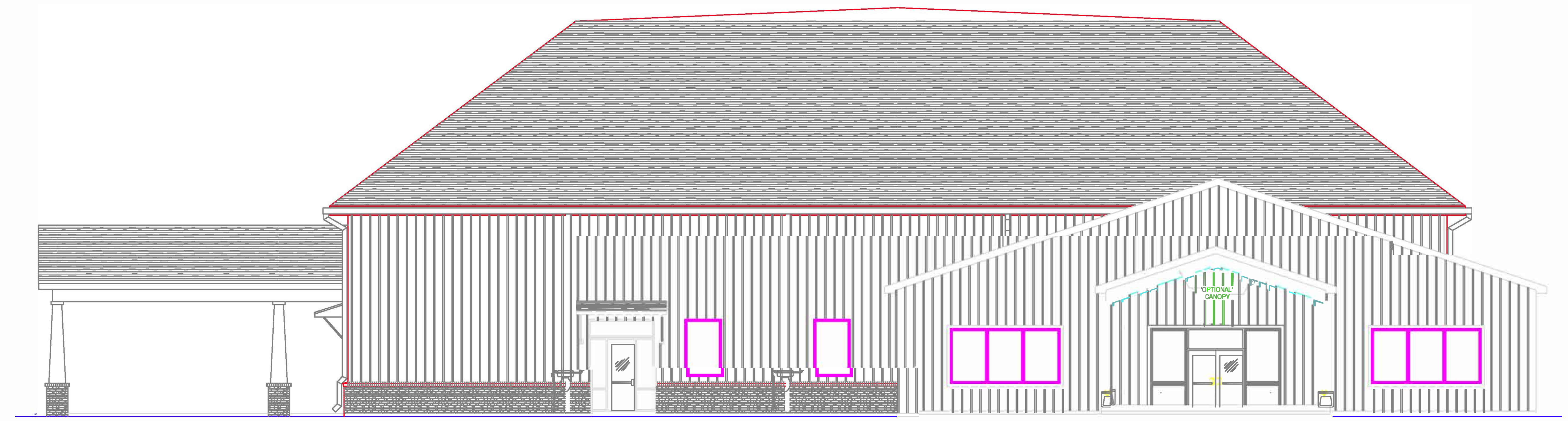
Drawing Index



SECOND FLOOR BUILD-OUT CLASSROOMS
for:
BELMONT ACADEMY CHARTER SCHOOL

1476 SW WALTER AVENUE
COLUMBIA COUNTY, FLORIDA

PROJECT CONTACTS

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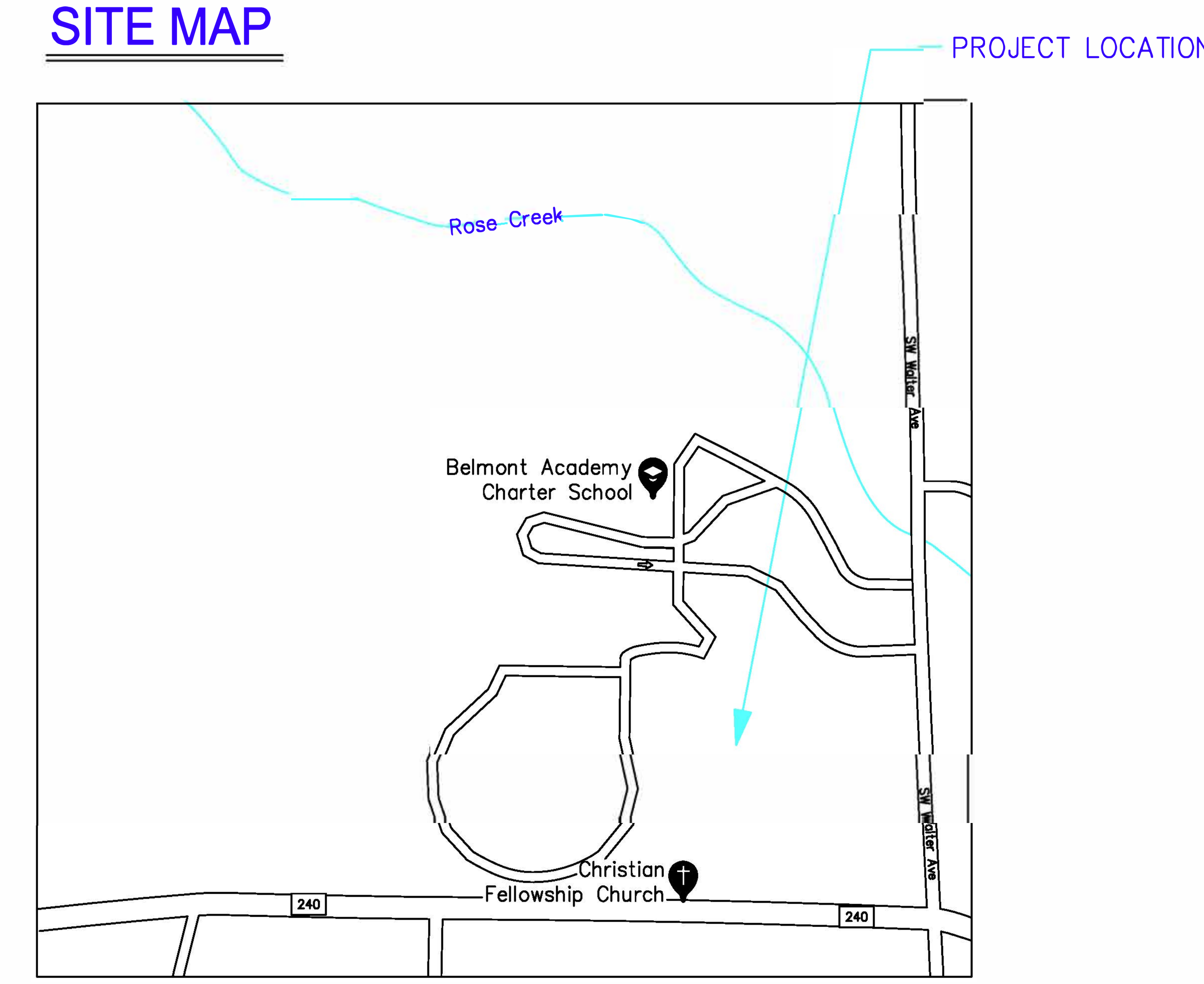
#PE 00049347

DESIGN DATA / BUILDING CODES:

BUSINESS OCCUPANCY: GROUP 'E' - EDUCATIONAL	
MAXIMUM OCCUPANCY: 316 PERSONS	
MEANS OF EGRESS CAPACITY: 150 PER 3/0 DOOR. MAX TRAVEL DISTANCE: < 125'	
TYPE OF CONSTRUCTION: TYPE VI, PROTECTED (SPRINKLERED)	
PROPOSED AREA: 8,262 FT2 TOTAL CONDITIONED SPACE	
PROPOSED HEIGHT: 1 STORY	
BUILDING IS NOT IN A FLOOD ZONE	
BUILDING IS NOT IN THE HIGH VELOCITY HURRICANE ZONE	
BUILDING IS NOT IN THE WIND-BORNE DEBRIS REGION	
SCOPE OF WORK HAS BEEN DESIGNED AND SHALL BE CONSTRUCTED WITH THESE APPLICABLE CODES:	
Florida Building Code, Building (FBC-B)	2014 Edition
Florida Building Code, Mechanical (FBC-M)	2014 Edition
Florida Building Code, Fule Gas (FBC-FG)	2014 Edition
Florida Building Code, Plumbing (FBC-P)	2014 Edition
Florida Building Code, Existing Building (FBC-EB)	2014 Edition
Florida Fire Prevention Code (FFPC)	Latest Edition
National Electrical Code (NEC)	Latest Edition

PER FLORIDA BUILDING CODE 2014, SECTION 1609.2 (FOR ENCLOSED SIMPLE DIAPHRAGM BUILDINGS WITH FLAT, HIPPED AND GABLE-SHAPED ROOFS HAVING A MEAN ROOF HEIGHT NOT EXCEEDING THE LEAST HORIZONTAL DIMENSION OF THE BUILDING OR 60 FT; NOT SITED ON THE UPPER HALF OF A HILL OR ESCARPMENT 60FT IN EXPOSURE B, 30FT IN EXPOSURE C AND >10% SLOPE AND UNOBSTRUCTED UPWIND FOR 50x HEIGHT OR 1 MILE WHICHEVER IS LESS.)

SITE MAP



REVISIONS
Sept. 1 2020

BELMONT ACADEMY FOR...
2ND FLOOR EXPANSION FOR
BELMONT ACADEMY CHARTER SCHOOL
1476 SW WALTER AVE LAKE CITY, FLORIDA 32024

CONSULTING ENGINEERING GROUP INTERNATIONAL

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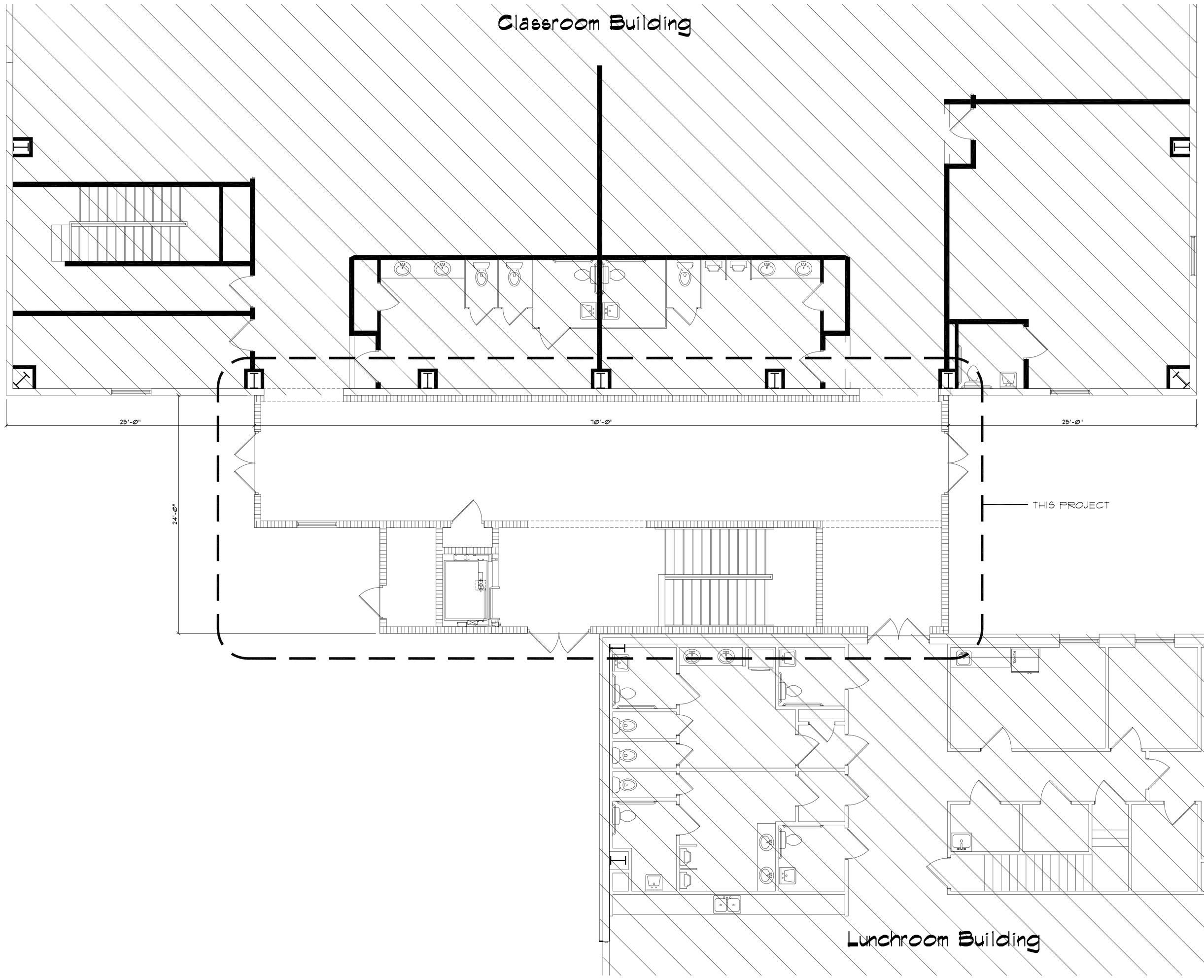
A.4



Building Interface PLAN

SCALE: 3/16" = 1'-0"

REVISIONS

SOFTPLAN ARCHITECTURAL DESIGN SOFTWARE

2nd FLOOR EXPANSION for

BELMONT ACADEMY

C.R. 240, COLUMBIA COUNTY, FLORIDA

AR0007005

Celebrating 48 Years of Service
1972 - 2020
N.P. Geisler, Architect
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JOB NUMBER
2K1403

DATE:
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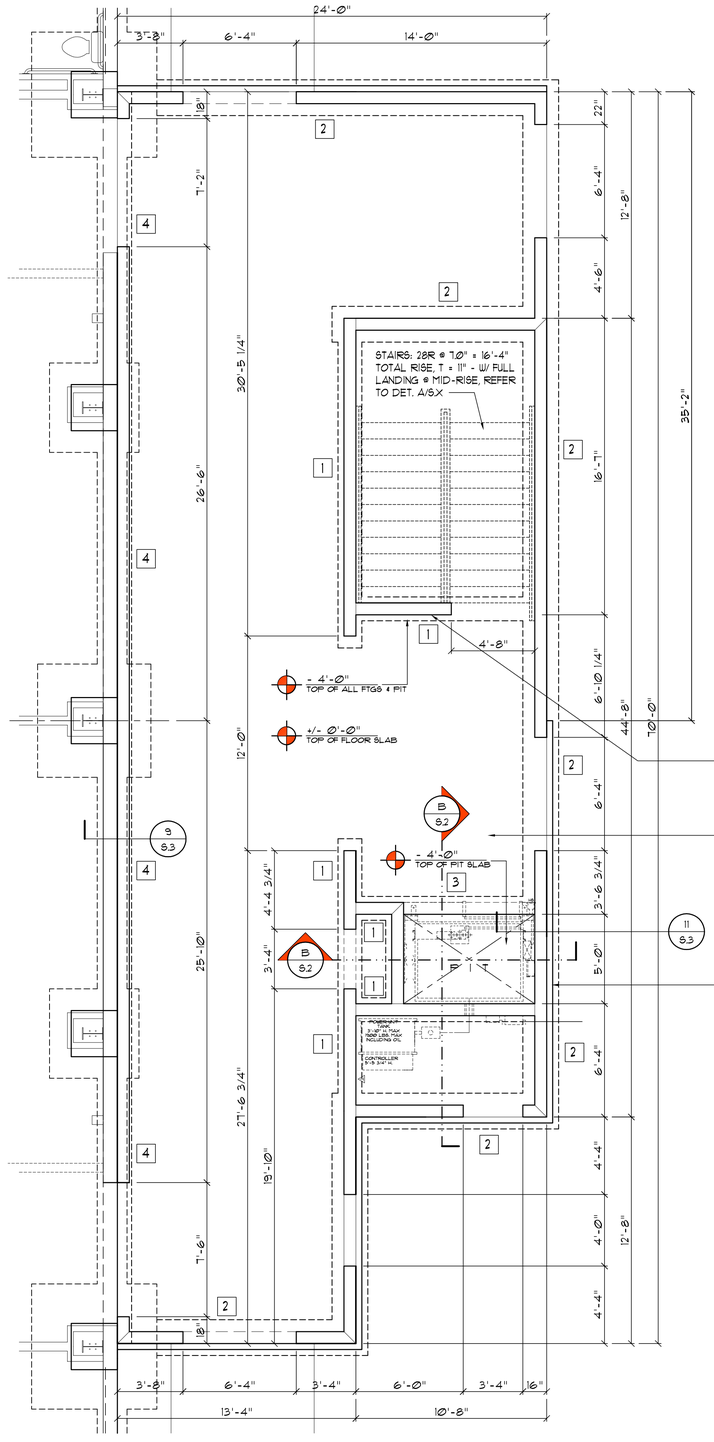
SHEET NUMBER
S.0

OF 6 SHEETS



ELEVATOR INSTALLATION REQUIREMENTS

THE FOLLOWING CONDITIONS MUST BE MET BEFORE INSTALLATION IS COMPLETED, AND ARE NOT INCLUDED IN THE ELEVATOR CONTRACT

1. A PLUMB, PROPERLY VENTILATED HOISTWAY (ACCORDING TO CODE AND SIZES SHOWN)

2. ADEQUATE SUPPORT FOR JACK, GUIDE RAIL BRACKETS, AND BUFFERS (FOR REACTIONS SHOWN)

3. HOISTWAY BARRICADES AND ALL CUTTING AND PATCHING TO INSTALL HOISTWAY ENTRANCES, SILLS, HALL FIXTURES, OIL, AND ELECTRIC LINES.

4. PIT LIGHTS AND SWITCH, CONVENIENCE OUTLETS WITH GFCI PROTECTION PER NEC, PIT LADDER PER CAR (ACCORDING TO CODE) NOTE: MUST BE CLEAR OF ALL ELEVATOR EQUIPMENT.

5. DEDICATED 12Ø VOLT, 15 AMP SERVICE, ALONG WITH TELEPHONE CIRCUIT WHEN REQUIRED TO TERMINALS OF EACH REQUIRED CONTROLLER (AS LOCATED ON PLAN VIEW) FOR THE FOLLOWING: - CAR LIGHT AND ALARM CIRCUIT WITH GFCI PROTECTION PER NEC - GROUP CONTROL WHEN REQUIRED NOTE: IF STANDBY POWER IS SUPPLIED TO ELEVATOR, CAR LIGHT AND ALARM CIRCUIT AND GROUP CONTROL SERVICE MUST BE STANDBY POWER BACKED

6. AN ENCLOSED MACHINE AREA (ACCORDING TO CODE), WITH ADEQUATE LIGHT, HEAT AND VENTILATION (MIN. 50°F, MAX. 90°F WITH NON-CONDENSING HUMIDITY OF 10-90%) AND SEALED CONCRETE FLOOR SLAB SURFACE. NOTE: MUST PROVIDE ADEQUATE DOOR SIZE TO ALLOW INSTALLATION OF EQUIPMENT, OR LEAVE WALL OUT UNTIL EQUIPMENT IS IN PLACE.

7. ENTRANCE WALL WITH LINTELS MUST BE PROVIDED AFTER ENTRANCE FRAMES ARE SET OR LEAVE A ROUGH OPENING 15" WIDER AND 15" HIGHER THAN THE FRAME OPENING. SEE INSTALLATION PROCEDURES FOR FRAME-TO-WALL INTERFACE DETAILS TO ENSURE CONFORMANCE WITH THE LABELED ENTRANCE INTERFACE CONSTRUCTION.

8. POCKETS IN CORRIDOR WALL FOR HALL FIXTURES. NOTE: MUST BE LOCATED AS DIRECTED BY ELEVATOR CONTRACTOR

9. SMOKE SENSORS (AS REQUIRED)

10. CONDUIT AND WIRING FROM HOISTWAY TO ELEVATOR MONITORING PANELS (FOR SECURITY, LIFE SAFETY, OR FIRE REQUIREMENTS)

11. PIPE SLEEVES, TRENCHING, AND BACK FILLING FOR OIL AND/OR CONDUIT LINES AS SHOWN OR LOCATED BY ELEVATOR CONTRACTOR.

12. ELEVATOR MEETS ASME A17.1 2007 CODE.

INTERIOR AND INTERFACE WALLS:
8" CMU WALL W/ 1 #5 REBAR TIED TO THE FND DOWEL BELOW AND TO THE BOND/TIE BEAM, ABOVE, @ 48" O.C. AND AT CORNERS/INTERSECTIONS - BOND BEAM SHALL BE 8" X 8" W/ 2 #5 REBAR, TIE BEAMS PER SCH.

4" SMOOTH STEELED TROWLLED CONC. SLAB, W/ 6X6, 10/10 WWM, DBL'D AT SLAB EDGE, PER PLAN W/ FIBERMESH REINFORCING, OVER 6 MIL PLASTIC SHEETING, ON CLEAN, WELL COMPACTED SAND FILL TERMITE TREATED
NOTE!
LAP EDGES OF 6 MIL VAPOR BARRIER MIN. 6" - SEAL ALL JOINTS, TEARS AND PIPING FENETRATIONS WITH DUCT TAPE

OUTSIDE PERIMETER WALLS:
12" / 8" CONC. BLOCK WALL, W/ CONC. FILLED CELLS, REINFORCED W/ 1 #5 REBAR HOOKED TO THE FOOTING BELOW AND TO THE BOND/TIE BEAM, ABV., @ 48" O.C., PROVIDE HORZ. 9 GA. LADDER JOINT REINFORCEMENT @ 16" O.C. VERTICALLY (ALTERNATING BLOCK COURSES) BOND BEAM SHALL BE 8" X 8" W/ 2 #5 REBAR, TIE BEAMS PER SCHEDULE

FOOTING SCHEDULE

1	16" X 12" X CONT., MONO., FOOTING, W/ 2 #5 REBAR, BOT. X CONT.
2	24" X 12" X CONTINUOUS, FOOTING, W/ 3 #5 REBAR, BOT. X CONT.
3	116" X 84" X 12" PAD FOOTING, W/ #5 REBAR @ 12" O.C., TOP & BOTTOM, EA. WAY,
4	5½" X 16" X CONT. FOOTING EXTENTION, W/ 1 #5 REBAR X CONT. & #4 HOOKS @ 32" O.C. REFER TO DETAIL 10/S.3

TIE BEAM SCHEDULE

MARK	TOP ELEV.	SIZE	TOP REINF'G	BOT. REINF'G	#3 STIRRUPS, EA. END OF BEAM	NOTES
TB-1	16'-1½"	8 X 13½	2 #5	2 #5	-	10" X 5½" X 2½" DP. B.J. PKTS @ 48" O.C.
TB-2	16'-1½"	8 X 13½	2 #5	2 #5	-	10" X 8" X 2½" DP. B.J. PKTS @ 48" O.C.
TB-3	16'-1½"	8 X 13½	2 #5	2 #5	-	EXTEND REINF'G INTO ADJACENT TB, 1/4 SPAN
TB-4	16'-4"	8 X 16	2 #5	2 #5	-	EXTEND REINF'G INTO ADJACENT TB, 1/4 SPAN
TB-5	12'-Ø"	8 X 16	2 #5	2 #5	-	EXTEND REINF'G INTO ADJACENT TB, 1/4 SPAN

TB-1, TB-2 - EFFECTIVE DEPTH = 11", REFER TO DETAIL, BELOW FOR POCKETS
NOTE: Nr. 5 CORNER BARS W/ MINIMUM 40 BAR DIAMETER LAP SPLICE MAY BE USED WHERE ADJ. TIE BEAM FORMS A CORNER

P/C CONC. LINTELS

8" PRECAST & PRESTRESSED U-LINTELS

MARK	SPAN (LENGTH)	TYPE	GRAVITY 8U8	GRAVITY 8F8-2B
L11	4'-Ø" (48")	PRECAST	2Ø29	8F8-1B: 2325; 2646
L12	4'-8" (64")	PRECAST	2Ø29	2325; 2646
L13	6'-4" (84")	PRECAST	937	1255
L14	7'-Ø" (92")	PRECAST	767	1Ø29
L15	7'-2" (94")	PRECAST	767	1Ø29
L16	7'-4" (96")	PRECAST	767	1Ø29
L17	7'-6" (98")	PRECAST	767	1Ø29
L18	12'-Ø" (152")	PRECAST	414	549; 555

8" PRECAST W/ 2" RECESS DOOR U-LINTELS

MARK	SPAN (LENGTH)	TYPE	GRAVITY 8R16	GRAVITY 8RF6-2B
L21	3'-4" (52")	PRECAST	1489	8RF6-1B: 1561; 1827

TYPE DESIGNATION

8F16-1B

- 8F16-1B: NOMINAL WIDTH / NOMINAL HEIGHT
- F = FILLED WITH GROUT / U = UNFILLED
- QUANTITY OF #5 REBAR AT BOTTOM OF LINTEL CAVITY

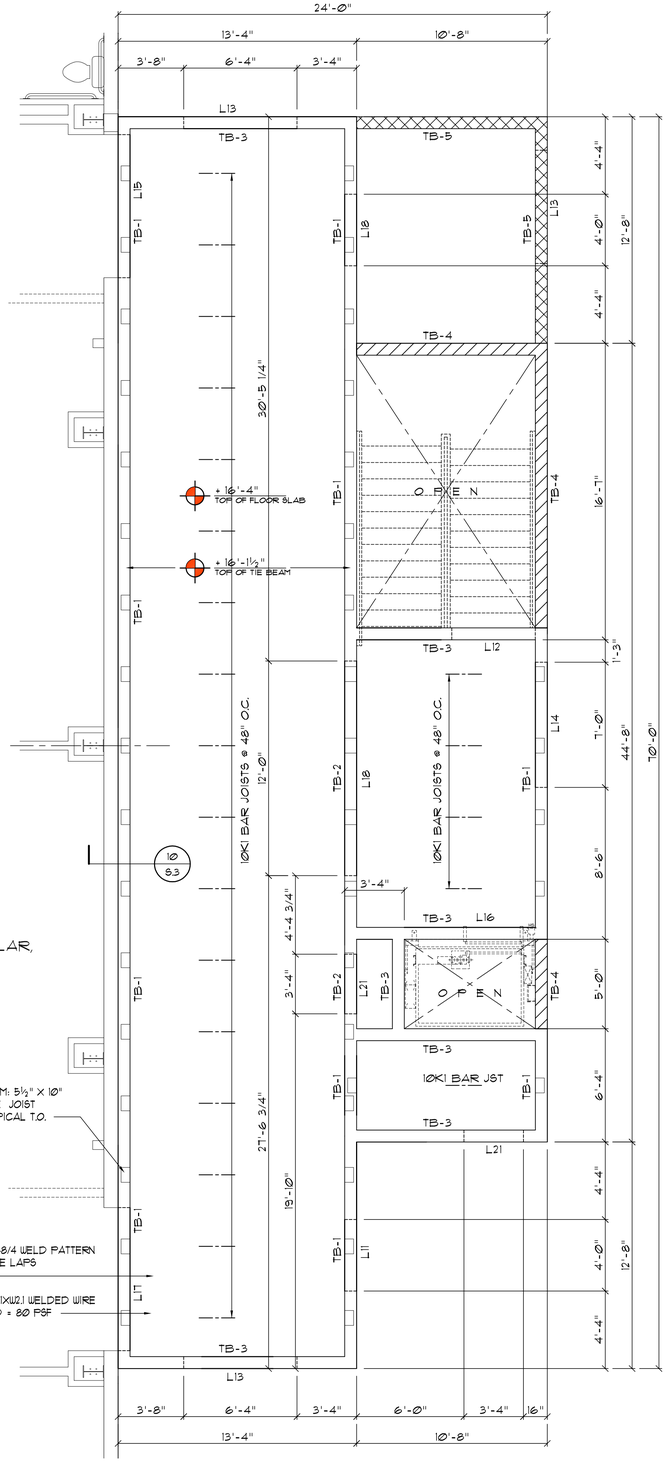
Tie Beam DET. A

SCALE: 1" = 1'-Ø"

FORM A JOIST SEAT POCKET IN TOP OF TIE BEAM: 5½" X 1Ø" X 2½" DEEP W/ A CAST-IN-PLACE STEEL ANGLE JOIST BEARING/WELD PLATE - SEE DETAIL ON S2, TYPICAL T.O.

PROVIDE STEEL DECKING: 1ØC22 CONFORM W/ 48/4 WELD PATTERN (5/8" PUDDLE WELDS) & #1Ø TEC SCREWS AT SIDE LAPS @ 8" O.C., TYPICAL THROUGH OUT

2 1/2" CONCRETE DECK, REINFORCED W/ 6X6 W2.1XW2.1 WELDED WIRE MESH - MAX. ALLOWABLE SUPERIMPOSED LOAD = 80 PSF



Foundation PLAN

SCALE: 1/4" = 1'-Ø"

2nd Floor Framing PLAN

SCALE: 1/4" = 1'-Ø"

REVISIONS
1

SOFTPLAN ARCHITECTURAL DESIGN SOFTWARE

2nd FLOOR EXPANSION for
BELMONT ACADEMY
C.R. 240 COLUMBIA COUNTY, FLORIDA

AR0007005

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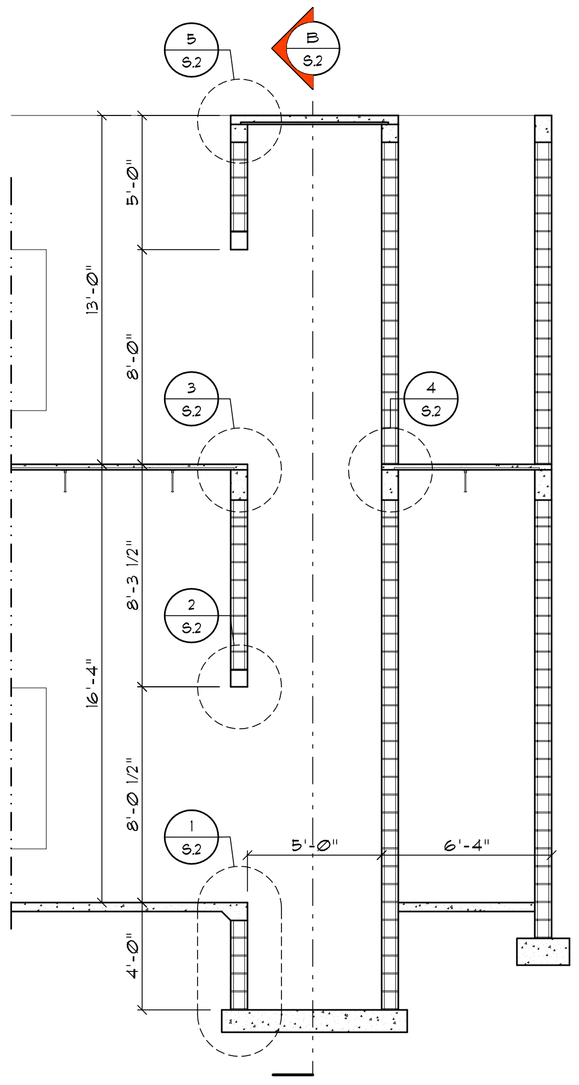
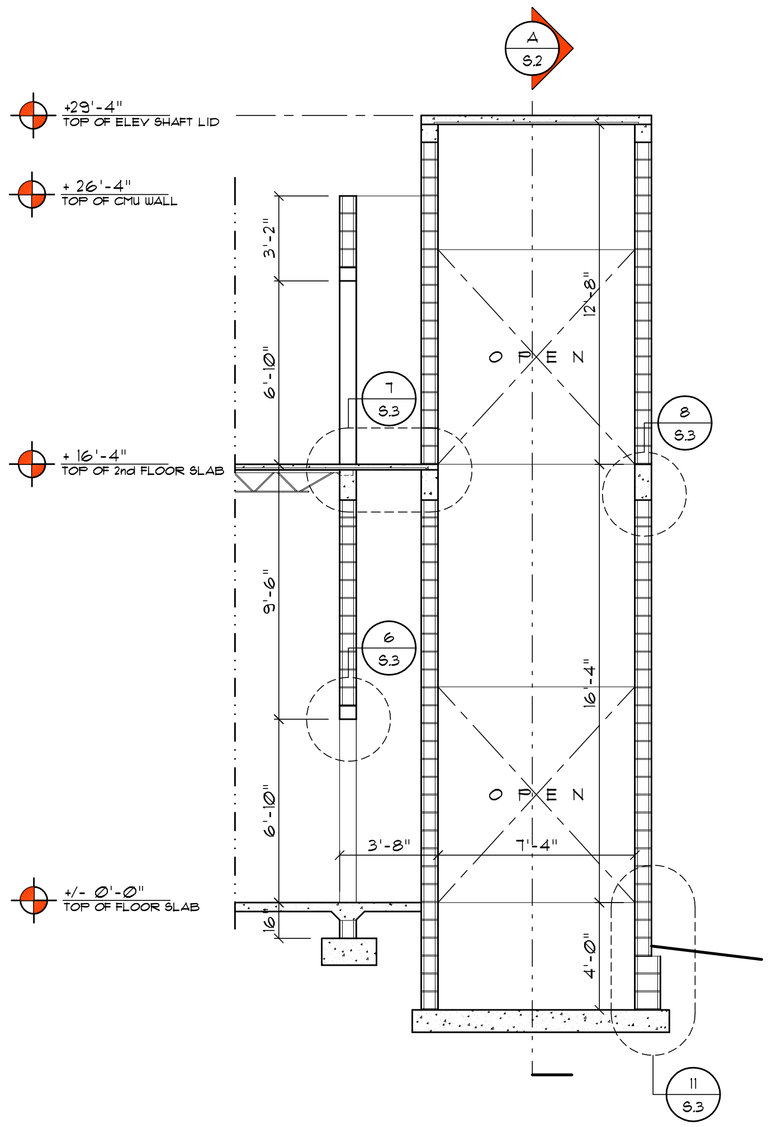


Elevator Shaft SECTION

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

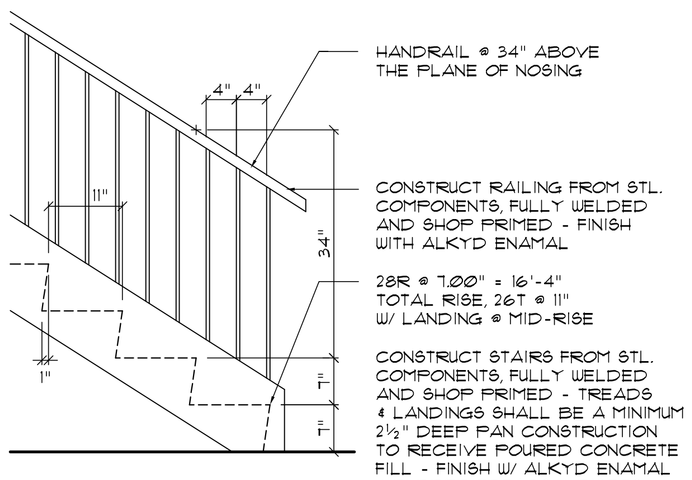
A



Elevator Shaft SECTION

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

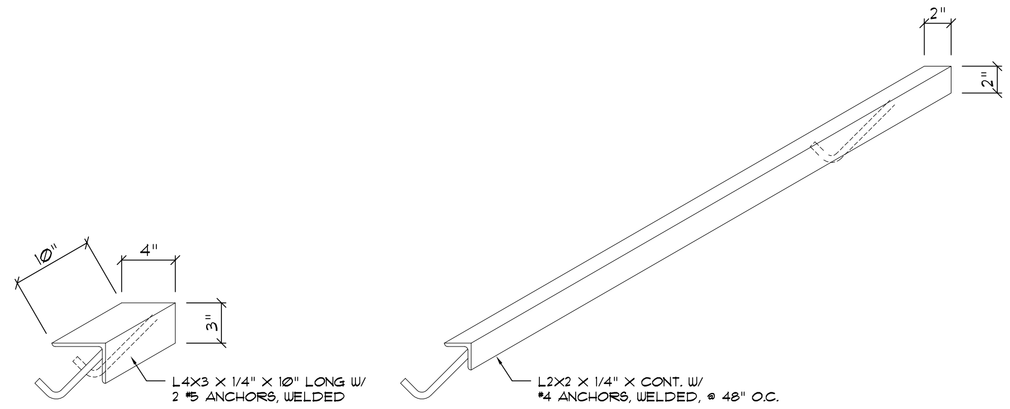
B



Stair DETAIL

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

C



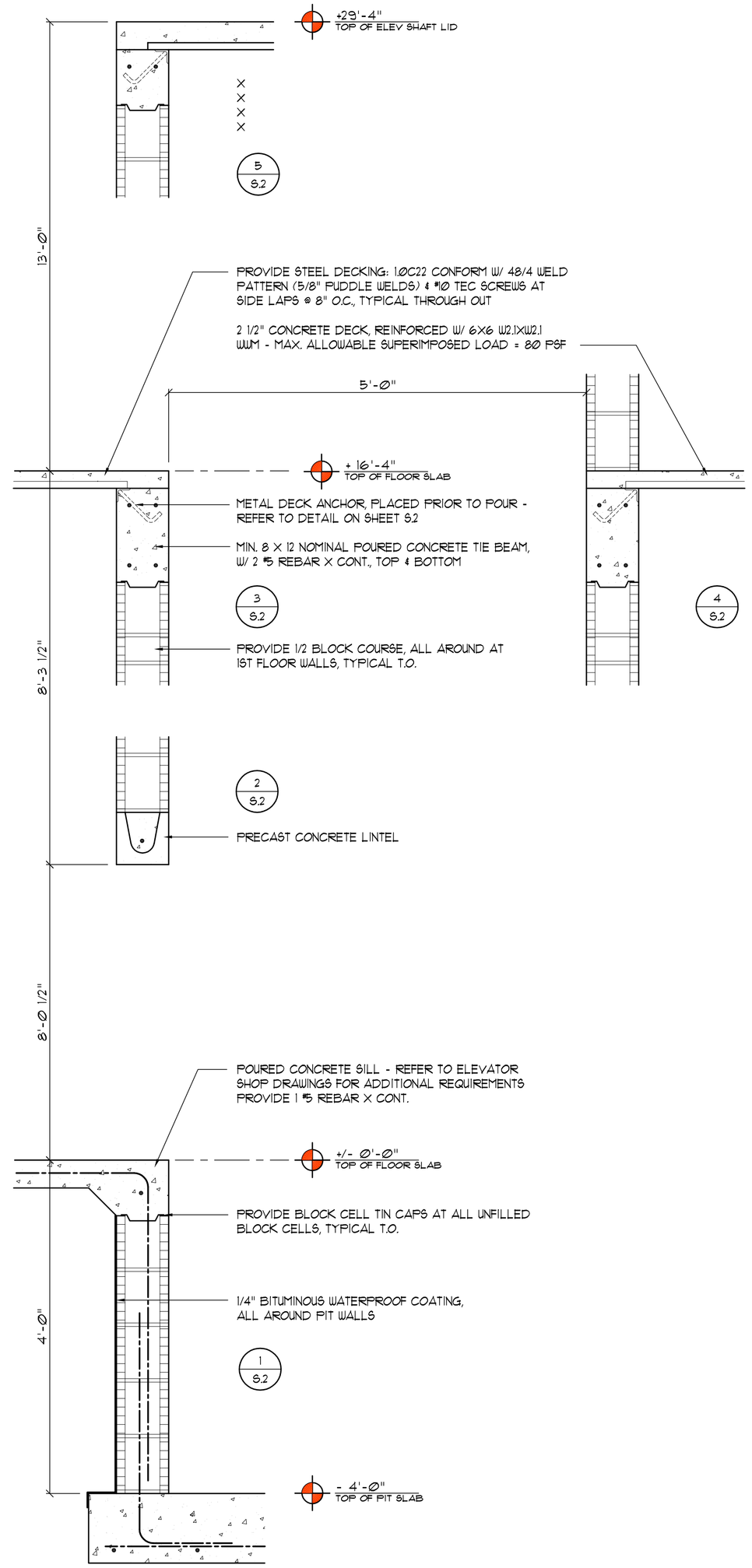
Jst Seat DET.

Deck Anchor DET.

Embedded Anchor DETAILS

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

D



Elevator Shaft Section "A" DETAILS

SCALE: 1" = 1'-0"

E

REVISIONS

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SOFTPLAN ARCHITECTURAL DESIGN SOFTWARE

2nd FLOOR EXPANSION for

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AR0007005

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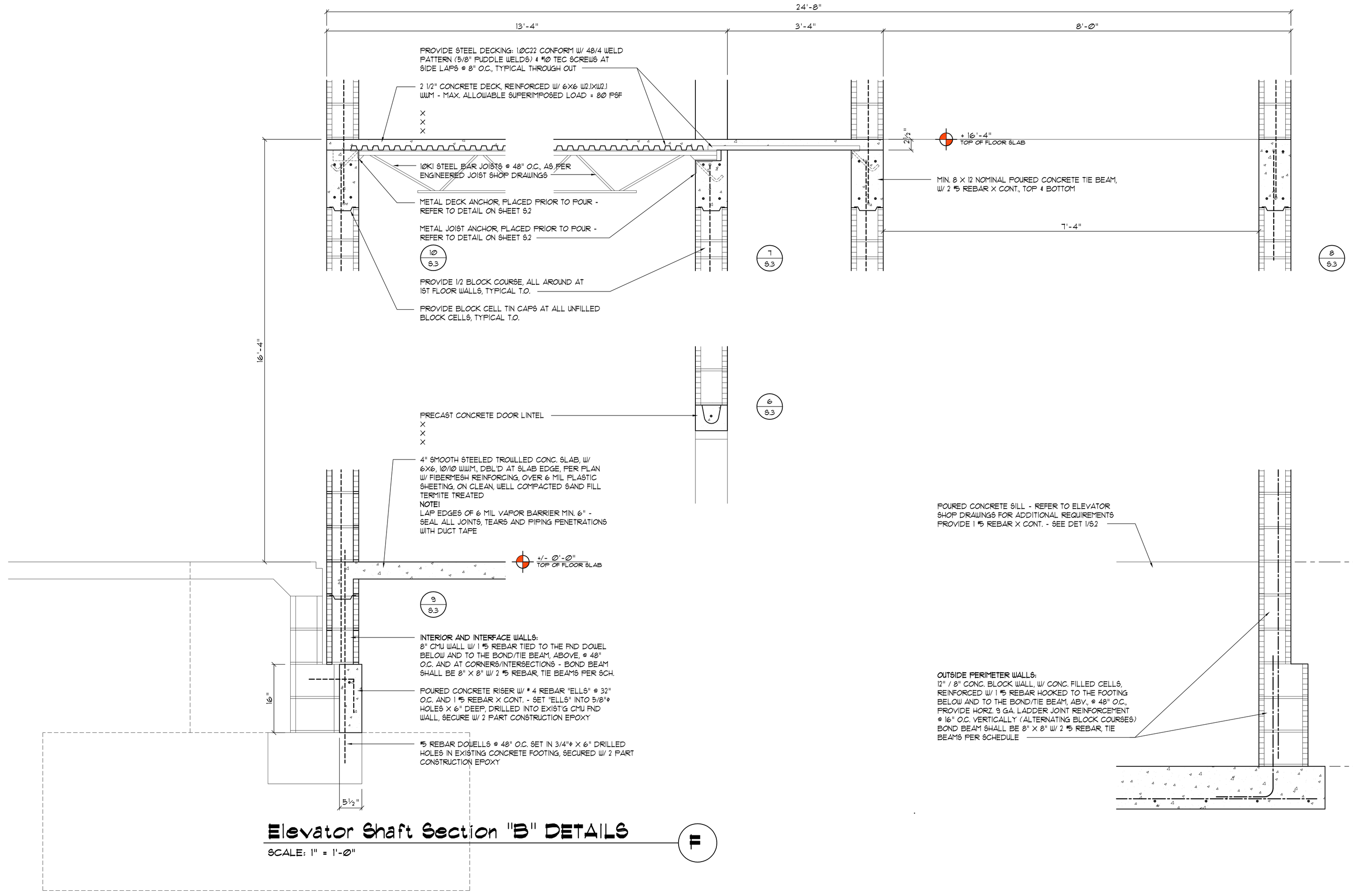

Elevator Shaft Section "B" DETAILS

F

SCALE: 1" = 1'-0"

REVISIONS

1

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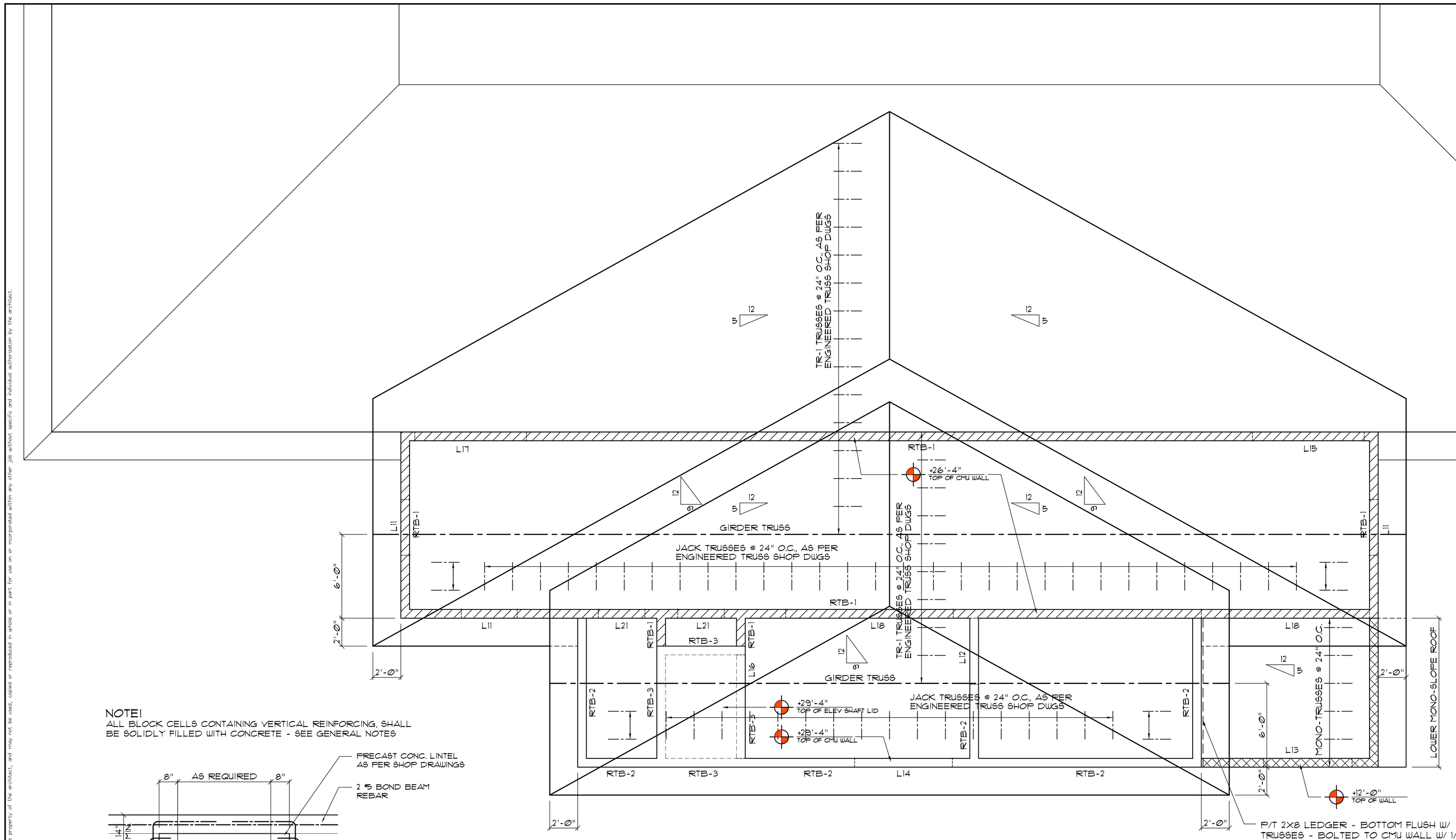
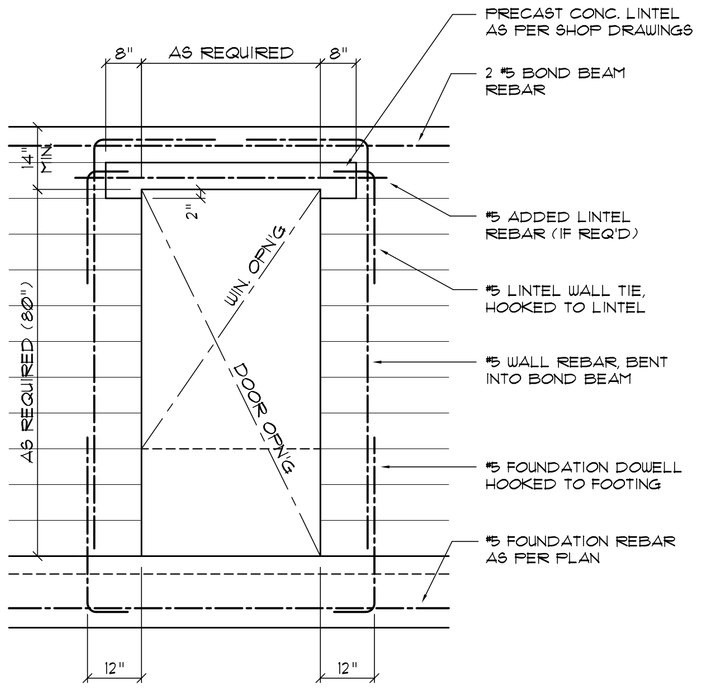


NOTE!
ALL BLOCK CELLS CONTAINING VERTICAL REINFORCING, SHALL BE SOLIDLY FILLED WITH CONCRETE - SEE GENERAL NOTES



NOTE!
REFER TO GENERAL NOTES FOR LAP SPLICE AND HOOK MINIMUM LENGTH/SIZE - ALL PER ACI 318-LATEST

Typical Door/Window Opening Reinforcing DET. A

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

Roof PLAN

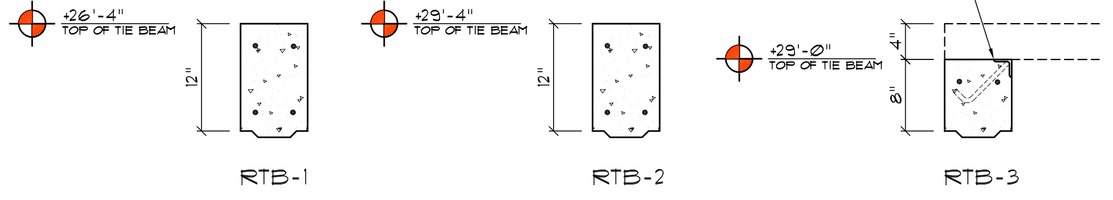
SCALE: 1/4" = 1'-0"

P/T 2X8 LEDGER - BOTTOM FLUSH W/ TRUSSES - BOLTED TO CMU WALL W/ 1/2"ø ANCHOR BOLTS W/ 2"ø WASHERS & NUTS @ MAX. 24" O.C.

TIE BEAM SCHEDULE

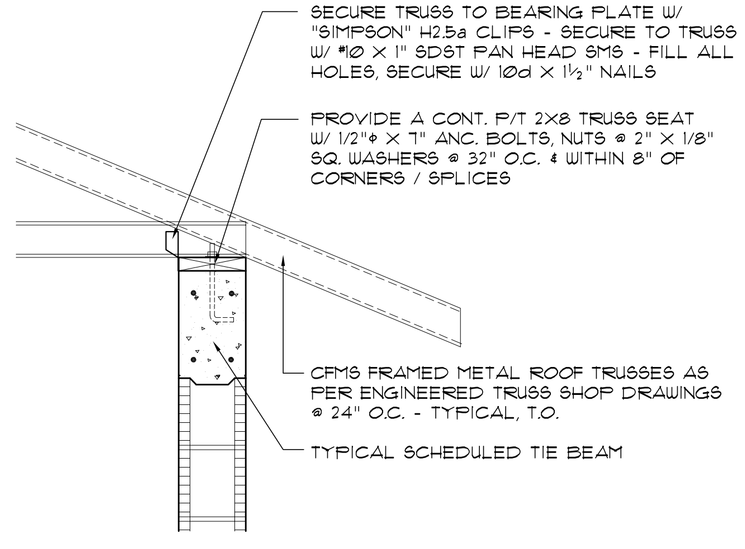
MARK	TOP ELEV.	SIZE	TOP REINF'G	BOT. REINF'G	#3 STIRRUPS, EA. END OF BEAM	NOTES
RTB-1	26'-4"	8 X 12	2 #5	2 #5	-	EXTEND REINF'G INTO ADJACENT TB 1/4 SPAN
RTB-2	29'-0"	8 X 8	2 #5	-	-	EXTEND REINF'G INTO ADJACENT TB 1/4 SPAN
RTB-3	29'-4"	8 X 12	2 #5	2 #5	-	EXTEND REINF'G INTO ADJACENT TB 1/4 SPAN

NOTE: Nr. 5 CORNER BARS W/ MINIMUM 40 BAR DIAMETER LAP SPLICE MAY BE USED WHERE ADJ. TIE BEAM FORMS A CORNER



Tie Beam DET. B

SCALE: 1" = 1'-0"



Truss Anc. DET. C

SCALE: 1" = 1'-0"

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OF 6 SHEETS

GENERAL STRUCTURAL NOTES

GENERAL:

1. THE DRAWINGS ARE INTENDED TO SHOW THE GENERAL ARRANGEMENT, DESIGN AND EXTENT OF THE WORK AND ARE PARTIALLY DIAGRAMMATIC. THEY ARE NOT INTENDED TO BE SCALED FOR ROUGH-IN MEASUREMENTS, OR TO SERVE AS SHOP DRAWINGS OR PORTIONS THEREOF.

2. ALL DETAILS AND SECTIONS SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL BE CONSTRUED TO APPLY TO ANY SIMILAR SITUATION ELSEWHERE ON THE PROJECT, EXCEPT WHERE A DIFFERENT DETAIL OR SECTION IS SHOWN.

3. PRIOR TO START OF CONSTRUCTION, THE CONTRACTOR AND ALL THE SUBCONTRACTORS SHALL VERIFY ALL GRADES, LINES, LEVELS, DIMENSIONS AND COORDINATE EXISTING CONDITIONS AT THE JOB SITE WITH THE PLANS AND SPECIFICATIONS. THEY SHALL REPORT ANY INCONSISTENCIES OR ERRORS IN THE ABOVE TO THE ARCHITECT/ENGINEER BEFORE COMMENCING WORK. THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL LAY OUT THEIR WORK FROM ESTABLISHED REFERENCE POINTS AND BE RESPONSIBLE FOR ALL LINES, ELEVATIONS AND MEASUREMENTS IN CONNECTION WITH THEIR WORK.

4. IF ANY ERRORS OR OMISSIONS APPEAR IN THE DRAWINGS, GENERAL NOTES OR OTHER DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING OF SUCH OMISSION OR ERROR PRIOR TO PROCEEDING WITH ANY WORK WHICH APPEARS IN QUESTION. IN THE EVENT OF THE CONTRACTOR'S FAILING TO GIVE SUCH AN ADVANCED NOTICE, HE SHALL BE HELD RESPONSIBLE FOR THE RESULTS OF ANY SUCH ERRORS OR OMISSIONS AND THE COST OF RECTIFYING THE SAME.

5. THE CONTRACTOR SHALL USE THE STRUCTURAL DRAWINGS AND SPECIFICATIONS TOGETHER WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND OTHER TRADE DRAWINGS AND SHOP DRAWINGS, TO LOCATE DEPRESSED SLABS, SLOPES, DRAINS, OUTLETS, RECESSES, OPENINGS, BOLT SETTING, SLEEVES, DIMENSIONS, ETC. NOTIFY ARCHITECT/ENGINEER, IN WRITING, OF ANY POTENTIAL CONFLICTS BEFORE PROCEEDING WITH THE WORK.

SHOP DRAWINGS AND DELEGATED ENGINEERING:

1. ALL SHOP DRAWINGS SHALL BE SUBMITTED FOR ARCHITECT'S REVIEW ONLY AFTER THEY HAVE BEEN THOROUGHLY REVIEWED BY THE CONTRACTOR FOR CONSTRUCTION METHODS, DIMENSIONS AND OTHER TRADE REQUIREMENTS, AND STAMPED WITH THE CONTRACTOR'S APPROVAL STAMP. THE ARCHITECT ASSUMES NO RESPONSIBILITY FOR DIMENSIONS, QUANTITIES, ENGINEERING DESIGN BY DELEGATED ENGINEERS, ERRORS OR OMISSIONS AS A RESULT OF REVIEWING ANY SHOP DRAWINGS. ANY ERRORS OR OMISSIONS MUST BE MADE GOOD BY THE CONTRACTOR, IRRESPECTIVE OF RECEIPT, CHECKING OR REVIEW OF DRAWINGS BY THE ENGINEER AND EVEN THOUGH WORK IS DONE IN ACCORDANCE WITH SUCH DRAWINGS.

2. BEFORE STRUCTURAL INSPECTIONS CAN BE MADE ON A PORTION OF THE STRUCTURE, ALL RELATED SHOP DRAWINGS, DELEGATED ENGINEERING, PRODUCT APPROVAL, MANUFACTURER'S DATA AND OTHER RELATED INFORMATION, MUST BE REVIEWED AND ACCEPTED BY THE ARCHITECT-OF-RECORD AND APPROVED BY THE BUILDING DEPARTMENT.

3. SHOP DRAWINGS SHALL CONTAIN ALL INFORMATION SHOWN ON THE STRUCTURAL PLANS (RELATED TO THE DELEGATED DESIGN) INCLUDING ALL DESIGN LOADS, IN ADDITION TO THE INFORMATION REQUIRED BY THE DELEGATED ENGINEER'S DESIGN.

4. ARCHITECT WILL REVIEW ALL SUBMITTED SHOP DRAWINGS, PREPARED AND SIGNED AND SEALED BY THE CONTRACTOR'S DELEGATED ENGINEER, ONLY FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT, REQUIRED LOADING AND COORDINATION WITH THE STRUCTURAL DESIGN.

5. CONTRACTOR SHALL SUBMIT TO THE ARCHITECT TWO SETS OF BLUE PRINTS OF THE STRUCTURAL SHOP DRAWINGS FOR ARCHITECT REVIEW, BEFORE STARTING FABRICATION. THE ARCHITECT WILL RETURN ONE MARKED UP AND STAMPED COPY TO THE CONTRACTOR. THE MARKED-UP COPY SHALL BE USED TO MAKE THE PRINTS REQUIRED FOR SHOP DRAWING DISTRIBUTION.

CONSTRUCTION MEANS AND METHODS:

1. THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE OR PROCEDURES, SAFETY PRECAUTIONS, SHORES, RESHORES, LATERAL BRACING AND PROGRAMS IN CONNECTION WITH THE PROJECT, ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. OUR SERVICES DO NOT GUARANTEE NOR ASSURE LIABILITY FOR THE JOB SAFETY, TEMPORARY SHORING AND BRACING AND THE PERFORMANCE OF THE CONTRACTOR.

2. THE CONTRACTOR IS RESPONSIBLE AND SHALL COMPLY WITH THE SAFETY REQUIREMENTS OF THE 2010 FLORIDA BUILDING CODE AND APPLICABLE LOCAL, STATE AND FEDERAL LAWS.

3. PROVIDE ALL SHORING, BRACING AND SHEETING AS REQUIRED FOR SAFETY, STRUCTURAL STABILITY AND FOR THE PROPER EXECUTION OF THE WORK. REMOVE WHEN WORK IS COMPLETED.

4. PROVIDE AND MAINTAIN GUARD LIGHTS AT ALL BARRICADES, RAILINGS, OBSTRUCTIONS IN THE STREETS, ROADS OR SIDEWALKS AND ALL TRENCHES OR PITS ADJACENT TO PUBLIC WALKS OR ROADS.

5. AT ALL TIMES, PROVIDE PROTECTION AGAINST WEATHER (RAIN, WIND, STORMS OR THE SUN), SO AS TO MAINTAIN ALL WORK, MATERIALS, APPARATUS AND FIXTURES FREE FROM INJURY OR DAMAGE.

6. AT THE END OF THE DAYS WORK, COVER ALL WORK LIKELY TO BE DAMAGED. ANY WORK DAMAGED BY FAILURE TO PROVIDE PROTECTION SHALL BE REMOVED AND REPLACED WITH NEW WORK AT THE CONTRACTOR'S EXPENSE.

7. THE CONTRACTOR SHALL PAY FOR ALL DAMAGES TO ADJACENT STRUCTURES, SIDEWALKS AND TO STREETS OR OTHER PUBLIC PROPERTY OR PUBLIC UTILITIES.

STRUCTURAL DESIGN CRITERIA:

1. THE DESIGN COMPLIES WITH THE REQUIREMENTS OF THE 2017 FLORIDA BUILDING CODE - SECTION 1609 AND OTHER REFERENCED CODES AND SPECIFICATIONS. ALL CODES AND SPECIFICATIONS SHALL BE LATEST EDITION AT TIME OF PERMIT.

2. WIND LOAD CRITERIA: RISK CATAGORY: 2, EXPOSURE 'C'

BASED ON ANSI/ASCE 7-10. 2017 FBC 1609-A WIND VELOCITY: V_{ULT} = 140 MPH, V_{ASD} = 108 MPH

3. ROOF DESIGN LOADS:
SUPERIMPOSED DEAD LOADS: . . . . . 20 PSF
SUPERIMPOSED LIVE LOADS: . . . . . 20 PSF

4. FLOOR DESIGN LOADS:
SUPERIMPOSED DEAD LOADS: . . . . . 25 PSF
SUPERIMPOSED LIVE LOADS:
COMMERCIAL . . . . . 50 PSF
BALCONIES/CORRIDORS . . . . . 80 PSF

5. WIND NET UPLIFT: ARE AS INDICATED ON PLANS

NOTE!
THIS PROJECT IS TYPE 5 UNPROTECTED CONSTRUCTION PER 2017 FBC TABLE 503 AND TABLE 600

FOUNDATIONS: (SPREAD FOOTINGS)

1. FOUNDATIONS ARE DESIGNED TO BEAR ON WELL COMPACTED GRADE OR CLEAN FILL OF AN ALLOWABLE BEARING CAPACITY OF 1,000 PSF MINIMUM. FOR REQUIRED SOIL BEARING CAPASITIES GREATER THAN 1,000 PSF, A CERTIFIED TESTING LABORATORY SHALL BE ENGAGED BY THE OWNER TO VERIFY THAT THE REQUIRED BEARING CAPACITY WAS OBTAINED. SAID SOIL CAPACITY SHALL BE CERTIFIED AND TESTED BY A FLORIDA REGISTERED FOUNDATION ENGINEER, PRIOR TO CASTING OF CONCRETE IN THE FOOTINGS.

2. NATURAL GRADE (OR FILL) BELOW FOOTINGS SHALL BE COMPACTED TO 95 % MODIFIED PROCTOR (ASTM D-1557).

3. TOP OF WALL FOOTINGS TO BE AT THE SAME ELEVATION AS TOP OF COLUMN PAD FOOTINGS. STEP WALL FOOTING FROM HIGHER COLUMN FOOTING TO THE LOWER ONE (AS DETAILED ON THE PLANS).

4. BOTTOM OF ALL FOOTINGS TO BE A MINIMUM 1'-6" BELOW THE TOP OF CONCRETE SLAB ON GRADE (UNLESS OTHERWISE NOTED) OR MINIMUM 1'-0" BELOW FINISHED GRADE, WHICHEVER IS LOWER. IN THE EVENT THAT THE SLAB STEPS ON EACH SIDE OF THE FOOTING, THE FOOTING SHALL BE 1'-6" BELOW TOP OF THE LOWER SLAB.

5. REINFORCING IN THE CONTINUOUS WALL FOOTINGS (MONOLITHIC AND NON-MONOLITHIC) SHALL BE SPLICED 40 BAR DIAMETERS MINIMUM AND SHALL EXTEND CONTINUOUSLY THRU ALL FOOTING PADS.

6. ALL LONGITUDINAL REBARS IN THE CONTINUOUS WALL FOOTINGS, SHALL BE CONTINUED AT BENTS AND CORNERS BY BENDING THE REBARS 48 BAR DIAMETERS AROUND THE CORNERS OR ADDING MATCHING CORNER BARS, EXTENDING 48 BAR-DIAMETERS INTO FOOTING EACH SIDE OF CORNER OR BENT.

7. ALL FOOTINGS SHALL BE 12" MINIMUM THICKNESS.

8. WHEN GEO-TECHNICAL REPORTS ARE PROVIDED, ALL RECOMENDATIONS OF THE SOILS ENGINEER SHALL BE FOLLOWED AND THE DESIGN SOIL BEARING PRESSURE SHALL BE AS RECOMENDED IN SUCH REPORTS, AND SUPERCEEDS PRESSURES INDICATED HEREIN.

CONCRETE SLABS ON GRADE:

1. ALL INTERIOR AND EXTERIOR SLABS AND WALKWAYS AS SHOWN ON THE STRUCTURAL OR ARCHITECTURAL PLANS, SHALL BE FOUR INCHES THICK MINIMUM REINFORCED WITH 6 X 6 - W1.4 X W1.4 WELDED WIRE FABRIC (UNLESS OTHERWISE NOTED).

2. ALL SLABS ON GRADE TO BE CONSTRUCTED IN ACCORDANCE WITH LATEST A.C.I - 'GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION' (A.C.I. - 302.1R)

3. JOINTS SHALL BE PROVIDED IN ALL INTERIOR SLABS ON GRADE AT LOC. INDICATED ON THE PLANS DIVIDING THE SLAB INTO SQUARE PANELS NOT TO EXCEED 20 X 20 FT. IN SIZE. CAST SLAB IN LONG ALTERNATE STRIPS. PROVIDE A CONTRACTION JOINT BETWEEN EACH STRIP. SEE PLAN FOR SAW-CUT, CONTRACTION AND ISOLATION JOINT DETAILS.

4. PROVIDE SAW-CUT JOINTS AT ALL SIDEWALKS AT A MAXIMUM SPACING OF FIVE FEET ON CENTERS AND ISOLATION JOINTS AT 20 FEET O.C. (U.O.N.).

5. FILL MATERIAL SHALL BE PLACED IN LIFTS NOT EXCEEDING 12" AND COMPACTED TO 98 % MODIFIED PROCTOR (ASTM D-1557) WITHIN A DISTANCE OF 3 FEET BEYOND ALL FOOTING EDGES. TAKE AT LEAST ONE DENSITY TEST FOR EACH 1,400 SQ.FT. OF AREA AND 12" BELOW SURFACE. SEND RESULTS OF THE TEST TO OWNER, ARCHITECT AND ENGINEER.

CONCRETE AND REINFORCING:

1. CONCRETE DESIGN AND REINFORCEMENT IN ACCORDANCE WITH "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (A.C.I. 318 - LATEST EDITION) AND WITH "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" - (A.C.I. 315 - LATEST EDITION).

2. ALL CONCRETE WORK IN ACCORDANCE WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDING" (A.C.I. 301 - LATEST EDITION). PRODUCTION OF CONCRETE, DELIVERY, PLACING AND CURING TO BE IN ACCORDANCE WITH "HOT WEATHER CONCRETING" (A.C.I. 305R - LATEST EDITION).

3. ALL CONCRETE TO BE REGULAR WEIGHT WITH A DESIGN STRENGTH OF 3,000 P.S.I. AT 28 DAYS. MAXIMUM SLUMP 5".

4. ALL REINFORCING TO BE NEW BILLET STEEL CONFORMING TO THE LATEST A.S.T.M. A-615 GRADE 60, FABRICATED IN ACCORDANCE WITH C.R.S.I. MANUAL OF STANDARD PRACTICE AND PLACED IN ACCORDANCE WITH A.C.I. 315 AND C.R.S.I. MANUAL OF STANDARD PRACTICE.

5. CONCRETE COVER UNLESS OTHERWISE DETAILED ON DRAWINGS:

FOOTINGS:	(BOTTOM) . . . . . 3"
	(TOP & SIDES) . . . . . 2"
SLABS ON GRADE:	CENTERED W/SLAB

6. BEAM REINFORCEMENT: LAPPED 36 BAR DIAMETER OR MINIMUM 18 INCHES. BOTTOM BARS SPLICED ONLY AT SUPPORTS, TOP BARS SPLICED ONLY AT MID-SPAN. ALL TOP BARS HOOKED AT NON-CONTINUOUS EDGES (U.O.N.). ALL HOOKS TO BE STANDARD 90 DEGREE HOOKS AS REQUIRED (U.O.N.).

7. ADDED REINFORCEMENT: PROVIDE ADDITIONAL CORNER BARS BENT 36 INCHES MINIMUM EACH WAY AT "L" AND "T" CORNERS IN OUTER FACES OF ALL BEAMS TO MATCH ALL HORIZONTAL BAR (TOP, BOTTOM AND INTERMEDIATE REBARS).

8. SEE PLAN FOR MINIMUM SIZE CONCRETE TIE BEAM REQUIREMENTS.

NOTE!
REFER TO THE METAL BUILDING SHOP DRAWINGS PREPARED BY MESCO METAL BUILDINGS, INC. FOR EXACT LOCATION OF ALL EMBEDDED ANCHOR BOLTS.

NOTE!
ADDED FILL SHALL BE APPLIED IN 12" LIFTS - EA. LIFT SHALL BE COMPACTED TO 95% DRY COMPACTION PER THE "MODIFIED PROCTOR" METHOD.

NOTE!
THE DESIGN WIND SPEED FOR THIS PROJECT IS 140 MPH PER 2017 FBC 1609 AND LOCAL JURISDICTION REQUIREMENTS

NOTE!
ALL ANCHOR BOLTS ARE ASTM GRADE A36 STEEL ROD, THREADED 3 1/2", BLACK AND FREE FROM RUST AND SCALE

BUILDING COMPONENTS & CLADDING LOADS
MEAN BUILDING HEIGHT = 30'0", EXPOSURE "B"
ROOF ANGLE 1° TO 21°

	ZONE	AREA	Vult 140 MPH	Vult 120 MPH	Vult 130 MPH
ROOF 1° TO 21°	1	10	12.0 / -19.9	14.9 / -23.7	17.5 / -27.8
	1	20	11.4 / -19.4	13.6 / -23.0	16.0 / -27.0
	1	50	10.0 / -18.6	11.9 / -22.2	13.9 / -26.0
	2	10	12.5 / -34.7	14.9 / -41.3	17.5 / -48.4
	2	20	11.4 / -31.9	13.6 / -38.0	16.0 / -44.6
	2	50	10.0 / -28.2	11.9 / -33.6	13.9 / -39.4
	3	10	12.5 / -51.3	14.9 / -61.0	17.5 / -71.6
	3	20	11.4 /-47.9	13.6 / -57.1	16.0 / -67.0
	3	50	10.0 / -43.5	11.9 / -51.8	13.9 / -60.8
WALL	4	10	21.8 / -23.6	25.9 / -34.7	30.4 / -33.0
	4	20	20.8 / -22.6	24.7 / -26.9	29.0 / -31.6
	4	50	19.5 / -21.3	23.2 / -25.4	27.2 / -29.8
	5	10	21.8 / -29.1	25.9 / -34.7	30.4 / -40.7
	5	20	20.8 / -27.2	24.7 / -32.4	29.0 / -38.0
	5	50	19.5 / -24.6	23.2 / -29.3	27.2 / -34.3

HGT. & EXP. ADJMT COEFFICIENTS FOR BLDG COMPONENTS & CLADDING

BLDG HEIGHT	EXPOSURE "B"	EXPOSURE "C"
15	1.00	1.21
20	1.00	1.29
25	1.00	1.35
30	1.00	1.40

General Roofing NOTES:

DECK REQUIREMENTS:
ASPHALT SHINGLES SHALL BE FASTENED TO SOLIDLY SHEATHED DECKS.

SLOPE:
ASPHALT SHINGLES SHALL BE USED ONLY ON ROOF SLOPES OF 2:12 OR GREATER. FOR ROOF SLOPES FROM 2:12 TO 4:12, DBL. UNDERLAYMENT IS REQUIRED.

UNDERLAYMENT:
UNLESS OTHERWISE NOTED, UNDERLAYMENT SHALL CONFORM W/ ASTM D 226, TYPE I, OR ASTM D 4869, TYPE I.

SELF-ADHERING POLYMER MODIFIED BITUMEN SHEET:
SELF ADHERING POLYMER MODIFIED BITUMEN SHALL COMPLY W/ ASTM D 1970.

ASPHALT SHINGLES:
ASPHALT SHINGLES SHALL HAVE SELF SEAL STRIPS OR BE INTERLOCKING, AND COMPLY WITH ASTM D 225 OR ASTM D 3462.

FASTENERS:
FASTENERS FOR ASPHALT SHINGLES SHALL BE GALVANIZED, STAINLESS STEEL, ALUMINUM OR COPPER ROOFING NAILS, MINIMUM 12 GAUGE SHANK WITH A MINIMUM 3/8 INCH DIAMETER HEAD, OF A LENGTH TO PENETRATE THROUGH THE ROOFING MATERIAL AND A MINIMUM 3/4" INTO THE ROOF SHEATHING. WHERE THE SHEATHING IS LESS THAN 3/4" THICK, THE NAILS SHALL PENETRATE THROUGH THE SHEATHING.

ATTACHMENT:
ASPHALT SHINGLES SHALL BE SECURED TO THE ROOF WITH NOT LESS THAN FOUR FASTENERS PER STRIP SHINGLE OR TWO FASTENERS PER INDIVIDUAL SHINGLE WHERE ROOFS LOCATED IN BASIC UND SPEED OF 110 MPH OR GREATER. SPECIAL METHODS OF FASTENING ARE REQUIRED. UNLESS OTHERWISE NOTED, ATTACHMENT OF ASPHALT SHINGLES SHALL CONFORM WITH ASTM D 3161 OR M-DC PA 107-85.

UNDERLAYMENT APPLICATION:
FOR ROOF SLOPES FORM 2:12 TO 4:12, UNDERLAYMENT SHALL BE A MINIMUM OF TWO LAYERS APPLIED AS FOLLOWS:
1. STARTING AT THE EAVE, A 19 INCH STRIP OF UNDERLAYMENT SHALL BE APPLIED PARALLEL WITH THE EAVE AND FASTENED SUFFICIENTLY TO STAY IN PLACE.
2. STARTING AT THE EAVE, 36 INCH WIDE STRIPS OF UNDERLAYMENT FELT SHALL BE APPLIED OVERLAPPING SUCCESSIVE SHEETS 19 INCHES AND FASTENED SUFFICIENTLY TO STAY IN PLACE.

FOR ROOF SLOPED 4:12 AND GREATER, UNDERLAYMENT SHALL BE A MINIMUM OF ONE LAYER OF UNDERLAYMENT FELT APPLIED AS FOLLOWS:
STARTING AT THE EAVE, UNDERLAYMENT SHALL BE APPLIED SHINGLE FASHION PARALLEL TO THE EAVE, LAPPED 2 INCHES, AND FASTENED SUFFICIENTLY TO STAY IN PLACE.

BASE AND CAP FLASHINGS:
BASE AND CAP FLASHING SHALL BE INSTALLED IN ACCORDANCE W/ MFGR'S INSTALLATION INSTRUCTIONS. BASE FLASHING SHALL BE EITHER CORROSION RESISTANT METAL OF MINIMUM NOMINAL THICKNESS 0.019 INCH OR MINERAL SURFACE ROLL ROOFING WEIGHING A MINIMUM OF 77 LBS PER 100 SQUARE FEET. CAP FLASHING SHALL BE CORROSION RESISTANT METAL OF MINIMUM NOMINAL THICKNESS OF 0.019 INCH.

VALLEYS:
VALLEY LINNGS SHALL BE INSTALLED IN ACCORDANCE W/ MANUFACTURER'S INSTALLATION INSTRUCTIONS BEFORE APPLYING ASPHALT SHINGLES. VALLEY LINNGS OF THE FOLLOWING TYPES SHALL BE PERMITTED.
1. OPEN VALLEYS LINED WITH METAL: THE VALLEY LINING SHALL BE AT LEAST 16" WIDE AND OF ANY OF THE CORROSION RESISTANT METALS IN FBC TABLE 1507.3.9.2.
2. OPEN VALLEYS: VALLEY LINNG OF TWO PLIES OF MINERAL SURFACE ROLL ROOFING SHALL BE PERMITTED. THE BOTTOM LAYER SHALL BE 18 INCHES AND THE TOP LAYER A MINIMUM OF 36 INCHES WIDE.
3. CLOSED VALLEYS: VALLEY LINNG SHALL BE ONE OF THE FOLLOWING:
1. BOTH TYPES I AND 2 ABOVE, COMBINED.
2. ONE PLY OF SMOOTH ROLL ROOFING AT LEAST 36 INCHES WIDE AND COMPLYING WITH ASTM D 224.
3. SPECIALTY UNDERLAYMENT AT LEAST 36 INCHES WIDE & COMPLYING WITH ASTM D 1970.

NOTE !!!
ROOF SHINGLES SHALL BE OF THE FOLLOWING MANUFACURERS AND MODELS:

TAMKO ROOFING PRODUCTS	GAF MATERIALS CORPORATION	ELK PREMIUM ROOFING
GLASS-SEAL AR	ROYAL SOVEREIGN	RAISED PROFILE ®
ELITE GLASS-SEAL AR	MARQUIS	PRESTIQUE HIGH DEFINITION ®
HERITAGE 30 AR	WEATHER MAX	PRESTIQUE 25 ®
HERITAGE 40 AR	SLATELINE	PRESTIQUE 30 ®
HERITAGE 50 AR	GRAND CANYON	PRESTIQUE I 35 ®
	GRAND SEQUOIA	PRESTIQUE I ®
TAMKO REQUIRED NAILS/SHINGLE = 4	COUNTRY MANSION	PRESTIQUE PLUS ®
	COUNTRY ESTATES	PRESTIQUE GALLERY COLLECTION ®
	TIMBERLINE 30	CAPSTONE ®
	TIMBERLINE SELECT 40	
	TIMBERLINE ULTRA	ELK REQUIRED NAILS/SHINGLE = 4
	SENTINEL	® = 9 NAILS
GAF REQUIRED NAILS/SHINGLE = 4		® = 6 NAILS

THESE SHINGLES MEET THE REQUIREMENTS OF ASTM D-3161 TYPE I MODIFIED TO 130 MPH WINDS & FBC TAS 100, USING THE SPECIFIED NAILS

GENERAL STRUCTURAL NOTES

PLYWOOD ROOF DIAPHRAGM:

1. ROOF DIAPHRAGM SHALL COMPLY WITH THE DESIGN RECOMMENDATIONS OF "APA DESIGN/CONSTRUCTION GUIDE - DIAPHRAGMS" AND THE LOCAL BUILDING CODE.

2. PLYWOOD ROOF DECKING SHALL BE 19/32" MINIMUM THICKNESS, CDX TYPE AND SHALL BE CONTINUOUS OVER TWO OR MORE SPANS, WITH FACE GRAIN PERPENDICULAR TO THE SUPPORTS.

3. CONNECT PLYWOOD DIAPHRAGM TO STRUCTURE WITH 10d GALV. NAILS, SPACED AT 6" O.C. MAX. AT SUPPORTED EDGES AND AT 6" O.C. ALONG THE INTERMEDIATE SUPPORTS.

GABLE ENDS NAIL SPACING SHALL BE 4" ON CENTERS MAXIMUM.

4. INSPECTIONS: COMPLY WITH THE LOCAL BUILDING CODE AND OTHER REQUIREMENTS FOR INSPECTIONS (BY THE COUNTY, CITY, ARCHITECT OR ENGINEER) OF SPECIFIED COMPONENTS OF THE ROOF STRUCTURE REQUIRING INSPECTIONS.

GENERAL STRUCTURAL NOTES

CFMF TRUSSES: (DELEGATED ENGINEERED SHOP DRAWING REQUIRED)

1. TRUSSES SHALL BE DESIGNED, SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER, WHO SHALL BE ASSIGNED AS A DELEGATED ENGINEER FOR THE CONTRACTOR. THE DELEGATED ENGINEER DESIGN AND INDICATE ON THE SHOP DRAWINGS ALL TRUSS COMPONENTS, TEMPORARY BRACING, BRIDGING, HARDWARE, METAL HANGERS, ANCHORS AND METAL SHAPES AS REQUIRED BY DESIGN OR AS INDICATED ON THE PLANS. ALL METAL PARTS TO BE GALVANIZED.

2. TRUSS DESIGNER ENGINEER SHALL INDICATE THE NET UPLIFT REACTIONS FOR EACH TRUSS AND GIRDER TRUSS. EACH TRUSS SHALL BE STRAPPED TO THE SUPPORT WITH A HURRICANE STRAP (AS PER DETAIL ON PLAN). THE SIZE OF STRAP AND AMOUNT OF NAILS SHALL BE SELECTED BASED ON THE UPLIFT DATA OF THE STRAP AND THE TRUSS SHOP DRAWINGS.

STRUCTURAL STEEL: (SHOP DRAWINGS REQUIRED)

1. ALL STRUCTURAL STEEL TO BE DOMESTIC A.S.T.M. A-36 (F_y=36 K.S.I.) AND DESIGNED IN ACCORDANCE WITH THE LATEST A.I.S.C. "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" AND THE A.I.S.C. CODE OF STANDARD PRACTICE.

2. STEEL TUBES TO BE DOMESTIC STEEL CONFORMING TO A.S.T.M. A-500 GRADE B (F_y=46 K.S.I.).

TUBE AND PIPE COLUMNS TO BE CONCRETE FILLED WITH VENT HOLES TOP, MIDDLE AND BOTTOM.

3. ALL COLUMN BASE AND CAP PLATES SHALL BE 3/4" THICK (UNLESS OTHERWISE NOTED); WIDTH AND LENGTH AS REQUIRED FOR PROPER BOLTING AND AS INDICATED ON THE PLANS AND DETAILS.

4. ALL WELDING TO BE IN ACCORDANCE WITH AWS, LATEST "STRUCTURAL WELDING CODE - STEEL". CLEAN AND RUSTPROOF ALL FIELD WELDS WITH HEAVY DUTY RUSTPROOFING PAINT.

5. ALL CONNECTIONS TO BE FIELD AND SHOP WELDED AND TO DEVELOP MEMBER IN SHEAR.

6. SPLICE LOCATIONS TO BE REVIEWED BY ARCHITECT/ENGINEER.

7. STEEL BEARING ON STEEL TO BE WELDED THERETO.

NOTE!
REFER TO SHEET P.1 FOR GENERAL STRUCTURAL INFORMATIONAL NOTES AND DESIGN CRITERIA

TERMITE PROTECTION NOTES:

SOIL CHEMICAL BARRIER METHOD:

1. A PERMANENT SIGN WHICH IDENTIFIES THE TERMITE TREATMENT PROVIDER AND NEED FOR REINSPECTION AND TREATMENT CONTRACT RENEWAL SHALL BE PROVIDED. THE SIGN SHALL BE POSTED NEAR THE WATER HEATER OR ELECTRIC PANEL. FBC 1014.2.6

2. CONDENSATE AND ROOF DOWNSPOUTS SHALL DISCHARGE AT LEAST 1'-0" AWAY FROM BUILDING SIDE WALLS. FBC 1503.4.4

3. IRRIGATION/SPRINKLER SYSTEMS INCLUDING ALL RISERS AND SPRAY HEADS SHALL NOT BE INSTALLED WITHIN 1'-0" FROM BUILDING SIDE WALLS. FBC 1503.4.4

4. TO PROVIDE FOR INSPECTION FOR TERMITE INFESTATION, BETWEEN WALL COVERINGS AND FINAL EARTH GRADE SHALL NOT BE LESS THAN 6".
EXCEPTION: PAINT AND DECORATIVE CEMENTIOUS FINISH LESS THAN 5/8" THICK ADHERED DIRECTLY TO THE FOUNDATION WALL. FBC 1403.1.6

5. INITIAL TREATMENT SHALL BE DONE AFTER ALL EXCAVATION AND BACKFILL IS COMPLETE. FBC 1816.1.1

6. SOIL DISTURBED AFTER THE INITIAL TREATMENT SHALL BE RETREATED INCLUDING SPACES BOXED OR FORMED. FBC 1816.1.2

7. BOXED AREAS IN CONCRETE FLOOR FOR SUBSEQUENT INSTALLATION OF TRAPS, ETC., SHALL BE MADE WITH PERMANENT METAL OR PLASTIC FORMS. PERMANENT FORMS MUST BE OF A SIZE AND DEPTH THAT WILL ELIMINATE THE DISTURBANCE OF SOIL AFTER THE INITIAL TREATMENT. FBC 1816.1.3

8. MINIMUM 6 MIL VAPOR RETARDER MUST BE INSTALLED TO PROTECT AGAINST RAINFALL DILUTION. IF RAINFALL OCCURS BEFORE VAPOR RETARDER PLACEMENT, RETREATMENT IS REQUIRED. FBC 1816.1.4

9. CONCRETE OVERPOUR AND MORTAR ALONG THE FOUNDATION PERIMETER MUST BE REMOVED BEFORE EXTERIOR SOIL TREATMENT. FBC 1816.1.5

10. SOIL TREATMENT MUST BE APPLIED UNDER ALL EXTERIOR CONCRETE OR GRADE WITHIN 1'-0" OF THE STRUCTURE SIDEWALLS. FBC 1816.1.6

11. AN EXTERIOR VERTICAL CHEMICAL BARRIER MUST BE INSTALLED AFTER CONSTRUCTION IS COMPLETE INCLUDING LANDSCAPING AND IRRIGATION. ANY SOIL DISTURBED AFTER THE VERTICAL BARRIER IS APPLIED, SHALL BE RETREATED. FBC 1816.1.6

12. ALL BUILDINGS ARE REQUIRED TO HAVE PER-CONSTRUCTION TREATMENT. FBC 1816.1.7

13. A CERTIFICATE OF COMPLIANCE MUST BE ISSUED TO THE BUILDING DEPARTMENT BY A LICENSED PEST CONTROL COMPANY BEFORE A CERTIFICATE OF OCCUPANCY WILL BE ISSUED. THE CERTIFICATE OF COMPLIANCE SHALL STATE: "THE BUILDING HAS RECEIVED A COMPLETE TREATMENT FOR THE PREVENTION OF SUBTERRANEAN TERMITES. THE TREATMENT IS IN ACCORDANCE WITH THE RULES AND LAWS OF THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES". FBC 1816.1.7

14. AFTER ALL WORK IS COMPLETED, LOOSE WOOD AND FILL MUST BE REMOVED FROM BELOW AND WITHIN 1'-0" OF THE BUILDING. THIS INCLUDES ALL GRADE STAKES, TUB TRAP BOXES, FORMS, SHORING OR OTHER CELLULOSE CONTAINING MATERIAL. FBC 2303.1.3

15. NO WOOD, VEGETATION, STUMPS, CARDBOARD, TRASH, ETC., SHALL BE BURIED WITHIN 15'-0" OF ANY BUILDING OR PROPOSED BUILDING. FBC 2303.1.4

REVISIONS
1

SOFTPLAN ARCHITECTURAL DESIGN SOFTWARE

2nd FLOOR EXPANSION for
BELMONT ACADEMY
C.R. 240, COLUMBIA COUNTY, FLORIDA

AR0007005

Celebrating 48 Years of Service
1972 - 2020
N.P. Geisler, Architect
AR0007005

NICHOLAS GEISLER ARCHITECT
N.C.A.R.B. Certified
1758 NW Brown Rd.
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JOINT VENTURED WITH

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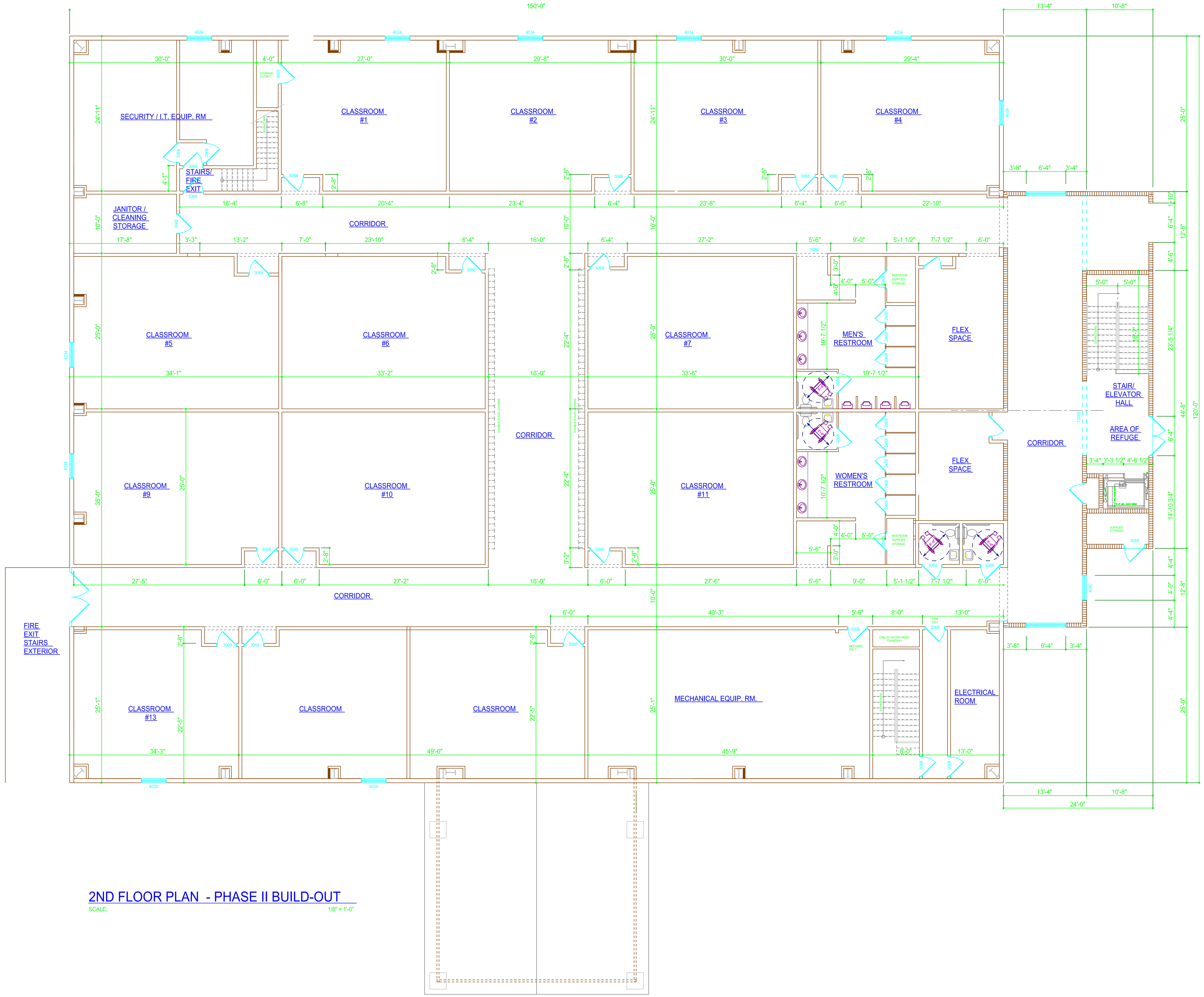
will@willmyers.net

JOB NUMBER
2K1403

DATE:
29 MAY 2020

SHEET NUMBER
S.5
OF 6 SHEETS



2ND FLOOR PLAN - PHASE II BUILD-OUT

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

REVISIONS
Sept. 1,2020

BELMONT ACADEMY FOR:
2ND FLOOR EXPANSION FOR
BELMONT ACADEMY CHARTER SCHOOL
1476 SW WALTER AVE, LAKE CITY, FLORIDA 32024

CONSULTING ENGINEERING GROUP INTERNATIONAL
CEGI PROJECT NO. 12-321
COA: EB-0007712

NICHOLAS PAUL GEISLER ARCHITECT
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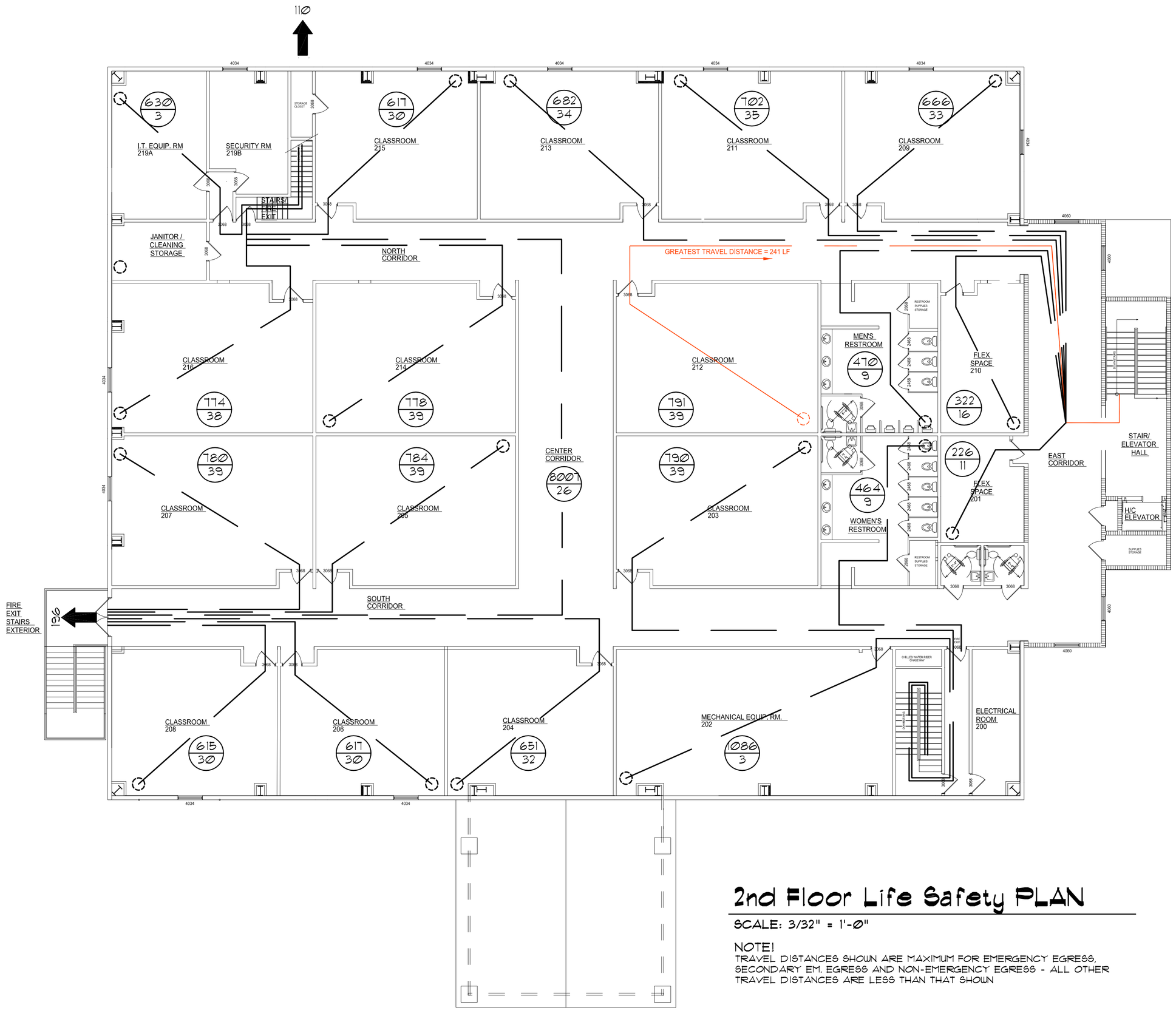
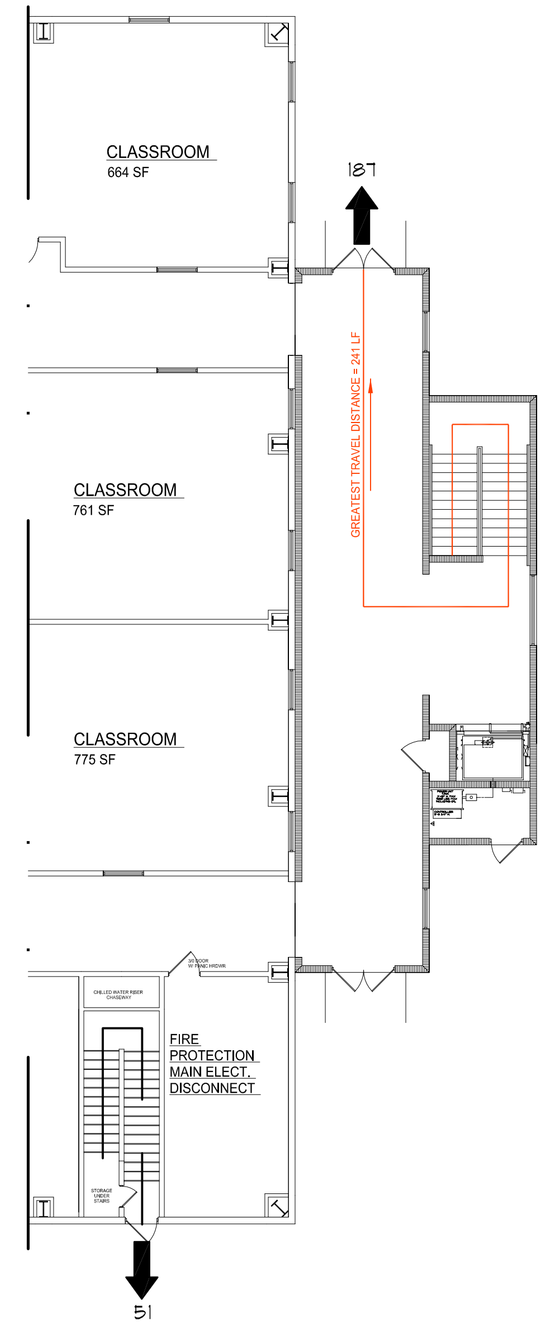
SHEET NUMBER
A.4



2nd Floor Life Safety PLAN

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

NOTE!
TRAVEL DISTANCES SHOWN ARE MAXIMUM FOR EMERGENCY EGRESS, SECONDARY EM. EGRESS AND NON-EMERGENCY EGRESS - ALL OTHER TRAVEL DISTANCES ARE LESS THAN THAT SHOWN



Partial 1st Floor PLAN

SCALE: 3/32" = 1'-0" FOR ORIENTATION ONLY.
SEE "2ND FLOOR LIFE SAFETY PLAN" FOR DETAILS

WET-PIPE SPRINKLER SYSTEM

THIS BUILDING SHALL BE EQUIPPED WITH A WET-PIPE SPRINKLER SYSTM, DESIGNED BY A LICENSED FIRE PROTECTION ENGINEER OR FIRE PROTECTION SYSTEM DESSIGNER CERTIFIED BY "NICET" TO A LEVEL THREE MINIMUM AND ENGAGED IN DESIGN OF FIRE PROTECTION SYSTEMS.
SEE GENERAL NOTES FOR ADDITIONAL SYSTEM REQUIREMENTS

EXIT ACCESS TRAVEL DISTANCE PER FBC 1015, TABLE 1015.1

OCCUPANCY - EDUCATIONAL
150 FT. (W/O SPRINKLER SYSTEM)
250 FT/ (W/SPRINKLER SYSTEM)

F/R

8" SQ. MALTESE CROSS W/ "F/R" IDENTIFIER SIGNAGE, MOUNTED @ 60" ABV. WALKWAY
LOCATE AS DIRECTED BY THE FIRE MARSHALL

FIRE/INTRUSION ALARM SYSTEM

THIS BUILDING SHALL BE EQUIPPED WITH A SELF-CONTAINED FIRE ALARM - INTRUSION ALARM SYSTEM. THE OPPERATION OF WHICH SHALL ALERT THE BUILDING OCCUPANTS AND NOTIFY THE 911 EMERGENCY RESPONSE SYSTEM. EQUIPMENT AND SERVICE PROVIDER SHALL BE AS SELECTED BY THE OUNER. DETAILS OF INSTALLATION SHALL BE VIA SHOP DRAWINGS AND OPPERATING FEATURES SHALL BE AS REQUIRED BY NFPA 101, 2003 EDITION, "LIFE SAFETY CODE" SECTION 403.4

NOTE!
EMERGENCY LIGHTING AND EXIT SIGNS, SHALL BE PROVIDED AS DIRECTED BY THE FIRE MARSHAL, AND SHALL BE WIRED PER NEC 700-12F.

NOTE!
SMOKE DETECTORS SHALL BE MOUNTED NOT LESS THAN 90" ABOVE FINISHED FLOOR AND SHALL BE THE IONIZATION TYPE, INTERLOCKED TOGETHER, POWERED FROM EACH STORE PANEL W/BATTERY BACKUP

WET-PIPE SPRINKLER SYSTEM

THIS BUILDING SHALL BE EQUIPPED WITH A WET-PIPE SPRINKLER SYSTM, DESIGNED BY A LICENSED FIRE PROTECTION ENGINEER OR FIRE PROTECTION SYSTEM DESSIGNER CERTIFIED BY "NICET" TO A LEVEL THREE MINIMUM AND ENGAGED IN DESIGN OF FIRE PROTECTION SYSTEMS.
SEE GENERAL NOTES FOR ADDITIONAL SYSTEM REQUIREMENTS

EXIT ACCESS TRAVEL DISTANCE PER FBC 1015, TABLE 1015.1

OCCUPANCY - EDUCATIONAL
150 FT. (W/O SPRINKLER SYSTEM)
250 FT/ (W/SPRINKLER SYSTEM)

LEGEND

- EXIT LIGHT - ARROW REPRESENTS DIRECTION OF EXIT
- HD — HEAT DETECTOR - COORDINATE WITH ELECTRICAL DWGS.
- WALL HUNG "ABC" FIRE EXTINGUISHER
- C — DOOR /CLOSER FOR EXITING OR RATING REASONS
- P — PANIC DEVICE
- 999 / 30 — ROOM SQUARE FOOTAGE / ROOM OCCUPANCY LOAD
- 45 — PRIMARY EGRESS W/EXIT CAPACITY
- SECONDARY EGRESS

2017 FBC-BUILDING, TABLE 1004.1.1

MAXIMUM FLOOR AREA ALLOWABLE PER OCCUPANT

OCCUPANCY CLASSIFICATION	FLOOR AREA	MAX ALLOWABLE AREA PER OCCUPANT	NUMBER OF OCCUPANTS
CLASSROOMS	9840.0	@ 1/20 SF	492
REST ROOMS	1145.0	@ 1/50 SF	23
CORRIDOR	5211.2	* @ 1/300 SF	18
SERVICE	550.0	@ 1/300 SF	2
MECH. EQUIP. LOFT	1065.0	@ 1/300 SF	4
I/T LOFT	638.0	@ 1/300 SF	3
BUILDING	960.6	* @ 1/500 SF	2
SECOND FLOOR	19409.8		544

*NOT DEFINED IN TABLE

NOTE!
LSP FLOOR PLAN & THIS TABLE NOT CONSISTANT DUE TO ROUNDING UP OF CLASSROOM OCCUPANTS ON THE LIFE SAFETY PLAN

REVISIONS
1

SOFTPLAN ARCHITECTURAL DESIGN SOFTWARE

2nd FLOOR EXPANSION for
BELMONT ACADEMY
C.R. 240, COLUMBIA COUNTY, FLORIDA

AR0007005

Celebrating 48 Years of Service
1972 - 2020
N.P. Geisler, Architect
AR0007005

NICHOLAS GEISLER ARCHITECT
NGArch.com
1758 NW Brown Rd.
Lake City, FL 32055
386/ 365-4355

JOINT VENTURED WITH

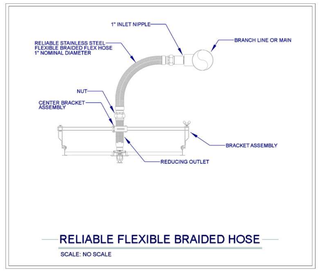
© WILLIAM MYERS DESIGN
P.O. BOX 1913
LAKE CITY, FL 32056
(386) 758-8406
will@willmyers.net

JOB NUMBER
2K1403a

DATE:
28 SEP 2020

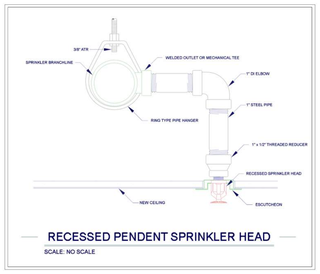
SHEET NUMBER
LSP.1

OF 1 SHEETS



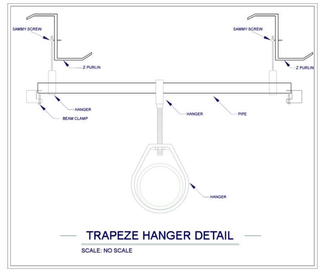
RELIABLE FLEXIBLE BRAIDED HOSE

SCALE: NO SCALE



RECESSED PENDENT SPRINKLER HEAD

SCALE: NO SCALE



TRAPEZE HANGER DETAIL

SCALE: NO SCALE

Scope of Work: **Renovate existing sprinkler system to provide protection to new drop ceiling classrooms and adjacent area's to meet NFPA-13 2013 requirements.**

FIRE PROTECTION GENERAL SYSTEM NOTES

1. PROJECT DESCRIPTION AND APPLICABLE CODES. NFPA 13 2013.

2. SCOPE OF WORK:
   A.) RENOVATE EXISTING WET SPRINKLER SYSTEM TO PROIDE COVERAGE TO NEW LOW CEILING AREAS PER NFPA 13 2013 CODE.

3. SPECIAL NOTE(S): NONE.

4. HANGERS AND SPACING PER NFPA-13 2013 EDITION STANDARDS.

5. FIRE SPRINKLER SYSTEM(S) TO BE TESTED PER NFPA-13 2013 EDITION STANDARDS.

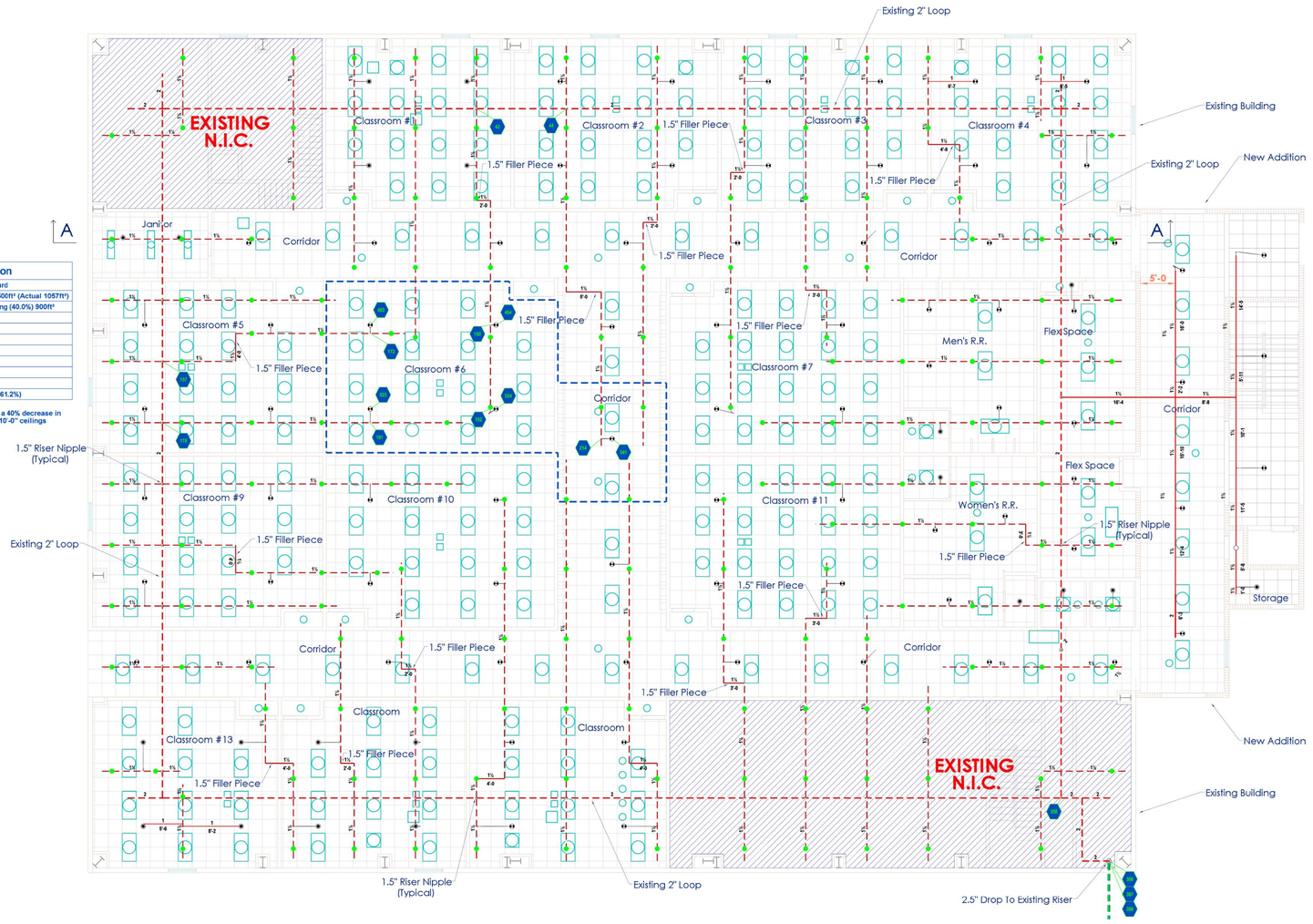
6. ALL FIRE SPRINKLER PIPING 1-1/4" OR LARGER TO BE UL LISTED LIGHT WALL BLACK STEEL PIPING WITH GROOVED FITTINGS. ALL FIRE SPRINKLER PIPING SMALLER THAN 1-1/4" TO BE UL LISTED SCHEDULE 40 BLACK STEEL PIPING WITH THREADED OR GROOVED FITTINGS.

7. LOW POINT DRAINS WILL BE ADDED WHEN REQUIRED.

8. BEACH LAKE SPRINKLER IS NOT RESPONSIBLE FOR THE FOLLOWING:
   - 24 HR SYSTEM SUPERVISION.
   - ANY CHANGES TO WATER SUPPLY OR WATER CONDITIONS.
   - ANY ALARM SYSTEM AND/OR DETECTION SYSTEM WORK.
   - ANY ELECTRICAL POWER AND/OR POWER WIRING.

9. PROPERTY OWNER OR DESIGNATED REPRESENTATIVE SHALL ENSURE THAT WATER-FILLED PIPING IS MAINTAINED AT A MINIMUM TEMPERATURE OF +40 DEGREES FAHRENHEIT (+4 DEGREES CELSIUS) TO PROTECT FROM FREEZING.

10. PROPERTY OWNER OR DESIGNATED REPRESENTATIVE IS RESPONSIBLE FOR MAINTAINING FIRE SPRINKLER SYSTEM PER NFPA-25 STANDARDS.



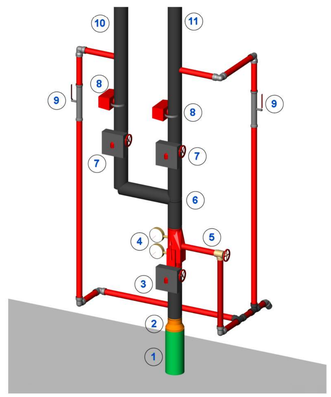
Floor Plan

1/8" Scale

Hydraulic Information	
OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1057ft²)
QUICK RESPONSE REDUCTION	10'-0 Ceiling (40.0%) 900ft²
TOTAL HOSE STREAMS	100.00
TOTAL HEADS FLOWING	5
K-FACTOR	8
TOTAL WATER REQUIRED	276.02
TOTAL PRESSURE REQUIRED	65.637
BASE of RISER (gpm)	276.02
BASE of RISER (psi)	65.637
SAFETY MARGIN (psi)	+103.439 (61.2%)

Light Hazard=0.10gpm/ft² for 1057ft²
Per NFPA 13 2013 Section 11.2.3.2.3.1: There is a 40% decrease in design area for quick response sprinklers and 10'-0" ceilings (1500 sq.ft. x 60% = 900 sq.ft.)

Symbol Legend	
	Existing Fire Sprinkler Pipe
	New Fire Sprinkler Pipe
●	Existing Upright Sprinkler Head



Existing Riser Detail

No Scale

1. 4" Stub Up
2. 4" x 3" Grooved Concentric Reducer
3. 3" Butterfly Valve With Tamper Switch
4. 3" Riser Check Valve With Gauges
5. Main Drain To Outside
6. 3" Grooved Tee
7. 3" Butterfly Valve With Tamper Switch
8. 3" Water Flow Detector
9. Inspector's Test
10. 3" Rise To Lunch/Gym Building (Zone #2)
11. 3" Rise To Classrooms (Zone #1)

Sprinkler Legend

Symbol	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
Extended Coverage Pendant	R4842	F1FR QREC	78	8	Pendent	¾	Quick	White	155°F	RELIABLE 18 x 18
Pendant	RA1414	F1FR56	21	5.6	Pendent	½	Quick	White	155°F	RELIABLE
	RA1425	F1FR56	1	5.6	Upright	½	Quick	Brass	200°F	RELIABLE
			Total = 100							

SPARE PARTS INVENTORY	QTY.
SIN, K-FACTOR, SSU/SSP/SSS, TEMP.	#
HEAD WRENCH:	#
NOTES:	

SCOPE OF WORK		
PROVIDED, INSTALLED, OR PERFORMED BY:	BEACH LAKE	OTHERS
EXCAVATING AND OR BACKFILLING		X
CUTTING - PATCHING		X
FIRE STOPPING	X	
PAINTING OF PIPE - EQUIPMENT		X
ALARM WIRING		X
ALARM SUPERVISORY		X
AIR COMPRESSOR WIRING		X
FIRE EXTINGUISHERS		X
NOTES:		

REVISIONS			
REV#	DATE	DESCRIPTION	BY
REV#	MM-DD-YYYY	SHORT DESCRIPTION	##
NOTES:			

THIS IS NOT A STAMP
NICET
CERTIFIED

N W E S

DRAWING SCALE (UNLESS NOTED OTHERWISE)
2 1 0 4 8
SCALE 1/8"=1'-0"

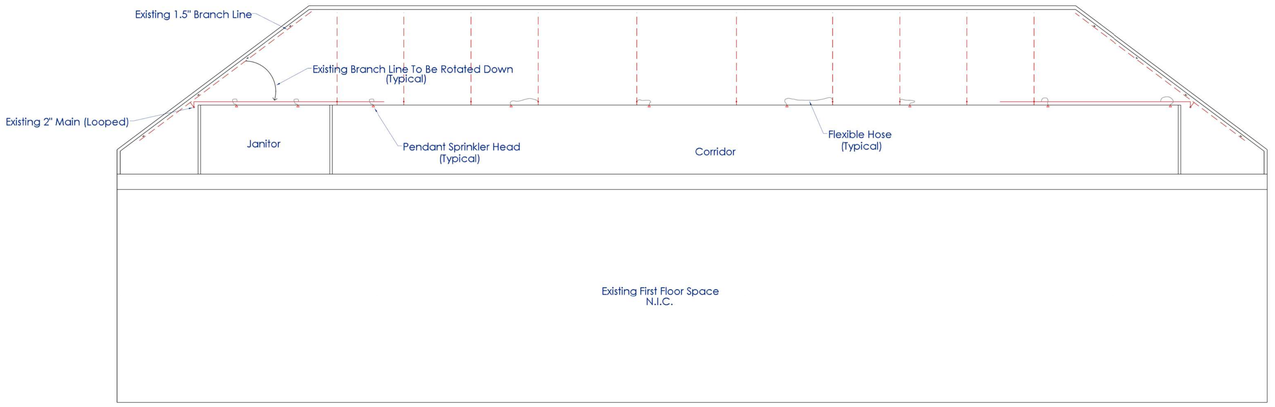
Belmont Academy
1476 SW WALTER AVE.
LAKE CITY, FL 32024

FIRE PROTECTION PLAN -

DRAWN: BEACH LAKE SPRINKLER | DATE: 8 / 20 / 2020 | SHEET NO. **FP-1**
REVISION: | JOB #:

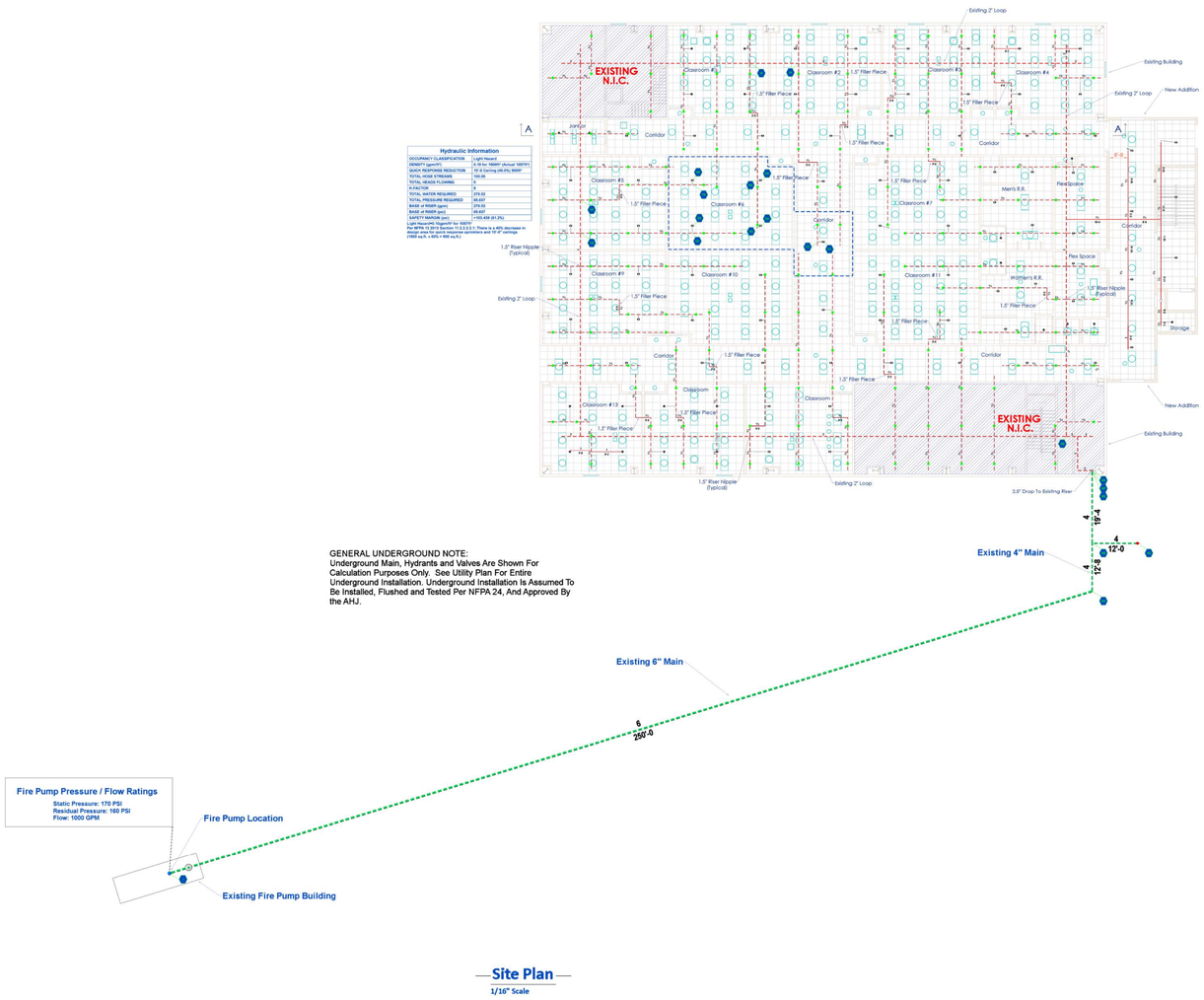
BEACH LAKE SPRINKLER
FIRE PROTECTION SERVICES

Beach Lake Sprinkler
Fire Protection Services
19094 Travertine Ln.
Brooksville, FL 34604
Phone: 352-799-2990
www.beachlakesprinkler.com



Cross Section
1/8" Scale

Scope of Work: **Renovate existing sprinkler system to provide protection to new drop ceiling classrooms and adjacent area's to meet NFPA-13 2013 requirements.**



Hydraulic Information

OCCUPANCY CLASSIFICATION	Light Hazard
DENSITY (gpm/ft²)	0.10 for 1500ft² (Actual 1057ft²)
AREA OF APPLICATION	10' of Ceiling HP/LTG 3000ft²
TOTAL HOSE STREAMS	0 @ 100
TOTAL HEADS FLOWING	6
K-FACTOR	8
TOTAL WATER REQUIRED	276.32
TOTAL PRESSURE REQUIRED	69.637
BASE of RISER (gpm)	276.32
BASE of RISER (psi)	69.637
SAFETY MARGIN (psi)	+10.363 (0.2%)

Light Hazard=0.10gpm/ft² for 1500ft²
Per NFPA 13 2013 Section 11.2.3.2.1: There is a 40% decrease in design area for quick response sprinklers and 10'-0" ceilings (1500 sq.ft. x 60% = 900 sq.ft.)

GENERAL UNDERGROUND NOTE:
Underground Main, Hydrants and Valves Are Shown For Calculation Purposes Only. See Utility Plan For Entire Underground Installation. Underground Installation Is Assumed To Be Installed, Flushed and Tested Per NFPA 24, And Approved By the AHJ.

Site Plan
1/16" Scale

Symbol Legend

- - - -	Existing Fire Sprinkler Pipe
———	New Fire Sprinkler Pipe
●	Existing Upright Sprinkler Head

Sprinkler Legend

	Symbol	SIN	Model	Quantity	K-Factor	Type	Size	Response	Finish	Temperature	Note
Extended Coverage Pendant		R4842	F1FR QREC	78	8	Pendent	¾	Quick	White	155°F	RELIABLE 18 x 18
Pendant		RA1414	F1FR56	21	5.6	Pendent	½	Quick	White	155°F	RELIABLE
		RA1425	F1FR56	1	5.6	Upright	½	Quick	Brass	200°F	RELIABLE
				Total = 100							

SPARE PARTS INVENTORY	QTY.
SIN, K-FACTOR, SSU/SSP/SSS, TEMP	#
HEAD WRENCH:	#
NOTES:	

SCOPE OF WORK		
PROVIDED, INSTALLED, OR PERFORMED BY:	BEACH LAKE	OTHERS
EXCAVATING AND OR BACKFILLING		X
CUTTING - PATCHING		X
FIRE STOPPING	X	
PAINTING OF PIPE - EQUIPMENT		X
ALARM WIRING		X
ALARM SUPERVISORY		X
AIR COMPRESSOR WIRING		X
FIRE EXTINGUISHERS		X
NOTES:		

REVISIONS			
REV#	DATE	DESCRIPTION	BY
REV#	MM-DD-YYYY	SHORT DESCRIPTION	##
NOTES:			

THIS IS NOT A STAMP
NICET
CERTIFIED

N W E S

DRAWING SCALE (UNLESS NOTED OTHERWISE)
2 1 0 4 8
SCALE 1/8"=1'-0"

Belmont Academy
1476 SW WALTER AVE.
LAKE CITY, FL 32024

FIRE PROTECTION PLAN -

DRAWN: BEACH LAKE SPRINKLER	DATE: 8 / 20 / 2020	SHEET NO. FP-2
REVISION:	JOB #:	

BEACH LAKE SPRINKLER
FIRE PROTECTION SERVICES

Beach Lake Sprinkler
Fire Protection Services
19094 Trevette Ln
Brooksville, FL 34604
Phone: 352-799-2990
www.beachlakesprinkler.com

ABBREVIATIONS

* NOTE: ABBREVIATIONS AND SYMBOLS CONTAINED HERE IT MAY OR MAY NOT BE USED ON THIS PROJECT *

A
- AFF — ABOVE FINISHED FLOOR
- AHU — AIR HANDLING UNIT
- ATMOS — ATOMSPHERE

B
- BHP — BRAKE HORSEPOWER
- BTU — BRITISH THERMAL UNIT
- BS — BIRD SCREEN

C
- CHWR — CHILLED WATER RETURN
- CHWS — CHILLED WATER SUPPLY
- COMP — COMPRESSOR
- CONC — CONCRETE
- CFM — CUBIC FEET PER MINUTE
- CEA — CONSULTING ENGINEERING ASSOCIATES

D
- DET — DETAIL
- DIA — DIAMETER
- DIM — DIMENSION
- DB — DRY BULB
- DISCH — DISCHARGE

E
- ELEV — ELEVATION
- ENGR — ENGINEER
- EAT — ENTERING AIR TEMPERATURE
- EWT — ENTERING WATER TEMPERATURE
- EQUIP — EQUIPMENT
- EF — EXHAUST FAN
- ESP — EXTERNAL STATIC PRESSURE

F
- FV — FACE VELOCITY
- FT — FEET
- FPM — FEET PER MINUTE
- FLEX — FLEXIBLE

G
- GPM — GALLONS PER MINUTE

H
- HD — HEAD
- HTR — HEATER
- HP — HORSEPOWER

L
- LAT — LEAVING AIR TEMPERATURE
- LWT — LEAVING WATER TEMPERATURE

M
- MBH — 1000 BTU PER HOUR
- MECH — MECHANICAL
- MEZZ — MEZZANINE
- MTD — MOUNTED

N
- NTS — NOT TO SCALE

O
- OA — OUTSIDE AIR

P
- PVC — POLYVINYL CHLORIDE
- PSI — POUNDS PER SQUARE INCH
- PRESS — PRESSURE
- PD — PRESSURE DROP

Q
- QTY — QUANTITY

R
- RM — ROOM
- RA — RETURN AIR
- RPM — REVOLUTIONS PER MINUTE

S
- SCH — SCHEDULE
- SHT — SHEET
- SPECS — SPECIFICATIONS
- SQ.FT. — SQUARE FEET
- STD — STANDARD
- SP — STATIC PRESSURE
- STR — STRAINER
- STRUCT — STRUCTURAL
- SA — SUPPLY AIR

T
- TEMP — TEMPERATURE
- TH — THERMOMETER
- T — THERMOSTAT
- TSP — TOTAL STATIC PRESSURE
- TV — TURNING VANE
- TYP — TYPICAL

U
- UL — UNDERWRITER'S LABORATORIES

V
- VAV — VARIABLE AIR VOLUME BOX
- VD — VOLUME DAMPER

W
- WB — WET BULB

SYMBOLS

- NET INSIDE DIMENSION SIZE IN INCHES (PLAN DIM. FIRST)
- RADIUS TYPE ELBOW
- SQUARE TYPE ELBOW WITH TURNING VANES
- FLEXIBLE DUCTWORK
- MANUAL VOLUME DAMPER
- FIRE DAMPER
- M — MOTORIZED DAMPER
- SD — DUCT MOUNTED SMOKE DETECTOR, PROVIDED BY DIVISION 26, INSTALLED BY DIVISION 23. SEE ELECTRICAL PLANS FOR EXACT QUANTITY.
- AM — AIRFLOW MONITORING STATION
- VFD — VARIABLE FREQUENCY DRIVE
- SP — STATIC PRESSURE SENSOR
- DP — DIFFERENTIAL PRESSURE SENSOR
- F — WATERFLOW MONITORING STATION
- SUPPLY AIR DEVICE
- RETURN AIR DEVICE
- EXHAUST AIR DEVICE
- S-1 — DENOTES DEVICE IDENTIFICATION
- 100 — DENOTES CFM
- 6x6 — DENOTES NECK SIZE
- VAV BOX
- ELECTRIC STRIP DUCT HEATER
- 1" DOOR UNDERCUT
- SHUTOFF VALVE
- CHECK VALVE
- PRESSURE REDUCING VALVE
- THERMOMETER
- PRESSURE GAUGE
- SIGHT GLASS
- AUTOMATIC AIR VENT
- MANUAL AIR VALVE
- STRAINER
- CAP
- PLUG
- UNION
- GAUGE COCK

SYMBOLS (CONTINUED)

- T — TEMP SENSOR INSTALL 48" AFF IF WALL MOUNTED
- V — 2-WAY VALVE AND ACTUATOR
- DO — HVAC CONTROL SYSTEM DIGITAL OUTPUT
- DI — HVAC CONTROL SYSTEM DIGITAL INPUT
- AO — HVAC CONTROL SYSTEM ANALOG OUTPUT
- AI — HVAC CONTROL SYSTEM ANALOG INPUT

GENERAL NOTES

1. PLANS SHALL NOT BE SCALED. PLANS INDICATE THE SCHEMATIC LAYOUT AND LOCATION OF THE MECHANICAL SYSTEM COMPONENTS. UNLESS SPECIFIC DIMENSIONS ARE NOTED, THE ACTUAL LOCATION OF THESE COMPONENTS SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE WORK OF OTHER TRADES, THE USE OF MANUFACTURER'S SHOP DRAWINGS AND SIMILAR CERTIFIED DATA. THE ELEVATION OF EXPOSED DUCTWORK SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO ORDERING ANY DUCTWORK.

2. NO EXCLUSIONS FROM OR LIMITATIONS IN THE LANGUAGE USED IN THE CONTRACT DOCUMENTS SHALL BE INTERPRETED AS MEANING THAT THE EQUIPMENT, APPURTENANCES, AND/OR ACCESSORIES NECESSARY FOR A COMPLETE AND FUNCTIONAL SYSTEM ARE NOT TO BE PROVIDED AS REQUIRED.

   THE CONTRACTOR SHALL HAVE A COMPLETE SET OF THE CONTRACT DOCUMENTS. THE SEPARATE DIVISIONAL DRAWINGS AND SPECIFICATIONS DO NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY TO PROVIDE THE WORK WHICH IS INDICATED ON ANY OF THE DRAWINGS OR DIVISION OF THE SPECIFICATIONS. REVIEW AND COORDINATE THE SCOPE OF WORK TO ASSURE A COMPLETE AND FUNCTIONAL SYSTEM IS INSTALLED.

3. THE DIMENSIONS AND CONDITIONS SHOWN ON THE CONTRACT DOCUMENTS ARE BASED ON AVAILABLE EXISTING INFORMATION. AFTER WALLS, SLABS, AND/OR CEILINGS ARE REMOVED, VERIFY EXISTING CONDITIONS AND DIMENSIONS TO ESTABLISH DUCT, PIPING AND EQUIPMENT CLEARANCES. NOTIFY THE ARCHITECT OF ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS.

4. NOTIFY THE ARCHITECT OR HIS AUTHORIZED REPRESENTATIVE OF ANY DAMAGE TO THE EXISTING INSTALLATION BEFORE PROCEEDING WITH WORK.

5. SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS FOR REVIEW. WHERE MANUFACTURERS ARE LISTED IN THE PROJECT MANUAL, ONE OF THOSE MANUFACTURERS SHALL BE PROVIDED UNLESS A REQUEST FOR SUBSTITUTION HAS BEEN SUBMITTED PRIOR TO BID AND THE MANUFACTURER SUBSEQUENTLY IS LISTED AS AN ACCEPTABLE MANUFACTURER IN AN ADDENDUM. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED FOR REVIEW AND APPROVAL. INSTALL AND TEST ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. FOR ALL EQUIPMENT, WHICH HAS BEEN SCHEDULED DIRECTLY ON THE DRAWINGS, PROVIDE WITHIN THE SUBMITTAL, A PERFORMANCE SCHEDULE FOR THE PROPOSED EQUIPMENT IN THE EXACT SAME FORMAT AS INCLUDED ON THE CONTRACT DOCUMENTS. FAILURE TO PROVIDE REQUIRED PERFORMANCE SCHEDULE WILL RESULT IN REJECTION OF THE ENTIRE SUBMITTAL. SUBMIT DRAWINGS AND CUT SHEETS FOR ALL PRODUCTS ALL AT ONE TIME. INDEX ALL ITEMS TO THE PROJECT MANUAL OR DRAWINGS AS APPLICABLE. SHOP DRAWINGS THAT DEVIATE FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL LIST ALL DIFFERENCES IN A COVER LETTER ATTACHED TO FRONT OF THE SUBMITTAL. ANY UNLISTED DEVIATIONS FOUND DURING REVIEW WILL RESULT IN THE REJECTION OF THE ENTIRE SUBMITTAL. FOR ITEMS REVIEWED AND MARKED 'REJECTED' OR 'REVISE AND RESUBMIT'; ONLY ONE ADDITIONAL SUBMITTAL WILL BE REVIEWED TO VERIFY PRODUCT COMPLIANCE WITH THE CONTRACT DOCUMENTS. SHOULD FURTHER SUBMITTALS BE REQUIRED FOR THE DESIGN PROFESSIONAL TO VERIFY THE SUBMITTAL WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, THE HOURLY RATE OF $150.00 PLUS EXPENSES WILL BE BILLED TO THE CONTRACTOR FOR THE PROFESSIONAL(S) TIME IS SPENT ON THE REVIEW.

6. DUCTWORK, AIR DEVICES AND OTHER ITEMS OF THE AIR DISTRIBUTION SYSTEM SHALL BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE AND NOT FROM THE CEILING OR CEILING SUSPENSION SYSTEM. COORDINATE LOCATION OF AIR DEVICES AND LOUVERS WITH ELECTRICAL, ARCHITECTURAL, FIRE PROTECTION AND PLUMBING WORK. AIR DEVICES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE FROM AT LEAST TWO POINTS.

7. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF "SMACNA" DUCT CONSTRUCTION STANDARDS AND COMPLY WITH THE LATEST "NFPA" 90A REQUIREMENTS. ALL DUCTWORK SHALL BE LEAK TESTED IN ACCORDANCE WITH SMACNA AND ASHRAE STANDARDS, AND BE COMPLETED BY THE TEST AND BALANCE COMPANY. DUCTS WITH A LEAKAGE RATE MORE THAN 2% WILL BE REJECTED.

   FABRICATE DUCTWORK TO THE FOLLOWING DUCT PRESSURE CLASS:

DUCT PRESSURE CLASS	OPERATING PRESSURE
1/2" W.G.	UP TO 1/2" W.G.
1" W.G.	OVER 1/2" UP TO 1" W.G.
2" W.G.	OVER 1" UP TO 2" W.G.
3" W.G.	OVER 2" UP TO 3" W.G.

   DUCTWORK SHALL BE SEALED TO:

APPLICABLE DUCT PRESSURE CLASS	SEAL CLASS
2" W.G. AND BELOW	A
3" W.G.	A

8. ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS.

9. SUPPLY, RETURN, EXHAUST, AND OUTSIDE AIR DUCTWORK SHALL BE GALVANIZED SHEET METAL. SEAL ALL DUCT JOINTS WITH HARDCAST. ALL SUPPLY, RETURN AND OUTSIDE AIR DUCTS SHALL BE INSULATED WITH BLANKET TYPE INSULATION WITH VAPOR BARRIER (MINIMUM INSTALLED R = 6.0). DUCT INSULATION SHALL BE LABELED AND MARKED AT REQUIRED INTERVALS AS REQUIRED BY THE FLORIDA BUILDING CODE. DUCTWORK WITHIN 6 FEET OF THE FLOOR IN MECHANICAL ROOMS SHALL BE INSULATED WITH ONE INCH THICK DUCTBOARD, MINIMUM R- VALUE = 6.0.

10. ALL VOLUME DAMPERS SHALL BE OPPOSED BLADE TYPE. PROVIDE A ONE FOOT LONG PLASTIC STRIP OF MATERIAL FROM ALL DAMPER HANDLES TO ASSIST TEST AND BALANCE AGENCY IN IDENTIFYING ALL DAMPERS. IN AREAS WHERE THE FINAL DAMPER INSTALLATION PROHIBITS ACCESS FOR TEST AND BALANCE, PROVIDE POWER BALANCING DAMPERS AS MANUFACTURED BY UNITED ENERTECH. PROVIDE DAMPER, BATTERY PACK, JACKS AND CAT5 CABLE AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.

11. ALL DUCT ELBOWS SHALL INCLUDE AIR FLOW DIRECTIONAL VANES AS PER "SMACNA" DUCT CONSTRUCTION STANDARDS. SPLITTER VANES SHALL BE PROVIDED IN ALL ELBOWS AND DUCT OFFSETS WITH ANGLES BETWEEN 15 DEGREE AND 90 DEGREES AS PER FIG. 2-5 OF THE SMACNA MANUAL. 90 DEGREE ELBOWS SHALL HAVE TURNING VANES.

12. PROVIDE CONICAL SPIN-IN FITTINGS AT ALL CONNECTIONS OF ROUND SHEET METAL OR FLEXIBLE SUPPLY AIR DUCTS TO RIGID RECTANGULAR DUCT.

13. FLEXIBLE DUCTS SHALL BE FACTORY INSULATED (MINIMUM R-6) AND INCLUDE A VINYL VAPOR JACKET AND HELIX STEEL WIRE. "THERMAFLEX" TYPE M-KE OR APPROVED EQUAL. FLEXIBLE DUCT SHALL BE ATTACHED WITH THERMAFLEX STAINLESS STEEL SNAPLOCK CLAMPS. MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 6'-0". SUPPORT ELBOWS USING THERMAFLEX FLEXFLOW ELBOW.

14. SMOKE AND HIGH TEMPERATURE PROTECTION OF MECHANICAL AIR DISTRIBUTION SYSTEMS.

    a. DUCT MOUNTED SMOKE DETECTORS SHALL BE FURNISHED AND WIRED UNDER DIVISION 26 (ELECTRICAL) AT LOCATIONS INDICATED ON THE PLANS AND AS HEREIN SPECIFIED. DUCT DETECTORS SHALL COMPLY WITH UL 268A.

    b. MECHANICAL PLANS INDICATE THE APPROXIMATE LOCATION OF DUCT DETECTORS. ASSIST THE SMOKE DETECTOR INSTALLER IN LOCATING AND INSTALLING THE DETECTORS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHEN RECOMMENDED CLEARANCES CAN NOT BE MAINTAINED, SIMULATE A SMOKE AIR FLOW TEST OF EACH DEVICE AND PROVIDE A COPY OF THE FIELD TEST TO THE OWNER'S REPRESENTATIVE.

    c. PROVIDE A MINIMUM 12" X 12" INSULATED AND DOUBLE GASKETED DUCT ACCESS DOOR ADJACENT TO EACH DUCT MOUNTED SMOKE DETECTOR TO FACILITATE INSPECTION OF DUCT DETECTOR TUBES. ACCESS DOOR SHALL NOT REQUIRE TOOLS TO BE OPENED.

15. PROVIDE P-TRAPS AS PER DETAIL AT ALL CONDENSATE DRAIN LINE CONNECTIONS. SLOPE DRAIN LINES TOWARD THE POINT OF DISCHARGE (MIN 1/8"/FOOT). INSULATE CONDENSATE DRAIN LINES WITH 3/4" THICK SEAMLESS CLOSED CELL RUBBER PIPE INSULATION. CONDENSATE DRAIN LINES TO BE PVC. LINES SHALL BE ONE DIAMETER LARGER THAN THE UNIT DRAIN CONNECTION, BUT NOT LESS THAN 3/4 INCH. PROVIDE CLEANOUTS AT ALL CHANGES OF DIRECTION. THE FOLLOWING MINIMUM PIPE SIZES SHALL BE USED:

EQUIPMENT CAPACITY	MINIMUM PIPE DIAMETER
UP TO 20 TONS	3/4"

16. PROVIDE FLEXIBLE CONNECTIONS BETWEEN ALL AIR MOVING APPARATUS AND DUCTWORK. RECOMMENDED WIDTH IS 4".

17. WHERE INDICATED ON DRAWINGS AND/OR EQUIPMENT SCHEDULES EXTERNAL STATIC PRESSURE IS DEFINED AS NOT INCLUDING LOSSES DUE TO UNIT MOUNTED FILTER(S), RETURN AIR PLENUM OR MIXING BOXES. THOSE LOSSES SHALL BE PART OF THE EQUIPMENT INTERNAL LOSSES SAME AS THOSE CAUSED BY COILS, CABINET, ETC.

18. ALL NEW EQUIPMENT (FANS, AIR HANDLERS, CONDENSING UNITS, ETC.) SHALL BE LABELED WITH PLASTIC SIGNS, LAMINATED, ENGRAVED: 1/8" THICK BLANKS FOR SIGNS SHALL BE A MINIMUM OF 1 3/4" HIGH, WITH 1" HIGH LETTERS. LENGTH OF THE SIGN SHALL BE THE SUM OF THE LETTERS/NUMBERS PLUS 3/4" EACH END. SIGNS DESIGNATED FOR INSTALLATION ON THE OUTSIDE, IN OPEN AREAS, OR LOCATED IN A PROTECTED AREA THAT IS SUBJECT TO DIRECT SUNLIGHT, SHALL BE UV RATED, DESIGNATED AND MANUFACTURED TO BE EXPOSED TO THE ELEMENTS. SUBMITTAL DATA INDICATING THE ABOVE WILL BE REQUIRED. LABELS SHALL ALSO INCLUDE THE ROOM NUMBER, CORRESPONDING AIR HANDLER LOCATION OR AREA SERVED TO ASSIST IN THE DETERMINATION OF THE SERVICE LOCATION OF SAID EQUIPMENT. PROVIDE ADDITIONAL NAMEPLATE ON CEILING GRID DIRECTLY BELOW EQUIPMENT CONCEALED ABOVE CEILINGS TO AID IN LOCATING THE UNIT. NAMEPLATE DESIGNATION SHALL CONSIST OF UNIT NUMBER.

19. ALL WALL MOUNTED TEMPERATURE AND HUMIDITY SENSORS SHALL BE INSTALLED AT A CENTER LINE ELEVATION OF 4'-0" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED ON DRAWINGS. LOCATION OF THE WALL MOUNTED THERMOSTAT SHALL BE COORDINATED WITH THE OTHER TRADES FOR A NEAT APPEARANCE. FINAL LOCATION OF THERMOSTAT SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT OR HIS REPRESENTATIVE IN THE FIELD. WHEN SENSOR IS INSTALLED ON EXTERIOR WALLS, PROVIDE AN INSULATED SUB-BASE.

20. PROVIDE CLEAR PLASTIC VENTILATED COVERS WITH KEY OPERATED LOCK OVER ALL THERMOSTATS AND HUMIDISTATS. FURNISH TWO SETS OF KEYS TO THE OWNER.

21. RETAIN THE SERVICES OF A NEBB AND/OR AABC CERTIFIED TEST AND BALANCE AGENCY TO PERFORM FINAL TESTING AND BALANCING OF ALL HVAC SYSTEMS. RECORD ALL DATA ON STANDARD "AABC" OR OTHER APPROVED FORMS AND SUBMIT TO THE ARCHITECT FOR REVIEW.

22. EQUIPMENT SERVICE ACCESS

    PROVIDE ADEQUATE SERVICE SPACE AROUND AIR HANDLING UNITS, VARIABLE VOLUME BOXES, ELECTRIC DUCT HEATERS AND THE PULL SIDE OF FILTERS, OR AS REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

    SERVICE AREA SHALL BE CLEAR OF DUCTS, PIPES, CONDUITS, WALL STUDS, CEILING HANGERS, AND ANY OTHER CONSTRUCTION APPURTENANCE.

23. PROVIDE A MANUAL AND A MOTORIZED DAMPER (120 VOLT) IN ALL OUTDOOR AIR INTAKE DUCTS. MOTORIZED DAMPER SHALL BE WIRED TO OPEN AFTER A ONE HOUR DELAY (ADJUSTABLE) WHEN AIR HANDLER IS ENERGIZED AND TO CLOSE WHENEVER AIR HANDLER IS DE-ENERGIZED, OR AS DETAILED IN THE CONTROLS DRAWINGS AND SEQUENCE OF OPERATION. ALL EXHAUST AIR FANS IN THE SAME ZONE AS THE AIR HANDLER SHALL BE INTERLOCKED WITH THE MOTORIZED DAMPER SUCH THAT THE EXHAUST FAN'S OPERATION IS PROHIBITED IF THE OUTSIDE AIR DAMPER IS CLOSED. REFER TO CONTROL SECTIONS FOR FURTHER REQUIREMENTS AND SCHEDULING. THE MANUAL DAMPER IN THE OUTSIDE AIR INTAKE DUCT SHALL BE USED FOR BALANCING THE OUTDOOR AIR FLOW. 120 VOLT POWER FOR MOTORIZED DAMPER TO BE PROVIDED BY DIVISION 26.

24. ADEQUATE MEANS OF PROTECTION FOR ALL UTILITIES SHALL BE PROVIDED AND, IF UTILITIES ARE DAMAGED DURING WORKING OPERATIONS, SUCH SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE CONTRACT.

25. ACCESS PANELS THAT MAY BE REQUIRED FOR INSPECTION OF DUCTWORK, PIPING, DUCT MOUNTED DEVICES OR PIPE MOUNTED DEVICES SHALL BE PROVIDED AND ADEQUATELY SIZED. REFER TO THE ARCHITECTURAL CONTRACT DOCUMENTS FOR DOOR SPECIFICATIONS.

26. ALL DUCTWORK SHALL BE STORED IN CLEAN AREAS. PROTECT ALL DUCTWORK FROM DUST AND DEBRIS WHILE IT IS STORED ON SITE. WHILE UNDER CONSTRUCTION, ALL INSTALLED DUCTWORK SHALL BE TEMPORARILY SEALED WITH VISQUEEN PRIOR TO TEST AND BALANCE IN ORDER TO LIMIT ACCUMULATION OF CONSTRUCTION DUST INSIDE THE DUCTWORK SYSTEM. IF EITHER OF THESE PROCEDURES IS NOT CONDUCTED, THE ENTIRE ASSOCIATED DUCTWORK SYSTEM AND MECHANICAL EQUIPMENT SHALL BE CLEANED TO THE OWNER'S SATISFACTION.

27. SYSTEMS SHALL BE MAINTAINED IN ACCORDANCE WITH ASHRAE STANDARD 180-2018 - STANDARD PRACTICE FOR INSPECTION AND MAINTENANCE OF COMMERCIAL BUILDING HVAC SYSTEMS.

CODE CRITERIA

NOTE:
ALL CODES AND STANDARDS SHALL COMPLY WITH THE FLORIDA STATUES 69A-3.012 AND THE STATE FIRE MARSHALL'S RULE. THIS LIST IS NOT INCLUSIVE OF ALL CODES AND STANDARDS THAT MAY OR MAY NOT APPLY TO THIS PROJECT.

*FLORIDA BUILDING CODE (FBC), FIFTH EDITION (2017) - ALL SECTIONS
*FLORIDA BUILDING CODE (FBC), FIFTH EDITION (2017) ENERGY CONSERVATION SOFTWARE: ENERGY GAUGE SUMMIT VERSION 6.00
*FLORIDA FIRE PREVENTION CODE 2017
*FLORIDA BUILDING CODE (FBC), FIFTH EDITION (2017) ACCESSIBILITY - 2012 FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION
*AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS FOR ACCESSIBLE DESIGN (2010)

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA):
*NFPA-70 (2014) NATIONAL ELECTRICAL CODE
*NFPA-72 (2013) NATIONAL FIRE ALARM CODE
*NFPA-90A (2015) STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS
*NFPA-90B (2015) STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR-CONDITIONING SYSTEMS

AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS, INC. (ASHRAE):
*ASHRAE GUIDELINE 4-2008 - PREPARATION OF OPERATING AND MAINTENANCE DOCUMENTATION FOR BUILDING SYSTEMS
*ASHRAE STANDARD 62.1-2019 AND APPROVED ADDENDA - VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY
*ASHRAE STANDARD 90.1-2013 - ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS
*ASHRAE STANDARD 126-2016 - METHOD OF TESTING HVAC AIR DUCTS
*ASHRAE STANDARD 180-2012 - STANDARD PRACTICE FOR INSPECTION AND MAINTENANCE OF COMMERCIAL BUILDING HVAC SYSTEMS

HVAC DESIGN CRITERIA

LOCATION:	OUTDOOR °F TEMP DB/WB		SUMMER INDOOR TEMP °F DB/WB	WINTER INDOOR TEMP °F DB
LAKE CITY, FLORIDA	SUMMER	WINTER	75/63	70
	94/79	29		
LOAD CRITERIA (OVERALL VALUES)	FLOOR INSULATION	R-0		
	WALL INSULATION	R-13		
	ROOF INSULATION	R-25		
	WINDOW TYPE	U-0.5, SC=0.5		

COORDINATION DRAWINGS

PRIOR TO INSTALLATION AND FABRICATION OF HVAC WORK, CONTRACTOR SHALL SUBMIT DETAILED COORDINATION DRAWINGS AT 1/4" = 1'-0" SCALE. DRAWINGS ARE TO INCLUDE, BUT NOT NECESSARILY BE LIMITED TO, THE FOLLOWING ITEMS:

1. DETAILED SHEET METAL DRAWINGS INDICATING ALL DUCTWORK, VOLUME DAMPERS, ACCESS DOORS, GRILLES, REGISTERS AND DIFFUSERS, AIR HANDLING EQUIPMENT, PENETRATIONS THROUGH WALLS, ETC.
2. DETAILED STRUCTURAL, LIGHTING, AND PLUMBING DRAWINGS INDICATING ALL PIPING (SANITARY, VENT, DOMESTIC WATER) LOCATIONS OF PLUMBING EQUIPMENT (INCLUDING EQUIPMENT FURNISHED BY OWNER), VENTS THROUGH ROOF, ACCESS DOORS, CLEANOUTS, ETC.
3. THESE DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK FOR CHECKING FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. THESE DRAWINGS ARE NOT TO BE CONFUSED WITH SHOP DRAWINGS. THEY ARE NOT SHOP DRAWINGS. THEY ARE A TOOL TO AIDE THE CONTRACTORS IN THE INSTALLATION OF THEIR SYSTEMS.
4. AFTER COORDINATION DRAWINGS ARE COMPLETED AND REVIEWED BY A/E, ANY ADDITIONAL WORK REQUIRED IN ANY OF THESE TRADES TO PROVIDE SYSTEMS THAT DO NOT CONFLICT WITH EACH OTHER OR WITH ARCHITECTURAL AND STRUCTURAL WORK SHALL BE PROVIDED BY THE CONTRACTOR AT NO COST TO THE OWNER.

NOTES

1. THE NOTES SHOWN ON THIS SHEET APPLY TO GENERAL CONDITIONS OF HEATING, VENTILATING AND AIR CONDITIONING WORK REQUIRED FOR THIS PROJECT.
2. SPECIFICATIONS, PROJECT MANUALS AND DRAWINGS, REFER TO THIS SHEET FOR APPLICABLE REFERENCES.
3. THE DESIGN DRAWINGS OF ALL CATEGORIES AND TRADES (ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL, HEATING, VENTILATING AND AIR CONDITIONING AND ELECTRICAL) AND ALL SPECIFICATIONS AND SHOP DRAWINGS MUST BE COORDINATED AND BE VIEWED IN CONNECTION AND CONJUNCTION WITH EACH OTHER TO INSURE THE PROPER LOCATION OF ALL DEVICES AND EQUIPMENT. MAKE PARTICULAR NOTE OF LOCATIONS AND DIMENSIONS SHOWN ON THE ARCHITECTURAL FLOOR PLANS AND ELEVATIONS.
4. TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE-SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH SECTION 105.13.4.4 OF THE FLORIDA BUILDING CODE AND 633 FLORIDA STATUTES.

DRAWING INDEX

REVISIONS

BELMONT ACADEMY FOR:
2ND FLOOR EXPANSION FOR BELMONT ACADEMY CHARTER SCHOOL
1476 SW WALTER AVE, LAKE CITY, FLORIDA 32024

SIGNATURE: JOHN W. WELLS, III, PE
PE 0049347
DATE

Celebrating 40 Years of Service 1972 - 2012
N.P. Geisler, Architect AR0007005

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PHONE: (813) 448-0225
REGISTRY 3962
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SHEET NUMBER
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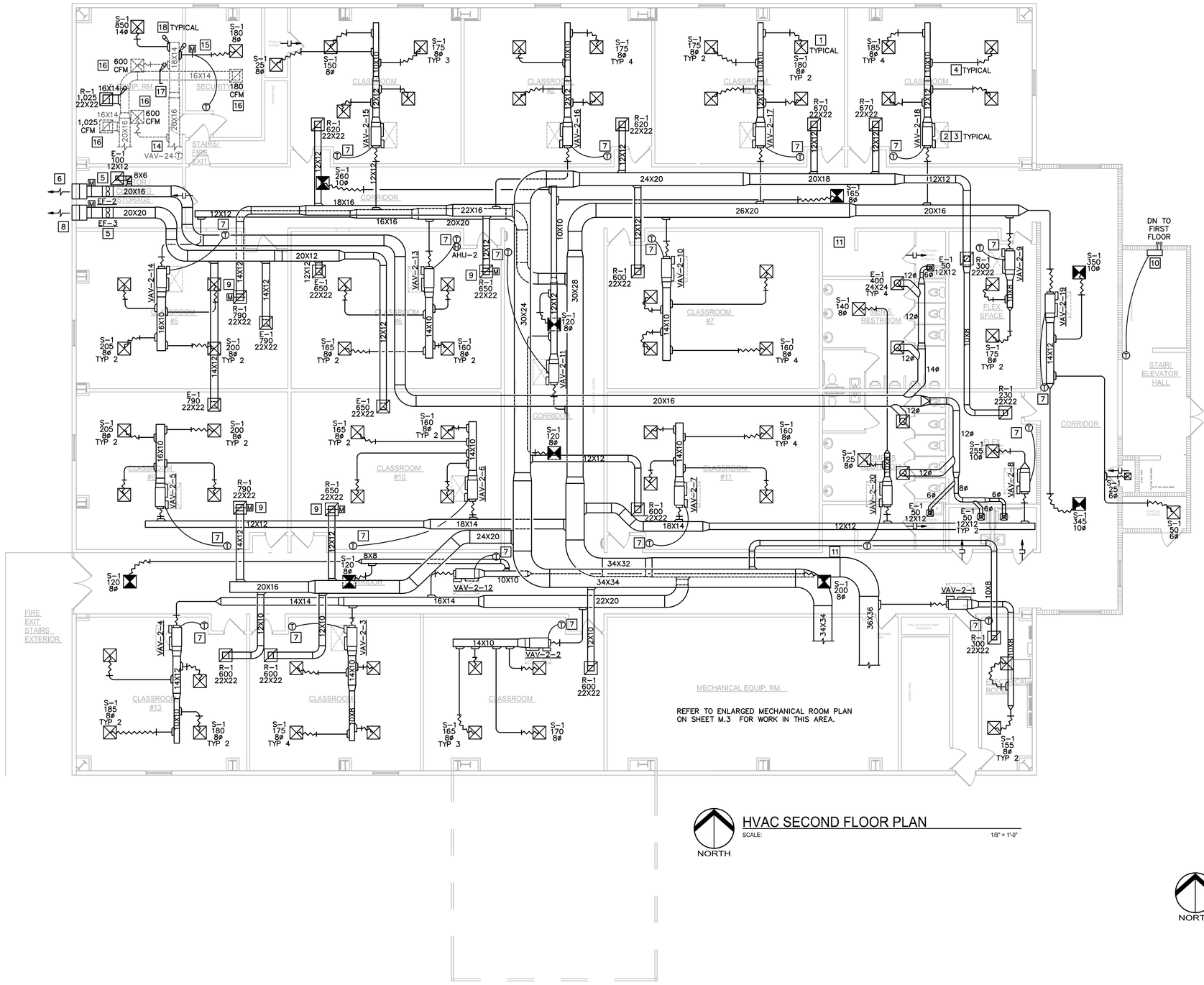
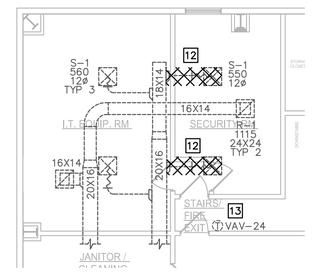


HVAC SECOND FLOOR PLAN

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

NORTH



PARTIAL SECOND FLOOR DEMO PLAN

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

NORTH

HVAC CODED NOTES:

1. DIFFUSER RUNOUT DUCT SIZE TO MATCH DIFFUSER NECK SIZE.
2. REFER TO VAV BOX SCHEDULE FOR INLET DUCT SIZE.
3. REFER TO HVAC DETAILS FOR SUPPORT OF VAV BOX.
4. PROVIDE OPPOSED BLADE DAMPER AT ALL SUPPLY, RETURN AND EXHAUST DUCT BRANCHES. SEE HVAC DETAILS. DAMPERS ARE NOT TO BE INCLUDED ON THE MEDIUM PRESSURE DUCTS UPSTREAM OF VAV BOXES.
5. REFER TO HVAC DETAILS FOR SUPPORT OF INLINE FAN.
6. PROVIDE 30X36 HURRICANE WIND RATED LOUVER EQUAL TO GREENHECK MODEL EHV-901D WITH BIRD SCREEN. LOUVER COLOR AS SELECTED BY ARCHITECT. PROVIDE 12 INCH DEEP EXTERNALLY INSULATED SHEET METAL PLENUM BOX ON BACK SIDE OF LOUVER FOR DUCT CONNECTION.
7. PROVIDE LOCKABLE VENTILATED METAL COVER OVER TEMPERATURE AND HUMIDITY SENSORS.
8. PROVIDE 40X36 HURRICANE WIND RATED LOUVER EQUAL TO GREENHECK MODEL EHV-901D WITH BIRD SCREEN. LOUVER COLOR AS SELECTED BY ARCHITECT. PROVIDE 12 INCH DEEP EXTERNALLY INSULATED SHEET METAL PLENUM BOX ON BACK SIDE OF LOUVER FOR DUCT CONNECTION.
9. PROVIDE MOTORIZED DAMPER IN RETURN DUCT ON BACK SIDE OF RETURN GRILLE, REFER TO EF-3 HVAC CONTROL DIAGRAM ON SHEET M.6 FOR MORE INFORMATION.
10. PROVIDE WALL MOUNTED SPLIT SYSTEM HEAT PUMP EQUAL TO MITSUBISHI MODEL MSZ-GL09NA (INDOOR UNIT) / MUZ-GL09NA (OUTDOOR CONDENSER) WITH 9,000 BTU COOLING, 10,900 BTU HEATING, 24.6 SEER, AND BACKUP ELECTRIC HEAT. PROVIDE SINGLE POINT POWER CONNECTION AT OUTDOOR CONDENSER, 208/1/60, 9 MCA, 15 MOOP. PROVIDE REFRIGERANT PIPING TO CONNECT UNITS AND ROUTE AS SHOWN, SIZE PER MANUFACTURER'S RECOMMENDATIONS. ROUTE CONDENSATE PIPING TO SPLASH BLOCK ON GRADE.
11. BATHROOM DOES NOT HAVE A DOOR AT ITS ENTRY, MAKE-UP AIR PASSES FREELY THROUGH BATHROOM OPENING.
12. REMOVE AND DISPOSE EXISTING DUCTWORK AND AIR DEVICE AS SHOWN. REPAIR AND SEAL MAIN DUCT PENETRATION AND INSULATE TO MATCH EXISTING.
13. PROTECT EXISTING THERMOSTAT FOR RE-USE.
14. RELOCATE EXISTING THERMOSTAT TO NEW LOCATION SHOWN. RE-CALIBRATE TO ENSURE PROPER FUNCTIONALITY.
15. INSTALL NEW MOTORIZED DAMPER. MOTORIZED DAMPER TO BE INTERLOCKED WITH NEW WALL MOUNTED THERMOSTAT.
16. RE-BALANCE EXISTING AIR DEVICE TO NEW AIR FLOW SHOWN.
17. PROVIDE NEW VOLUME DAMPER IN EXISTING RETURN AIR DUCT.
18. CONNECT NEW DUCTWORK TO EXISTING DUCTWORK. COORDINATE EXACT DUCT ROUTE WITH EXISTING CONDITIONS AND PROVIDE ALL OFFSETS NECESSARY.

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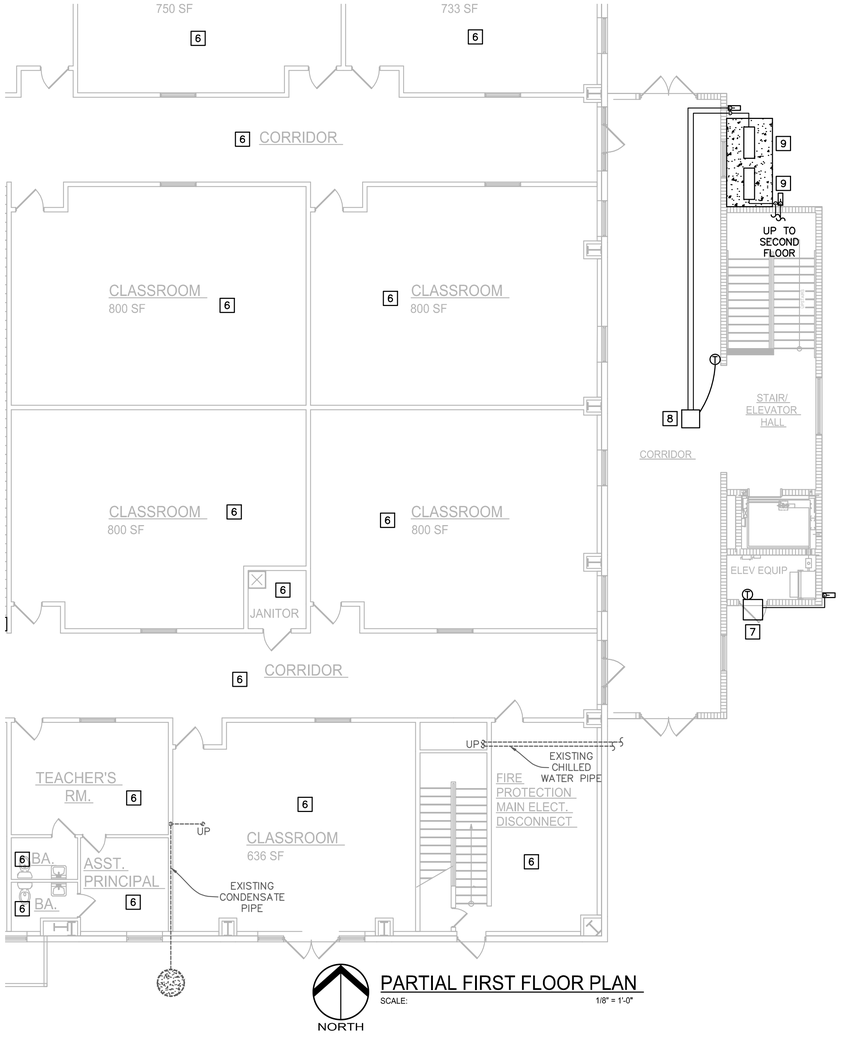
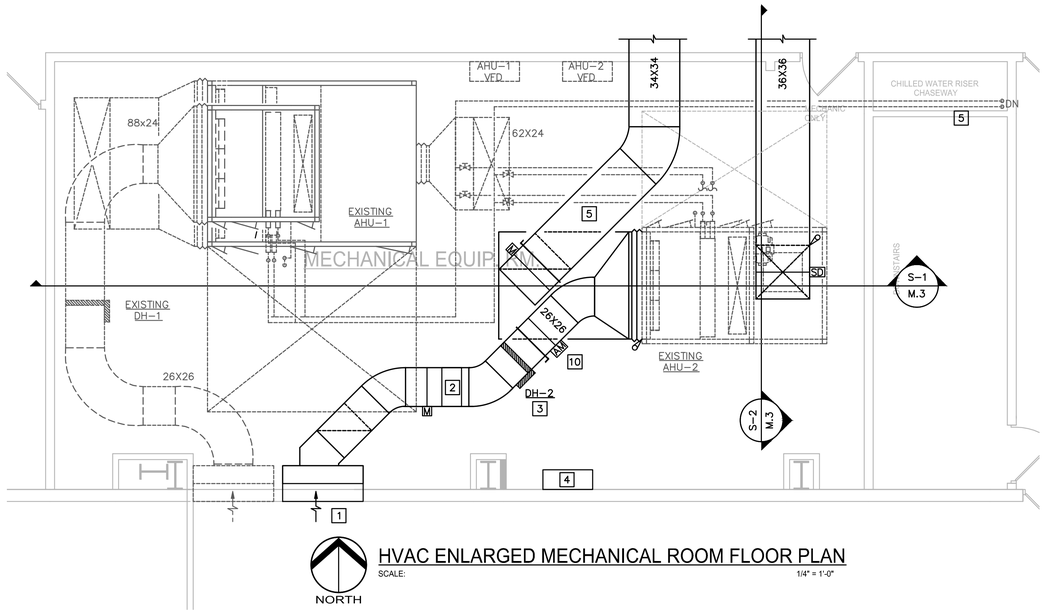
M.2



PARTIAL FIRST FLOOR PLAN

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

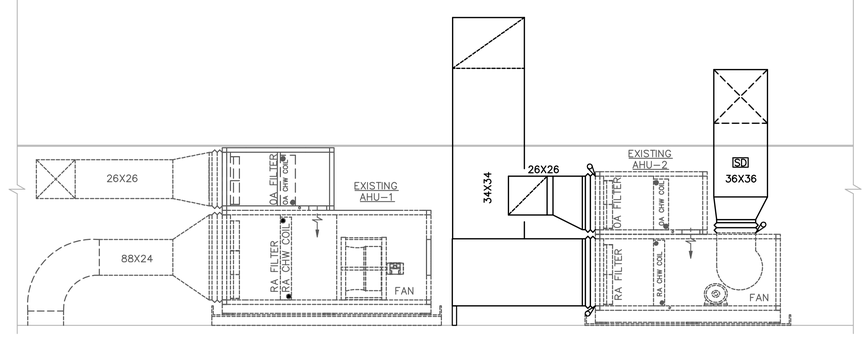


HVAC ENLARGED MECHANICAL ROOM FLOOR PLAN

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

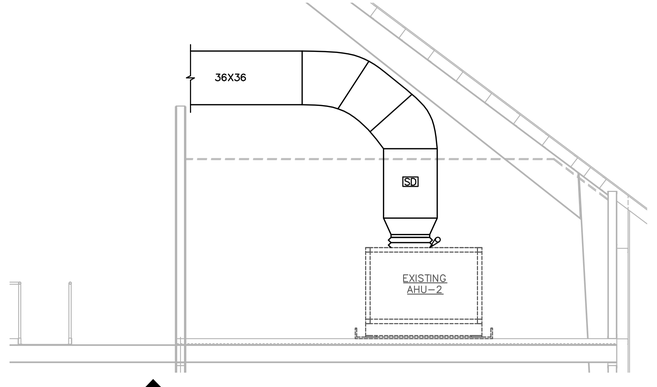
HVAC CODED NOTES:

1. PROVIDE 58X54 HURRICANE WIND RATED LOUVER EQUAL TO GREENHECK MODEL EHV-901D WITH BIRD SCREEN. LOUVER COLOR AS SELECTED BY ARCHITECT. PROVIDE 12 INCH DEEP EXTERNALLY INSULATED SHEET METAL PLENUM BOX ON BACK SIDE OF LOUVER FOR DUCT CONNECTION.
2. PROVIDE MERV 12 DUCT MOUNTED FILTER BOX AND FILTERS EQUAL TO AAF.
3. REFER TO HVAC DETAILS FOR DUCT MOUNTED ELECTRIC STRIP HEATER.
4. SPACE FOR HVAC CONTROL PANELS. COORDINATE WITH DIVISION 26 TO PROVIDE 120 VOLT POWER TO THIS LOCATION..
5. EXISTING CHILLED WATER PIPING TO REMAIN.
6. NO NEW WORK IN THIS AREA.
7. PROVIDE THROUGH WALL PACKAGED HEAT PUMP EQUAL TO FRIEDRICH MODEL YM18L34, 18,000 BTU COOLING, 16,400 BTU HEATING, 9.5 EER, 208/1/60, WITH PLUG-IN CORD. MOUNT AS HIGH AS POSSIBLE OVER DOOR. ROUTE CONDENSATE PIPING TO SPLASH BLOCK ON GRADE.
8. PROVIDE CEILING CASSETTE SPLIT SYSTEM HEAT PUMP EQUAL TO MITSUBISHI MODEL PLA-A18BA6 (INDOOR UNIT) / PUZ-A18NHA6 (OUTDOOR CONDENSER) WITH 18,000 BTU COOLING, 19,000 BTU HEATING, 14.2 SEER, AND BACKUP ELECTRIC HEAT. PROVIDE SINGLE POINT POWER CONNECTION AT OUTDOOR CONDENSER, 208/1/60, 13 MCA, 20 MOCP. PROVIDE REFRIGERANT PIPING TO CONNECT UNITS AND ROUTE AS SHOWN, SIZE PER MANUFACTURER'S RECOMMENDATIONS. ROUTE CONDENSATE PIPING TO SPLASH BLOCK ON GRADE.
9. REFER TO DETAIL ON SHEET M.5 FOR SUPPORT OF CONDENSER.
10. NEW AIRFLOW MONITORING STATION EQUAL TO EBTRON GOLD.



S-1 / M.3 HVAC SECTION

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



S-2 / M.3 HVAC SECTION

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

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FAN SCHEDULE

MARK	---	EF-2	EF-3
SERVICE	---	EXHAUST AIR	EXHAUST AIR
AIR QUANTITY	CFM	1,900	2,880
EXT. STATIC PRESSURE	IN WG	1.25	0.5
FAN TYPE	---	INLINE	INLINE
DRIVE	---	BELT	BELT
SONES	---	11.8	7.9
MOTOR	HP	1	3/4
FAN SPEED	RPM	1146	761
ELECTRICAL	V/PH/HZ	120/1/60	120/1/60
MANUFACTURER	---	COOK	COOK
MODEL	---	195SQN-HP	225SQN-HP
NOTES	---	ALL	ALL

NOTES:
1. DISCONNECT AND STARTER PROVIDED BY DIVISION 26.
2. PROVIDE BACKDRAFT DAMPER.
3. PROVIDE MOTOR / BELT GUARDS.
4. FAN TO BE CONTROLLED BY BUILDING MANAGEMENT SYSTEM, REFER TO CONTROL DIAGRAM ON SHEET M.6.

AIR DEVICE SCHEDULE

MARK	S-1
SERVICE	SUPPLY AIR
DESCRIPTION	SQUARE PLAQUE CEILING DIFFUSER WITH ROUND NECK
MATERIAL	ALUMINUM
FINISH	WHITE BAKED ENAMEL
DAMPER	RADIAL
MANUFACTURER	PRICE
MODEL	ASPD

MARK	R-1 / E-1
SERVICE	RETURN / EXHAUST AIR
DESCRIPTION	LOUVERED FACE REGISTER, SINGLE DEFLECTION WITH 3/4" BLADE SPACING
MATERIAL	ALUMINUM
FINISH	WHITE BAKED ENAMEL
DAMPER	OPPOSED BLADE
MANUFACTURER	PRICE
MODEL	630

GENERAL NOTE:
PROVIDE FRAMES AS REQUIRED BY CEILING CONSTRUCTION SHOWN ON ROOM FINISH SCHEDULE. SEE ARCHITECTURAL PLANS.

VARIABLE AIR VOULME BOX WITH ELECTRIC HEAT SCHEDULE

MARK	---	VAV-2-1	VAV-2-2	VAV-2-3	VAV-2-4	VAV-2-5	VAV-2-6	VAV-2-7	VAV-2-8	VAV-2-9	VAV-2-10
MAX COOLING	CFM	310	665	700	730	810	650	640	255	350	640
MIN COOLING	CFM	95	235	245	255	285	230	225	90	125	225
HEATING	CFM	155	335	350	365	405	325	320	130	175	320
ADP AT MAX COOLING	IN WG	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
MAX DIS NC	NC	25	25	25	25	25	25	25	25	25	25
MAX RAD NC	NC	25	25	25	25	25	25	25	25	25	25
INLET DUCT CONNECTION SIZE	IN X IN	7	10	10	10	10	10	10	6	8	10
ELECTRIC STRIP HEAT	KW/STEPS	2/1	3/1	4/1	4/1	4/1	3/1	3/1	2/1	3/1	3/1
ELECTRICAL	V/PH/HZ	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60
MANUFACTURER	---	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL	---	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5
NOTES	---	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL

MARK	---	VAV-2-11	VAV-2-12	VAV-2-13	VAV-2-14	VAV-2-15	VAV-2-16	VAV-2-17	VAV-2-18	VAV-2-19	VAV-2-20
MAX COOLING	CFM	665	440	650	810	700	700	710	740	770	265
MIN COOLING	CFM	235	155	230	285	210	210	210	225	270	95
HEATING	CFM	335	220	325	405	350	350	355	370	335	135
ADP AT MAX COOLING	IN WG	0.01	0.14	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
MAX DIS NC	NC	25	25	25	25	25	25	25	25	25	25
MAX RAD NC	NC	25	25	25	25	25	25	25	25	25	25
INLET DUCT CONNECTION SIZE	IN X IN	10	8	10	10	10	10	10	10	10	7
ELECTRIC STRIP HEAT	KW/STEPS	3/1	2/1	3/1	4/1	4/1	4/1	4/1	4/1	4/1	2/1
ELECTRICAL	V/PH/HZ	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60	277/1/60
MANUFACTURER	---	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL	---	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5
NOTES	---	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL	ALL

NOTES:
1. ALL VAV BOXES TO BE SELECTED AT A MAXIMUM INLET STATIC PRESSURE OF 1.50 IN WG.
2. ALL VAV BOXES TO BE PRESSURE INDEPENDENT.
3. NOISE CRITERIA (NC) ESTIMATE CALCULATED USING THE FOLLOWING TRANSFER FUNCTIONS:
   DISCHARGE: ARI 885-98;
   RADIATED: ARI 885-98 MINERAL FIBER.
4. EACH VAV BOX TO BE FEED A SEPARATE 120V POWER CONNECTION FOR CONTROLS. FEED TO BE PROVIDED AND INSTALLED BY DIVISION 26. CONTROLS PROVIDED AND INSTALLED BY DIVISION 23.
5. PROVIDE FIBER FREE FOAM INSULATION

SECOND FLOOR AIR BALANCE SUMMARY (WHEN CO2 LEVELS DO NOT EXCEED LIMITS)

MARK	OUTSIDE AIR FLOW CFM	EXHAUST AIR FLOW CFM
AHU-2	2,910	---
EF-2	---	1,900
EF-3	---	---

1,010 CFM POSITIVE

SECOND FLOOR AIR BALANCE SUMMARY (WHEN CO2 LEVELS EXCEED LIMITS)

MARK	OUTSIDE AIR FLOW CFM	EXHAUST AIR FLOW CFM
AHU-2	6,090	---
EF-2	---	1,900
EF-3	---	2,880

1,310 CFM POSITIVE

ELECTRIC DUCT HEATER SCHEDULE

MARK	---	DH-2
SERVICE	---	OUTSIDE AIR DUCT
TOTAL CAPACITY	KW/STEPS	75 / SCR
TOTAL AIR FLOW	CFM	6,090 MAX / 2,910 MIN
ENT. AIR TEMP (DB)	DEG F	28.9
LVG. AIR TEMP (DB)	DEG F	70.0
DUCT SIZE (WXH)	INCHES	26X26
ELECTRICAL	V/PH/HZ	480/3/60
MANUFACTURER	---	THERMOLEC
MODEL	---	SC
NOTES	---	ALL

NOTES:
1. DISCONNECT PROVIDED BY DIVISION 26.
2. PROVIDE AIR PRESSURE DIFFERENTIAL PRESSURE SWITCH AND CONTACTOR.
3. HEATERS SHALL BE UL LISTED FOR SERVICE.

EXISTING DUAL PATH CHILLED WATER AIR HANDLING UNIT SCHEDULE

MARK	---	AHU-2
FAN SECTION		
TOTAL SUPPLY AIR FLOW	CFM	12,200
EXTERNAL STATIC PRESSURE	IN WG	2.0
TOTAL STATIC PRESSURE	IN WG	4.30
DRIVE	---	BELT
FAN TYPE	---	AF / VARIABLE
FAN SPEED	RPM	2050
FAN MOTOR	HP/BHP	15 / 12.3
FAN FLA	AMPS	17.9
FAN MCA	AMPS	22.4
FAN MOCP	AMPS	30
FAN ELECTRICAL	V/PH/HZ	480/3/60
RETURN AIR COOLING COIL		
TOTAL CAPACITY	BTUH	272,600
SENSIBLE CAPACITY	BTUH	202,600
AIR FLOW	CFM	9,290 MAX / 6,110 MIN
ENT. AIR TEMP (DB/WB)	DEG F/DEG F	75.0/63.0
LVG. AIR TEMP (DB/WB)	DEG F/DEG F	54.9 / 52.8
COOLING COIL (MIN/MAX)	ROWS/FINS PER INCH	4/11
COOLING COIL MAX FACE VEL.	FPM	476
COOLING COIL MAX PRESS. DROP	IN WG	0.52
CHILLED WATER FLOW	GPM	58.0
CHILLED WATER TEMP (ENT./LVG.)	DEG F/DEG F	44.0/53.4
MAX WATER PRESS. DROP	FT WG	11.1
RETURN AIR PATH FILTER		
FILTER	MERV	12
OUTSIDE AIR COOLING COIL		
TOTAL CAPACITY	BTUH	512,100
SENSIBLE CAPACITY	BTUH	251,600
AIR FLOW	CFM	6,090 MAX / 2,910 MIN
ENT. AIR TEMP (DB/WB)	DEG F/DEG F	93.5/78.9
LVG. AIR TEMP (DB/WB)	DEG F/DEG F	54.9/54.0
COOLING COIL (MIN/MAX)	ROWS/FINS PER INCH	6/8
COOLING COIL MAX FACE VEL.	FPM	409
COOLING COIL MAX PRESS. DROP	IN WG	0.41
CHILLED WATER FLOW	GPM	118
CHILLED WATER TEMP (ENT./LVG.)	DEG F/DEG F	44/52.6
MAX WATER PRESS. DROP	FT WG	11.1
OUTSIDE AIR PATH FILTER		
PREFILTER	MERV	8
FILTER	MERV	12
TOTAL UNIT WEIGHT	LBS	4799
MANUFACTURER	---	JOHNSON-YORK
MODEL	---	XTI-51x78,42x78
NOTES	---	ALL

NOTES:
THE AIR HANDLING UNIT IS EXISTING TO REMAIN. THE SCHEDULE ABOVE HAS BEEN REPRODUCED FROM RECORD DOCUMENTS BY CONSULTING ENGINEERING ASSOCIATES, INC. DATED JANUARY 31, 2014, FOR REFERENCE ONLY. THE SYSTEM IS TO BE BALANCED TO VALUES SHOWN ABOVE.

OUTSIDE AIR CALCULATIONS PER ASHRAE STANDARD 62.1 – 2019

Building:	Belmont Academy
System Tag/Name:	AHU-2
Operating Condition Description:	COOLING MODE
Units (select from pull-down list)	IP

Inputs for System	Name	Units	w/o diversity System		Diversity	w/ diversity System
Floor area served by system	As	sf	15,770			
Population of area served by system	Ps	P	391	D	93%	364
Design primary supply fan airflow rate	Vpsd	cfm	12,200		100%	12,200
OA req'd per unit area for system (Weighted average)	Ras	cfm/sf	0.10			
OA req'd per person for system area (Weighted average)	Rps	cfm/p	9.7			
Percent increase in Vbz over minimum required			0%			

Inputs for Potentially Critical zones	Name	Units	System											
Zone Name				Classroom 1	Classroom 2	Classroom 3	Classroom 4	Janitor/ Cleaning Storage	Corridor	Classroom 5	Classroom 6	Classroom 10	Corridor	Classroom 13
Zone Tag				1	2	3	4	5	6	7	8	10	11	12
Occupancy Category				Classrooms (age 9 plus)	Classrooms (age 9 plus)	Classrooms (age 9 plus)	Classrooms (age 9 plus)	Occupiable storage rooms for liquids or gels	Corridors	Classrooms (age 9 plus)	Classrooms (age 9 plus)	Classrooms (age 9 plus)	Corridors	Classrooms (age 9 plus)
Floor Area of zone	Az	sf		622	678	697	666	155	1,418	782	783	783	800	611
Design population of zone	Pz	P		28	28	28	28	0	0	28	28	28	0	28
Design total supply to zone (primary plus local recirculated)	Vdzd	cfm		700	700	710	740	120	380	810	650	650	240	730
Induction Terminal Unit, Dual Fan Dual Duct or Transfer Fan?														
Frac. of local recirc. air that is representative of system RA	Er			0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Inputs for Operating Condition Analyzed														
Percent of total design airflow rate at conditioned analyzed	Ds	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Air distribution type at conditioned analyzed				CS	CS	CS	CS	CS	CS	CS	CS	CS	CS	CS
Zone air distribution effectiveness at conditioned analyzed	Ez			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Primary air fraction of supply air at conditioned analyzed	Ep													

Inputs for Potentially Critical zones	Name	Units	System											
Zone Name				Classroom	Classroom	Corridor	Classroom 7	Classroom 11	Men's Restroom	Women's Restroom	Flex Space	Flex Space	Restroom	Restroom
Zone Tag				13	14	15	16	17	18	19	20	21	22	23
Occupancy Category				Classrooms (age 9 plus)	Classrooms (age 9 plus)	Corridors	Classrooms (age 9 plus)	Classrooms (age 9 plus)	Office space	Office space	Conference/meeting	Conference/meeting	Office space	Office space
Floor Area of zone	Az	sf		618	656	618	795	793	468	469	322	226	43	43
Design population of zone	Pz	P		28	28	0	28	28	0	0	16	11	0	0
Design total supply to zone (primary plus local recirculated)	Vdzd	cfm		700	665	165	640	640	140	125	350	255	15	15
Induction Terminal Unit, Dual Fan Dual Duct or Transfer Fan?														
Frac. of local recirc. air that is representative of system RA	Er			0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Inputs for Operating Condition Analyzed														
Percent of total design airflow rate at conditioned analyzed	Ds	%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Air distribution type at conditioned analyzed				CS	CS	CS	CS	CS	CS	CS	CS	CS	CS	CS
Zone air distribution effectiveness at conditioned analyzed	Ez			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Primary air fraction of supply air at conditioned analyzed	Ep													

Inputs for Potentially Critical zones	Name	Units	System				
Zone Name				Corridor	Corridor	Stair/ Elevator Hall	Electrical Room
Zone Tag				24	25	26	27
Occupancy Category				Corridors	Corridors	Corridors	Office space
Floor Area of zone	Az	sf		816	631	326	169
Design population of zone	Pz	P		0	0	0	0
Design total supply to zone (primary plus local recirculated)	Vdzd	cfm		540	170	230	310
Induction Terminal Unit, Dual Fan Dual Duct or Transfer Fan?							
Frac. of local recirc. air that is representative of system RA	Er			0.80	0.80	0.80	0.80
Inputs for Operating Condition Analyzed							
Percent of total design airflow rate at conditioned analyzed	Ds	%	100%	100%	100%	100%	100%
Air distribution type at conditioned analyzed				CS	CS	CS	CS
Zone air distribution effectiveness at conditioned analyzed	Ez			1.00	1.00	1.00	1.00
Primary air fraction of supply air at conditioned analyzed	Ep						

Results	Name	Units	Value	
System Ventilation Efficiency	Ev		0.83	
Outdoor air intake required for system	Vot	cfm	6087	6,090 CFM PROVIDED
Outdoor air per unit floor area	Vot/As	cfm/sf	0.39	
Outdoor air per person served by system (including diversity)	Vot/Ps	cfm/p	16.7	
Outdoor air as a % of design primary supply air	Ypd	%	50%	

REVISIONS

BELMONT ACADEMY FOR:
2ND FLOOR EXPANSION FOR
BELMONT ACADEMY CHARTER SCHOOL
1476 SW WALTER AVE, LAKE CITY, FLORIDA 32024

SIGNATURE
JOHN W. WELLS, III, PE
PE 0049347
DATE

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40 Years of Service
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N.P. Geisler, Architect
AR0007005

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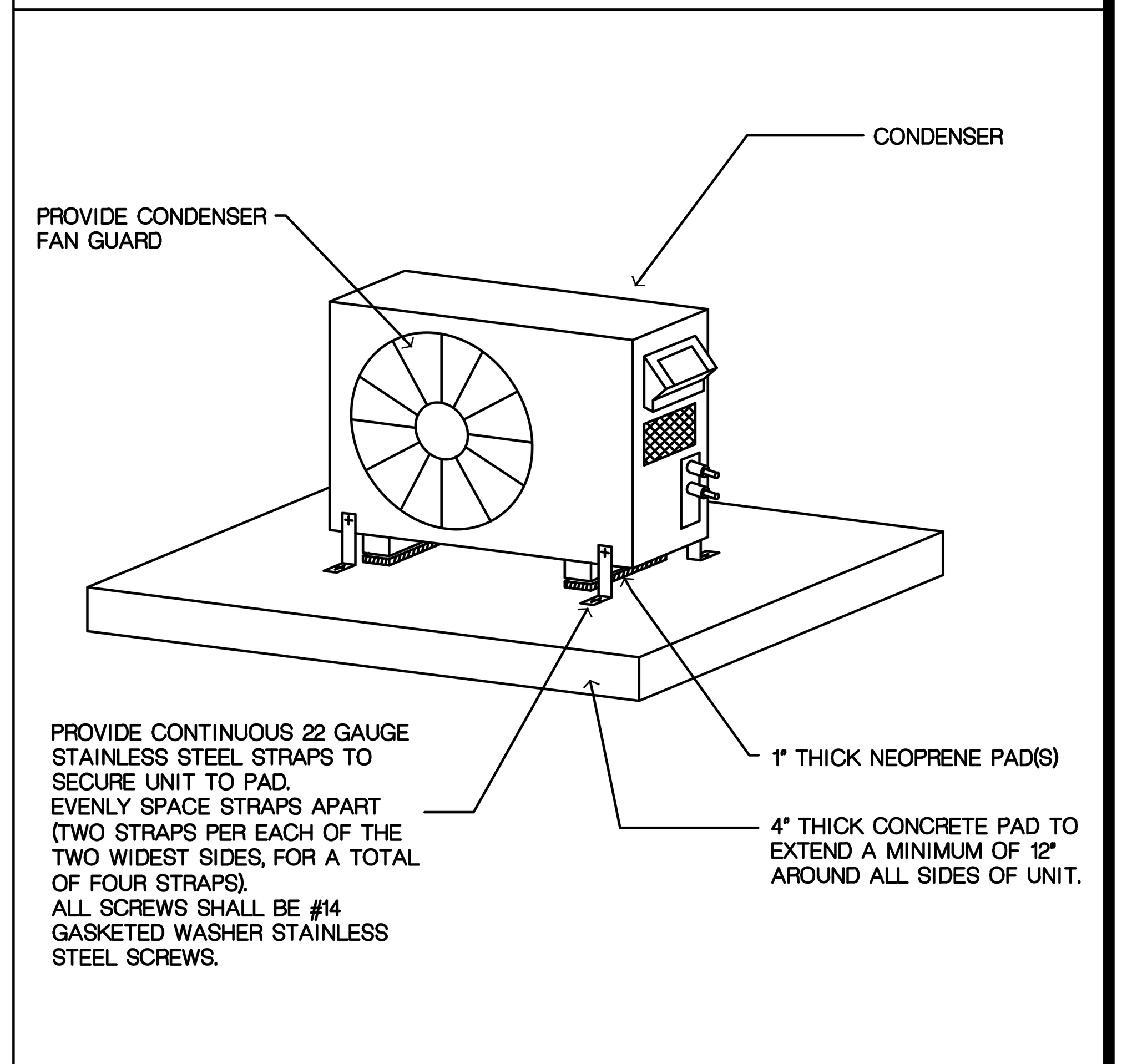
REGISTRY 3962
PROJECT NUMBER: 20031

JOB NUMBER
2K1403a
DATE:
28 SEP 2020

SHEET NUMBER
M.4

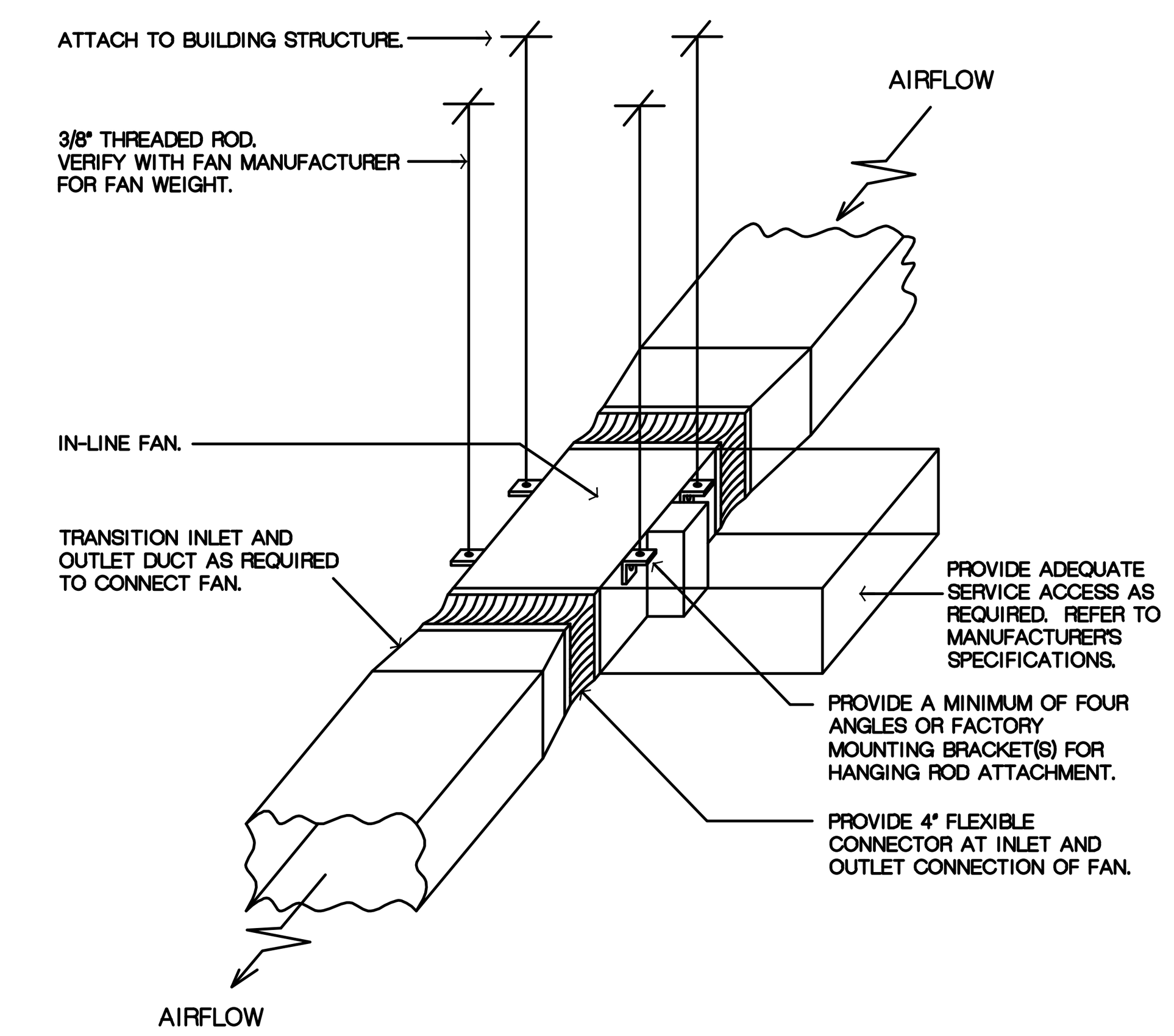
CONDENSER SUPPORT



CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 03-16-05 | MD-0452

IN-LINE FAN - CEILING MOUNTED

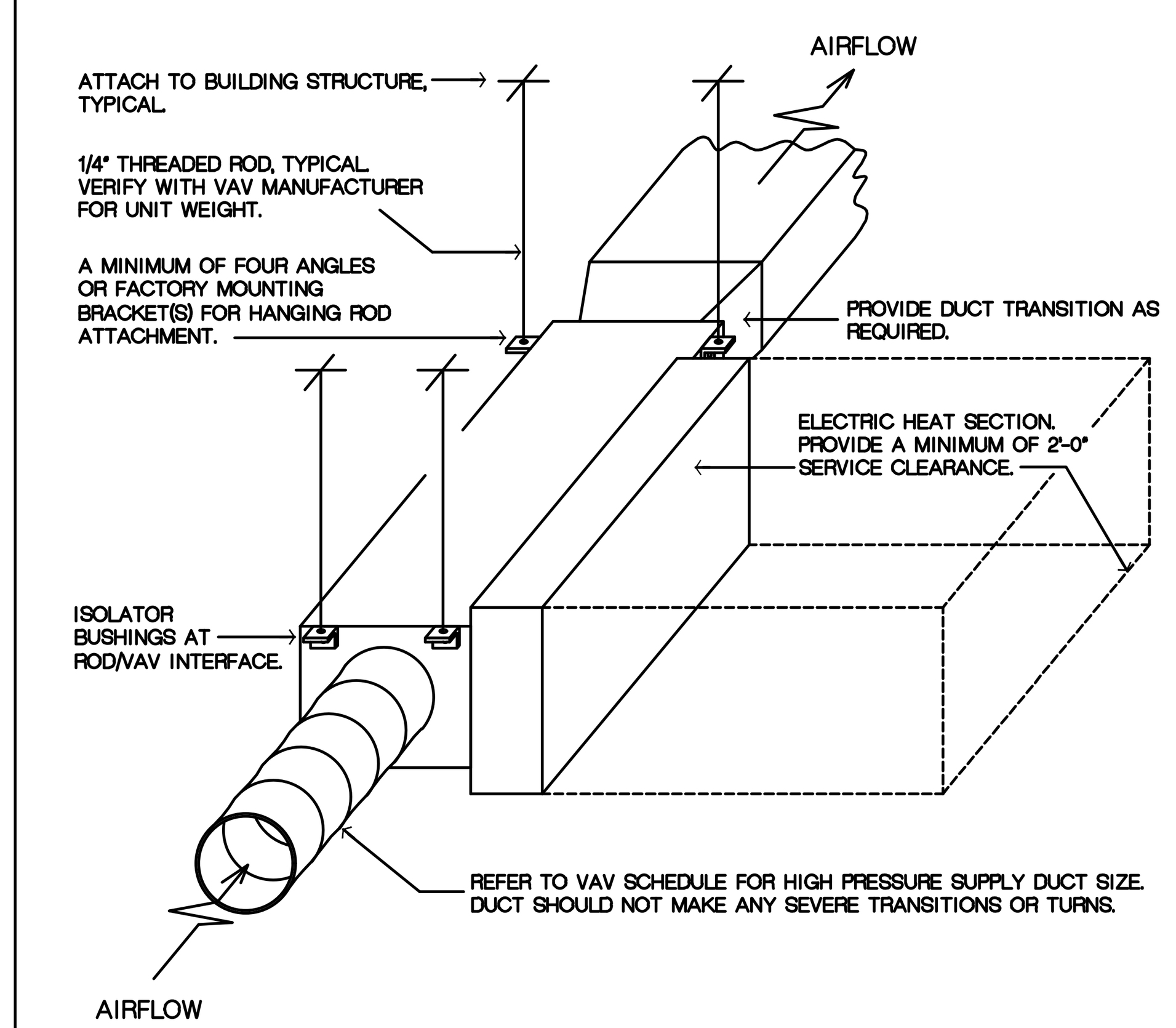
NOTE:
FAN TO BE DIRECTLY SUPPORTED BY BUILDING STRUCTURE AND NOT CONNECTING DUCTWORK OR CEILING.



CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 12-28-04 | MD-0447

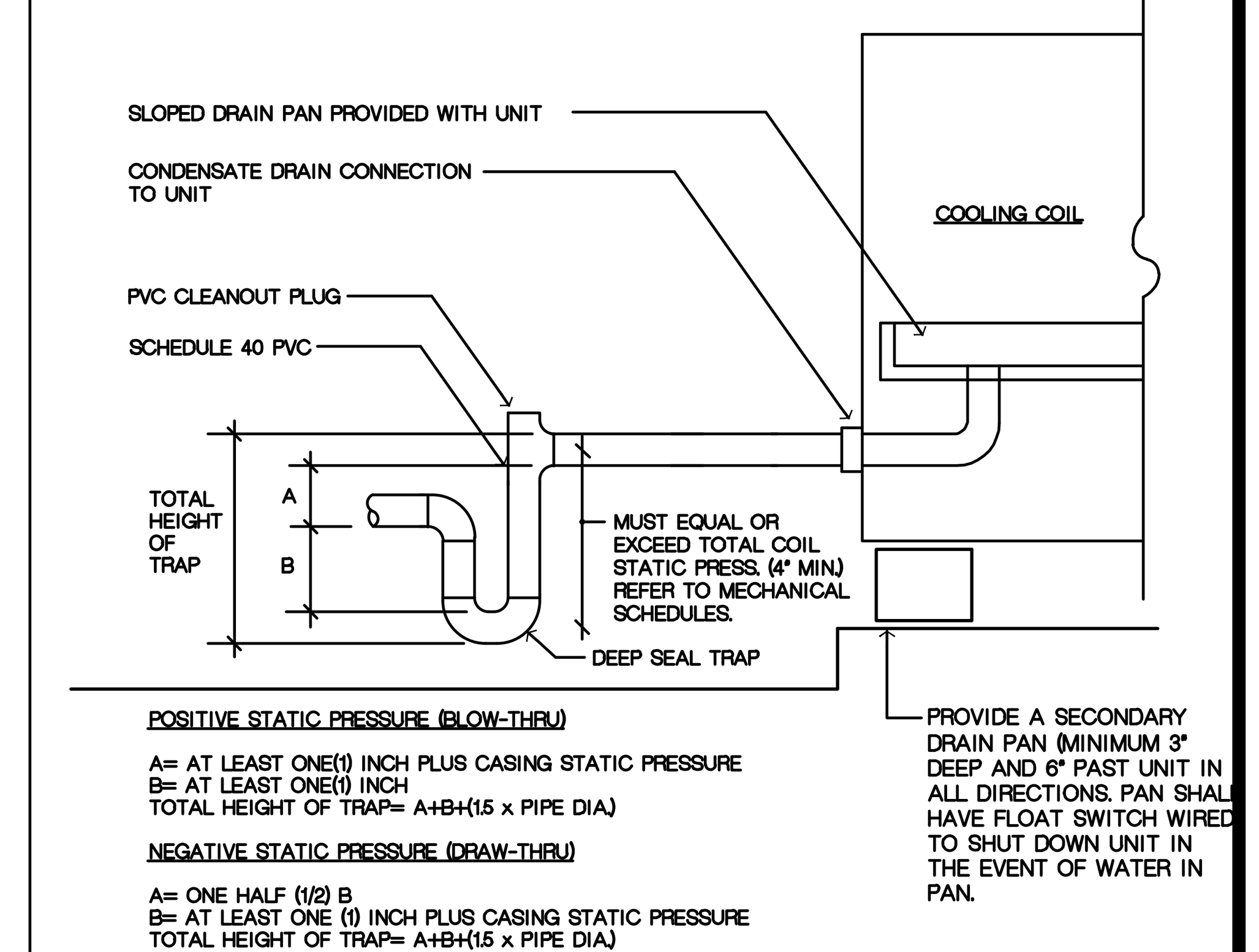
SINGLE DUCT VAV BOX W/ ELEC HEAT SUPPORT

NOTE:
VAV BOX TO BE DIRECTLY SUPPORTED BY BUILDING STRUCTURE AND NOT CONNECTING DUCTWORK OR CEILING.



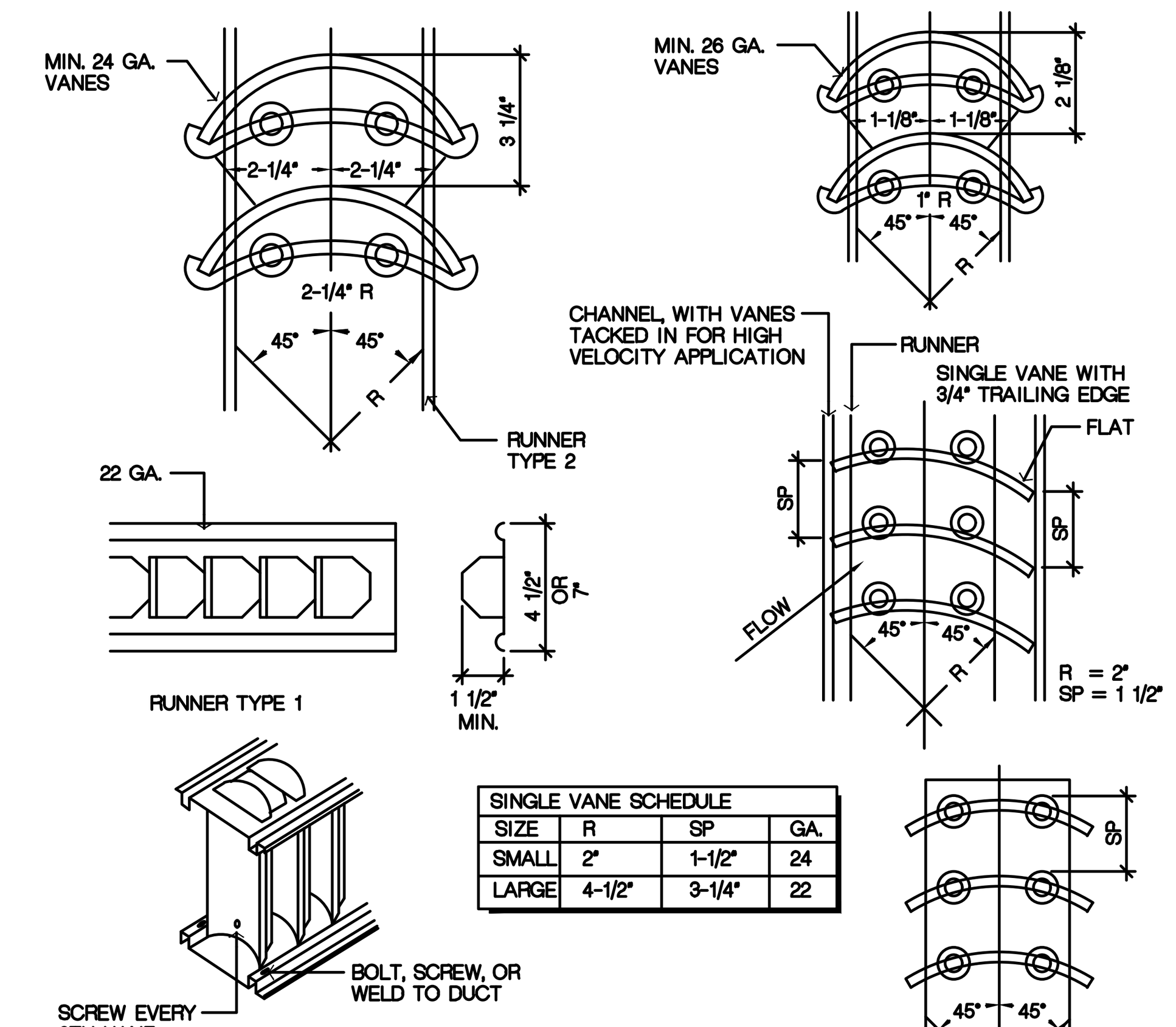
CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 01-08-08 | MD-0108

CONDENSATE DRAIN PIPING



CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 01-08-08 | MD-0108

TURNING VANES AND VANE RUNNERS

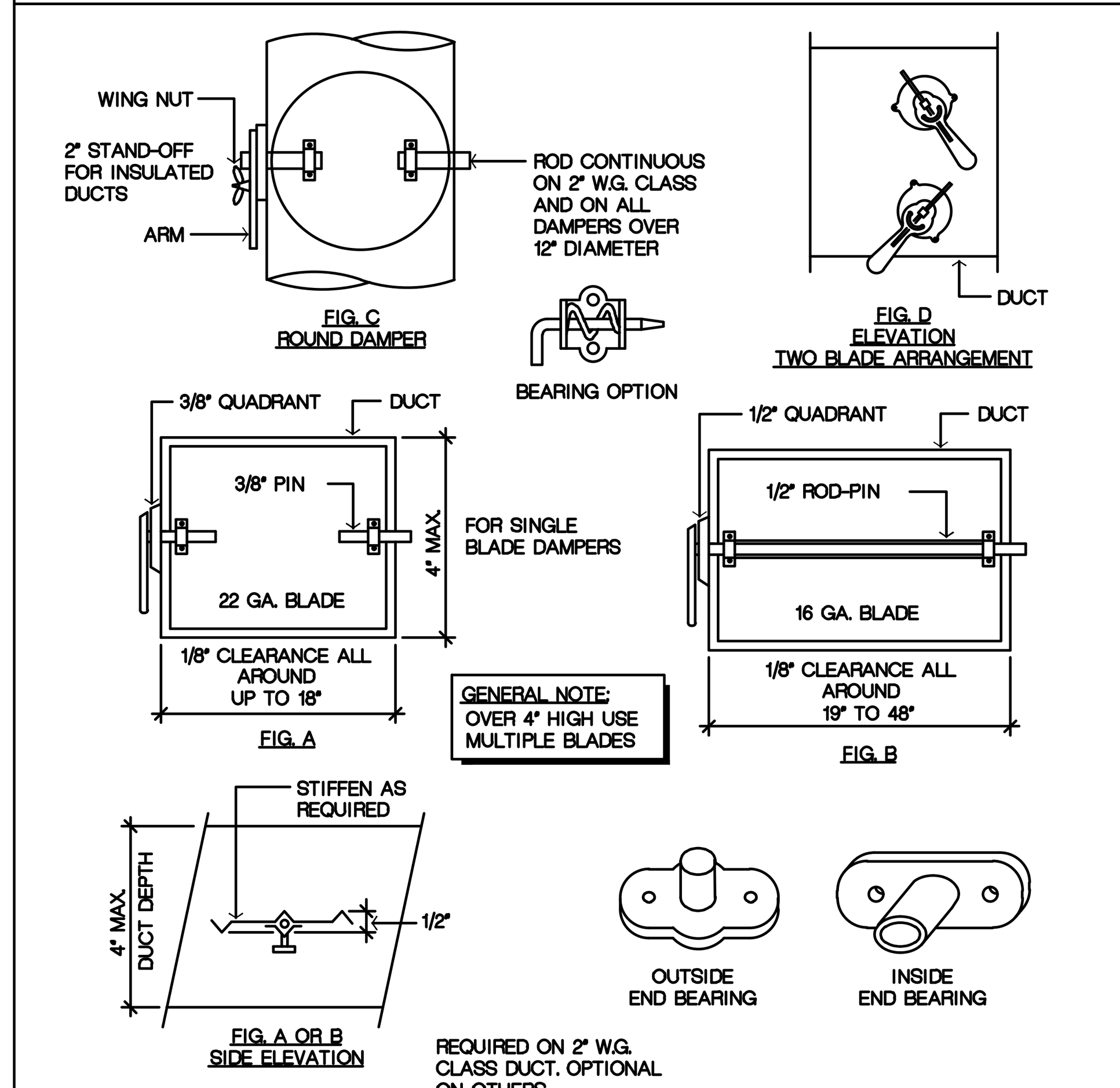


SINGLE VANE SCHEDULE			
SIZE	R	SP	GA.
SMALL	2"	1-1/2"	24
LARGE	4-1/2"	3-1/4"	22

GENERAL NOTES:
DOUBLE VANE FOR DUCTS GREATER THAN 18" x 18"
SINGLE VANE FOR DUCTS UP TO 18" x 18"

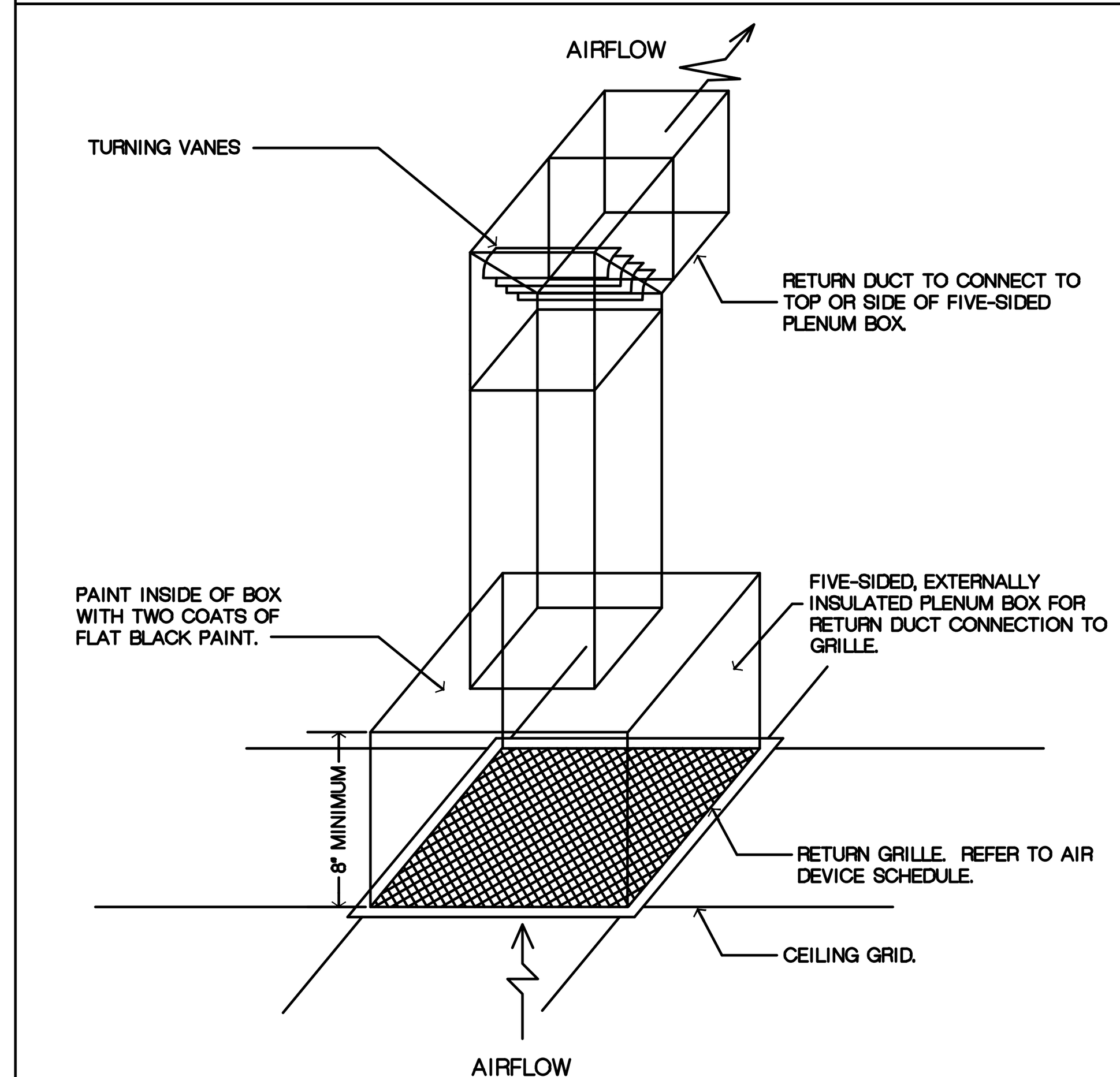
CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 01-08-08 | MD-0108

VOLUME DAMPERS FOR DUCTWORK



CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 01-08-08 | MD-0108

FIVE SIDED RETURN GRILLE PLENUM BOX



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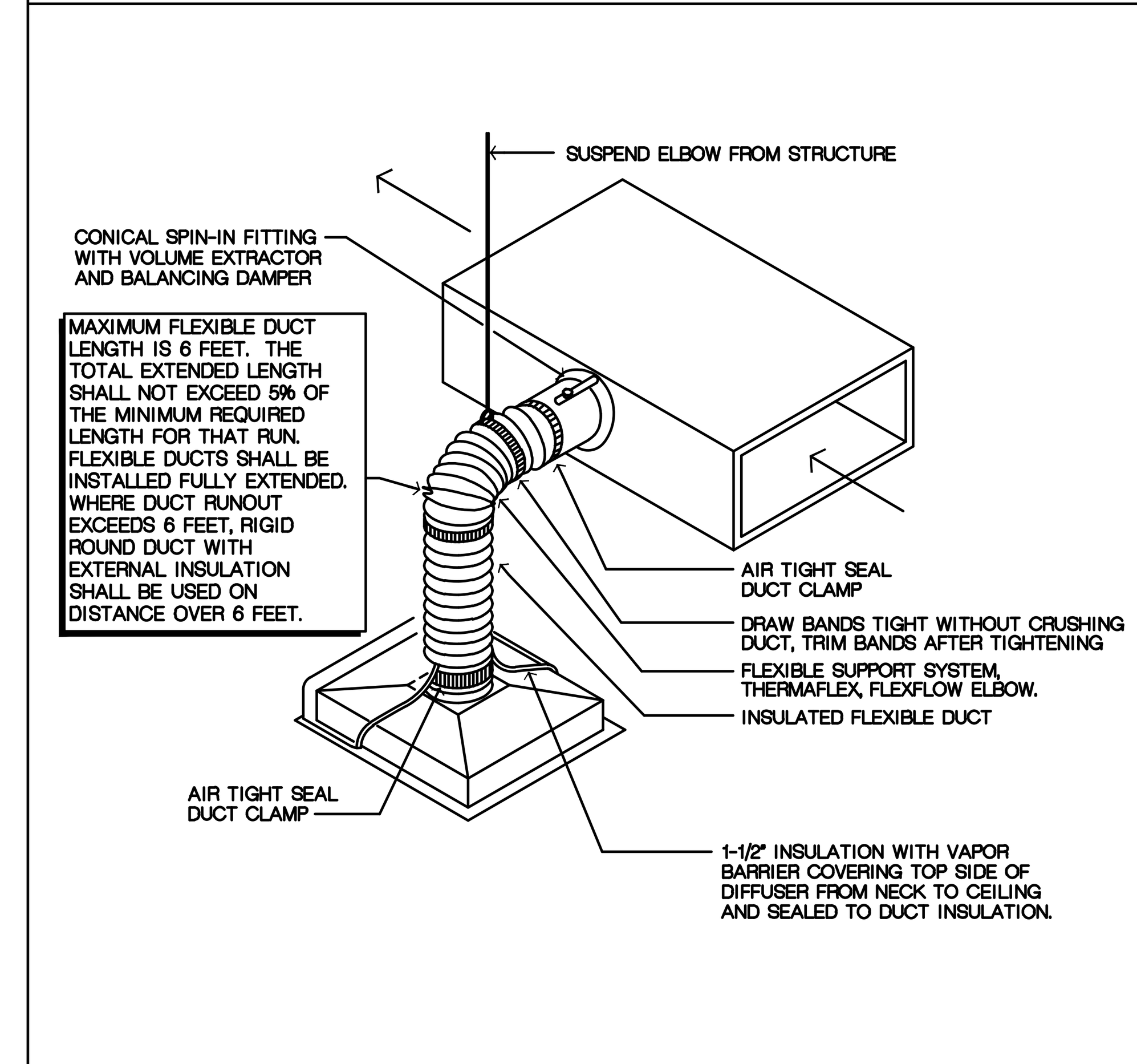
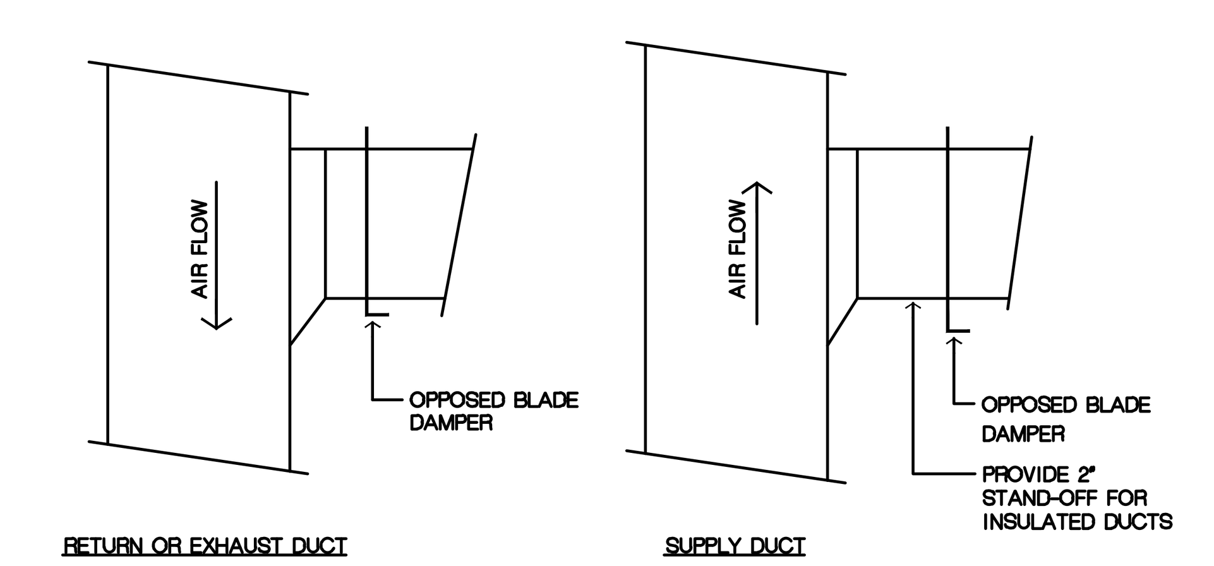
FLEXIBLE DUCTWORK



CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 01-08-08 | MD-0108

TYPICAL BRANCH DUCTS



CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 08-07-01 | MD-0504B

RECTANGULAR DUCT HANGERS MINIMUM SIZES

MAXIMUM HALF OF DUCT PERIMETER	PAIR AT 10 FT. SPACING		PAIR AT 8 FT. SPACING		PAIR AT 5 FT. SPACING		PAIR AT 4 FT. SPACING	
	STRAP	ROD	STRAP	ROD	STRAP	ROD	STRAP	ROD
$\frac{P}{2}$ = 72"	1" x 22 GA.	1/4"	1" x 22 GA.	1/4"	1" x 22 GA.	1/4"	1" x 22 GA.	1/4"
$\frac{P}{2}$ = 96"	1" x 18 GA.	3/8"	1" x 20 GA.	1/4"	1" x 22 GA.	1/4"	1" x 22 GA.	1/4"
$\frac{P}{2}$ = 120"	1" x 16 GA.	3/8"	1" x 18 GA.	3/8"	1" x 22 GA.	1/4"	1" x 22 GA.	1/4"
$\frac{P}{2}$ = 168"	1.5" x 16 GA.	1/2"	1" x 16 GA.	3/8"	1" x 18 GA.	3/8"	1" x 18 GA.	3/8"
$\frac{P}{2}$ = 192"		1/2"	1.5" x 16 GA.	1/2"	1" x 16 GA.	3/8"	1" x 16 GA.	3/8"
$\frac{P}{2}$ = 193" UP	SPECIAL ANALYSIS REQUIRED							

WHEN STRAPS ARE LAP JOINED USE THESE MINIMUM FASTENERS:

1" x 18, 20, 22 GA. – TWO #10
1" x 16 GA. – TWO 1/4" DIA.
1.5" x 16 GA. – TWO 3/8" DIA.
PLACE FASTENERS IN SERIES, NOT SIDE BY SIDE.

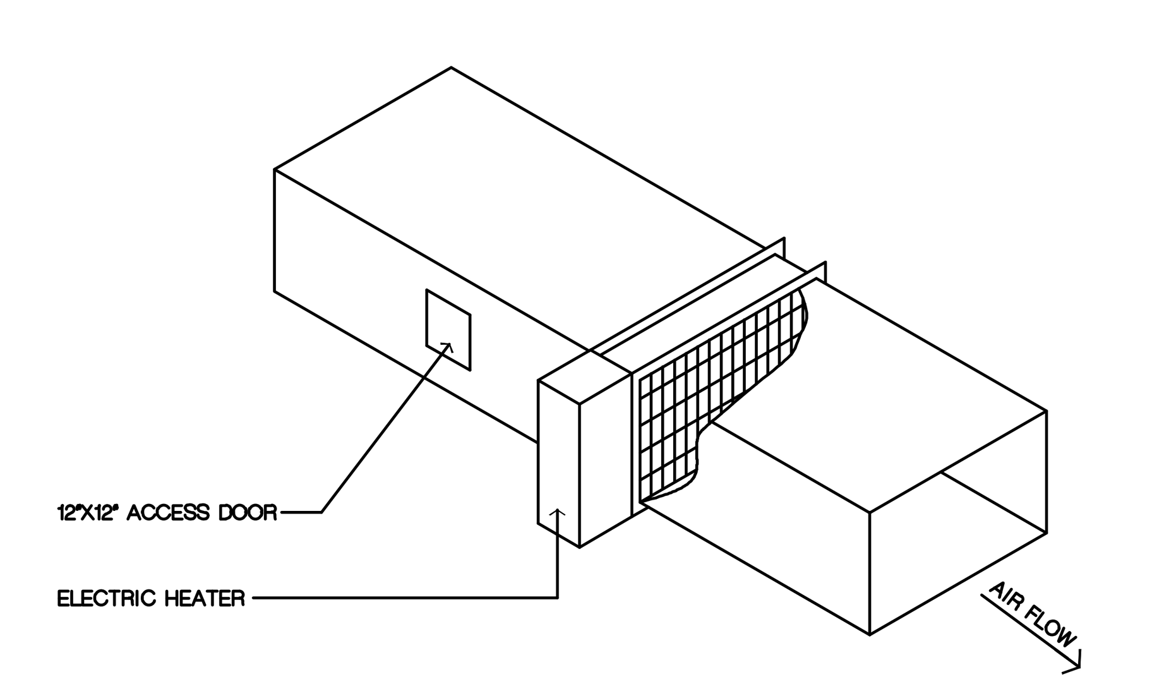
SINGLE HANGER MAXIMUM ALLOW. LOAD

1" x 22 GA. – 260 LBS.	1/4 DIA. 270 LBS.
1" x 20 GA. – 320 LBS.	3/8 DIA. 680 LBS.
1" x 18 GA. – 420 LBS.	1/2 DIA. 1250 LBS.
1" x 16 GA. – 700 LBS.	5/8 DIA. 2000 LBS.
1.5" x 16 GA. – 1100 LBS.	3/4 DIA. 3000 LBS.

NOTES:
1. DIMENSIONS OTHER THAN GAGE ARE IN INCHES.
2. TABLES ALLOW FOR DUCT WEIGHT, 0.5 LB/SF INSULATION WEIGHT & NORMAL REINFORCEMENT AND TRAPEZE WEIGHT, BUT NO EXTERNAL LOADS!
3. CONSULT AISI LIGHT GAGE STEEL DESIGN MANUAL AND AISC STEEL CONSTRUCTION MANUAL FOR CRITERIA FOR DESIGN OF OTHER HANGERS.
4. STRAPS ARE GALVANIZED STEEL; OTHER MATERIALS ARE UNCOATED STEEL.
5. ALLOWABLE LOADS LISTED ASSUME THAT DUCTS ARE 16 GA. MAXIMUM.

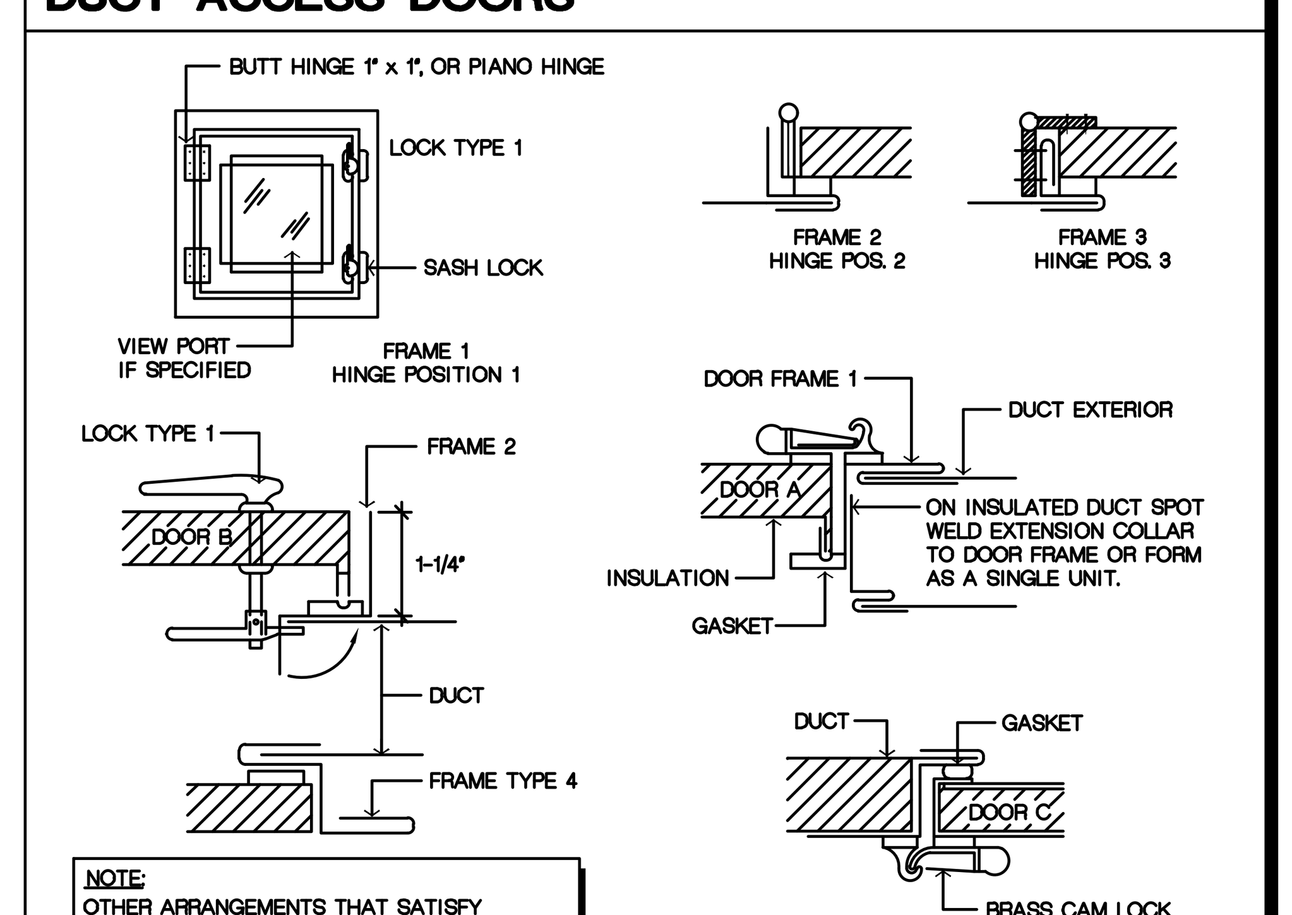
CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 01-08-08 | MD-0108

ELECTRIC DUCT HEATER



CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 08-07-01 | MD-0517

DUCT ACCESS DOORS



NOTE:
OTHER ARRANGEMENTS THAT SATISFY FUNCTIONAL REQUIREMENTS ARE ACCEPTABLE

MAX. DIM.	NO. HINGES	NO. HANDLES	GAUGE		
			DOOR	BACK	FRAME
12x12	2	1	26	26	24
16x20	2	2	24	26	22
24x24	3	2	22	26	22

GENERAL NOTES:
TYPE OF LOCKS SHALL BE DETERMINED BY CLEARANCE REQUIRED FOR REMOVAL OF DOOR. USE HINGED DOORS WHEREVER DOORS CAN BE FULLY OPENED AND DOOR SWING DOES NOT INTERFERE WITH ADJACENT OBSTRUCTIONS.

CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 01-08-08 | MD-0108

REVISIONS

BELMONT ACADEMY FOR:
2ND FLOOR EXPANSION FOR BELMONT ACADEMY CHARTER SCHOOL
1476 SW WALTER AVE, LAKE CITY, FLORIDA 32024

SIGNATURE
JOHN W. WELLS, III, PE
PE 0049347
DATE

Celebrating 40 Years of Service
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N.P. Geisler, Architect
AR0007005

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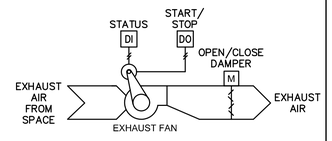
JOB NUMBER
2K1403a
DATE:
28 SEP 2020

SHEET NUMBER
M.5

EF CONTROL DIAGRAM

TYPICAL FOR EF-2



SEQUENCE OF OPERATIONS:

EXHAUST FAN TO BE TIED INTO EXISTING KMC CONTROLS BUILDING MANAGEMENT SYSTEM AND TO BE CONTROLLED GLOBALLY BY OCCUPIED/UNOCCUPIED SCHEDULE. COORDINATE WITH OWNER FOR INITIAL SCHEDULING. PROVIDE ALL WIRING AND PROGRAMMING AS REQUIRED TO ACCOMMODATE THE FOLLOWING SEQUENCE:

ALARMS: 1. EXHAUST FAN FAILURE

OCCUPIED MODE:

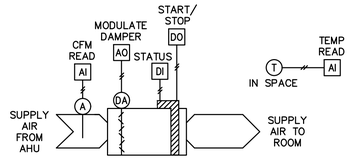
FAN SHALL RUN CONTINUOUSLY.

UNOCCUPIED MODE:

FAN SHALL BE DE-ENERGIZED.

VAV CONTROL DIAGRAM

TYPICAL FOR ALL VAV BOXES



SEQUENCE OF OPERATIONS:

VAV BOX TO BE TIED INTO EXISTING KMC CONTROLS BUILDING MANAGEMENT SYSTEM AND SHALL BE INTERLOCKED TO START/STOP AND CHANGE OVER TO COOLING OR HEATING MODE WITH ASSOCIATED AIR HANDLING UNIT SUPPLY FAN AS NOTED BELOW:

VAV-2-1 THRU VAV-2-19 AHU-2

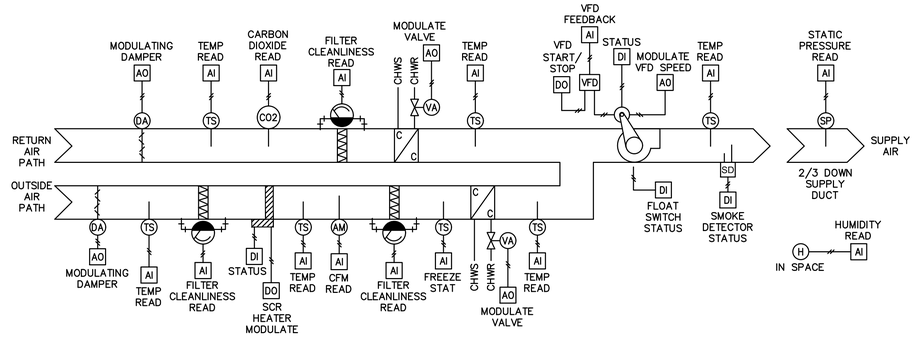
COORDINATE WITH OWNER FOR INITIAL SCHEDULING. PROVIDE ALL WIRING AND PROGRAMMING AS REQUIRED TO ACCOMMODATE THE FOLLOWING SEQUENCE:

ALARMS: 1. ELECTRIC STRIP HEATER FAILURE

IN THE COOLING MODE, THE DAMPER ACTUATOR SHALL MODULATE TO MAINTAIN THE SPACE TEMPERATURE SETPOINT OF 75 DEGREES F AS SENSED BY THE SPACE THERMOSTAT. IN THE HEATING MODE, THE DAMPER ACTUATOR SHALL MODULATE AND ELECTRIC STRIP HEATER SHALL ENERGIZE TO MAINTAIN THE SPACE TEMPERATURE SETPOINT OF 70 DEGREES F. THE THERMOSTATS SHALL BE ADJUSTABLE BY THE OCCUPANTS BY 5 DEGREES F ABOVE AND BELOW SETPOINT.

AHU CONTROL DIAGRAM

TYPICAL FOR (E) AHU-2



SEQUENCE OF OPERATIONS:

AIR HANDLING UNIT TO BE PROVIDED WITH NEW CONTROLS WHICH ARE TO BE TIED INTO THE EXISTING KMC CONTROLS BUILDING MANAGEMENT SYSTEM. AIR HANDLING UNIT TO BE CONTROLLED GLOBALLY BY OCCUPIED/UNOCCUPIED SCHEDULE AND COOLING/HEATING MODES. SYSTEM SHALL BE AN EXTENSION OF AND BE FULLY COMPATIBLE WITH THE EXISTING ENERGY MANAGEMENT SYSTEM. COORDINATE WITH FACILITIES FOR INITIAL SCHEDULING. PROVIDE ALL WIRING AND PROGRAMMING AS REQUIRED TO ACCOMMODATE THE FOLLOWING SEQUENCE:

ALARMS:
1. DIRTY FILTER (VERIFY WITH TEST AND BALANCE AGENCY FOR STATIC PRESSURE SETPOINT)
2. SUPPLY FAN FAILURE
3. VFD FAILURE
4. ELECTRIC STRIP HEATER FAILURE
5. FLOAT SWITCH TRIP
6. SMOKE DETECTOR(S) ACTIVATED

OCCUPIED MODE:

STARTUP:
ALL ASSOCIATED VAV BOXES SHALL ENERGIZE. THE MOTORIZED OUTSIDE AIR DAMPER SHALL REMAIN CLOSED. THE MOTORIZED RETURN AIR DAMPER SHALL BE FULLY OPEN. THE VFD SHALL THEN SLOWLY RAMP THE SUPPLY FAN UP TO THE DESIGN DUCT STATIC PRESSURE (VERIFY WITH TEST AND BALANCE AGENCY.) IN THE COOLING MODE, THE RETURN AIR CHILLED WATER COIL VALVE ACTUATOR SHALL THEN BEGIN TO MODULATE TO MAINTAIN SUPPLY AIR TEMPERATURE. IN THE HEATING MODE, THE VALVE SHALL REMAIN CLOSED. AFTER A ONE HOUR DELAY, THE MOTORIZED OUTSIDE AIR DAMPER SHALL OPEN AND BEGIN TO MODULATE IN CONJUNCTION WITH THE RETURN AIR DAMPER TO MAINTAIN REQURIED OUTSIDE AIR FLOW.

SUPPLY FAN:
THE SUPPLY FAN SHALL BE MODULATED BY THE VFD TO MAINTAIN THE DESIGN DUCT STATIC PRESSURE.

RETURN AIR CHILLED WATER COIL:
IN THE COOLING MODE, THE RETURN AIR CHILLED WATER COOLING COIL VALVE ACTUATOR SHALL BE MODULATED TO MAINTAIN A 55 DEGREE F LEAVING AIR TEMPERATURE AS SENSED BY THE TEMPERATURE SENSOR IMMEDIATELY DOWNSTREAM OF THE COIL. IN THE HEATING MODE, THE VALVE SHALL REMAIN CLOSED.

OUTSIDE AIR CHILLED WATER COIL:
IN THE COOLING MODE, THE OUTSIDE AIR CHILLED WATER COOLING COIL VALVE ACTUATOR SHALL BE MODULATED TO MAINTAIN A 55 DEGREE F LEAVING AIR TEMPERATURE AS SENSED BY THE TEMPERATURE SENSOR IMMEDIATELY DOWNSTREAM OF THE COIL. IN THE HEATING MODE, THE VALVE SHALL REMAIN CLOSED.

OUTSIDE AIR ELECTRIC STRIP DUCT HEATER:
IN THE COOLING MODE, THE ELECTRIC STRIP DUCT HEATER SHALL BE DE-ENERGIZED. IN THE HEATING MODE, THE SCR ELECTRIC STRIP HEATER SHALL ENERGIZE AND MODULATE TO MAINTAIN A 70 DEGREE F LEAVING AIR TEMPERATURE AS SENSED BY THE TEMPERATURE SENSOR IMMEDIATELY DOWNSTREAM OF THE HEATER.

OUTSIDE AIR FLOW MONITORING STATION AND CO2 CONTROL:
THE MOTORIZED OUTSIDE AIR DAMPER AND MOTORIZED RETURN AIR DAMPER SHALL BE CONTINUOUSLY MODULATED TO PROVIDE THE REQUIRED OUTSIDE AIR FLOW AS MEASURED BY THE OUTSIDE AIR FLOW MONITORING STATION. WHEN CO2 LEVELS ARE BELOW 800 PPM, THE REQUIRED OUTSIDE AIR FLOW SHALL BE SET TO THE MINIMUM AIR FLOW SETTING. WHEN CO2 LEVELS ARE ABOVE 1,000 PPM, THE REQUIRED OUTSIDE AIR FLOW SHALL BE SET TO THE MAXIMUM AIR FLOW SETTING. REFER TO AIR BALANCE SUMMARY SCHEDULE ON SHEET M.4 FOR MINIMUM AND MAXIMUM AIR FLOW SETTINGS (VERIFY WITH TEST AND BALANCE AGENCY).

SHUTDOWN:
THE OUTSIDE AIR ELECTRIC STRIP DUCT HEATER SHALL DE-ENERGIZE. THE VFD SHALL SLOWLY RAMP THE SUPPLY FAN DOWN AND SHALL DE-ENERGIZE. THE RETURN AIR AND OUTSIDE AIR CHILLED WATER COIL VALVE ACTUATORS SHALL CLOSE. THE MOTORIZED OUTSIDE AIR DAMPER SHALL THEN CLOSE. THE RETURN AIR DAMPER SHALL FULLY OPEN. ALL ASSOCIATED VAV BOXES SHALL THEN DE-ENERGIZE.

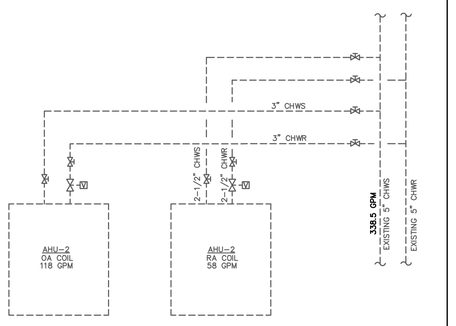
SAFETY MODE: IF WATER IS DETECTED IN THE SECONDARY DRAIN PAN AS DETECTED BY THE FLOAT SWITCH, THE SUPPLY FAN SHALL DE-ENERGIZE, RETURN AIR AND OUTSIDE AIR CHILLED WATER COIL VALVE ACTUATORS SHALL CLOSE, AND THE OUTSIDE AIR MOTORIZED DAMPER SHALL CLOSE. IF THE OUTSIDE AIR TEMPERATURE FALLS BELOW 40 DEGREES F, THE OUTSIDE AIR HEATER SHALL ENERGIZE TO MAINTAIN A MINIMUM 40 DEGREE F OUTSIDE AIR COIL ENTERING TEMPERATURE. SHOULD THE OUTSIDE AIR HEATER FAIL AND THE TEMPERATURE FALL BELOW 38 DEGREES F, CLOSE OUTSIDE AIR DAMPER AND DE-ENERGIZE ELECTRIC DUCT HEATER.

UNOCCUPIED MODE:

AIR HANDLING UNIT SUPPLY FAN SHALL BE DE-ENERGIZED. THE RETURN AIR AND OUTSIDE AIR CHILLED WATER COIL VALVE ACTUATORS SHALL BE CLOSED. THE MOTORIZED OUTSIDE AIR DAMPER SHALL BE CLOSED. THE RETURN AIR DAMPER SHALL BE FULLY OPEN. THE OUTSIDE AIR ELECTRIC STRIP DUCT HEATER SHALL BE DE-ENERGIZED. ALL ASSOCIATED VAV BOXES SHALL BE DE-ENERGIZED.

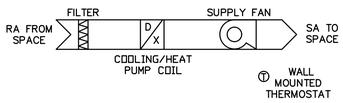
HUMIDITY CONTROL MODE: DURING UNOCCUPIED MODE, IF THE HUMIDITY RISES ABOVE 65% RH, AS SENSED BY THE SPACE HUMIDISTAT, THE AIR HANDLING UNIT SHALL REVERT TO THE OCCUPIED MODE. REVERT BACK TO UNOCCUPIED MODE SEQUENCE WHEN HUMIDITY FALLS BELOW 58% RH.

EXISTING CHILLED WATER FLOW DIAGRAM



HVAC CONTROL DIAGRAM

FOR MINI-SPLITS



SEQUENCE OF OPERATIONS:

UNIT TO BE TIED INTO EXISTING KMC CONTROLS BUILDING MANAGEMENT SYSTEM. THE UNIT SHALL BE PROVIDED WITH FACTORY MOUNTED THERMOSTATS TO PROVIDE THE FOLLOWING SEQUENCE OF OPERATIONS:

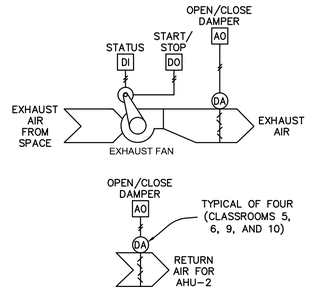
A. THE UNITS SHALL RUN CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. THE SUPPLY FANS SHALL RUN ONLY ON A CALL FOR COOLING OR HEATING. THE UNIT SHALL MAINTAIN A CONSTANT SPACE TEMPERATURE OF 75 DEGREES F (ADJUSTABLE BY THE OCCUPANTS BETWEEN 72 AND 78 DEGREES F ONLY) 24 HOURS A DAY, 7 DAYS A WEEK.

B. UPON A CALL FOR COOLING, THE COMPRESSOR(S) SHALL BE CYCLED AND CONDENSER FAN(S) SHALL BE ENERGIZED AS REQUIRED TO MAINTAIN SPACE TEMPERATURE.

C. UPON A CALL FOR HEATING, THE HEAT PUMP SHALL BE CYCLED AS REQUIRED TO MAINTAIN SPACE TEMPERATURE. UNIT SHALL HAVE LOW AMBIENT CONTROLS AND A DEFROST HEATER.

EF CONTROL DIAGRAM

TYPICAL FOR EF-3



SEQUENCE OF OPERATIONS:

EXHAUST FAN TO BE TIED INTO EXISTING KMC CONTROL BUILDING MANAGEMENT SYSTEM AND TO BE CONTROLLED GLOBALLY BY OCCUPIED/UNOCCUPIED SCHEDULE. COORDINATE WITH OWNER FOR INITIAL SCHEDULING. PROVIDE ALL WIRING AND PROGRAMMING AS REQUIRED TO ACCOMMODATE THE FOLLOWING SEQUENCE:

ALARMS: 1. EXHAUST FAN FAILURE

OCCUPIED MODE:

FAN IS PROVIDED TO CONTROL THE OVER-PRESSURIZATION OF THE SECOND FLOOR. FAN SHALL RUN AND EXHAUST AIR MOTORIZED DAMPER SHALL OPEN ONLY WHEN THE OUTSIDE AIR MOTORIZED DAMPER ASSOCIATED WITH AHU-2 IS AT ITS MAXIMUM OPENED SETPOINT (CO2 LEVELS EXCEED LIMITS). WHENEVER FAN IS ENERGIZED, THE FOUR RETURN AIR MOTORIZED DAMPERS IN CLASSROOMS 5, 6, 9, AND 10 SHALL CLOSE.

WHEN THE OUTSIDE AIR MOTORIZED DAMPER ASSOCIATED WITH AHU-2 IS AT ITS MINIMUM OPENED SETTING (CO2 LEVELS ARE BELOW LIMITS), THE EXHAUST FAN SHALL BE DE-ENERGIZED, EXHAUST AIR DAMPER SHALL BE CLOSED, AND RETURN AIR DAMPERS SHALL BE OPEN.

UNOCCUPIED MODE:

THE EXHAUST FAN SHALL BE DE-ENERGIZED, EXHAUST AIR DAMPER SHALL BE CLOSED, AND RETURN AIR DAMPERS SHALL BE OPEN.

REVISIONS

BELMONT ACADEMY FOR:
2ND FLOOR EXPANSION FOR
BELMONT ACADEMY CHARTER SCHOOL
1476 SW WALTER AVE, LAKE CITY, FLORIDA 32024

SIGNATURE
JOHN W. WELLS, III, PE
PE 0049347
DATE

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N.P. Geisler, Architect
Mentoring

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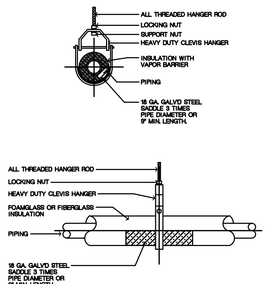
PHONE: (813) 448-0225
REGISTRY 3962
PROJECT NUMBER: 20031

JOB NUMBER
2K1403a
DATE:
28 SEP 2020

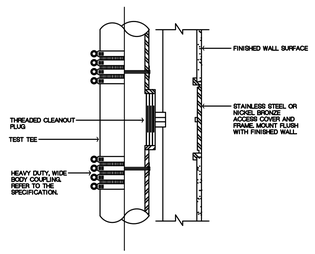
SHEET NUMBER
M.6

PIPE HANGERS



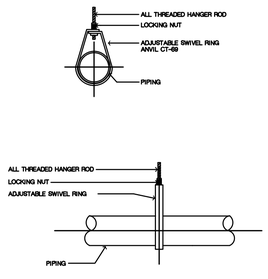
CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 02-11-05 | PD-0905

CO-1 WALL CLEANOUT HUBLESS CAST IRON PIPE W/ACCESS COVER



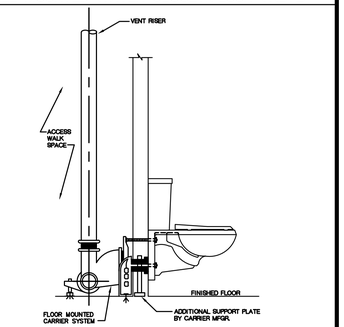
CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 02-09-05 | PD-0102

PIPE HANGER FOR COPPER TUBE



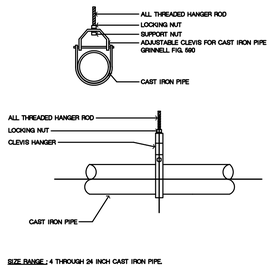
CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 10-20-11 | PD-0911

WALL MOUNTED WATER CLOSET/FLUSH VALVE



CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 03-01-10 | PD-0422

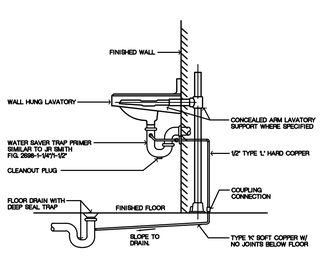
CLEVIS HANGER FOR CAST IRON PIPE



SIZE RANGE: 4 THROUGH 24 INCH CAST IRON PIPE.

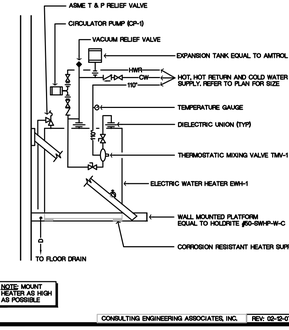
CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 02-11-05 | PD-0910

TP-1 WATER SAVER TRAP PRIMER



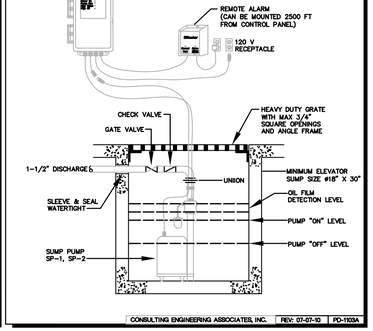
CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 02-09-06 | PD-0406

WATER HEATER / SHELF MOUNTED



CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 02-12-07 | PD-0802A

SUMP PUMP



CONSULTING ENGINEERING ASSOCIATES, INC. | REV: 07-07-10 | PD-1103A

PLUMBING GENERAL NOTES

1. ALL WORK UNDER THIS DIVISION SHALL COMPLY WITH THE CODES AND STANDARDS AS LISTED ON THE PROJECT DRAWINGS AND TO OTHER PERTINENT CODES MADE A PART OF SUCH CODE BY REFERENCE.
2. PLANS INDICATE THE SCHEMATIC LAYOUT AND LOCATION OF THE PLUMBING SYSTEM COMPONENTS. UNLESS SPECIFIC DIMENSIONS ARE NOTED, THE ACTUAL LOCATION OF THESE COMPONENTS SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE WORK OF OTHER TRADES, THE USE OF MANUFACTURER'S SHOP DRAWINGS AND SIMILAR CERTIFIED DATA. PLANS SHALL NOT BE SCALED.
3. NO EXCLUSIONS FROM OR LIMITATIONS IN THE LANGUAGE USED IN THE CONTRACT DOCUMENTS SHALL BE INTERPRETED AS MEANING THAT EQUIPMENT, APPURTENANCES, AND/OR ACCESSORIES NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM ARE NOT TO BE PROVIDED AS REQUIRED. THE SEPARATE DIVISIONAL DRAWINGS AND SPECIFICATIONS DO NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY TO PROVIDE THE WORK WHICH IS INDICATED ON ANY OF THE DRAWINGS OR DIVISION OF THE SPECIFICATIONS. REVIEW AND COORDINATE THE SCOPE OF WORK WITH ALL SECTIONS TO ASSURE A COMPLETE AND FUNCTIONAL SYSTEM IS INSTALLED.
4. SUBMIT SHOP DRAWINGS OF ALL FIXTURE, EQUIPMENT, AND MATERIALS FOR REVIEW. INSTALL AND TEST ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS. FOR ALL EQUIPMENT, WHICH HAS BEEN SCHEDULED DIRECTLY ON THE DRAWINGS, PROVIDE WITHIN THE SUBMITTAL, A PERFORMANCE SCHEDULE FOR THE PROPOSED EQUIPMENT IN THE SAME FORMAT AS INCLUDED ON THE CONTRACT DOCUMENT. FAILURE TO PROVIDE REQUIRED PERFORMANCE SCHEDULE WILL RESULT IN REJECTION OF THE ENTIRE SUBMITTAL. BIND SHOP DRAWINGS/CATALOG-CUTS IN THREE RING BINDERS WITH A TITLE SHEET AND IDENTIFICATION ON FRONT AND SIDE OF THE BINDER. SUBMIT DRAWINGS AND CUT SHEETS FOR ALL PRODUCTS ALL AT ONE TIME. INDEX ALL ITEMS TO THE PROJECT MANUAL OR DRAWINGS AS APPLICABLE. SHOP DRAWINGS THAT DEVIATE FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL LIST ALL DIFFERENCES IN A COVER LETTER ATTACHED TO TOP OF THE SUBMITTAL. ANY UNLISTED DEVIATIONS FOUND DURING REVIEW WILL RESULT IN THE REJECTION OF THE ENTIRE SUBMITTAL. FOR ITEMS REVIEWED AND MARKED "REJECTED" OR "REVISE AND RESUBMIT", ONLY ONE ADDITIONAL SUBMITTAL WILL BE REVIEWED TO VERIFY PRODUCT COMPLIANCE WITH THE CONTRACT DOCUMENTS. SHOULD FURTHER SUBMITTALS BE REQUIRED FOR THE DESIGN PROFESSIONAL TO VERIFY THE SUBMITTAL WITH THE REQUIREMENTS OR THE CONTRACT DOCUMENTS. THE HOURLY RATE OF $150.00 WILL BE BILLED TO THE CONTRACTOR FOR THE PROFESSIONAL(S) TIME SPENT ON THE REVIEW.
5. PIPING AND OTHER ITEMS OF THE PLUMBING SYSTEM SHALL BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE AND NOT FROM THE CEILING, CEILING SUSPENSION SYSTEM, DUCTWORK, PIPING, OR ELECTRICAL SYSTEMS.
6. PIPING SHALL BE RUN A MINIMUM OF 6" ADJACENT TO RATED WALLS SO THAT WALLS CAN BE INSPECTED. (RELOCATE ANY EXISTING PIPING AS REQUIRED.)
7. FOR SEALING OF PIPE PENETRATIONS THROUGH FIRE RATED WALLS, REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. ALL PIPE PENETRATIONS SHALL BE SEALED USING DETAILS APPROVED BY UL.
8. PROVIDE ADDITIONAL PIPING SUPPORTS ON BOTH SIDES AND WITHIN 18" OF FIRE RATED WALLS. PIPING SHALL NOT BE SUPPORTED FROM ANY RATED WALL. SLEEVE AND/OR FIRESTOP ALL PENETRATIONS THROUGH RATED WALL, CEILINGS, AND FLOOR WITH UL LISTED ASSEMBLIES. FIRESTOP ASSEMBLIES SHALL BE EQUAL TO OR EXCEED THE RATING OF THE WALL, CEILING, OR FLOOR. SEE ARCHITECTURAL DRAWINGS FOR FINAL FINISHES.
9. HANGERS, ANCHORS AND SUPPORTS SHALL SUPPORT THE PIPING AND THE CONTENTS OF THE PIPING. HANGERS AND STRAPING MATERIALS SHALL BE OF APPROVED MATERIALS THAT WILL NOT PROMOTE GALVANIC ACTION. PROVIDE PIPE SADDLES BELOW INSULATED PIPES.
10. HANGERS AND ANCHORS SHALL BE ATTACHED TO THE BUILDING CONSTRUCTION IN AN APPROVED MANNER.
11. RIGID SUPPORT SWAY BRACING SHALL BE PROVIDED AT CHANGES IN DIRECTION GREATER THAN 45° FOR PIPE SIZES 4" AND LARGER.
12. ANCHORAGE SHALL BE PROVIDED TO RESTRAIN DRAINAGE PIPING FROM AXIAL MOVEMENT. FOR PIPE SIZES GREATER THAN 4", RESTRAINTS SHALL BE PROVIDED FOR DRAIN PIPES AT ALL CHANGES IN DIRECTION AND AT ALL CHANGES IN DIAMETER GREATER THAN TWO PIPE SIZES. BRACES, BLOCKS, RODDING AND OTHER SUITABLE METHODS AS SPECIFIED BY THE COUPLING MANUFACTURER SHALL BE UTILIZED.
13. CONCEAL PIPING ABOVE CEILING, WITHIN WALL OR CHASES EXCEPT IN MECHANICAL ROOMS OR AS SPECIFICALLY NOTED.
14. PROVIDE ACCESS PANELS (EQUAL TO MIFAB PRODUCTS) FOR ALL VALVES CONCEALED IN WALLS OR ABOVE NON-ACCESSIBLE CEILINGS. COORDINATE FINISH WITH THE ARCHITECT.
15. PROVIDE A PERMANENT 1/2" ROUND RED DOT ON THE CEILING GRID BELOW ALL VALVES.
16. PROVIDE CLEANOUTS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE – PLUMBING. INSTALL CLEANOUT WITH COVER FLUSH TO FINISH SURFACE.
17. COORDINATE PIPING WITH ALL ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC.) PRIOR TO ANY INSTALLATION. DO NOT ROUTE ANY PIPING OVER ANY ELECTRICAL DEVICES.
18. ALL WALL MOUNTED LAVATORIES SHALL BE ATTACHED TO FLOOR MOUNTED CARRIERS DESIGNED TO WITHSTAND A VERTICAL LOAD OF 250 POUNDS ON THE FRONT OF FIXTURE.
19. PROVIDE SANITARY WASTE, VENT, DOMESTIC WATER, ETC. ROUGH-IN AND MAKE FINAL CONNECTIONS (TO INCLUDE PROVIDING ALL NECESSARY RELATED STOPS, VALVES, TRAPS, ETC. AND MAKE READY TO USE) TO ALL EQUIPMENT, WHETHER FURNISHED BY THIS CONTRACTOR OR FURNISHED BY OTHERS.
20. SECURE THE BASE OF ALL WATER COOLERS TO THE WALL. CAULK ALONG TOP OF WATER COOLER TO WALL.
21. FOLLOW ADA GUIDELINES FOR ACCESSIBILITY TO PLACES OF PUBLIC ACCOMMODATION AND COMMERCIAL FACILITIES BY INDIVIDUALS WITH DISABILITIES. THESE GUIDELINES ARE TO BE APPLIED DURING DESIGN, CONSTRUCTION AND ALTERATION OF SUCH BUILDING AND FACILITIES TO THE EXTENT REQUIRED BY REGULATIONS ISSUED BY FEDERAL AGENCIES, INCLUDING THE DEPARTMENT OF JUSTICE, UNDER THE AMERICANS WITH DISABILITIES ACT (ADA) OF 2010.
22. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND ROUGHING DIMENSIONS OF ALL PLUMBING FIXTURES, DRAINS, ETC.
23. ALL HOSE BIBBS AND HOSE END CONNECTIONS SHALL BE EQUIPPED WITH AN APPROVED INTEGRAL VACUUM BREAKER AND SHUT OFF VALVE LOCATED ABOVE THE CEILING. UNLESS OTHERWISE NOTED, ALL HOSE BIBBS SHALL BE INSTALLED 24" ABOVE FINISHED FLOOR.
24. DIELECTRIC UNIONS SHALL BE INSTALLED AT ALL CONNECTIONS OF DISSIMILAR METALS (SUCH AS COPPER TO GALVANIZED STEEL).
25. SOIL, WASTE AND VENT PIPING SHALL BE SOLID CORE PVC TYPE DWV AND SHALL CONFORM TO ONE OF THE FOLLOWING STANDARDS: ASTM D2665, ASTM F891, ASTM F1488, OR CSA B181.2. FITTINGS SHALL BE PVC AND SHALL CONFORM TO ONE OF THE FOLLOWING STANDARDS: ASTM D 2665, OR ASTM F 1866. JOINTS SHALL BE SOLVENT CEMENTING. A PURPLE PRIMER THAT CONFORMS TO ASTM F656 SHALL BE APPLIED TO JOINT SURFACES (CLEAN AND FREE FROM MOISTURE). SOLVENT CEMENT NOT PURPLE IN COLOR AND CONFORMING TO ASTM D2564, CSA B137.3, CSA B181.2 OR CSA B182.1 SHALL BE APPLIED TO ALL JOINT SURFACES. THE JOINT SHALL BE MADE WHILE THE CEMENT IS WET AND SHALL BE IN ACCORDANCE WITH ASTM D2855.
26. HOT AND COLD WATER PIPING SHALL BE CPVC AND SHALL CONFORM TO NSF 61 AND ASTM D 2846, ASTM F 441, ASTM F 442 OR CSA B137.6. FITTINGS SHALL BE CPVC AND SHALL CONFORM TO NSF 61 AND ASTM F 437, ASTM F 438, ASTM F 439 OR CSA B137.6. JOINTS SHALL BE SOLVENT CEMENTING. JOINT SURFACES SHALL BE CLEAN AND FREE FROM MOISTURE, AND AN APPROVED PRIMER SHALL BE APPLIED. SOLVENT CEMENT, ORANGE IN COLOR AND CONFORMING TO ASTM F 493, SHALL BE APPLIED TO ALL JOINT SURFACES. THE JOINT SHALL BE IN ACCORDANCE WITH ASTM D 2846 OR ASTM F 493.
27. PROVIDE VALVES WHERE INDICATED ON PLAN AND NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. PROVIDE VALVES RATED FOR 125 PSI OR GREATER WORKING PRESSURE IN WATER PIPING.

    BALL VALVES: NIBCO S-585-70
    CHECK VALVES: NIBCO S-413
    BALANCING VALVES: NIBCO S1710
28. INSULATE ALL DOMESTIC HOT AND COLD WATER PIPING WITH 1" THICK FOAMGLASS OR FIBERGLASS WITH "ASJ" VAPOR BARRIER JACKET AND 25/50 FIRE/SMOKE RATING.
29. VERIFY SIZES, LOCATION, INVERTS AND ELEVATIONS PRIOR TO INSTALLING ANY PIPING.
30. SLOPE ALL SANITARY PIPING 3" TO 6" AT A MINIMUM SLOPE OF 1/8" PER FOOT. ALL SANITARY PIPING 2-½" AND SMALLER SHALL BE SLOPED AT A MINIMUM OF 1/4" PER FOOT.
31. ALL EXPOSED PIPING UNDER ACCESSIBLE LAVATORIES SHALL BE INSULATED WITH PROTECTIVE UNDER-SINK PIPE COVERS AND PLUMBING ENCLOSURES AS MANUFACTURED BY TRUEBRO.
32. ALL SANITARY, VENT AND WATER PIPING SHALL BE TESTED BEFORE BEING CONCEALED IN ANY WAY. ALL JOINTS SHALL BE MADE DRIP TIGHT BEFORE BEING CONCEALED. DOMESTIC WATER PIPING SHALL BE TESTED AT 1-1/2 TIMES OPERATING PRESSURE OR 100 PSI, WHICHEVER IS GREATER.
33. DISINFECT POTABLE WATER SYSTEM PER THE FLORIDA BUILDING CODE. PROVIDE DOCUMENTATION IN THE CLOSE OUT DOCUMENTS.

PLUMBING LEGEND & SYMBOLS

SANITARY SOIL & WASTE (BELOW FLOOR)	SAN	
EXISTING SANITARY SOIL & WASTE (BELOW FLOOR)	(E)SAN	
SANITARY VENT	V	
DOMESTIC COLD WATER	CW	
DOMESTIC HOT WATER	HW	
DOMESTIC HOT WATER RETURN	HWR	
EXISTING DOMESTIC COLD WATER	(E)CW	
EXISTING DOMESTIC HOT WATER	(E)HW	
PIPE DROP		
PIPE RISE		
PIPE CONNECTION (TOP)		
PIPE CONNECTION (BOTTOM)		
HOSE BIBB		
WALL CLEANOUT		
FLOOR DRAIN		
SHUTOFF VALVE		
CHECK VALVE (SWING)		
BALANCING VALVE (CALIBRATED)		
WATER HAMMER ARRESTOR		A OR A
CONNECT TO EXISTING		

ABBREVIATIONS

SYMBOL	DESCRIPTION
CO	CLEANOUT
CW	DOMESTIC COLD WATER
DFU	DRAINAGE FIXTURE UNIT
°F	DEGREE FAHRENHEIT
FD	FLOOR DRAIN
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
PSI	POUNDS PER SQUARE INCH
SAN	SANITARY
SFU	SUPPLY FIXTURE UNIT

CODE CRITERIA

NOTE:
ALL CODES AND STANDARDS SHALL COMPLY WITH THE FLORIDA STATUES 69A-3.012 AND THE STATE FIRE MARSHALL'S RULE. THIS LIST IS NOT INCLUSIVE OF ALL CODES AND STANDARDS THAT MAY OR MAY NOT APPLY TO THIS PROJECT.

*FLORIDA BUILDING CODE (FBC), SIXTH EDITION (2017) – ALL SECTIONS
*FLORIDA FIRE PREVENTION CODE 2017
*FLORIDA BUILDING CODE (FBC), SIXTH EDITION (2017) ACCESSIBILITY – 2012 FLORIDA ACCESSIBILITY CODE FOR BUILDING CONSTRUCTION

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA):
*NFPA-70 (2014) NATIONAL ELECTRICAL CODE

AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS, INC. (ASHRAE):
*ASHRAE GUIDELINE 4-2008 – PREPARATION OF OPERATING AND MAINTENANCE DOCUMENTATION FOR BUILDING SYSTEMS

NOTES

1. THE NOTES SHOWN ON THIS SHEET APPLY TO GENERAL CONDITIONS OF PLUMBING WORK REQUIRED FOR THIS PROJECT.
2. SPECIFICATIONS, PROJECT MANUALS AND DRAWINGS, REFER TO THIS SHEET FOR APPLICABLE REFERENCES.
3. THE DESIGN DRAWINGS OF ALL CATEGORIES AND TRADES (ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL, HEATING, VENTILATING AND AIR CONDITIONING AND ELECTRICAL) AND ALL SPECIFICATIONS AND SHOP DRAWINGS MUST BE COORDINATED AND BE VIEWED IN CONNECTION AND CONJUNCTION WITH EACH OTHER TO INSURE THE PROPER LOCATION OF ALL DEVICES AND EQUIPMENT. MAKE PARTICULAR NOTE OF LOCATIONS AND DIMENSIONS SHOWN ON THE ARCHITECTURAL FLOOR PLANS AND ELEVATIONS.
4. TO THE BEST OF THE ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM BUILDING CODES AND THE APPLICABLE FIRE-SAFETY STANDARDS AS DETERMINED BY THE LOCAL AUTHORITY IN ACCORDANCE WITH SECTION 110.8.4.4 OF THE FLORIDA BUILDING CODE AND 633 FLORIDA STATUTES.

DRAWING INDEX

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PLUMBING FIXTURE SCHEDULE

	MINIMUM CONNECTIONS				FIXTURE	FAUCET / FLUSH VALVE	SEAT	DRAIN	TRAP	SUPPLY	CARRIER	INSULATION
	WASTE	VENT	CW	HW								
WC-1	4"	2"	1/2"	–	WATER CLOSET/ADA WHITE, VITREOUS CHINA, ELONGATED 16-1/2" HIGH BOWL RIM, FLOOR MOUNTED, PRESSURE ASSISTED SIPHON JET FLUSH ACTION, 1.6 GALLONS PER FLUSH, FULLY GLAZED 2-1/8" TRAPWAY, TWO BOLT CAPS. AMERICAN STANDARD "CADET RIGHT HEIGHT" 2467.016	--	OPEN FRONT LESS COVER, ELONGATED, HEAVY-DUTY, SOLID PLASTIC, FOUR MOLDED-IN BUMPERS, SELF SUSTAINING CHECK HINGES WITH STAINLESS STEEL POSTS AND PINTLES, WHITE. OLSONITE 95SSCT	--	INTEGRAL	--	--	--
WC-2	4"	2"	1/2"	–	WATER CLOSET WHITE, VITREOUS CHINA, ELONGATED 15" HIGH BOWL RIM, WALL HUNG, BACK OUTLET GRAVITY FLUSH. COMBINATION BOWL AND TANK LESS SEAT. SIPHON JET ACTION. 1.28 GPF. AMERICAN STANDARD "GLENWALL VORMAX" 2882107	--	OPEN FRONT LESS COVER, ELONGATED, HEAVY-DUTY, SOLID PLASTIC, FOUR MOLDED-IN BUMPERS, SELF SUSTAINING CHECK HINGES WITH STAINLESS STEEL POSTS AND PINTLES, WHITE. OLSONITE 95SSCT	--	INTEGRAL	--	SIPHON JET TOILET CARRIER. 4" NO HUB CONNECTIONS AND 2" VENT. CORROSION RESISTANT. ADJUSTABLE COUPLING. ZURN ZN1201-N_4 ZURN ZN1202-N4	--
U-1	2"	1-1/2"	3/4"	–	URINAL/ADA WHITE, VITREOUS CHINA, 0.5 GPF, FLUSHING RIM, WASHOUT FLUSH ACTION, 3/4" INLET SPUD, TOP SPUD. AMERICAN STANDARD "WASHBROOK" 6990.001	FLUSH VALVE CHROME PLATED CAST BRASS CONSTRUCTION, NON-HOLD OPEN HANDLE, ADJUSTABLE TAILPIECE, 0.5 GPF, FOR 3/4" TOP SPUD URINALS. AMERICAN STANDARD 6045.051	--	--	INTEGRAL	--	--	--
U-2	2"	1-1/2"	3/4"	–	URINAL WHITE, VITREOUS CHINA, 0.5 GPF, FLUSHING RIM, WASHOUT FLUSH ACTION, 3/4" INLET SPUD, TOP SPUD. AMERICAN STANDARD "WASHBROOK" 6990.001	FLUSH VALVE CHROME PLATED CAST BRASS CONSTRUCTION, NON-HOLD OPEN HANDLE, ADJUSTABLE TAILPIECE, 0.5 GPF, FOR 3/4" TOP SPUD URINALS. AMERICAN STANDARD 6045.051	--	--	INTEGRAL	--	--	--
L-1	1-1/2"	1-1/2"	1/2"	1/2"	LAVATORY/ADA WHITE, WALL HUNG, VITREOUS CHINA, 20-3/4" X 18-1/4", FAUCET HOLES ON 4" CENTERS, FRONT OVERFLOW, FOR CONCEALED ARMS SUPPORT. AMERICAN STANDARD "LUCERNE" 0355.012	CHROME FINISH, 4" CENTERSET, ALL METAL FABRICATED BODY, VANDAL RESISTANT AERATOR, VANDAL RESISTANT LEVER HANDLE, DIAMOND EMBEDDED CERAMIC DISC CARTRIDGE, 0.5 GPM. DELTA 501LF-HGMHDF	--	1-1/4", 17 GAUGE, CHROME PLATED OPEN GRID P.O. PLUG AND BRASS 1-1/4" TAILPIECE. MCGUIRE 155A	1-1/4" X 1-1/2", 17 GAUGE, ADJUSTABLE TRAP WITH CLEANOUT AND WALL FLANGE, CHROME FINISH. MCGUIRE 8902	1/2" NOMINAL X 3/8" O.D. ANGLE SUPPLY, LOOSE KEY STOP, WALL FLANGE, CHROME PLATED. MCGUIRE 2165CCLK	ADJUSTABLE FLOOR SUPPORT WITH CONCEALED ARMS. JAR R SMITH 700 SERIES	WHITE, SINGLE PIECE CONSTRUCTION, RIGID HIGH IMPACT STAIN RESISTANT PVC TRUEBRO "LAV-SHIELD"
L-2	1-1/2"	1-1/2"	1/2"	1/2"	LAVATORY WHITE, VITREOUS CHINA, OVAL, UNDERMOUNT, 19-1/4" X 16-1/4", FRONT OVERFLOW. AMERICAN STANDARD "OVALYN" 0496.300	CHROME FINISH, 4" CENTERSET, ALL METAL FABRICATED BODY, VANDAL RESISTANT AERATOR, VANDAL RESISTANT LEVER HANDLE, DIAMOND EMBEDDED CERAMIC DISC CARTRIDGE, 1.5 GPM. DELTA 501LF-HGMHDF	--	1-1/4", 17 GAUGE, CHROME PLATED OPEN GRID P.O. PLUG AND BRASS 1-1/4" TAILPIECE. MCGUIRE 155A	1-1/4" X 1-1/2", 17 GAUGE, ADJUSTABLE TRAP WITH CLEANOUT AND WALL FLANGE, CHROME FINISH. MCGUIRE 8902	1/2" NOMINAL X 3/8" O.D. ANGLE SUPPLY, LOOSE KEY STOP, WALL FLANGE, CHROME PLATED. MCGUIRE 2165CCLK	ADJUSTABLE FLOOR SUPPORT WITH CONCEALED ARMS. JAR R SMITH 700 SERIES	WHITE, SINGLE PIECE CONSTRUCTION, RIGID HIGH IMPACT STAIN RESISTANT PVC TRUEBRO "LAV-SHIELD"
BFS-1	1-1/2"	1-1/2"	1/2"	–	BOTTLE FILLER STATION/ADA SURFACE MOUNT, NON-FILTERED NON-REFRIGERATED STAINLESS. LAMINAR FLOW, ANTIMICROBIAL, REAR DRAIN. MECHANICAL BOTTLE FILLER BUTTON ACTIVATION. LEAD FREE DESIGN. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT. ELKAY EMASM	--	--	--	1-1/4" X 1-1/2", 17 GAUGE, ADJUSTABLE TRAP WITH CLEANOUT, CHROME FINISH. MCGUIRE 8902	CHROME PLATED SUPPLY WITH LOOSE KEY STRAIGHT STOP AND WALL FLANGE. MCGUIRE 158LK	--	--
MB-1	3"	2"	1/2"	1/2"	MOP BASIN WHITE, MOLDED STONE, 24"x24"x10" HIGH, STAINLESS STEEL DRAIN BODY, COMBINATION DOME STRAINER AND STAINLESS STEEL LINT BASKET, 3" CONNECTION. FIAT MSB-2424 FIAT 889 CC (MOP BRACKET) FIAT 1453 BB (STAINLESS STEEL STRAINER) FIAT 832 AA (HOSE AND BRACKET) FIAT MSG 2424 (STAINLESS STEEL WALL GUARDS). NOTE: INSTALL WALL GUARDS ONLY IF WALLS ARE NOT TILED.	POLISHED CHROME, COMBINATION FITTING WITH VACUUM BREAKER, 3/4" HOSE END THREADED SPOUT, WALL BRACE, PAIL HOOK, INTEGRAL STOPS, ADJUSTABLE SUPPLY ARMS. CHICAGO 897	--	--	--	--	--	--

PLUMBING SPECIALTIES SCHEDULE

MARK	DESCRIPTION	MODEL
CO-1	WALL CLEANOUT ROUND SECURED STAINLESS STEEL ACCESS COVER AND FRAME, COATED, CAST IRON CLEANOUT TEE, NO HUB CONNECTION, WATERTIGHT ABS TAPERED THREAD PLUG.	ZURN ZN-1446-VP
CO-2	FLOOR CLEANOUT ADJUSTABLE LEVELING FLOOR CLEANOUT, DURA-COATED CAST IRON BODY, WITH GAS AND WATERTIGHT ABS TAPERED THREAD PLUG, AND ROUND SCORIATED SECURED LIGHT-DUTY POLISHED NICKEL BRONZE TOP WITH ADDITIONAL LEVELING ADJUSTMENT TO FINISHED FLOOR. VANDAL-PROOF SCREWS.	ZURN ZN1400-BZ-VP
FD-1	FLOOR DRAIN DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS AND "TYPE B" POLISHED NICKEL BRONZE STRAINER, 1/2" TRAP PRIMER CONNECTION, BACKWATER VALVE, VANDAL PROOF SECURED TOP, SEDIMENT BUCKET.	ZURN Z415B-P-V-VP-Y
TP-1	TRAP PRIMER 17 GAUGE CAST BRASS ADJUSTABLE P-TRAP WITH CLEANOUT AND 1/2" C.P. COPPER TRAP PRIMER TUBE WITH ESCUTCHEON.	JAY R. SMITH 2698
HB-1	HOSE BIBB CHROMEPLATED BRASS BODY, LOOSE KEY, BRASS VALVE, VACUUM BREAKER AND 3/4" MALE HOSE THREAD.	WOODFORD 24P
TMV-1	THERMOSTATIC MIXING VALVE LEAD FREE BRASS BODY CONSTRUCTION, ADVANCED THERMAL ACTUATOR. ADJUSTABLE TEMPERATURE SELECTION WITH LOCK DOWN. INTEGRAL CHECKS AND SCREEN. 1" SWEAT UNION CONNECTIONS. CSA B125 CERTIFIED. LISTED T ASSE 1017. TEMPERATURE SET POINT AT 110°F.	POWERS "HYDROGUARD" LFLM492-102

SHOCK ARRESTOR SCHEDULE

REF. PDI STANDARD	FIXTURE UNITS	SIZE	MANUFACTURER	MODEL
A	1-11	1/2"	WATTS	LF15M2-A
B	12-32	3/4"	WATTS	LF15M2-B
C	33-60	1"	WATTS	LF15M2-C

ALL UNITS SHALL BE LEAD FREE, ASSE 1010 APPROVED AND PDI RATED.
ALL UNITS SHALL BE APPROVED FOR INSTALLATION WITH NO ACCESS PANEL, AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

HANGER SPACING

PIPING MATERIAL	MAXIMUM HORIZONTAL SPACING (FEET)	MAXIMUM VERTICAL SPACING (FEET)
CPVC PIPE OR TUBING, 1" OR SMALLER	3	10 [a]
CPVC PIPE OR TUBING, 1-1/4" OR LARGER	4	10 [a]
PVC PIPE	4	10 [a]

a. MIDSTORY GUIDE FOR SIZES 2" AND SMALLER.

WATER HEATER SCHEDULE

MARK	EWH-1
MANUFACTURER	A.O. SMITH
MODEL NUMBER	DEL-50
TYPE	ELECTRIC
VOLTS/PHASE/HERTZ	480/3/60
KW INPUT	10
LEAVING WATER TEMP.	120°F
STORAGE CAPACITY (GAL)	50
GAL PER HR RECOVERY @ 60°F RISE	68
DIMENSIONS	32-1/4" x 26-1/2"ø
THERMAL EXPANSION TANK	AMTROL ST-5-C

NOTES:

1. UNIT SHALL BE COMPLETE PACKAGE WITH INSULATED TANK, HEATING ELEMENT(S), TEMPERATURE PRESSURE RELIEF VALVE AND ALL REQUIRED VALVES, TRAPS, AND PIPING.
2. UNIT SHALL BE MOUNTED AS HIGH AS POSSIBLE ON A WALL MOUNTED PLATFORM EQUAL TO HOLDRITE #50-SWHP-W-C.
3. CONTRACTOR SHALL PROVIDE ELECTRIC TIME SWITCH EQUAL TO INTERMATIC WH40.

RECIRCULATION PUMP SCHEDULE

MARK	RP-1
MANUFACTURER	BELL & GOSSETT
MODEL NUMBER	NBF-10S/LW
GALLONS PER MINUTE (GPM)	1
HEAD IN FT. OF WATER	14
CONNECTIONS	1/2" SWEAT
WATTS	52
VOLTS/PHASE/HERTZ	115/1/60
RPM	2800
TIMER KIT	TC-1
AQUASTAT	AQS-1/2

NOTES:

1. MAINTENANCE FREE, IN-LINE, LEAD FREE BRONZE, WET ROTOR CIRCULATOR.
2. PROVIDE 24 HOUR/7 DAY DIGITAL PROGRAMMABLE TIME CLOCK. PROGRAM TO RUN DURING OCCUPIED PERIODS ONLY.

SUMP PUMP SCHEDULE

MARK	SP-1
MANUFACTURER	LIBERTY PUMPS
MODEL NUMBER	ELV280
FLOW (GPM)	50
HEAD (FT.)	14
DISCHARGE SIZE (IN)	1-1/2
SOLIDS HANDLING SIZE (IN)	1/2
MOTOR HP	1/2
VOLT/PHASE/HERTZ	115/1/60
FULL LOAD AMPS	8.5
MINIMUM SUMP SIZE	18"ø X 30"

NOTES:

1. PUMP SHALL BE SUPPLIED WITH A 25 FEET OF MULTICONDUCTOR POWER CORD.
2. PUMP SHALL BE SUPPLIED WITH AN OIL DETECTOR CONTROL AND APPROVED ALARM.

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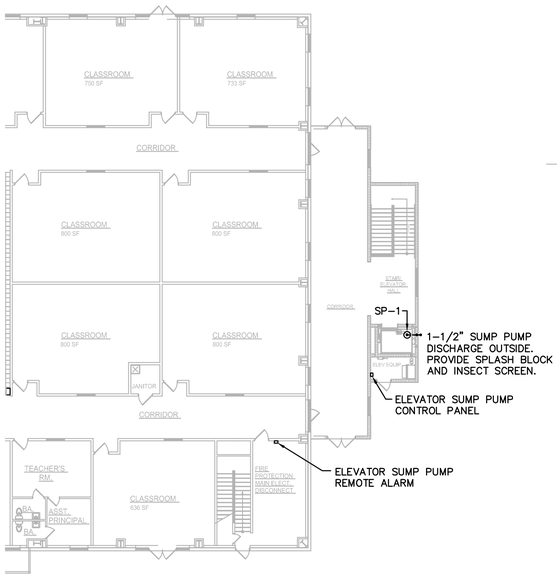
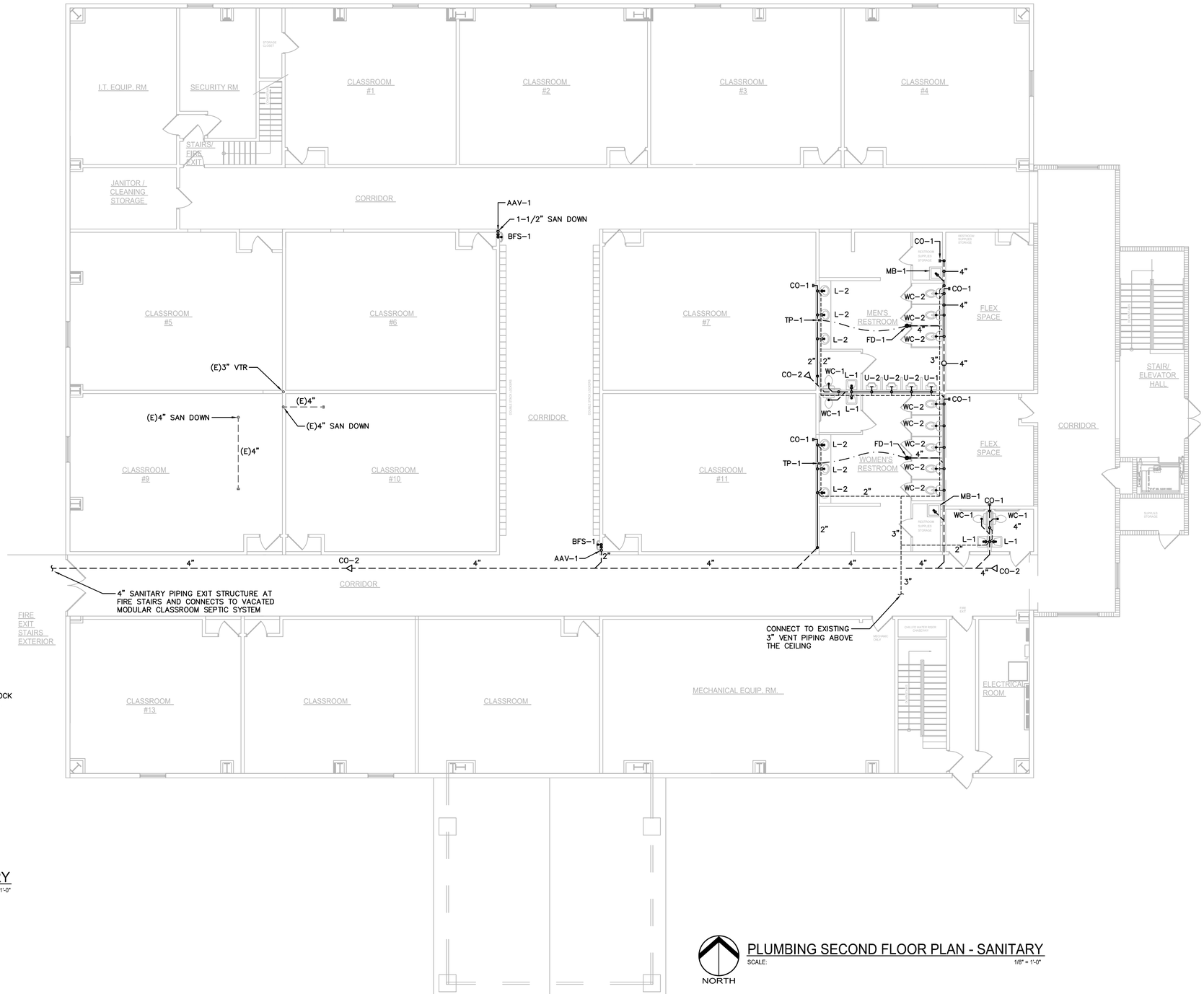


PLUMBING FIRST FLOOR PARTIAL PLAN - SANITARY

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

NORTH



PLUMBING SECOND FLOOR PLAN - SANITARY

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

NORTH

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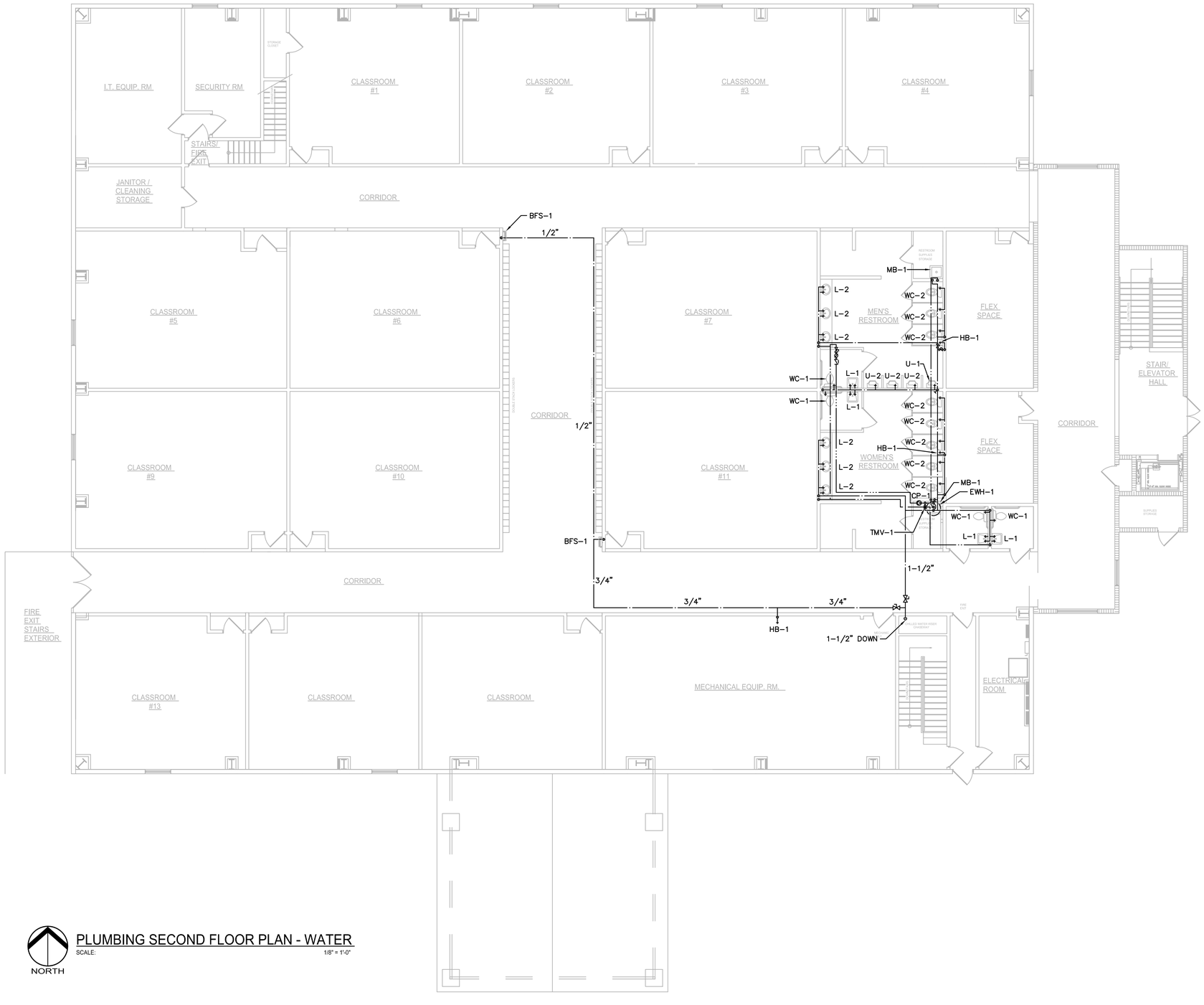

PLUMBING SECOND FLOOR PLAN - WATER

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

NORTH

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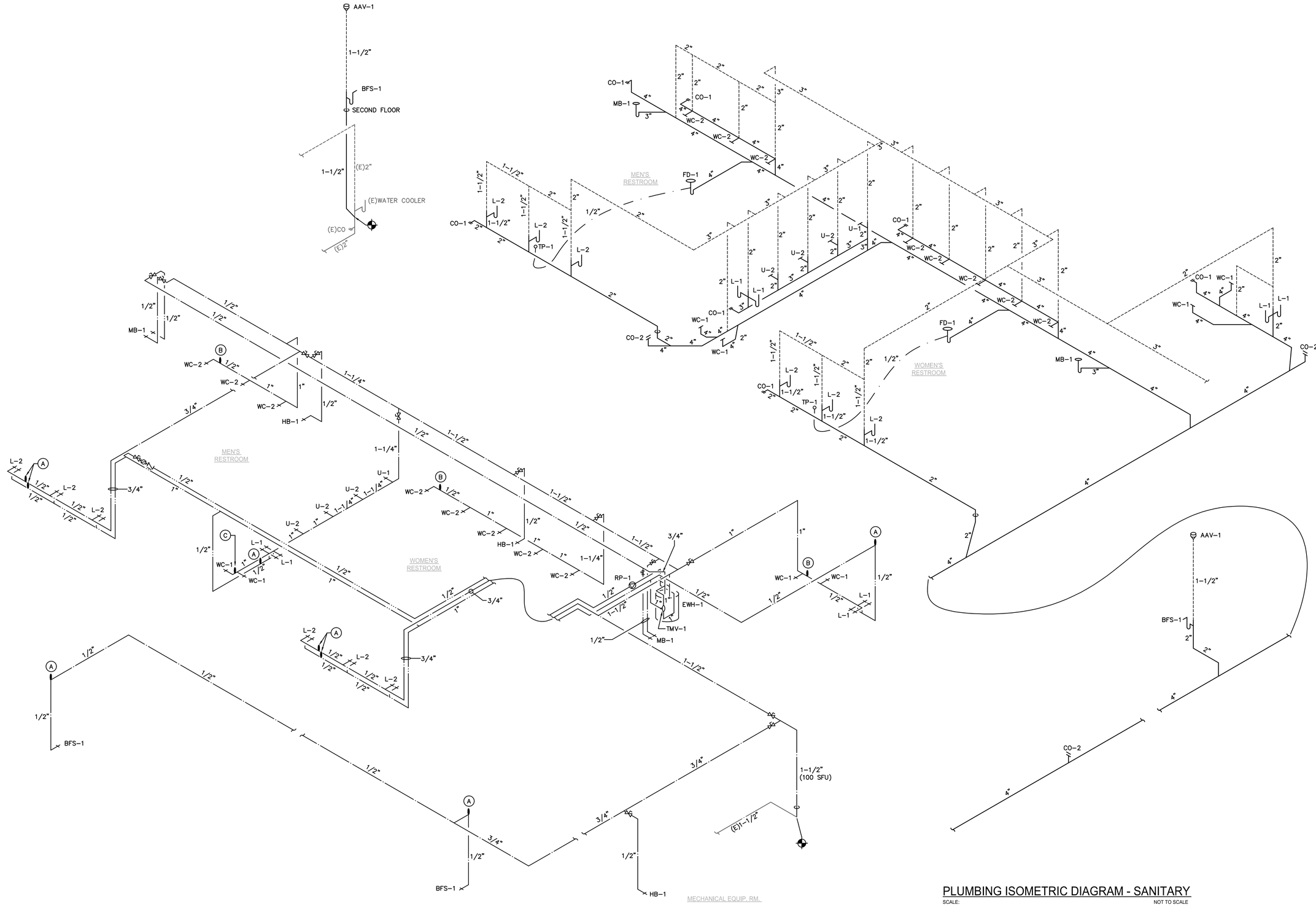

PLUMBING ISOMETRIC DIAGRAM - WATER

SCALE: NOT TO SCALE

PLUMBING ISOMETRIC DIAGRAM - SANITARY

SCALE: NOT TO SCALE

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1. GENERAL

A. WORK REQUIRED IN THIS SECTION SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), LOCAL, AND STATE CODES. SEE CODE TABLE – THIS SHEET.

2. SCOPE

A. WORK UNDER THIS DIVISION SHALL INCLUDE THE FURNISHING OF ALL LABOR AND THE FURNISHING OF ALL CONDUCTORS, CONDUITS, WIRING, LIGHTING FIXTURES, SAFETY SWITCHES, AND ALL OTHER APPARATUS AND ACCESSORIES INDICATED, SPECIFIED OR REQUIRED FOR A COMPLETE POWER AND LIGHTING SYSTEM, INCLUDING ELECTRICAL WORK REQUIRED IN OTHER DIVISIONS AND PROVISIONS FOR TELEPHONES AS INDICATED.

B. "PROVIDE" IN ELECTRICAL NOTES SHALL MEAN "PROVIDE AND INSTALL" UNLESS SPECIFICALLY NOTED OTHERWISE.

3. GENERAL REQUIREMENTS

A. THIS CONTRACTOR, PRIOR TO SUBMITTING HIS BID, WILL BE HELD TO HAVE VISITED THE SITE OF THE WORK, TO HAVE EXAMINED THE DRAWINGS, SPECIFICATIONS, AND OTHER DOCUMENTS RELATIVE TO THE ENTIRE WORK; TO HAVE FAMILIARIZED HIMSELF WITH THE EXISTING CONDITIONS AND THE MANNER IN WHICH THEY WILL AFFECT HIS WORK; TO HAVE FAMILIARIZED HIMSELF WITH THE GENERAL TYPE OF CONSTRUCTION AND ITS RELATION TO HIS WORK, AS WELL AS THE RELATION OF HIS WORK TO THAT OF ALL OTHER TRADES.

4. MATERIALS AND WORKMANSHIP

A. ALL MATERIALS SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS OF I.E.E.E., AND NEMA, WHERE SUCH STANDARD HAS BEEN ESTABLISHED FOR THE PARTICULAR TYPE OF MATERIAL IN QUESTION. ALL ELECTRICAL EQUIPMENT INSTALLED SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) PER NEC ARTICLE 110.3.

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

C. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY POWER AND TEMPORARY LIGHTING DURING CONSTRUCTION. TEMPORARY POWER SHALL PROVIDE ADEQUATE POWER FOR NORMAL CONSTRUCTION USE. TEMPORARY LIGHTING SHALL PROVIDE ADEQUATE LIGHT SO THAT THE INDIVIDUAL TRADES WORK CAN BE COMPLETED SAFELY.

5. CODES, PERMITS, AND INSPECTIONS

A. THE INSTALLATION SHALL COMPLY WITH ALL LAWS IN EFFECT APPLYING TO ELECTRICAL INSTALLATIONS, THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, THE NATIONAL ELECTRICAL SAFETY CODE, AND ALL LOCAL CODES.

B. ANY PERMITS REQUIRED SHALL BE OBTAINED AND AFTER COMPLETION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE INSPECTION AUTHORITIES.

C. ALL PERMITS FOR INSTALLATION, INSPECTION, CONNECTIONS, ETC., SHALL BE TAKEN OUT AND PAID FOR BY THE ELECTRICAL CONTRACTOR AS A PART OF THE WORK UNDER THIS DIVISION OF THE SPECIFICATIONS.

6. DRAWINGS AND SCHEDULES

A. DRAWINGS: THE ELECTRICAL DRAWINGS ARE PARTLY DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT AND EXTENT OF THE ELECTRICAL WORK, BUT EXACT LOCATION AND ARRANGEMENT OF PARTS SHALL BE DETERMINED AS THE WORK PROGRESSES TO CONFORM IN THE BEST POSSIBLE MANNER, WITH THE SURROUNDINGS.

B. THE DRAWINGS ARE DESIGNED AS PER THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADVISE THE ARCHITECT OF ANY CONFLICTS BETWEEN THE NATIONAL ELECTRICAL CODE AND LOCAL CODES. FAILURE TO DO SO DOES NOT RELIEVE THE CONTRACTOR'S OBLIGATION UNDER THIS CONTRACT AND WORK RQUIRED TO COMPLY WITH THE APPLICABLE CODES SHALL BE INSTALLED AT NO ADDITIONAL COST.

7. DISCREPANCIES

A. IN CASE OF ANY DIFFERENCE BETWEEN THE DRAWINGS AND SPECIFICATIONS, OR WHERE THE DRAWINGS AND SPECIFICATIONS ARE NOT CLEAR OR DEFINITE, THE SUBJECT SHALL BE REFERRED TO THE PROJECT ENGINEER FOR DECISION AND WRITTEN INSTRUCTIONS.

8. CONDUITS

A. RIGID GALVANIZED STEEL CONDUIT SHALL BE USED FOR ALL EXPOSED WIRING LOCATED LESS THAN 8 FEET ABOVE THE FINISHED FLOOR LEVEL, WHERE SUBJECT TO SEVERE MECHANICAL INJURY AND ALL WIRING EXPOSED TO THE ELEMENTS.

B. ALL EXPOSED CONDUIT SHALL BE RUN PARALLEL WITH WALLS OR CEILINGS.

C. ALL CONDUITS CUT SHALL BE REAMED TO REMOVE ANY SHARP EDGES THAT MAY DAMAGE THE WIRES TO BE PULLED IN.

D. BRANCH CIRCUIT WIRING RUN CONCEALED IN WALLS AND CEILINGS MAY BE INSTALLED IN UNDERWRITER'S APPROVED GALVANIZED THIN WALL CONDUIT WITH COMPRESSION OR SET–SCREW TYPE FITTINGS. SPRING OR CRIMP TYPE OR NON–FERROUS FITTINGS WILL NOT BE APPROVED.

E. ALL WIRING UNDERGROUND OR IN THE SLAB SHALL BE RUN IN RIGID THICK WALL GALVANIZED STEEL CONDUIT. P.V.C. SCHEDULE 40 CONDUIT SHALL BE PERMITTED FOR UNDERGROUND USE ONLY. USE THICK WALL 90° STEEL ELBOWS TO PIERCE SLAB.

F. CONDUIT CONNECTIONS FROM OUTLET BOXES, JUNCTION BOXES, CONDUIT, SWITCH BOXES, OR MOTOR CONTROLLER TO ROTATING OR VIBRATING MACHINERY OR EQUIPMENT SHALL BE MADE WITH FLEXIBLE METALLIC CONDUIT WHICH SHALL BE AS SHORT AS POSSIBLE WITH A MAXIMUM LENGTH OF THIRTY–SIX INCHES. FLEXIBLE CONDUIT EXPOSED TO THE WEATHER SHALL BE WEATHER–PROOF TYPE.

G. CONDUIT CONNECTIONS FROM OUTLET BOXES TO RECESSED LIGHTING FIXTURES SHALL BE MADE WITH 3/8" FLEXIBLE CONDUIT WHICH SHALL HAVE A MAXIMUM LENGTH OF 72 INCHES, UNLESS OTHERWISE NOTED.

H. PACK ALL SLEEVES FOR CONDUITS PASSING THROUGH FIRE RATED WALLS AND FLOOR SLABS WITH FIRE RESISTANT MATERIALS. ALL PENETRATIONS SHALL BE U.L. RATED.

I. CONDUITS SHALL BE A MINIMUM 3/4" CONDUIT UNLESS NOTED OTHERWISE ON PLANS. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH NYLON PULL–WIRES.

J. A GREEN INSULATED COPPER GROUND CONDUCTOR SHALL BE INSTALLED IN ALL RACEWAYS.

9. WIRE AND CABLE

A. ALL CONDUCTORS SHALL BE COPPER WITH THHN INSULATION (THWN INSULATION FOR WEATHER–PROOF APPLICATIONS).

B. ALL CONDUCTORS #10 AND SMALLER SHALL BE SOLID COPPER, AND ALL CONDUCTORS #8 AND LARGER SHALL BE COPPER USING BOLTED LUGS AT TERMINALS. ALL WIRING FOR 120–VOLT, 20–AMP CIRCUITS EXCEEDING 80 FEET IN LENGTH SHALL BE #10 AWG ENTIRE CIRCUIT MINIMUM. MINIMUM WIRE SIZE SHALL BE #12 AWG UNLESS NOTED OTHERWISE.

10. OUTLET BOXES

A. CEILING OUTLET BOXES SHALL BE FOUR INCH OCTAGON TYPE OF GALVANIZED STEEL WITH A MINIMUM DEPTH OF 1 1/2". OUTLET BOXES FOR SWITCHES OR WALL RECEPTACLES SHALL BE 4" SQUARE, OF GALVANIZED STEEL, WITH A MINIMUM DEPTH OF 1 1/2". TELEPHONE OUTLET BOXES SHALL BE 4 11/16" SQUARE. WALL SWITCH OUTLETS SHALL BE MOUNTED 48" ABOVE THE FLOOR; WALL RECEPTACLES SHALL GENERALLY BE MOUNTED 18" ABOVE THE FLOOR UNLESS NOTED OTHERWISE ON DRAWINGS. OUTLET BOXES FOR EXPOSED WALL MOUNTING SHALL BE CAST METAL TYPE. OUTLET BOXES FOR CEILING FANS SHALL BE LISTED FOR SUCH USE.

11. WIRING DEVICES

A. SWITCHES: 20–AMP, 120/277 VOLT RATING, SPECIFICATION GRADE, OFFICE–WHITE IN COLOR. SWITCHES SHALL BE FLUSH, QUIET TOGGLE TYPE (HUBBELL #1221 OR EQUAL).

B. WALL RECEPTACLES: DUPLEX RECEPTACLES SHALL BE FLUSH TYPE, 15 AMPERES, 125 VOLTS RATING, WITH PARALLEL SLOTS AND DOUBLE SIDE CONTACTS. RECEPTACLES SHALL BE GROUNDING TYPE "OFFICE–WHITE" IN COLOR, SPECIFICATION GRADE (HUBBELL #5262 OR EQUAL).

C. WALL PLATES SHALL BE "OFFICE–WHITE" BAKELITE IN OFFICE AREAS, AND GALVANIZED STEEL IN SHOP AREAS.

12. SAFETY SWITCHES

A. SAFETY SWITCHES SHALL BE HEAVY OR GENERAL DUTY, FUSIBLE TYPE OR NON–FUSIBLE TYPE AS INDICATED ON DRAWINGS (SQUARE D CO. OR EQUAL).

13. PANELBOARDS

A. PANELBOARDS SHALL BE OF THE DEAD–FRONT TYPE INCORPORATING SWITCHING AND PROTECTIVE DEVICES OF THE NUMBER, RATING AND TYPE SPECIFIED HERE IN OR SHOWN ON THE DRAWINGS. PANELBOARDS SHALL HAVE GENERAL PURPOSE ENCLOSURES AND SHALL BE SUITABLE FOR FLUSH OR SURFACE MOUNTING AS INDICATED. ALL PANELBOARDS SHALL BE RATED FOR THE INTENDED VOLTAGE AND SHALL BE IN ACCORDANCE WITH THE UNDERWRITERS' LABORATORIES, INC. "STANDARD FOR PANELBOARDS" AND "STANDARD FOR CABINETS AND BOXES" AND SHALL BE SO LABELED WHERE PROCEDURES EXIST. PANELBOARDS SHALL ALSO COMPLY WITH NEMA STANDARD FOR PANELBOARDS AND THE NATIONAL ELECTRICAL CODE. THE BRANCH CIRCUIT BREAKER ARRANGEMENT IN EACH PANEL SHALL BE AS INDICATED IN THE PANEL SCHEDULES. PANELS SHALL BE AS MANUFACTURED BY SQUARE "D", CUTLER–HAMMER, OR APPROVED EQUAL.

B. THE POWER COMPANY SHALL BE CONTACTED BY THE CONTRACTOR WITHIN 10 DAYS OF THE AWARD OF THE CONTRACT TO VERIFY THE ACTUAL AVAILABLE SHORT CIRCUIT FAULT CURRENT AT THE TRANSFORMER SECONDARY BUSHINGS. THE CONTRACTOR SHALL PROVIDE ELECTRICAL DISTRIBUTION AND UTILIZATION EQUIPMENT AND PANELBOARDS WHICH HAVE A.I.C. WITHSTAND RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT.

C. ALL CIRCUIT BREAKERS SHALL BE "FULL SIZE". NO TANDEM, PIGGY–BACK, TWIN OR HALF–SIZE BREAKERS WILL BE ACCEPTED. BREAKER MUST BE APPROVED PRIOR TO INSTALLATION.

D. COORDINATE THE REQUIRED SIZE OF ALL CIRCUIT BREAKERS FEEDING EQUIPMENT (MOTORS, HVAC, KITCHEN EQUIPMENT, SPECIAL PURPOSE OUTLETS, ELEVATORS, OWNER–FURNISHED EQUIPMENT, ETC.) WITH APPROVED EQUIPMENT SHOP DRAWINGS AND OWNER REPRESENTATIVES PRIOR TO ORDERING PANELBOARDS. BREAKERS SHALL BE SIZED PER THE N.E.C., THE EQUIPMENT NAME PLATE AND MANUFACTURER'S RECOMMENDATIONS. SERIES RATING OF CIRCUIT BREAKERS MUST BE APPROVED BY ENGINEER, AND MUST COMPLY WITH ALL THE REQUIREMENTS OF NEC 110.22 AND 240.86.

E. UPON COMPLETION OF INSTALLATION, INSPECT INTERIOR AND EXTERIOR OF PANELBOARDS. PROTECT INTERIORS FROM PAINT SPLATTER DURING CONSTRUCTION AND REMOVE PAINT SPLATTERS AND OTHER SPOTS, DIRT, AND DEBRIS. TOUCH UP SCRATCHES AND MARS OF FINISH TO MATCH ORIGINAL FINISH.

14. LIGHTING FIXTURES

A. LIGHTING FIXTURES SHALL BE FURNISHED AND INSTALLED COMPLETED IN ALL RESPECTS, INCLUDING LAMPS AS LISTED IN THE FIXTURE SCHEDULE ON THE DRAWINGS. ALL FIXTURES SHALL BE PROPERLY AND CAREFULLY SUPPORTED AND ALIGNED; THIS CONTRACTOR SHALL FURNISH ALL NECESSARY SUPPORTS FOR FIXTURES.

B. LED–SOURCE LIGHT FIXTURES SHALL BE AS SPECIFIED ON PLANS. SUBSTITUTIONS REQUIRE WRITTEN APPROVAL BY ENGINEER–OF–RECORD.

C. TIME CLOCKS SHALL BE 24–HOUR, 7–DAY WITH BATTERY BACKUP. EACH DAY SHALL HAVE MINIMUM OF 2 ON AND 2 OFF PERIODS. TIME CLOCK SHALL HAVE A MANUAL OVERIDE SWITCH. TIME CLOCK SHALL BE ENCLOSED IN NEMA ENCLOSURE SUITABLE FOR THE ENVIRONMENT. TIME CLOCK SHALL BE TORK, INTERMATIC, OR EQUAL.

D. LIGHTING CONTROLS SHALL BE AS SPECIFIED ON PLANS. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO OWNER THAT THE INSTALLED LIGHTING CONTROLS MEET DOCUMENTED PERFORMANCE CRITERIA OF SECTION C405 OF FLORIDA ENERGY CODE. THIS DOCUMENTATION SHALL BE PROVIDED WITHIN 90 DAYS OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.

15. FUSES

A. FUSES SHALL BE AS MANUFACTURED BY BUSSMAN, GOULD–SHAWMUT, OR LITTLEFUSE AND SHALL BE DUAL–ELEMENT, TIME DELAY OR CURRENT–LIMITING U.L. CLASS RK5 AS SPECIFIED ON THE DRAWINGS.

B. MAIN SWITCHES AND CIRCUITS EXCEEDING 600 AMPERES CAPACITY SHALL BE FUSED WITH BUSSMAN TYPE KRP–C HI–CAP CURRENT LIMITING FUSES U.L. CLASS L. THE EXACT TYPE SHALL BE AS RECOMMENDED BY THE MANUFACTURER CONSIDERING INTERRUPTING AND COORDINATION REQUIREMENTS.

16. MISCELLANEOUS EQUIPMENT WIRING

A. THE ELECTRICAL CONTRACTOR SHALL CONNECT ALL EQUIPMENT FURNISHED BY OTHERS AS INDICATED ON THE DRAWINGS.

17. TELEPHONE RACEWAYS

A. FURNISH AND INSTALL THE OUTLET AND RACEWAY SYSTEM FOR TELEPHONES AS INDICATED ON THE DRAWINGS. RACEWAYS SHALL BE OF THE SAME SPECIFICATIONS AS FOR POWER RACEWAYS AND SHALL BE PROVIDED WITH #12 GALVANIZED PULL–WIRE. NO TELEPHONE RACEWAY SHALL CONTAIN MORE THAN TWO 90° BENDS OR EQUIVALENT.

18. TESTING AND DRAWINGS

A. ALL WIRING AND EQUIPMENT FURNISHED AND INSTALLED BY THIS CONTRACTOR SHALL BE COMPLETELY TESTED AND LEFT IN PERFECT WORKING ORDER.

B. TYPEWRITTEN BRANCH CIRCUIT INDEXES SHALL BE INSTALLED IN ALL PANELS.

C. IDENTIFYING NAME PLATES WITH WHITE LETTERS ON A BLACK BACKGROUND SHALL BE INSTALLED ON ALL SAFETY SWITCHES.

D. CHANGES IN THE LOCATIONS OF CONDUITS, CONNECTIONS OR CIRCUITS AND ANY OTHER DATA DIFFERENT FROM THE CONTRACT DRAWINGS SHALL BE NOTED BY THE CONTRACTOR ON A SET OF PRINTS TO BE FURNISHED BY AND RETURNED TO THE PROJECT ENGINEER AFTER COMPLETION OF THE INSTALLATION. A COPY OF THESE AS–BUILT DOCUMENTS SHALL ALSO BE PROVIDED TO THE BUILDING OWNER.

E. CONTRACTOR SHALL PROVIDE TO THE BUILDING OWNER, AN OPERATING MANUAL FOR ALL ELECTRICAL EQUIPMENT AND A MAINTENANCE MANUAL FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED. FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, CONTRACTOR SHALL PROVIDE AT LEAST ONE NAME AND ADDRESS OF A QUALIFIED SERVICE AGENCY.

19. GUARANTEE

A. ALL ELECTRICAL WORK DONE UNDER THIS CONTRACT SHALL BE GUARANTEED FOR ONE YEAR BY THE ELECTRICAL CONTRACTOR, IN WRITING.

20. FINAL REVIEW

A. AT A TIME DESIGNATED BY THE ARCHITECT/ENGINEER, THE ENTIRE SYSTEM SHALL BE REVIEWED. THE CONTRACTOR SHALL BE PRESENT AT THIS REVIEW.

B. PRIOR NOTICE OF FIVE WORKING DAYS SHALL BE GIVEN FOR FINAL REVIEW. IF WORK IS NOT COMPLETED AT THE TIME FINAL REVIEW IS PERFORMED AND ADDITIONAL REVIEW(S) ARE REQUIRED. THE COST OF THE REVIEW AND ANY SUBSEQUENT REVIEW SHALL BE BORN BY THE CONTRACTOR.

END OF SECTION.

CODE CRITERIA:

NOTE:
ALL CODES SHALL COMPLY WITH THE FLORIDA STATUTES 69A-3.012 AND THE STATE FIRE MARSHAL'S RULE. THIS LIST IS NOT INCLUSIVE OF ALL CODES AND STANDARDS THAT MAY OR MAY NOT APPLY TO THIS PROJECT.

*FLORIDA BUILDING CODE (FBC) - 2017 - 6TH EDITION
*FLORIDA ENERGY EFFICIENCY CODE (2017) - 6TH EDITION
*FLORIDA FIRE PREVENTION CODE (2017) - 6TH EDITION
*FLORIDA ACCESSIBILITY CODE (2017) - 6TH EDITION

~~NATIONAL FIRE PROTECTION ASSOCIATION (NFPA):~~
*NFPA-70 (2014) NATIONAL ELECTRICAL CODE
*NFPA-72 (2013) NATIONAL FIRE ALARM CODE

DRAWING SCHEDULE:

ELECTRICAL LEGEND

- RECESS MOUNTED LIGHT FIXTURE
- WALL MOUNTED LIGHT FIXTURE
- WALL MOUNTED UPLIGHT
- MOTOR
- LIGHTED EXIT SIGN
- L-30 — "A" RECESSED FLUORESCENT FIXTURE (LETTER INDICATES FIXTURE TYPE – SEE SCHEDULE) (L-30 INDICATES PANEL AND CIRCUIT NUMBER)
- HOME RUN TO PANEL (ONE PHASE CONDUCTOR, ONE NEUTRAL CONDUCTOR ONE EQUIPMENT GROUND CONDUCTOR)
- HOME RUN TO PANEL (THREE PHASE CONDUCTORS, ONE NEUTRAL CONDUCTOR ONE EQUIPMENT GROUND CONDUCTOR)
- # POLES, DISCONNECT SIZE, 200 / 150, 3R, FUSE SIZE, NEMA ENCLOSURE CLASS — ELECTRICAL SAFETY SWITCH (SQUARE D, G.E., SEIMENS)
- SIMPLEX RECEPTACLE 20-AMP, 125V (MOUNT AT 18" AFF U.N.O.)
- DUPLEX RECEPTACLE 20-AMP, 125V (MOUNT AT 18" AFF U.N.O.)
- QUADRAPLEX RECEPTACLE 20-AMP, 125V (MOUNT AT 18" AFF U.N.O.)
- GFI GRND. FAULT INT. DPLX. RECEP. 125V (MOUNT AT 18" AFF U.N.O.)
- DUPLEX RECEPTACLE 20-AMP, 125V (MOUNTED ABOVE COUNTER BACKSPLASH)
- WP WEATHERPROOF/GFI DUPLEX RECEP. 125V (MOUNT AT 18" AFF U.N.O.)
- CLG CEILING RECEPTACLE 120V
- 250V RECEPTACLE(MOUNT AT 18" AFF U.N.O.)
- RFL RECESSED QUAD FLOOR RECEPTACLE
- $ SINGLE POLE SWITCH
- $3 THREE WAY SWITCH
- $4 FOUR WAY SWITCH
- $D DIMMER SWITCH
- $M MOTOR-RATED SWITCH (WITH OVERLOADS)
- JUNCTION BOX
- SW 20A RCPT. SWITCHED BY CLG. SENSOR (MOUNT AT 18" AFF U.N.O.)
- PHONE OUTLET (18" AFF U.N.O.)
- DATA OUTLET (18" AFF U.N.O.)
- TV CABLE TV OUTLET (18" AFF U.N.O.)

ABBREVIATIONS

CU.	COPPER	AFF	ABOVE FINISHED FLOOR
E.G.	EQUIPMENT GROUND	UNO	UNLESS NOTED OTHERWISE
AC	ABOVE COUNTER	GFI	GROUND FAULT CIRCUIT INTERRUPTER
NF	NON–FUSED	AIC	AMP INTERRUPTING CAPACITY
ABG	ABOVE GRADE	AFC	AVAILABLE FAULT CURRENT
		GFP	GROUND FAULT PROTECTION

FIRE ALARM SYSTEM GENERAL NOTES

1. ALL EQUIPMENT AND INSTALLATION PROCEDURES SHALL COMPLY WITH NFPA 70, NFPA 72, NFPA 72E, NEC CHAPTER 7 (ARTICLE 760), NFPA – LIFE SAFETY 101 (2000 EDITION), RULES AND REGULATIONS OF THE STATE FIRE MARSHALS' OFFICE, AND ALL LOCAL CODES.
2. PROVIDE BATTERY CALCULATIONS WITH SUBMITTALS.
3. EACH MANUAL FIRE ALARM BOX SHALL BE SECURELY MOUNTED. THE OPERABLE PART SHALL BE NOT LESS THAN 3 1/2 FT. AND NOT MORE THAN 4 1/2 FT. ABOVE FLOOR LEVEL. WALL–MTD. APPLIANCES SHALL HAVE THEIR BOTTOMS AT HEIGHTS ABOVE THE FINISHED FLOOR OF NOT LESS THAN 80 IN. AND NO GREATER THAN 96 IN. TOPS OF DEVICES SHALL NOT BE WITHIN 6 IN. OF CEILING.
4. PROVIDE DEVICES AND WIRING WHICH REFLECT U.L. LISTING (RATED FOR FIRE SERVICE), AND FORM A COMPLETE, OPERABLE SYSTEM. SYSTEM SHALL BE NON–CODED AND ELECTRICALLY SUPERVISED.
5. CIRCUIT WIRING SHALL BE CLASS "B".
6. ALL FIRE ALARM WIRING SHALL BE IN CONDUIT (1/2" E.M.T. MINIMUM). CONDUCTOR TYPE SHALL BE:
   - DETECTION CIRCUITS: #16 THHN MINIMUM
   - NOTIFICATION CIRCUITS: #14 THHN STRANDED MINIMUM
   - RELEASE/AUXILIARY CIRCUITS: #14 THHN STRANDED MINIMUM

   ALL WIRING SHALL BE LABELED AND IDENTIFIED BY CIRCUIT AT ALL TERMINATIONS.
7. FIRE ALARM SYSTEM SHALL HAVE U.L. LISTED TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS) DEVICES INSTALLED IN ALL CONDUCTORS (AC POWER WIRING, TELEPHONE LINES, AND ALL WIRING ENTERING OR LEAVING THE BUILDING). ALL SURGE SUPPRESSION DEVICES SHALL BE INSTALLED EXTERNAL TO THE FIRE ALARM CONTROL PANEL (FACP) REGARDLESS OF ADDITIONAL PROTECTION INSIDE PANEL. TVSS DEVICES FOR COMMUNICATION WIRING SHALL BE INSTALLED WITH A MINIMUM OF 3' OF WIRING BETWEEN THE DEVICE AND FACP. ALL PROTECTIVE DEVICES SHALL BE CERTIFIED TO THE FOLLOWING STANDARDS:
   - (A) TELEPHONE LINES: UL497A
   - (B) SIGNALING LINE LOOPS: UL497B
   - (C) INITIATION OR NOTIFICATION CIRCUITS: UL497B
   - (D) AC POWER: UL1449 (2ND EDITION)
8. PROVIDE VOLTAGE DROP CALCULATIONS FOR FINAL NOTIFICATION CIRCUIT LAYOUTS. OBSERVE MANUFACTURERS' "MAXIMUM LOOP RESISTANCES" FOR INITIATING DEVICE AND SIGNALING LINE CIRCUITS.
9. PROVIDE WEATHERPROOF, AUDIBLE/VISIBLE NOTIFICATION DEVICE ON EXTERIOR OF BUILDING (LOCATION TO BE APPROVED BY THE FIRE DEPARTMENT).
10. PROVIDE SMOKE DETECTOR AT LOCATION OF FIRE ALARM CONTROL PANEL.

NOTE: ALL DRAWINGS NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS

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CEG # 20-429

REVISIONS
January 27, 2014

SOFTPLAN ARCHITECTURAL DESIGN SOFTWARE

BELMONT ACADEMY PHASE II ADDITION FOR:

NOTES & DETAILS

BELMONT ACADEMY, INC.
1476 SW WALTER AVE, LAKE CITY, FLORIDA 32024

DAVID D. PATTON JR. LICENSE No. 52909 STATE OF FLORIDA PROFESSIONAL ENGINEER

Celebrating 40 Years of Service
1972 - 2013
N.P. Geisler, Architect AR0007005

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JOB NUMBER
20140121
DATE:
21 JAN 2014

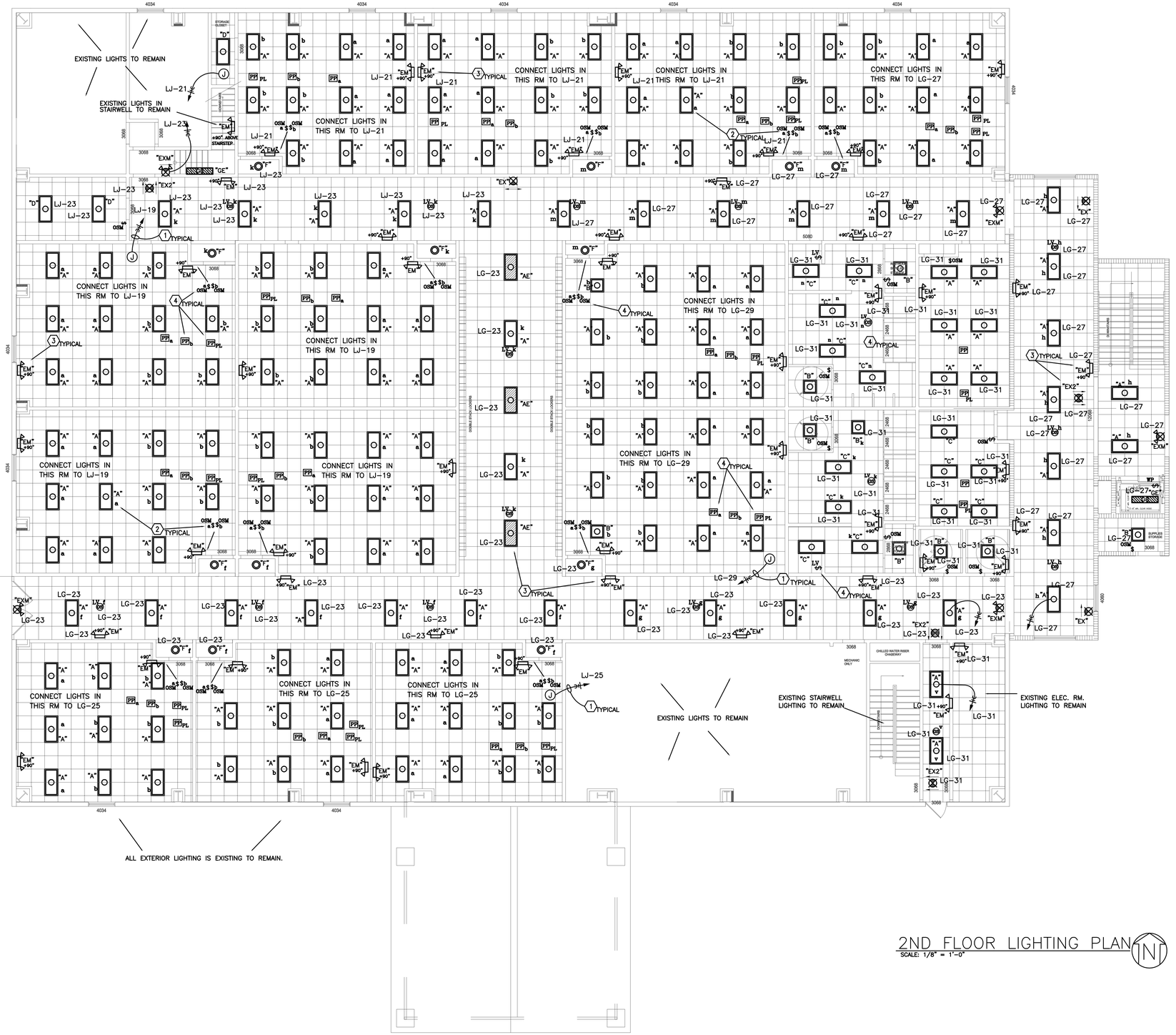
SHEET NUMBER
E0

LIGHTING PLAN GENERAL NOTES

1. SWITCHES SHALL CONTROL ALL "SWITCHED" LIGHT FIXTURES IN ROOM TYPICAL UNLESS NOTED OTHERWISE. SEE KEYNOTES FOR EXCEPTIONS. DIMMER SWITCHES SHALL BE COMPATIBLE WITH THE LIGHT FIXTURE CONTROLLED, AND SHALL BE APPROVED BY LIGHT FIXTURE MANUFACTURER.
2. CONTRACTOR SHALL INSTALL A GREEN EQUIPMENT GROUNDING WIRE IN ALL CONDUITS AND SHALL BOND THE GROUND WIRE TO ALL DEVICES AND ELECTRICALLY WIRED EQUIPMENT. GROUNDING AND BONDING SHALL BE INSTALLED IN ACCORDANCE WITH NATIONAL ELECTRIC CODE, ARTICLE 250.
3. CONTRACTOR SHALL REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF ALL LIGHT FIXTURES. REFER TO ARCHITECTURAL LIFE SAFETY PLAN FOR ALL EXIT SIGNS.
4. LIGHT FIXTURES ARE SELECTED FOR PHOTOMETRIC PERFORMANCE, QUALITY, AND AESTHETICS. SUBSTITUTIONS REQUIRE FIXTURE SAMPLES AND PHOTOMETRIC DATA AT LEAST 10 DAYS PRIOR TO BID DATE. WRITTEN APPROVAL IS REQUIRED BY THE ENGINEER PRIOR TO BID DATE. CONTACT DAN SROKA (ENVISION LIGHTING) 941-243-0608 FOR PRICING.
5. PRIOR TO ORDERING MATERIALS AND EQUIPMENT, CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL LIGHT FIXTURES, SWITCHES, AND CONTROL EQUIPMENT. SUBMITTALS SHALL INCLUDE SPECIFICATIONS SHEETS FOR ALL EQUIPMENT AND PHOTOMETRIC PERFORMANCE INFORMATION (INCLUDING ELECTRONIC IES FILES). WRITTEN APPROVAL BY THE ENGINEER–OF–RECORD IS REQUIRED PRIOR TO ORDERING EQUIPMENT.
6. SEE RECESSED LAY–IN FIXTURE DETAIL (SHEET E0) FOR TROFFER INSTALLATION.

LIGHTING PLAN KEY NOTES

1. 2#12 COPPER, 1#12 COPPER EQUIPMENT GROUND, 3/4" CONDUIT TO NEW CIRCUIT BREAKER IN PANEL INDICATED, TYPICAL ALL CIRCUITS UNLESS NOTED OTHERWISE.
2. LOWER–CASE LETTER AT SWITCH INDICATES CONTROL OF ALL LIGHT FIXTURES IN ROOM WITH MATCHING LOWER–CASE DESIGNATION. TYPICAL. SWITCHES SHALL CONTROL ALL SWITCHED LIGHT FIXTURES IN ROOM UNLESS NOTED OTHERWISE.
3. EXIT SIGNS AND EMERGENCY "TWIN–HEAD" LIGHT FIXTURES SHALL BE PROVIDED WITH EMERGENCY BATTERY BACKUP, AND SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT, WIRED AHEAD OF ANY SWITCHES IN CIRCUIT.
4. SEE OCCUPANCY SENSOR TABLE FOR DETAILS.
5. "NL" DESIGNATION INDICATES UNSWITCHED NIGHT LIGHT.



OCCUPANCY SENSOR TABLE

^{OS}	SWITCH WITH "OS" SUPERSCRIPT SHALL BE COMBINATION WALL SWITCH/OCCUPANCY SENSOR PASSIVE–INFRARED "ACUITY" #WSX–PDT–WH
LV$_k$	CEILING–MOUNTED, LOW VOLTAGE, STANDARD RANGE, DUAL–TECHNOLOGY 360° OCCUPANCY SENSOR (ACUITY #CM–PDT–9, POWERPACK MP20) LOWER–CASE LETTER IDENTIFIES LIGHT FIXTURES W/ MATCHING LETTERS TO BE SWITCHED.
LV$_k$ LV$_k$	CEILING–MOUNTED, LOW VOLTAGE, DUAL–TECHNOLOGY OCCUPANCY SENSOR (ACUITY #CM–PDT–10/CM–PDT–9, POWERPACK MP20). ACTIVATION OF ANY SENSOR WITH MATCHING LOWER–CASE DESIGNATION SHALL CAUSE ALL LIGHTS WITH SAME DESIGNATION TO TURN ON.
LVL$_k$	LARGE AREA, LOW VOLTAGE, CEILING–MOUNTED, DUAL–TECHNOLOGY OCCUPANCY SENSOR (ACUITY #CM–PDT–10, POWERPACK MP20) LOWER–CASE LETTER IDENTIFIES LIGHT FIXTURES W/ MATCHING LETTERS TO BE SWITCHED.
^{OSM}	OCCUPANCY SENSOR WITH "OSM" SUPERSCRIPT INDICATES "ACUITY" #WSX–PDT–D–WH WITH "MANUAL–ON" REQUIREMENT.
$^{OSM}_{a\,\$\,b}$	TWO SWITCH WALL SENSOR WITH MANUAL–ON REQUIREMENT EQUAL TO "ACUITY #WSX–PDT–2P–WH
$_k$	CEILING–MOUNTED, LINE VOLTAGE, STANDARD RANGE, DUAL–TECHNOLOGY 360° OCCUPANCY SENSOR (ACUITY #CMR–PDT–9) LOWER–CASE LETTER IDENTIFIES LIGHT FIXTURES W/ MATCHING LETTERS TO BE SWITCHED.
PP$_{PL}$	ACUITY #nPP20 PL. ROUTE SELECTED RECEPTACLES IN ROOM THRU DEVICE.
PP$_b$	ACUITY #nPP16–D–EFP PL. ROUTE LIGHTS IN ROOM WITH THE SAME LOWER–CASE DESIGNATION THRU DEVICE.
^{LV}	ACUITY #nPODMA.

NOTE: ALL DEVICES MAY OR MAY NOT BE USED IN THIS PROJECT.

2ND FLOOR LIGHTING PLAN
SCALE: 1/8" = 1'–0"

NOTE: ALL DRAWINGS NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS

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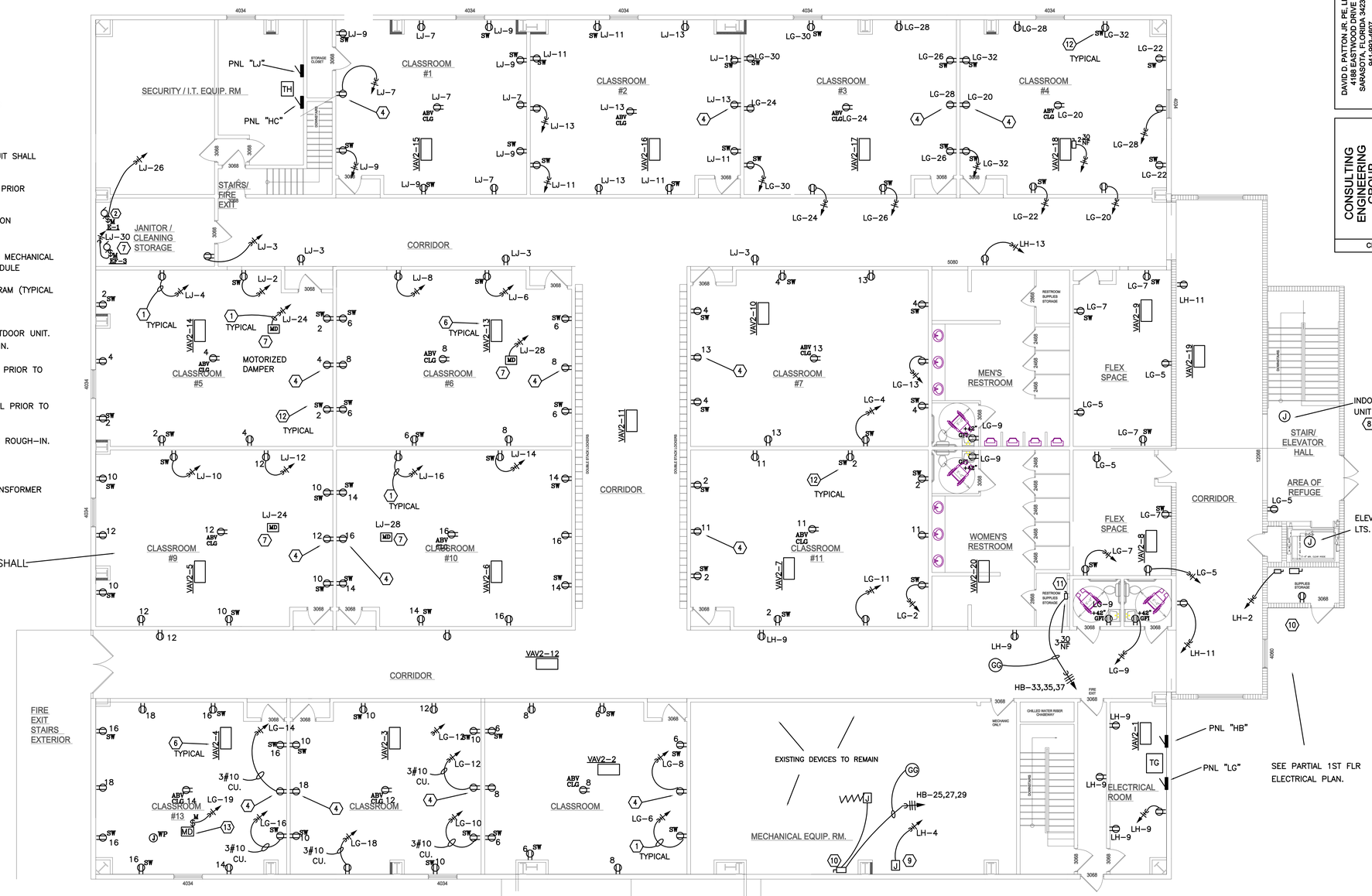
E1

POWER PLAN KEY NOTES

1. 2#12 COPPER, 1#12 COPPER EQUIPMENT GROUND, 3/4" CONDUIT TO NEW CIRCUIT BREAKER IN PANEL INDICATED, TYPICAL ALL CIRCUITS UNLESS NOTED OTHERWISE.
2. SWITCH EXHAUST FAN WITH LIGHT SWITCH.
3. INSTALL RECEPTACLES INSIDE WATER COOLER ENCLOSURE. CIRCUIT SHALL BE PROTECTED WITH A GFI BREAKER.
4. COORDINATE RECEPTACLE MTG. HT. WITH OWNER AND ARCHITECT PRIOR TO ROUGH-IN.
5. SWITCHED RECEPTACLES CONTROLLED BY POWER PACK SHOWN ON LIGHTING PLAN.
6. COORDINATE ELECTRICAL CONNECTIONS TO VAV EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. SEE VAV ELECTRICAL SCHEDULE
7. WIRING BY MECH. SEE MECHANICAL DETAIL "EF CONTROL DIAGRAM (TYPICAL FOR EF-3)".
8. COORDINATE INDOOR UNIT LOCATION. POWER COMES FROM OUTDOOR UNIT. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
9. COORDINATE HVAC CONTROL PANEL LOCATION WITH MECHANICAL PRIOR TO ROUGH-IN.
10. COORDINATE DUCT HTR. DISCONNECT LOCATION WITH MECHANICAL PRIOR TO ROUGH-IN.
11. COORDINATE 10 KW EWH LOCATION WITH MECHANICAL PRIOR TO ROUGH-IN.
12. LABEL SENSOR-SWITCHED RECEPTACLES PER N.E.C. 2014.
13. MOTORIZED DAMPER VOLTAGE IS ASSUMED 120V. PROVIDE TRANSFORMER CIRCUIT IF LOW VOLTAGE.

ALL ACCESSIBLE RECEPTACLES SHALL BE TAMPER-RESISTANT



FEEDER SCHEDULE

TYPE	FEEDER SIZE (SINGLE PHASE)	TYPE	FEEDER SIZE (THREE PHASE)
A	TWO #10 COPPER, ONE #10 COPPER EQ. GND., 3/4" CONDUIT	AA	THREE #12 COPPER, ONE #12 COPPER EQ. GND., 3/4" CONDUIT
B	TWO #8 COPPER, ONE #10 COPPER EQ. GND., 3/4" CONDUIT	BB	THREE #10 COPPER, ONE #10 COPPER EQ. GND., 3/4" CONDUIT
C	TWO #6 COPPER, ONE #10 COPPER EQ. GND., 1" CONDUIT	CC	THREE #8 COPPER, ONE #10 COPPER EQ. GND., 1" CONDUIT
D	TWO #4 COPPER, ONE #8 COPPER EQ. GND., 1" CONDUIT	DD	THREE #6 COPPER, ONE #10 COPPER EQ. GND., 1" CONDUIT
E	TWO #3 COPPER, ONE #8 COPPER EQ. GND., 1 1/4" CONDUIT	EE	THREE #4 COPPER, ONE #8 COPPER EQ. GND., 1 1/4" CONDUIT
F	TWO #1 COPPER, ONE #6 COPPER EQ. GND., 1 1/4" CONDUIT	FF	THREE #3 COPPER, ONE #8 COPPER EQ. GND., 1 1/4" CONDUIT
G	TWO #1/0 COPPER, ONE #6 COPPER EQ. GND., 1 1/4" CONDUIT	GG	THREE #1 COPPER, ONE #6 COPPER EQ. GND., 1 1/2" CONDUIT
		HH	THREE #1/0 COPPER, ONE #6 COPPER EQ. GND., 1 1/2" CONDUIT

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

NOTE: ALL DRAWINGS NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS

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CEG # 20-429

REVISIONS
January 27, 2014

SOFTPLAN ARCHITECTURAL DESIGN SOFTWARE

BELMONT ACADEMY PHASE III ADDITION FOR:
BELMONT ACADEMY, INC.
1476 SW WALTER AVE, LAKE CITY, FLORIDA 32024

DAVID D. PATTON JR. LICENSE No. 52909 STATE OF FLORIDA PROFESSIONAL ENGINEER

Celebrating 40 Years of Service
1972 - 2013
N.P. Geisler, Architect
AR0007005

NICHOLAS PAUL GEISLER ARCHITECT
N.C.A.R.B. Certified
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JOB NUMBER
20140121
DATE:
21 JAN 2014

SHEET NUMBER
E2

COMMUNICATION PLAN KEY NOTES

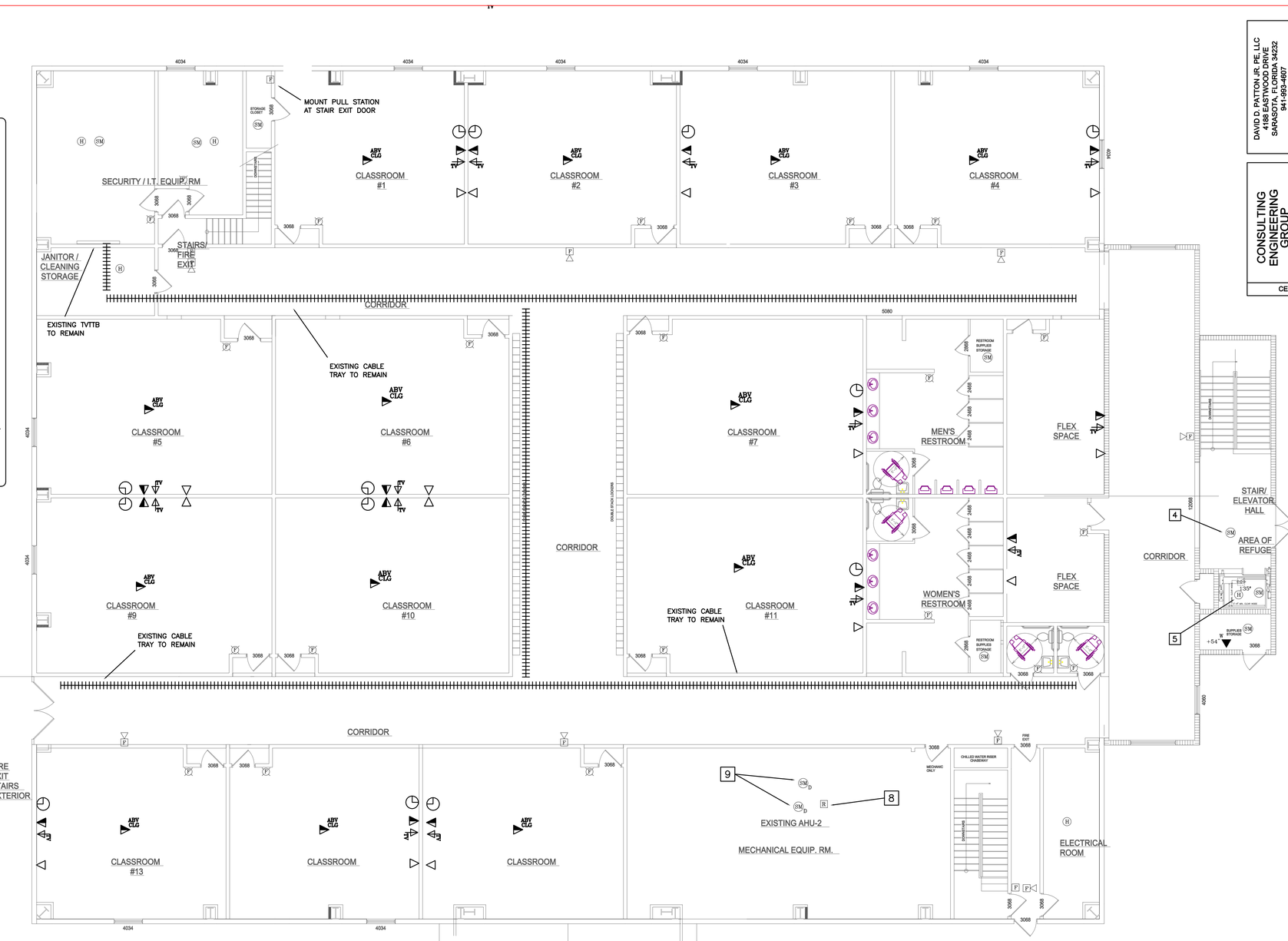
1. VERIFY MOUNTING HEIGHT WITH ARCHITECT / OWNER. TYPICAL ALL LOCATIONS.
2. TYPICAL 3/4" CONDUIT STUBBED ABOVE CEILING WITH PULL STRING FOR FUTURE OWNER WIRING. TYPICAL ALL LOCATIONS.
3. TYPICAL OUTLET FOR MONITOR VERIFY WALL HEIGHT WITH OWNER/ARCHITECT
4. ACTIVATION OF THIS SMOKE DETECTOR SHALL CAUSE THE ELEVATOR TO MOVE TO AN ALTERNATE LEVEL.
5. ACTIVATION OF THIS HEAT DETECTOR SHALL CAUSE THE SHUNT-TRIP BREAKER PROTECTING THE ELEVATOR MOTOR TO OPEN, CAUSING THE ELEVATOR TO BECOME DE-ENERGIZED. MOUNT DETECTOR ADJACENT TO SPRINKLER HEAD.
6. HVAC UNITS AND EXHAUST FANS ARE TO SHUT DOWN WHENEVER THE FIRE ALARM SYSTEM GOES INTO ALARM. RELAYS AT UNITS ARE TO BE INTERCONNECTED WITH FIRE ALARM SYSTEM SO THAT THEY OPEN WHEN FIRE ALARM SYSTEM GOES INTO ALARM. RELAYS ARE TO BE WIRED INTO THE START-STOP CIRCUIT OF HVAC UNITS AND IN LINE WITH EXHAUST FANS. WIRE RELAYS FOR "FAIL-SAFE" OPERATION.
7. ACTIVATION OF THIS SMOKE DETECTOR SHALL CAUSE THE ELEVATOR TO MOVE TO AN ALTERNATE LEVEL AND THE FIRE ALARM WARNING LIGHT TO FLASH.
8. HVAC UNITS AND EXHAUST FANS ARE TO SHUT DOWN WHENEVER THE FIRE ALARM SYSTEM GOES INTO ALARM. RELAYS AT UNITS ARE TO BE INTERCONNECTED WITH FIR E ALARM SYSTEM SO THAT THEY OPEN WHEN FIRE ALARM SYSTEM GOES INTO ALARM. RELAYS ARE TO BE WIRED INTO THE START-STOP CIRCUIT OF HVAC UNITS AND IN LINE WITH EXHAUST FANS. WIRE RELAYS FOR "FAIL-SAFE" OPERATION.
9. DUCT MOUNTED SMOKE DETECTORS SHALL BE MOUNTED IN THE SUPPLY AND RETURN DUCTS OF THE HVAC SYSTEM. LOCATION SHALL BE DETERMINED BY THE MECHANICAL ENGINEER. CONTRACTOR TO FURNISH, INSTALL, AND WIRE TO FIRE ALARM SYSTEM. PROVIDE A REMOTE TEST-RESET SWITCH WITH PILOT LIGHT IN ACCESSIBLE AREA ON CEILING. SEE DUCT DETECTOR DETAIL - THIS SHEET.

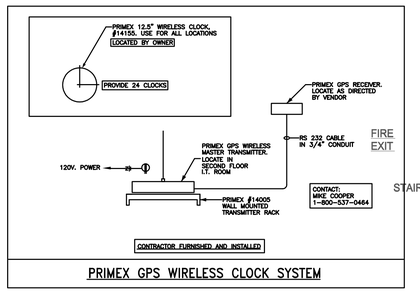
NOTE:
CONTRACTOR SHALL CONTACT OWNERS SECURITY AND DATA PROVIDERS FOR CABLE ROUGH-IN PRIOR TO DRY WALL INSTALLATION.

FIRE ALARM GENERAL NOTE:
DEVICES SHALL BE COMPATIBLE WITH EXISTING FACP.
FOR A COMPLETE FIRE ALARM SYSTEM.
SUBMIT SIGN AND SEALED SHOP DRAWINGS TO LOCAL FIRE MARSHAL WITH FULL WIRING DIAGRAMS, BATTERY CALCULATIONS AND CUT SHEETS FOR APPROVAL PRIOR TO INSTALLATION.

FIRE ALARM SYSTEM LEGEND

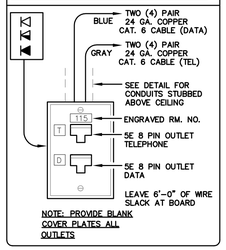
- (H) *FIRE ALARM HEAT DETECTOR* — PROVIDE REQUIRED WIRING AND ¾" CONDUIT FROM DEVICE TO FACP.
- FIRE ALARM SYSTEM VISIBLE-ONLY DEVICE MOUNTED AT 7'-6" AFF. MINIMUM CANDELA RATING SHALL BE 75. PROVIDE REQUIRED WIRING AND ¾" CONDUIT FROM DEVICE TO FACP.
- (SM) FIRE ALARM SYSTEM PHOTOELECTRIC SMOKE DETECTOR. DO NOT INSTALL DETECTOR WITHIN 3' OF SUPPLY AIR DUCT. PROVIDE REQUIRED WIRING AND ¾" CONDUIT FROM DEVICE TO FACP. SMOKE DETECTOR SHALL BE LISTED BY MANUFACTURER FOR SPACINGS AT LEAST 30'.
- (F) FIRE ALARM SYSTEM AUDIBLE/VISIBLE DEVICE MOUNTED AT 7'-6" AFF. MINIMUM CANDELA RATING SHALL BE 75. PROVIDE REQUIRED WIRING AND 3/4" CONDUIT FROM DEVICE TO FACP.
- (F) FIRE ALARM SYSTEM MANUAL PULL STATION MOUNTED AT 4'-0" AFF. PROVIDE REQUIRED WIRING AND ¾" CONDUIT FROM DEVICE TO FACP.
- [R] FIRE ALARM SYSTEM RELAY
- (SM)DD DUCT-MOUNTED SMOKE DETECTOR





PRIMEX GPS WIRELESS CLOCK SYSTEM

TEL/DATA OUTLET :
BY CONTRACTOR
WIRING AND JACKS BY OWNER



NOTE: PROVIDE BLANK COVER PLATES ALL OUTLETS

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

NOTE: ALL DRAWINGS NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS

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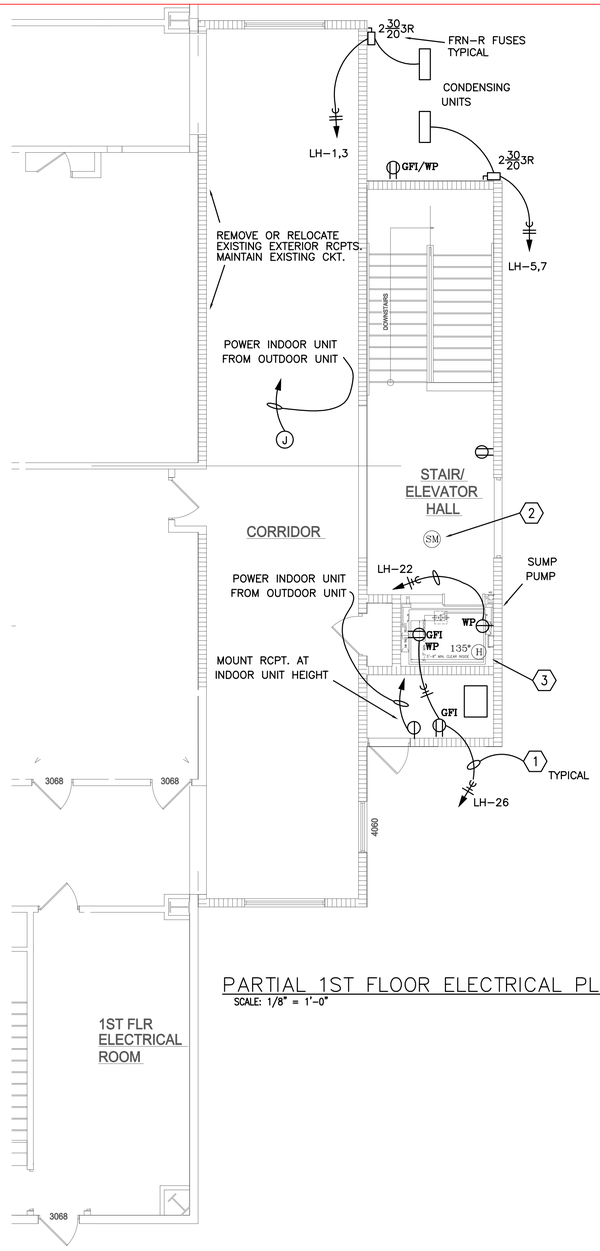


PARTIAL 1ST FLOOR ELECTRICAL PLAN

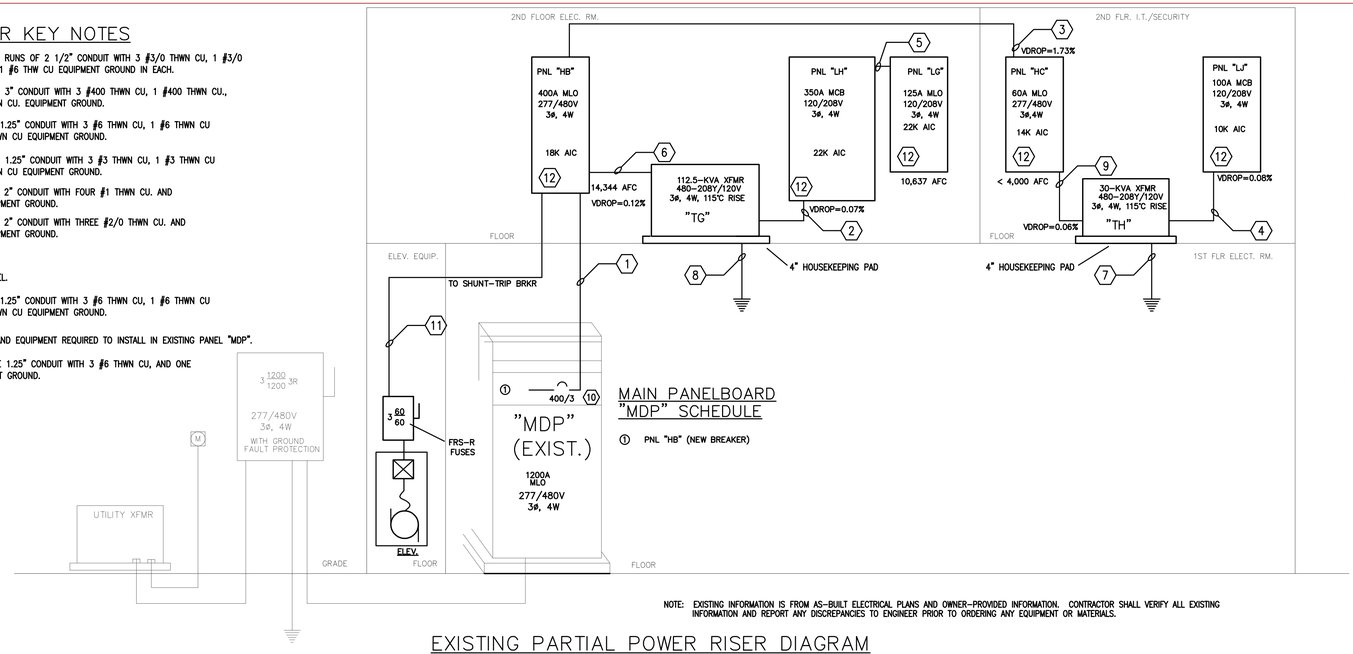
SCALE: 1/8" = 1'-0"

POWER PLAN KEY NOTES

1. 2#12 COPPER, 1#12 COPPER EQUIPMENT GROUND, 3/4" CONDUIT TO NEW CIRCUIT BREAKER IN PANEL INDICATED, TYPICAL ALL CIRCUITS UNLESS NOTED OTHERWISE.
2. ACTIVATION OF THIS SMOKE DETECTOR SHALL CAUSE THE ELEVATOR TO MOVE TO AN ALTERNATE LEVEL.
3. ACTIVATION OF THIS HEAT DETECTOR SHALL CAUSE THE SHUNT-TRIP BREAKER PROTECTING THE ELEVATOR MOTOR TO OPEN, CAUSING THE ELEVATOR TO BECOME DE-ENERGIZED. MOUNT DETECTOR ADJACENT TO SPRINKLER HEAD.

POWER RISER KEY NOTES

1. 400 AMP FEEDER - TWO RUNS OF 2 1/2" CONDUIT WITH 3 #3/0 THWN CU, 1 #3/0 THWN CU NEUTRAL AND 1 #6 THW CU EQUIPMENT GROUND IN EACH.
2. 350 AMP FEEDER - ONE 3" CONDUIT WITH 3 #400 THWN CU, 1 #400 THWN CU., NEUTRAL AND 1 #3 THWN CU. EQUIPMENT GROUND.
3. 60 AMP FEEDER - ONE 1.25" CONDUIT WITH 3 #6 THWN CU, 1 #6 THWN CU NEUTRAL AND 1 #10 THWN CU EQUIPMENT GROUND.
4. 100 AMP FEEDER - ONE 1.25" CONDUIT WITH 3 #3 THWN CU, 1 #3 THWN CU NEUTRAL AND 1 #8 THWN CU EQUIPMENT GROUND.
5. 125 AMP FEEDER - ONE 2" CONDUIT WITH FOUR #1 THWN CU. AND ONE #6 THWN CU. EQUIPMENT GROUND.
6. 175 AMP FEEDER - ONE 2" CONDUIT WITH THREE #2/0 THWN CU. AND ONE #6 THWN CU. EQUIPMENT GROUND.
7. #8 CU. TO BLDG. STEEL.
8. #1/0 CU. TO BLDG. STEEL.
9. 50 AMP FEEDER - ONE 1.25" CONDUIT WITH 3 #6 THWN CU, 1 #6 THWN CU NEUTRAL AND 1 #10 THWN CU EQUIPMENT GROUND.
10. PROVIDE NEW BREAKER AND EQUIPMENT REQUIRED TO INSTALL IN EXISTING PANEL "MDP".
11. ELEVATOR FEEDER - ONE 1.25" CONDUIT WITH 3 #6 THWN CU, AND ONE #10 THWN CU EQUIPMENT GROUND.
12. SEE PANEL SCHEDULES.



MAIN PANELBOARD "MDP" SCHEDULE

① PNL "HB" (NEW BREAKER)

NOTE: EXISTING INFORMATION IS FROM AS-BUILT ELECTRICAL PLANS AND OWNER-PROVIDED INFORMATION. CONTRACTOR SHALL VERIFY ALL EXISTING INFORMATION AND REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO ORDERING ANY EQUIPMENT OR MATERIALS.

EXISTING PARTIAL POWER RISER DIAGRAM

NOT TO SCALE

FIXTURE SCHEDULE

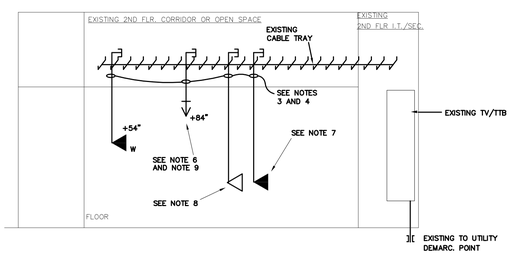
NOT ALL FIXTURES USED THIS PROJECT
ALL LAMPS 120 VOLTS UNLESS OTHERWISE NOTED.
ALL LAMPS 3500K, UNLESS OTHERWISE NOTED.

A	RECESSED TROFFER 2 X 4, DIRECT / INDIRECT / LED 4000 LUMENS, 3500K, 0-10V DIMMING DRIVER LITHONIA CAT. NO. 2BLT4 40L ADSM GZ10 LP835	34 WATTS
AE	RECESSED TROFFER 2 X 4, DIRECT / INDIRECT / LED 4000 LUMENS, 3500K, 0-10V DIMMING DRIVER EMERGENCY DRIVER LITHONIA CAT. NO. 2BLT4 40L ADSM GZ10 LP835 EL 14L	34 WATTS
C	RECESSED TROFFER 2 X 4, DIRECT / INDIRECT / LED 3300 LUMENS, 3500K, 0-10V DIMMING DRIVER LITHONIA CAT. NO. 2BLT4 40L ADSM GZ10 LP835	29 WATTS
CE	RECESSED TROFFER 2 X 4, DIRECT / INDIRECT / LED 3300 LUMENS, 3500K, 0-10V DIMMING DRIVER EMERGENCY DRIVER LITHONIA CAT. NO. 2BLT4 40L ADSM GZ10 LP835 EL 14L	29 WATTS
F	RECESSED 6" DOWN LIGHT / LED 1000 LUMENS, 3500K, 0-10V DIMMING DRIVER ACUITY #LDN6-35-10-LO6-AR-LSS-MVOLT-EZ10-TRW	11 WATTS
B	RECESSED TROFFER 2 X 4, DIRECT / INDIRECT / LED 2000 LUMENS, 3500K, 0-10V DIMMING DRIVER LITHONIA CAT. NO. 2BLT2 20L ADSM GZ10 LP835	20 WATTS
EB	SURFACE VAPORTIGHT 1 X 4 / LED 4000 LUMENS, 3500K, 0-10V DIMMING DRIVER SEE PLANS FOR WALL MOUNTED NULITE LIGHTING CAT. NO. INT 4 50 L35 120 DIM-EM EMERGENCY BATTERY BACKUP	29 WATTS
EX	SURFACE MOUNTED BATTERY EXIT LIGHT / LED T-BAR HANGER RAILS / SEE PLANS FOR ARROWS EMERGENCY DRIVER LITHONIA CAT. NO. EXR LED EL M6 (SINGLE FACE)	10 WATTS
EX2	SURFACE MOUNTED BATTERY EXIT LIGHT / LED T-BAR HANGER RAILS / SEE PLANS FOR ARROWS EMERGENCY DRIVER LITHONIA CAT. NO. EXR LED EL M6 (DUAL FACE)	10 WATTS
EM	BATTERY EMERGENCY LIGHT, 120 VOLTS CEILING MOUNTED WHITE ENCLOSURE, RED LETTERS (MAINTAIN POWER TO FIXTURE AT ALL TIMES) LITHONIA CAT. NO. EU2L	10 WATTS
EX/M	EXIT / BATTERY EMERGENCY LIGHT, 120 VOLTS CEILING MOUNTED WHITE ENCLOSURE, RED LETTERS (MAINTAIN POWER TO FIXTURE AT ALL TIMES) LITHONIA CAT. NO. LHQM-LED-R	10 WATTS

BOX	kW	VOLT	PHASE	FEEDER	CIRCUIT
VAV-2-1	2	277	1	2#12, 1#12 E.G.,3/4"C.	HB-1
VAV-2-2	3	277	1	2#12, 1#12 E.G.,3/4"C.	HB-3
VAV-2-3	4	277	1	2#12, 1#12 E.G.,3/4"C.	HB-5
VAV-2-4	4	277	1	2#12, 1#12 E.G.,3/4"C.	HB-7
VAV-2-5	4	277	1	2#12, 1#12 E.G.,3/4"C.	HC-9
VAV-2-6	3	277	1	2#12, 1#12 E.G.,3/4"C.	HC-11
VAV-2-7	3	277	1	2#12, 1#12 E.G.,3/4"C.	HB-13
VAV-2-8	2	277	1	2#12, 1#12 E.G.,3/4"C.	HB-15
VAV-2-9	3	277	1	2#12, 1#12 E.G.,3/4"C.	HB-17
VAV-2-10	3	277	1	2#12, 1#12 E.G.,3/4"C.	HB-19
VAV-2-11	3	277	1	2#12, 1#12 E.G.,3/4"C.	HB-21
VAV-2-12	2	277	1	2#12, 1#12 E.G.,3/4"C.	HB-2
VAV-2-13	3	277	1	2#12, 1#12 E.G.,3/4"C.	HC-4
VAV-2-14	4	277	1	2#12, 1#12 E.G.,3/4"C.	HC-6
VAV-2-15	4	277	1	2#12, 1#12 E.G.,3/4"C.	HC-8
VAV-2-16	4	277	1	2#12, 1#12 E.G.,3/4"C.	HB-10
VAV-2-17	4	277	1	2#12, 1#12 E.G.,3/4"C.	HB-12
VAV-2-18	4	277	1	2#12, 1#12 E.G.,3/4"C.	HB-14
VAV-2-19	4	277	1	2#12, 1#12 E.G.,3/4"C.	HB-16
VAV-2-20	2	277	1	2#12, 1#12 E.G.,3/4"C.	HB-18

VAV ELECTRICAL SCHEDULE

NOT TO SCALE



NOTES:

1. SEE PLANS FOR QUANTITIES AND LOCATIONS OF TELEPHONE, COMPUTER, AND CATV DEVICES.
2. ALL WIRING ABOVE CEILING NOT IN CONDUIT SHALL BE PLENUM-RATED.
3. IF ACCEPTABLE TO OWNER'S DATA REPRESENTATIVE, ADJACENT PHONE/DATA RECEPTACLES MAY USE ONE CONDUIT STUBBED INTO ACCESSIBLE CEILING SPACE BY INCREASING CONDUIT CONDUIT SIZE TO 1".
4. 3/4" CONDUIT STUBBED FROM BOX INTO ACCESSIBLE CEILING SPACE WITH PLASTIC BUSHING. PROVIDE CABLING AS INDICATED BY THIS RISER DIAGRAM FROM RECEPTACLE TO SERVICE POINT. FOR CABLE SUPPORT, PROVIDE CADDY SLEEVES ON 5' CENTERS, MOUNTED AS HIGH AS POSSIBLE FROM CONDUIT STUB-UP TO SERVER LOCATION. USE CABLE TRAY IN OPEN CORRIDORS.
5. SEE PLANS FOR QUANTITIES AND LOCATIONS OF TELEPHONE, COMPUTER, AND CATV DEVICES.
6. PROVIDE F-CONNECTOR, FACEPLATE, AND RG-6U CATV CABLE BACK TO CATV SERVICE POINT.
7. TYPICAL TELEPHONE OUTLET SHALL BE A STANDARD RJ-11 JACK IN A 4" SQUARE BY 2 1/8" DEEP BOX WITH A RAISED SINGLE-GANG RING. BOXES SHALL BE 18" AFF U.N.O. PROVIDE 3/4" CONDUIT AND 4-WIRE, 24 AWG TELEPHONE CABLE FROM OUTLET TO TELEPHONE SERVICE POINT. EACH OUTLET SHALL BE WIRED INDIVIDUALLY BACK TO SERVICE POINT. DO NOT SPLICE AND DO NOT T-TAP. COORDINATE ALL REQUIREMENTS WITH TELEPHONE CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
8. TYPICAL DATA OUTLET SHALL BE A STANDARD RJ-45 JACK IN A 4" SQUARE BY 2 1/8" DEEP BOX WITH A RAISED SINGLE-GANG RING. BOXES SHALL BE 18" AFF U.N.O. PROVIDE 3/4" CONDUIT AND CATEGORY 6 CABLE FROM OUTLET TO SERVICE POINT. EACH OUTLET SHALL BE WIRE INDIVIDUALLY BACK TO SERVICE POINT. DO NOT SPLICE AND DO NOT T-TAP. COORDINATE ALL REQUIREMENTS WITH DATA CONTRACTOR PRIOR TO ORDERING EQUIPMENT.
9. TYPICAL CATV OUTLET SHALL BE WIRED TO THE CATV TERMINAL BOARD LOCATED IN THE NEAREST ELECTRICAL ROOM WITH RG-6/U COAXIAL CABLE. ALL OUTLETS SHALL BE SEPARATELY WIRED; DAISY-CHAINING IS NOT ACCEPTABLE. PROVIDE APPROPRIATE F-CONNECTOR TYPE TERMINATIONS, SPLITTERS, ETC. TO PROPERLY TERMINATE ALL WIRE. PROVIDE SIGNAL AMPLIFIER NECESSARY TO BOOST SIGNAL TO OUTLETS. COMPLETED SYSTEM SHALL BE FULLY OPERATIONAL.

COMMUNICATION RISER DIAGRAM

NOT TO SCALE

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REVISIONS
January 27, 2014

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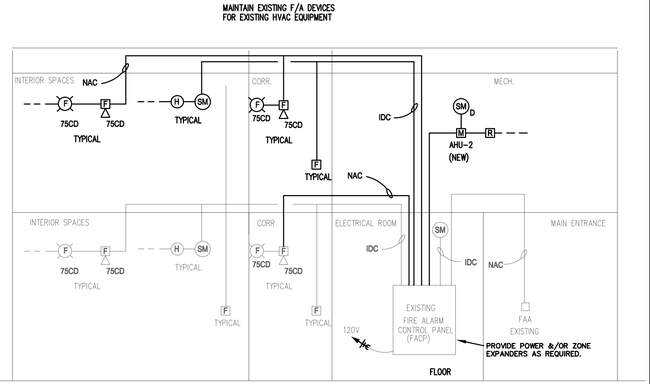


LEGEND

IDC INITIATING DEVICE CIRCUIT
NAC NOTIFICATION APPLIANCE CIRCUIT

NOTES:
1. PROVIDE POWER EXPANDERS AS REQUIRED
2. CIRCUIT WIRING SHALL BE CLASS "B".
3. ALL FIRE ALARM WIRING IN CONDUIT SHALL BE 1/2" E.M.T. MINIMUM. CONDUCTOR TYPE SHALL BE:
   - DETECTION CIRCUITS: #16 FPL MINIMUM
   - NOTIFICATION CIRCUITS: #14 FPL MINIMUM
   - RELEASE/AUXILIARY CIRCUITS: #14 FPL MINIMUM
4. ALL WIRING SHALL BE LABELED AND IDENTIFIED BY CIRCUIT AT ALL TERMINATIONS.

FIRE ALARM RISER DIAGRAM

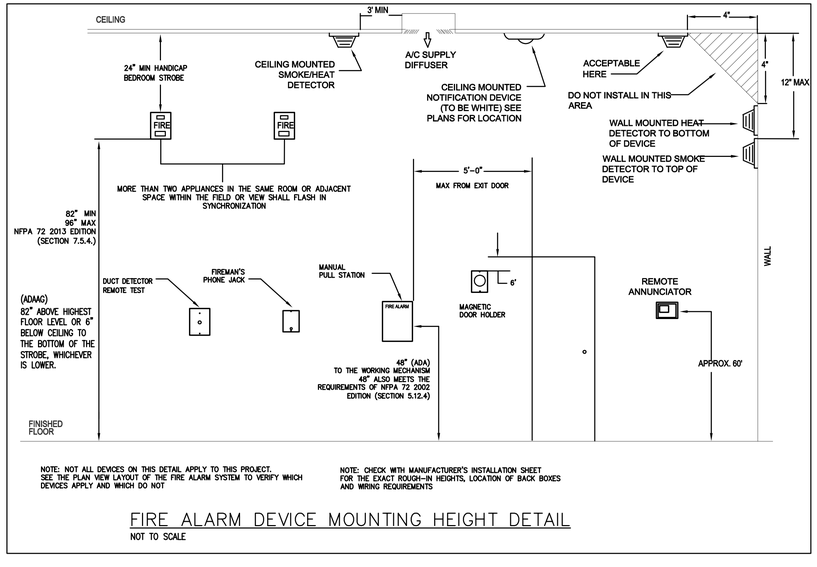
NOT TO SCALE

VOLTAGE: 277/480V, 3P, 4W — **PANEL TYPE: GE** — **MOUNTING: SURFACE** — **NOTE: ALL SPACES SHALL BE WITH BUS** — **PANEL: HB** — **MAINS: 400 AMPS** — **MLO OR MCB: MLO** — **A.I.C. RATING: 18,000 AMPS**

CKT #	CIRCUIT IDENTIFICATION	BRKR	POLE	Ø "A"	Ø "B"	Ø "C"	POLE	BRKR	CIRCUIT IDENTIFICATION	CKT #
1	VAV-2-1	20	1	A	XXXX	XXXX	1	20	VAV-2-12	2
3	VAV-2-2	20	1	XXXX	B	XXXX	1	20		4
5	VAV-2-3	20	1	XXXX	XXXX	C	1	20		6
7	VAV-2-4	20	1	A	XXXX	XXXX	1	20		8
9		20	1	XXXX	B	XXXX	1	20	VAV-2-16	10
11		20	1	XXXX	XXXX	C	1	20	VAV-2-17	12
13	VAV-2-7	20	1	A	XXXX	XXXX	1	20	VAV-2-18	14
15	VAV-2-8	20	1	XXXX	B	XXXX	1	20	VAV-2-19	16
17	VAV-2-9	20	1	XXXX	XXXX	C	1	20	VAV-2-20	18
19	VAV-2-10	20	1	A	XXXX	XXXX	1			20
21	VAV-2-11	20	1	XXXX	B	XXXX	1			22
23			1	XXXX	XXXX	C	3	100	15 HP ELEVATOR	24
25	DH-2	125	3	A	XXXX	XXXX		100	(SHUNT-TRIP BRKR)	26
27		125		XXXX	B	XXXX		100		28
29		125		XXXX	XXXX	C	1			30
31			1	A	XXXX	XXXX	1			32
33	10 kW EWH	20	3	XXXX	B	XXXX	1			34
35		20		XXXX	XXXX	C	1			36
37		20		A	XXXX	XXXX	3		TVSS	38
39			1	XXXX	B	XXXX				40
41			1	XXXX	XXXX	C				42

VOLTAGE: 277/480V, 3P, 4W — **PANEL TYPE: GE** — **MOUNTING: SURFACE** — **NOTE: ALL SPACES SHALL BE WITH BUS** — **PANEL: HC** — **MAINS: 100 AMPS** — **MLO OR MCB: MLO** — **A.I.C. RATING: 14,000 AMPS**

CKT #	CIRCUIT IDENTIFICATION	BRKR	POLE	Ø "A"	Ø "B"	Ø "C"	POLE	BRKR	CIRCUIT IDENTIFICATION	CKT #
1	TRANSFORMER 30 kVA	50	3	A	XXXX	XXXX	1			2
3		50		XXXX	B	XXXX	1	20	VAV-2-13	4
5		50		XXXX	XXXX	C	1	20	VAV-2-14	6
7		20	1	A	XXXX	XXXX	1	20	VAV-2-15	8
9	VAV-2-5	20	1	XXXX	B	XXXX	1			10
11	VAV-2-6	20	1	XXXX	XXXX	C	1			12
13			1	A	XXXX	XXXX	1			14
15			1	XXXX	B	XXXX	1			16
17			1	XXXX	XXXX	C	1			18
19			1	A	XXXX	XXXX	1			20
21			1	XXXX	B	XXXX	1			22
23			1	XXXX	XXXX	C	1			24
25			1	A	XXXX	XXXX	3		TVSS	26
27			1	XXXX	B	XXXX				28
29			1	XXXX	XXXX	C				30



NOTE: NOT ALL DEVICES ON THIS DETAIL APPLY TO THIS PROJECT. SEE THE PLAN VIEW LAYOUT OF THE FIRE ALARM SYSTEM TO VERIFY WHICH DEVICES APPLY AND WHICH DO NOT

NOTE: CHECK WITH MANUFACTURER'S INSTALLATION SHEET FOR THE EXACT ROUGH-IN HEIGHTS, LOCATION OF BACK BOXES AND WIRING REQUIREMENTS

FIRE ALARM DEVICE MOUNTING HEIGHT DETAIL

NOT TO SCALE

VOLTAGE: 120/208V, 3P, 4W — **PANEL TYPE: GE** — **MOUNTING: SURFACE** — **NOTES: 1. ALL SPACES SHALL BE W/ BUS. 2. HVAC SYSTEM BREAKERS SHALL BE HACR TYPE.** — **PANEL: LH** — **MAINS: 350 AMPS** — **MLO OR MCB: MCB** — **A.I.C. RATING: 22,000 AMPS**

CKT #	CIRCUIT IDENTIFICATION	BRKR	POLE	Ø "A"	Ø "B"	Ø "C"	POLE	BRKR	CIRCUIT IDENTIFICATION	CKT #
1	COND. UNIT	20	1	A	-	-	1	20	ELEVATOR LTS (GFI BRKR)	2
3		20	1	-	B	-	1	20	HVAC CONTROL	4
5	COND. UNIT	20	1	-	-	C	1	20	RCPTS.	6
7		20	1	A	-	-	1	20	RCPTS.	8
9	RCPTS.	20	1	-	B	-	1	20	RCPTS.	10
11	RCPTS.	20	1	-	-	C	1	20	RCPTS.	12
13	RCPTS.	20	1	A	-	-	1	20	RCPTS.	14
15			1	-	B	-	1	20	RCPTS.	16
17			1	-	-	C	1	20		18
19	MOTORIZED DAMPER	15	1	A	-	-	1	20	ELEV. PIT LIGHTS(GFI BRKR)	20
21			1	-	B	-	1	20	SUMP PUMP	22
23			1	-	-	C	1			24
25	PANEL "LG"	125	3	A	-	-	1	20	ELEV. RCPTS.	26
27		125		-	B	-	1			28
29		125		-	-	C	1			30
31			1	A	-	-	1			32
33			1	-	B	-	1			34
35			1	-	-	C	1			36
37			1	A	-	-	3	40	TVSS (APT #TE XCS)	38
39			1	-	B	-		40		40
41			1	-	-	C		40		42

VOLTAGE: 120/208V, 3P, 4W — **PANEL TYPE: GE** — **MOUNTING: SURFACE** — **NOTES: 1. ALL SPACES SHALL BE W/ BUS. 2. HVAC SYSTEM BREAKERS SHALL BE HACR TYPE.** — **PANEL: LG** — **MAINS: 125 AMPS** — **MLO OR MCB: MLO** — **A.I.C. RATING: 22,000 AMPS**

CKT #	CIRCUIT IDENTIFICATION	BRKR	POLE	Ø "A"	Ø "B"	Ø "C"	POLE	BRKR	CIRCUIT IDENTIFICATION	CKT #
1	RCPTS.	20	1	A	-	-	1	20	RCPTS.	2
3	RCPTS.	20	1	-	B	-	1	20	RCPTS.	4
5	RCPTS.	20	1	-	-	C	1	20	RCPTS.	6
7	RCPTS.	20	1	A	-	-	1	20	RCPTS.	8
9	RCPTS.	20	1	-	B	-	1	20	RCPTS.	10
11	RCPTS.	20	1	-	-	C	1	20	RCPTS.	12
13	RCPTS.	20	1	A	-	-	1	20	RCPTS.	14
15			1	-	B	-	1	20	RCPTS.	16
17			1	-	-	C	1	20	RCPTS.	18
19	MOTORIZED DAMPER	15	1	A	-	-	1	20	RCPTS.	20
21			1	-	B	-	1	20	RCPTS.	22
23	LIGHTS	20	1	-	-	C	1	20	RCPTS.	24
25	LIGHTS	20	1	A	-	-	1	20	RCPTS.	26
27	LIGHTS	20	1	-	B	-	1	20	RCPTS.	28
29	LIGHTS	20	1	-	-	C	1	20	RCPTS.	30
31	LIGHTS	20	1	A	-	-	1	20	RCPTS.	32
33			1	-	B	-	1			34
35			1	-	-	C	1			36
37			1	A	-	-	3	40	TVSS (APT #TE XCS)	38
39			1	-	B	-		40		40
41			1	-	-	C		40		42

VOLTAGE: 120/208V, 3P, 4W — **PANEL TYPE: GE** — **MOUNTING: SURFACE** — **NOTES: 1. ALL SPACES SHALL BE W/ BUS. 2. HVAC SYSTEM BREAKERS SHALL BE HACR TYPE.** — **PANEL: LJ** — **MAINS: 100 AMPS** — **MLO OR MCB: MCB** — **A.I.C. RATING: 10,000 AMPS**

CKT #	CIRCUIT IDENTIFICATION	BRKR	POLE	Ø "A"	Ø "B"	Ø "C"	POLE	BRKR	CIRCUIT IDENTIFICATION	CKT #
1	RCPTS.	20	1	A	-	-	1	20	RCPTS	2
3	RCPTS.	20	1	-	B	-	1	20	RCPTS	4
5	RCPTS.	20	1	-	-	C	1	20	RCPTS	6
7	RCPTS.	20	1	A	-	-	1	20	RCPTS	8
9	RCPTS.	20	1	-	B	-	1	20	RCPTS	10
11	RCPTS.	20	1	-	-	C	1	20	RCPTS	12
13	RCPTS.	20	1	A	-	-	1	20	RCPTS	14
15			1	-	B	-	1	20	RCPTS	16
17			1	-	-	C	1			18
19	LIGHTS	20	1	A	-	-	1			20
21	LIGHTS	20	1	-	B	-	1			22
23	LIGHTS	20	1	-	-	C	1	15	MOTORIZED DAMPER	24
25			1	A	-	-	1	20	E-1	26
27			1	-	B	-	1	15	MOTORIZED DAMPER	28
29			1	-	-	C	1	20	EF-3	30
31			1	A	-	-	1			32
33			1	-	B	-	1			34
35			1	-	-	C	1			36
37			1	A	-	-	3	40	TVSS (APT #TE XCS)	38
39			1	-	B	-		40		40
41			1	-	-	C		40		42

FIRE ALARM MATRIX

DEVICE – SYSTEM INITIATING DEVICES / FUNCTION	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL	ACTUATE EVACUATION SIGNALS	DISPLAY/PRINT CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	RELEASE MAGNETICALLY HELD SMOKE DOORS	CLOSE SMOKE/FIRE DAMPERS IN RATED WALLS	UNLOCK EXITS	ENERGIZE RELEASING SOLENOIDS	UPDATE GRAPHIC DISPLAY	ACTUATE EXTERIOR STROBE AT F.D. RESPONSE POINT
MANUAL PULL STATION	•	•				•	•	•			•		•		•	•	
HEAT DETECTOR	•	•				•	•	•			•		•		•	•	
SMOKE DETECTOR – GENERAL	•	•				•	•	•			•		•		•	•	
DUCT SMOKE DETECTOR	•	•					•	•			•		•		•	•	
SPRINKLER FLOW SWITCH	•	•					•	•			•		•		•	•	
VALVE TAMPER SWITCH	•	•					•		•							•	
FIRE ALARM AC POWER FAILURE			•	•					•							•	
FIRE ALARM SYSTEM LOW BATTERY					•	•				•							
OPEN CIRCUIT					•	•				•							
GROUND FAULT					•	•				•							
NAC SHORT					•	•				•							

NOTE: REFERENCE FROM NFPA 72, ANNEX "FIGURE A.10.6.2.3(9)"

NOTE: ALL DRAWINGS NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS

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CEG # 20-429

REVISIONS
January 27, 2014

SOFTPLAN ARCHITECTURAL DESIGN SOFTWARE

BELMONT ACADEMY PHASE II ADDITION FOR:

BELMONT ACADEMY, INC.

1476 SW WALTER AVE, LAKE CITY, FLORIDA 32024

DAVID D. PATTON JR. No. 52909 LICENSED PROFESSIONAL ENGINEER STATE OF FLORIDA

Celebrating 40 Years of Service
1972 - 2013
N.P. Geisler, Architect
AR0007005

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N.C.A.R.B. Certified
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JOINT VENTURED WITH

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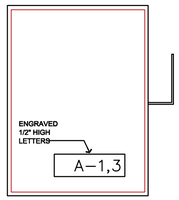
(386) 758-8406
will@willmyers.net

JOB NUMBER
20140121
DATE:
21 JAN 2014

SHEET NUMBER
E5

ENGRAVING APPLIES TO ALL DISCONNECTS ON PROJECT HVAC EQUIPMENT, PLUMBING EQUIPMENT, STARTERS, PUMPS, PANELS, TIME CLOCKS, FIRE ALARM, SECURITY, TELEPHONE AND TELEVISION PANELS



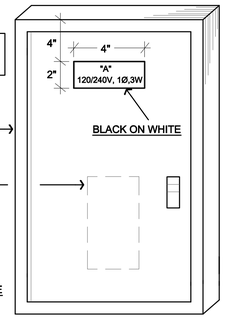
DISCONNECT ENGRAVING

PANEL BOARD DETAIL

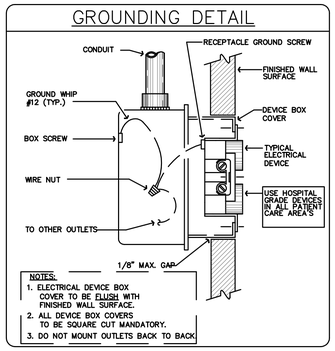
ENGRAVING FOR ALL PANEL BOARDS, SWITCHBOARDS AND DISCONNECTS

PANEL BOARD

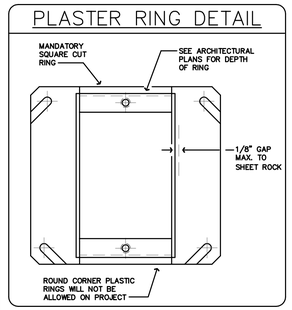
NEW INTERNAL PANEL BOARD IDENTIFICATION CARDS SHALL BE TYPED WITH EXACT ROOM NAME AND NUMBER OR DEVICE OR EQUIPMENT SERVED
HAND WRITTEN IS NOT ACCEPTABLE

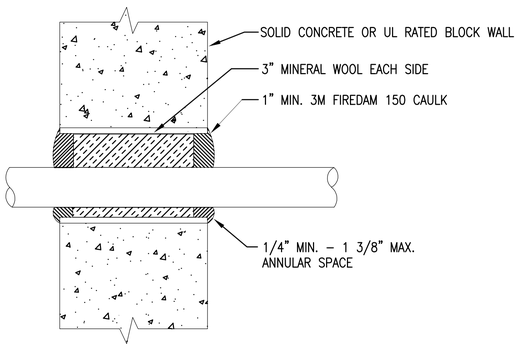


GROUNDING DETAIL



PLASTER RING DETAIL

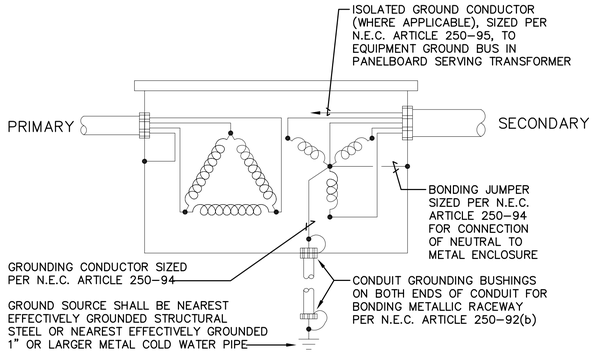




UL SYSTEM #161

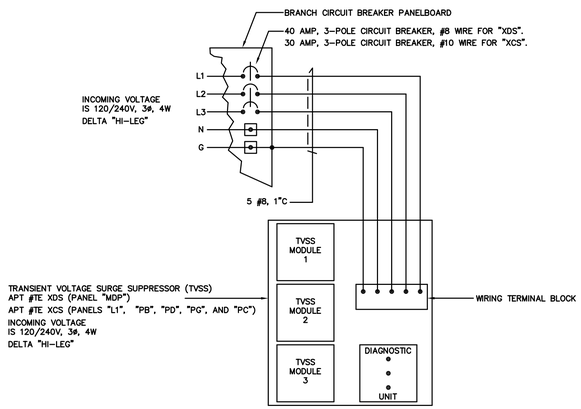
CONDUIT PENETRATION THROUGH FLOOR AND FIREWALLS

SCALE: NOT TO SCALE



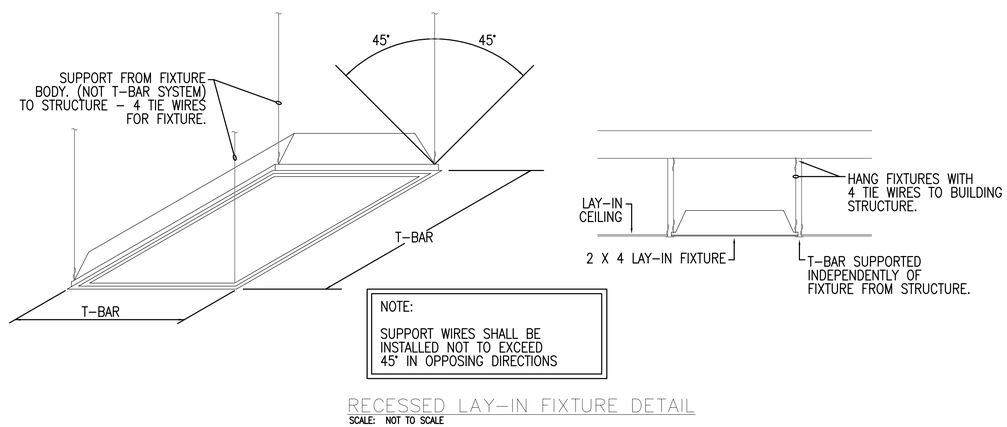
TYPICAL TRANSFORMER GROUNDING DETAIL

N.T.S.



TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS) WIRING DIAGRAM

N.T.S.



RECESSED LAY-IN FIXTURE DETAIL

SCALE: NOT TO SCALE

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