AND GENERAL CONTRACTOR. PROVIDE ALL REQUIRED INCREMENTAL INSPECTIONS, CERTIFICATIONS, ETC. AND ALL TEMPORARY SERVICES AS REQUIRED BY OWNER TO ACCOMPLISH THE PHASING PLAN.

ELECTRICAL DEMOLITION NOTES

A DOTTED LINES INDICATE ITEMS FOR REMOVAL (UON) AND SOLID HALFTONE LINES INDICATE EXISTING ITEMS TO REMAIN.

B THE CONTRACTOR SHALL MAINTIN THE CONTINUITY OF EXISTING CIRCUITS THAT CONTAIN DEVICES OR EQUIPMENT THAT ARE TO REMAIN. WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" ON THE CIRCUITS SHALL REMAIN IN "PRE-DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS. PROVIDE NEW TYPEWRITTEN DIRECTORIES FOR ALL PANELS AFFECTED.

C LOCATIONS OF DEVICES, CONNECTIONS, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES. THEY ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO VARIATION FROM EXISTING CONDITIONS. CERTAIN EXISTING ELEMENTS MAY NOT BE INDICATED AT ALL. THE CONTRACTOR PROPOSING TO DO ANY PART OF THE WORK INDICATED HEREON SHALL VISIT THIS SITE AND DETERMINE TO HIS SATISFACTION THAT THEY MAY COMPLETE ALL WORK REQUIRED FOR THE BID WHICH HE PROPOSES.

D REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES / FIXTURES / ETC. BEING REMOVED (BACK TO SOURCE), WHETHER INDICATED OR NOT (UON). CONTRACTOR SHALL PATCH AND REPAIR ANY EXISTING WALLS, FLOORS OR CEILINGS WHERE DEVICES ARE SHOWN TO BE REMOVED (PATCH AND REPAIR TO RECEIVE NEW FINISHES - SEE ARCHITECTURAL PLANS).

E COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.

F COORDINATE WITH OTHER TRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.

G PROVIDE TEMPORARY EMERGENCY EXIT LIGHTS AT CONSTRUCTION BARRIERS AS REQUIRED.

H CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS / CEILINGS AS REQUIRED WHERE DEVICES ARE BEING REMOVED OR INSTALLED.

I UNUSED/ABANDONED CONDUCTORS DISCOVERED ABOVE ACCESSIBLE CEILINGS SHALL BE REMOVED IN ACCORDANCE WITH NEC REQUIREMENTS.

J EXISTING ELECTRICAL SYSTEMS IN CONFLICT WITH CONSTRUCTION SHALL BE RELOCATED TO PERMIT INSTALLATION OF DEVICES AND EQUIPMENT SHOWN ON PLANS.

K CONTRACTOR SHALL SEAL ALL EXISTING AND NEW PENETRATIONS OF BUILDING ENVELOPE (EXTERIOR WALLS, ROOF, ETC.) WATER-TIGHT AND AS APPROVED BY ARCHITECT AND ENGINEER. ROOFING SHALL BE RESTORED BY A LICENSED ROOFING CONTRACTOR BASED ON WRITTEN INSTRUCTIONS AND DETAILS FROM ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ROOF WARRANTY. REFER TO ARCHITECTURAL AND ENGINEERING PLANS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS.

L DEVICES INDICATED WITH AN "R" SHALL BE RELOCATED. REMOVE, PROTECT, AND REINSTALL IN NEW LOCATION INDICATED ON NEW WORK PLANS. INTERCEPT AND EXTEND ALL EXISTING CABLING TO NEW LOCATION. CLEAN AND RE-LAMP RELOCATED LUMINAIRES.

M ALL EXISTING PANELS AFFECTED BY THIS CONTRACTOR'S WORK SHALL BE PROVIDED WITH NEW TYPE-WRITTEN PANEL DIRECTORIES AND INSERT SLEEVES. PANEL DIRECTORIES SHALL NOT USE ROOM NAMES OR NUMBERS FROM THESE DRAWINGS. DIRECTORIES SHALL BE DETAILED AND COORDINATED WITH OWNER'S SUITE NUMBERS, FINAL ROOM NUMBERS, IT RACK NAMES, WORKSTATION DESIGNATIONS, ETC. UNUSED BREAKERS SHALL BE IN OFF POSITION.

N CONTRACTOR TO VERIFY THAT THERE ARE NO ELECTRICAL CIRCUITS IN CHASES BEING REMOVED UNDER DEMOLITION WHICH REMAIN IN SERVICE AND CANNOT BE REMOVED. SHOULD SUCH CIRCUITS BE ENCOUNTERED, THE CONTRACTOR IS TO REROUTE AND RECONNECT AS REQUIRED TO MAINTAIN SERVICE.

ELECTRICAL LIGHTING NOTES

A REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER N.E.C. #310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER N.E.C. #300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN N.E.C #100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. ALSO, MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

D LOCATE CHAIN-HUNG INDUSTRIAL FIXTURES IN MECHANICAL ROOMS TO AVOID DUCTWORK AND PIPING, TO MAXIMIZE AVAILABLE LIGHT. SPACE AROUND EQUIPMENT, AIR HANDLERS, ETC. TO PROVIDE ADEQUATE LIGHTING TO ALL AREAS OF ROOM. PROVIDE ADDITIONAL FIXTURES OF SAME TYPE AS NEEDED TO FULFILL THIS REQUIREMENT.

E LOCATE EXIT SIGNS FOR MAXIMUM VIEWING AREA TO IDENTIFY EGRESS PATHS AS INDICATED ON PLANS. COORDINATE LOCATIONS SUCH THAT ARCHITECTURAL FEATURES OR EQUIPMENT FROM OTHER TRADES DO NOT OBSTRUCT VIEW.

F LUMINAIRES INDICATED WITH MULTI-LEVEL SWITCHING SHALL HAVE SIMILAR LAMPS CONTROLLED TOGETHER, I.E. INBOARD AND OUTBOARD LAMPS OR RIGHT AND LEFT HAND LAMPS.

G ALL LIGHTING FIXTURE LENSES, PARABOLIC LOUVERS, DOWNLIGHTING ALZAK CONES AND "PARACUBE" LOUVERS SHALL BE HANDLED WITH COTTON GLOVES DURING INSTALLATION AND LAMPING TO AVOID FINGERPRINTS OR DIRT DEPOSITS. IT IS PREFERRED THAT FIXTURES BE SHIPPED AND INSTALLED WITH CLEAR PLASTIC BAGS TO PROTECT LOUVERS. AT CLOSE OF PROJECT, AND AFTER CONSTRUCTION AIR FILTERS ARE CHANGED, REMOVE BAGS. ANY LOUVER OR CONE SHOWING DIRT OR FINGER PRINTS SHALL BE CLEANED WITH SOLVENT RECOMMENDED BY THE MANUFACTURER, OR REPLACED AS NECESSARY IN ORDER TO TURN OVER TO THE OWNER NEW FIXTURES AT OCCUPANCY.

H RECESSED LUMINAIRES SHALL BE SECURED SUCH THAT THE FORCE REQUIRED INSERTING LAMPS, TRIMS, LENSES, LOUVERS, OR DOOR FRAMES DOES NOT SHIFT HOUSING. ALL TRIMS SHALL BE COMPLETELY FLUSH WITH FINISHED CEILINGS AT COMPLETION OF CONSTRUCTION.

I CONTRACTOR SHALL PROVIDE UNSWITCHED CONDUCTOR TO ALL EXIT SIGNS, EMERGENCY INVERTER BATTERY PACKS, AND NIGHT LIGHTS AS REQUIRED.

ELECTRICAL POWER NOTES

A REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

D RECEPTACLES THAT ARE CONTROLLED BY AN AUTOMATIC MEANS SUCH AS OCCUPANCY SENSOR OR ENERGY MANAGEMENT SYSTEM SHALL BE MARKED IN ACCORDANCE WITH NEC 406.3(E).

E LOCATIONS OF ELECTRICAL CONNECTIONS AND LOCAL DISCONNECTS SHALL BE COORDINATED WITH MECHANICAL AND PLUMBING CONTRACTORS TO ENSURE ACCESS AND WORKING CLEARANCE IS MAINTAINED PER NEC. NOTIFY OTHER TRADES OF REQUIRED CLEARANCE AREAS TO AVOID ROUTING OF OTHER SYSTEMS IN THESE AREAS. DO NOT INSTALL ELECTRICAL EQUIPMENT OVER EQUIPMENT NAMEPLATES OR ACCESS PANELS OR THROUGH ACCESS/MAINTENANCE CLEARANCES OF EQUIPMENT BY OTHER TRADES.

ELECTRICAL SYSTEMS NOTES

A REFER TO THE ARCHITECT'S REFLECTED CEILING PLANS, ELEVATIONS, AND CASEWORK DETAILS FOR EXACT LOCATIONS OF ALL WALL AND CEILING MOUNTED ELECTRICAL DEVICES.

B CONTRACTOR SHALL FOLLOW BRANCH CIRCUITING LAY-OUT, AS INDICATED ON THE FLOOR PLANS, WITH A MAXIMUM OF THREE (3) BRANCH CIRCUITS PER HOMERUN. EACH BRANCH CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR. DEDICATED NEUTRAL CONDUCTORS SHALL BE CONSIDERED CURRENT CARRYING. IF ADDITIONAL CONDUCTORS ARE RAN IN THE SAME CONDUIT WITH THOSE INDICATED, CONTRACTOR SHALL DERATE ALL CURRENT CARRYING CONDUCTORS PER NEC 310.15(B)(3), AND UPSIZE CONDUIT AS REQUIRED PER NEC 300.17 AND ANNEX C. MULTIWIRE BRANCH CIRCUITS AS DEFINED IN NEC 100 / 210.4 (CIRCUITS SHARING A COMMON NEUTRAL CONDUCTOR) SHALL NOT BE PERMITTED.

C IDENTIFY THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES, SWITCHES, ETC. IN AREA OF CONSTRUCTION. PROVIDE CLEAR ADHESIVE LABELS WITH BLACK LETTERING. IN HEALTHCARE FACILITIES, ENGRAVE EMERGENCY DEVICE COVERPLATES IN PATIENT CARE AREAS. MARK INSIDES OF ALL DEVICE BOXES WITH PANEL AND CIRCUIT NUMBER.

D REFER TO "SYSTEM INSTALLATION MATRIX" (ON SYSTEMS LEGEND SHEET) AND SPECIFICATIONS FOR CONTRACTOR REQUIREMENTS OF EACH SYSTEM.

E THE CONTRACTOR SHALL ROUTE ALL "SYSTEM CONDUIT STUB-UPS" TO THE NEAREST CORRIDOR CABLING PATH (SEE "STUB-UP" DETAILS). REFER TO CABLING PATH INSTALLATION DETAIL FOR ADDITIONAL REQUIREMENTS.

F CONTRACTOR SHALL PAINT ALL SYSTEMS CONDUIT STUB-UPS LIGHT BLUE FOR SYSTEMS CABLING INTO THE CORRIDOR CABLING PATH. PROVIDE PULL STRINGS IN ALL NEW CONDUIT RUNS FOR SYSTEM CABLING INSTALLATION.

NOT FOR CONSTRUCTION

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Clotfelter

GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

FOR THE Owner

ELECTRICAL NOTES

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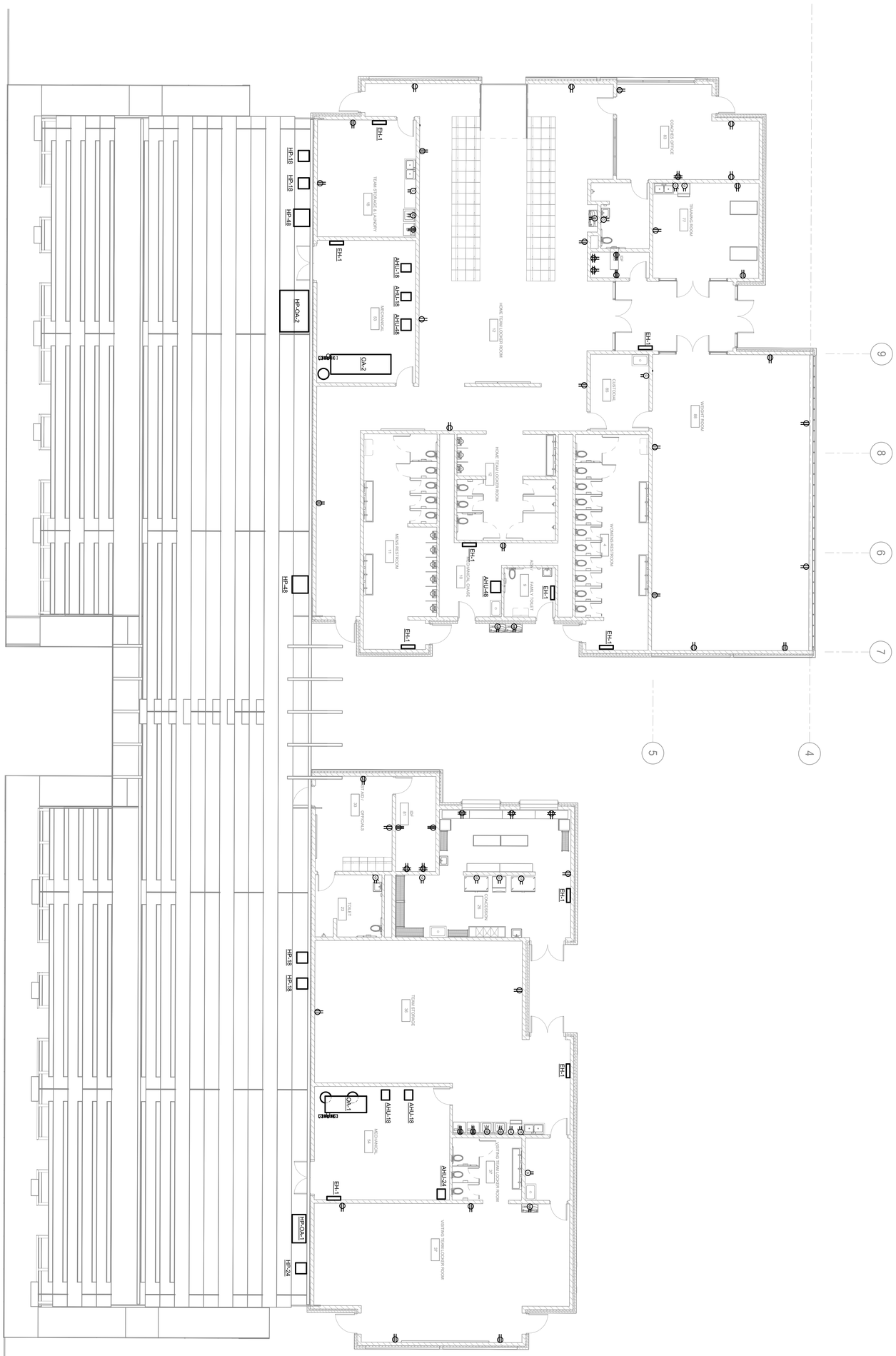
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1 CONCESSION RESTROOM - ELEC - POWER

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

0 2" 4" 8" 16" 24" 32"

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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

FOR THE Owner

CONCESSION RESTROOM LOCKER ROOM - ELECTRICAL POWER PLAN

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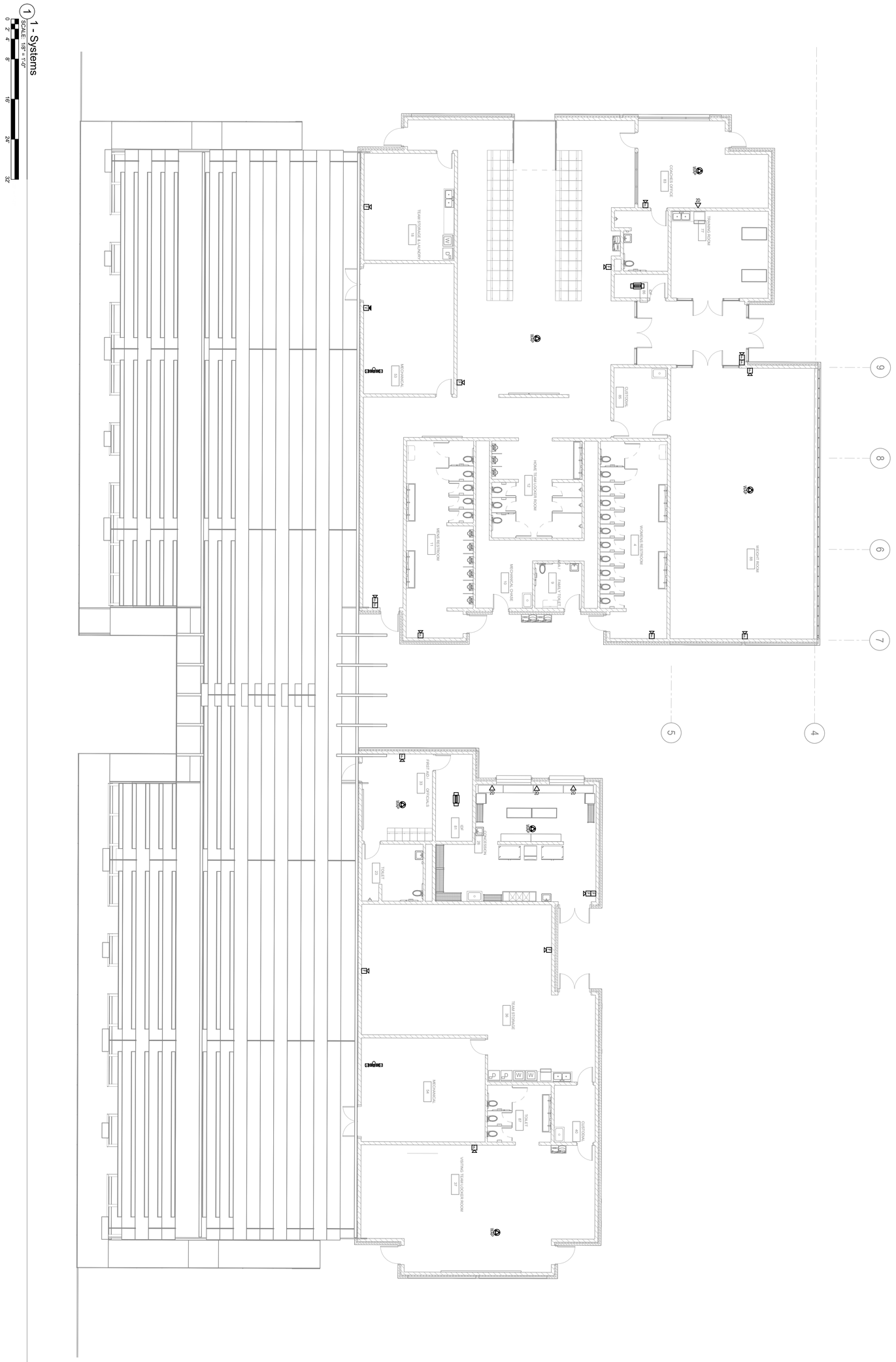
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JOB#: Project Number	REVISED: 1	FOR THE: Owner	228 E. Reynolds Road Suite One Lexington, Kentucky 40517 859.273.3700
DRAWN: Author	2	CONCESSION RESTROOM LOCKER ROOM - ELECTRICAL SYSTEMS PLAN	
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PLUMBING GENERAL NOTES

A COORDINATE THE LOCATION OF DRAINS, THERMOSTATS, GAS OUTLETS, ETC., WITH ALL CASEWORK EQUIPMENT, MECHANICAL ROOM EQUIPMENT, ETC., PRIOR TO COMMENCING INSTALLATION. WORK NOT SO COORDINATED SHALL BE REMOVED AND PROPERLY INSTALLED AT THE EXPENSE OF THE CONTRACTOR.

B THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN THE COURSE OF THEIR WORK SO AS TO ENSURE THAT THEY DO NOT INTERRUPT ANY EXISTING SERVICE. FOR SAFETY PURPOSES, PAY PARTICULAR ATTENTION TO THIS PRECAUTION RELATIVE TO NATURAL GAS AND ELECTRICAL LINES. VERIFY THE LOCATION, SIZE, TYPE, ETC., OF EACH UNDERGROUND OR OVERHEAD UTILITY. ALL WORK SHALL BE PERFORMED IN ACCORD WITH ALL FEDERAL, STATE AND/OR LOCAL RULES, REGULATIONS, STANDARD AND SAFETY REQUIREMENTS. UTILITIES SHALL BE INSTALLED IN ACCORD WITH THE APPLICABLE MUNICIPALITY OR UTILITY COMPANY STANDARDS. IN ALL CASES, THE MOST STRINGENT REQUIREMENT SHALL APPLY.

C WHERE WORK IS REQUIRED ABOVE EXISTING LAY-IN, PLASTER OR GYPSUM BOARD CEILINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REINSTALLATION (OR REPLACEMENT, IF DAMAGED) OF ALL CEILING OR TILE AND GRID MEMBERS NECESSARY TO PERFORM HIS WORK. NEW TILE AND GRID SHALL MATCH THE SURROUNDING AREAS. ALL PATCHING WORK SHALL MATCH ADJACENT SURFACES.

D ALL NEW WORK SHALL BE HUNG FROM STRUCTURE, NOT FROM THE WORK OF OTHER TRADES, WHETHER EXISTING OR NEW.

E COORDINATE ALL WORK WITH PROJECT PHASING REQUIREMENTS.

F PATCH, REPAIR AND PAINT OR PROVIDE WALL COVERING FOR (TO OWNER'S STANDARDS) EXISTING WALLS, CEILINGS, ETC., THAT ARE TO REMAIN IF DAMAGED DURING CONSTRUCTION. REPAIRS SHALL MATCH ADJACENT SURFACES TO THE SATISFACTION OF THE ARCHITECT AND OWNER.

G OBSERVE ALL APPLICABLE CODES, RULES AND REGULATIONS THAT MAY APPLY TO THE WORK UNDER THIS CONTRACT. (CITY, COUNTY, LOCAL, FEDERAL, MUNICIPALITY, UTILITY COMPANY, COMMONWEALTH OF KENTUCKY, ETC.)

H CONTRACTOR SHALL BE AWARE OF UNSEEN PLUMBING WORK DURING DEMOLITION. IF ITEMS ARE UNCOVERED DURING DEMOLITION THEN FIELD VERIFY THE USE OF THE ITEMS AND PLAN AN ALTERNATE ROUTE TO RUN THESE ITEMS. THEN CONTACT THE ENGINEERS TO REVIEW THE ROUTING.

I IF AREA OF CONSTRUCTION HAS A POST TENSION FLOOR SLAB, CONTRACTOR SHALL USE ULTRA SOUND OR OTHER APPROVED METHODS TO SURVEY THE EXISTING FLOOR STRUCTURE BEFORE MAKING ANY AND ALL FLOOR PENETRATIONS.

J WHERE FIRE PROOFING IS SPRAYED ON EXISTING STRUCTURE ALL EXISTING CONDUITS, WATER, HYDRONIC, STEAM, CHILLED WATER, FIRE PROTECTION LINES, MED GAS, ETC. SHALL BE LOWERED TO BE BELOW FULL THICKNESS OF FIRE PROOFING WITH NO INTERFERENCE.

K ALL PENETRATIONS OF FIRE AND SMOKE RATED ASSEMBLIES SHALL BE APPROPRIATELY FIRE STOPPED PER AN APPROVED U.L. LISTED STANDARD. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO INSULATED PIPING PENETRATIONS.

L ALL WORK REQUIRING DOWNTIME OF ANY AREA IN THE BUILDING SHALL BE SCHEDULED 2 WEEKS IN ADVANCE, AND SHALL COMPLY WITH INTERIM LIFE SAFETY MEASURES.

M ALL PIPING IN ROOMS WITH CEILINGS SHALL BE ABOVE CEILING EXCEPT AS NOTED.

N IN ACCORDANCE WITH K.R.S. ALL PLUMBING WORK SHALL BE CONSTRUCTED IN COMPLIANCE WITH PLANS APPROVED BY AND BEARING THE APPROVAL STAMP OF THE KENTUCKY DIVISION OF PLUMBING AND/OR THE DIVISION OF WATER. THE CONTRACTOR SHALL NOT BEGIN WORK UNTIL HE HAS RECEIVED SUCH APPROVED PLANS.

O LOCATIONS OF PIPING AND EQUIPMENT ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. DO NOT SCALE THE DRAWINGS.

P ALL OFFSETS IN PIPING ARE NOT NECESSARILY SHOWN. PROVIDE ADDITIONAL OFFSETS WHERE NECESSARY.

Q THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY COMPANY FEES OR OTHER COSTS THAT ANY UTILITY COMPANY MAY REQUIRE TO COMPLETE THEIR WORK. (GAS, SEWER, WATER, ETC.)

R INSTALL ALL PIPING AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTION. IF IN CONFLICT WITH THE DESIGN INDICATED IN CONTRACT DOCUMENTS, ADVISE THE ENGINEERS PRIOR TO INSTALLATION FOR CLARIFICATION. PROVIDE RECOMMENDED ACCESS AND SERVICE CLEARANCES FOR ALL EQUIPMENT.

S SEAL AIRTIGHT AROUND ALL DUCTS AND PIPING PENETRATIONS THROUGH WALLS, FLOORS AND ROOF. PROVIDE FIRE STOPPING IN FIRE PARTITION.

T THE CONTRACTOR SHALL RELOCATE OR AVOID ANY EXISTING EQUIPMENT APPURTENANCES, ETC., THAT CONFLICT WITH NEW WORK.

U WHERE MOUNTING HEIGHTS ARE NOT INDICATED OR ARE IN CONFLICT WITH ANY OTHER BUILDING SYSTEM, CONTACT THE ENGINEERS BEFORE INSTALLATION. REFER ALSO TO ARCHITECTURAL WALL INTERIOR AND EXTERIOR WALL ELEVATIONS, CEILING HEIGHTS AND OTHER DETAIL OF THESE DOCUMENTS.

V DOUBLE WIDTH TURNING VANES SHALL BE INSTALLED IN ALL SUPPLY, RETURN, AND EXHAUST DUCTWORK ELBOWS. TURNING VANES NOT REQUIRED FOR KITCHEN EXHAUSTS.

W ANY VIBRATING, OSCILLATING OR OTHER NOISE OR MOTION PRODUCING EQUIPMENT SHALL BE ISOLATED FROM SURROUNDING SYSTEMS IN AN APPROVED MANNER. NOISY OR STRUCTURALLY DAMAGING INSTALLATIONS SHALL BE SATISFACTORILY REPLACED OR REPAIRED AT THE INSTALLING CONTRACTOR'S EXPENSE. THE FINAL DECISION ON THE SUITABILITY OF A PARTICULAR INSTALLATION'S ACCEPTABILITY SHALL BE THAT OF THE ENGINEER.

X DEVIATIONS IN SIZE, CAPACITIES, FIT, FINISH, ETC. FOR EQUIPMENT FROM THAT USED AS BASIS OF DESIGN SHALL BE THE RESPONSIBILITY OF THE PURCHASER OF THAT EQUIPMENT. ANY PROVISIONS REQUIRED TO ACCOMMODATE A DEVIATION, WHETHER APPROVED BY THE ENGINEERS OR NOT, SHALL BE THE RESPONSIBILITY OF THE PURCHASER.

Y VALVES, BALANCING DAMPERS OR ANY MECHANICAL/ELECTRICAL ITEM REQUIRING ACCESS SHALL NOT BE LOCATED ABOVE A HARD CEILING. IF THIS IS NOT POSSIBLE, THEN AN APPROPRIATELY SIZED ACCESS DOOR SHALL BE PLACED UNDER THE ITEM TO ALLOW EASY MAINTENANCE AND ADJUSTMENT. ADDITIONALLY ALL SUCH ITEMS SHALL NOT BE LOCATED AN UNREASONABLE DISTANCE ABOVE THE CEILINGS. IN GENERAL ALL SUCH ITEMS UNLESS INDICATED OTHERWISE SHALL BE MOUNTED SIX TO TWELVE INCHES ABOVE THE CEILING. IF IN DOUBT, CONTACT ENGINEER PRIOR TO INSTALLING.

Z ALL MANHOLES, VAULTS AND SIMILAR UNDERGROUND STRUCTURES SHALL HAVE THE TOP ELEVATION SET FLUSH WITH FINISHED GRADE UNLESS SPECIFICALLY NOTED OTHERWISE.

AA WHEN RUNNING ANY TYPE OF PIPING BELOW A FOOTER, OR IN THE ZONE OF INFLUENCE THE PIPING SHALL BE BACKFILLED WITH CEMENTITIOUS FLOWABLE FILL PER SPECIFICATIONS. WHENEVER POSSIBLE, LOCATE PIPING OUTSIDE OF THE ZONE OF INFLUENCE. THE ZONE OF INFLUENCE IS THE AREA UNDER THE FOOTER WITHIN A 45 DEGREE ANGLE PROJECTING DOWN FROM THE BOTTOM EDGE OF THE FOOTER OF ALL SIDES OF THE FOOTER. ADDITIONALLY, GREASE TRAPS, MANHOLES, VAULTS AND OTHER UNDERGROUND STRUCTURES SHALL BE HELD AWAY FROM BUILDING WALLS FAR ENOUGH TO BE OUTSIDE OF THE ZONE OF INFLUENCE.

AB THE DOCUMENTS COMPLY WITH 2006 IMC, 2007 KBC, AND 2009 IECC.

AC THE DOCUMENTS COMPLY WITH 2006 IMC, 2007 KBC, AND ASHRAE 90.1-2007.

AD WORK IN CONFINED AREAS SHALL BE IN ACCORDANCE WITH THE OWNER'S SAFETY POLICY REQUIREMENTS.

PLUMBING DEMOLITION NOTES

A THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR AREAS IN WHICH THE CEILING IS REMAINING. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE EXISTING CEILING AS REQUIRED AND REINSTALLATION. TEMPORARILY SUPPORT LIGHTS, DIFFUSERS, CEILING ETC. REPLACE BROKEN CEILING TILES WITH NEW AT NO ADDITIONAL COST TO OWNER. FIELED VERIFY EXACT REQUIREMENTS.

B DURING SPRINKLER SYSTEM OUTAGES THE CONTRACTORS SHALL PROVIDE FIRE WATCH OF AREAS WITH OUTAGES.

C ALL WALLS AND FLOOR SLABS SHALL BE REPAIRED TO MATCH EXISTING AND TO A LIKE NEW CONDITION. ALL RATED WALLS AND FLOOR SLABS SHALL BE PATCHED AND REPAIRED TO MAINTAIN RATING.

D ALL EXISTING BUILDING FINISHES SHALL BE PROTECTED DURING THE DEMOLITION PHASE.

E HEAVY DASHED LINES INDICATE ITEMS FOR REMOVAL (UON) AND LIGHT SOLID LINES INDICATE EXISTING ITEMS TO REMAIN.

F COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH THE OWNER.

G ALL OUTAGES SHALL BE SCHEDULED THROUGH THE UK CPMD PROJECT REPRESENTATIVE FOR PROPER COORDINATION. A REQUEST FOR AN OUTAGE SHALL BE SUBMITTED IN WRITING A MINIMUM OF TWO WEEKS IN ADVANCE.

H ALL DUCTWORK, PIPING, CONDUIT, ETC. SHALL BE INSTALLED A MINIMUM OF 4" ABOVE THE TOP OF THE CEILING GRID PER UK STANDARDS.

PLUMBING HAZARDOUS MATERIALS NOTES

A THE CONTRACTOR IT IS HEREBY ADVISED THAT IS POSSIBLE THAT ASBESTOS AND/OR OTHER HAZARDOUS MATERIALS ARE OR WERE PRESENT IN THIS BUILDING(S). ANY WORKER, OCCUPANT, VISITOR, ETC., WHO ENCOUNTERS ANY MATERIAL OF WHOSE CONTENT THEY ARE NOT CERTAIN SHALL PROMPTLY REPORT THE EXISTENCE AND LOCATION OF THAT MATERIAL TO THE OWNER. FURTHERMORE, THE CONTRACTOR SHALL INSURE THAT NO ONE COMES NEAR TO OR IN CONTACT WITH ANY SUCH MATERIAL OR FUMES THEREFROM UNTIL ITS CONTENT CAN BE ASCERTAINED TO BE NON-HAZARDOUS.

B CMTA, INC. HAS NO EXPERTISE IN THE DETERMINATION OF THE PRESENCE OF ANY HAZARDOUS MATERIAL. THEREFORE, NO ATTEMPT HAS BEEN MADE BY CMTA TO IDENTIFY THE EXISTENCE OR LOCATION OF ANY SUCH HAZARDOUS MATERIAL. FURTHERMORE, CMTA NOR ANY AFFILIATE HEREOF WILL NOT OFFER OR MAKE ANY RECOMMENDATIONS RELATIVE TO THE REMOVAL, HANDLING OR DISPOSAL OF SUCH MATERIAL.

C IF THE WORK WHICH IS TO BE PERFORMED INTERFACES, CONNECTS OR RELATES IN ANY PHYSICAL WAY WITH OR TO EXISTING COMPONENTS WHICH CONTAIN OR BEAR ANY HAZARDOUS MATERIAL, ASBESTOS BEING ONE, THEN IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO CONTACT THE OWNER AND SO ADVISE HIM IMMEDIATELY.

D THE CONTRACTOR BY EXECUTION OF THE CONTRACT FOR ANY WORK AND/OR BY THE ACCOMPLISHMENT OF ANY WORK THEREBY AGREE TO BRING NO CLAIM RELATIVE TO HAZARDOUS MATERIALS FOR NEGLIGENCE, BREACH OF CONTRACT, INDEMNITY, OR ANY OTHER SUCH ITEM AGAINST CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS OR CONSULTANTS. ALSO, THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD CMTA, ITS PRINCIPALS, EMPLOYEES, AGENTS AND CONSULTANTS HARMLESS FROM ANY SUCH RELATED CLAIMS WHICH MAY BE BROUGHT BY ANY SUBCONTRACTORS, SUPPLIERS OR ANY OTHER THIRD PARTIES.

E THE CONTRACTOR IS DIRECTED TO THE SPECIFICATIONS FOR FURTHER INFORMATION.

PLUMBING PHASING NOTES

A THIS PROJECT INTERFACES EXTENSIVELY WITH EXISTING BUILDING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE AND PHASE ALL TIE-INS AND INTERRUPTIONS OF EXISTING SERVICES TO MINIMIZE OR ELIMINATE DOWNTIME. AS AN EXAMPLE, MAIN GAS SERVICE, WATER SERVICE, ELECTRICAL SERVICE, HVAC SERVICES, STEAM GENERATION, ETC., WILL BE AFFECTED AND REPLACED OR MOVED DURING THIS PROJECT. THE CONTRACTOR SHALL INSTALL ALL NEW SERVICES AND EQUIPMENT AND HAVE THEM TESTED AND FULLY AND RELIABLY FUNCTIONAL PRIOR TO INTERRUPTING, RELOCATING OR REMOVING ANY EXISTING SERVICES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BARE ANY AND ALL COSTS ASSOCIATED WITH THIS PHASING, INCLUDING TEMPORARY SERVICES, TEMPORARY RELOCATION, PREMIUM TIME WORK, ETC. CONTRACTOR SHALL COORDINATE ALL SAID WORK WITH THE OWNER AND APPLICABLE UTILITIES PER THE CONTRACT DOCUMENTS.

ABBREVIATIONS

AC	ALTERNATING CURRENT
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFR	ABOVE FINISHED ROOF
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AHJ	AUTHORITY HAVING JURISDICTION
AMP	AMPERE (AMP, AMPS)
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
APD	AIR PRESSURE DROP
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR-CONDITIONING ENGINEERS
AVG	AVERAGE
BAS	BUILDING AUTOMATION SYSTEM
BHP	BREAK HORSEPOWER
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CD	CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
C.I.	CAST IRON
CLG	CEILING
CLR	CLEAR
CO	CARBON MONOXIDE
COND	CONDENS (-ER, -ING, -ATION, -ATE)
CONT	CONTINU (-ED, -OUS)
CU FT	CUBIC FEET
CU IN	CUBIC INCHES
CV	VALVE FLOW COEFFICIENT
dB	DECIBEL
DB	DRY BULB
DC	DIRECT CURRENT
DD	DUCT SMOKE DETECTOR
DDC	DIRECT DIGITAL CONTROLS
DEG	DEGREE (-S)
DIA	DIAMETER (-S)
DN	DOWN
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ELEV	ELEVA (-TION, -TOR)
ENGR	ENGINEER
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EVAP	EVAPORAT (-E, -ING, -ED, -OR, -ION)
EWT	ENTERING WATER TEMPERATURE
EXP	EXPANSION
EXT	EXTERIOR
FA	FREE AREA

ABBREVIATIONS (CONTINUED)

FL	FLOOR
FLA	FULL LOAD AMPS
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FEET **OR** FOOT
FUT	FUTURE
FV	FACE VELOCITY
GA	GAGE/GAUGE
GAL	GALLON (-S)
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
H	HUMIDITY
HD	HEAD
HG	MERCURY
HORIZ	HORIZONTAL
HP	H (-ORSEPOWER, -EAT PUMP)
HR	HOUR (-S)
HVAC	HEATING, VENTILATING, & AIR-CONDITIONING
Hz	HERTZ
ID	I (-DENTIFICATION, -NSIDE DIAMETER, -NSIDE DIMENSION)
IN	INCH (-ES)
INSUL	INSULAT (-ED, -ION)
INT	INTER (-IOR, -ERVAL)
IPS	IRON PIPE SIZE
kW	KILOWATT
kWh	KILOWATT HOUR
LBS	POUNDS
LF	LINEAR FEET/FOOT
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	BTU PER HOUR [THOUSANDS]
MCA	MINIMUM CIRCUIT AMPS
MFG	MANUFACTURER
MIN	MIN (-IMUM, -UTE)
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION [AMPS]
MTG	MOUNTING
N/A	NOT APPLICABLE
NC	NOISE CRITERIA **OR** NORMALLY CLOSED
NEBB	NATIONAL ENVIRONMENTAL BALANCING BUREAU
NIC	NOT IN CONTRACT

ABBREVIATIONS (CONTINUED)

NO	NORMALLY OPEN **OR** NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DI (-AMETER, -MENSION)
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OR	OPEN RECEPTACLE
OZ	OUNCE (-S)
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PH	PHASE [ELECTRICAL]
PLBG	PLUMBING
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE (STEAM, WATER, GAS)
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	PPSI GAUGE
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SQ	SQUARE
SQ FT	SQUARE FEET **OR** FOOT
SQ IN	SQUARE INCH **OR** INCHES
TAB	TESTING AND BALANCING
TBD	TO BE DETERMINED
TE	TOP ELEVATION
TEMP	TEMPERATURE
TPA	TRAP PRIMER ADAPTER
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	VOLT (-AGE, -S)
VAR	VARI (-ABLE, -IES)
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VFD	VARIABLE FEQUENCY DRIVE
W	WATT (-AGE, -S)
WB	WET BULB
WBT	WET BULB TEMPERATURE
WPD	WATER PRESSURE DROP
WT	WEIGHT
W/	WITH
W/O	WITHOUT
%	PERCENT
ΔP	DIFFERENTIAL PRESSURE
ΔT	TEMPERATURE DIFFERENCE
℄	CENTERLINE

GENERAL SYMBOLS

(#)	TAGGED NOTE DESIGNATOR
(1)	REVISION TRIANGLE
	ROOM TAG
TAG XXX-# INSTANCE XXXX	EQUIPMENT TAG
XXX ##	DOMESTIC WATER RISER TAG
XXX #"	SANITARY, WASTE, & VENT RISER TAG
XXX ##	FIRE SUPPRESSION RISER TAG
	POINT OF CONNECTION / CONNECT TO EXISTING
	POINT OF DEMOLITION
D(XXX)	PIPING TO BE DEMOLISHED - (XXX) DENOTES SYSTEM
E(XXX)	EXISTING PIPING - (XXX) DENOTES SYSTEM
A(XXX)	ABANDONED IN PLACE PIPING - (XXX) DENOTES SYSTEM

VALVE SYMBOL LEGEND

	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	AUTOMATIC AIR VENT (AAV)
	MANUAL AIR VENT (MAV)
	MANUAL BALANCING VALVE (BV)
	BALL VALVE
	BUTTERFLY VALVE
	TRIPLE DUTY VALVE (TDV)
	STRAINER
	MANUAL ISOLATION VALVE
	GLOBE VALVE
	OS&Y (GATE) VALVE
	PRESSURE REDUCING VALVE (STEAM, GAS, WATER, ETC.)
	AUTO-FLOW CONTROL VALVE
	CHECK VALVE
	DOUBLE CHECK VALVE ASSEMBLY

PLUMBING PIPING LEGEND

	PIPE ELBOW TURNING UP
	PIPE ELBOW TURNING DOWN
	PIPE TEE; CONNECTION ON TOP
	PIPE TEE; CONNECTION ON BOTTOM
	PIPE CAP
AVT	ACID VENT
AW	ACID WASTE
CA	COMPRESSED AIR
CAI/E	COMBUSTION AIR INTAKE/EXHAUST
CBS/R	CHILLED BEAM SUPPLY/RETURN
CD	CONDENSATE DRAIN
CO2	CARBON DIOXIDE
CST	CLEAN STEAM PIPING
DCW	DOMESTIC COLD WATER (DCW)
DHW, DHW(#°F)	DOMESTIC HOT WATER (DHW)
OHR, DHR(#°F)	RECIRCULATED DOMESTIC HOT WATER (DHR)
HPC	HIGH PRESSURE STEAM CONDENSATE
HPS(#)	HIGH PRESSURE STEAM; (#) DENOTES PRESSURE
HPS/R	HEAT PUMP WATER SUPPLY/RETURN
HRS/R	HEAT RECOVERY SUPPLY/RETURN PIPING
HWS/R	HEATING WATER SUPPLY/RETURN
LPC	LOW PRESSURE STEAM CONDENSATE
LPS(#)	LOW PRESSURE STEAM; (#) DENOTES PRESSURE
MPC	MEDIUM PRESSURE STEAM RETURN
MPS(#)	MEDIUM PRESSURE STEAM; (#) DENOTES PRESSURE
SPD	STEAM CONDENSATE PUMPED DISCHARGE
SVT	STEAM VENT PIPING

PLUMBING SYMBOL LEGEND

	FLEXIBLE PIPE CONNECTION
	FLOW METER (VENTURI)
	PIPING UNION
	FLOW SWITCH
	PRESSURE SWITCH
	TAMPER SWITCH
	THERMOMETER
	PETE'S PLUG; TEMPERATURE/PRESSURE PORT

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	CW	HW	VENT	WASTE/DRAIN	VOLTAGE	EXTERNAL CHECK VALVE
FD-2	FLOOR DRAIN - 12" X 12" : ZURN, ZN-610 OR EQUAL, FLOOR DRAIN WITH 12"X12" LOCKING GRATE, SECONDARY STRAINER, SEDIMENT BUCKET AND GALVANIZED CAST IRON CONSTRUCTION WITH TRAP PRIMER CONNECTION; NICKEL BRONZE STRAINER; 4" DRAIN OUTLET	-	-	2"	4"	Yes	Yes
P-1	WATER CLOSET - WALL MOUNTED- MANUAL FLUSH VALVE : VITREOUS CHINA, ELONGATED BOWL, SIPHON JET, 1.50" BACK SPUD INLET, CHINA BOLT CAPS AND WHITE OPEN FRONT PLATIC SEAT WITH SELF-SUSTAINING CHECK HINGES. TOP OF THE SEAT SHALL BE MOUNTED AT 15" AFF. PROVIDE WITH WALL CARRIER.	1-1/2"	-	2"	4"		
P-1A	WATER CLOSET - FLOOR MOUNTED - MANUAL FLUSH VALVE - ADA COMPLIANT : VITREOUS CHINA, ELONGATED BOWL, SIPHON JET, 1.50" BACK SPUD INLET, CHINA BOLT CAPS AND WHITE OPEN FRONT PLASTIC SEAT WITH SELF-SUSTAINING CHECK HINGES. PROVIDE WITH MANUAL FLUSH VLAVE, TOP OF THE SEAT SHALL BE MOUNTED AT 18" AFF, PROVIDE WITH WALL CARRIER.	1-1/2"	-	2"	4"		
P-3	MOP BASIN : FIAT MODEL NO MSB-2424, 24"X24"X10" HIGH MOLDED STONE MOP SERVICE BASIN IN WHITE DRIFT COLOR, 3" DRAIN, SERVICE FAUCET, HOSE AND BRACKET COMBINATION, MOP HANGER BRACKET, STRAINER AND VINYL BUMPERGUARD.	3/4"	3/4"	2"	3"		
P-4A	LAVATORY - WALL HUNG W/ SINGLE LEVER FAUCET - ADA COMPLIANT : VIRTREOUS CHINA, 20"X18" WALL HUNG LAVATORY WITH 4" FAUCET CENTERS, CONCEALED ARMS AND 4" HIGH BACKSPLASH. PROVIDE WITH VANDAL RESISTANT SINGLE LEVER FAUCET, CHROM PLATED 3/8" SUPPLIES WITH STOPS, GRID DRAIN, A KENTUCKY CODE P-TRAP, TAILPIECE AND ESCUTCHEONS. PROVIDE WITH FLOOR MOUNTED WALL CARRIER. MOUNT LAVATORY AT A HEIGHT LEAVING A CLEARANCE OF AT LEAST 29" FROM THE FLOOR TO THE APRON AND THE RIM AT A A MAXIMUM OF 34" AFF. PROVIDE ON THE EXPOSED WASTE PIPE AND WATER SUPPLY LINES A TRAP-WRAP INSULATION KIT WITH A VINYL AND PLASTIC COVERING.	1/2"	1/2"	2"	2"		
P-5	WASH BASIN - WALL MOUNTED - ADA COMPLIANT: BRADLEY VERAGE WASH BASIN MODELS LVAD1 AND LVAD3. PROVIDE WITH CONCEALED ARM VARRIER, ACCESS PANEL AND BRADLET VERGE ZEN SERIES FAUCETS WITH ZEN SERIES SOAP DISPENSERS IN THE BRUSHED BLACK SAINLESS FINISHES. BRADLEY LVA SERIES OR EQUAL EQUIVALENT. PROVIDE WITH 0.5 GPM TOUCH-FREE DUAL SENSOR FAUCET WITH POLISHED CHROME FINISH. BRADLEY VERGE ZEN-SERIES OR EQUAL EQUIVALENT. ADA OFFSET GRID DRAIN, 3/8" ANGLE SUPPLIES WITH STOPS, WEST-VIRGINIA CODE P-TRAP, TAILPIECE AND ESCUTCHEONS.	3/4"	3/4"	1-1/2"	2"		
P-7	HIGH AND LOWE DRINKING FOUNTAIN WITH BOTTLER FILLER - ADA COMPLIANT - ELKAY, AMBIENT, VANDAL RESISTANT OR EQUIVALENT. RECETOR WITH SANIARY SENSOR ACTIVATION BOTTLE FILLER. BARRIER FREE DRINKING FOUNTAIN, 18 GUAGE STAINLESS STEEL BASIN, WITH FRONT PUSH BUTTON OPERATOR, WALL MOUNTED WITH CARRIER.	1/2"	-	2"	2"		
P-8	SHOWER - ZURN Z-7101-TEMP-GARD OR APPROVED EQUIVALENT PRESSURE BALANCING SHOWER MIZING VALVE WITH ADJUSTABLE STOP SCREW TO LIMIT HANGLE TURN, BRASS DIVERTER VALVE.	3/4"	3/4"	2"	2"		
P-8A	SHOWER - ADA COMPLIANT : ZURN Z-7101-TEMP-GARD OR APPROVED EQUIVALENT PRESSURE BALANCING SHOWER MIXING VALVE WITH ADJUSTABLE STOP SCREW TO LIMIT HANDLE TURN, BRASS DIVERTER VALVE, HANDWALL SHOWER HEAD, 60" FLEXIBLE METALLIC HOSE, 24" MOUNTING SLIDE BAR, WALL CONNECTION AND FLANGE. SLIDE BAR SHALL BE INSTALLED SO CNETER LINE OF VALVE IS 18" FROM EDGE OF SHOWER ENTRANCE.	3/4"	3/4"	2"	2"		
P-9	WASHER BOX : RECESSED STAINLESS STEEL BOX WITH 1/2" BOTTOM HOT AND COLD WATER HOSE CONNECTIONS AND 2" DRAIN.	3/4"	3/4"	2"	2"		
P-AL	DOUBLE COMPARTMENT SINK W/ GOOSENECK FAUCET : DOUBLE COMPARTMENT STAINLESS STEEL SINK, 20"X37" O.D., 14"X16" I.D., 18 GAUGE, 61/2" DEEP, REAR FAUCET LEDGE WITH 8" CENTERS. PROVIDE WITH CHROME PLATED GOOSENECK FAUCET WITH 4" BLADES AND SWING SPOUT. PROVIDE WITH CHROME SUPPLIES, STOPS, TAILPIECE, KENTUCKY CODE P-TRAP, CRUMB CUP STRAINER DRAINS, CONTINUOUS WASTE AND ESCUTCHEONS.	1/2"	1/2"	2"	2"		

APPLICABLE BUILDING CODES

APPLICABLE BUILDING CODES	DOCUMENT	YEAR
ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES	ANSI A117.1	2009
FIRE SPRINKLER CODE	NFPA 13	2013
INTERNATIONAL BUILDING CODE (IBC)	STATE EDITION	2015
INTERNATIONAL ENERGY CONSERVATION CODE (IECC) OR ASHRAE 90.1	STATE EDITION	2012
INTERNATIONAL FIRE CODE (IFC)	STATE EDITION	2015
INTERNATIONAL FUEL GAS CODE (IFGC)	STATE EDITION	2015
INTERNATIONAL MECHANICAL CODE (IMC)	STATE EDITION	2015
INTERNATIONAL PLUMBING CODE (IPC)	STATE EDITION	2015
INTERNATIONAL EXISTING BUILDING CODE (IEBC)	STATE EDITION	2009
NATIONAL ELECTRIC CODE (NEC)	NFPA 70	2017
NATIONAL FIRE ALARM & SIGNALING CODE	NFPA 72	2013
UNIFORM STATEWIDE BUILDING CODE		2018

Sheet List - Plumbing

SHEET #	SHEET NAME
P-101	CONCESSIONS RESTROOM LOCKER ROOM - UNDERSLAB - PLUMBING PLAN
P-102	CONCESSIONS RESTROOM LOCKER ROOM - FIRST FLOOR - PLUMBING PLAN
P-200	PLUMBING RISER
P-300	ENLARGED PLUMBING VIEWS
P-400	PLUMBING DETAIL
P-001	PLUMBING LEGEND
P-001b	PLUMBING LEGEND (24X36)

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GARRARD COUNTY GYMNASIUM AND ATHLETIC COMPLEX

FOR THE

GARRARD COUNTY BOARD OF EDUCATION

PLUMBING LEGEND

DATE:	Issue Date
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SHEET P-001

JOB# 2113

DRAWN: Author

CHECKED: Checker

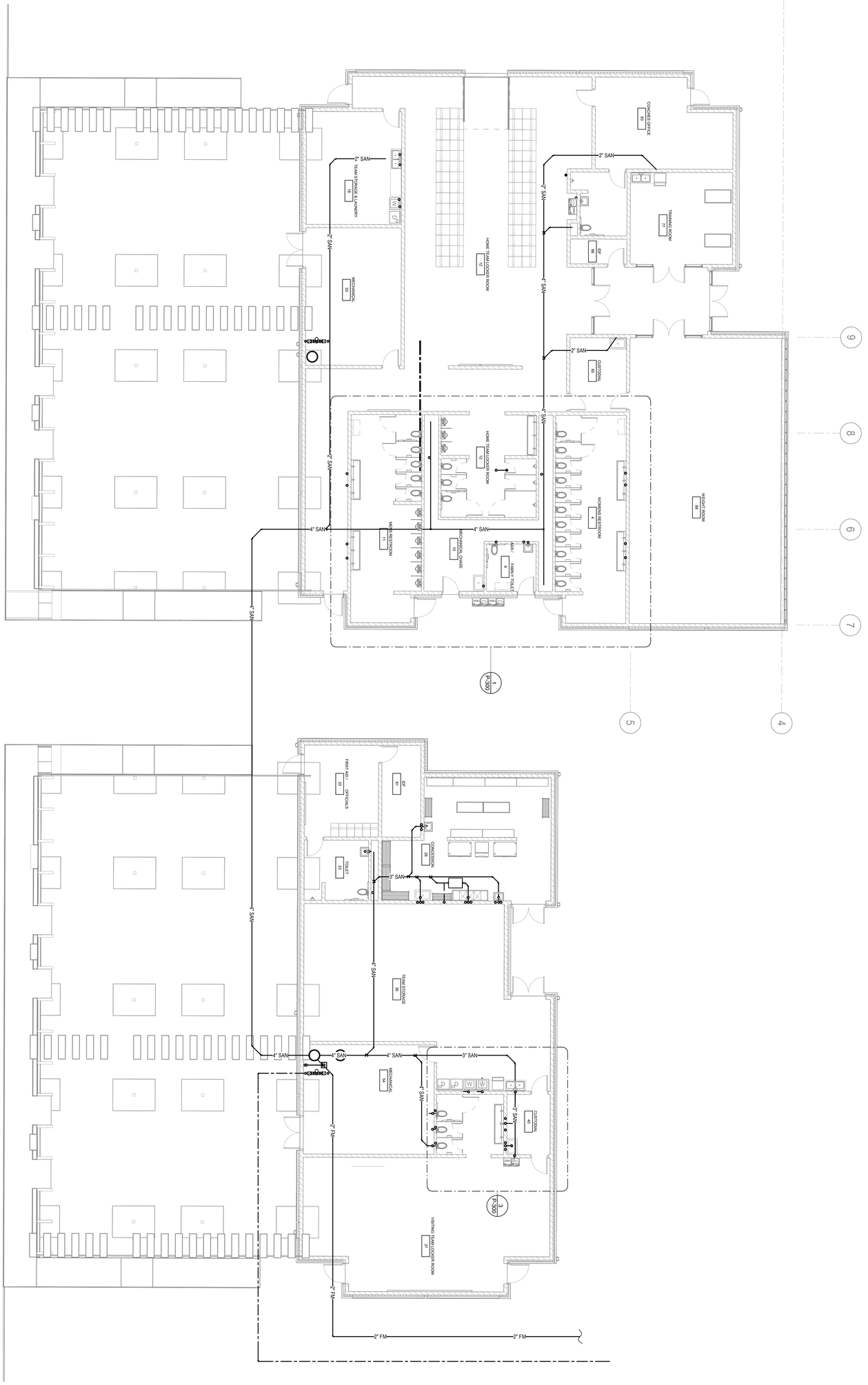
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CONCESSION/LOCKER ROOM - UNDERSLAB - PLUMBING

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

0 1' 2' 4' 8' 12' 16'



TAGGED NOTES

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SHEET	P-101
JOB#	2113
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CONCESSIONS RESTROOM LOCKER ROOM - UNDERSLAB - PLUMBING PLAN

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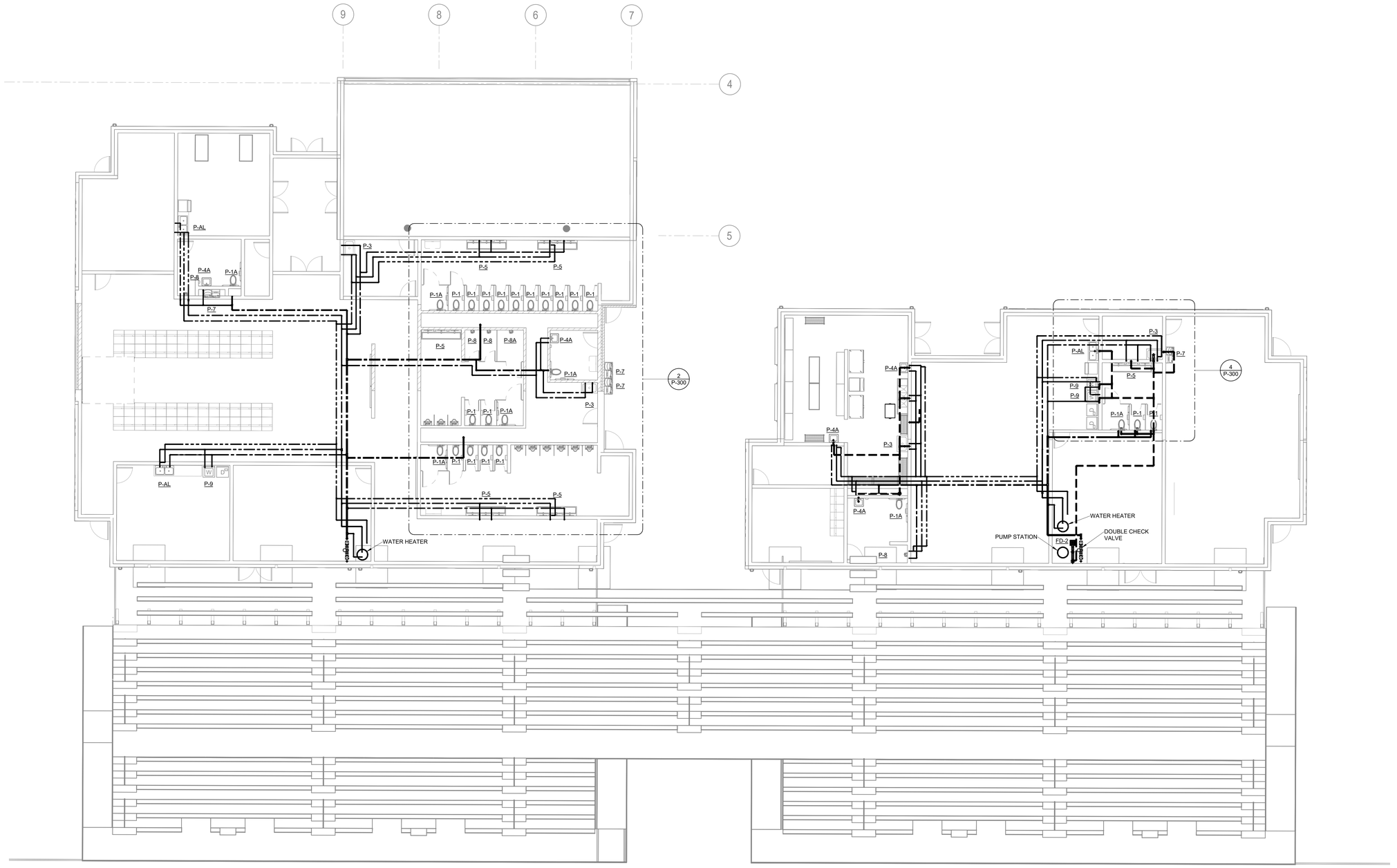
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CONCESSION/LOCKER ROOM - FIRST FLOOR - PLUMBING

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

0 1' 2' 4' 8' 12' 16'

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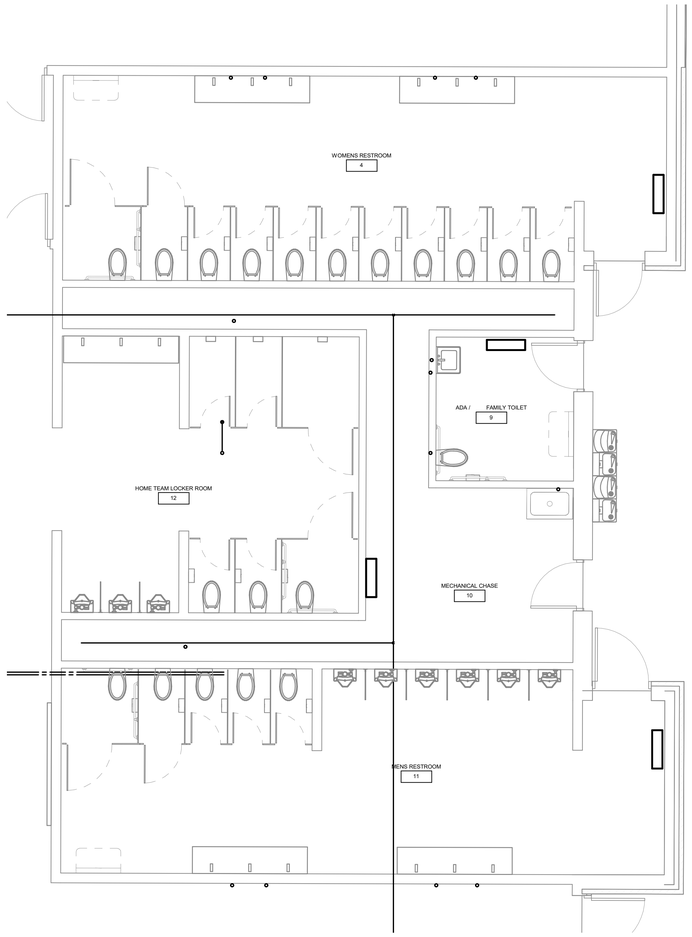
CONCESSIONS RESTROOM LOCKER ROOM - FIRST FLOOR - PLUMBING PLAN

DATE:	Issue Date
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SHEET P-102

JOB# 2113
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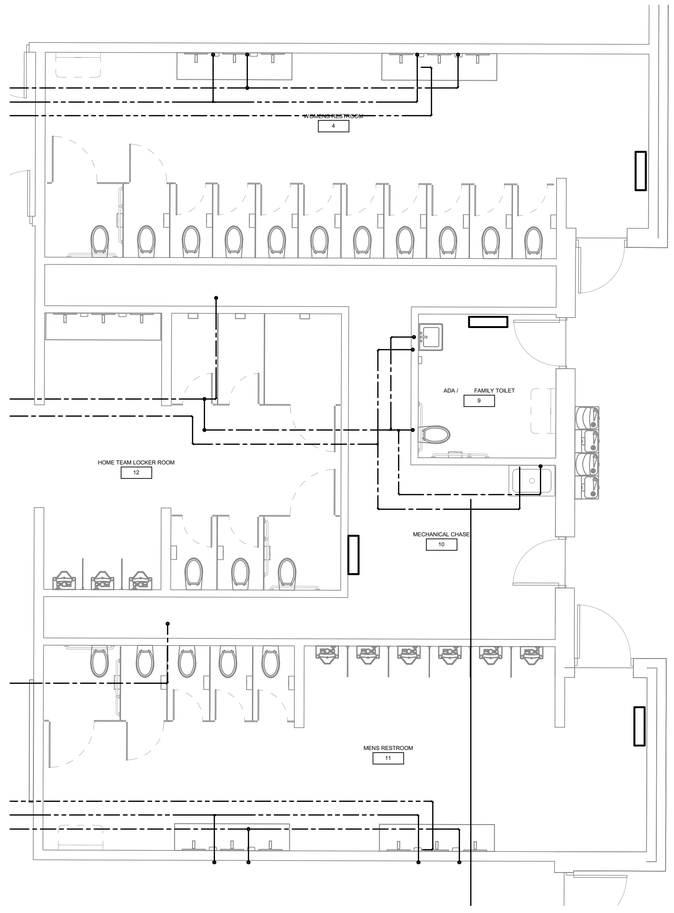
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1 P-101 — LOCKER ROOM ENLARGED UNDERSLAB PLUMBING VIEW

SCALE: 1/4" = 1'-0"

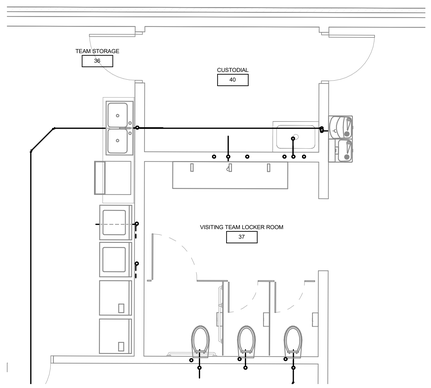
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2 P-102 — LOCKER ROOM ENLARGED PLUMBING VIEW

SCALE: 1/4" = 1'-0"

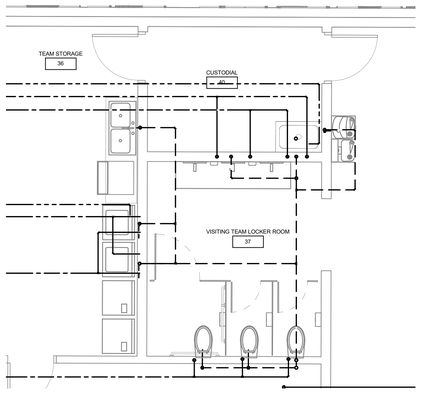
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3 P-101 — CONCESSIONS ENLARGED UNDERSLAB PLUMBING VIEW

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'



4 P-102 — CONCESSION ENLARGED PLUMBING VIEW

SCALE: 1/4" = 1'-0"

0 1' 2' 4' 8' 12' 16'

TAGGED NOTES

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ENLARGED PLUMBING VIEWS

DATE:	Issue Date
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SHEET P-300

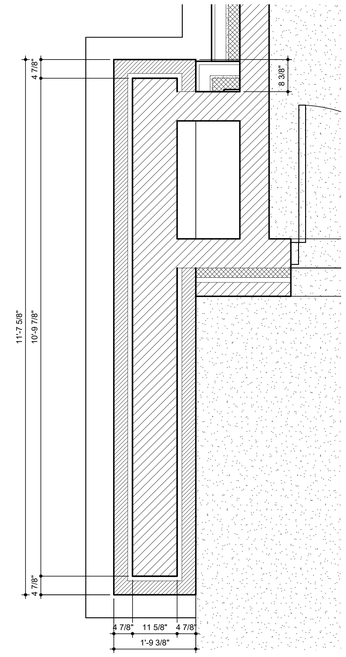
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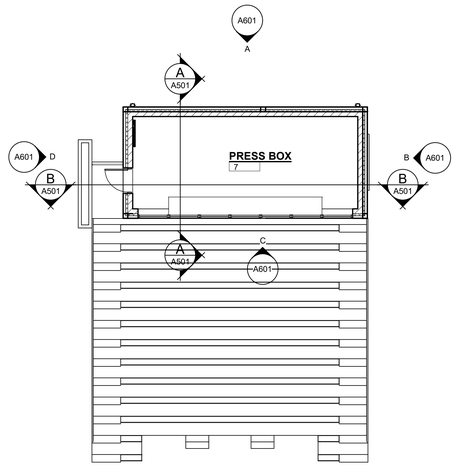
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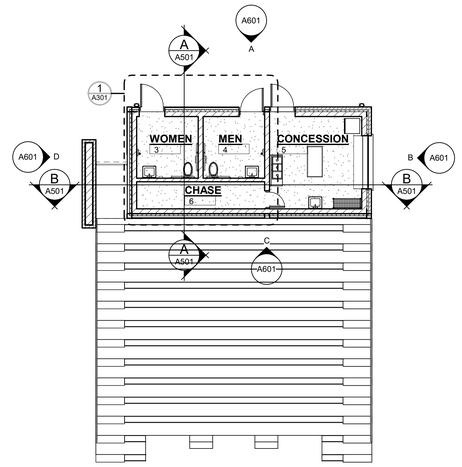
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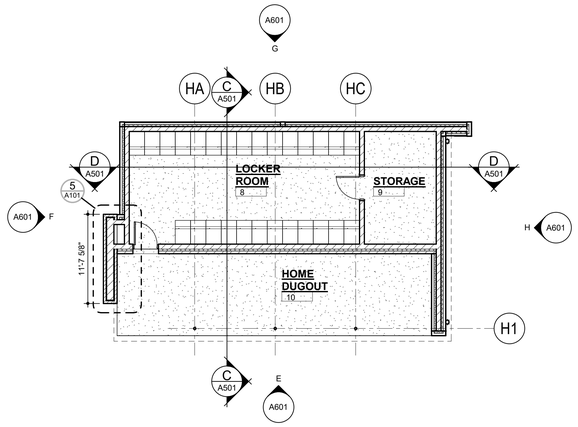
5 / A101 DETAIL
SCALE: 3/4" = 1'-0"



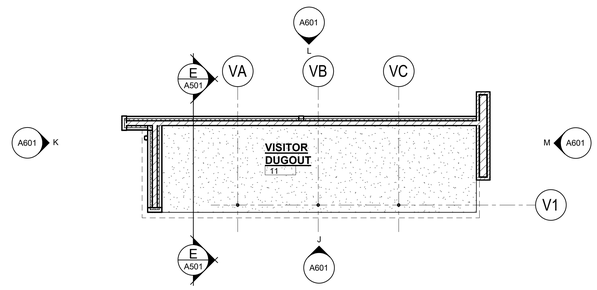
SECOND FLOOR PLAN - PRESS BOX/RESTROOMS
SCALE: 1/8" = 1'-0"



FIRST FLOOR PLAN - PRESS BOX/RESTROOMS
SCALE: 1/8" = 1'-0"



FIRST FLOOR PLAN - THIRD BASE DUGOUT
SCALE: 1/8" = 1'-0"



FIRST FLOOR PLAN - FIRST BASE DUGOUT
SCALE: 1/8" = 1'-0"

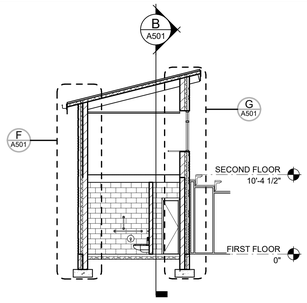
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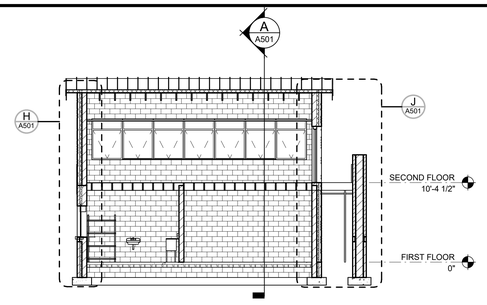
GARRARD COUNTY HIGH SCHOOL
FINAL PHASE
BASEBALL AND SOFTBALL FACILITIES
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
FLOOR PLANS

DATE:	MAY 11, 2022
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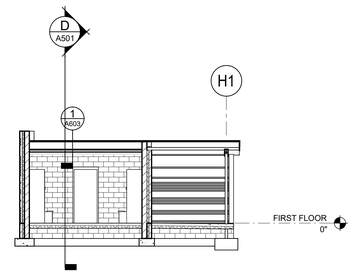
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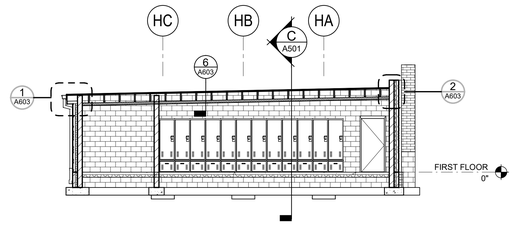
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SCALE: 1/8" = 1'-0"



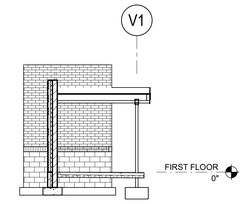
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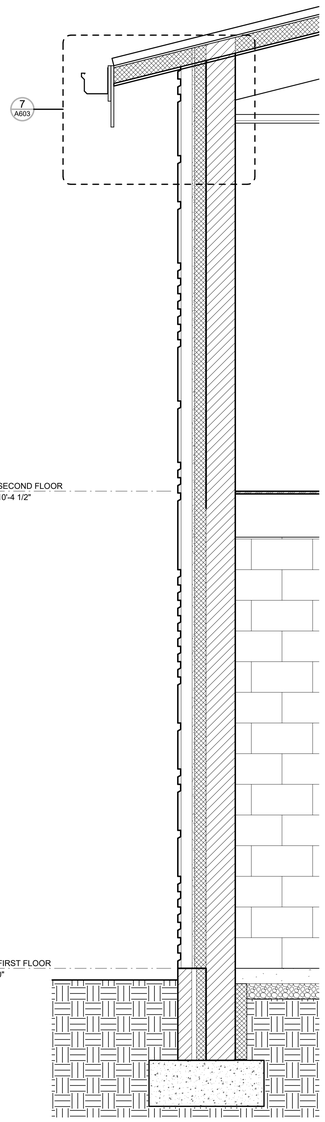
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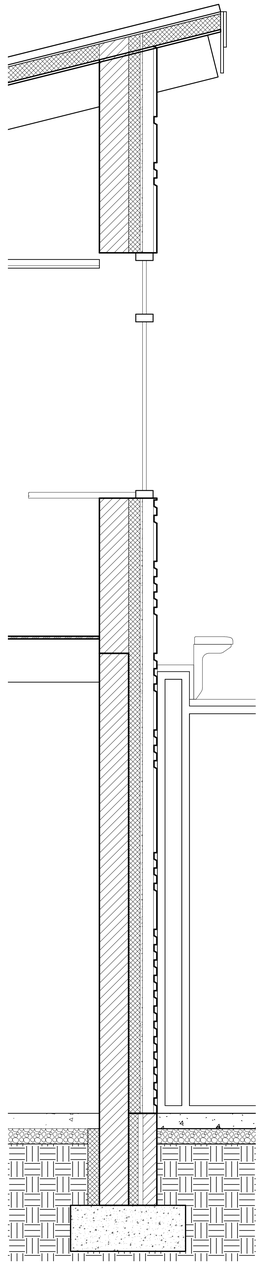
D A501 BUILDING SECTION
SCALE: 1/8" = 1'-0"



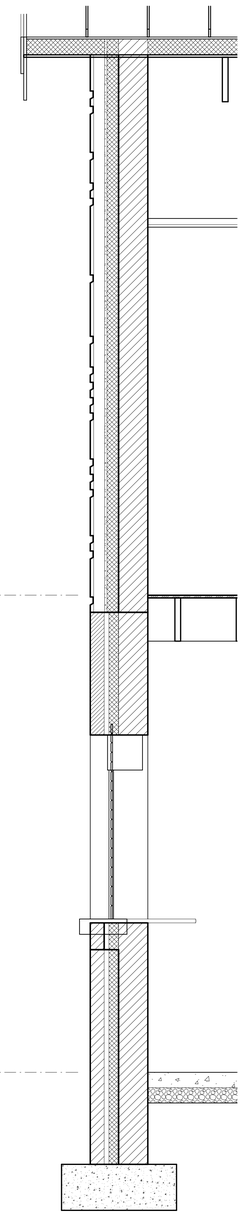
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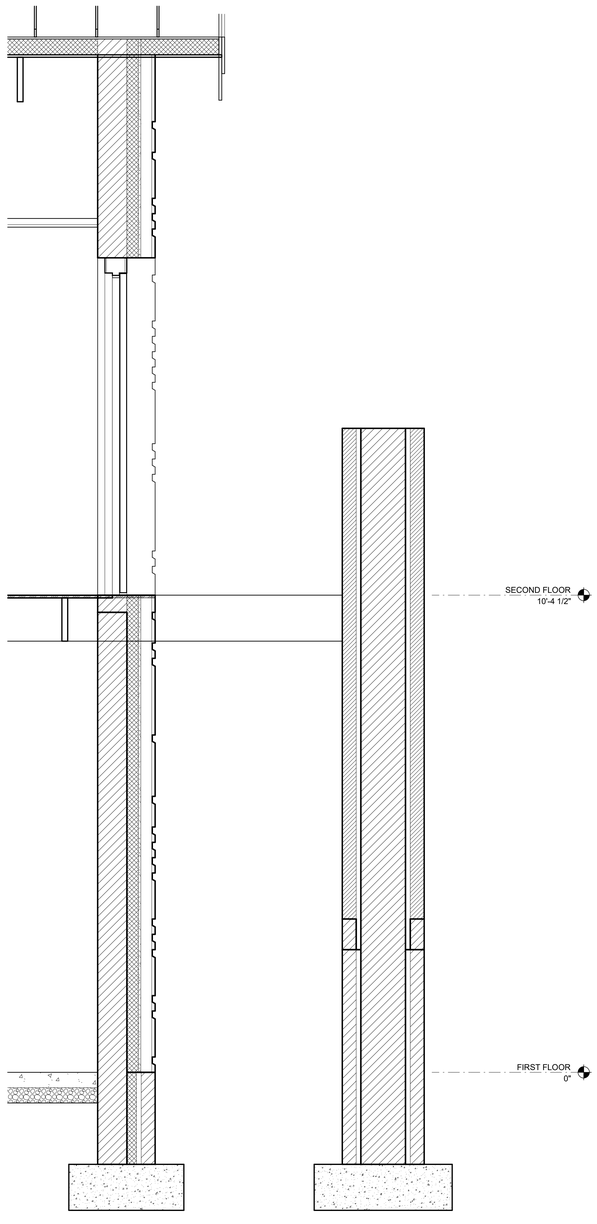
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G A501 WALL SECTION
SCALE: 3/4" = 1'-0"



H A501 WALL SECTION
SCALE: 3/4" = 1'-0"



J A501 WALL SECTION
SCALE: 3/4" = 1'-0"

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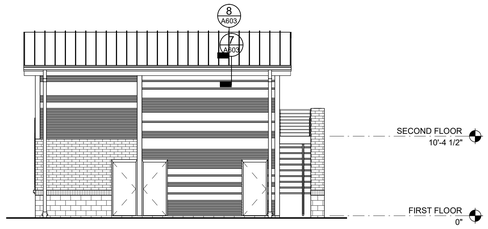
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BUILDING SECTIONS AND WALL SECTIONS

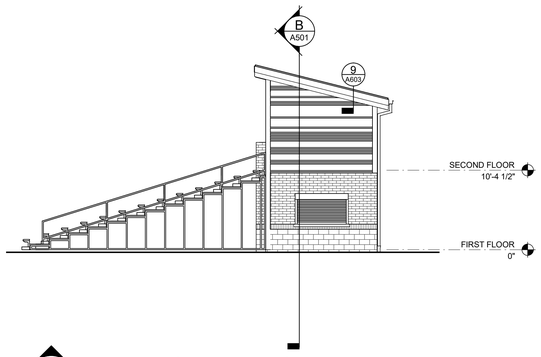
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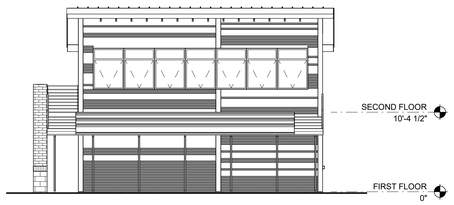
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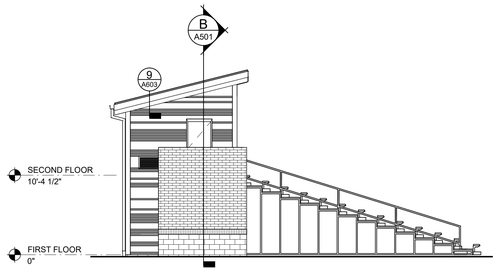
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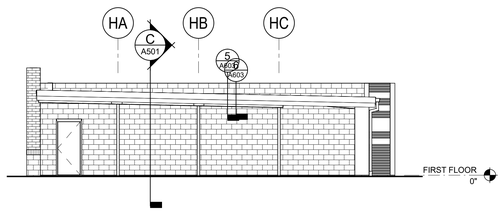
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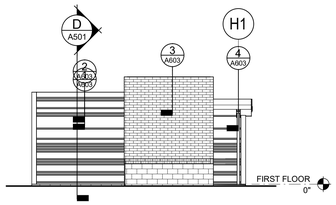
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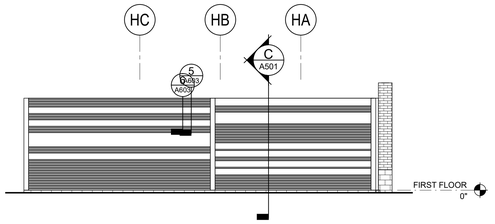
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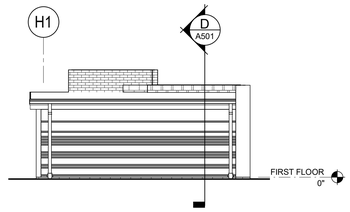
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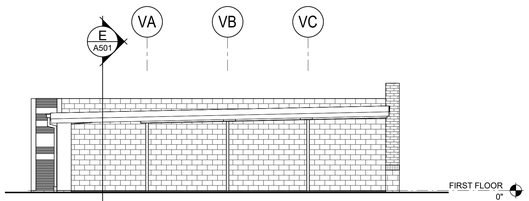
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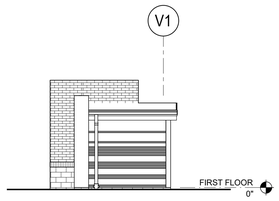
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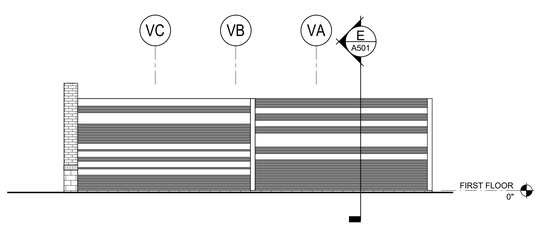
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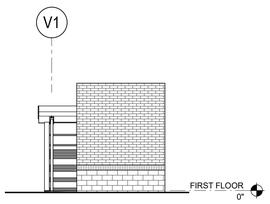
J A601 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



K A601 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



L A601 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"



M A601 BUILDING ELEVATION
SCALE: 1/8" = 1'-0"

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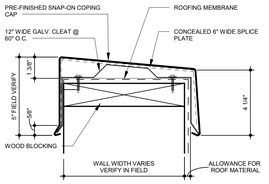
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FINAL PHASE
BASEBALL AND SOFTBALL FACILITIES
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
BUILDING ELEVATIONS

DATE: MAY 11, 2022
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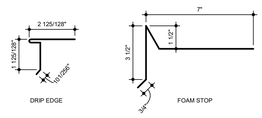
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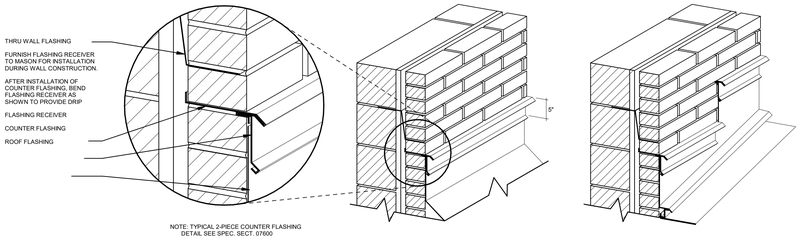
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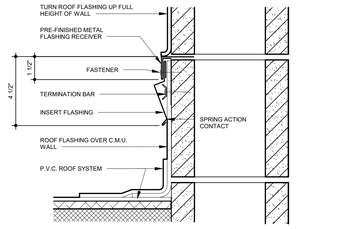
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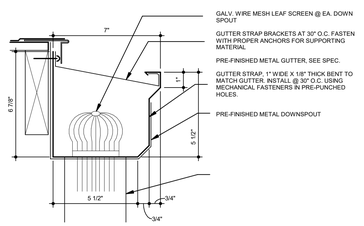
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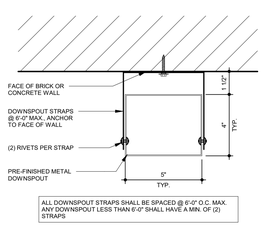
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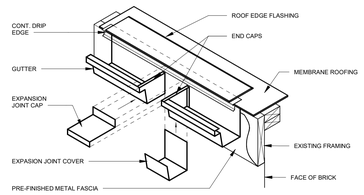
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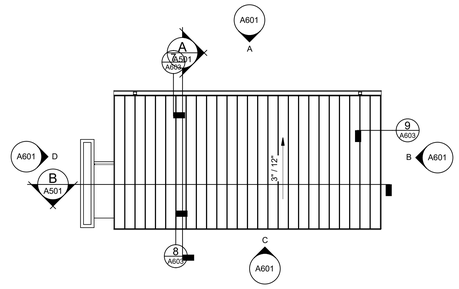
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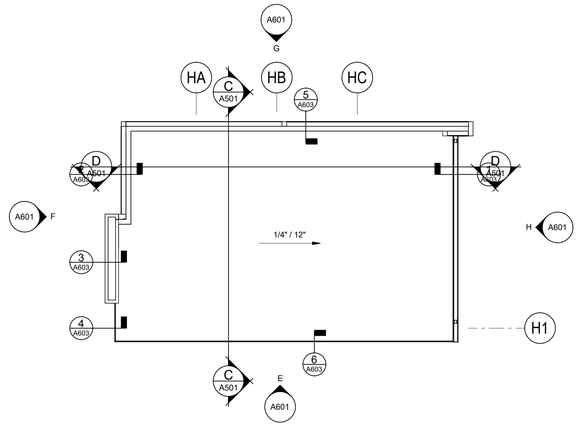
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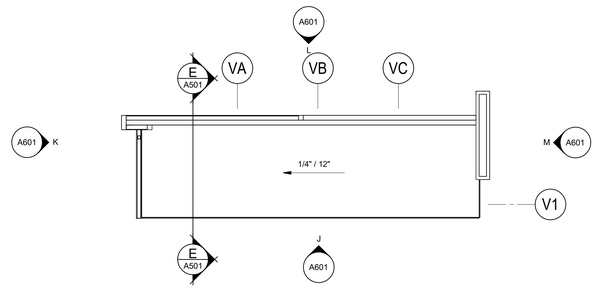
9 / A602 DETAIL
SCALE: 1" = 1'-0"



ROOF PLAN - PRESS BOX
SCALE: 1/8" = 1'-0"



ROOF PLAN - HOME DUGOUT
SCALE: 1/8" = 1'-0"



ROOF PLAN - VISITOR DUGOUT
SCALE: 1/8" = 1'-0"

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GARRARD COUNTY HIGH SCHOOL
FINAL PHASE
BASEBALL AND SOFTBALL FACILITIES
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
ROOF PLAN

DATE:	MAY 11, 2022
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GENERAL NOTES

DESIGN LOADS

STRUCTURAL RISK CATEGORY ..... CATEGORY II

FLOOR LIVE LOAD

BLEACHERS	100 PSF
KITCHENS	150 PSF
STAIRS	100 PSF
** (PLUS NON-REDUCED 15 PSF PARTITION LOAD ALLOWANCE)	
(LIVE LOADS ARE REDUCED PER KBC SECTION 1607.10)	

ROOF LIVE LOAD ..... 20 PSF MIN

ROOF SNOW LOAD (PER ASCE 7-10)

GROUND SNOW LOAD	P_g = 15 PSF
IMPORTANCE FACTOR	Is = 1.10
SNOW EXPOSURE FACTOR	Ce = 0.9
THERMAL FACTOR	
(BUILDING)	Ce = 1.0
(CANOPIES)	Ct = 1.2
RAIN ON SNOW SURCHARGE	Pr = 5 PSF
FLAT-ROOF SNOW LOAD* (P_f = 0.7Ce*Is*P_g)	
(BUILDING)	P_f = 10.5 PSF
(CANOPIES)	P_f = 12.6 PSF
MINIMUM-ROOF SNOW LOAD (I_s*P_g)	Pm = 15 PSF
SLOPED-ROOF SNOW LOAD* (P_s = Cs P_f)	
(BUILDING)	P_s = 10.5 PSF
(CANOPIES)	P_s = 12.6 PSF

*(INCREASE FOR DRIFTING PER ASCE 7-10, SECTIONS 7.7 & 7.8)

WIND LOAD (PER ASCE 7-10)

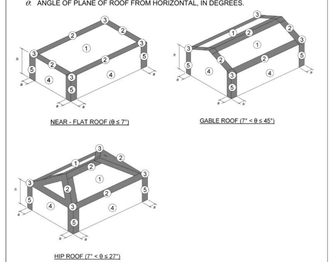
ULTIMATE DESIGN WIND SPEED	V_{ULT}= 115 MPH
NOMINAL DESIGN WIND SPEED	V_{ASD}= 89 MPH
RISK CATEGORY/EXPOSURE	EXPOSURE C
ENCLOSURE	FULLY ENCLOSED
INTERNAL PRESSURE COEFFICIENT	GC_{pi} = ± 0.18
ZONE EDGE WIDTH	a = 3 FT

COMPONENTS & CLADDING EXTERNAL PRESSURE ULTIMATE (LRFD) LOADS (PSF)

EFFECTIVE WIND AREA (SQ FT)	LOCATION PER ASCE 7-10: ①	②	③	④	⑤
≤10	9.7 -23.8	9.7 -39.9	9.7 -60.1	23.8 -25.8	23.8 -31.9
20	9.1 -23.2	9.1 -35.7	9.1 -49.8	22.7 -24.7	22.7 -29.7
50	8.3 -22.4	8.3 -30.1	8.3 -36.1	21.3 -23.3	21.3 -26.9
100	7.7 -21.8	7.7 -27.8	7.7 -25.8	20.2 -22.2	20.2 -24.7
500	↓	↓	↓	17.7 -19.8	17.7 -19.8

NOTES:

1. WIND LOADING PROVIDED ARE ULTIMATE (LRFD) LOADING. FOR ALLOWABLE STRESS DESIGN MULTIPLY LOADS PROVIDED BY 0.6.
2. LOADING PROVIDED IS FOR WORST CASE ROOF HEIGHT. DELEGATED DESIGNERS MAY RECALCULATE LOADS FOR SPECIFIC COMPONENT HEIGHTS USING PARAMETERS SPECIFIED.
3. PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE.
4. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES RESPECTIVELY.
5. FOR HIP ROOFS WITH $\theta \leq 25°$, ZONE 3 SHALL BE TREATED AS ZONE 2.
6. EACH COMPONENT MUST BE DESIGNED FOR MAXIMUM POSITIVE AND NEGATIVE FORCES.
7. FOR COMPONENTS HAVING EFFECTIVE AREAS IN BETWEEN TABULATED VALUES, DESIGN LOADS MAY BE INTERPOLATED. OTHERWISE DESIGN LOAD MUST BE TAKEN FROM THE NEXT LOWEST EFFECTIVE AREA.
8. INTERNAL PRESSURE FOR ENCLOSED BUILDING IS INCLUDED IN ABOVE VALUES.
9. THE NET C&C PRESSURE (INCLUDING INTERNAL PRESSURE) FOR ANY COMPONENT SHALL NOT BE TAKEN LESS THAN 16 PSF ACTING IN EITHER DIRECTION NORMAL TO THE SURFACE.
10. NOTATION:
    - *a*: 10 PERCENT OF LEAST HORIZONTAL DIMENSION OR 0.4*h*, WHICHEVER IS SMALLER, BUT NOT LESS THAN EITHER 4% OF LEAST HORIZONTAL DIMENSION OR 3 FT.
    - *h*: MEAN ROOF HEIGHT, IN FEET, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ROOF ANGLES $\theta < 10°$.
    - θ: ANGLE OF PLANE OF ROOF FROM HORIZONTAL, IN DEGREES.



EARTHQUAKE DESIGN DATA

COUNTY / STATE	GARRARD / KENTUCKY
IMPORTANCE FACTOR	Ie = 1.0
MAPPED SHORT PERIOD RESPONSE ACCELERATION	Ss = 0.0
MAPPED 1 SECOND PERIOD RESPONSE ACCELERATION	S1 = 0.0
SITE CLASS	CLASS D
DESIGN SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT	Sds = 0.0
DESIGN 1 SECOND PERIOD SPECTRAL RESPONSE COEFFICIENT	Sd1 = 0.0
SEISMIC DESIGN CATEGORY	CATEGORY C
BASIC STRUCTURAL SYSTEM	BUILDING FRAME SYSTEM
SEISMIC RESISTING SYSTEM	STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
RESPONSE MODIFICATION FACTOR	R = 3.0
SEISMIC RESPONSE COEFFICIENT	Cs = 0.0
METHOD OF ANALYSIS	EQUIVALENT LATERAL FORCE PROCEDURE
SEISMIC BASE SHEAR	= 0.0 KIPS

DESIGN STRESSES

CONCRETE (STRENGTH DESIGN) MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS:

FOOTINGS	fc = 3,000 PSI
INTERIOR SLABS ON GRADE, DRILLED PIERS, GRADE BEAMS, WALLS, INTERIOR STRUCTURAL FRAME, AND FOR CONCRETE ON METAL DECK	fc = 4,000 PSI
CONCRETE EXPOSED TO FREEZE/THAW	fc = 5,000 PSI
STRUCTURAL LIGHTWEIGHT CONCRETE ON METAL DECK (110 PCF MAX, AIR DRIED)	fc = 3,500 PSI
REINFORCING BARS (ASTM A615 GRADE 60)	fy = 60,000 PSI
WELDED WIRE FABRIC (ASTM A1064)	fy = 65,000 PSI
WIDE FLANGE AND TEE SHAPES DESIGNATED AS W AND WT (ASTM A992)	fy = 50,000 PSI
WIDE FLANGE SHAPES DESIGNATED AS HP (ASTM A572)	fy = 50,000 PSI
WIDE FLANGE AND TEE SHAPES DESIGNATED AS M, S, MT AND ST (ASTM 36)	fy = 36,000 PSI
CHANNELS, ANGLES, PLATES AND BARS (ASTM A572)	fy = 50,000 PSI
STEEL ROOF DECK (ASTM A653)	fy = 33,000 PSI
COMPOSITE STEEL FLOOR DECK (ASTM A653)	fy = 50,000 PSI
NON-COMPOSITE STEEL FORM DECK (ASTM A653)	fy = 50,000 PSI
HOLLOW STRUCTURAL SECTIONS - RECTANGULAR STEEL TUBES (ASTM A500 GRADE C)	fy = 50,000 PSI
HOLLOW STRUCTURAL SECTIONS - ROUND STEEL TUBES (ASTM A500 GRADE C)	fy = 46,000 PSI
STRUCTURAL STEEL PIPE (ASTM A53 GRADE B)	fy = 35,000 PSI
STEEL JOISTS (K, LH, OR DLH) AS PER SJI SPECIFICATIONS	fy = 50,000 PSI/MAX
	fy = 36,000 PSI MIN
MASONRY ASSEMBLY COMPRESSIVE STRENGTH	f'm = 2,000 PSI
CONCRETE MASONRY UNIT STRENGTH	f'm = 2,800 PSI
TYPE S MORTAR STRENGTH	f'm = 2,000 PSI
MASONRY GROUT (ASTM C476) MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS	f'm = 2,000 PSI
SOIL BEARING PRESSURE FOR FOUNDATIONS (MATERIAL)	2,000 PSF

DESIGN CRITERIA

1. STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE 2018 KENTUCKY BUILDING CODE, 2ND EDITION (2015 IBC).
2. MAXIMUM ESTIMATED DEFLECTIONS (IN INCHES) ARE AS FOLLOWS:

	LIVE LOAD	DEAD + LIVE LOAD
ROOF MEMBERS	L/360	L/240
FLOOR MEMBERS INTERIOR	L/360	L/240
FLOOR MEMBERS SPANDREL	L/480	L/360

WHERE L = SPAN LENGTH BETWEEN CENTERLINE OF SUPPORTS (INCHES)
FOR CANTILEVERS L = TWICE THE LENGTH OF THE CANTILEVER.

3. NO PROVISION HAS BEEN MADE FOR FUTURE HORIZONTAL OR VERTICAL EXPANSION.
4. FIRE PROTECTION. STRUCTURAL SLABS ON METAL DECK HAVE BEEN DESIGNED IN COMPLIANCE WITH UL DIAM TO PROVIDE A 1 HOUR FIRE RATING WITHOUT ADDITIONAL PROTECTION. STRUCTURAL STEEL BEAMS AND FLOOR SYSTEMS WITHIN STEEL FRAMED BUILDING SYSTEMS ARE CLASSIFIED AS RESTRAINED.

GENERAL

1. THE REQUIREMENTS OF THESE GENERAL NOTES APPLY UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL CONTRACT DOCUMENTS, ADDENDA, AND SUPPLEMENTARY INFORMATION AND DISTRIBUTING SUCH TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE PREPARATION AND SUBMITTAL OF SHOP DRAWINGS, FABRICATION, AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WORK. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES THAT MAY EXIST.
4. ANY DISCREPANCIES BETWEEN STRUCTURAL AND ARCHITECTURAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER.
5. DO NOT SCALE DRAWINGS.
6. THE STRUCTURE IS DESIGNED TO FUNCTION AS A UNIT UPON COMPLETION AND IS THEREFORE DEPENDENT UPON THE DIAPHRAGM ACTION OF THE ROOF DECK AND FLOOR SLAB AND ATTACHMENT TO THE SHEAR WALLS AND FRAMES FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY BRACING REQUIRED TO PROPERLY CONSTRUCT THE BUILDING UNTIL THESE ELEMENTS ARE COMPLETE AND CAPABLE OF PROVIDING THIS SUPPORT.
7. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MEANS AND METHODS TO CONSTRUCT THE STRUCTURE, INCLUDING VERIFICATION OF LOAD CAPACITY OF THE STRUCTURE, NEW OR EXISTING, TO SUPPORT CONSTRUCTION ACTIVITIES, EQUIPMENT, ETC. AND FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED ON THE STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED. DAMAGE TO THE STRUCTURE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE CORRECTED BY THE RESPONSIBLE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
8. SHOP DRAWINGS MUST BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION.
9. NON-STRUCTURAL ELEMENTS OF THE BUILDING (ARCHITECTURAL FINISHES, MASONRY VENEER AND ASSOCIATED TIES, INSULATION, SHEATHING, DUCTWORK, PIPING, FOUNDATION/FLOOR/ROOF DRAINS, ETC.) ARE TYPICALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. STRUCTURAL ELEMENTS ARE SHOWN ON THE STRUCTURAL DRAWINGS, THEY ARE SHOWN FOR REFERENCE AND DESIGN INTENT ONLY. NON-STRUCTURAL ELEMENTS SHALL BE CONSTRUCTED AS SHOWN ON THE ARCHITECTURAL, ELECTRICAL, MECHANICAL AND PLUMBING DRAWINGS.
10. ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS ARE IDEALIZED ELEVATIONS BASED ON DECK THICKNESS AND SLOPES SHOWN ON DRAWINGS AND DO NOT ACCOUNT FOR BEAM OR JOIST CAMBER. IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO COORDINATE ANY CAMBER OF THEIR WORK WITH OTHER TRADES AND ADJUST ELEVATIONS AS NECESSARY TO ACCOUNT FOR DEAD LOAD DEFLECTION AND THIS CAMBER.
11. WALL OPENINGS AND TERMINATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE DIAGRAMMATIC ONLY. WALL TERMINATIONS AND OPENING JAMBS, HEADS, AND SILLS SHALL BE COORDINATED AS SHOWN ON THE ARCHITECTURAL DRAWINGS. WHERE VENEERS WRAP JAMBS, DETAIL AND FABRICATE LINTELS TO BEAR ON SOLID STRUCTURE. DO NOT BEAR LINTELS OR BEAMS ON VENEERS (BRICKS, SIDING, ETC.). IF THE ARCHITECTURAL DRAWINGS DO NOT INCLUDE DETAILS FOR ANY OF THESE CONDITIONS, CONSULT WITH ARCHITECT FOR DIRECTION.
12. EXISTING CONSTRUCTION SHOWN IS BASED ON EXISTING CONSTRUCTION DOCUMENTS AND/OR GENERAL CONSTRUCTION PRACTICE AND IS NOT GUARANTEED TO BE TRUE OR EXACT. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS RELEVANT TO THEIR WORK PRIOR TO CONSTRUCTION.
13. DETAILS LABELED TYPICAL ON THESE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR AND SHALL APPLY REGARDLESS OF WHETHER THEY ARE KEYED ON THE PLANS. CONSTRUCTION NOT SPECIFICALLY INDICATED BY DETAIL OR SECTION SHALL BE SIMILAR TO DETAILS SHOWN FOR SIMILAR CONDITIONS.

FOUNDATION CONSTRUCTION

1. FOUNDATIONS ON THIS PROJECT ARE DESIGNED IN ACCORDANCE WITH RECOMMENDATIONS MADE BY _____, GEOTECHNICAL ENGINEERS, IN THEIR REPORT DATED _____. THE GEOTECHNICAL REPORT IS PROVIDED AS REFERENCE INFORMATION AVAILABLE TO BIDDERS, BUT IS NOT PART OF THE CONTRACT DOCUMENTS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE OR LIABLE FOR THE ACCURACY OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL REPORT.
2. ELEVATIONS GIVEN ARE TO THE TOP OF FOOTINGS AND GRADE BEAMS.
3. ALL FOOTINGS MUST BE SUPPORTED ON BEDROCK OR STRUCTURAL FLOWABLE FILL / LEAN CONCRETE PLACED OVER BEDROCK. REMOVE ALL SOIL BETWEEN PROPOSED FOUNDATION ELEVATION AND BEDROCK.
4. IN GRANULAR SOILS (SANDS AND GRAVEL) THE SOIL SHALL BE MECHANICALLY TAMPED TO A HARD SURFACE IMMEDIATELY PRIOR TO PLACING FOOTING.
5. LOCATE EXISTING UNDERGROUND UTILITIES IN AREAS OF CONSTRUCTION. COORDINATE WITH UTILITY COMPANIES FOR ANY SHUT-OFF REQUIREMENTS OF STILL-ACTIVE LINES.
6. WHEN EXCAVATIONS APPROACH THE GROUND WATER LEVEL, THE WATER LEVEL SHALL BE LOWERED BY AN ACCEPTABLE DEWATERING SYSTEM SO THAT THE WATER LEVEL IS MAINTAINED CONTINUOUSLY A MINIMUM OF 2'-0" BELOW THE EXCAVATION.
7. EXISTING FOUNDATIONS:
   - A. EXISTING FOUNDATIONS SHOWN ON DRAWINGS ARE APPROXIMATE. EXACT CONDITIONS MUST BE VERIFIED AT TIME OF CONSTRUCTION.
   - B. WHEN NEW FOOTINGS MEET EXISTING FOOTINGS, THEY SHALL BE STEPPED AT A RATIO OF 2 HORIZONTAL TO 1 VERTICAL.
   - C. UNLESS OTHERWISE NOTED, NEW FOOTINGS SHALL NOT BEAR BELOW EXISTING FOOTINGS.
8. PROVIDE MINIMUM (2) #5 CONTINUOUS IN ALL FOOTINGS DIRECTLY UNDER MASONRY WALLS.
9. BEFORE BACKFILL, ALL WALLS MUST BE ADEQUATELY BRACED. FOR BACKFILL REQUIREMENTS, SEE SPECIFICATIONS AND/OR GEOTECHNICAL ENGINEER'S REPORT.
10. RETAINING WALLS SHALL NOT BE BACKFILLED UNTIL COMPRESSIVE STRENGTH TESTS DEMONSTRATE THAT THE CONCRETE HAS DEVELOPED 100% OF THE REQUIRED 28-DAY COMPRESSIVE STRENGTH FOR THE CLASS OF CONCRETE SPECIFIED. THE CONTRACTOR MAY ELECT TO PREPARE ADDITIONAL TEST CYLINDERS IN ORDER TO DEMONSTRATE THAT THE REQUIRED COMPRESSIVE STRENGTH PRIOR TO THE MANDATORY 28-DAY COMPRESSIVE STRENGTH TESTS. IN NO CASE SHALL WALLS BE BACKFILLED PRIOR TO SEVEN (7) DAYS FROM PLACEMENT.
11. FOR PLACEMENT AND COMPACTION OF FILL UNDER SLABS ON GRADE, SEE SPECIFICATIONS. IF NOT OTHERWISE NOTED, COMPACT ALL FILL TO 98% OF OPTIMUM LABORATORY DENSITY IN ACCORDANCE WITH ASTM D698 STANDARD PROCTOR METHOD. PLACE FILL IN 6" TO 8" LAYERS AND COMPACT WITH VIBRATORY TAMPING EQUIPMENT.
12. WHERE ELECTRICAL CONDUIT CONGREGATES BELOW ELECTRICAL ROOMS AND PANELS, CONTRACTOR SHALL HOLD DOWN SUBGRADE APPROPRIATELY FOR CONDUIT TO BE BELOW SLAB. COVER CONDUIT WITH FLOWABLE FILL (LEAN CONCRETE) TO BOTTOM OF SLAB ELEVATION.
13. BEARING INTO SHALE - ELEVATIONS GIVEN ARE APPROXIMATE AND SHALL BE ADJUSTED TO SUIT FIELD CONDITIONS.
14. SEE DRILLED PIER NOTES AND DETAILS FOR ADDITIONAL REQUIREMENTS.
15. SHALE CONTAINING PYRITES MUST BE PROTECTED AS INDICATED ON THE DRAWINGS OR IN THE PROJECT SPECIFICATIONS.
16. SEE ARCHITECTURAL AND SITE DRAWINGS FOR CONTOUR AND LAYOUT OF SITE WALKS AND BREEZEWAYS. SLOPE EXTERIOR CONCRETE 1/8" FT AWAY FROM BUILDING, UNLESS NOTED OTHERWISE.
17. HIGH PLASTICITY ("FAT") CLAYS WITH A PLASTICITY INDEX OF 30 OR MORE WHICH ARE PRESENT WITHIN 2 FEET OF FINAL SUBGRADE ELEVATION OR FOOTING BEARING ELEVATION SHALL BE UNDERCUT FOR THE ENTIRE BUILDING AREA TO A DISTANCE OF 5 FEET OUTSIDE THE BUILDING FOOTPRINT. PROOFROLL AT UNDERCUT ELEVATION AND FURTHER UNDERCUT SOFT AND YIELDING MATERIALS TO FIRM MATERIAL AT THE DIRECTION OF THE SPECIAL INSPECTOR. BACKFILL UNDERCUT WITH ON-SITE LEAN CLAY SOILS OR BORROW MATERIALS WITH A PLASTICITY INDEX LESS THAN 18.
18. FOUNDATION CONCRETE SHALL BE PLACED IMMEDIATELY FOLLOWING EXCAVATION. A LEAN CONCRETE (1,500 PSI) MUD MAT SHALL BE PLACED OVER THE PREPARED BEARING MATERIALS IF EXCAVATIONS MUST REMAIN OPEN DURING INCLEMENT WEATHER OR FOR MORE THAN 72 HOURS.
19. CONTRACTOR SHALL EXERCISE CAUTION THAT DENSE GRADED AGGREGATE BLANKET BELOW FLOOR SLAB DOES NOT BECOME SATURATED DURING CONSTRUCTION. CONTRACTOR SHALL CAST FLOOR SLAB OR PROVIDE TEMPORARY PROTECTION FOR SUBGRADE UNTIL SLAB IS CAST TO PREVENT WATER INFILTRATION INTO SUBGRADE.
20. SURFACE RUNOFF SHALL BE DIRECTED AWAY FROM FOUNDATION EXCAVATIONS AND NOT BE PERMITTED TO POND WITHIN THE BUILDING FOOTPRINT. PROVIDE DRAINAGE TRENCHES FROM FOUNDATION EXCAVATIONS TO DIRECT RAINWATER OUT OF EXCAVATIONS.

PERMEATION GROUTING SOIL IMPROVEMENT

1. REFER TO GEOTECHNICAL REPORT PREPARED BY _____.
2. THE CONTRACTOR IS RESPONSIBLE FOR DENSIFYING THE SOILS SUPPORTING EXISTING FOUNDATIONS BY METHOD OF PERMEATION GROUTING PER STRUCTURAL PLANS. PERMEATION GROUTING SHALL BE DESIGNED BY THE CONTRACTOR.
3. THE INTENT OF THE PERMEATION GROUTING SPECIFIED HEREIN IS TO INCREASE THE STRENGTH AND STIFFNESS OF THE SOILS SUPPORTING ALL NEW AND EXISTING FOUNDATIONS TO THE SPECIFIED ALLOWABLE BEARING PRESSURE AND TO LIMIT TOTAL AND DIFFERENTIAL SETTLEMENT TO 1". SEE PLANS FOR REQUIRED BEARING CAPACITIES. IT SHALL BE THE GROUTING CONTRACTOR'S RESPONSIBILITY TO DETERMINE AND IMPLEMENT THE SYSTEMS AND CRITERIA TO ENSURE THAT THE SPECIFIED IMPROVEMENT AND INTENT IS ACHIEVED.
4. THE CHEMICAL GROUTING PROGRAM, INCLUDING INSTALLATION OF GROUT PIPES, SHALL BE PERFORMED BY A SPECIALIST GROUTING CONTRACTOR WITH AT LEAST TEN CONTINUOUS YEARS OF DOCUMENTED EXPERIENCE IN CHEMICAL GROUTING.
5. IN CONNECTION WITH THE CHEMICAL GROUTING PROGRAM, AS SHOWN ON THE DRAWINGS, THE GROUTING CONTRACTOR SHALL CONSTRUCT AND LABOR, MATERIALS AND EQUIPMENT TO ACCOMPLISH THE FOLLOWING ITEMS OF WORK:
   - A. INSTALLATION AND REMOVAL (IF APPLICABLE) OF GROUT PIPES.
   - B. FURNISH AND INJECT PERMEATION GROUT.
   - C. RECORD PERMEATION GROUTING PROCESS INCLUDING PRESSURES, DEPTHS INJECTED AND VOLUMES FOR EACH LOCATION.
   - D. FOLLOW PERMEATION GROUTING PROGRAM.
6. CONTRACTOR SHALL SUBMIT THE FOLLOWING FOR REVIEW AND APPROVAL PRIOR TO PERFORMING ANY WORK.
   - A. SHOP DRAWINGS AND DESCRIPTION OF THE CHEMICAL GROUTING PROGRAM SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER, INCLUDING:
     1. MIX DESIGN.
     2. WORK PROCEDURES AND CONTROL CRITERIA (INCLUDING INJECTION VOLUMES, DEPTHS AND MAXIMUM PRESSURE FOR EACH STAGE).
     3. A DETAILED WORK PLAN FOR THE AREA, IDENTIFYING THE LOCATIONS AND GROUT-PIPE INSTALLATION PROCEDURES. THE WORK PLAN SHALL SHOW THE BASIS FOR ESTABLISHING GROUT TARGET VOLUMES AT EACH PRIMARY AND SECONDARY GROUT PORT (IF APPLICABLE).
   - B. SOIL IMPROVEMENT CALCULATIONS SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - C. SIGNED AND DATED PRE-PRODUCTION AND POST-PRODUCTION TESTING PROGRAM.
   - D. ACCURATE AND TIMELY RECORDS OF ALL PERMEATION GROUTING. THESE RECORDS SHALL INCLUDE, BUT NOT LIMITED TO:
     1. GROUT MIX AND GEL TIME (IF APPLICABLE).
     2. INJECTION RATE BY UNIT OF TIME.
     3. INJECTION PRESSURE AND FLOWRATE (IF APPLICABLE).
     4. INJECTION VOLUMES.
     5. EXACT INJECTION LOCATION.
7. PAYMENT WILL BE MADE ON A LUMP SUM BASIS FOR ALL WORK DEFINED HEREIN INCLUDING, BUT NOT LIMITED TO, GEOTECHNICAL INVESTIGATION, DESIGN, FABRICATION, INSTALLATION, PRE-PRODUCTION TESTING AND PERMEATION TESTING.
8. PRIOR TO SUBMITTING A BID PRICE FOR THE PERMEATION GROUTING, THE GROUTING CONTRACTOR SHALL CONDUCT A SITE INSPECTION.
9. CONTRACTOR SHALL CORE VERTICAL HOLES THROUGH EXISTING FOOTINGS AS REQUIRED TO INJECT GROUT. CONTRACTOR SHALL SLEEVE NEW FOOTINGS AS REQUIRED TO INJECT CHEMICAL GROUT. INJECTION HOLES SHALL BE LIMITED TO 3" DIAMETER. CONTRACTOR SHALL LOCATE ALL EXISTING CONCRETE REINFORCING BARS BY PREDRILLING OR OTHER MEANS IN ORDER TO AVOID CUTTING STEEL REINFORCING.
10. ALL INJECTIONS SHALL BE INSPECTED DURING DRILLING AND PLACING OF GROUT.

CONCRETE CONSTRUCTION

1. ALL CONCRETE CONSTRUCTION TO BE IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE ACI 301, ACI 318 AND ACI DETAILING MANUAL, EXCEPT THAT CONSTRUCTION AND REMOVAL OF FORMS AND RESHORING SHALL BE INSPECTED BY THE CONTRACTOR'S ENGINEER.
2. FURNISH BAR SUPPORTS WHERE NECESSARY DURING CONSTRUCTION.
3. PROVIDE PLASTIC, PLASTIC-COATED (NOT PLASTIC-TIPPED) OR STAINLESS STEEL CHAIRS IN ALL CONCRETE EXPOSED TO VIEW IN COMPLETED STRUCTURE.
4. PROVIDE PIPE SLEEVES AND INSERTS IN CONCRETE WORK WHERE REQUIRED. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS.
5. OBTAIN APPROVAL OF STRUCTURAL ENGINEER BEFORE LOCATING SLEEVES, HOLES, OR INSERTS IN SLABS WITHIN 2'-0" OF FACE OF COLUMNS OR ANYWHERE IN BEAMS, JOISTS, OR COLUMNS.
6. PROVIDE A MINIMUM OF #4 DOWELS AT 12" O.C. CONNECTING FRAMED FLOORS TO CONCRETE WALLS.
7. PROVIDE A MINIMUM OF 3/8" CAMBER IN ALL CONCRETE WORK WHEN SPANS EXCEED 20'-0".
8. CONSTRUCTION JOINTS SHALL BE POSITIONED SO AS NOT TO CHANGE THE STRUCTURAL DESIGN REQUIREMENTS. FRAMED FLOORS AND ROOFS SHALL HAVE CONSTRUCTION JOINTS SO THAT NO MORE THAN 10,000 S.F. IS IN ANY SINGLE POUR AND THE MAXIMUM LENGTH OF POUR IS 100'-0". RATIO OF LENGTH TO WIDTH OF POUR SHALL NOT EXCEED 2. LOCATION OF ALL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE ENGINEER.
9. WELDING OF REINFORCING BARS (INCLUDING TACK WELDING) IS NOT PERMITTED.
10. PROVIDE HORIZONTAL KEYWAYS IN CONSTRUCTION JOINTS IN BEAMS, JOISTS, SUPPORTED SLABS, WALLS, AND WALL FOOTINGS; MINIMUM 1 1/2" DEPTH WITH HEIGHT EQUAL TO ONE-THIRD OF MEMBER DEPTH, UNLESS OTHERWISE SHOWN OR NOTED.
11. ALL EXPOSED CORNERS OF CONCRETE SHALL BE CHAMFERED 45 DEGREES. MINIMUM CHAMFER TO BE 1/2". CURVE THE LEADING EDGE OF STAIR TREADS TO 1/2" RADIUS.
12. ALL EXPOSED CONCRETE SUBJECTED TO FREEZING AND THAWING TO HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.40 AND 6% +/- 1% OF ENTRAINED AIR.
13. REINFORCING FOR SLABS ON GROUND (IN FLAT SHEETS) SHALL BE IN THE MIDDLE OF THE SLAB EXCEPT AS OTHERWISE NOTED AND SHALL BE POSITIVELY SUPPORTED AND MAINTAINED IN THIS POSITION DURING PLACEMENT OF CONCRETE.
14. IN SLAB AND/OR JOIST CONSTRUCTION, PROVIDE A MINIMUM OF #4 x 6'-0" AT 12" O.C. TOP OVER BEAMS OR WALLS WHERE SLABS OR JOISTS SPAN PARALLEL TO BEAMS OR WALLS.
15. PROVIDE CONTINUOUS 8" MINIMUM WIDTH HEADER BEAM WHERE CONCRETE JOISTS BEAR ON MASONRY WALLS. REINFORCE BEAM WITH (1) #4 BAR CONTINUOUS TOP AND BOTTOM.
16. TAPER EACH SIDE OF STANDARD JOIST PANS 2" IN 3'-0" (FOR 20" PANS), 2 1/2" IN 3'-0" (FOR 30" PANS), WHERE INDICATED ON PLAN, AND SLOPE SIDES OF ALL PANS 1 TO 12 VERTICALLY.
17. CONCRETE JOIST RIBS ON OPPOSITE SIDES OF INTERIOR SUPPORTS MUST ALIGN.
18. SLAB THICKNESS INDICATED OVER STEEL FORM DECK INCLUDES FORM DECK DEPTH. PROVIDE FORM DECK CONTINUOUS OVER AT LEAST THREE SUPPORTS AND WELD TO EACH SUPPORT AT MINIMUM 12" INTERVALS. USE FORM DECK THAT WILL SAFELY SUPPORT ALL CONSTRUCTION LOADS. LIMIT DEFLECTION OF FORM DECK TO 1/240 OF SPAN WHEN LOADED WITH THE WET WEIGHT OF CONCRETE AND CONSTRUCTION LOADS.
19. IN CONCRETE SLABS OVER STEEL BAR JOISTS, PROVIDE A MINIMUM OF 6x6-W2.1xW2.1 WELDED WIRE FABRIC REINFORCING IN FLAT SHEETS.
20. IN CONCRETE ROOF FILLS OR FLOOR TOPPINGS 2" OR MORE, PROVIDE 6x6-W2.1xW2.1 WELDED WIRE FABRIC REINFORCING IN FLAT SHEETS.
21. IN STEEL STAIR TREADS WITH CONCRETE FILL, PROVIDE 4x4-W1.4xW1.4 W.W.F. IN FLAT SHEETS.
22. BEND ALL HORIZONTAL WALL AND FOOTING BARS 1'-0" AROUND CORNERS OR PROVIDE CORNER BARS WITH 2'-0" LAP.
23. PROVIDE FOUNDATION DOWELS FOR ALL WALLS, PIERS, AND COLUMNS SAME SIZE AND SPACING AS VERTICAL STEEL.
24. PROVIDE FOUNDATION DOWELS FOR MASONRY WALLS SAME SIZE AND SPACING AS VERTICAL STEEL, ALL DOWELS SHALL BE WITHIN 8" LATERALLY OF WALL REINFORCING ABOVE AND IN LINE WITH THE WALL REINFORCING. PROVIDE DOWELS FOR ALL ADDITIONAL WALL REINFORCING AT CORNERS, ENDS, JAMBS, INTERSECTIONS AND BOTH SIDES OF CONTROL JOINTS. ONLY DOWELS AT THESE ADDITIONAL LOCATIONS MAY BE POST INSTALLED / DRILLED AND ADHESIVE FASTENED WITH EMBEDMENT AS REQUIRED TO DEVELOP FULL YIELD STRENGTH OF REINFORCING.
25. IN COLUMNS, PROVIDE STAGGERED MECHANICAL SPLICES IF LAP SPLICES ARE NOT POSSIBLE. STAGGER SPLICES A MINIMUM OF 2'-0".
26. HORIZONTAL FLOORS THAT HAVE DEFLECTING STRUCTURAL MEMBERS (STEEL JOISTS, UNSHORED STEEL BEAMS, PRE-CAST CONCRETE BEAMS, ETC.) SHALL BE FINISHED LEVEL. THE SLAB THICKNESS NOTED IS MINIMUM. ADD CONCRETE AS NECESSARY TO OVERCOME MEMBER DEFLECTIONS. SHORED CONSTRUCTION SHALL BE FINISHED TO A CONSTANT DEPTH.
27. WHERE POCKETS OR VOIDS ARE FORMED INTO CONCRETE WALL FOR STEEL BEAMS OR COLUMNS, FILL POCKET WITH CONCRETE AFTER THE STEEL MEMBER HAS BEEN INSTALLED.
28. SPLICES: ALL REINFORCING SPLICES SHALL BE AS TENSION LAP, U.N.O.
    - A. LAP ALL COMPRESSION SPLICES 30 BAR DIAMETERS OF THE LARGER BAR.
    - B. LAP ALL TENSION SPLICES (ALL SPLICES EXCEPT COLUMN SPLICES, U.N.O.) IN ACCORDANCE WITH THE FOLLOWING TABLE. MODIFY LENGTHS AS NOTED:

BAR SIZE	CONCRETE COMPRESSIVE STRENGTH 3,000 PSI	4,000 PSI	5,000 PSI
#3	21"	19"	17"
#4	29"	25"	22"
#5	36"	31"	28"

C. STEEL BRIDGING INSTALLED TO COMPLY WITH BRIDGING MANUFACTURER'S DIRECTIONS.

26. TRUSS HOLD-DOWN (HURRICANE) TIES SHALL BE PLACED ON OUTSIDE OF WALL THROUGH EXTERIOR SHEATHING. AT CONTRACTOR'S OPTION, THE TIES MAY BE INSTALLED ON INTERIOR OF WALL PROVIDED AN ADDITIONAL TIE IS INSTALLED FROM WALL TOP PLATE TO EACH INTERIOR STUD (ON INTERIOR FACE OF WALL).
27. ROOF SHEATHING TO BE CONTINUOUS BENEATH ALL FALSEWORK.

INSPECTION

AN APPROVED INDEPENDENT TESTING LABORATORY SHALL PROVIDE INSPECTION AND TESTING SERVICES PER ASTM E329. REPORTS OF INSPECTION AND TESTING SHALL BE SENT TO THE ARCHITECT. SUCH INSPECTION AND TESTING SHALL INCLUDE:

1. CONCRETE: MIX DATA, DAILY POUR REPORTS, CYLINDER TESTS, SLUMP, ENTRAINED AIR TESTS, AND TEMPERATURE.
2. REINFORCEMENT: PLACEMENT, TYPE, AND SIZE.
3. STRUCTURAL STEEL: WELDING AND BOLTING IN THE SHOP AND FIELD.
4. MASONRY: MORTAR CUBES, MASONRY PRISMS, SIZE AND LOCATION OF PIERS, USE OF PROPER MASONRY UNITS, REINFORCING PLACEMENT, AND GROUTING OPERATIONS.
5. FOUNDATIONS: BEARING SURFACE.
6. EARTH FILL: CERTIFICATION OF ALL FILL MATERIAL AND IN-PLACE DENSITY TESTS.

SITE OBSERVATION BY THE STRUCTURAL ENGINEER

1. THE ENGINEER HAS NO CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES; FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK; FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK; OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY ACTS OR OMISSIONS OF THE CONTRACTOR, ANY SUBCONTRACTOR, MATERIAL SUPPLIER, OR AGENTS THEREOF. THE ENGINEER DOES NOT GUARANTEE THE PERFORMANCE OF THE CONTRACTOR AND SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO PERFORM ITS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR APPLICABLE LAWS, CODES, RULES, OR REGULATIONS. THE CONTRACTOR SHALL MAINTAIN SOLE RESPONSIBILITY FOR DEFECTS AND DEFICIENCIES, INCLUDING PROVIDING TESTING AND INSPECTION ONCE SUCH ARE DISCOVERED, AND FOR PROVIDING ENGINEERED CORRECTIVE ACTION FOR DESIGN TEAM REVIEW.
3. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF BROWN+KUBICAN, PSC IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY, QUANTITY, OR ACCURACY OF THE CONSTRUCTION WORK, BUT RATHER PERIODIC IN EFFORT TO INFORM THE CLIENT ABOUT GENERAL PROGRESS AND TO ADVISE THE CLIENT ABOUT OBSERVED DEFECTS AND DEFICIENCIES IN THE WORK OF THE CONTRACTOR.

PREFABRICATED DRAINAGE PANEL CONSTRUCTION

1. VERIFY SUBSTRATE CONDITIONS ARE ACCEPTABLE FOR PRODUCT INSTALLATION IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. DO NOT PROCEED WITH INSTALLATION UNTIL SUBSTRATE CONDITIONS ARE ACCEPTABLE FOR COMPLIANCE WITH MANUFACTURER'S WARRANTY REQUIREMENTS.
2. CLEAN SUBSTRATE TO RECEIVE DRAINAGE PANEL. REMOVE LOOSE DEBRIS AND OTHER HARMFUL CONTAMINANTS THAT WILL AFFECT PERFORMANCE OF DRAINAGE COMPOSITE.
3. PLACE THE DRAINAGE PANELS WITH THE FLAT SIDE AGAINST THE WATERPROOFING MEMBRANE AND THE FILTER FABRIC TOWARD THE SOIL DRAINAGE SIDE. ATTACH WITH CONCRETE NAILS AND WASHERS.
4. CONNECT ADJACENT PANELS AT THE LONGITUDINAL EDGE BY PULLING THE FILTER FABRIC BACK TO EXPOSE THE FLANGE. THE PANEL EDGE SHALL BE BUTTED TO THE EDGE OF THE ADJACENT PANEL DIMPLE TO DIMPLE OR THE EDGE OF THE NEXT PANEL MAY BE PLACED OVER TWO DIMPLES AND INTERLOCKED. PANEL ENDS SHALL BE ATTACHED IN THE SAME MANNER. CONNECTIONS SHALL BE COMPLETED IN A SHINGLE FASHION SO THAT MOISTURE WILL FLOW WITH THE OVERLAP AND NOT AGAINST IT. OVERLAP FABRIC IN THE DIRECTION OF THE WATER FLOW. COVER ALL TERMINAL EDGES WITH THE FILTER FABRIC FLAP BY TUCKING IN BEHIND THE CORE.
5. WEEP HOLES: CUT A HOLE IN THE CORE CORRESPONDING TO THE SIZE AND LOCATION OF THE WEEP HOLE. AVOID CUTTING A HOLE IN THE FABRIC BY CUTTING THE BACKSIDE OF THE CORE BETWEEN THE DIMPLES. AT EACH WEEP HOLE INSTALL A GALVANIZED STEEL, STAINLESS STEEL OR ALUMINUM PLATE 1/4"x12"x12" BETWEEN THE FILTER FABRIC OF THE DRAINAGE PANEL AND THE BACKFILL MATERIAL TO PREVENT THE FILTER FABRIC AND CORE FROM COLLAPSING AND BLOCKING THE WEEP HOLES. THE PLATE SHALL BE CENTERED ON THE WEEP HOLE.
6. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.

WATERPROOFING CONSTRUCTION

1. INSTALL MATERIALS IN ACCORDANCE WITH ALL SAFETY AND WEATHER CONDITIONS REQUIRED BY THE MANUFACTURER.
2. INSTALL MATERIALS ONLY AFTER SUBSTRATE WORK TO RECEIVE ITS APPLICATION IS COMPLETE.
3. APPLY MIRACLAY MASTIC (OR OTHER APPROVED) TO ALL CONSTRUCTION JOINTS AND AROUND PERIMETER OF WEEP HOLE OPENINGS AT A MINIMUM OF 1/4" THICKNESS AND 3" WIDTH
4. REMOVE PROJECTIONS FROM THE WALL SURFACE IN EXCESS OF 3/4".
5. PREVENT GEOTEXTILE/BENTONITE CLAY WATERPROOFING MEMBRANE FROM HYDRATING BEFORE BEING COVERED WITH BACKFILL MATERIALS. WHEN THREAT OF RAIN IS IMMINENT OR BACKFILL IS NOT IMMEDIATE, GEOTEXTILE/BENTONITE CLAY WATERPROOFING MEMBRANE SHALL BE COVERED WITH POLYETHYLENE SHEATHING.
6. INSTALL PANELS WITH THE STENCILED SIDE OUT.
7. STARTING AT THE BOTTOM OF THE WALL, UN-ROLL PANELS AND NAIL ACROSS TOP OF PANEL NAILS AT 2" O.C.
8. OVERLAP ADJACENT PANELS 4" MINIMUM
9. FASTEN MEMBRANE TO WALL AT 24" O.C. MAXIMUM ON SEAMS TO PREVENT BLOUSING WITH 1" CONCRETE NAILS AND WASHERS.
10. EXTEND WATERPROOFING MEMBRANE TO GRADE LEVEL AND FASTEN TO WALL AT 12" O.C. TROWEL A 1/2" THICK x 2" BEAD OF MIRACLAY MASTIC (OR OTHER APPROVED) AT THE TOP EDGE OF THE MEMBRANE.
11. CREATE A CANT AT BASE OF WALL TO FOOTING TRANSITION BY APPLYING A 1 1/2" CANT OF MIRACLAY GRANULES (OR OTHER APPROVED) OR MIRACLAY MASTIC (OR OTHER APPROVED).
12. STRIP IN ALL CORNERS AND TRANSITIONS WITH A 15" PIECE OF MEMBRANE TO DOUBLE COVER THESE AREAS.
13. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.

NOTE:
THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DESIGNING, SUPPLYING, AND INSTALLING ALL TEMPORARY SHORING NECESSARY TO INSTALL NEW STRUCTURAL ELEMENTS. THE DESIGN OF THE SHORING SHALL BE DONE BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF KENTUCKY. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT (FOR THEIR RECORDS) TEMPORARY SHORING DRAWINGS (PLANS AND ANY NECESSARY DETAILS) THAT ARE SEALED, SIGNED AND DATED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

SHORING / BRACING DESIGN AND INSTALLATION

1. THE GENERAL TRADES CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ENGINEERING, SUPPLYING, AND INSTALLING ALL TEMPORARY SHORING AND BRACING NECESSARY TO RESIST GRAVITY AND LATERAL LOADS AS THE EXISTING BUILDING IS SELECTIVELY DEMOLISHED AND RECONSTRUCTED WITH NEW STRUCTURAL ELEMENTS. THE DESIGN OF SHORING SHALL BE PERFORMED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF KENTUCKY IN CONSIDERATION OF APPLIED, POTENTIAL AND CONSTRUCTION LOADING, CONSTRUCTION METHODS, TECHNIQUES AND SEQUENCE; AND SCHEDULE. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT (FOR THEIR RECORDS) TEMPORARY SHORING DRAWINGS (PLANS AND ALL NECESSARY DETAILS) THAT ARE SEALED, SIGNED, AND DATED BY THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION. SHORING SUBMITTAL SHALL ALSO INCLUDE A WRITTEN DESCRIPTION OF THE INTENDED CONSTRUCTION SEQUENCE, PREPARED BY THE SHORING ENGINEER AND REVIEWED AND APPROVED BY THE CONSTRUCTION MANAGER PRIOR TO SUBMITTAL TO THE ARCHITECT FOR THEIR RECORDS. SHORING SUBMITTAL SHALL INCLUDE WRITTEN DESCRIPTION OF LOADS AND LOAD COMBINATIONS CONSIDERED.
2. SUGGESTED SHORING DETAILS HAVE BEEN INCORPORATED INTO THE CONSTRUCTION DOCUMENTS IN SOME INSTANCES. WHERE PROVIDED, THEY SHALL BE CONSTRUED AS SUGGESTIONS ONLY WHEREIN IF SUCH SCHEME IS USED, THE DESIGN AND DETAILS MUST STILL BE VERIFIED BY (AND FULL RESPONSIBILITY TAKEN) BY THE SHORING ENGINEER.
3. SHORING AND BRACING IS REQUIRED, BUT IS NOT LIMITED TO, THE FOLLOWING:
   A. WHERE DEMOLITION OF FLOOR AND / OR ROOF MEMBERS REMOVE LATERAL BRACING TO WALL, COLUMN, OR PIER MEMBERS.
   B. WHERE NEW OPENINGS IN WALLS MUST BE CREATED.
   C. WHERE DEMOLITION OF BEARING WALLS AND / OR SUPPORT BEAMS REMOVE VERTICAL SUPPORT TO GRAVITY LOAD MEMBERS.
   D. WHERE DEMOLITION OF SHEAR WALLS, BRACED FRAMES, OR OTHER LATERAL LOAD RESISTING SYSTEM REMOVES BUILDING RESISTANCE TO LATERAL WIND, SEISMIC, OR EARTH LOADS.
4. CEASE DEMOLITION OPERATIONS AND NOTIFY ARCHITECT IF ANY EXISTING STRUCTURAL ELEMENT TO REMAIN IN SERVICE DEVELOPS CRACK, BOW, DEFLECTION, ETC. OR IF ANY COMPONENT OF THE EXISTING STRUCTURE APPEARS DAMAGED, CORRODED OR OTHERWISE COMPROMISED.

ROOF, FLOOR, OR WALL OPENINGS

1. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE NUMBER, SIZE, AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED FOR MECHANICAL OR ELECTRICAL ITEMS.
2. SLEEVES AND OPENINGS SHALL BE LOCATED IN A MANNER THAT WILL MAINTAIN THE STRUCTURAL INTEGRITY OF THE ROOF, FLOOR, OR WALL SYSTEM.
3. NO STRUCTURAL ELEMENTS ARE TO BE CUT UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

OPENINGS / PENETRATIONS / ATTACHMENTS TO STRUCTURE BY OTHER TRADES

1. THE CONTRACTOR SHALL COORDINATE AND VERIFY THE NUMBER, SIZE, AND LOCATION OF ALL SLEEVES AND OPENINGS REQUIRED FOR OTHER TRADES IN STRUCTURAL ELEMENTS.

TO GRADE BEAM FOUNDATIONS

1. HORIZONTAL PENETRATIONS SHALL OCCUR IN MIDDLE THIRD OF MEMBER DEPTH AND MIDDLE THIRD OF SPAN. MAXIMUM SIZE TO BE 6".
2. VERTICAL PENETRATIONS LARGER THAN 2" ARE PROHIBITED.
3. PENETRATIONS MAY NOT INTERRUPT OR CUT THROUGH REINFORCING.

TO FLOOR DECK, PLANK, ELEVATED SLABS, ROOF DECK

1. NO PENETRATIONS LARGER THAN 1/2" IN DIAMETER / SQUARE SHALL BE FIELD CUT IN THE STRUCTURAL MEMBER WITHOUT APPROVAL OF THE ENGINEER OF RECORD FOR THAT ELEMENT.
2. CUTTING / CORING OF ADJACENT PENETRATIONS, PERPENDICULAR TO THE STRUCTURAL SPAN, SHALL BE AVOIDED. ADJACENT PENETRATIONS THAT REMOVE MORE THAN 20% OF SUCH STRUCTURAL ELEMENT, IN ANY GIVEN 3-FOOT LENGTH, ARE PROHIBITED.

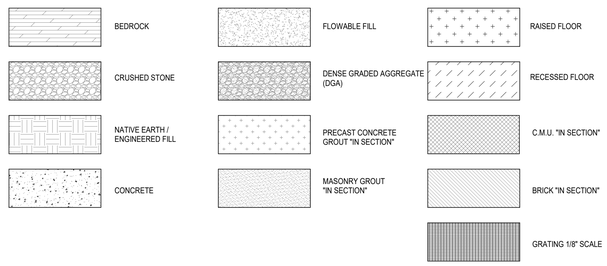
MAINTENANCE STATEMENT AND STRUCTURE LIFESPAN

1. THE ENGINEER MAKES NO CLAIM OR AGREEMENT AS TO THE LIFESPAN OF THE BUILDING STRUCTURE. THE CLIENT AND OWNER SHALL UNDERSTAND THAT STRUCTURAL TYPES DO HAVE LIFESPAN RELATIVE TO INITIAL COST AND MAINTENANCE AND THAT BY REQUESTING OR ACCEPTING A STRUCTURAL SYSTEM OF LOWER INITIAL COST THAT THE USEABLE LIFESPAN WILL DECREASE AND MAINTENANCE INCREASE.
2. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXTEND LIFESPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. THE ENGINEER SHALL NOT BE HELD LIABLE FOR MAINTENANCE REQUIREMENTS OR DETERIORATION RESULTING FROM LACK OF BUILDING MAINTENANCE.
3. A PLANNED PROGRAM OF MAINTENANCE SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO: PAINTING OF STRUCTURAL STEEL AND LINTELS, PROTECTIVE COATING FOR CONCRETE AND TIMBER, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, TIMELY REPAIR OF SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF STRUCTURAL ELEMENTS EXPOSED TO A SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.

STRUCTURAL ABBREVIATIONS

APA	AMERICAN PLYWOOD ASSOCIATION	GALV	GALVANIZED
ARCH	ARCHITECTURAL	GA	GAUGE
B.L.E.	BRICK LEDGE ELEVATION	HORIZ	HORIZONTAL
BOT	BOTTOM	HSS	HOLLOW STRUCTURAL SECTION
BTWN	BETWEEN	LBS	POUNDS
CLR	CLEAR	I.C.F.	INSULATED CONCRETE FORM
CANT	CANTILEVER BEAM	L.D.H.	LONG DIMENSION HORIZONTAL
C.F.S.	COLD-FORMED STEEL	L.D.V.	LONG DIMENSION VERTICAL
C.I.P.	CAST-IN-PLACE	LVL	LAMINATED VENEER LUMBER
CJP	COMPLETE JOINT PENETRATION	MANUF.	MANUFACTURER
C.M.U.	CONCRETE MASONRY UNIT	MAX	MAXIMUM
COL	COLUMN	MECH	MECHANICAL
CONC	CONCRETE	M.E.P.	MECHANICAL/ELECTRICAL/PLUMBING
CONT	CONTINUOUS	MIN	MINIMUM
D	DEEP	N.S.	NEAR SIDE
D.G.A.	DENSE GRADED AGGREGATE	N.T.S.	NOT TO SCALE
DET	DETAIL	O.C.	ON CENTER
DWGS	DRAWINGS	O.P.H.	OPPOSITE HAND
EA	EACH	P.A.F.	POWDER ACTUATED FASTENER
E.F.	EACH FACE	P.E.M.B.	PRE-ENGINEERED METAL BUILDING
ELEV	ELEVATION	PJP	PARTIAL JOINT PENETRATION
EMBED	MINIMUM EMBEDMENT DEPTH INTO SUBSTRATE	PL	PLATE
E.O.S.	EDGE OF SLAB	R	RADIUS
E.W.	EACH WAY	REINF	REINFORCEMENT
EX	EXISTING	R.T.U.	ROOF TOP UNIT (MECHANICAL)
EXP	EXPANSION	S.C.	SLIP CRITICAL
F.F.E.	FINISHED FLOOR ELEVATION	SIM	SIMILAR
F.R.C.	FIBER REINFORCED CONCRETE	S.O.G.	SLAB ON GRADE
F.R.P.	FIBER REINFORCED POLYMER	SP	COLUMN SPLICE
F.R.T.	FIRE RESISTANCE TREATED	S.S.	STAINLESS STEEL
F.S.	FAR SIDE	TYP	TYPICAL
FTG	FOOTING	U.N.O.	UNLESS NOTED OTHERWISE
F.V.	FIELD VERIFY	VERT	VERTICAL
		W	WIDE
		W.W.F.	WELDED WIRE FABRIC

MATERIAL LEGEND



NOT FOR CONSTRUCTION

100% DD

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GARRARD COUNTY DUGOUTS AND PRESS BOX
FINAL PHASE

FOR THE
GARRARD COUNTY BOARD OF EDUCATION

GENERAL NOTES

DATE: MAY 11, 2022
REVISED: 1 2 3 4 5

SHEET S102
JOB# 2113
DRAWN: MSC, GMD
CHECKED: ZJW

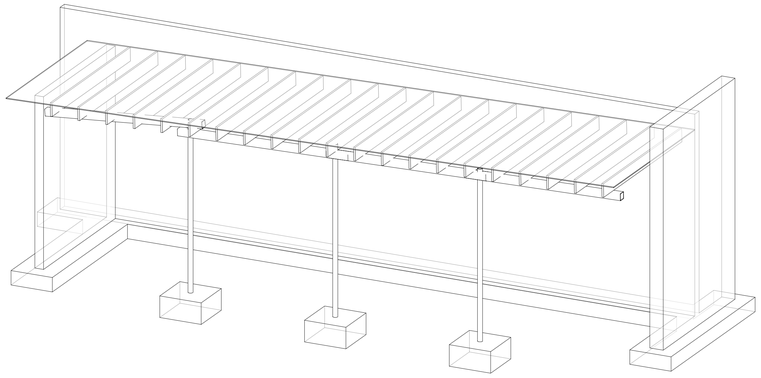
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STRUCTURAL SPECIAL INSPECTIONS CHART

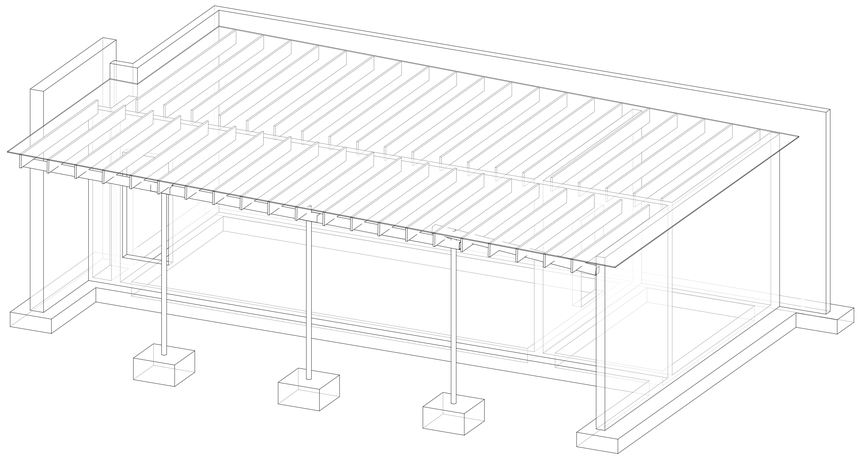
COMPONENT	TEST OR SPECIAL INSPECTION	PERIODIC OR CONTINUOUS	ACCEPTABLE QUALIFICATIONS
FABRICATORS (IBC 1704.2.5)	INSPECT THE FABRICATION OF STRUCTURAL LOAD-BEARING MEMBERS WHERE SUCH WORK IS BEING PERFORMED ON THE PREMISES OF THE FABRICATOR'S SHOP. 1. FABRICATORS SHALL BE EXEMPT FROM SPECIAL INSPECTION WHEN A QUALIFIED CERTIFICATION AUTHORITY HAS PERIODICALLY REVIEWED AND APPROVED FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND FABRICATION PRACTICES. SUBJECT TO COMPLIANCE WITH KENTUCKY BUILDING CODE REQUIREMENTS, QUALIFIED CERTIFICATION AUTHORITIES PROVIDING CERTIFICATION WHICH MAY BE APPLICABLE TO PROJECT INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: a. STRUCTURAL STEEL FABRICATORS – AISC CERTIFIED. b. PRE-ENGINEERED METAL BUILDING SYSTEM FABRICATORS - IAS INSPECTION PROGRAMS FOR MANUFACTURERS OF METAL BUILDING SYSTEMS, AC472. c. STEEL JOIST FABRICATORS – SJI CERTIFIED. d. METAL PLATE CONNECTED WOOD TRUSS FABRICATORS – TPI CERTIFIED. e. SHOP-FABRICATED COLD-FORMED METAL TRUSSES – CFSEI CERTIFIED. f. PRECAST CONCRETE FABRICATORS – PCI CERTIFIED.	PERIODIC	COMPLY WITH SECTIONS BELOW WHEN REQUIRED
	VERIFY THAT THE FABRICATOR MAINTAINS AND REVIEW FOR COMPLETENESS FABRICATOR'S DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES, WHICH PROVIDE A BASIS FOR CONTROL OF THE WORKMANSHIP AND ABILITY TO CONFORM TO THE APPROVED CONSTRUCTION DOCUMENTS AND REFERENCE STANDARDS. REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK.	PERIODIC	QUALIFIED CERTIFICATION AUTHORITY
	PERFORM SPECIAL INSPECTIONS AT FABRICATOR'S SHOP AS OUTLINED IN THIS CHART FOR EACH TYPE OF CONSTRUCTION.	----	
STEEL (AND OTHER METAL) CONSTRUCTION (IBC 1705.2)	PROVIDE SPECIAL INSPECTION OF THE FABRICATION OF STEEL STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH THE FABRICATORS SECTION IN THIS CHART.	----	
	VERIFY THAT CERTIFICATION NUMBERS ON BOLT, NUT, AND WASHER CONTAINERS CORRESPOND TO THE IDENTIFICATION NUMBERS ON MILL TEST REPORTS AND THAT MANUFACTURER'S SYMBOL AND GRADE MARKINGS APPEAR ON ALL BOLTS AND NUTS. ALSO VERIFY THAT BOLTS, NUTS, AND WASHERS ARE BEING PROPERLY CARED FOR AT THE SITE.	PERIODIC	CWI, SSSI, SWSI
	VERIFY THAT IDENTIFICATION MARKINGS ON STRUCTURAL STEEL MEMBERS CONFORM TO ASTM STANDARDS SPECIFIED ON THE APPROVED CONSTRUCTION DOCUMENTS.	PERIODIC	CWI, SSSI, SWSI
	VERIFY THAT IDENTIFICATION MARKINGS ON WELD FILLER MATERIALS CONFORM TO ASTM STANDARDS SPECIFIED ON THE APPROVED CONSTRUCTION DOCUMENTS. ALSO VERIFY THAT WELD FILLER MATERIAL IS BEING PROPERLY CARED FOR.	PERIODIC	CWI, SSSI, SWSI
	VERIFY THAT ANCHOR RODS AND OTHER EMBEDMENTS THAT ARE TO SUPPORT STRUCTURAL STEEL ARE OF PROPER DIAMETER, GRADE, TYPE, LENGTH, AND EXTENT OF EMBEDMENT PRIOR TO PLACEMENT OF CONCRETE.	PERIODIC	CWI, SSSI, SWSI
	TEST AND INSPECT HIGH-STRENGTH BOLTED CONNECTIONS ACCORDING TO RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS." 1. VERIFY THAT FASTENERS ARE OF CORRECT GRADE, TYPE, DIAMETER, LENGTH, AND SHEAR PLANE LOCATIONS FOR THE JOINT DETAIL. 2. VERIFY THAT CONNECTING ELEMENTS MEET REQUIREMENTS FOR FAYING SURFACE AND HOLE PREPARATION. 3. PROVIDE PRE-INSTALLATION VERIFICATION TESTING OF FASTENER ASSEMBLIES AND METHODS. a. UTILIZE A TENSION CALIBRATOR TO CONFIRM THE SUITABILITY OF THE COMPLETE FASTENER ASSEMBLY FOR PRETENSIONED INSTALLATION AND CONFIRM THE PROCEDURE AND PROPER USE BY THE BOLTING CREW OF THE PRETENSIONING METHOD TO BE USED. b. ENSURE THAT JOINT PLIES ARE BROUGHT TO SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING OPERATION. c. CONFIRM FASTENER COMPONENT IS NOT TURNED BY THE WRENCH PREVENTING ROTATION. d. CONFIRM THAT FASTENERS ARE PRETENSIONED PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID PART TOWARDS THE FREE EDGES. 4. VERIFY THAT FASTENER ASSEMBLIES WITH REQUIRED WASHERS ARE PLACED IN ALL HOLES AND ARE POSITIONED AS REQUIRED. a. VERIFY THAT DIRECT-TENSION INDICATOR GAPS COMPLY WITH ASTM F 959, TABLE 2. b. VERIFY THAT TWIST-OFF-TYPE TENSION-CONTROL ASSEMBLIES HAVE BEEN PROPERLY TIGHTENED. 5. PERFORM PERIODIC INSPECTION OF BEARING TYPE CONNECTIONS. 6. PERFORM CONTINUOUS INSPECTION OF SLIP-CRITICAL TYPE CONNECTIONS.	PERIODIC, U.N.O.	CWI, SSSI, SWSI
	TEST AND INSPECT BLIND EXPANSION BOLTED CONNECTIONS AS FOLLOWS: 1. VERIFY BLIND EXPANSION BOLTS ARE CORRECT TYPE, DIAMETER, AND LENGTH FOR THE JOINT DETAIL. 2. VERIFY THAT CONNECTING ELEMENTS MEET REQUIREMENTS FOR HOLE SIZING. 3. PERIODICALLY VERIFY INSTALLED TORQUE OF 100% OF ALL BLIND EXPANSION BOLTS WITH A CALIBRATED TORQUE WRENCH. COORDINATE MINIMUM INSTALLED TORQUE WITH MANUFACTURER OF BLIND EXPANSION BOLTS INSTALLED.	PERIODIC	SWSI
	INSPECT AND TEST WELDS DURING FABRICATION (WHERE APPLICABLE) AND ERECTION OF STRUCTURAL STEEL, STEEL DECK, AND STUDS/ANCHORS AS FOLLOWS:		
	1. CERTIFY WELDERS AND CONDUCT INSPECTIONS AND TESTS AS REQUIRED. RECORD TYPES AND LOCATIONS OF DEFECTS FOUND IN WORK. RECORD WORK REQUIRED AND PERFORMED TO CORRECT DEFICIENCIES. a. CONFIRM THAT WELDING PROCEDURE SPECIFICATIONS ARE AVAILABLE. b. CONFIRM THAT CONTRACTOR HAS INSTITUTED A *WELDER IDENTIFICATION SYSTEM*.	PERIODIC	CWI, SWSI
	2. INSPECT WELD PROCEDURES AND WELDERS ACCORDING TO THE REQUIREMENTS OF AWS D1.1 AND AISC 360. a. CONFIRM THAT THERE IS NO WELDING OVER CRACKED TACK WELDS. b. CONFIRM THAT ENVIRONMENTAL CONDITIONS ARE BEING PROPERLY CONSIDERED (WIND SPEED, PRECIPITATION, AND TEMPERATURE). c. CONFIRM THAT WELDING PROCEDURE SPECIFICATIONS ARE BEING FOLLOWED (EQUIPMENT SETTINGS, TRAVEL SPEED, MATERIAL USEAGE, SHIELDING TYPE AND FLOW RATE, PREHEATING REQUIREMENTS, MAINTENANCE OF INTERPASS TEMPERATURE, AND PROPER WELDER POSITIONING). d. CONFIRM WELDING TECHNIQUES (INTERPASS AND FINAL CLEANING, EACH PASS WITHIN PROFILE LIMITATIONS, AND THAT EACH PASS MEETS QUALITY REQUIREMENTS).	PERIODIC	CWI, SWSI
	3. USE NON-DESTRUCTIVE TESTING ACCORDING TO AWS D1.1 ON ALL WELDS THAT APPEAR TO HAVE EXCESSIVE INCLUSIONS, POROSITIES, CRACKS, AND INCOMPLETE PENETRATIONS AS DESCRIBED BY AWS D1.1 OR HAVE THE QUESTIONABLE WELD REMOVED AND REWELDED.	PERIODIC	AWS-UT-2
	4. PERFORM OBSERVATION ON THE FIRST TWO WELDS INSTALLED BY EACH WELDER AND SUBSEQUENT NON-DESTRUCTIVE TESTING ACCORDING TO AWS D1.1 ON ALL (100%) COMPLETE PENETRATION AND/OR PARTIAL PENETRATION GROOVE WELDS AND ON ALL SPLICES OF MAIN MEMBERS WHERE THOSE SPLICES ARE REQUIRED. a. CONFIRM JOINT PREPARATION. b. CONFIRM DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, AND BEVEL). c. CONFIRM CLEANLINESS OF WELDS AND BASE MATERIAL (CONDITION OF STEEL SURFACES). d. CONFIRM TACKING (TACK WELD QUALITY AND LOCATION). e. CONFIRM BACKING TYPE AND FIT (AS APPLICABLE) AND REMOVAL SUBSEQUENT TO WELD PLACEMENT. f. PERFORM ULTRASONIC TESTING IN ACCORDANCE WITH AWS D.1.1 FOR STEEL MATERIAL 5/16" THICK AND GREATER. FOR THINNER MATERIAL, PERFORM VISUAL OBSERVATIONS IN ACCORDANCE WITH AWS D1.1.	CONTINUOUS	CWI, SWSI
	5. PERFORM INSPECTION ACCORDING TO AWS D1.1 (VISUAL INSPECTION) ON ALL MULTI-PASS FILLET WELDS AND ON ALL SINGLE-PASS FILLET WELDS LARGER THAN 5/16". a. CONFIRM DIMENSIONS (ALIGNMENT, GAPS AT ROOT, ROOT SIZE, LENGTH), SPACING, ORIENTATION, AND LOCATIONS. b. CONFIRM CLEANLINESS OF WELDS AND BASE MATERIAL (CONDITION OF STEEL SURFACES). c. CONFIRM TACKING (TACK WELD QUALITY AND LOCATION). d. CONFIRM VISUAL ACCEPTANCE CRITERIA (CRACK PROHIBITION, WELD/BASE FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT, AND POROSITY).	CONTINUOUS	CWI, SWSI
	6. PERFORM INSPECTION ACCORDING TO AWS D1.1 (VISUAL INSPECTION) ON ALL SINGLE-PASS FILLET WELDS 5/16" AND SMALLER AND ON ALL FLOOR, FORM, AND ROOF DECK WELDS. a. CONFIRM DIMENSIONS (ALIGNMENT, GAPS AT ROOT, ROOT SIZE, LENGTH), SPACING, ORIENTATION, AND LOCATIONS. b. CONFIRM CLEANLINESS OF WELDS AND BASE MATERIAL (CONDITION OF STEEL SURFACES). c. CONFIRM TACKING (TACK WELD QUALITY AND LOCATION). d. CONFIRM VISUAL ACCEPTANCE CRITERIA (CRACK PROHIBITION, WELD/BASE FUSION, CRATER CROSS SECTION, WELD PROFILES, WELD SIZE, UNDERCUT, AND POROSITY).	PERIODIC	CWI, SWSI
	7. OBSERVE AND DOCUMENT REPAIR ACTIVITIES.	PERIODIC	CWI, SWSI
	INSPECT ALL MECHANICAL FASTENING OF FLOOR, FORM, AND ROOF DECK. VERIFY FASTENER TYPE, LENGTH, AND DIAMETER. CONFIRM PERIMETER AND INTERMEDIATE FASTENER SPACING.	PERIODIC	CWI, SWSI
	IN ADDITION TO VISUAL INSPECTION, INSPECT AND TEST FIELD WELDED SHEAR CONNECTORS ACCORDING TO REQUIREMENTS OF AWS D1.1 AND AS FOLLOWS: 1. VERIFY NUMBER, LOCATION, AND APPLICATION OF ALL WELD SHEAR CONNECTORS. 2. PERFORM BEND TESTS ON A MINIMUM OF 10 PERCENT OF ALL SHEAR CONNECTORS AND WHEN VISUAL INSPECTIONS REVEAL EITHER LESS THAN A CONTINUOUS 360-DEGREE FLASH OR WELDING REPAIRS TO ANY SHEAR CONNECTOR. 3. CONDUCT TESTS ON ADDITIONAL SHEAR CONNECTORS WHEN WELD FRACTURE OCCURS ON SHEAR CONNECTORS ALREADY TESTED, ACCORDING TO REQUIREMENTS OF AWS D1.1.	PERIODIC	CWI, SWSI
	INSPECT ALL STEEL FRAME CONNECTION DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS AND APPROVED STEEL ERECTION SHOP DRAWINGS. 1. VERIFY COMPLETENESS AND CONSTRUCTION OF ALL BRACING, STIFFENING, AND CONNECTIONS. 2. VERIFY LOCATION, COMPLETENESS, ACCURACY, AND JOINT DETAILS OF ALL MEMBERS.	PERIODIC	PE

COMPONENT	TEST OR SPECIAL INSPECTION	PERIODIC OR CONTINUOUS	ACCEPTABLE QUALIFICATIONS
STRUCTURAL ANCHORS	WHERE PERIODIC ANCHOR INSPECTION IS PERMITTED, THE SPECIAL INSPECTOR SHALL VERIFY THE INITIAL INSTALLATIONS OF EACH TYPE AND SIZE OF ANCHOR BY CONSTRUCTION PERSONNEL ON SITE. SUBSEQUENT INSTALLATIONS OF THE SAME ANCHOR TYPE AND SIZE BY THE SAME CONSTRUCTION PERSONNEL ARE PERMITTED TO BE PERFORMED IN THE ABSENCE OF THE SPECIAL INSPECTOR. FOR ONGOING INSTALLATIONS OVER AN EXTENDED PERIOD, GREATER THAN THREE MONTHS, THE SPECIAL INSPECTOR MUST MAKE REGULAR INSPECTIONS TO CONFIRM CORRECT HANDLING AND INSTALLATION OF THE ANCHORS.		
	INSPECT INSTALLATION OF ALL ADHESIVE ANCHORS THAT RESIST SUSTAINED TENSION LOADS IN HORIZONTAL OR UPWARDLY-INCLINED ORIENTATIONS.	CONTINUOUS	RCSI, SMSI
	ADDITIONAL TO REQUIREMENTS LISTED BELOW, INSPECT ALL POST-INSTALLED ANCHORS AS FOLLOWS: VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANING PROCEDURE, EMBEDMENT DEPTH, SUBSTRATE TYPE (MATERIAL), SUBSTRATE THICKNESS, DRILL BIT TYPE AND SIZE, HOLE DIMENSIONS, ANCHOR SPACING, MINIMUM EDGE DISTANCE, ANCHOR PLUMBNESS (RELATIVE TO HORIZONTAL OR VERTICAL AS APPLICABLE), AND ADHERENCE TO THE ANCHOR MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.	PERIODIC	RCSI, SMSI
	INSPECT DRILLED-IN ADHESIVE TYPE ANCHORS AS FOLLOWS: VERIFY ADHESIVE PRODUCT AND EXPIRATION DATE; PROOF LOAD 25% OF EACH TYPE AND SIZE OF ANCHOR IN ACCORDANCE WITH RECOMMENDATIONS OF THE ANCHOR MANUFACTURER. ADHESIVE ANCHORS AND CAPSULE ANCHORS SHALL NOT BE TORQUE TESTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IF MORE THAN 10% OF THE TESTED ANCHORS FAIL TO ACHIEVE THE SPECIFIED TORQUE OR PROOF LOAD WITHIN THE LIMITS AS DEFINED IN THE SPECIFICATIONS, ALL ANCHORS OF THE SAME DIAMETER AND TYPE AS THE FAILED ANCHOR SHALL BE TESTED, UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. 1. PROOF LOADS SHALL BE APPLIED WITH A CALIBRATED HYDRAULIC RAM. DISPLACEMENT OF ADHESIVE AND CAPSULE ANCHORS AT PROOF LOAD SHALL NOT EXCEED D/10, WHERE D IS THE NOMINAL ANCHOR DIAMETER.	PERIODIC ----	RCSI, SMSI
	INSPECT 100% OF EXPANSION TYPE MECHANICAL ANCHORS AS FOLLOWS: VERIFY INSTALLED TORQUE OF ANCHORS WITH A CALIBRATED TORQUE WRENCH. COORDINATE MINIMUM INSTALLED TORQUE WITH MANUFACTURER OF ANCHORS INSTALLED.	PERIODIC	RCSI, SMSI
	INSPECT 100% OF CONCRETE AND MASONRY SCREW TYPE ANCHORS AS FOLLOWS: VERIFY INSTALLATION TORQUE (DO NOT EXCEED ANCHOR MANUFACTURER PUBLISHED MAXIMUM INSTALLATION TORQUE), MAXIMUM IMPACT WRENCH TORQUE RATING, AND ANCHOR TIGHTNESS TO SUPPORTED COMPONENT.	PERIODIC	RCSI, SMSI
CONCRETE CONSTRUCTION (IBC 1705.3)	PROVIDE SPECIAL INSPECTION OF THE FABRICATION OF CONCRETE STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH THE FABRICATORS SECTION IN THIS CHART.	----	
	INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC	RCSI, ACI-2, NICET-2C
	VERIFY THE USE OF THE PROPER DESIGN MIX.	PERIODIC	RCSI, ACI-2, NICET-2C
	VERIFY USE OF PROPER GRADE AND ASTM DESIGNATION OF REINFORCING STEEL.	PERIODIC	RCSI, ACI-2, NICET-2C
	PERFORM INSPECTION ON PLACEMENT, SPACING, CLEAR COVER, NUMBER, AND SPLICE LAP LENGTHS OF REINFORCING STEEL.	PERIODIC	RCSI, NICET-2C
	PERFORM INSPECTION ACCORDING TO AWS D1.4-1998 ON ALL WELDING OF REINFORCING STEEL.	CONTINUOUS	CWI, AWS-UT-2
	MONITOR CONCRETE QUALITY BY MEANS OF SITE AND LABORATORY TESTS. THE INSPECTION AGENCY IS AUTHORIZED TO REJECT PLASTIC CONCRETE NOT CONFORMING TO SPECIFICATIONS. IMMEDIATELY INFORM THE CONTRACTOR, THE ARCHITECT AND THE STRUCTURAL ENGINEER OF INADEQUACIES IN CONCRETE QUALITY. SAMPLING AND TESTING FOR QUALITY CONTROL DURING CONCRETE PLACEMENT SHALL INCLUDE THE FOLLOWING: 1. TESTING OF COMPOSITE SAMPLES OF FRESH CONCRETE OBTAINED ACCORDING TO ASTM C 172 SHALL BE PERFORMED ACCORDING TO THE FOLLOWING REQUIREMENTS: a. TESTING FREQUENCY: OBTAIN ONE COMPOSITE SAMPLE FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE EXCEEDING 5 CU. YD., BUT LESS THAN 25 CU. YD., PLUS ONE SET FOR EACH ADDITIONAL 50 CU. YD. OR FRACTION THEREOF. b. SLUMP: ASTM C 143; ONE TEST AT POINT OF PLACEMENT FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE. PERFORM ADDITIONAL TESTS WHEN CONCRETE CONSISTENCY APPEARS TO CHANGE. c. AIR CONTENT: ASTM C 231, PRESSURE METHOD, FOR NORMAL-WEIGHT CONCRETE; **(ASTM C 173, VOLUMETRIC METHOD, FOR STRUCTURAL LIGHTWEIGHT CONCRETE;)** ONE TEST FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE. d. CONCRETE TEMPERATURE: ASTM C 1064; ONE TEST HOURLY WHEN AIR TEMPERATURE IS 40 DEG F AND BELOW OR 80 DEG F AND ABOVE, AND ONE TEST FOR EACH SET OF COMPOSITE SAMPLE. **e. UNIT WEIGHT: ASTM C 567 FRESH UNIT WEIGHT OF STRUCTURAL LIGHTWEIGHT CONCRETE; ONE TEST FOR EACH COMPOSITE SAMPLE, BUT NOT LESS THAN ONE TEST FOR EACH DAY'S POUR OF EACH CONCRETE MIXTURE.** f. COMPRESSION TEST SPECIMEN: ASTM C 31; ONE SET OF FOUR STANDARD 6" DIAMETER BY 12" OR FIVE STANDARD 4" DIAMETER BY 8" CYLINDERS FOR EACH COMPRESSIVE-STRENGTH TEST, UNLESS OTHERWISE DIRECTED. MOLD AND STORE CYLINDERS FOR LABORATORY-CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURED TEST SPECIMENS ARE REQUIRED. g. COMPRESSIVE-STRENGTH TESTS: ASTM C 39; TEST ONE SPECIMEN AT 7 DAYS, TWO 6"x12" OR THREE 4"x8" SPECIMENS TESTED AT 28 DAYS, AND ONE SPECIMEN RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED. ADDITIONAL CYLINDER TESTS (SUCH AS AT 14 DAYS) FOR CONTRACTOR CONVENIENCE AND SCHEDULING SHALL BE PAID FOR BY THE CONTRACTOR. A COMPRESSIVE-STRENGTH TEST SHALL BE THE AVERAGE COMPRESSIVE STRENGTH FROM A SET OF SPECIFIED NUMBER SPECIMENS OBTAINED FROM SAME COMPOSITE SAMPLE AND TESTED AT AGE INDICATED. h. WHEN FREQUENCY OF TESTING WILL PROVIDE FEWER THAN FIVE STRENGTH TESTS FOR A GIVEN CLASS OF CONCRETE, CONDUCT TESTING FROM AT LEAST FIVE RANDOMLY SELECTED BATCHES OR FROM EACH BATCH IF FEWER THAN FIVE ARE USED. i. WHEN STRENGTH OF FIELD-CURED CYLINDERS IS LESS THAN 85 PERCENT OF COMPANION LABORATORY-CURED CYLINDERS, CONTRACTOR SHALL EVALUATE OPERATIONS AND PROVIDE CORRECTIVE PROCEDURES FOR PROTECTING AND CURING THE IN-PLACE CONCRETE. j. STRENGTH OF EACH CONCRETE MIXTURE WILL BE SATISFACTORY IF EVERY AVERAGE OF ANY THREE CONSECUTIVE COMPRESSIVE-STRENGTH TESTS EQUALS OR EXCEEDS SPECIFIED COMPRESSIVE STRENGTH AND NO COMPRESSIVE-STRENGTH TEST VALUE FALLS BELOW SPECIFIED COMPRESSIVE STRENGTH BY MORE THAN 500 PSI. 2. TEST RESULTS SHALL BE REPORTED IN WRITING TO ARCHITECT, STRUCTURAL ENGINEER, READY-MIX PRODUCER, AND CONTRACTOR WITHIN 48 HOURS OF TESTING. REPORTS OF COMPRESSIVE-STRENGTH TESTS SHALL CONTAIN THE PROJECT IDENTIFICATION NAME AND NUMBER, DATE OF CONCRETE PLACEMENT, NAME OF CONCRETE TESTING AND INSPECTING AGENCY, CONCRETE TYPE AND CLASS, LOCATION OF CONCRETE BATCH IN STRUCTURE, DESIGN COMPRESSIVE STRENGTH AT 28 DAYS, CONCRETE MIXTURE PROPORTIONS AND MATERIALS, COMPRESSIVE BREAKING STRENGTH, AND TYPE OF BREAK FOR BOTH 7- AND 28-DAY TESTS.	CONTINUOUS	RCSI, ACI-2, NICET-2C
	PERFORM INSPECTION OF CONCRETE PLACEMENT FOR WALLS, COLUMNS, GRADE BEAMS, FOOTINGS, FRAMED CONCRETE SLABS, BEAMS, AND JOISTS TO VERIFY PROPER APPLICATION TECHNIQUES.	CONTINUOUS	RCSI, ACI-2, NICET-1
	PERFORM INSPECTION OF CONCRETE PLACEMENT FOR SUPPORTED SLABS ON DECK AND SLAB ON GRADE TO VERIFY PROPER APPLICATION.	PERIODIC	RCSI, ACI-2, NICET-1
	PERFORM INSPECTION OF CONCRETE CURING PROCEDURES TO VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE, PROTECTION, AND TECHNIQUES.	PERIODIC	RCSI, ACI-2, NICET-1
	PROVIDE INSPECTION OF THE ERECTION OF STRUCTURAL PRECAST CONCRETE MEMBERS.	PERIODIC	RCSI, ACI-2, NICET-1
	TEST THE F-NUMBER TOLERANCES OF CONCRETE SLABS IN ACCORDANCE WITH THE PROVISIONS SET FORTH BY ASTM COMMITTEE E6.21.10. ALL TESTS SHALL BE PERFORMED WITHIN THREE WORKING DAYS AFTER CONCRETE PLACEMENT AND PRIOR TO ANY FORM REMOVAL. 1. SLABS SHALL BE TESTED FOR F-NUMBER TOLERANCES AT GYM, CAFETERIA, ALL CORRIDORS, AND TWO OUT OF EVERY TEN CLASSROOMS. CLASSROOMS TESTED SHALL BE SPACED EVENLY THROUGHOUT THE BUILDING. QUANTITY OF TEST READINGS FOR EACH AREA SHALL BE PER ASTM E1155. a. TEST ONE ADDITIONAL CLASSROOM FOR EACH CLASSROOM NOT WITHIN SPECIFIED F-NUMBER TOLERANCES. 2. SLAB AREAS SHALL BE TESTED FOR F-NUMBER TOLERANCES FOR THE FIRST 10,000 SQUARE FEET PLACED AT EACH LEVEL. THEREAFTER, TEST AN ADDITIONAL 1,000 SQUARE FEET PER 10,000 SQUARE FEET OF SLAB AREA AT EACH LEVEL. QUANTITY OF TEST READINGS FOR EACH AREA SHALL BE PER ASTM E1155.	PERIODIC	RCSI, ACI-2, NICET-1
	NONDESTRUCTIVE TESTING: IMPACT HAMMER, SONOSCOPE, OR OTHER NONDESTRUCTIVE DEVICE MAY BE PERMITTED BUT SHALL NOT BE USED AS THE SOLE BASIS FOR ACCEPTANCE OR REJECTION.	----	
	ADDITIONAL TESTS: TESTING AND INSPECTING AGENCY SHALL MAKE ADDITIONAL TESTS OF CONCRETE WHEN TEST RESULTS INDICATE THAT SLUMP, AIR ENTRAINMENT, COMPRESSIVE STRENGTHS, OR OTHER REQUIREMENTS HAVE NOT BEEN MET, AS DIRECTED BY ARCHITECT. TESTING AND INSPECTING AGENCY MAY CONDUCT TESTS TO DETERMINE ADEQUACY OF CONCRETE BY CORED CYLINDERS COMPLYING WITH ASTM C 42 OR BY OTHER METHODS AS DIRECTED BY ARCHITECT. 1. ADDITIONAL TESTING AND INSPECTING, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE COMPLIANCE OF REPLACED OR ADDITIONAL WORK WITH SPECIFIED REQUIREMENTS.	----	

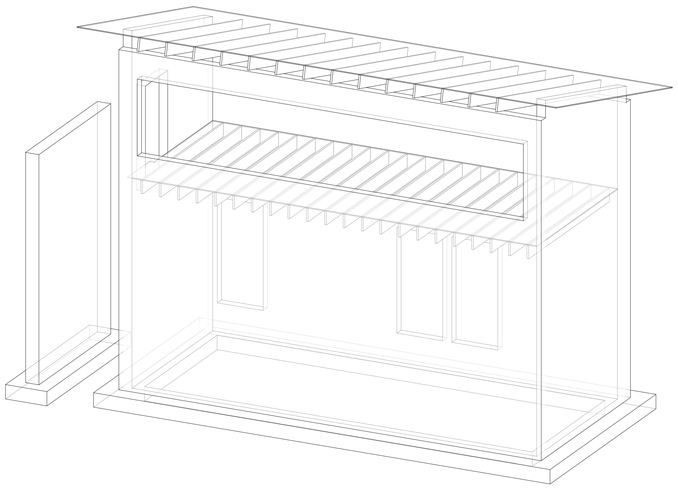
COMPONENT	TEST OR SPECIAL INSPECTION	PERIODIC OR CONTINUOUS	ACCEPTABLE QUALIFICATIONS
MASONRY CONSTRUCTION (IBC 1705.4)	AT ONSET OF MASONRY CONSTRUCTION AND PERIODICALLY THEREAFTER, VERIFY PROPORTIONS OF SITE-PREPARED MORTAR, CONSTRUCTION OF MORTAR JOINTS, AND LOCATION OF REINFORCEMENT AND CONNECTORS.	PERIODIC	SMSI
	PERFORM INSPECTION TO VERIFY SIZE AND LOCATION OF STRUCTURAL ELEMENTS; TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING ANCHORAGE TO OTHER STRUCTURAL ELEMENTS, FRAMES, AND CONSTRUCTION; AND SPECIFIED SIZE, GRADE, AND TYPE OF REINFORCEMENT.	PERIODIC	SMSI
	PRIOR TO EACH GROUTING OPERATION, VERIFY CLEANLINESS OF GROUT SPACE, PLACEMENT OF ALL REINFORCEMENT AND CONNECTORS, INCLUDING LAP SPLICE LENGTHS, AND PROPORTIONS OF SITE-PREPARED GROUT.	PERIODIC	SMSI
	PERFORM INSPECTION OF GROUT PLACEMENT TO VERIFY COMPLIANCE WITH CONTRACT DOCUMENT PROVISIONS.	CONTINUOUS	SMSI
	PERFORM INSPECTION OF MASONRY CURING PROCEDURES TO VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE, PROTECTION, AND TECHNIQUES.	PERIODIC	SMSI
	FOR CONCRETE MASONRY DESIGNED IN ACCORDANCE WITH THE UNIT STRENGTH METHOD (AS SPECIFIED ON THE GENERAL NOTES), SAMPLE AND TEST GROUT COMPRESSIVE STRENGTH ACCORDING TO ASTM C 1019; MORTAR COMPRESSIVE STRENGTH ACCORDING TO ASTM C780, AND THE FOLLOWING: 1. COMPRESSION TEST SAMPLE: ONE SET OF THREE STANDARD CUBE SPECIMENS FOR EACH COMPRESSIVE-STRENGTH TEST, UNLESS OTHERWISE DIRECTED. MOLD AND STORE CUBES FOR LABORATORY-CURED TEST SPECIMENS EXCEPT WHEN FIELD-CURED TEST SPECIMENS ARE REQUIRED. 2. COMPRESSIVE-STRENGTH TESTS: AT THE COMMENCEMENT OF CONSTRUCTION TAKE SAMPLES PRIOR TO CONSTRUCTION, THE NEXT 4 SAMPLES FOR EACH 2,500 SQ FEET OF WALL CONSTRUCTION, AND THEN FOLLOWING THEREAFTER FOR EACH 5,000 SQ FEET OF WALL CONSTRUCTION. TEST ONE SPECIMEN AT 7 DAYS, ONE SPECIMEN TESTED AT 28 DAYS, AND ONE SPECIMEN RETAINED IN RESERVE FOR LATER TESTING IF REQUIRED.	PERIODIC	SMSI
WOOD CONSTRUCTION (IBC 1705.5)	PROVIDE SPECIAL INSPECTION OF THE FABRICATION OF WOOD STRUCTURAL ELEMENTS AND ASSEMBLIES IN ACCORDANCE WITH THE FABRICATORS SECTION IN THIS CHART.	----	
	VERIFY USE OF PROPER SPECIES AND GRADE OF LUMBER AND ENGINEERED WOOD PRODUCTS.	PERIODIC	PE
	PERFORM INSPECTION OF WOOD CONSTRUCTION TO VERIFY INSTALLATION OF BLOCKING, FASTENERS, AND FASTENING WITH THE CONTRACT DOCUMENT PROVISIONS.	PERIODIC	PE
	PERFORM INSPECTION OF SHEAR WALLS AND DIAPHRAGMS. 1. VERIFY GRADE AND THICKNESS OF SHEAR PANELS. 2. VERIFY THE NOMINAL SIZE OF FRAMING MEMBERS AT PANEL EDGES. 3. VERIFY NAIL OR STAPLE DIAMETER, LENGTH, AND SPACING; NUMBER OF FASTENER LINES; AND SPACING AND EDGE DISTANCE OF FASTENER LINES. 4. VERIFY INSTALLATION OF SHEAR WALL HOLD-DOWN ANCHORS	PERIODIC	PE
	VERIFY THE INSTALLATION OF ALL PERMANENT BRACING OF WOOD TRUSS ASSEMBLIES IN ACCORDANCE WITH THE APPROVED TRUSS SHOP DRAWINGS AND STRUCTURAL DRAWINGS. 1. VERIFY PLACEMENT OF ALL COMPRESSION WEB MEMBER BRACING, LAPS, FASTENING, AND INTERMITTENT CROSS BRACING. 2. VERIFY PLACEMENT OF ALL CHORD BRACING, LAPS, FASTENING, AND INTERMITTENT CROSS BRACING. 3. VERIFY CONNECTION OF ALL TRUSS TO TRUSS GIRDER CONNECTIONS. 4. VERIFY INSTALLATION OF ALL PERIMETER UPLIFT CONNECTIONS TO SUPPORTING STRUCTURE.	PERIODIC	PE
	VISUALLY INSPECT THE INSTALLATION AND ATTACHMENT OF WOOD FIBER ROOF DECK. 1. PERIODICALLY INSPECT ALL MECHANICAL FASTENING OF COMPOSITE WOOD FIBER ROOF DECK. VERIFY FASTENER TYPE AND PERIMETER AND INTERMEDIATE FASTENER SPACING. 2. PERIODICALLY INSPECT PLACEMENT OF STEEL REINFORCING CHANNELS IN THE TONGUE AND GROOVE JOINTS OF THE WOOD FIBER ROOF DECK. 3. CONTINUOUSLY INSPECT ALL FIELD GLUING OPERATIONS OF THE JOINTS IN THE WOOD FIBER ROOF DECK.	PERIODIC, U.N.O.	PE
SOILS (IBC 1705.6)	INSPECT THE EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT, AND LOAD-BEARING REQUIREMENTS FOR COMPLIANCE WITH THE RECOMMENDATIONS OF THE APPROVED GEOTECHNICAL INVESTIGATION REPORT.	PERIODIC	SSI, NICET-2S
	WHERE THE SITE IS SPECIFIED TO BE UNDERCUT BY THE GEOTECHNICAL INVESTIGATION REPORT, VERIFY ALL UNSUITABLE SOILS, DEBRIS, ROCK AND OTHER MATERIALS HAVE BEEN REMOVED FROM BELOW BUILDING FOOTPRINT. 1. VERIFY THAT TOPSOIL HAS BEEN STRIPPED AND REMOVED FROM BUILDING FOOTPRINT. 2. VERIFY ALL EXISTING UNCONTROLLED FILLS, SOFT AND UNSUITABLE SOILS HAVE BEEN REMOVED FROM BELOW APPLICABLE FOUNDATION ELEMENTS. TEST NATIVE MATERIAL AT BASE OF CUT TO ENSURE THAT UNSUITABLE MATERIAL HAS BEEN COMPLETELY REMOVED; NOTIFY ARCHITECT IF UNACCEPTABLE MATERIAL REMAINS AFTER CO



A S104 VISITOR DUGOUT



B S104 HOME DUGOUT



C S104 PRESSBOX

NOTE:
3D VIEWS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY.
3D STRUCTURAL MODEL IS NOT GUARANTEED TO BE COMPLETE OR EXACT.
SEE ALL OTHER SHEETS FOR ACCURATE STRUCTURAL PLANS AND DETAILS.

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GARRARD COUNTY DUGOUTS AND PRESS BOX
FINAL PHASE

FOR THE
GARRARD COUNTY BOARD OF EDUCATION

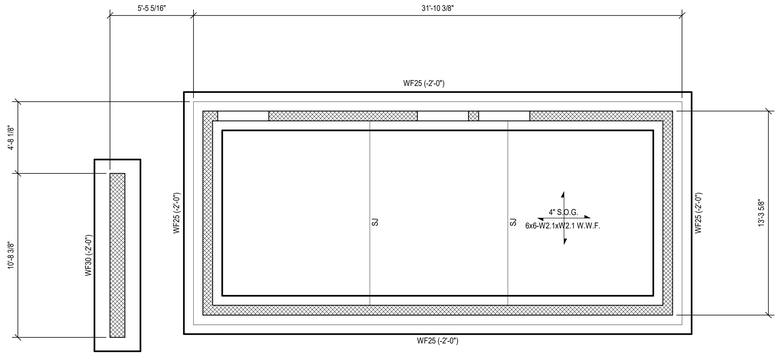
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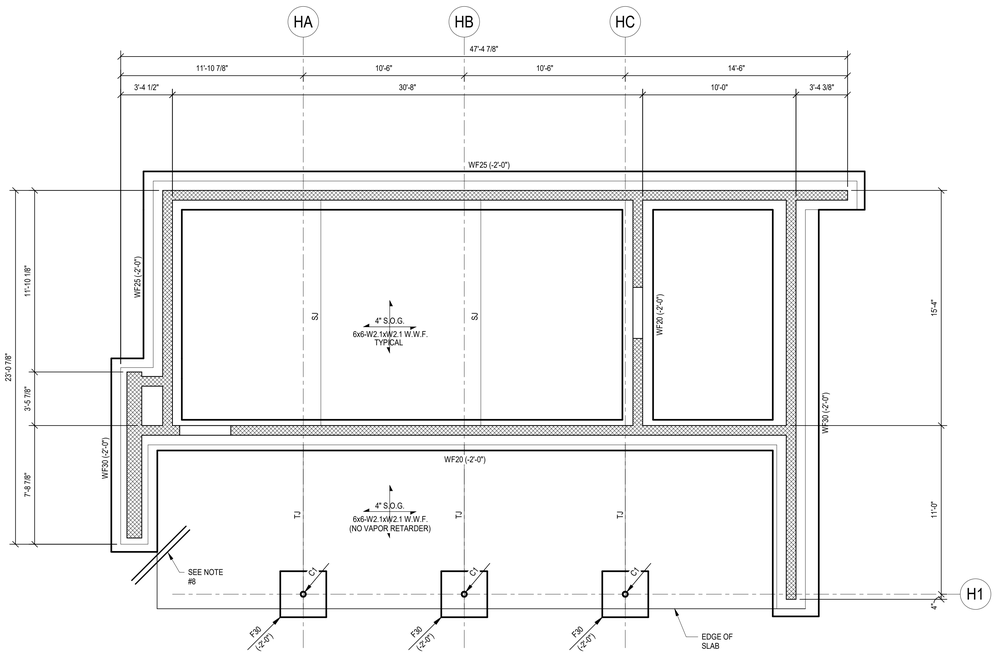
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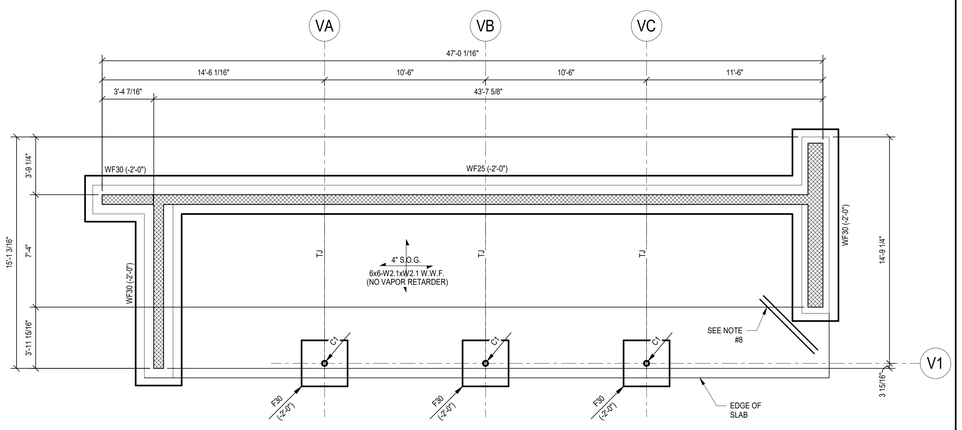
A S201 FOUNDATION PLAN - PRESS BOX

1/4" = 1'-0"



B S201 FOUNDATION PLAN - HOME DUGOUT

1/4" = 1'-0"



C S201 FOUNDATION PLAN - VISITOR DUGOUT

1/4" = 1'-0"

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FOUNDATION PLAN NOTES

1. ELEVATIONS SHOWN ARE TO THE TOP OF THE FOUNDATION AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
2. CENTER ALL WALL FOOTINGS ON WALL CENTERLINE U.N.O.
3. CENTER ALL SPREAD FOOTINGS ON COLUMN GRID INTERSECTION U.N.O.
4. SEE DWG S101 FOR GENERAL NOTES.
5. SEE DWG S102 FOR SPECIAL INSPECTION NOTES.
6. SEE DWGS S301 FOR TYPICAL FOUNDATION DETAILS.
7. SLAB ON GRADE SHALL BE PLACED ON VAPOR RETARDER (SEE SPECIFICATIONS) OVER 4" MINIMUM COMPACTED CRUSHED STONE OR DENSE GRADED AGGREGATE.
8. REINFORCE SLABS ON GRADE AT RE-ENTRANT CORNERS PER DETAIL G/S301. REINFORCING BARS MAY NOT BE SHOWN GRAPHICALLY ON PLAN IN ALL LOCATIONS.
9. PROVIDE CONSTRUCTION JOINTS IN SLAB ON GRADE ALIGNING WITH BOTH FACES OF C.M.U. WALLS AT OPENINGS IN INTERIOR LOAD-BEARING WALLS.
10. ALL FOOTINGS MUST BE SUPPORTED ON UNDISTURBED SOIL CAPABLE OF SUPPORTING DESIGN LOADS WITHOUT APPRECIABLE SETTLEMENT. CONTRACTOR SHALL PROBE BEARING STRATA WITH DRIVEN RODS. REMOVE SHALLOW BEDROCK (AND OVERLYING SOIL) WITHIN ONE FOOTING WIDTH BELOW BOTTOM OF FOOTING, AND REPLACE WITH ENGINEERED SOIL BACKFILL.

----------OR----------

11. ALL FOOTINGS MUST BE SUPPORTED ON BEDROCK OR STRUCTURAL FLOWABLE FILL / LEAN CONCRETE PLACED OVER BEDROCK. REMOVE ALL SOIL BETWEEN PROPOSED FOUNDATION AND BEDROCK.

FOUNDATION LEGEND

F40	= SPREAD FOOTING. SEE SCHEDULE.
WF40	= WALL FOOTING. SEE SCHEDULE.
RWF40	= RETAINING WALL FOOTING. SEE SCHEDULE.
C1	= ZINC-RICH PRIMED HSS4x0.250 COLUMN WITH BASE PL 3/4x12x12 W/ (4) 3/4" ANCHOR RODS (TYPE A).
P1	= COLUMN PIER. SEE DETAIL X/XXX.
SF	= STEP FOOTING. SEE DETAIL X/XXX.
(-0'-8")	= TOP OF FOOTING ELEVATION.
2"	= EXTENT OF SLAB DEPRESSION. DEPTH MEASURED FROM ADJACENT TOP OF CONCRETE.
SJ	= SAWN CONTRACTION JOINT. SEE DETAIL X/XXX.
CJ	= CONSTRUCTION JOINT. SEE DETAIL X/XXX.
	= C.M.U. WALL REINFORCED W/ #5@48" O.C. VERT CENTERED IN CORE.
	= MASONRY NON-BEARING PARTITION WALL. SEE ARCH DWGS FOR WALL THICKNESS, TYPE AND LAYOUT.

TAG NOTES

1. TAG NOTE 1.
2. TAG NOTE 2.

WALL FOOTING SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCING CONT BOTTOM	TRANSVERSE REINFORCING BOTTOM
WF20	2'-0"	1'-0"	(2) #5	#4@96" O.C.
WF25	2'-6"	1'-0"	(3) #5	#4@96" O.C.
WF30	3'-0"	1'-0"	(3) #5	#4@96" O.C.

SPREAD FOOTING SCHEDULE

MARK	LENGTH	WIDTH	THICKNESS	REINFORCING E.W. BOTTOM
F30	3'-0"	3'-0"	1'-6"	(4) #5

PROJECT TRUE

REFERENCE ELEVATION (0'-0") = ????'-?" SEA LEVEL

NOT FOR CONSTRUCTION

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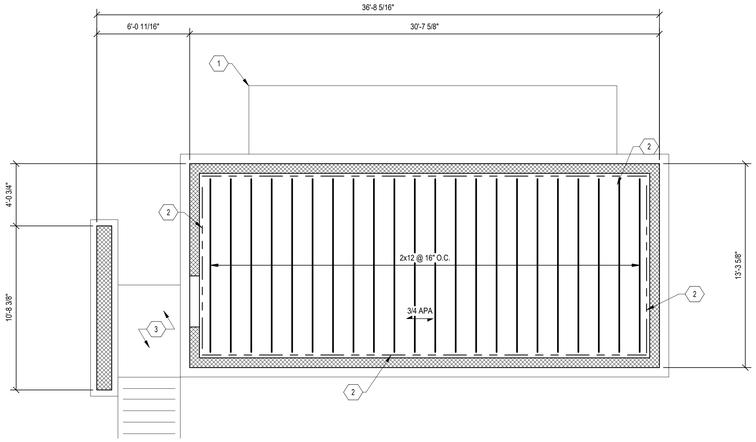
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FINAL PHASE
FOR THE
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FOUNDATION PLAN

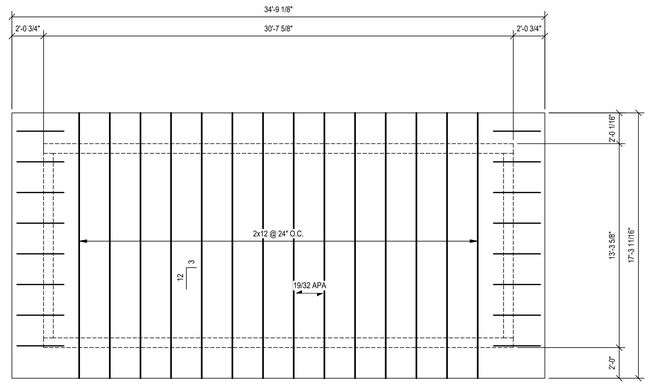
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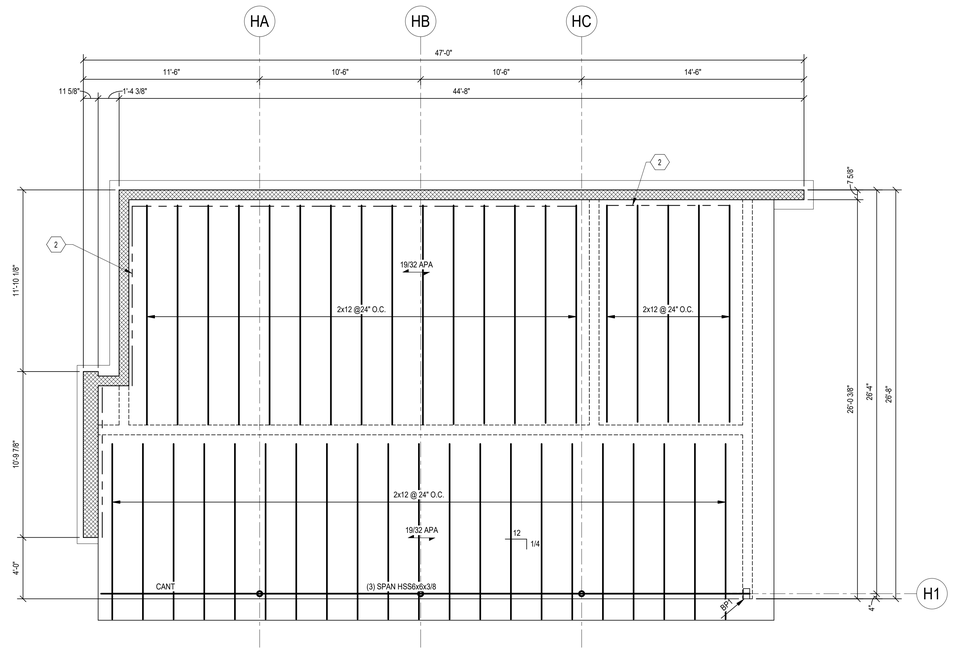
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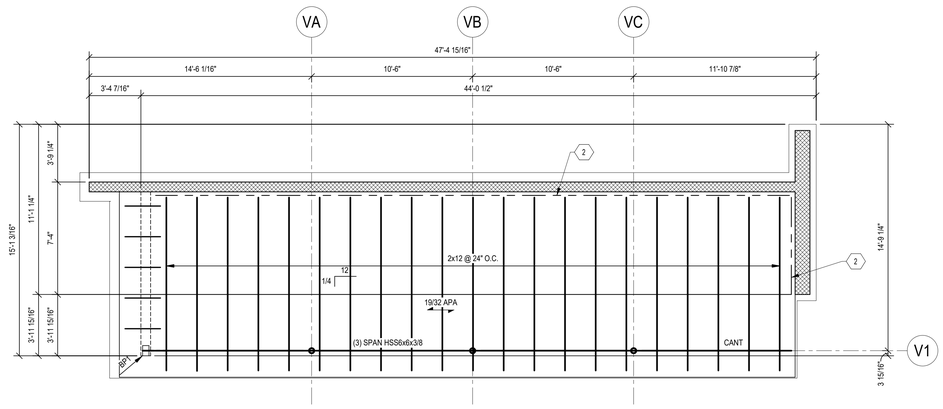
A S202 SECOND FLOOR-PRESS BOX
1/4" = 1'-0"



B S202 ROOF PLAN - PRESS BOX
1/4" = 1'-0"



C S202 ROOF PLAN - HOME DUGOUT
1/4" = 1'-0"



D S202 ROOF FRAMING PLAN - VISITOR DUGOUT
1/4" = 1'-0"

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FRAMING PLAN NOTES

1. ELEVATIONS SHOWN ARE TO THE TOP OF STEEL AND ARE REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
2. FINISHED PRESS BOX SECOND FLOOR ELEVATION (+20'-8").
3. SEE DWG S101 FOR GENERAL NOTES.
4. SEE DWG S102 FOR SPECIAL INSPECTION NOTES.
5. SEE DWG S401 FOR TYPICAL FRAMING DETAILS.
6. SPACE BEAMS / JOISTS EVENLY THROUGHOUT BAY U.N.O.
7. SIZE AND LOCATION OF ROOF TOP MECHANICAL UNITS SHALL BE COORDINATED WITH THE MECHANICAL CONTRACTOR. OPERATING WEIGHT OF UNIT (INCLUDING CURBS) SHALL NOT EXCEED WEIGHT SHOWN ON PLAN. SEE __/____ FOR ADDITIONAL FRAMING REQUIREMENTS AT UNITS.

FRAMING LEGEND

3/4 APA	= 3/4" APA RATED STURD-I-FLOOR SHEATHING.
19/32 APA	= 19/32" APA RATED SHEATHING.
HSS6x6x3/8	= STEEL BEAM SIZE.
(±0'-0")	= TOP OF STEEL BEAM ELEVATION REFERENCED FROM FINISHED FIRST FLOOR REFERENCE ELEVATION (0'-0").
	= C.M.U. WALL REINFORCED W/ #5@48" O.C. VERT CENTERED IN CORE.
	= WALL BELOW DECK.
BP1	= STEEL BEARING PLATE. SEE DETAIL X/XXX.
L1	= STEEL LINTEL. SEE DET X/XXX FOR SCHEDULE.
ML8	= MASONRY LINTEL. SEE DET X/XXX FOR SCHEDULE.
CANT	= CANTILEVER BEAM END. SEE DET X/XX.
12 / 1/4	= ROOF SLOPE.

TAG NOTES

1. PRE-FABRICATED CANOPY SUPPORTED BY CMU WALL. GROUT 16" HIGH FOR FULL WIDTH OF CANOPY HANGERS AND LEDGER. DO NOT FASTEN CANOPY TO VENEERS.
2. P.T. 2x12 LEDGER. SEE SECTIONS.
3. PRE-FABRICATED BLEACHERS W/ INTEGRAL STAIR. SEE MANUFACTURER DWGS.

PROJECT N E S W TRUE N E S W

REFERENCE ELEVATION (0'-0") = ????'-7" SEA LEVEL

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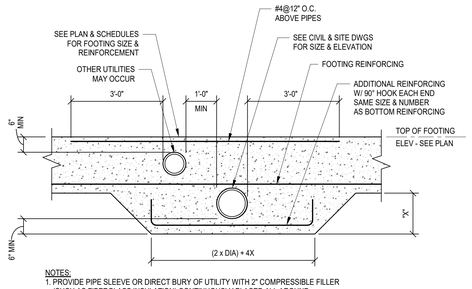
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ROOF FRAMING PLAN

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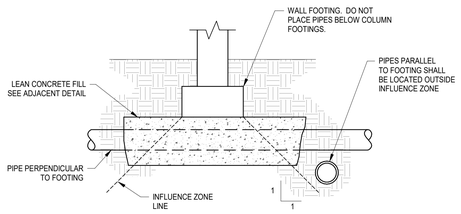
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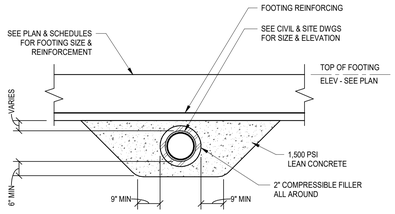


NOTES:
1. PROVIDE PIPE SLEEVE OR DIRECT BURY OF UTILITY WITH 2" COMPRESSIBLE FILLER (SUCH AS FIBERGLASS INSULATION) CONTINUOUSLY PLACED ALL AROUND.
2. DETAIL APPLIES AT TRENCH FOOTINGS ONLY. DO NOT USE THIS DETAIL FOR GRADE BEAMS.

A S301 TYPICAL FOOTING PENETRATION/SLEEVE DETAIL
1/2" = 1'-0"

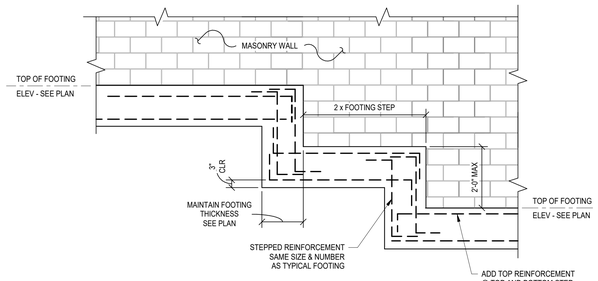


INFLUENCE ZONE

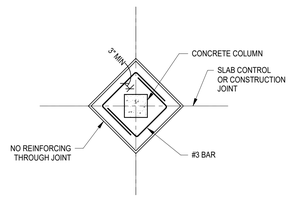


NOTES:
1. PROVIDE CONCRETE PROTECTION AROUND UTILITY LINE WHEN LINE IS WITHIN FOOTING INFLUENCE ZONE. SEE ADJACENT DETAIL FOR INFLUENCE ZONE DEFINITION.
2. DETAIL APPLIES WHEREVER TOP OF PIPE IS WITHIN 4 PIPE DIAMETERS TO BOTTOM OF FOOTING OR IF UTILITY IS INSTALLED AFTER FOOTING PLACEMENT (REGARDLESS OF DEPTH).
3. PROVIDE PIPE SLEEVE OR DIRECT BURY OF UTILITY WITH 2" COMPRESSIBLE FILLER (SUCH AS FIBERGLASS INSULATION) CONTINUOUSLY PLACED ALL AROUND.

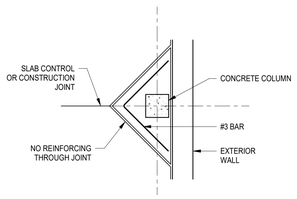
B S301 TYPICAL UTILITY LINE BELOW FOOTING DETAIL
1/2" = 1'-0"



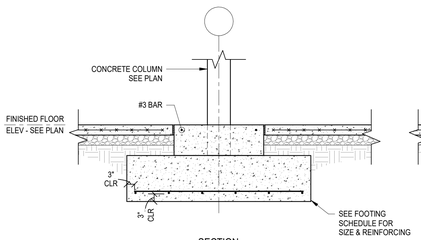
F S301 TYPICAL STEP FOOTING DETAIL
1/2" = 1'-0"



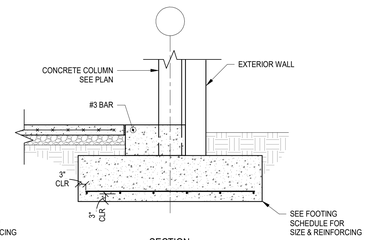
PLAN



PLAN



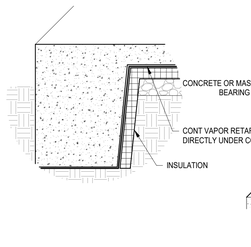
SECTION
TYPICAL INTERIOR COLUMN



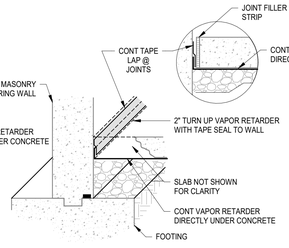
SECTION
TYPICAL PERIMETER COLUMN

E S301 TYPICAL COLUMN AND FOOTING DETAIL
1/2" = 1'-0"

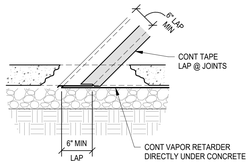
NOTES:
1. PROVIDE VAPOR RETARDER THAT IS RESISTANT TO DETERIORATION WHEN TESTED ACCORDING TO ASTM E 154. SEE SPECIFICATION SECTION 033000.
2. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION.
3. SEAL ALL PENETRATIONS AND REPAIR ALL DAMAGED SURFACES WITH APPROVED JOINT TAPE OR MASTIC.
4. PREPARE ALL SURFACES FOR PROPER ADHESION WITH APPROVED TAPE. ALL SURFACES SHALL BE CLEAN, DRY, AND FROST FREE.
5. TURN UP BARRIER AT ALL EXTERIOR OR INTERIOR WALL SURFACES AND SEAL WITH APPROVED TAPE.



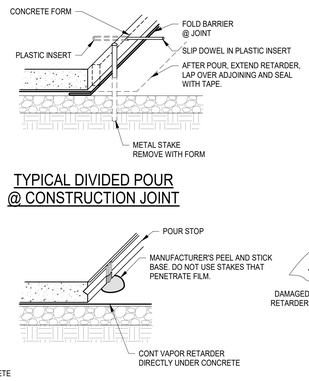
TYPICAL @ TURNED DOWN SLAB



TYPICAL @ WALL

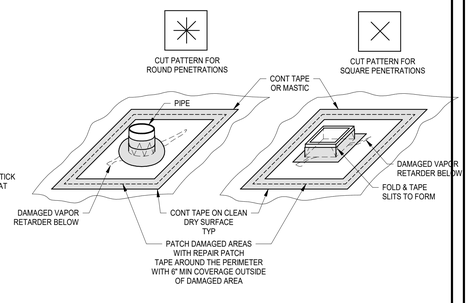


TYPICAL @ SEAM



TYPICAL DIVIDED POUR
@ CONSTRUCTION JOINT

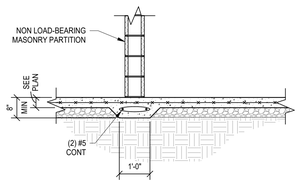
OPTIONAL SIMULTANEOUS POUR
@ CONSTRUCTION JOINT



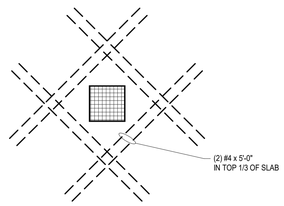
TYPICAL PIPE REPAIR

TYPICAL RECTANGULAR REPAIR

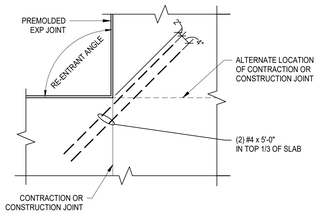
K S301 TYPICAL VAPOR RETARDER DETAILS
1" = 1'-0"



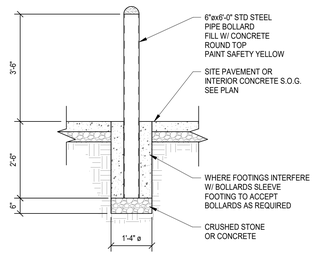
D S301 TYPICAL THICKENED SLAB BELOW MASONRY PARTITIONS
1/2" = 1'-0"



I S301 TYPICAL SLAB REINFORCEMENT AT FLOOR BOXES, TRENCH DRAINS, ETC DETAIL
1/2" = 1'-0"

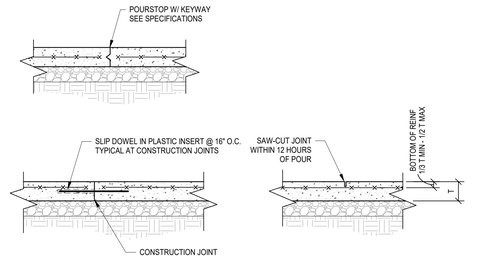


G S301 TYPICAL SLAB ON GRADE JOINT AT RE-ENTRANT CORNER
1/2" = 1'-0"



J S301 TYPICAL PIPE BOLLARD FOUNDATION DETAIL
1/2" = 1'-0"

NOTE:
STAY-IN-PLACE POURSTOP W/ KEYWAY
MAY BE USED FOR SIMULTANEOUS CONCRETE
POURS OF MAXIMUM 30,000 SQ FT AREA
OR 200 FT LENGTH.

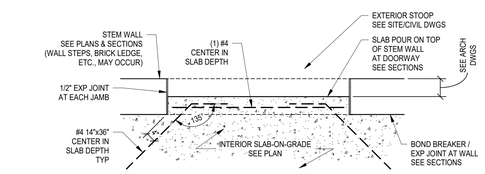


CONSTRUCTION JOINT

SAWN CONTRACTION JOINT

NOTES:
1. JOINTS SHALL BE INSTALLED IN SLABS ON GROUND AT A MAXIMUM SPACING IN FEET OF 3 TIMES THE SLAB THICKNESS IN INCHES IN EACH DIRECTION BY EITHER OF THE ABOVE METHODS. MAXIMUM LENGTH OF ANY SLAB ON GROUND POUR TO BE 100'-0" BETWEEN CONSTRUCTION JOINTS. RATIO OF LENGTH TO WIDTH SHALL NOT EXCEED 2. THIS SPACING OF JOINTS SHALL APPLY UNLESS SPECIFICALLY SHOWN OTHERWISE.
2. REINFORCING SHALL BE DISCONTINUOUS THROUGH CONSTRUCTION JOINTS.

C S301 SLAB ON GROUND JOINT DETAIL
3/4" = 1'-0"



H S301 TYPICAL SLAB-ON-GRADE REINFORCING AT EXTERIOR DOOR DETAIL
1/2" = 1'-0"

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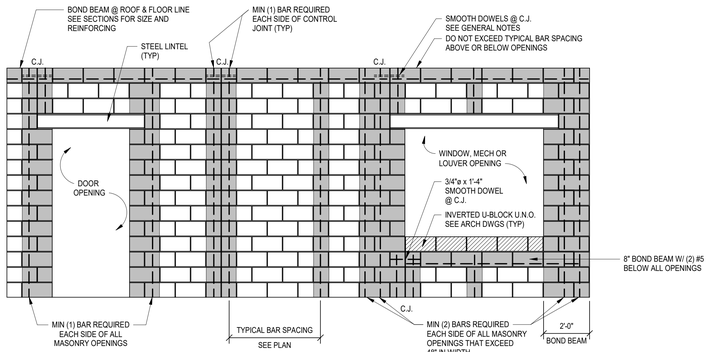
GARRARD COUNTY DUGOUTS AND PRESS BOX
FINAL PHASE
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
TYPICAL FOUNDATION DETAILS

DATE: MAY 11, 2022

REVISED	1	2	3	4	5

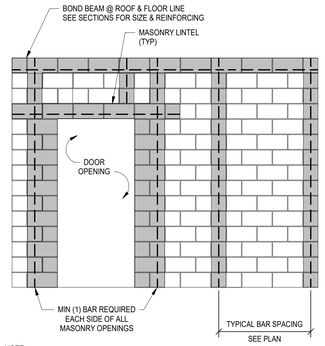
SHEET S301
JOB# 2113
DRAWN: MSC, GMD
CHECKED: ZJW

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NOTES:
1. SEE MASONRY GENERAL NOTES FOR REINFORCING NOT SHOWN AND GROUTING PROCEDURES.
2. CONTROL JOINTS SHALL EXTEND FULL HEIGHT OF WALL AND ALIGN FROM FLOOR TO FLOOR.
3. CONTROL JOINTS SHALL BE LOCATED OUTSIDE MASONRY OPENING JAMB REINFORCING.

A S401 TYPICAL MASONRY WALL REINFORCING DETAIL
3/4" = 1'-0"

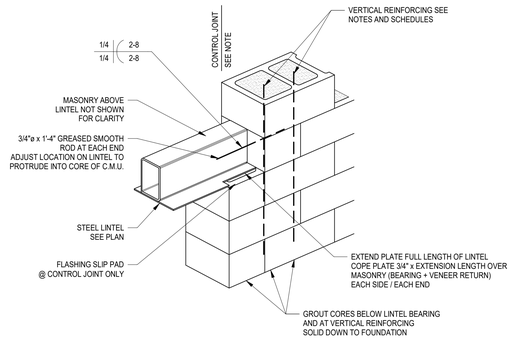


NOTE:
1. SEE MASONRY GENERAL NOTES FOR REINFORCING NOT SHOWN AND GROUTING PROCEDURES.

WALL ELEVATION W/ MASONRY LINTELS

B S401 TYPICAL MASONRY WALL REINFORCING DETAIL
3/4" = 1'-0"

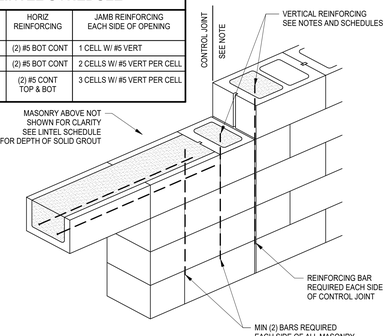
NOTES:
1. FULLY GROUT CORES BELOW LINTEL BEARING FLUSH TO TOP OF MASONRY UNIT. FILL MASONRY GROUT SUBSIDENCE IN CORE WITH NON-SHRINK GROUT PRIOR TO PLACING LINTEL.
2. PROVIDE CONTROL JOINTS IN CMU AND BRICK ABOVE STEEL LINTELS OFFSET 8" FROM OPENING ON BOTH SIDES OF OPENINGS WIDER THAN 6'-8" AND ON ONE SIDE OF OPENINGS 6'-8" WIDE AND LESS.



C S401 TYPICAL STEEL LINTEL BEARING DETAIL
3/4" = 1'-0"

LINTEL SCHEDULE

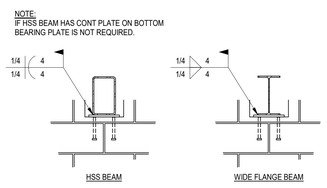
MARK	DEPTH	HORIZ REINFORCING	JAMB REINFORCING EACH SIDE OF OPENING
ML8	8"	(2) #5 BOT CONT	1 CELL W/ #5 VERT
ML16	16"	(2) #5 BOT CONT	2 CELLS W/ #5 VERT PER CELL
ML24	24"	(2) #5 CONT TOP & BOT	3 CELLS W/ #5 VERT PER CELL



NOTES:
1. PROVIDE CONTROL JOINTS OFFSET 24" FROM OPENING ON BOTH SIDES OF OPENINGS WIDER THAN 6'-8" AND ON ONE SIDE OF OPENINGS 6'-8" WIDE AND LESS.
2. REINFORCING SHALL HAVE 1/2" MINIMUM GROUT COVER TO SURFACE OF BOND BEAM.
3. REINFORCING SHALL BE LOCATED 3" MAXIMUM FROM BOTTOM OF LINTEL BLOCK.

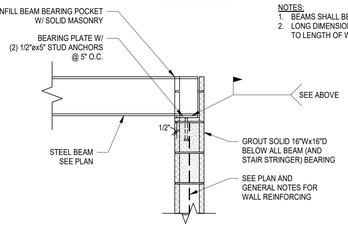
D S401 TYPICAL MASONRY LINTEL BEARING DETAIL
3/4" = 1'-0"

NOTE:
IF HSS BEAM HAS CONT PLATE ON BOTTOM BEARING PLATE IS NOT REQUIRED.



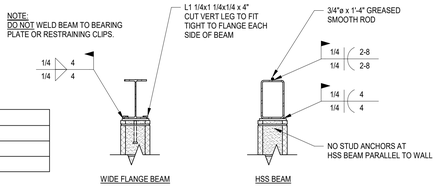
MARK	SIZE
BP1	---
BP2	---
BP3	---

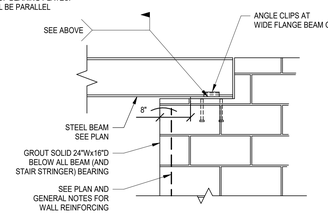
NOTES:
1. BEAMS SHALL BEAR FULL LENGTH OF BEARING PLATES.
2. LONG DIMENSION OF PLATES SHALL BE PARALLEL TO LENGTH OF WALL U.N.O.



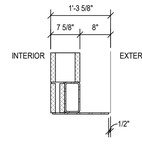
DETAIL AT BEAM PERPENDICULAR TO WALL

NOTE:
DO NOT WELD BEAM TO BEARING PLATE OR RESTRAINING CLIPS.

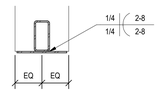




DETAIL AT BEAM PARALLEL TO WALL



TYPE 1



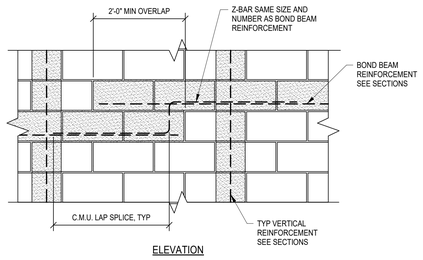
TYPE 3

NOTES:
1. LINTELS SHALL BEAR DIRECTLY ON SOLID MASONRY, WITHOUT BEARING PL, U.N.O. BEAR LINTELS 8" ON PARALLEL WALLS AND 5" ON PERPENDICULAR WALLS, U.N.O.
2. WHERE COLUMN FACE OCCURS IN PLANE OF WALL WITHIN 16" OF OPENING, CONNECT LINTEL DIRECTLY TO COLUMN PER DETAIL X/S401.
3. EXTEND PLATES FULL LENGTH OF LINTELS. COPE PLATE 3/4"x EXTENSION OVER MASONRY (BEARING LENGTH + VENEER RETURN IF APPLICABLE) FOR MORTAR IN BED JOINT EXCEPT OVER BEARING ON WALL PERPENDICULAR TO LINTEL.
4. PROVIDE 1/2"ø x5" STUD ANCHORS @ 48" O.C. TO TOP FLANGE OF ALL LINTELS IN EXTERIOR WALLS REGARDLESS OF LENGTH AND LINTELS IN INTERIOR WALLS WHERE OPENING IS WIDER THAN 8'-0".
5. PROVIDE 3/4"ø x1'-4" GREASED ROD WELDED AT EACH END OF LINTEL.
6. GALVANIZE ALL LINTEL PLATES LOCATED IN EXTERIOR WALLS.
7. FIELD VERIFY PLATE WIDTHS FOR EXISTING WALLS.
   WIDTH = WALL WIDTH - 1".

LINTEL SCHEDULE

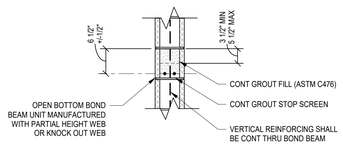
MARK	TYPE	SIZE	JAMB REINFORCING EACH SIDE OF OPENING	REMARKS
L1	1	HSS8x4x1/4 + GALV PL 3/8x14 5/8	(2) #5	FIELD VERIFY PL WIDTH = WALL THICKNESS - 1"
L2	1	HSS12x8x1/4 + GALV PL 3/8x18 1/4	(3) #5	

E S401 TYPICAL BEAM BEARING ON MASONRY DETAIL
3/4" = 1'-0"

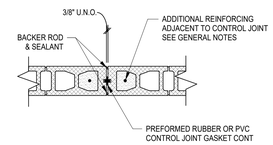


ELEVATION

F S401 TYPICAL LINTEL SCHEDULE
3/4" = 1'-0"



NOTES:
1. MORTAR WEBS OF BLOCK AT VERTICAL REINFORCING TO PREVENT GROUT FROM FLOWING INTO THE ADJACENT CELL.
2. UNLESS OTHERWISE SHOWN OR NOTED, REINFORCING SHALL BE PLACED IN THE BOTTOM OF THE BOND BEAM AS SHOWN IN THIS DETAIL. WHERE REINFORCING IS SHOWN OR NOTED TO BE IN THE TOP OF THE BOND BEAM, BAR LOCATION SHALL BE 6 1/2"± 1/2" FROM THE BOTTOM OF THE BOND BEAM AND THE BOND BEAM UNIT SHALL BE INVERTED SUCH THAT THE REMAINING WEB IS IN THE BOTTOM.
3. REINFORCING SHALL HAVE 1/2" MINIMUM GROUT COVER TO ALL C.M.U. SURFACES.
4. GROUT STOP SCREEN SHALL BE DUR-O-STOP AS MANUFACTURED BY DUR-O-WAL OR OTHER APPROVED EQUIVALENT.
5. USE LINTEL BLOCK WHERE BOND BEAM OCCURS DIRECTLY ABOVE WINDOW, DOOR OR LOUVER OPENING.



NOTES:
1. HORIZONTAL JOINT REINFORCING IN BLOCK AND BRICK SHALL BE DISCONTINUOUS AT CONTROL JOINTS.
2. SEE ARCHITECTURAL DRAWINGS FOR CONTROL JOINT LOCATIONS.
3. UNLESS OTHERWISE SHOWN OR NOTED, SPACING OF CONTROL JOINTS SHALL NOT EXCEED 25 FEET AT EXTERIOR WALLS AND 32 FEET AT INTERIOR WALLS.

G S401 TYPICAL C.M.U. BOND BEAM STEP DETAIL
3/4" = 1'-0"

H S401 TYPICAL C.M.U. BOND BEAM DETAIL
3/4" = 1'-0"

J S401 TYPICAL C.M.U. CONTROL JOINT DETAIL (C.J.)
3/4" = 1'-0"

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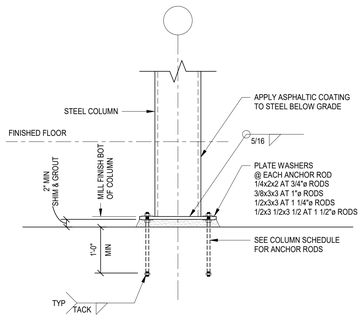
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TYPICAL FRAMING DETAILS

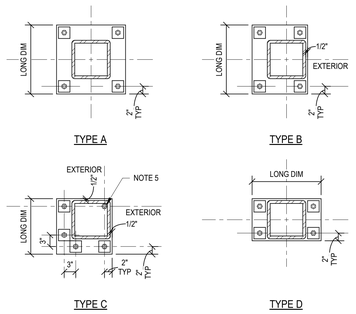
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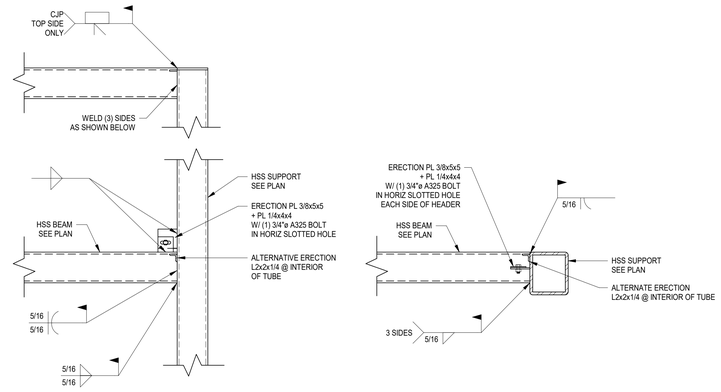
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CHECKED: ZJW

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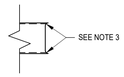


NOTES:
1. GROUT SHALL BE 8,000 P.S.I. NON-SHRINK, NON-METALLIC GROUT.
2. LEVELING PLATES ARE OPTIONAL.
3. ANCHOR RODS SHALL BE ASTM F1554 MATERIAL. ROD WITH NUTS AND WASHERS AS SHOWN. WELD BOTTOM NUT (BELOW) TO ANCHOR ROD PRIOR TO INSTALLING ROD.
4. HOLES IN BASE PLATES SHALL BE 5/16" OVERSIZE UNLESS NOTED OTHERWISE.
5. ANCHOR ROD BELOW COLUMN INTENDED FOR VERTICAL SUPPORT DURING ERECTION ONLY. NO TOP NUT/WASHER NEED BE PROVIDED (BASE PL TYPE C).





NOTES:
1. FIELD WELD SHALL BE MADE PRIOR TO APPLICATION OF ROOF OR WALL DEAD LOAD.
2. REMOVE ERECTION PLATES AFTER COMPLETION OF FIELD WELD. GRIND SMOOTH WHERE EXPOSED TO VIEW FROM ANY VANTAGE POINT.
3. WHERE BEAM WIDTH MATCHES SUPPORT WIDTH COPE BEAM AROUND SUPPORT CORNERS TO FIT SHAPE.
4. WHERE BEAM WIDTH IS NARROWER THAN SUPPORT FACE PROVIDE FILLET WELD ALL AROUND.
5. WHERE ABUTTING TUBE IS WIDER THAN SUPPORT, PROVIDE 3/8" THICK END PLATE MATCHING BEAM DIMENSIONS WITH PARTIAL PENETRATION GROOVE WELD ALL AROUND.
6. WELD AT ERECTION PLATES TO BE DETERMINED BY FABRICATOR/ERECTOR CONSIDERING ORIENTATION OF PL, MEMBER WEIGHTS, AND ERECTION FORCES.



A S402 TYPICAL STEEL COLUMN BASE PLATE SETTING DETAIL
3/4" = 1'-0"

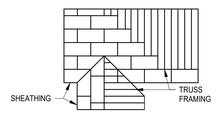
B S402 TYPICAL TUBE TO TUBE CONNECTION DETAIL
3/4" = 1'-0"

NAILING SCHEDULE

CONNECTION	LOCATION	MINIMUM NUMBER AND SIZE
TOP PLATE TO STUD	END NAIL	2 - 16d (AT 2x4 STUDS) 3 - 16d (AT 2x6 STUDS OR LARGER)
STUD TO SOLE PLATE	END NAIL END NAIL	2 - 16d (AT 2x4 STUDS) 3 - 16d (AT 2x6 STUDS OR LARGER)
	TOE NAIL	4 - 8d
DOUBLED STUD	FACE NAIL	16d @ 24" O.C. STAGGER EDGES
BUILT-UP CORNER STUD	FACE NAIL	16d @ 24" O.C.
DOUBLED TOP PLATE	FACE NAIL	16d @ 16" O.C. STAGGER EDGES
DOUBLE TOP PLATE LAP SPLICE	FACE NAIL	8 - 16d (24" MIN LAP)
CONTINUOUS HEADER, TWO PIECES	FACE NAIL	16d @ 16" O.C. EACH EDGE + 6 - 16d @ ENDS
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	TOE NAIL	3 - 8d
BAND BOARD TO TOP PLATE	TOE NAIL	8d @ 6" O.C.
BAND BOARD TO JOIST/RAFTER	END NAIL	3 - 16d
HORIZONTAL JOIST TO TOP PLATE	TOE NAIL	3 - 16d
COLLAR TIE TO PARALLEL RAFTER	FACE NAIL	3 - 10d
RAFTER/TRUSS TO PLATE	TOE NAIL	3 - 10d
RAFTER TO RIDGE	END NAIL	3 - 16d
	TOE NAIL	3 - 16d
ROOF SHEATHING TO TRUSS/PLATE/RAFTER	FACE NAIL	10d @ 6" O.C. EDGES AND 10d @ 12" O.C. INTERMEDIATE
FLOOR SHEATHING TO TRUSS/PLATE/JOIST + GLUE PER THE SPECIFICATIONS	FACE NAIL	10d @ 6" O.C. EDGES AND 10d @ 12" O.C. INTERMEDIATE
WALL SHEATHING TO STUD/BLOCKING/BAND BOARD	FACE NAIL	8d @ 6" O.C. EDGES AND 8d @ 12" O.C. INTERMEDIATE
WALL SHEATHING TO TOP/BOT PLATE	FACE NAIL	8d @ 4" O.C.

NOTES:
1. ABOVE NAILING TO BE PROVIDED IN ADDITION TO ANY METAL FRAMING ANCHORS SPECIFIED.
2. CONNECTIONS NOT IDENTIFIED SHALL BE FASTENED (NAILED) IN ACCORDANCE WITH IBC 2015 TABLE 2304.10.1.
3. NAIL SIZES SHALL BE "COMMON" U.N.O.

C S402 NAILING SCHEDULE
3/4" = 1'-0"



NOTES:
1. PROVIDE PANEL H-CLIPS AT ALL ROOF SHEATHING UNSUPPORTED EDGES: ONE CLIP PER SPAN.
2. APA PANELS SHALL BE MINIMUM OF TWO SPAN CONTINUOUS. ROOF SHEATHING SHALL RUN CONTINUOUS BELOW VALLEY JACK TRUSSES AT REVERSE GABLES.
3. NAIL ROOF SHEATHING TO TRUSS PER NAILING SCHEDULE.
4. ENDS OF ALL PANELS SHALL BEAR A MINIMUM OF 1/2" ONTO SUPPORTING MEMBER (TRUSS, RAFTER, ETC.).
5. PROVIDE A 1/8"± GAP BETWEEN THE ENDS OF ALL PANELS TO ALLOW FOR EXPANSION OF PANELS.
6. PANELS 12 INCHES OR WIDER SHOULD BE USED WHENEVER POSSIBLE. FOR PANEL WIDTHS GREATER THAN 16 INCHES BUT LESS THAN 24 INCHES, PROVIDE TWO PANEL H-CLIPS EQUALLY SPACED BETWEEN EACH PAIR OF SUPPORTS ALONG PANEL EDGE OR 2x WOOD BLOCKING CONTINUOUS ALONG EDGES. FOR PANEL WIDTHS GREATER THAN 12 INCHES BUT LESS THAN 16 INCHES, PROVIDE 2x WOOD BLOCKING CONTINUOUS ALONG EDGES. FOR PANELS WIDTHS 12 INCHES OR LESS, PROVIDE 2x WOOD BLOCKING CONTINUOUS ALONG BOTH EDGES, REGARDLESS OF ADJACENT RIDGE OR VALLEY.

D S402 ROOF SHEATHING LAYOUT
3/4" = 1'-0"

NOT FOR CONSTRUCTION

100% DD

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GARRARD COUNTY DUGOUTS AND PRESS BOX
FINAL PHASE
FOR THE
GARRARD COUNTY BOARD OF EDUCATION
TYPICAL FRAMING DETAILS

DATE: MAY 11, 2022
REVISED 1 2 3 4 5

SHEET S402
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DRAWN: MSC, GMD
CHECKED: ZJW

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