

**A D D E N D U M**

ADDENDUM No. <b>4</b>		GMCa JOB #: 202113 TDH
ISSUE DATE: 04.25.24		SBC #: 364/011-05-2021
PROJECT: Tennessee Tech University Derryberry Hall – Building Upgrades – Phase I		1 William L. Jones Drive Cookeville, TN 38505
OWNER: Tennessee Tech University		1 Bridgestone Park, 3 <sup>rd</sup> Floor Nashville, TN 37214
ARCHITECT: Gilbert McLaughlin Casella architects		2305 Kline Ave, Suite 200 Nashville, TN 37211

The original Contract Documents dated 03.08.24, and related addenda for the above-mentioned project are hereby amended. The work reflected in this addendum is to be incorporated into the proposed Contract Sum and Time as if originally issued.

This addendum consists of this **2** page summary outline and the following attachments (**11** total pages):

- Drawing - COVER (30"x42" format, 1 sheet)
- Drawing - INDEX (30"x42" format, 1 sheet)
- Drawing - S0.1 – General Notes (30"x42" format, 1 sheet)
- Drawing - S1.2 – Third Floor Framing Plan & Details (30"x42" format, 1 sheet)
- Drawing - S1.3 – Fourth Floor & Attic Framing Plan (30"x42" format, 1 sheet)
- Drawing - M0.1 – Mechanical Legend & Notes (30"x42" format, 1 sheet)
- Drawing - M0.2 – Mechanical Schedules (30"x42" format, 1 sheet)
- Drawing - M3.3 – Mechanical Details (30"x42" format, 1 sheet)
- Drawing - FP0.3 – Fire Protection Notes (30"x42" format, 1 sheet)

The Addendum is organized into the following three parts:

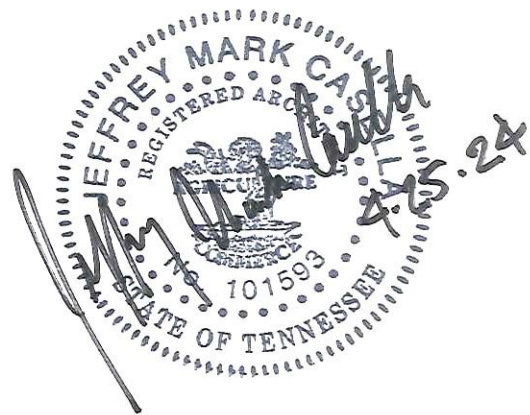
- PART I: CLARIFICATIONS
- PART II: PROJECT MANUAL REVISION SUMMARY
- PART III: DRAWING REVISION SUMMARY

**PART I – CLARIFICATIONS:**

- 1) None

**PART II – PROJECT MANUAL – REVISION SUMMARY:**

- 1) None



### PART III – DRAWING – REVISION SUMMARY:

- 1) COVER
  - a) **Per SFM's Comments:** Requested information added to Building Data
- 2) INDEX
  - a) Sheet M3.3 added to Drawing Index list.
- 3) S0.1 – General Notes
  - a) **Per SFM's Comments:** Additional seismic data included.
- 4) S1.2 – Third Floor Framing Plan & Details
  - a) Detail #1 modified & title changed from “Typical Roof Open Frame” to be “Typical Attic Floor Open Frame”.
  - b) **Per SFM's Comments:** Detail #4 added to show new bracing below mech. equip. in attic.
- 5) S1.3 – Fourth Floor & Attic Framing Plan
  - a) **Per SFM's Comments:** Attic Framing Plan expanded to depict mech. unit & related bracing locations.
- 6) M0.1 – Mechanical Legend & Notes
  - a) Sheet M3.3 (new sheet) added to the mechanical sheet index.
- 7) M0.2 – Mechanical Schedules
  - a) **Per SFM's Comments:** Added mechanical COMCheck.
  - b) Added chilled water GPM to AHU-03 schedule.
- 8) M3.3 – Mechanical Details
  - a) **Per SFM's Comments:** Sheet added. Contains added UL Details.
- 9) FPO.3 – Fire Protection Notes
  - a) **Per SFM Comments:** Added typical seismic details and notes.
  - b) **Per SFM Comments:** Added required duration of water demand.
  - c) **Per SFM Comments:** Revised flow test date, time, location, and person information.

-End of Addendum Summary Outline-

GOVERNING CODES - TENNESSEE STATE FIRE MARSHAL	
2012	IBC: INTERNATIONAL BUILDING CODE*
2012	IFGC: INTERNATIONAL FUEL GAS CODE
2012	IMC: INTERNATIONAL MECHANICAL CODE
2012	IPC: INTERNATIONAL PLUMBING CODE
2012	IPMC: INTERNATIONAL PROPERTY MAINTENANCE CODE
2012	INTERNATIONAL FIRE CODE
2012	IECC: INTERNATIONAL ENERGY CONSERVATION CODE*
2012	IEBC: INTERNATIONAL EXISTING BUILDING CODE
2012	NFPA 101 LIFE SAFETY CODE
2017	NEC: NATIONAL ELECTRICAL CODE*
2010	ADA STANDARDS FOR ACCESSIBLE DESIGN
* INCLUDING AMENDMENTS	

GOVERNING CODES - CITY OF COOKEVILLE	
2018	IBC: INTERNATIONAL BUILDING CODE*
2018	IFGC: INTERNATIONAL FUEL GAS CODE
2018	IMC: INTERNATIONAL MECHANICAL CODE
2018	IPC: INTERNATIONAL PLUMBING CODE
2018	IPMC: INTERNATIONAL PROPERTY MAINTENANCE CODE
2018	INTERNATIONAL FIRE CODE
2018	IECC: INTERNATIONAL ENERGY CONSERVATION CODE*
2018	IEBC: INTERNATIONAL EXISTING BUILDING CODE
2017	NEC: NATIONAL ELECTRICAL CODE*
2010	ADA STANDARDS FOR ACCESSIBLE DESIGN
* INCLUDING AMENDMENTS	

PROJECT DESCRIPTION	
THIS PROJECT CONSISTS OF THE RENOVATION OF AN EXISTING AUDITORIUM SPACE WITHIN DERRYBERRY HALL ON THE CAMPUS OF TENNESSEE TECH UNIVERSITY IN COOKEVILLE, TN.	
<p><b>BUILDING HISTORY:</b> THE ORIGINAL BUILDING WAS CONSTRUCTED IN 1912. IN 1962, MOST OF THE BUILDING WAS TORN DOWN AND RE-BUILT USING NON-COMBUSTIBLE MATERIALS FOR THE FLOORS AND THE WALLS. THE WALLS ARE TYPICALLY CMU, WITH SOME STRUCTURAL BRICK WALLS REMAINING FROM THE ORIGINAL BUILDING. THE FLOORS ARE TYPICALLY CONCRETE SLAB ON STEEL JOIST OR BEAMS. THE ORIGINAL CEILING IS PLASTER (MOST REMAIN, ALTHOUGH MANY ARE HIDDEN BY MORE RECENT SUSPENDED ACT/GRID INSTALLATIONS). THE ATTIC LEVEL HAS A CONCRETE SLAB FLOOR (EXCEPT FOR THE CEILING AREAS OVER THE AUDITORIUM AND STAGE AREAS) AND A SLOPED ROOFED STRUCTURE THAT IS A COMBINATION OF WOOD &amp; STEEL MEMBERS. MOST OF THE EXISTING HVAC EQUIPMENT IS LOCATED IN THIS ATTIC SPACE.</p> <p><b>IN GENERAL,</b> THE RENOVATION WORK INCLUDES (BUT IS NOT LIMITED TO) REPLACEMENT OF SEATING, REPLACEMENT OF 3 EXTERIOR WINDOWS, INTERIOR FINISH UPGRADES, REPLACEMENT OF LIGHTING, REPLACEMENT OF ANY EQUIPMENT, REPLACEMENT OF SOME INTERIOR DOORS, AND REPLACEMENT OF MECHANICAL EQUIPMENT &amp; DUCTWORK (RELATED TO THE AUDITORIUM SPACE).</p> <p><b>WOOD TO BE PAINTED:</b> THE EXISTING STAINED WOOD TRIMS/PANELS AT THE BACK WALL, SIDE WALLS, AND BALCONY RAILING WALL OF THE AUDITORIUM ARE TO REMAIN (OR BE MODIFIED OR REPLACED IN SOME SELECT LOCATIONS) AND BE PAINTED.</p> <p><b>WOOD TO BE STAINED:</b> THE NEW WOOD STAGE FRONT TRIMS/PANELS/RISERS/TREADS ARE TO BE STAINED (EXCEPT THE LETTER CUT-OUT AREAS IN THIS LOCATION ARE TO BE PAINTED). AT THE STAGE PROSCENIUM SURROUND, NEW STAINED WOOD PANELS/TRIMS ARE TO BE INSTALLED COVERING EXISTING PROSCENIUM JAMB &amp; HEAD WOOD TRIMS/PANELS, AND THESE PANELS/TRIMS WILL EXTEND OVER THE EXISTING PLASTER WALL ABOVE THE PROSCENIUM OPENING UP TO THE UNDERSIDE OF THE CEILING COFFER BEAMS.</p> <p><b>WHEELCHAIR LIFT:</b> RENOVATIONS INCLUDE THE INCORPORATION OF A WHEELCHAIR LIFT FROM THE AUDITORIUM MAIN LEVEL TO THE STAGE LEVEL. THIS WORK REQUIRED RECONFIGURATION OF RATED WALLS &amp; DOORS TO MAINTAIN FIRE-RATINGS AROUND THE EXISTING ADJACENT EGRESS STAIRWAY.</p> <p><b>CHASE:</b> RENOVATIONS INCLUDE A NEW CHASE FOR A RETURN DUCT EXTENDING FROM THE ATTIC TO LEVEL 2 (AUDITORIUM LEVEL). THE CREATION OF THIS CHASE REQUIRES SOME WALL/DOOR DEMOLITION, PARTIAL CONCRETE SLAB DEMOLITION FOR DUCT PENETRATIONS, WALL/DOOR INSTALLATIONS, AND REPLACEMENT OF FINISHES.</p> <p><b>SPRINKLER SYSTEM:</b> A PARTIAL BUILDING SPRINKLER SYSTEM WILL BE INSTALLED THAT INCLUDES THE AUDITORIUM, STAGE AREA, AND SELECT ADJACENT SPACES (NOTE THAT THE SPRINKLER PIPING CAN NOT BE RUN IN THE ATTIC AREA BECAUSE OF POTENTIAL FREEZING). AT THE AUDITORIUM CEILING THE SPRINKLER PIPING SHOULD RUN HORIZONTALLY BETWEEN THE EXISTING COFFERED CEILING AND THE NEW ACOUSTICAL CLOUDS HANGING WITHIN THE EXISTING COFFER (THIS WILL REQUIRE THE SPRINKLER LINES TO PENETRATE THROUGH THE COFFER CEILING BEAMS. SEE MECH. DRAWINGS AND SHEET A.1.0 FOR GENERAL SCOPE OF WORK AREAS).</p> <p><b>ASBESTOS REPORT:</b> A REPORT IS AVAILABLE IN THE PROJECT MANUAL NOTING POTENTIAL BUILDING MATERIALS MATERIALS THAT COULD CONTAIN ASBESTOS. THE CONTRACTOR IS RESPONSIBLE FOR THE CONTAINMENT AND REMOVAL OF ANY CONTAMINATED MATERIALS DISTURBED BY THIS RENOVATION.</p> <p>SEE SHEET A.1.0 FOR OVERALL BUILDING PLANS AND GENERAL IMPACTED SCOPE OF WORK AREAS.</p>	

BUILDING DATA	
CONSTRUCTION TYPE:	TYPE II-B, PARTIALLY-SPRINKLERED W/ NON-SEPARATED OCCUPANCIES
OCCUPANCY TYPE:	BUSINESS (B) & ASSEMBLY (A-1)
MAXIMUM ALLOWABLE BUILDING AREA/STORY:	BUSINESS = 23,000 SF PER STORY ASSEMBLY = 8,500 SF PER STORY
BUILDING AREA (EXISTING):	19,460 SF - LEVEL 1 18,433 SF - LEVEL 2 13,969 SF - LEVEL 3 2,051 SF - LEVEL 4 53,913 SF - TOTAL EXISTING
BUILDING AREA (RENOVATED EXISTING):	0 SF - LEVEL 1 4,105 SF - LEVEL 2 (AUDITORIUM - MAIN LEVEL) 1,580 SF - LEVEL 3 (AUDITORIUM - BALCONY LEVEL) 0 SF - LEVEL 4 5,685 SF - TOTAL EXISTING
BUILDING AREA (NEW ADDED):	0 SF - NONE ADDED
BUILDING AREA OCCUPANCY RATIO:	BUSINESS (B) = 19,460 SF - LEVEL 1 11,948 SF - LEVEL 2 12,389 SF - LEVEL 3 2,051 SF - LEVEL 4 45,848 SF (82.5 % OF TOTAL BUILDING AREA)
	ASSEMBLY (A-1) = 0 SF - LEVEL 1 6,485 SF - LEVEL 2 1,580 SF - LEVEL 3 0 SF - LEVEL 4 8,065 SF (17.5 % OF TOTAL BUILDING AREA)
MAXIMUM ALLOWABLE BUILDING HEIGHT:	55'
ACTUAL BUILDING HEIGHT:	48'-3"
MAXIMUM NUMBER OF STORIES:	BUSINESS (B) = 3 ASSEMBLY (A-1) = 2
ACTUAL NUMBER OF STORIES:	BUSINESS (B) = 3 w/ PARTIAL 4 (NOTE THAT THERE IS A SMALL FOOTPRINT OF THE OFFICE PORTION OF THE BUILDING THAT CONTAINS A 4 STORY AREA WITHIN THE MAIN BUILDING'S 3 STORY HEIGHT CONFIGURATION. SEE SHEET A.1.0 FOR OVERALL PLANS. THIS 4 STORY AREA IS APPROXIMATELY 11.6% OF THE OVERALL BUILDING'S FOOTPRINT) ASSEMBLY (A-1) = 2
MAX. EXIT ACCESS TRAVEL DISTANCE:	200'-0"
MAX. COMMON PATH OF TRAVEL DISTANCE:	75'-0"
MAX. DEAD END CORRIDOR DISTANCE:	20'-0"
MIN. EGRESS WIDTH PER OCCUPANT:	STAIRWAYS = 0.3, ALL OTHERS = 0.2 (NFPA, IBC)
CONSTRUCTION FIRE-RATINGS:	0 HR: PRIMARY STRUCTURAL FRAME 0 HR: BEARING WALLS - EXTERIOR 0 HR: BEARING WALLS - INTERIOR 0 HR: NONBEARING WALLS - EXTERIOR 0 HR: NONBEARING WALLS - INTERIOR 0 HR: FLOOR CONSTRUCTION 0 HR: ROOF CONSTRUCTION 1 HR: SEPARATION BETWEEN BUSINESS & ASSEMBLY OCCUPANCY USES 0 HR: CORRIDOR WALLS (IF SPRINKLERED) 1 HR: CORRIDOR WALLS (IF NON-SPRINKLERED) 2 HR: SHAFTS (EGRESS STAIRS & ELEVATOR)
FIRE-RATED DESIGN ASSEMBLIES:	1 HR: NEW WALLS: 6" CMU (AT ASSEMBLY/BUSINESS SEPARATION); U906 2 HR: NEW WALLS: 6" & 12" CMU (AT STAIR ENCLOSURES); U906 METAL STUD FRAMING AT DOOR SUBROUNDS 1 HR: NEW WALLS: (AT ASSEMBLY/BUSINESS SEPARATION); U404 METAL STUD FRAMING AT STAGE FRONT (AT ASSEMBLY/BUSINESS SEPARATION); V497 1 HR: EXISTING WALLS: 6" & 12" CMU (AT ASSEMBLY/BUSINESS SEPARATION); EQUIVALENCY PER IBC 2018, TABLE 721.1(2), ITEM 3-1.3 = 12" BRICK THICKNESS (AT ASSEMBLY/BUSINESS SEPARATION); EQUIVALENCY PER IBC 2018, TABLE 721.1(2), ITEM 1-1.1 1 HR: EXISTING WALLS: 6" & 12" CMU (AT STAIR ENCLOSURES); EQUIVALENCY PER IBC 2018, TABLE 721.1(2), ITEM 3-1.3 2 HR: EXISTING WALLS: 6" & 12" CMU (AT STAIR ENCLOSURES); EQUIVALENCY PER IBC 2018, TABLE 721.1(2), ITEM 3-1.3 1 HR: NEW FLOOR: CONCRETE SLAB (AT ASSEMBLY/BUSINESS SEPARATION); PER IBC 2018, TABLE 722.2.2.1 FOR "SUCCESSES" CONCRETE TYPE 1 HR: EXISTING FLOOR: CONCRETE SLAB W/ PLASTER CEILING (AT ASSEMBLY/BUSINESS SEPARATION); EQUIVALENCY PER IBC 2018, TABLE 721.1(3), ITEM 5-1.1
EXISTING FLOOR CONSTRUCTION DESCRIPTIONS:	SEE A0.1 FOR APPLICABLE FIRE-RATED DESIGN ASSEMBLY DETAILS LEVELS 2, 3, 4, & ATTIC: 3" CARBONATE AGGREGATE CONCRETE, ON CORRUFORM DECK (W/ 6X6 WELDED MESH), ON STEEL JOIST OR STEEL BEAMS, WITH 3/4" PLASTER (ON LATH) CEILING AUDITORIUM FLOOR: 3 1/2" CARBONATE AGGREGATE CONCRETE, ON CORRUFORM DECK (W/ 6X6 WELDED MESH), ON STEEL JOIST OR STEEL BEAMS, WITH 3/4" PLASTER (ON LATH) CEILING
INTERIOR FINISH RATING REQUIREMENTS:	ASSEMBLY (A-1) (SPRINKLERED) BUSINESS (B) (NON-SPRINKLERED) INTERIOR EXIT STAIRS, RAMPS, & PASSAGEWAYS: CLASS A CLASS A CORRIDORS & EXIST ACCESS STAIRS/RAMPS: CLASS B CLASS B ROOMS/ENCLOSED SPACES: CLASS C CLASS C
AUDITORIUM SEATING COUNT (EXISTING):	610 (LEVEL 2 - MAIN FLOOR) 168 (LEVEL 3 - BALCONY) 778 (AUDITORIUM TOTAL)
AUDITORIUM SEATING COUNT (RENOVATED):	446 (LEVEL 2 - MAIN FLOOR) - 440 FIXED SEATS & 6 WHEELCHAIR AREAS INCLUDED IN SEAT COUNT 160 (LEVEL 3 - BALCONY) 606 (AUDITORIUM TOTAL)
AUDITORIUM SEATING COUNT (REDUCTION):	778 (EXISTING TOTAL) 606 (RENOVATED TOTAL) -172 (AUDITORIUM SEATING REDUCTION)
ENERGY ENVELOPE CODE REQUIREMENTS:	NO PORTIONS OF EXTERIOR ENVELOPE ARE TO BE MODIFIED, EXCEPT FOR THE REPLACEMENT OF THREE EXTERIOR WINDOWS IN THE AUDITORIUM. MAX. FOR FIXED FENESTRATION = U-0.38

LOCAL FIRE DEPARTMENT	
FIRE CHIEF:	45 EAST BROAD STREET
DARYL BLAIR	COOKEVILLE, TN 38501
	WORK: 931.520.5255

ADD-004

SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE:	
FIRE PROTECTION SYSTEM:	IBC SECTION 410 - STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS: ALL ELEMENTS NOTED IN THIS SECTION ARE EITHER EXISTING TO REMAIN CONDITIONS OR NON-APPLICABLE, EXCEPT THAT A SPRINKLER SYSTEM IS BEING ADDED TO THE AREA ABOVE THE STAGE.
SEISMIC BRACING:	FIRE PROTECTION PIPE HANGERS WILL REQUIRE BRACING PER SEISMIC DESIGN CATEGORY 'C'
STANDPIPE CLASS:	THE EXISTING BUILDING IS NON-SPRINKLERED, SO THERE ARE NO EXISTING STANDPIPES IN THE BUILDING. A SPRINKLER SYSTEM IS BEING ADDED TO THE AUDITORIUM & STAGE AREAS, BUT THE ORIGIN OF THIS SYSTEM IS UTILIZING THE EXISTING HOSE CABINET FIRE LINES AT THE REAR OF THE STAGE AREA.
CLIMATE ZONE:	4A
COMCHECK COMPLIANCE CERTIFICATES:	THE EXTERIOR ENVELOPE OF THE EXISTING BUILDING IS EXISTING TO REMAIN, EXCEPT FOR THE REPLACEMENT OF ONE LARGE WINDOW IN THE AUDITORIUM.
	EXTERIOR ENVELOPE COMCHECK: NOT REQUIRED (EXISTING TO REMAIN) MECHANICAL COMCHECK: SEE MD.2 EXTERIOR LIGHTING COMCHECK: NOT REQUIRED (EXISTING TO REMAIN) INTERIOR LIGHTING COMCHECK: SEE ED.1

TENNESSEE TECH UNIVERSITY  
**DERRYBERRY HALL**  
 BUILDING UPGRADES - PHASE I  
 1 WILLIAM L. JONES DRIVE  
 COOKEVILLE, TN 38505

GILBERT | M c L A U G H L I N | C A S E L L A

architects  
 208 S. Kline Avenue, Suite 200, Nashville, TN 37211  
 615.322.9649  
 gilmc.com



ISSUED:	03.08.24
SBC PROJECT #:	364/011-05-2021
GMCA PROJECT #:	202113 TDH

REVISED:		
#	DATE	DESCRIPTION
ADD-004	04.25.24	ADDENDUM #4

COVER

SYMBOL REFERENCE LEGEND	
	DETAIL NUMBER X XX SHEET NUMBER
	COLUMN LINE NUMBER/LETTER A 1 CENTRELINE OF COLUMN
	EXTERIOR ELEVATION REFERENCE NUMBER-OR DETAIL SECTION OR SECTION OF BUILDING SECTION X SHEET NUMBER
	COLUMN REFERENCE NAME XXX AREA NUMBER
	SECTION REFERENCE X SHEET NUMBER
	SPACE REFERENCE XXX SEE DOOR SCHEDULE FOR REFERENCE
	INTERIOR ELEVATION REFERENCE X SHEET NUMBER
	DOOR REFERENCE SEE DOOR SCHEDULE FOR REFERENCE
	INTERIOR ELEVATION REFERENCE X SHEET NUMBER
	WINDOW REFERENCE SEE WINDOW SCHEDULE FOR REFERENCE
	ELEVATION REFERENCE EL. X'-X DESCRIPTION
	WALL PARTITION REFERENCE SEE WALL PARTITION SCHEDULE FOR REFERENCE
	REVISION REFERENCE REVISION NUMBER X SEE SHEET TITLEBLOCK FOR DATE OF REVISION AREA OF REVISION
	KEYNOTE REFERENCE SEE SAME SHEET FOR REFERENCE
	ORIENTATION REFERENCE TRUE NORTH BUILDING NORTH NORTH

### ABBREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
AV	AUGUST	JAN.	JANUARY
ABV	ABOVE	J.O.	JOB OBSERVATION
AC	AIR CONDITIONING	JAN.	JOINT
ACT	ACoustical TREATMENT	JT	JOINT
ADJ	ADJACENT	KIT	KITCHEN
AF-F	ARCH. FINISHED FLOOR	L	LENGTH
ALT	ALTERNATE	LA	LANDSCAPE ARCHITECT
ALUM	ALUMINUM	LA	LANDSCAPE ARCHITECT
ANDK	AND KITCHEN	LAV	LAVATORY
ARCH	ARCHITECTURAL	LH	LEFT HAND
AUTO	AUTOMATIC	LL	LOWER LEVEL
BD	BUILDING	LVR	LOUVER
BDO	BLOCKING	MAS	MASONRY
BKV	BELLY	MAS	MASONRY
B.M.	BENCH MARK	MCH.	MECHANICAL
B.N.	BIDDING & NEGOTIATIONS	MED	MEDIUM
B.O.	BY OTHERS	MFR	MANUFACTURER
BTC	BEARING	MIN.	MINIMUM
B.S.	BOTH SIDES	MISC.	MISCELLANEOUS
BTA	BOTTOM	MDO	MOLDING, MOLDING
B.V.	BOTH WALLS	M.O.	MASONRY OPENING
CAB	CONSTRUCTION ADMINISTRATION CABINET	MTL	METAL
C.C.	CLOSED CAPTION TELEVISION	MUL	MULCH
C.D.	CONSTRUCTION DOCUMENTS	N.	NORTH
C.I.P.	CAST IN PLACE CONCRETE	N.I.C.	NOT IN CONTRACT
CL	CLOSED	NO.	NUMBER
CLG	CEILING	NOM	NOMINAL
C.M.	CONCRETE MASONRY UNIT	N.S.	NOT TO SCALE
C.O.	CASED OPENING	O.C.	ON CENTER
COMB	COMBINATION	O.D.	OUTSIDE DIAMETER
CONC	CONCRETE	OR	ORIENTATION
CONST	CONSTRUCTION	ORF.	OPENING
C.P.D.	CIVIL PROPOSED DRAWING	ORF.	OPENING
CP	CARPENTRY	ORF.	OPENING
C.S.	CAST STONE	ORF.	OPENING
CT	CERAMIC TILE	ORF.	OPENING
DBL	DOUBLE	ORF.	OPENING
DD	DESIGN DEVELOPMENT	ORF.	OPENING
DEM	DEMOLITION	ORF.	OPENING
DF	DRINKING FOUNTAIN	ORF.	OPENING
DI	DIAMETER	ORF.	OPENING
DIA	DIVISION	ORF.	OPENING
DNL	DOWNSPOUT	ORF.	OPENING
DS	DETAIL	ORF.	OPENING
DTL	DETAIL	ORF.	OPENING
DTLS	DETAILS	ORF.	OPENING
DWG	DRAWING	ORF.	OPENING
E	EAST	ORF.	OPENING
E.F.	EACH FACE	ORF.	OPENING
E.F.	EXPANSION JOINT	ORF.	OPENING
ELEC	ELECTRICAL	ORF.	OPENING
ELV	ELEVATION	ORF.	OPENING
EMER	EMERGENCY	ORF.	OPENING
ENG	ENGINEER	ORF.	OPENING
EQ	EQUAL	ORF.	OPENING
EQUIP	EQUIPMENT	ORF.	OPENING
EST	ESTIMATE	ORF.	OPENING
EXT	EXTERIOR	ORF.	OPENING
EXT	EXTENDING	ORF.	OPENING
EXT	EXTENSION	ORF.	OPENING
F.B.O.	FURNISHED BY OTHERS	ORF.	OPENING
F.D.	FLOOR DRAIN	ORF.	OPENING
F.E.	FIRE EXTINGUISHER	ORF.	OPENING
F.F.C.	FIRE EXTINGUISHER CABINET	ORF.	OPENING
F.F.E.	FINISHED FLOOR ELEVATION	ORF.	OPENING
FIN	FINISH	ORF.	OPENING
FUR	FLOURESCENT	ORF.	OPENING
F.O.	FINISHED OPENING	ORF.	OPENING
F.O.F.	FACE OF FINISH	ORF.	OPENING
F.O.M.	FACE OF MASONRY	ORF.	OPENING
F.O.S.	FACE OF STUDS	ORF.	OPENING
F.P.	FIRE PROTECTION	ORF.	OPENING
F.T.C.	FABRIC WALL COVERING	ORF.	OPENING
G	GAGE	ORF.	OPENING
GAV	GRAVEL	ORF.	OPENING
G.C.	GENERAL CONTRACTOR	ORF.	OPENING
G.I.Z.	GLASS GLAZING	ORF.	OPENING
G.M.	GILBERT/McLAUGHLIN/CASELLA ARCHITECTS	ORF.	OPENING
G.O.	GRAVEL	ORF.	OPENING
G.V.	GYPSUM BOARD	ORF.	OPENING
H	HEIGHT	ORF.	OPENING
H.B.	HOSE BIBB	ORF.	OPENING
H.C.	HOLLOW CORE	ORF.	OPENING
HDR	HEADER	ORF.	OPENING
H.M.	HOLLOW METAL	ORF.	OPENING
HOR	HORIZONTAL	ORF.	OPENING
HOUR	HOUR	ORF.	OPENING
HTR	HEATER	ORF.	OPENING
HTG	HEATING	ORF.	OPENING
H.V.A.C.	HEATING, VENTILATING & AIR CONDITIONING	ORF.	OPENING
HWD	HARDWOOD	ORF.	OPENING
I.D.	INSIDE DIAMETER	ORF.	OPENING
INFO	INFORMATION	ORF.	OPENING
INSL	INSULATED/INS	ORF.	OPENING
INT	INTERIOR	ORF.	OPENING
INV	INVERT	ORF.	OPENING

GENERAL NOTES	
1) THE ARCHITECT IS SOLELY RESPONSIBLE FOR THE DESIGN INTERPRETATION OF THE CONSTRUCTION DOCUMENTS.	
2) UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL SECURE AND PAY FOR THE BUILDING PERMIT AND OTHER PERMITS AND GOVERNMENTAL FEES, LICENSES AND INSURANCES NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK. THESE ARE CUSTOMARILY REQUIRED AFTER EXECUTION OF THE CONTRACT AND ARE LEGALLY REQUIRED WHEN BIDS ARE RECEIVED OR NEGOTIATIONS CONCLUDED. THE CONTRACTOR SHALL COMPLY WITH AND GIVE NOTICES SECURED BY LAWS, ORDINANCES, RULES REGULATIONS AND LAWFUL ORDERS OF PUBLIC AUTHORITIES BEARING ON PERFORMANCE OF THE WORK.	
3) THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS AND SHALL CAREFULLY COMPARE SUCH FIELD MEASUREMENTS AND CONDITIONS AND OTHER INFORMATION KNOWN TO THE CONTRACTOR WITH THE CONTRACT DOCUMENTS BEFORE COMMENCING ACTIVITIES. ERRORS, INCONSISTENCIES OR OMISSIONS DISCOVERED SHALL BE REPORTED TO THE ARCHITECT AT ONCE.	
4) THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE CONTRACTORS BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES; AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT, UNLESS THE CONTRACT DOCUMENTS GIVE SPECIFIC INSTRUCTIONS CONCERNING THESE MATTERS.	
5) THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE TO THE OWNER FOR ACTS AND OMISSIONS OF THE CONTRACTORS EMPLOYEES, SUBCONTRACTORS AND THEIR AGENTS AND EMPLOYEES, AND OTHER PERSONS PERFORMING PORTIONS OF THE WORK UNDER A CONTRACT WITH THE CONTRACTOR.	
6) THE GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF BUILDING SYSTEMS AND EQUIPMENT AND VERIFY THAT REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE OF THE EQUIPMENT AND ASSOCIATED WORK ARE PROVIDED. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING SYSTEMS: MECHANICAL, ELECTRICAL, LIGHTING, PLUMBING, AND TELEPHONE.	
7) THE GENERAL CONTRACTOR SHALL COORDINATE WITH ALL BUILDING TRADES INVOLVED IN THE PROJECT FOR PREPARATION OF SHOP DRAWINGS TO INSURE PROPER CLEARANCES FOR FIXTURES, DUCTS, CEILING, ETC. SO AS TO MAINTAIN THE SPECIFIED CEILING HEIGHT NOTED ON THE DRAWINGS. CLARIFY ANY CONFLICTS WITH ARCHITECT.	
8) INSTALL ALL MANUFACTURED ITEMS, MATERIALS AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDED SPECIFICATIONS, EXCEPT WHERE THEY DIFFER FROM SPECIFICATIONS HEREIN. THE MORE STRINGENT SPECIFICATION SHALL BE THE BASIS FOR THE WORK. NOTIFY THE ARCHITECT OF ANY CONFLICTING RECOMMENDATIONS.	
9) THE GENERAL CONTRACTOR SHALL SUBMIT PLANS FOR ALL FIXED FIRE PROTECTION EQUIPMENT SUCH AS STANDPIPES, SPRINKLER SYSTEMS, AND FIRE ALARM SYSTEMS, AND HAVE THEM APPROVED BY GOVERNING REGULATORY AGENCIES. BEFORE EQUIPMENT IS INSTALLED. SPRINKLER HEAD LOCATIONS ARE SHOWN IN AREAS WITH FINISHED CEILING FOR COORDINATION PURPOSES ONLY. THE CONTRACTOR SHALL INCLUDE SUFFICIENT HEADS IN ALL SPACES TO PROVIDE 100% COMPLETE COVERAGE OF ROOM (SPACE) DEFINED IN NFPA STANDARD 13. IN ROOMS WITH LAY-IN CEILING TILE SPRINKLER HEADS SHALL BE LOCATED IN THE CENTER OF THE CEILING TILE UNLESS NOTED OTHERWISE.	
10) FIRE EXTINGUISHERS, ELECTRICAL PANELS, TELEPHONE EQUIPMENT BOARDS, ETC. SHALL BE LOCATED IN ACCORDANCE WITH REQUIREMENTS OF GOVERNING AGENCIES. ANY LOCATIONS NOT SHOWN SHALL BE VERIFIED BY ARCHITECT PRIOR TO ROUGH-OUT AND INSTALLATION. U.N.O., THE ABOVE PANELS AND/OR EQUIPMENT SHALL BE FULLY RECESSED AND MAINTAIN INTEGRITY OF WALL FIRE RATINGS REQUIREMENTS.	
11) DASHED-IN EQUIPMENT SHOWN AND NOTED SHALL BE FURNISHED BY THE OWNER. RECEIVED, STORED AND INSTALLED BY THE GENERAL CONTRACTOR. EQUIPMENT NOTED AS "N.I.C." IS NOT IN THIS CONTRACT.	
<b>TELEPHONE WORK</b>	
1) ALL TELEPHONE WORK SHALL BE COORDINATED BY THE GENERAL CONTRACTOR WITH OWNERS CONSULTANT AND ANY OR ALL TELEPHONE COMPANIES CONTRACTED TO PROVIDE SERVICE.	
2) THE CONTRACTOR SHALL PROVIDE TELEPHONE COMPANIES WITH ALL CONDUIT, POWER, TELEPHONE BOARDS, ETC. NECESSARY TO ACCOMMODATE OWNERS REQUIREMENTS (TELEPHONE EQUIPMENT N.I.C. UNLESS OTHERWISE NOTED).	
3) THE TELEPHONE SYSTEM AND FIXTURES SHALL BE PROVIDED BY THE TELEPHONE SYSTEM COMPANY SELECTED BY OWNER. RELATED PRE-WIRING AND REQUIRED CONDUIT SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. THE LOCATION OF SYSTEMS CONTROLS AND ELECTRICAL REQUIREMENTS ADJACENT TO CONTROLS SHALL BE COORDINATED WITH THE SELECTED TELEPHONE COMPANY AND THE ARCHITECT.	
<b>TERMINOLOGY</b>	
1) "TYPICAL" OR "TYP." MEANS IDENTICAL FOR ALL CONDITIONS WHICH MATCH ORIGINAL CONDITION INDICATED. U.N.O.	
2) "SIMILAR" OR "SIM." MEANS COMPARABLE CHARACTERISTICS FOR THE CONDITIONS NOTED. VERIFY DIMENSIONS AND ORIENTATION OF CONDITIONS WHICH VARY FROM TYPICAL OR SIMILAR CONDITIONS INDICATED.	
3) "ALIGN" MEANS ALIGNMENT OF SIMILAR COMPONENTS OF CONSTRUCTION, (WALLS, JAMBS, ETC.) WHICH ARE ADJACENT OR SHALL BE IN LINE WITH EACH OTHER ACROSS VOIDS.	
4) REFER TO THE ABBREVIATION SECTION ON THIS SHEET FOR ABBREVIATED TERMINOLOGY.	
<b>RATED PARTITIONS</b>	
1) PARTITIONS WHICH EXTEND TO THE UNDERSIDE OF STRUCTURE SHALL BE TIGHTLY SEALED. THE INTEGRITY OF RATED PARTITIONS AND SMOKE PARTITIONS SHALL BE MAINTAINED AT CORNERS AND AT INTERSECTIONS OF OTHER PARTITION TYPES. FILL ALL VOIDS AS DETAILED AND/OR AS REQUIRED USING MATERIALS APPROVED BY GOVERNING CODES. SMOKE AND RATED PARTITIONS SHALL CONTINUE TO INSIDE FACE OF EXTERIOR WALL AND SHALL BE SEALED COMPLETELY ACCORDING TO GOVERNING CODES.	
<b>DIMENSIONS</b>	
1) THE CONTRACTOR SHALL NOT SCALE THE DRAWINGS.	
2) DIMENSIONS ARE NOT ADJUSTABLE UNLESS NOTED WITH A PLUS/MINUS TOLERANCE.	
3) ALL FLOOR TO FLOOR AND CEILING HEIGHTS SHOWN ON DRAWINGS ARE FROM TOP OF FLOOR LINE UNLESS OTHERWISE NOTED "AFF" (ABOVE FINISH FLOOR).	
4) DIMENSIONS ARE INDICATED AS FOLLOWS (U.N.O.): COLUMNS: FROM CENTERLINE TO CENTERLINE METAL FRAMING: FROM FACE OF STUD TO FACE OF STUD CONCRETE: FROM FACE OF CONCRETE TO FACE OF CONCRETE MASONRY: FROM FACE OF MASONRY TO FACE OF MASONRY EXTERIOR WALLS: FROM EXTERIOR FACE OF WALL TO INTERIOR FACE OF STUD	
<b>DOORS</b>	
1) DOORS SHALL BE LOCATED 4" FROM CLEAR OPENING TO ADJACENT WALL U.N.O.	
2) THE CONTRACTOR SHALL UNDERCUT INTERIOR DOORS AS REQUIRED TO CLEAR FINISH FLOOR BY 1/4" U.N.O.	
<b>BLOCKING</b>	
1) THE GENERAL CONTRACTOR SHALL PROVIDE WOOD BLOCKING AS REQUIRED ABOVE CEILING, AND IN PARTITIONS BEHIND WALL HUNG EQUIPMENT, SHELVING, CABINETS, ETC. PROVIDE FIRE RETARDANT WOOD BLOCKING AT FIRE RATED WALL OR CEILING ASSEMBLY LOCATIONS.	
<b>CASEWORK</b>	
1) CASEWORK DIMENSIONS SHALL BE FIELD VERIFIED BEFORE UNIT FABRICATION OR INSTALLATION.	
<b>CEILING</b>	
1) ARCHITECTURAL REFLECTED CEILING PLANS SHALL BE USED TO DETERMINE THE LOCATION OF LIGHT FIXTURES, MECHANICAL DIFFUSERS, AND GRILLES.	
2) U.N.O., SPECIFIED PERIMETER CEILING ANGLES FOR LAY-IN CEILING OR DRYWALL SHALL BE INSTALLED TIGHT TO PARTITION SURFACES, FREE FROM DIPS, KINKS, BREAKS AND OTHER IRREGULARITIES.	

GENERAL RENOVATION NOTES	
1) EXISTING CONSTRUCTION (PARTITIONS, DOORS, PLUMBING FIXTURES, CASEWORK, EQUIPMENT, ETC.) IS INDICATED ON THE FLOOR PLANS, WITH LINES IN A LIGHTER SHADE (SCREENED). NEW CONSTRUCTION IS INDICATED BY FULL INTENSITY (SOLID) LINES. REFER TO DEMOLITION DRAWINGS FOR EXISTING CONSTRUCTION TO BE REMOVED.	
2) THE GENERAL CONTRACTOR SHALL PROVIDE PROTECTIVE COVERING FOR CARPET, FURNISHINGS AND FLOORING (INCLUDING STAGE FLOOR) IN EXISTING AREAS NOT DESIGNATED FOR DEMOLITION OR NEW CONSTRUCTION. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGE CAUSED BY HIS WORK OR ANY SUBCONTRACTOR.	
3) THE GENERAL CONTRACTOR SHALL MEET WITH THE OWNERS AUTHORIZED REPRESENTATIVE TWO (2) WEEKS IN ADVANCE OF CONSTRUCTION COMMENCEMENT TO: a) SCHEDULE, SEQUENCE AND COORDINATE ALL WORK. b) MAINTAIN EGRESS AND EGRESS WIDTHS REQUIRED BY CODES DURING ALL PHASES OF CONSTRUCTION. c) KEEP DISRUPTION OF THE FACILITY'S FUNCTIONS TO A MINIMUM DURING CONSTRUCTION.	
4) THE GENERAL CONTRACTOR SHALL VERIFY THAT INSTALLATION OF NEW CEILING CAN BE INSTALLED IN EXISTING SPACES TO CLEAR DUCTWORK AND OTHER CONSTRUCTED ITEMS AND MAINTAIN FLOOR TO CEILING HEIGHTS INDICATED ON DRAWINGS. IF DISCREPANCIES OCCUR DUE TO EXISTING CONDITIONS, CONSULT WITH THE ARCHITECT BEFORE PROCEEDING.	
5) WHERE NEW CEILING MEET EXISTING CEILING, THEY SHALL MATCH THE EXISTING IN HEIGHT, PATTERN AND MATERIAL U.N.O. WHERE AN EXISTING SPACE IS ENLARGED, ALIGN THE NEW CEILING GRID WITH EXISTING. IF EXISTING CEILING TILES CANNOT BE MATCHED IN COLOR OR TYPE, REPLACE EXISTING TILES IN THAT SPACE WITH NEW TILES AS APPROVED BY THE ARCHITECT.	
6) THE FINISH FACE OF MATERIAL OF NEW PARTITIONS SHALL ALIGN ON BOTH SIDES OF THE PARTITIONS (FLUSH) WITH THE FACE OF MATERIALS ON EXISTING COLUMNS OR PARTITIONS.	
7) THE GENERAL CONTRACTOR SHALL VERIFY THAT THE CONSTRUCTION OF EXISTING FIRE ASSEMBLIES, (PARTITIONS, FLOORS, ROOF, DOORS AND FRAMES) MEET THE RATINGS DESIGNATED ON THE DRAWINGS. IF DISCREPANCIES ARE DISCOVERED, THE CONTRACTOR SHALL MAKE ANY REPAIRS OR MODIFICATIONS NECESSARY TO ATTAIN THE PROPER RATINGS AND TO MEET LOCAL GOVERNING CODES.	
8) THE INTEGRITY OF FIRE PROTECTIVE CONSTRUCTION SHALL BE MAINTAINED ON EXISTING COLUMNS, BEAMS AND FLOOR-CEILING ASSEMBLIES. PATCH ALL FIREPROOFING REQUIRED AND SEAL PENETRATIONS TO MAINTAIN RATINGS.	
9) THE GENERAL CONTRACTOR SHALL VERIFY DIMENSIONS OF AS-BUILT CONDITIONS, AND NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES. ALL INFORMATION SHOWN ON THE CONSTRUCTION DOCUMENTS IS BASED ON FIELD OBSERVATIONS AND/OR THE ORIGINAL CONSTRUCTION DOCUMENTS OF THE FACILITY.	
10) THE GENERAL CONTRACTOR SHALL SURVEY AND DETERMINE THE REMOVAL OF EXISTING CONSTRUCTION, EITHER WHOLE OR IN PART, AS REQUIRED FOR THE INSTALLATION OF THE NEW MECHANICAL, PLUMBING AND ELECTRICAL WORK.	
11) THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING DEFECTIVE WORK IN EXISTING CONSTRUCTION WITHIN THE LIMITS OF THE CONSTRUCTION AREA. THIS INCLUDES, BUT IS NOT LIMITED TO, UNLEVEL SURFACES AND FINISHES AT PLASTER OR GYPSUM BOARD. THE GENERAL CONTRACTOR SHALL PATCH AND REPAIR SURFACES TO MATCH NEAR ADJACENT SURFACES.	
12) ALL ELECTRICAL PANELS, FIRE EXTINGUISHER CABINETS, ETC. LOCATED IN RATED PARTITIONS SHALL BE BACKED WITH APPROPRIATE MATERIALS TO RETAIN APPLICABLE PARTITION FIRE RATINGS.	
13) ALL PIPING ABOVE GRADE AND INSIDE THE BUILDING REQUIRED BY THE CONSTRUCTION DOCUMENTS SHALL BE INSTALLED IN AREAS WHERE IT WILL BE CONCEALED. THE CONTRACTOR SHALL CONSULT WITH THE ARCHITECT AND COORDINATE WITH OTHER TRADES TO PROVIDE FURRING FOR PIPING INSTALLED IN FINISH AREAS.	
15) IN THE EVENT THE CONTRACTOR ENCOUNTERS ON THE SITE MATERIAL REASONABLY BELIEVED TO BE ASBESTOS, POLYCHLORINATED BIPHENYL (PCB) OR OTHER TOXIC MATERIAL WHICH HAS NOT BEEN REPORTED HARMLESS, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THE AREA AFFECTED AND REFER THE CONDITION TO THE OWNER IN WRITING.	
16) EXISTING EQUIPMENT, STRUCTURE, PIPING, ETC. LOCATED ON PLANS SHOWN FOR POINTS OF REFERENCE ONLY. CONTRACTOR SHALL VERIFY BEFORE BEGINNING WORK, BEGINNING OF WORK SHALL SIGNIFY CONTRACTORS ACCEPTANCE OF EXISTING CONDITIONS.	
17) IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SCHEDULE ALL DEMOLITION WORK WITH THE OWNER TWO (2) WEEKS IN ADVANCE. WORK SHALL BE PERFORMED AT SUCH TIMES AND UNDER SUCH CONDITIONS AS SUITS THE OWNER.	
18) THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE PRICING OF THIS PROJECT AND REVIEW ALL AREAS CONCERNED WITH THIS PROJECT.	
19) PATCH HOLES LEFT IN WALLS AND FLOORS AFTER REMOVAL OF EXISTING DUCTWORK, PIPING CONDUIT, ETC. TO MATCH NEW OR EXISTING CONSTRUCTION AND FIRE RATING.	
20) FIRE SAFE ALL FLOOR PENETRATIONS. THIS INCLUDES EXISTING FLOOR PENETRATIONS THAT HAVE NOT BEEN PROPERLY SEALED.	

### OWNER/GC COORDINATION ITEMS

ITEM	SCOPE OF WORK
1) THE GC TO PROVIDE J-BONES, CONDUIT (IN CONCEALED LOCATIONS), HANGERS, & LOW-VOLTAGE CABLING (SEE PROJECT MANUAL FOR SPECIFICATIONS). THE OWNER WILL MAKE FINAL CONNECTIONS.	
2) THE GC TO PROVIDE AUDIO/VIDEO LIGHTING SCOPE OF WORK.	
3) FOR THE FOLLOWING ITEMS, THE GC IS TO PROVIDE POWER (WHERE REQUIRED), CONDUIT W/ FULL CORDS (IN CONCEALED LOCATIONS) FOR LOW-VOLTAGE CABLING (CABLING INSTALLED PROVIDED BY ANY VENDOR), AND ANCHORING MATERIALS AT CEILING & WALLS WHERE REQUIRED. PATHWAYS SHALL BE REQUIRED FROM THE THEATRICAL AUDIO/VIDEO LIGHTING EQUIPMENT CONTROLS/DEVICES BACK TO IT & AV ROOM #336. THE BASIS FOR DESIGN EQUIPMENT LISTED BELOW IS PROVIDED FOR PRELIMINARY COORDINATION ONLY. THE GC IS TO COORDINATE WITH THE AWARDED THEATRICAL VENDORS AFTER FINAL SELECTION IS MADE BY THE OWNER.	

### OWNER/GC COORDINATION ITEMS

ITEM	SCOPE OF WORK
1) THE GC TO PROVIDE J-BONES, CONDUIT (IN CONCEALED LOCATIONS), HANGERS, & LOW-VOLTAGE CABLING (SEE PROJECT MANUAL FOR SPECIFICATIONS). THE OWNER WILL MAKE FINAL CONNECTIONS.	
2) THE GC TO PROVIDE AUDIO/VIDEO LIGHTING SCOPE OF WORK.	
3) FOR THE FOLLOWING ITEMS, THE GC IS TO PROVIDE POWER (WHERE REQUIRED), CONDUIT W/ FULL CORDS (IN CONCEALED LOCATIONS) FOR LOW-VOLTAGE CABLING (CABLING INSTALLED PROVIDED BY ANY VENDOR), AND ANCHORING MATERIALS AT CEILING & WALLS WHERE REQUIRED. PATHWAYS SHALL BE REQUIRED FROM THE THEATRICAL AUDIO/VIDEO LIGHTING EQUIPMENT CONTROLS/DEVICES BACK TO IT & AV ROOM #336. THE BASIS FOR DESIGN EQUIPMENT LISTED BELOW IS PROVIDED FOR PRELIMINARY COORDINATION ONLY. THE GC IS TO COORDINATE WITH THE AWARDED THEATRICAL VENDORS AFTER FINAL SELECTION IS MADE BY THE OWNER.	

### OWNER/GC COORDINATION ITEMS

ITEM	SCOPE OF WORK
1) THE GC TO PROVIDE J-BONES, CONDUIT (IN CONCEALED LOCATIONS), HANGERS, & LOW-VOLTAGE CABLING (SEE PROJECT MANUAL FOR SPECIFICATIONS). THE OWNER WILL MAKE FINAL CONNECTIONS.	
2) THE GC TO PROVIDE AUDIO/VIDEO LIGHTING SCOPE OF WORK.	
3) FOR THE FOLLOWING ITEMS, THE GC IS TO PROVIDE POWER (WHERE REQUIRED), CONDUIT W/ FULL CORDS (IN CONCEALED LOCATIONS) FOR LOW-VOLTAGE CABLING (CABLING INSTALLED PROVIDED BY ANY VENDOR), AND ANCHORING MATERIALS AT CEILING & WALLS WHERE REQUIRED. PATHWAYS SHALL BE REQUIRED FROM THE THEATRICAL AUDIO/VIDEO LIGHTING EQUIPMENT CONTROLS/DEVICES BACK TO IT & AV ROOM #336. THE BASIS FOR DESIGN EQUIPMENT LISTED BELOW IS PROVIDED FOR PRELIMINARY COORDINATION ONLY. THE GC IS TO COORDINATE WITH THE AWARDED THEATRICAL VENDORS AFTER FINAL SELECTION IS MADE BY THE OWNER.	

### OWNER/GC COORDINATION ITEMS

ITEM	SCOPE OF WORK
1) THE GC TO PROVIDE J-BONES, CONDUIT (IN CONCEALED LOCATIONS), HANGERS, & LOW-VOLTAGE CABLING (SEE PROJECT MANUAL FOR SPECIFICATIONS). THE OWNER WILL MAKE FINAL CONNECTIONS.	
2) THE GC TO PROVIDE AUDIO/VIDEO LIGHTING SCOPE OF WORK.	
3) FOR THE FOLLOWING ITEMS, THE GC IS TO PROVIDE POWER (WHERE REQUIRED), CONDUIT W/ FULL CORDS (IN CONCEALED LOCATIONS) FOR LOW-VOLTAGE CABLING (CABLING INSTALLED PROVIDED BY ANY VENDOR), AND ANCHORING MATERIALS AT CEILING & WALLS WHERE REQUIRED. PATHWAYS SHALL BE REQUIRED FROM THE THEATRICAL AUDIO/VIDEO LIGHTING EQUIPMENT CONTROLS/DEVICES BACK TO IT & AV ROOM #336. THE BASIS FOR DESIGN EQUIPMENT LISTED BELOW IS PROVIDED FOR PRELIMINARY COORDINATION ONLY. THE GC IS TO COORDINATE WITH THE AWARDED THEATRICAL VENDORS AFTER FINAL SELECTION IS MADE BY THE OWNER.	

### OWNER/GC COORDINATION ITEMS

ITEM	SCOPE OF WORK
1) THE GC TO PROVIDE J-BONES, CONDUIT (IN CONCEALED LOCATIONS), HANGERS, & LOW-VOLTAGE CABLING (SEE PROJECT MANUAL FOR SPECIFICATIONS). THE OWNER WILL MAKE FINAL CONNECTIONS.	
2) THE GC TO PROVIDE AUDIO/VIDEO LIGHTING SCOPE OF WORK.	
3) FOR THE FOLLOWING ITEMS, THE GC IS TO PROVIDE POWER (WHERE REQUIRED), CONDUIT W/ FULL CORDS (IN CONCEALED LOCATIONS) FOR LOW-VOLTAGE CABLING (CABLING INSTALLED PROVIDED BY ANY VENDOR), AND ANCHORING MATERIALS AT CEILING & WALLS WHERE REQUIRED. PATHWAYS SHALL BE REQUIRED FROM THE THEATRICAL AUDIO/VIDEO LIGHTING EQUIPMENT CONTROLS/DEVICES BACK TO IT & AV ROOM #336. THE BASIS FOR DESIGN EQUIPMENT LISTED BELOW IS PROVIDED FOR PRELIMINARY COORDINATION ONLY. THE GC IS TO COORDINATE WITH THE AWARDED THEATRICAL VENDORS AFTER FINAL SELECTION IS MADE BY THE OWNER.	

### OWNER/GC COORDINATION ITEMS

ITEM	SCOPE OF WORK
1) THE GC TO PROVIDE J-BONES, CONDUIT (IN CONCEALED LOCATIONS), HANGERS, & LOW-VOLTAGE CABLING (SEE PROJECT MANUAL FOR SPECIFICATIONS). THE OWNER WILL MAKE FINAL CONNECTIONS.	
2) THE GC TO PROVIDE AUDIO/VIDEO LIGHTING SCOPE OF WORK.	
3) FOR THE FOLLOWING ITEMS, THE GC IS TO PROVIDE POWER (WHERE REQUIRED), CONDUIT W/ FULL CORDS (IN CONCEALED LOCATIONS) FOR LOW-VOLTAGE CABLING (CABLING INSTALLED PROVIDED BY ANY VENDOR), AND ANCHORING MATERIALS AT CEILING & WALLS WHERE REQUIRED. PATHWAYS SHALL BE REQUIRED FROM THE THEATRICAL AUDIO/VIDEO LIGHTING EQUIPMENT CONTROLS/DEVICES BACK TO IT & AV ROOM #336. THE BASIS FOR DESIGN EQUIPMENT LISTED BELOW IS PROVIDED FOR PRELIMINARY COORDINATION ONLY. THE GC IS TO COORDINATE WITH THE AWARDED THEATRICAL VENDORS AFTER FINAL SELECTION IS MADE BY THE OWNER.	

PROJECT TEAM	
<b>OWNER</b>	TENNESSEE TECH UNIVERSITY 242 EAST 10th STREET FOUNDATION HALL, SUITE 317 PO BOX 5011 COOKEVILLE, TN 38505 931.372.3524
<b>CONTACT:</b>	CHRISTINE DANIELS cdaniels@ntech.edu
<b>ARCHITECTURE</b>	GILBERT   McLAUGHLIN   CASELLA ARCHITECTS, PC 2305 KLINE AVENUE, SUITE 200 NASHVILLE, TN 37211 615.322.9649
<b>CONTACT:</b>	JEFF CASELLA jcase@glmc.com
<b>TREY CUNNINGHAM</b>	tcunningham@glmc.com
<b>STRUCTURAL</b>	EMC STRUCTURAL ENGINEERS 601 GRASSMERE PARK, SUITE 1B NASHVILLE, TN 37211 615.781.8199
<b>CONTACT:</b>	BEN FARIS bfaris@emcna.com
<b>MECHANICAL, PLUMBING, &amp; ELECTRICAL</b>	ENFINITY ENGINEERING 281 CENTERVIEW DRIVE, SUITE 200 BRIENTHOOD, TN 37027 615.373.0093
<b>CONTACT (MECHANICAL/PLUMBING):</b>	HUNTER DANIEL hdaniel@enfinyeng.com
<b>CONTACT (ELECTRICAL):</b>	PALLINA STEEN psteen@enfinyeng.com
<b>INTERIORS</b>	CASELLA INTERIORS 1500 4TH AVENUE NORTH, SUITE 103 NASHVILLE, TN 37208 615.355.2251
<b>CONTACT:</b>	LARET CASELLA laret@caseinteriors.com
<b>KATE SMITH</b>	ksmith@caseinteriors.com

### PROJECT TEAM

OWNER	ARCHITECTURE
TENNESSEE TECH UNIVERSITY 242 EAST 10th STREET FOUNDATION HALL, SUITE 317 PO BOX 5011 COOKEVILLE, TN 38505 931.372.3524	GILBERT   McLAUGHLIN   CASELLA ARCHITECTS, PC 2305 KLINE AVENUE, SUITE 200 NASHVILLE, TN 37211 615.322.9649

### PROJECT TEAM

OWNER	ARCHITECTURE
TENNESSEE TECH UNIVERSITY 242 EAST 10th STREET FOUNDATION HALL, SUITE 317 PO BOX 5011 COOKEVILLE, TN 38505 931.372.3524	GILBERT   McLAUGHLIN   CASELLA ARCHITECTS, PC 2305 KLINE AVENUE, SUITE 200 NASHVILLE, TN 37211 615.322.9649

### PROJECT TEAM

OWNER	ARCHITECTURE
TENNESSEE TECH UNIVERSITY 242 EAST 10th STREET FOUNDATION HALL, SUITE 317 PO BOX 5011 COOKEVILLE, TN 38505 931.372.3524	GILBERT   McLAUGHLIN   CASELLA ARCHITECTS, PC 2305 KLINE

**DESIGN AND CODE INFORMATION**

- ALL CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE, 2018 EDITION.
- VERIFY EXISTING CONDITIONS AND ALL DIMENSIONS AND NOTIFY ARCHITECT OF ANY CONDITIONS WHICH CONFLICT WITH OTHER PLANS AND SPECIFICATIONS. STRUCTURAL DRAWINGS MUST BE COORDINATED WITH ARCHITECTURAL DRAWINGS. STRUCTURAL DRAWINGS ARE NOT INTENDED FOR BUILDING LAYOUT.
- SHOP DRAWINGS WILL NOT BE REVIEWED BY THE DESIGNER UNTIL AFTER THE GENERAL CONTRACTOR HAS THOROUGHLY REVIEWED THE SHOP DRAWINGS. VERIFIED EXISTING CONDITIONS, AND COORDINATED THE SHOP DRAWINGS WITH OTHER AFFECTED TRADES. SUBMIT FOUR COPIES OF REVIEWED DRAWINGS FOR ENGINEER'S REVIEW. ONLY THREE SETS OF MARKED UP SHOP DRAWINGS SHALL BE RETURNED BY THE DESIGNER. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
- THE STRUCTURE IS UNSTABLE UNTIL ALL LOAD BEARING WALLS ARE ERECTED AND STEEL MEMBERS ARE ERECTED. CONNECTIONS ARE COMPLETELY BOLTED AND/OR WELDED AND INSPECTED. THE STEEL DECK ATTACHED TO THE STEEL FRAMING, AND THE CONCRETE FLOORS PLACED AND ATTAINS 75% OF 28-DAY STRENGTH. UNTIL SUCH TIME, TEMPORARY BRACING IS REQUIRED. THE DESIGN ADEQUACY OF TEMPORARY BRACING AND SHORING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- DO NOT SCALE STRUCTURAL DRAWINGS, AND FOR LOCATION OF MISCELLANEOUS ITEMS (OPENINGS, BENT PLATES, INSERTS, ETC.) AFFECTING STRUCTURAL WORK, SEE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
- LIVE LOADS:  
OFFICES: 50 PSF  
FLOORS: 100 PSF  
ROOFS: 20 PSF
- ROOF LOADS:  
GROUND SNOW LOAD: 20 PSF  
SNOW EXPOSURE Co: .9  
SNOW IMPORTANCE I: 1.0  
THERMAL FACTOR Ct: 1.0  
FLAT ROOF SNOW LOAD: 14 PSF
- WIND LOADS:  
BASIC WIND SPEED: 105 MPH  
WIND EXPOSURE FACTOR: B  
INTERNAL PRESSURE COEFFICIENT: .18  
CLADDING LOAD: 25 PSF
- SPECIAL LOADS FOR ITEMS TO BE DESIGNED BY OTHERS:  
STAIRS: 100 PSF  
HANDRAILS: 50 PLF  
VEHICLE BARRIERS: 6,000 POUNDS
- SEISMIC LOADS:  
SEISMIC RISK CATEGORY: III  
SEISMIC IMPORTANCE I<sub>s</sub>: 1.25  
2 SEC SPECTRAL RESPONSE ACCELERATION S<sub>s</sub>: 0.224  
1.0 SEC SPECTRAL RESPONSE ACCELERATION S<sub>1</sub>: 0.107  
SITE CLASS: D (ASSUMED)  
DESIGN SPECTRAL RESPONSE SD<sub>1</sub>: 0.238  
DESIGN SPECTRAL RESPONSE SD<sub>1</sub>: 0.17  
SEISMIC DESIGN CATEGORY: C

ADD-004

**SPECIAL INSPECTIONS AND TESTING**

- THE CONTRACTOR/OWNER SHALL EMPLOY AN INDEPENDENT TESTING COMPANY TO PERFORM SITE INSPECTIONS AND TESTING IN ACCORDANCE WITH THE QUALITY ASSURANCE PLAN SHEET S0.2.
- THE CONTRACTOR/OWNER SHALL EMPLOY AN INDEPENDENT TESTING COMPANY TO PERFORM THE FOLLOWING FABRICATION INSPECTIONS AND TESTING PER SECTION 1704.2.1:  
WOOD TRUSSES IF FABRICATOR IS NOT TPI CERTIFIED  
STRUCTURAL STEEL IF FABRICATOR IS NOT AISC CERTIFIED  
PRECAST CONCRETE IF FABRICATOR IS NOT PCI CERTIFIED
- THE CONTRACTOR/OWNER SHALL EMPLOY AN INDEPENDENT TESTING COMPANY TO PERFORM SEISMIC INSPECTIONS AND TESTING PER SECTION 1707 AND 1708.

**STRUCTURAL OBSERVATIONS**

- THE CONTRACTOR/OWNER SHALL EMPLOY A LICENSED STRUCTURAL ENGINEER OR ARCHITECT TO PERFORM PERIODIC VISUAL OBSERVATIONS OF THE STRUCTURE DURING CONSTRUCTION FOR GENERAL CONFORMANCE TO THE DESIGN DRAWINGS.

**REINFORCED CONCRETE**

- ALL CONCRETE WORK SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," (ACI 318-11).
- REINFORCING STEEL SHALL BE DEFORMED BARS ASTM A-615 (GRADE 60).
- THE COMPRESSIVE STRENGTH AT 28 DAYS OF ALL CAST IN PLACE CONCRETE SHALL BE:  
4000 PSI - SLABS ON GRADE  
4000 PSI - PIERS, WALLS  
4000 PSI - BEAMS, ELEVATED SLABS AND COLUMNS  
3000 PSI - ALL OTHER CONCRETE  
(SEE CIVIL DRAWINGS FOR SITE CONCRETE STRENGTH REQUIREMENTS)
- LAP SPLICES FOR REINFORCING BARS SHALL BE CLASS B IN ACCORDANCE WITH ACI 318-11, UNLESS NOTED OTHERWISE.
- CLEAR CONCRETE COVER FOR REINFORCING STEEL:  
SLABS: 3/4"  
GRADE BEAMS AND PIERS: 2"  
WALLS: 2" EXTERIOR FACES  
3/4" INTERIOR FACES  
MASONRY WALLS: LOCATE IN CENTER OF WALL (U.N.O.)  
SLAB ON GRADE: 3/4" TOP STEEL  
1-1/2" BOTTOM STEEL  
BEAMS AND COLUMNS: 1-1/2" FORMED EDGES  
FOOTINGS: 2" FORMED EDGES  
3" CAST AGAINST GROUND
- THE LONGITUDINAL REINFORCING STEEL IN BOND BEAMS, WALLS, AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS. SEE TYPICAL DETAILS.
- CONCRETE WALLS AND SLABS SHALL BE REINFORCED AROUND ALL OPENINGS WITH 2-#6 BARS IN EACH FACE, ON ALL SIDES AND EXTENDED 2'-0" BEYOND THE OPENING, UNLESS SHOWN OTHERWISE.
- CONSTRUCTION JOINTS IN BEAMS, GIRDERS AND SLABS SHALL OCCUR AT MID-SPAN AND SHALL BE KEYED. IN ALL CASES THE LOCATION OF CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. KEYWAYS SHALL BE ONE THIRD THE DEPTH OF THE MEMBER AND PLACED AT MID-DEPTH.
- MECHANICAL VIBRATORS SHALL VIBRATE ALL CONCRETE.
- CHAMFER EXPOSED CORNERS OF BEAMS, COLUMNS AND WALLS 3/4 INCH.
- CAMBER CONVENTIONALLY REINFORCED CONCRETE BEAMS AND JOISTS 1/8 INCH PER 10 FEET OF SPAN.
- THE SLAB ON GRADE SHALL BE CONSTRUCTED OF CONCRETE WITH A DRY UNIT WEIGHT OF 145 PCF AT THE END OF 28 DAYS.
- UNLESS OTHERWISE DIRECTED BY THE OWNER, CONCRETE SLABS SHALL BE FINISHED TO THE FOLLOWING FLATNESS CRITERIA:  
SPECIFIED OVERALL F NUMBERS  
FLATNESS FF = 35  
LEVEL FL = 25  
MINIMUM LOCAL F NUMBERS  
FLATNESS FF = 24  
LEVEL FL = 17
- COORDINATE ALL VAPOR RETARDERS, VAPOR BARRIERS, AND WATERPROOFING OF CONCRETE SLABS-ON-GRADE AND CONCRETE WALLS WITH FINISH MATERIAL REQUIREMENTS AND ARCHITECTURAL SPECIFICATIONS.
- THE CONCRETE FILL ON COMPOSITE DECK SHALL BE LIGHTWEIGHT STRUCTURAL CONCRETE (107-113 PCF) WITH 4% TO 7% ENTRAINED AIR AND DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI (f<sub>c</sub>) IN 28 DAYS.

**CONCRETE MASONRY**

- MASONRY WALL CONTROL JOINTS SHALL BE LOCATED AS SHOWN ON THE ARCHITECTURAL DRAWINGS.
- CONCRETE MASONRY SHALL CONFORM TO THE NATIONAL CONCRETE MASONRY ASSOCIATION SPECIFICATIONS, AND HAVE A DENSITY OF 125 PCF AND SHALL HAVE A MINIMUM PRISM STRENGTH (F<sub>m</sub>) OF 1500 PSI.
- GROUT FOR FILLING CONCRETE MASONRY CELLS SHALL CONFORM TO STANDARD SPECIFICATIONS FOR "MORTAR AND GROUT FOR REINFORCED MASONRY," ASTM C-476, AND SHALL HAVE A COMPRESSIVE PRISM STRENGTH (F<sub>m</sub>) OF 3000 PSI AT 28 DAYS. THE SLUMP SHALL BE BETWEEN 9 INCHES AND 11 INCHES WHERE THE MINIMUM DIMENSION OF ANY CONTINUOUS VERTICAL CELL IS 3 INCHES OR LESS. USE FINE GROUT, OTHERWISE USE COARSE (PEA GRAVEL) GROUT.
- MORTAR FOR CONCRETE MASONRY SHALL BE TYPE "S" AND SHALL CONFORM TO ASTM C-270.
- MASONRY CONSTRUCTION SHALL BE BUILT IN LIFTS NOT TO EXCEED 4 FEET PRIOR TO GROUTING CORES. KEY NEXT GROUT LIFT INTO PRIOR LIFT BY STOPPING FIRST LIFT 2" BELOW TOP OF BLOCK.
- ALL REINFORCING BARS IN FILLED CELLS SHALL BE DOWELED INTO FOOTINGS WITH STANDARD 90-DEGREE HOOKS AND DOWELED 7 INCHES INTO BOND BEAMS AT TOP OF WALLS.
- MASONRY LAP SPLICES SHALL BE 48 BAR DIAMETERS (U.N.O.)
- REINFORCEMENT IN WALLS SHALL BE PLACED IN THE CENTER OF THE WALL UNLESS NOTED OTHERWISE.

**STRUCTURAL STEEL**

- ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE AISC "MANUAL OF STEEL CONSTRUCTION ALLOWABLE STRESS DESIGN" FOURTEENTH EDITION.
- STRUCTURAL STEEL ROLLED SHAPES SHALL BE ASTM A-992 GRADE 50 UNLESS NOTED OTHERWISE. STRUCTURAL STEEL PLATES AND ANGLES SHALL BE ASTM A-572.
- STRUCTURAL PIPE COLUMNS SHALL BE ASTM A-53, TYPE E OR S, GRADE B. STRUCTURAL TUBES SHALL BE ASTM A500, GRADE B.
- STEEL FRAMING CONNECTIONS SHALL BE BOLTED OR WELDED. BOLTS SHALL BE 3/4 INCH DIAMETER MINIMUM AND SHALL BE ASTM A-325-N, UNLESS NOTED OTHERWISE.
- USE DIRECT TENSION INDICATORS AND HARDENED WASHERS WITH ALL HIGH STRENGTH BOLTS OR USE LOAD INDICATOR BOLTS.
- METAL DECK SHALL BE INSTALLED IN ACCORDANCE WITH THE STEEL DECK INSTITUTE SPECIFICATIONS, LATEST EDITION.
- WELD WASHERS SHALL BE USED WITH METAL DECK THINNER THAN 22 GAGE.
- MISCELLANEOUS ANCHOR BOLTS SHALL BE ASTM A-307 HEADED BOLTS. ANCHOR RODS AT COLUMN BASE PLATES SHALL BE ASTM F-1554 GRADE 55. MINIMUM ANCHOR BOLT EMBEDMENT SHALL BE 12 BOLT DIAMETERS UNLESS NOTED OTHERWISE. CLEAN ANCHOR BOLTS OF ALL GREASE, DIRT, ETC. BEFORE INSTALLATION. COLUMN ANCHOR RODS SHALL BE HELD IN PLACE BY TEMPLATES AND POSITIONED PRIOR TO CASTING CONCRETE.
- FRAMED BEAM CONNECTIONS SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL ENGINEER EMPLOYED BY THE FABRICATOR TO DEVELOP THE REACTION SHOWN FOR THE ENDS OF BEAMS ON STRUCTURAL PLANS. IN NO CASE SHALL THE LENGTH OF THE FRAMED CONNECTION BE LESS THAN 1/2 THE "T" DIMENSION OF THE BEAM WEB. WHERE REACTIONS ARE NOT SHOWN, THE CONNECTION SHALL DEVELOP ONE-HALF THE ALLOWABLE UNIFORM LOAD FOR LATERALLY SUPPORTED BEAMS AS SHOWN IN PART 2 OF THE AISC MANUAL.
- WELDS SHOWN ON THE STRUCTURAL DRAWINGS ARE THE MINIMUM REQUIRED BY DESIGN. THE FABRICATOR'S DRAWINGS SHALL SHOW WELDS AND THEY SHALL CONFORM TO AWS SPECIFICATIONS. ALL WELDING SHALL BE DONE WITH E-70 SERIES ELECTRODES.
- HARDENED WASHERS SHALL BE INSTALLED OVER SHORT SLOTTED OR OVERSIZE HOLES OCCURRING IN AN OUTER PLY OF A CONNECTION.
- THE STEEL JOIST MANUFACTURER SHALL INVESTIGATE THE ROOF JOISTS FOR A NET UPLIFT FORCE OF 10 PSF AND FURNISH THE NECESSARY FRAMING TO ENSURE PROPER JOIST PERFORMANCE UNDER UPLIFT DUE TO WIND AS WELL AS GRAVITY LOADING CONDITIONS.
- PAINT ALL STRUCTURAL STEEL THAT DOES NOT RECEIVE SPRAY-ON FIREPROOFING WITH ONE COAT OF RUST-INHIBITIVE PRIMER 2.5 MILS IN THICKNESS. THE COMPATIBILITY OF PRIMER AND ANY TOP COAT SHALL BE VERIFIED BEFORE ANY PAINTING IS PERFORMED. TOUCH-UP ALL EXPOSED METAL AFTER FIELD INSTALLATION. ALL STRUCTURAL STEEL WHICH IS EXPOSED TO THE ELEMENTS SHALL RECEIVE TWO COATS OF EXTERIOR ENAMEL WHICH IS COMPATIBLE WITH THE PRIMED SURFACE.
- STRUCTURAL STEEL SHOP DRAWINGS SHALL INCLUDE COMPLETE DETAILS, CONNECTIONS, AND SCHEDULES FOR FABRICATION AND ASSEMBLY OF STRUCTURAL STEEL MEMBERS. SHOP DRAWINGS SHALL INCLUDE NUMBER, SPACING, AND DISTANCE FROM BEAM CENTERLINE OF SHEAR STUDS. STRUCTURAL STEEL SHOP DRAWINGS SHALL NOT INCLUDE MISCELLANEOUS STEEL.

**LUMBER FRAMING**

- ALL NON-PREFABRICATED LOAD BEARING FRAMING MEMBERS SHALL BE #2 SOUTHERN YELLOW PINE 19% MOISTURE CONTENT UNLESS OTHERWISE NOTED.
- STUDS IN LOAD BEARING WALLS MAY BE DOUGLAS FIR, SOUTHERN YELLOW PINE OR SPRUCE (#2 OR CONSTRUCTION GRADE), UNLESS NOTED OTHERWISE.
- ALL PLYWOOD SHEATHING SHALL BE APA RATED, SEE PLAN.
- THE ALLOWABLE STRESSES FOR FIRE RETARDANT TREATED LUMBER SHALL BE REDUCED 10%.
- LVL AND PSL LUMBER SHALL BE MICROLAM OR PARALLAM LUMBER AS MANUFACTURED BY TRUS JOIST.

TENNESSEE TECH UNIVERSITY  
**DERRYBERRY HALL**  
BUILDING UPGRADES- PHASE I

1 WILLIAM JONES DRIVE  
COOKVILLE, TN 38505



**EMC**  
STRUCTURAL ENGINEERS, P.C.  
201 Grassmore Park  
Suite 101  
Nashville, Tennessee 37211  
(615) 781-8199  
www.emcstructural.com  
23216\_R23

ISSUED: 03.08.24  
SBC PROJECT #: 364/011-05-2021  
GMCA PROJECT #: 202113 TDH

REVISED:

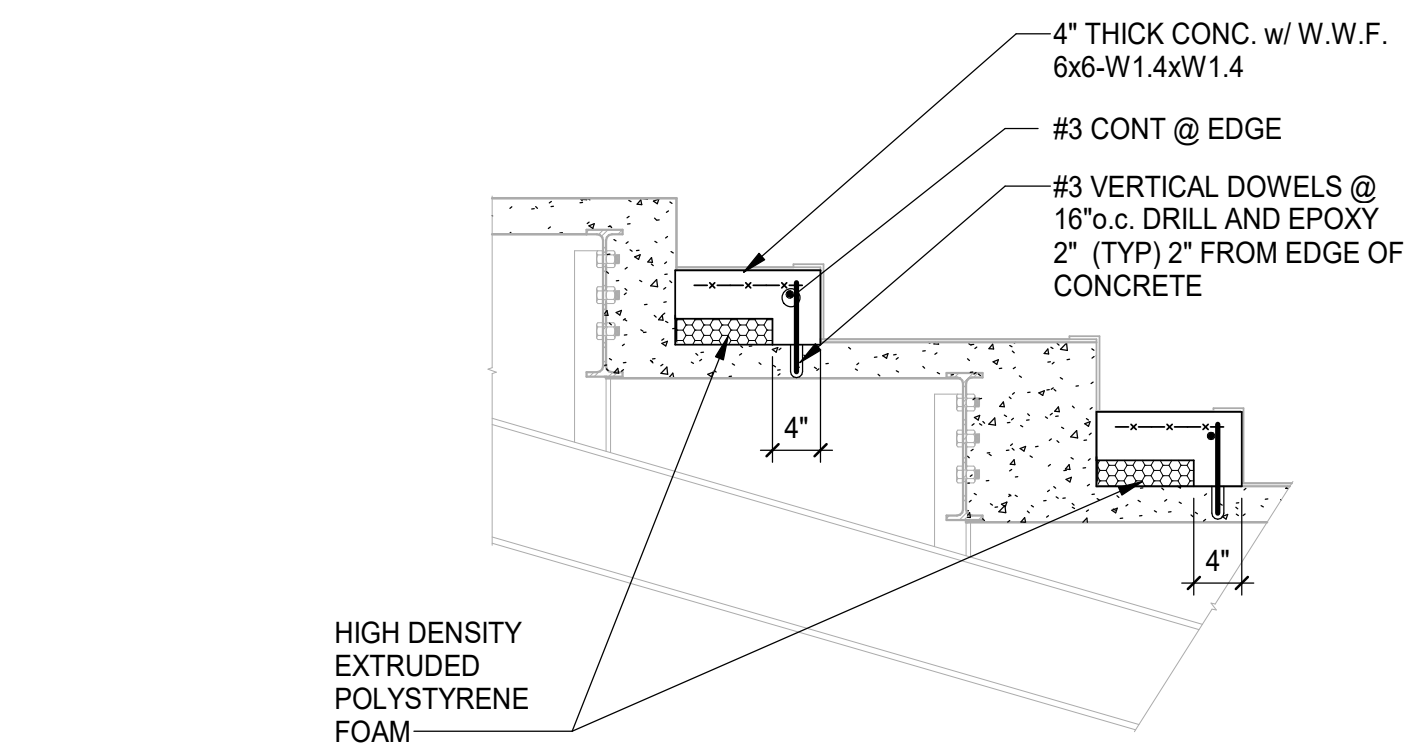
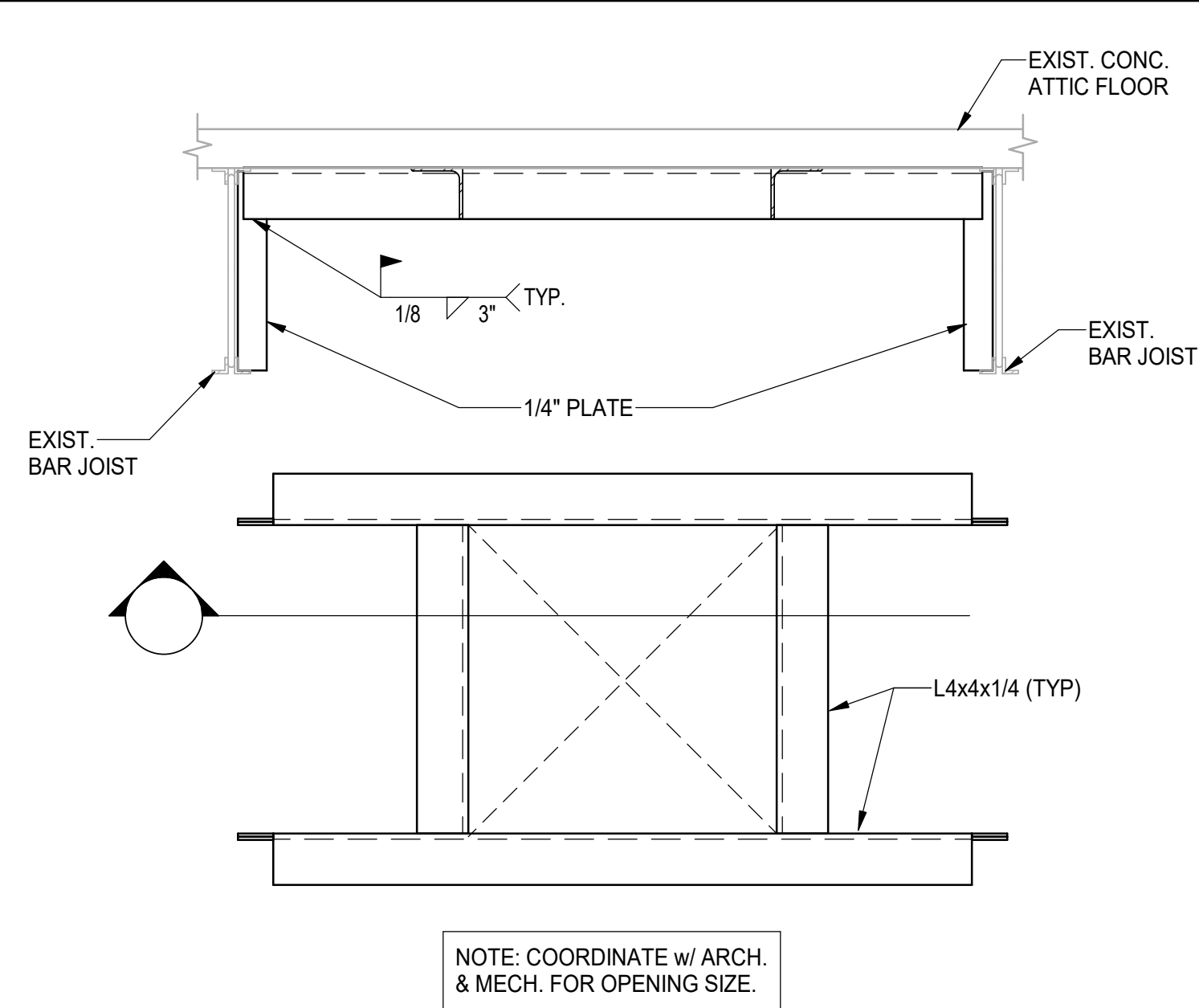
#	DATE	DESCRIPTION
ADD-004	04.25.24	ADDENDUM #4

GENERAL NOTES

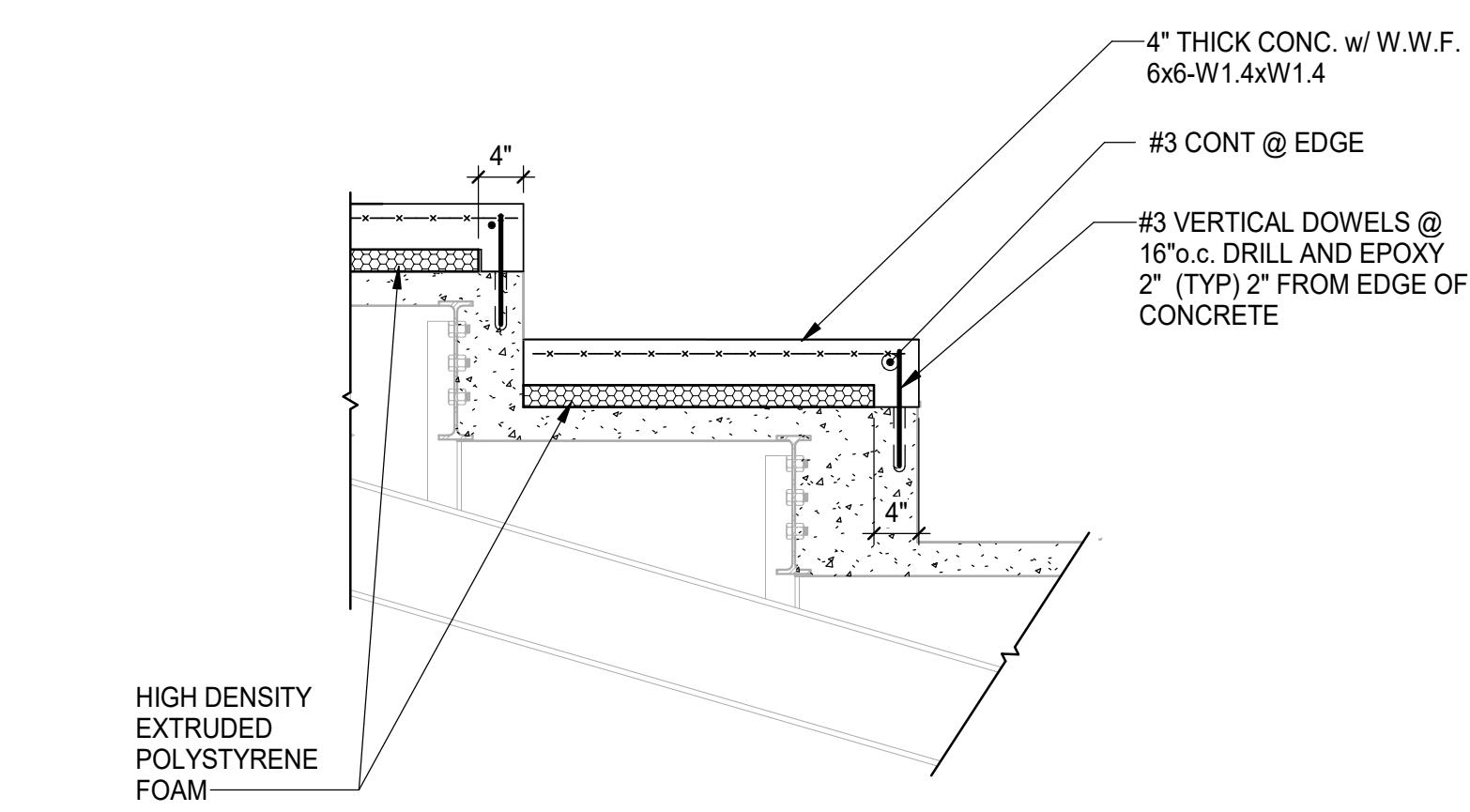
S0.1

www.emc.com  
 P. 615.322.3447 F. 615.425.2085  
 2005 Kline Avenue, Suite 200, Nashville TN 37211  
**Architects**  
**GILBERT MCLAUGHLIN CASSELLA**

ADD-004  
**1 TYPICAL ATTIC FLOOR OPEN FRAME**  
 SCALE: 1" = 1'-0"

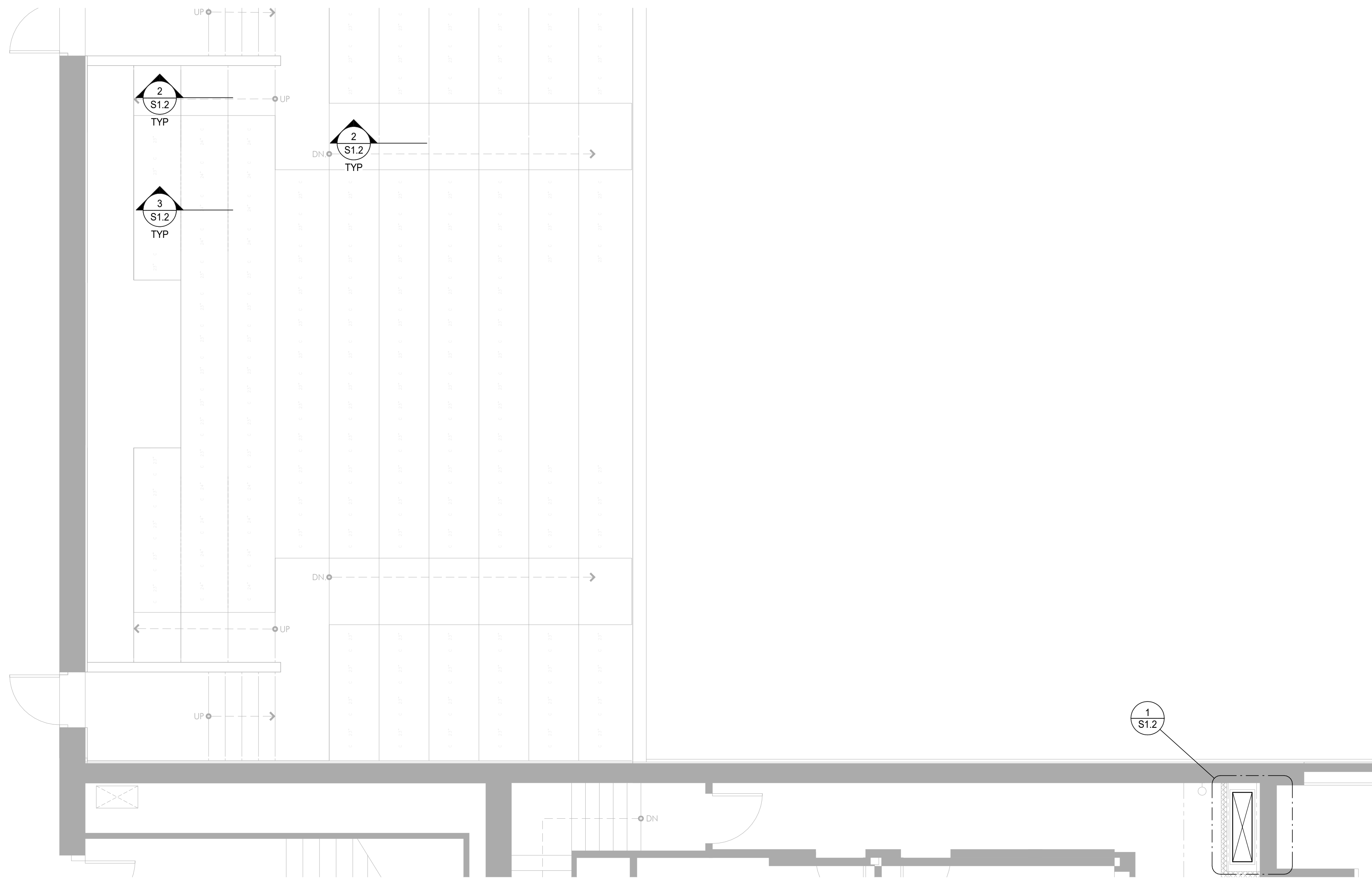
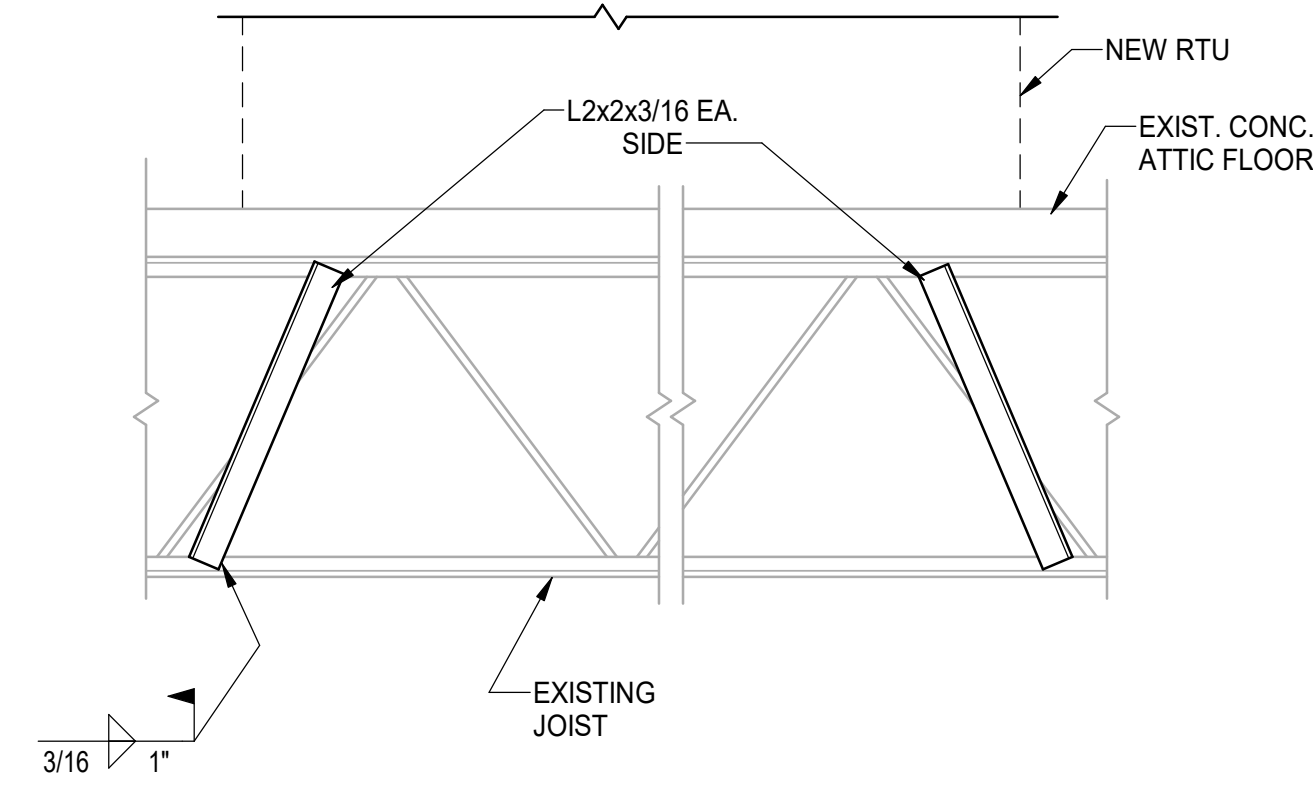


**2 BALCONY SECTION**  
 SCALE: 3/4" = 1'-0"



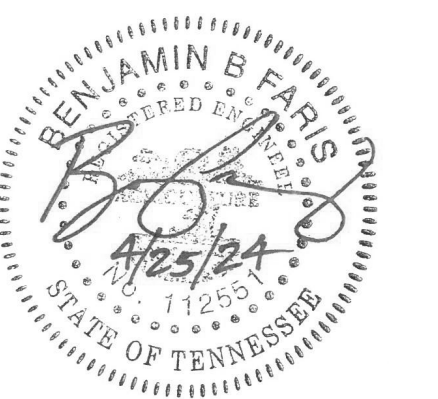
**3 BALCONY SECTION**  
 SCALE: 3/4" = 1'-0"

ADD-004  
**4 SECTION**  
 SCALE: NONE



**THIRD FLOOR FRAMING PLAN**  
 SCALE: 1/4" = 1'-0"

TENNESSEE TECH UNIVERSITY  
**DERRYBERRY HALL**  
 BUILDING UPGRADES- PHASE I  
 1 WILLIAM L. JONES DRIVE  
 COCKVILLE, TN 38505

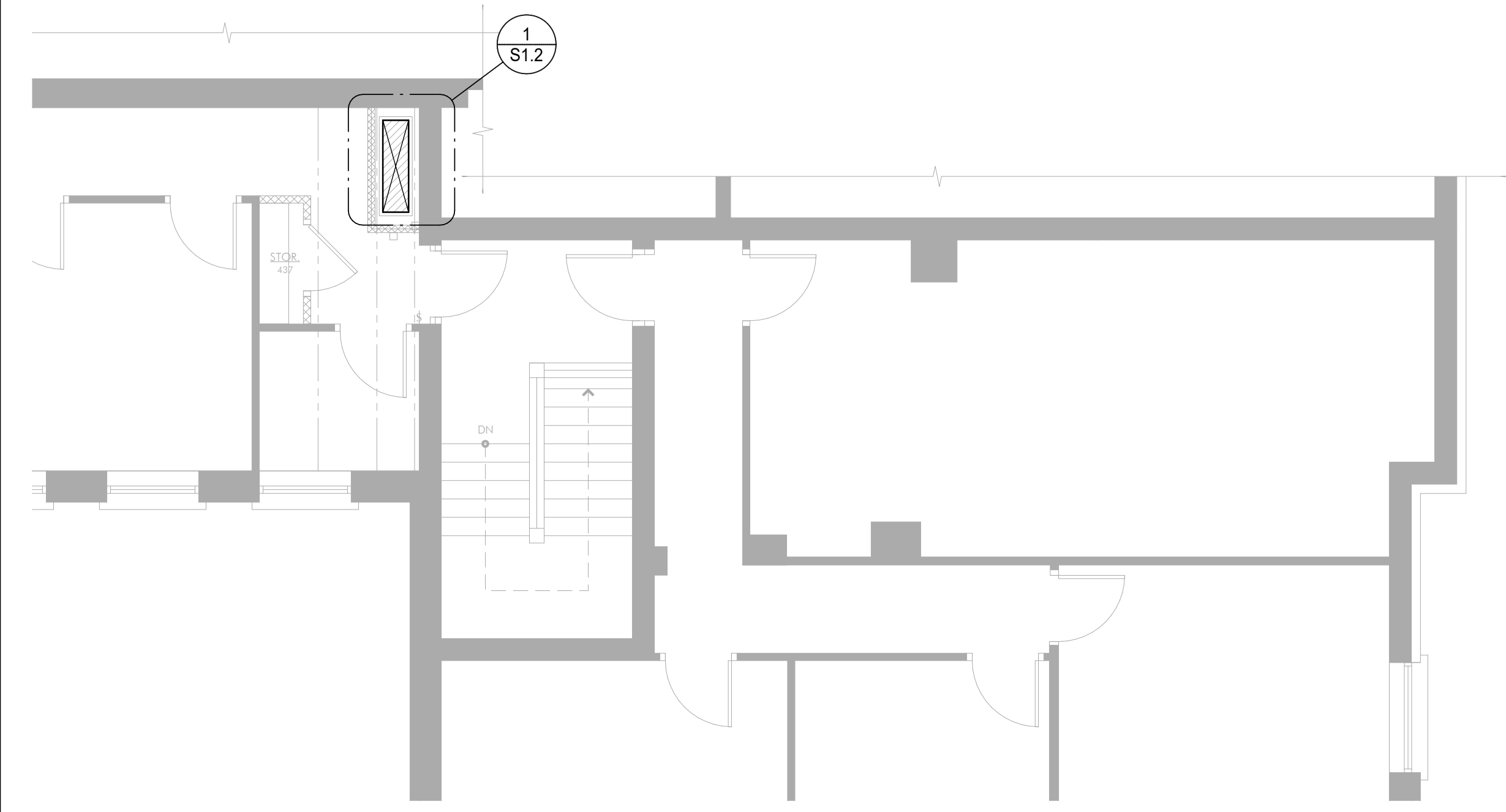


**EMC**  
 STRUCTURAL ENGINEERS, P.C.  
 601 Grassmore Park  
 Suite 18  
 Nashville, Tennessee 37211  
 615.781.8199  
 www.emcnashville.com  
 23216\_R23

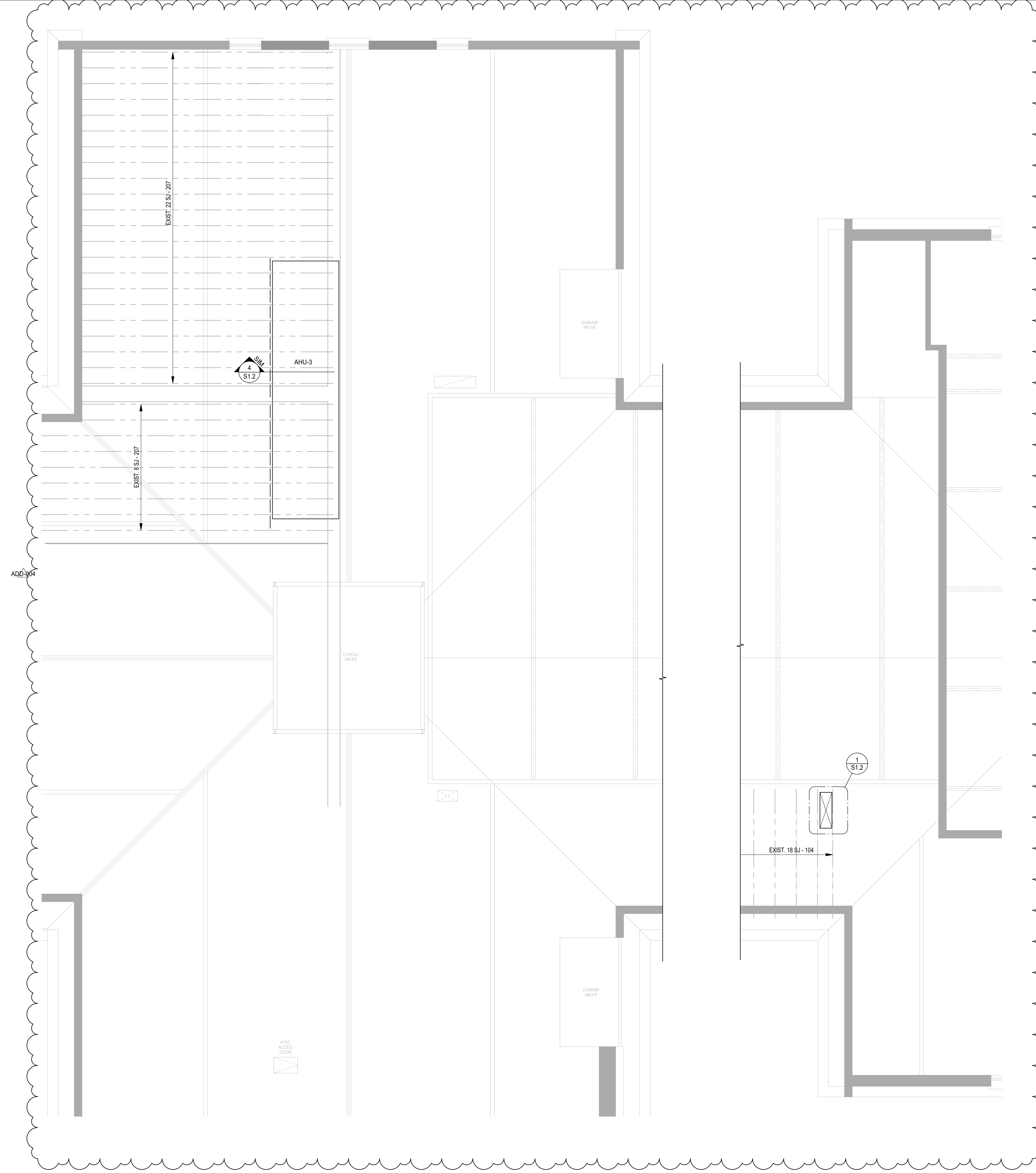
ISSUED:	03.08.24	
SBC PROJECT #:	364/011-05-2021	
GMCA PROJECT #:	202113 TDH	
REVISED:		
#	DATE	DESCRIPTION
ADD-004	04.25.24	ADDENDUM #4

THIRD LEVEL FRAMING  
 PLAN & DETAILS

S1.2



**FOURTH FLOOR FRAMING PLAN**  
SCALE: 3/16" = 1'-0"



**ATTIC FRAMING PLAN**  
SCALE: 3/16" = 1'-0"

TENNESSEE TECH UNIVERSITY  
**DERRYBERRY HALL**  
BUILDING UPGRADES- PHASE I  
1 WILLIAM L JONES DRIVE  
COCKVILLE, TN 38505



**EMC**  
STRUCTURAL ENGINEERS, P.C.  
501 Grassmore Park  
Suite 18  
Nashville, Tennessee 37211  
615.781.8199  
www.emcnahtn.com  
23216\_R23

ISSUED: 03.08.24  
SBC PROJECT #: 364/011-05-2021  
GMCA PROJECT #: 202113 TDH

#	DATE	DESCRIPTION
ADD-004	04.25.24	ADDENDUM #4

FOURTH FLOOR & ATTIC  
FRAMING PLANS

C:\Well\Local\2021\6\_TTU Derryberry Hall\_STRUCT\_K23\_jimmarieDPW.rvt  
4/25/2024 4:31:23 PM

HVAC GENERAL NOTES	
1.	ALL DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR IS REQUIRED TO REROUTE DUCTWORK AND PIPE. PROVIDE OFFSETS, 90 AND 45 DEGREE BENDS, CHANGE ASPECT RATIO OF DUCTWORK AS REQUIRED IN COORDINATION WITH OTHER TRADES AT NO ADDITIONAL COST TO THE PROJECT.
2.	ALL THERMOSTATS WILL BE INSTALLED 45" ABOVE FINISHED FLOOR TO CENTERLINE OF THERMOSTAT TO MATCH LIGHT SWITCHES UNLESS OTHERWISE NOTED.
3.	ROUTE NEW DUCTWORK ABOVE CEILING TIGHT TO STRUCTURE, RELOCATE OR OFFSET EXISTING PIPING, CONDUIT AND DUCTWORK AS REQUIRED FOR INSTALLATION OF NEW WORK AT NO ADDITIONAL COST TO THE PROJECT. CONTRACTOR SHALL VERIFY CLEARANCE REQUIREMENTS AND INDICATE ROUTING OF NEW DUCTWORK BEFORE FABRICATION BEGINS AS RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
4.	DO NOT ROUTE ANY DUCTWORK OR PIPING DIRECTLY ABOVE OR 42" IN FRONT OF ELECTRICAL SWITCHGEAR, PANELS OR TRANSFORMERS.
5.	CONTRACTOR SHALL COORDINATE DIFFUSER FRAMES WITH REFLECTED CEILING PLAN TO DETERMINE TYPE OF FRAME REQUIRED, GYP-BOARD MOUNTING OR LAY-IN TYPE.
6.	FLEXIBLE DUCT SHALL BE LIMITED TO A MAXIMUM LENGTH OF 5 FEET WITH NO MORE THAN 90 DEGREES OF ACCUMULATED BEND.
7.	PROVIDE MANUAL VOLUME DAMPERS IN MAIN SUPPLY, RETURN AND EXHAUST TRUNKS WHERE SHOWN ON DRAWINGS FOR BALANCING AS INDICATED AND AT LOCATIONS REQUIRED BY INDEPENDENT TEST AND BALANCING AGENCY. SEE DETAIL FOR EXACT LOCATION REQUIREMENTS OF MANUAL VOLUME DAMPERS.
8.	COORDINATE DIFFUSERS, RETURN AND EXHAUST GRILLES WITH LIGHTS AND ARCHITECTURAL REFLECTIVE CEILING PLANS.
9.	ALL DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR IN INCHES UNLESS OTHERWISE NOTED.
10.	PROVIDE FLEXIBLE CONNECTION ON DUCTWORK AT ALL MECHANICAL EQUIPMENT.
11.	IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE SYSTEMS AND VERIFY DIMENSION CONDITIONS PRIOR TO INSTALLATION. PROVIDE MANUFACTURERS' RECOMMENDED CLEARANCE REQUIREMENTS ON ALL AC UNITS AND EQUIPMENT FOR SERVING CLEANING, COIL REMOVAL, AND FILTER CHANGING.
12.	PROVIDE IDENTIFICATION STENCILING ON ALL CONCEALED ACCESS DOORS FOR FIRE DAMPERS AND COMBINATION FIRE/SMOKE DAMPERS.
13.	HVAC HOT & CHILLED WATER PIPING 2" AND SMALLER TO TYPE "L" HARD DRAWN SEAMLESS ASTM B-88 COPPER. SEE SPECIFICATIONS.
14.	HVAC HOT & CHILLED WATER PIPING 2-1/2" AND LARGER TO BE WELDED CARBON STEEL. SEE SPECIFICATIONS.
15.	INSULATION FOR CHILLED WATER PIPING TO BE 1-1/2" THICK FOR 1-1/2" AND SMALLER PIPE, 1-1/2" THICK FOR 2" AND LARGER PIPE. SEE SPECIFICATIONS.
16.	INSULATION FOR HEATING HOT WATER TO BE 1-1/2" THICK FOR 1-1/4" AND SMALLER PIPE, 2" THICK FOR 1-1/2" AND LARGER PIPE. SEE SPECIFICATIONS.
17.	INSULATION FOR STEAM AND CONDENSATE PIPING TO BE 2-1/2" THICK FOR 3" AND SMALLER PIPE, 3" THICK FOR 4" AND LARGER PIPE. SEE SPECIFICATIONS.
18.	EACH SUBCONTRACTOR SHALL PERFORM CUTTING AND PATCHING OF PENETRATIONS FOR THEIR OWN DISCIPLINE.
19.	UNLESS SPECIFICALLY NOTED OTHERWISE, NO T-DRILL FITTINGS OR TYPE M COPPER PIPING IS ALLOWED FOR ANY SERVICE.
20.	INTERMEDIATE SUPPORTS SUCH AS ANGLES, UNISTRUT, ETC. NECESSARY FOR SUPPORT OF PIPING, DUCTWORK AND EQUIPMENT AS WELL AS ANGLE FRAMING FOR DAMPERS SHALL BE FURNISHED AND INSTALLED BY MECHANICAL DIVISION. STRUCTURAL OPENINGS REQUIRING FRAMING SHALL BE FURNISHED UNDER STRUCTURAL DIVISION.
21.	MECHANICAL CONTRACTOR TO PROVIDE COORDINATION DRAWINGS DEVELOPED IN 3 DIMENSIONAL CAD SOFTWARE FOR MECHANICAL SYSTEMS AND SHALL COORDINATE WITH ALL TRADES INCLUDING STRUCTURAL, DUCTWORK, PIPING, ELECTRICAL, COMMUNICATION SYSTEMS, FIRE PROTECTION AND MECHANICAL PIPING PRIOR TO FABRICATION OR INSTALLATION OF SYSTEMS.
22.	ALL MECHANICAL WORK SHALL BE IN ACCORDANCE WITH THE FEDERAL, STATE AND LOCAL CODES AND LAWS. SEE ARCHITECTURAL DRAWINGS FOR APPLICABLE CODES. CONTRACTOR SHALL PAY FOR FEES AND PERMITS.
23.	ALL DUCTWORK SHALL BE SHEET METAL IN ACCORDANCE WITH THE LATEST SMACNA HVAC DUCT CONSTRUCTION STANDARDS. DUCT DIMENSIONS ARE INSIDE CLEAR.
24.	INSULATE BACK OF DIFFUSERS SIMILAR TO DUCTWORK IF SYSTEM USES A DUCTED RETURN.
25.	ALL ROUND TAPS ON LOW PRESSURE DUCT SHALL BE MADE USING STICK-ON METAL COLLARS WITH DAMPER (SOUTHWARK MODEL ATD OR EQUAL). NO SCOOPS ARE ALLOWED.
26.	SEAL ALL DUCT (SUPPLY, RETURN, OUTSIDE AIR, EXHAUST) JOINTS WITH MEI EDS 44-55 OR 44-52; DESIGN POLYMERICS DP1010; IRON GRIP OR EQUAL. APPLY WHEN ENVIRONMENT IS BETWEEN 50 deg F TO 95 deg F.
27.	ALL SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK SHALL BE INTERNALLY LINED WITH 1.5" ACOUSTICAL LINER (EQUAL TO JOHNS MANVILLE LINACOUSTIC R-300) WITH R-VALUE OF AT LEAST 6.0. INSULATE TOPS OF ALL SUPPLY DIFFUSERS WITH 2" THICK INSULATION. RETURN DUCT NEED NOT BE INSULATED UNLESS ON TOP FLOOR WITH ROOF ABOVE. DUCTWORK LOCATED IN ATTIC SHALL HAVE THE INTERNAL LINER THICKNESS INCREASED TO 2" WITH R-VALUE OF AT LEAST 8.0.
28.	CONDENSATE DRAIN PIPING SHALL BE TYPE M HARD COPPER WITH 1/2" ARMAFLEX INSULATION.
29.	PIPE HANGERS SHALL BE GRINNELL OR EQUAL WITH HANGER TYPE MATCHING THE REQUIREMENT. MAXIMUM ALLOWABLE SPACING SHALL BE AS FOLLOWS:
	3/4" to 1-1/4" dia. PIPE      6 FOOT ON CENTER SPACING
	1-1/2" to 2-1/2" dia. PIPE    10 FOOT ON CENTER SPACING
	3" to 5" dia. PIPE          12 FOOT ON CENTER SPACING
	6" to 8" dia. PIPE          14 FOOT ON CENTER SPACING
30.	ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR.
31.	CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS SHOWN ON MECHANICAL DRAWINGS. CONNECTIONS TO EXISTING SERVICES ARE ENGINEERS BEST UNDERSTANDING BASED ON AVAILABLE INFORMATION. CONTRACTOR SHALL ROUTE DUCT AND PIPING AS NECESSARY TO MAKE CONNECTIONS TO EXISTING SERVICES AS THEY EXIST IN THE FACILITY REGARDLESS OF HOW THEY'RE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMMUNICATE ANY DEVIATION FOUND PRIOR TO CONSTRUCTION.

HVAC DEMOLITION NOTES	
1.	IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE CONDITION OF EXISTING EQUIPMENT, EXACT SIZES OF EXISTING DUCT AND PIPING, ETC. BEFORE DEMOLITION WORK BEGINS. REPORT ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL FIELD CONDITIONS TO ARCHITECT AND ENGINEER PRIOR TO THE COMMENCEMENT OF DEMOLITION WORK.
2.	DEMOLITION WORK SHALL BE PHASED TO ACCOMPLISH REPLACEMENT WITH MINIMUM AMOUNT OF DOWNTIME.
3.	SCHEDULE NEW AND DEMOLITION WORK IN ADVANCE WITH OWNER.
4.	REMOVE EXISTING DUCTWORK (AND ASSOCIATED HANGERS, STRAPS, AND SUPPORT ROOFS), PIPING, DIFFUSERS, GRILLES IN THE AREA OF DEMOLITION WHICH ARE NOT SHOWN TO REMAIN OR BE REUSED ON THE DRAWING. IF THE EXISTING DUCTWORK, PIPING, DIFFUSERS, OR GRILLES SHOWN TO REMAIN ARE IN CONFLICT WITH THE NEW WORK SHOWN THEY SHALL BE RELOCATED AS REQUIRED. DEMO NOTES HAVE BEEN PLACED ON THE PLANS TO DEPICT ITEMS OF SPECIAL INTEREST AND DO NOT NECESSARILY INCLUDE ALL DEMO WORK. NO CHANGE ORDERS WILL BE ENTERAINED FOR DEMO ITEMS REQUIRED IN THE AREA OF DEMOLITION.
5.	WHERE EXISTING PIPING IS REMOVED CAP PIPING CONNECTIONS TO REMAIN AT MAINS AND APPLY NEW INSULATION.
6.	ALL EQUIPMENT TO BE REMOVED IS THE PROPERTY OF THE OWNER AND SHALL BE TURNED OVER TO THE OWNER'S REPRESENTATIVE BY THE CONTRACTOR. AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE, ANY OR ALL OF SUCH EQUIPMENT MAY BE REFUSED AND RELEASED TO THE CONTRACTOR FOR DISPOSAL.
7.	CONTRACTOR SHALL VERIFY CLEARANCE REQUIREMENTS AND INDICATE ROUTING OF NEW DUCTWORK BEFORE FABRICATION BEGINS AS RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.
8.	IN AREAS OF RENOVATION, INSTALLATION OF NEW PIPING, DUCTWORK AND EQUIPMENT WILL REQUIRE REMOVAL OF THE EXISTING CEILING AND THE CEILING GRID. SURVEY THE SITE AND BE INFORMED OF EXISTING CONDITIONS THAT WILL REQUIRE CEILING REMOVAL. INCLUDE THE COST OF THE CEILING WORK OR COORDINATE ITS REMOVAL WITH THE GENERAL CONTRACTOR.
9.	FIRESTOPPING OF EXISTING PIPING, CONDUIT AND DUCTWORK WITHIN THE AREA OF RENOVATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. FIRESTOPPING OF NEW PIPING, CONDUIT AND DUCTWORK WITHIN THE AREA OF RENOVATION SHALL BE PROVIDED BY THE INSTALLING SUBCONTRACTOR.

QUALITY ASSURANCE	
1.	CONTRACTOR IS RESPONSIBLE TO BE IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES. SEE ARCHITECTURAL DRAWINGS FOR APPLICABLE CODES. NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN DESIGN AND LOCAL CODES. CONTRACTOR'S PRICING TO REFLECT INSTALLATION IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.
2.	NOTIFY ENGINEER OF ANY CONFLICTS ON THE DRAWINGS OR BETWEEN DRAWINGS AND SPECIFICATIONS. FAILURE TO NOTE CONFLICTS WILL RESULT IN ADDITIONAL COSTS BEING THE RESPONSIBILITY OF THE CONTRACTOR.
3.	COMPLY WITH APPLICABLE REQUIREMENTS OF RECOGNIZED INDUSTRY ASSOCIATIONS WHICH PUBLISH STANDARDS FOR THE VARIOUS TRADES.
4.	EMPLOY ONLY QUALIFIED JOURNEMEN FOR THIS WORK.
5.	ADDITIONAL INSTALLATION COSTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT REQUIRING ADDITIONAL WORK ON THE PART OF THIS CONTRACTOR OR OTHER SUBCONTRACTORS TO SATISFY THE MANUFACTURER'S INSTALLATION REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE SUBMITTING CONTRACTOR.
6.	SUPERVISE ALL WORK BY COMPETENT MECHANIC SPECIFICALLY QUALIFIED IN HIS DISCIPLINE.
7.	CONTRACTOR IS REQUIRED TO DEMONSTRATE COMPLETE FUNCTIONALITY OF ALL DESIGNED AND INSTALLED SYSTEMS TO DESIGN TEAM UPON COMPLETION OF TEST & BALANCE OR SUBSTANTIAL COMPLETION. CONTRACTOR IS TO HAVE ALL REQUIRED PERSONNEL ON HAND, INCLUDING, BUT NOT LIMITED TO, MECHANICAL, ELECTRICAL, TEST AND BALANCE AGENT, AND CONTROLS.
8.	FACTORY START-UP SHALL BE PROVIDED FOR ALL NEW EQUIPMENT. ALL EQUIPMENT WITH COMPRESSORS AND/OR EQUIPMENT CONTROLLED BY MICRO-PROCESSORS IS TO BE STARTED, ADJUSTED, AND VERIFIED FOR PROPER OPERATION WITH RESPECT TO THIS PROJECT BY FACTORY TRAINED AND CERTIFIED TECHNICIAN. NO EXCEPTIONS WILL BE ALLOWED.

REQUIRED COORDINATION	
1.	VISIT SITE AND BE INFORMED OF CONDITIONS UNDER WHICH WORK MUST BE PERFORMED.
2.	NO SUBSEQUENT ALLOWANCE WILL BE MADE BECAUSE OF ERROR OR FAILURE TO OBTAIN NECESSARY INFORMATION TO COMPLETELY ESTIMATE AND PERFORM ALL WORK INVOLVED.
3.	IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL DEVIATIONS ON THE SHOP DRAWINGS FROM THE SPECIFIED ITEM AND REVIEW OF THE SHOP DRAWINGS WITH NO EXCEPTIONS TAKEN WILL NOT BE CONSIDERED ACCEPTANCE OF THE DEVIATION UNLESS IT'S BEEN EXPLICITLY IDENTIFIED.
4.	CAREFULLY EXAMINE DRAWINGS AND SPECIFICATIONS TO BE THOROUGHLY FAMILIAR WITH ITEMS WHICH REQUIRE PLUMBING OR HVAC CONNECTIONS AND COORDINATION.
5.	NOTIFY OTHER TRADES OF ANY DEVIATIONS OR SPECIAL CONDITIONS NECESSARY FOR INSTALLATION OF WORK.
6.	RESOLVE INTERFERENCES BETWEEN WORK OF OTHER TRADES PRIOR TO INSTALLATION OR FABRICATION.
7.	ADVISE OTHERS TRADES TO LEAVE PROPER CHASES AND OPENINGS.
8.	COORDINATE ALL NECESSARY POWER CONNECTIONS AS RECOMMENDED BY THE MANUFACTURERS OF INSTALLED EQUIPMENT WITH ELECTRICAL TRADESMAN.
9.	SHOULD THIS COORDINATION BE NEGLECTED, ANY CUTTING AND/OR PATCHING REQUIRED TO BE DONE AT CONTRACTOR'S EXPENSE.

SEISMIC REQUIREMENTS	
HVAC DUCTWORK, PIPING, AND EQUIPMENT SHALL BE SUPPORTED BASED ON A SEISMIC CATEGORY "C" WITH I <sub>p</sub> = 1.0. MECHANICAL CONTRACTOR IS RESPONSIBLE TO HAVE A LICENSED STRUCTURAL ENGINEER DESIGN SEISMIC SUPPORT SYSTEMS. CONTRACTOR SHALL ALSO COORDINATE WITH LOCAL AIA TO CONFIRM SEISMIC DESIGN CONSIDERATIONS AND BRACING OF DUCTWORK, PIPING, AND EQUIPMENT.	

HVAC LEGEND	
	FIRE DAMPER
	SMOKE DAMPER
	COMBINATION FIRE/SMOKE DAMPER
	MANUAL VOLUME DAMPER
	SMOKE DETECTOR (S.D.S., S.D.R., S.D.E.)
	STATIC PRESSURE PROBE
	THERMOSTAT
	HUMIDISTAT
	CONNECT TO EXISTING
	POINT OF DISCONNECTION
	SUPPLY DUCT TURNING UP
	SUPPLY DUCT TURNING DOWN
	RETURN DUCT TURNING UP
	RETURN DUCT TURNING DOWN
	EXHAUST DUCT TURNING UP
	EXHAUST DUCT TURNING DOWN
	DUCT DROPPING
	DUCT RISING
	ROUND DUCT TURNING UP
	ROUND DUCT TURNING DOWN
	SUPPLY DIFFUSER
	RETURN GRILLE
	EXHAUST GRILLE
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	COMPRESSED AIR
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	CONDENSATE DRAIN
	HOT WATER SUPPLY
	HOT WATER RETURN
	STEAM
	HOT CONDENSATE RETURN
	PIPE TURNING UP
	PIPE TURNING DOWN
	BALL OR BUTTERFLY VALVE
	GATE VALVE
	O.S.&Y. GATE VALVE
	GLOBE VALVE
	PLUG VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	3-WAY VALVE

MECHANICAL SHEET INDEX	
SHEET NUMBER	SHEET TITLE
M0.1	MECHANICAL LEGEND AND NOTES
M0.2	MECHANICAL SCHEDULES
MD1.2	SECOND FLOOR HVAC DEMOLITION PLAN
MD1.3	THIRD FLOOR HVAC DEMOLITION PLAN
MD1.4	PARTIAL FOURTH FLOOR HVAC DEMOLITION PLAN
MD1.5	ATTIC HVAC DEMOLITION PLAN
M1.2	SECOND FLOOR HVAC NEW WORK PLAN
M1.3	THIRD FLOOR HVAC NEW WORK PLAN
M1.4	PARTIAL FOURTH FLOOR HVAC NEW WORK PLAN
M1.5	ATTIC HVAC NEW WORK PLAN
M3.1	MECHANICAL DETAILS
M3.2	MECHANICAL DETAILS
M3.3	MECHANICAL DETAILS
M4.1	MECHANICAL CONTROLS
M4.2	MECHANICAL CONTROLS

615.322.6649  
 2205 Kline Avenue, Suite 200, Nashville, TN 37211  
 GILBERT | McLAUGHLIN | CASSELLA architects

TENNESSEE TECH UNIVERSITY  
 DERYBERRY HALL  
 BUILDING UPGRADES - PHASE I  
 1 WILLIAM L. JONES DRIVE  
 COOKEVILLE, TN 38505

Synergy Park Building 6  
 214 Centerview Drive, Suite 200  
 Brentwood, Tennessee 37027  
 Phone: 615.377.0093  
 Estab. Project # 21204

ISSUED: 03.08.24  
 SBC PROJECT #: 364/011-05-2021  
 GMCA PROJECT #: 202113 TDH

#	DATE	DESCRIPTION
ADD-004	04.25.24	ADDENDUM #4

MECHANICAL LEGENDS AND NOTES

M0.1



DUCT SILENCER			
ACCESSORIES AVAILABLE:			
DESIGNATION	DS-1	DS-2	
MANUFACTURER	VIBRO-ACOUSTICS	VIBRO-ACOUSTICS	
MODEL	RD-HV-30761HH	EXRD-MHV-30761HH	
SERVICE	AHU-3 SUPPLY	AHU-3 RETURN	
TYPE	DISSIPATIVE	EXTENDED CASING	
DUCT DIMENSIONS	(SEE PLANS)	(SEE PLANS)	
LENGTH (IN.)	72	120	
AIRFLOW	17,850	17,350	
MAX. AIRFLOW P.D. (IN. H2O)	0.25	0.35	
SPACE NC CRITERIA	20	20	
MINIMUM DYNAMIC INSERTION LOSS (DB)	63 HZ	5	8
	125 HZ	7	17
	250 HZ	16	29
	500 HZ	31	51
	1000 HZ	38	55
	2000 HZ	29	51
	4000 HZ	20	34
8000 HZ	17	19	
ACCESSORIES SUPPLIED	-	-	
REMARKS: - ALTERNATE MANUFACTURER'S SHALL PROVIDE, FOR APPROVAL, ACOUSTICAL AND PRESSURE DROP CALCULATIONS FOR ALL SYSTEMS TO DEMONSTRATE THAT THE INSTALLED SOUND LEVELS AND PRESSURE DROP WITH SYSTEM EFFECTS MEETS OR EXCEEDS THE SCHEDULED DESIGN CRITERIA.			

PUMP SCHEDULE			
ACCESSORIES AVAILABLE: 1 - SUCTION DIFFUSER 2 - FLEX CONNECTOR 3 - VFD WITH BYPASS DISCONNECT BY ELECTRICAL CONTRACTOR. REFER TO ELECTRICAL DRAWINGS 4 - NON-SLAM CHECK VALVE			
DESIGNATION	HWP-1	HWP-2	
MANUFACTURER	BELL & GOSSETT	BELL & GOSSETT	
MODEL NO.	E-80 2.5X2.5X9.5C	E-80 2.5X2.5X9.5C	
TYPE	INLINE	INLINE	
SYSTEM	HEATING WATER	HEATING WATER	
FLOW (GPM)	138.1	138.1	
T.D.H. (FT. H2O)	60'	60'	
EFFICIENCY (%)	61.8	61.8	
IMPELLER DIAMETER	8.25"	8.25"	
MIN. MOTOR H.P.	5	5	
MOTOR R.P.M.	1800	1800	
V/PHZ	208/3/60	208/3/60	
ACCESSORIES SUPPLIED	1 - 4	1 - 4	
REMARKS:			

FAN SCHEDULE			
ACCESSORIES AVAILABLE: 1 - OUTLET SCREEN 2 - FAN SPEED CONTROLLER 3 - HANGING SPRING ISOLATORS			
DESIGNATION	EF-AV		
MANUFACTURER	GREENHECK		
MODEL NO.	CSP-A290		
SERVICE	AV ROOM		
TYPE	INLINE CABINET		
CFM	200		
S.P. (IN. H2O)	0.5		
MAX. FAN RPM	987		
MOTOR INPUT POWER (WATTS)	75		
SONES	2.5		
V/PHZ	120 / 1 / 60		
WEIGHT (LBS.)	50		
INTERLOCK W/	LINE VOLTAGE THERMOSTAT		
ACCESSORIES SUPPLIED	1 - 3		
REMARKS:			

AIR HANDLING UNIT SCHEDULE										
ACCESSORIES: 1 - 2-WAY PRESSURE INDEPENDENT CHILLED WATER CONTROL VALVE (SEE CONTROLS) 2 - FACTORY MOUNTED PIEZO RINGS FOR EACH SUPPLY AND RETURN FAN. FLOW TRANSDUCER SHALL BE PARAGON MTSE FOR FAN ARRAYS (BY CONTROLS CONTRACTOR) 3 - DISCONNECT FOR SUPPLY AND RETURN FAN 4 - SUPPLY FANS TO BE DIRECT-DRIVE PLENUM FANS WITH BACKDRAFT DAMPERS TO PREVENT RECIRCULATION 5 - RETURN FANS TO BE DIRECT-DRIVE PLENUM FANS WITH BACKDRAFT DAMPERS TO PREVENT RECIRCULATION 6 - SUPPLY FAN ARRAY VFD WITH BYPASS (SCHNEIDER, ABB, OR TOSHIBA) 7 - RETURN FAN ARRAY VFD WITH BYPASS (SCHNEIDER, ABB, OR TOSHIBA) 8 - DEMAND CONTROL VENTILATION (SEE CONTROLS) 9 - MERV 8 PREFILTER (UPSTREAM OF THE COIL) - 2" PLEATED 10 - MERV 14 PRIMARY FILTER (UPSTREAM OF COILS) - 22" DEEP POCKET FILTER 11 - 3-WAY HOT WATER CONTROL VALVES 12 - SUPPLY SECTION TO HAVE PERFORATED LINER FOR SOUND ATTENUATION 13 - UV LIGHTS MOUNTED DOWNSTREAM OF THE COOLING COILS WIRED SEPARATELY BY ELECTRICAL DIVISION 14 - CONVENIENCE OUTLET AND MARINE LIGHTS WIRED SEPARATELY BY ELECTRICAL DIVISION 15 - DOUBLE WALL CONSTRUCTION 16 - PERFORATED PANELS FOR FAN SECTIONS 17 - SUPPLY AND RETURN FAN INLET BELL SOUND ATTENUATORS 18 - FACE AND BYPASS STEAM PRE-HEAT COIL 19 - ECONOMIZER WITH DRY BULB CONTROL 20 - SMOKE DETECTORS IN SUPPLY AND RETURN DUCTWORK 21 - SPRING VIBRATION ISOLATION BASE RAIL										
AHU MODULES TO INCLUDE: 1. RETURN FAN, 2. AIR MIXING SECTION AND ECONOMIZER, 3. ACCESS SECTION, 4. 2" PRE-FILTERS, 5. 14" POCKET FILTERS, 6. FACE & BYPASS STEAM PRE-HEAT COIL, 7. ACCESS SECTION, 8. CHILLED WATER COIL, 9. ACCESS SECTION, 10. HEATING WATER RE-HEAT COIL, 11. ACCESS SECTION, 12. SUPPLY FAN (FAN WALL)										
DESIGNATION	AHU-3									
MANUFACTURER	TRANE									
MODEL NO.	CSAA035									
TYPE	INDOOR									
SERVICE	AUDITORIUM									
TOTAL SUPPLY CFM	17,850									
TOTAL RETURN CFM	17,350									
O.A. CFM (MAX/MIN)	4,600 / 17,850									
SUPPLY FAN (QTY)	4									
E.S.P. (IN. H2O)	1.5									
B.H.P.	22.3									
H.P. (TOTAL)	30									
RETURN FAN (QTY)	4									
E.S.P. (IN. H2O)	1.5									
B.H.P.	12.6									
H.P. (TOTAL)	20									
V/PHZ	208/3/60									
E.A.D.B. (°F)	45									
L.A.D.B. (°F)	60									
SOURCE	STEAM									
PRESSURE (PSI)	15									
LBS. / HR	566.1									
E.A.D.B./E.A.W.B. (°F)	79.2 / 66.7									
L.A.D.B./L.A.W.B. (°F)	55.0 / 54.6									
G.P.M.	110.0									
ROWS/FINS PER INCH	6 / 9.2									
MAX P.D. (FT. H2O)	10									
E.W.T. / L.W.T.	45 / 57									
E.A.D.B. (°F)	50									
L.A.D.B. (°F)	85									
SOURCE	HEATING WATER									
G.P.M.	45.1									
MAX P.D. (FT. H2O)	10									
E.W.T. / L.W.T.	180 / 150									
FILTER (PRE) EFFICIENCY	MERV 8									
FILTER (PRE) S.P. CLEAN/DIRTY	0.25" / 0.75"									
FILTER EFFICIENCY	MERV 14									
FILTER S.P. CLEAN/DIRTY	1.35" / 2.0"									
OPERATING WEIGHT (LBS.)	10,500									
ACCESSORIES	1 - 21									
REMARKS: - DUCT MTG. SMOKE DETECTORS PROVIDED AND WIRED BY ELEC DIV. INSTALLED BY MECH DIV. - PROVIDE DDC CONTROLS AND NECESSARY EQUIPMENT BY TEMPERATURE CONTROL CONTRACTOR TO COMMUNICATE WITH EXISTING BAS. - PROVIDE MAGNETIC FILTER GAUGES ON ALL FILTER BANKS. - SELECT FAN MOTORS SUCH THAT BHP DOES NOT EXCEED 85% OF NAMEPLATE MOTOR HP AND FAN MOTOR HZ IS 60 HZ MAX. FANS SHALL BE SELECTED WITH INTERNAL STATIC TO OVERCOME DIRTY FILTERS AND ANY ADDITIONAL MANUFACTURER COMPONENTS (COILS, BLENDEERS, ETC.) - UPON FAN FAILURE, REMAINING FANS SHALL AUTOMATICALLY CONTINUE TO OPERATE AND SHALL ADJUST RPM TO COMPENSATE FOR LOSS OF A FAN. BAS SHALL BE ALARMED UPON LOSS OF A FAN. - AHU'S SHALL BE SHIPPED IN SECTIONS SMALL ENOUGH TO FIT THROUGH EXISTING ATTIC LOUVER AND SHALL BE ASSEMBLED IN ATTIC SPACE. SEE PLANS FOR ADDITIONAL NOTES - PROVIDE "LOW-IN-THE-DARK" FAN IDENTIFIERS AND FAN ROTATION ARROW. COORDINATE WITH FACILITY FOR FAN, VFD, AND AFMS NAMING CONVENTION AND TAGGING. - LISTED MINIMUM OUTDOOR AIR CFM VALUE TO BE USED FOR UNIT PERFORMANCE FOR SUBMITTAL DOCUMENTATION. BALANCE SYSTEM DEMAND-BASED VENTILATION MINIMUM TO 1200 CFM AT INSTALL. (MINIMUM OA = 1200 CFM. MAXIMUM OA = 4600 CFM.)										

ADD-04

### COMcheck Software Version 4.1.5.1 Mechanical Compliance Certificate

#### Project Information

Energy Code: 2018 IECC  
 Project Title: TTU Derryberry Hall Building Upgrades - Phase 1  
 Location: Cookeville, Tennessee  
 Climate Zone: 4a  
 Project Type: Alteration

Construction Site: 1 William L. Jones Drive Cookeville, TN 38505  
 Owner/Agent: \_\_\_\_\_  
 Designer/Contractor: \_\_\_\_\_

#### Mechanical Systems List

- Quantity System Type & Description**
- AHU-3 (with pre-heat coil) (Single Zone):  
 Heating: 1 each - Hydronic or Steam Coil, Capacity = 536 kBtu/h  
 No minimum efficiency requirement applies  
 Cooling: 1 each - Hydronic Coil, Capacity = 563 kBtu/h, Air Economizer  
 No minimum efficiency requirement applies  
 Fan System: AHU-3 - Compliance (Brake HP method) : Passes  
 Fans:  
 - FAN 1 Supply, Single-Zone VAV, 17850 CFM, 30.0 motor nameplate hp, 14.0 design brake hp (22.3 max. BHP), 54.8 fan efficiency grade  
 - FAN 2 Return, Single-Zone VAV, 17350 CFM, 20.0 motor nameplate hp, 7.9 design brake hp (12.6 max. BHP), 47.9 fan efficiency grade  
 Pressure Drop Credits:  
 - Fully ducted return and/or exhaust air systems, 2,1000 credit  
 - Particulate filtration credit: MERV 13 through 15, 3,8889 credit  
 - Sound attenuation section, 0.6481 credit
  - AHU-3 (reheat coil only) (Single Zone):  
 Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 676 kBtu/h  
 No minimum efficiency requirement applies  
 Fan System: AHU-3 - Compliance (Brake HP method) : Passes  
 Fans:  
 - FAN 1 Supply, Single-Zone VAV, 17850 CFM, 30.0 motor nameplate hp, 14.0 design brake hp (22.3 max. BHP), 54.8 fan efficiency grade  
 - FAN 2 Return, Single-Zone VAV, 17350 CFM, 20.0 motor nameplate hp, 7.9 design brake hp (12.6 max. BHP), 47.9 fan efficiency grade  
 Pressure Drop Credits:  
 - Fully ducted return and/or exhaust air systems, 2,1000 credit  
 - Particulate filtration credit: MERV 13 through 15, 3,8889 credit  
 - Sound attenuation section, 0.6481 credit

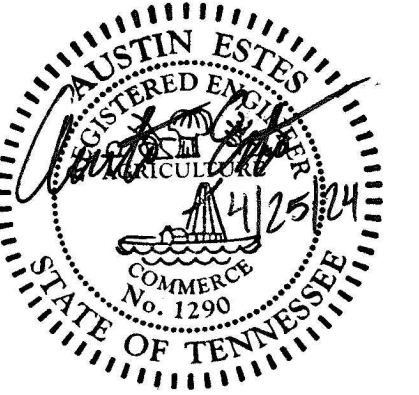
#### Mechanical Compliance Statement

Compliance Statement: This proposed mechanical alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Austin Estes - Mechanical Engineer, PE  
 Name: Title: Signature: Date: 4/25/2024

Project Title: TTU Derryberry Hall Building Upgrades - Phase 1 Report date: 04/24/24  
 Data filename: P:\2021\Project\21206\TTU Derryberry Hall Upgrades\1 Drawings\Mechanical\Support Files\21206 COMcheck.cck Page 1 of 13

TENNESSEE TECH UNIVERSITY  
 DERYBERRY HALL  
 BUILDING UPGRADES - PHASE I  
 1 WILLIAM L. JONES DRIVE  
 COOKEVILLE, TN 38505



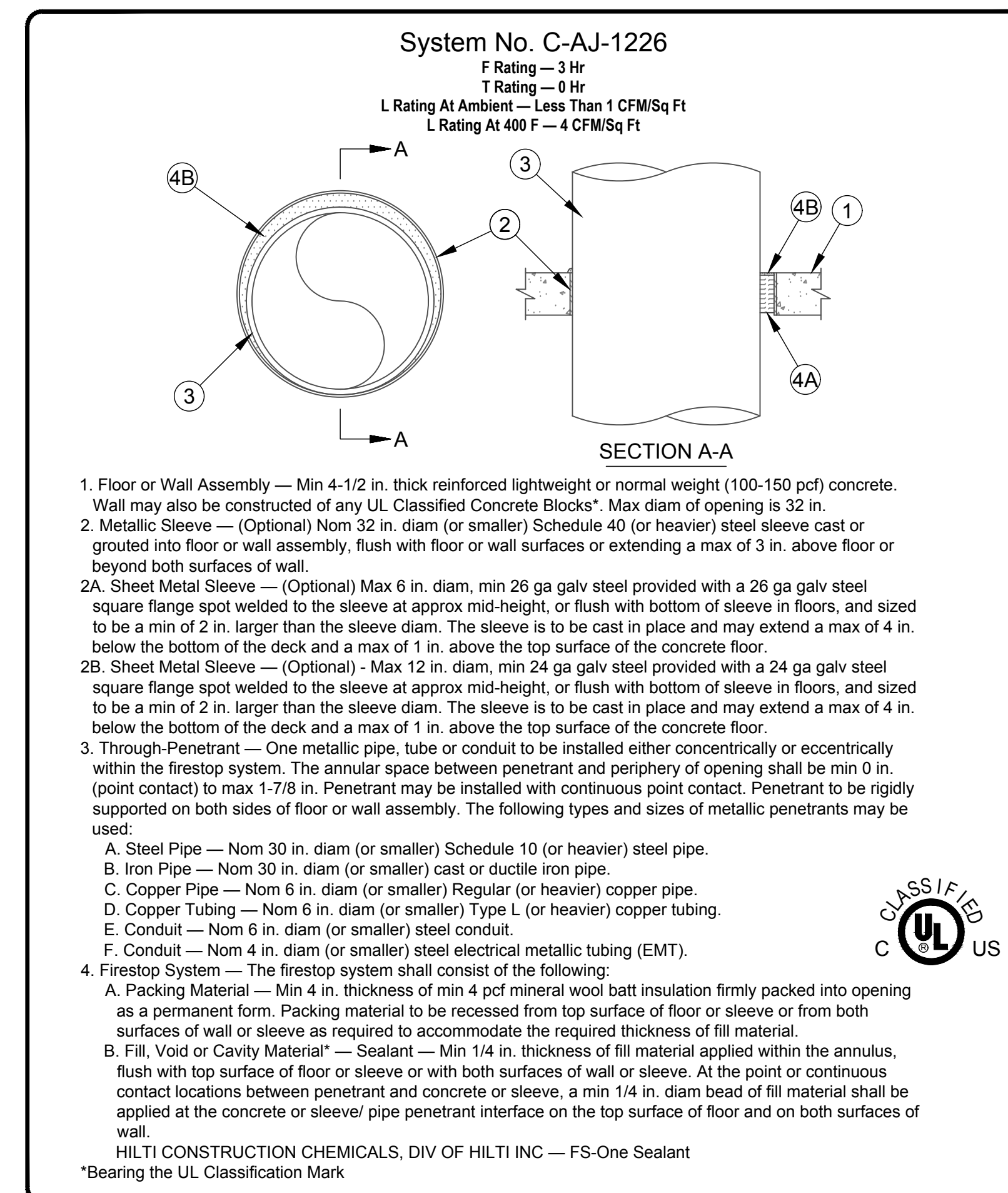
ISSUED: 03.08.24  
 SBC PROJECT #: 364/011-05-2021  
 GMCA PROJECT #: 202113 TDH

REVISED:  
 # DATE DESCRIPTION  
 ADD-004 04-25-24 ADDENDUM #4

MECHANICAL SCHEDULES

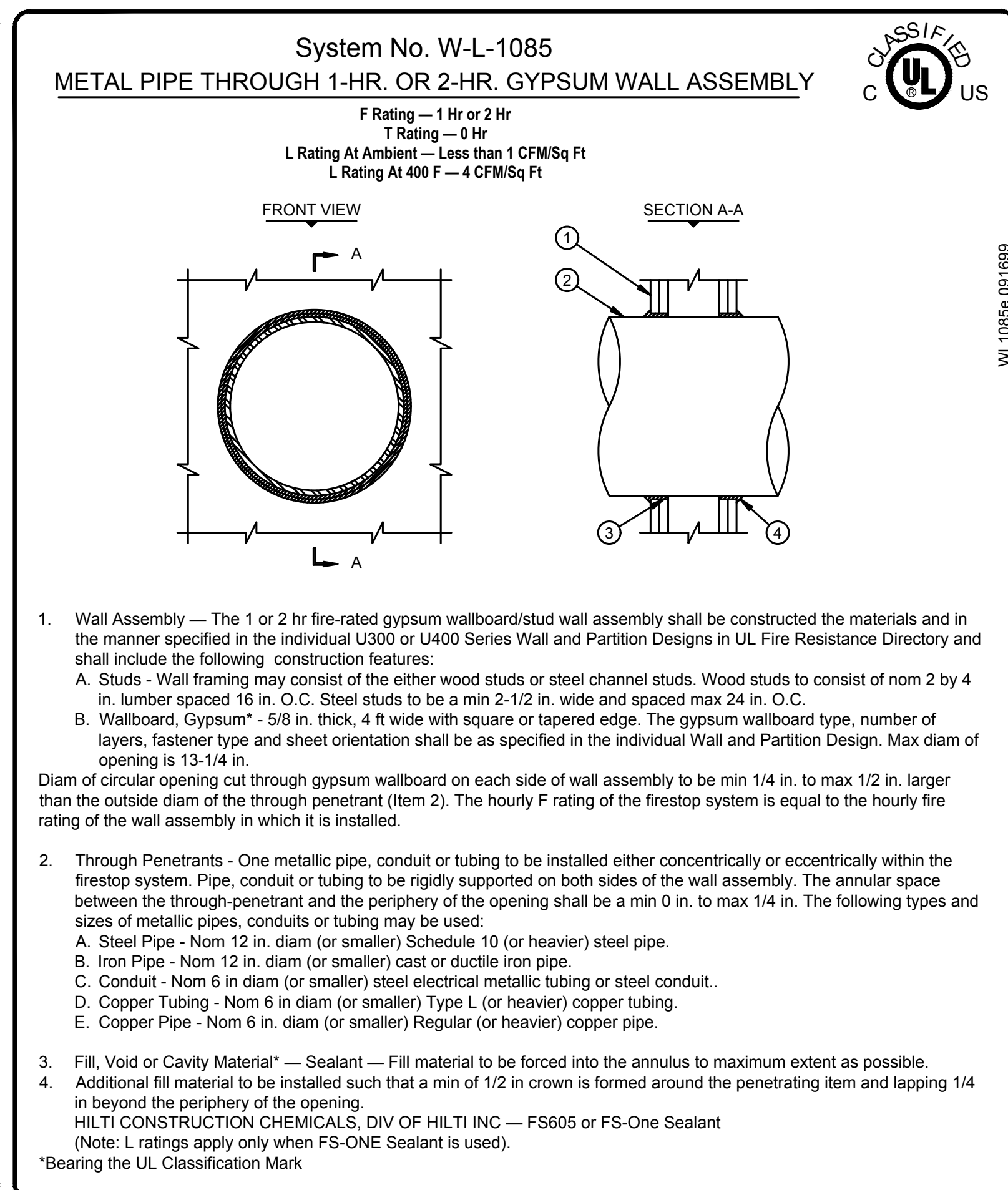
M0.2

GILBERT | M c L A U G H L I N | C A S E L L A  
 architects  
 2005 Kline Avenue, Suite 200, Nashville, TN 37211  
 615.322.9649  
 gilmc.com



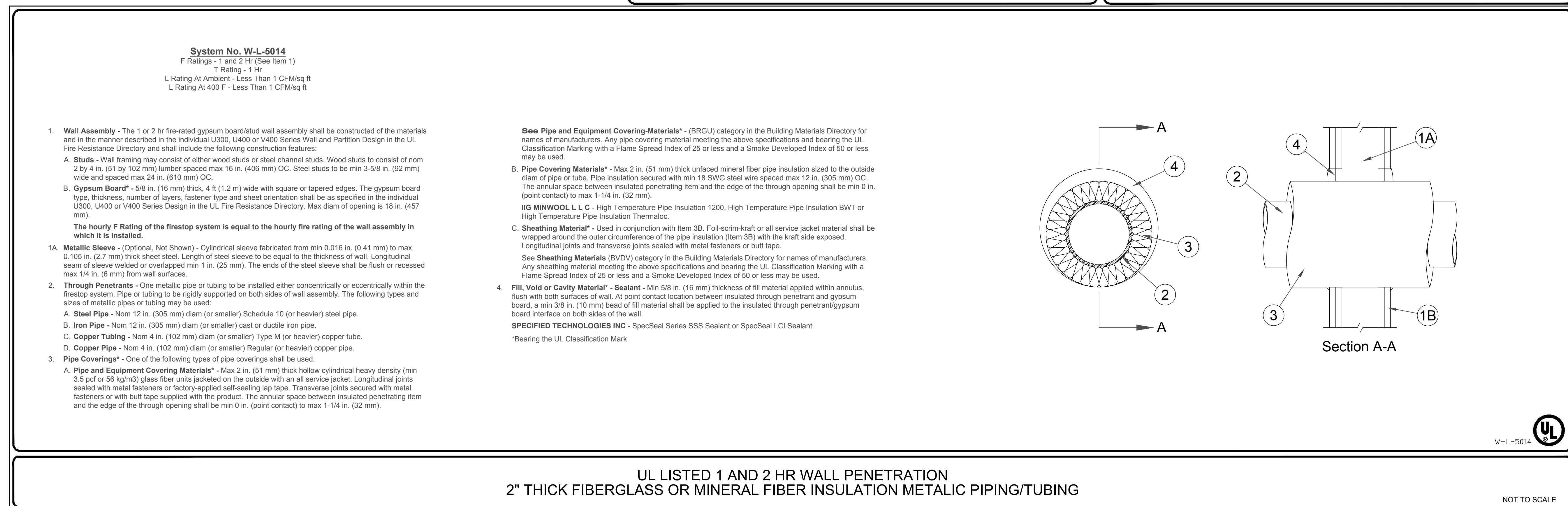
PIPE THRU RATED FLOOR DETAIL

NOT TO SCALE



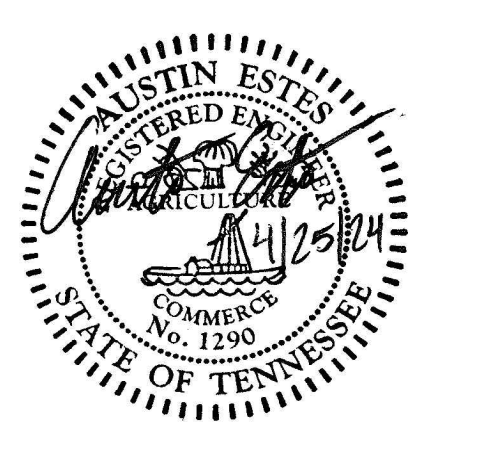
PIPE THRU RATED WALL DETAIL

NOT TO SCALE



UL LISTED 1 AND 2 HR WALL PENETRATION  
 2" THICK FIBERGLASS OR MINERAL FIBER INSULATION METALIC PIPING/TUBING

NOT TO SCALE



ISSUED: 04.25.24  
 SBC PROJECT #: 364/011-05-2021  
 GMCA PROJECT #: 202113 TDH

REVISED:		
#	DATE	DESCRIPTION
ADD-004	04.25.24	ADDENDUM #4

MECHANICAL DETAILS

ADD-04

M3.3

A/S SYSTEM NOTES:

- PROVIDE COMPLETE A/S SYSTEM COVERAGE FOR ALL AREAS INDICATED ON PLANS AS PER THE REQUIREMENTS OF N.F.P.A. 13 2010 EDITION. AREAS OUTSIDE OF SCOPE OF WORK ARE TO BE PROVIDED WITH FULL SPRINKLER COVERAGE IN A FUTURE PHASE.
- SPRINKLER OCCUPANCY CLASSIFICATION AS FOLLOWS:
  - LIGHT HAZARD FOR COMMON AREAS, OFFICE AREAS, AND RESTROOMS.
  - ORDINARY HAZARD 1 FOR SHELL AREAS.
  - ORDINARY HAZARD 2 FOR MECH. ROOMS, ELEC. ROOMS, AND LIKE AREAS.
- PROVIDE QUICK/STANDARD RESPONSE SPRINKLERS THROUGHOUT BUILDING AS INDICATED BELOW:
  - STANDARD SPRAY QUICK RESPONSE CHROME SEMI-REC. PENDENTS IN LIGHT HAZARD OCCUPANCY AREAS WITH ACOUSTICAL TILE CEILINGS.
  - STANDARD SPRAY QUICK RESPONSE CHROME SEMI-REC. PENDENTS IN LIGHT HAZARD OCCUPANCY AREAS WITH GYP. BOARD CEILINGS.
  - STANDARD SPRAY STANDARD RESPONSE BRASS UPRIGHT IN ORDINARY HAZARD AREAS WITH EXPOSED CEILINGS.
- DO NOT ROUTE SPRINKLER FEED BULK MAIN OR CROSS MAIN ABOVE ELECT. ROOMS OR DIRECTLY OVER ELECTRICAL PANELS
- SPRINKLER PIPING TO BE AS FOLLOWS:
  - THREADED PIPE TO BE SCH. 40 BLACK STEEL PIPE W/ SCREWED FITTINGS.
  - GROOVED PIPE TO BE SCH. 10 BLACK STEEL PIPE W/ GROOVED FITTINGS.
- SYSTEMS HAVING MORE THAN 20 SPRINKLERS OR HAVING A FIRE DEPARTMENT CONNECTION SHALL PASS A HYDROSTATIC PRESSURE TEST PERFORMED FOR THE ABOVEGROUND PIPING SYSTEM IN ACCORDANCE WITH NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS.
- PER NFPA 13, A SUPPLY OF AT LEAST SIX SPRINKLERS CORRESPONDING TO THOSE INSTALLED ON THE PROPERTY SHALL BE MAINTAINED ON THE PREMISES. A SPECIAL SPRINKLER WRENCH SHALL ALSO BE PROVIDED FOR EACH TYPE OF SPRINKLER INSTALLED AND KEPT IN THE SPARE HEAD CABINET.
- ALL PIPING MUST HAVE ADEQUATE HEAT AND/OR INSULATION TO PREVENT PIPE FREEZING. PER NFPA 13: 8.16.4.1.3, PIPING TO BE MAINTAINED BETWEEN A MINIMUM OF 40" TO A MAXIMUM OF 120" AT ALL TIMES.
- ALL MATERIAL TO BE UL LISTED.
- PROVIDE INTERMEDIATE OR HIGH TEMP HEADS AT ALL AREAS WHERE WHERE REQUIRED PER NFPA 13.
- ALL VALVES AND DEVICES MUST BE ACCESSIBLE FOR OPERATION, INSPECTION, AND MAINTENANCE PER NFPA 13: 8.1.2.
- PER IBC 903.4, A/S SYSTEM IS TO BE SUPERVISED IN ACCORDANCE WITH NFPA 72: 5.10.2 AND NFPA 13: 6.9.1. COORDINATE WIRING AND ALARM CONNECTIONS WITH APPROPRIATE TRADE AND GC.
- ALL SPRINKLER PIPING AND FITTINGS SHALL BE INSTALLED SO THAT THE SYSTEM CAN BE DRAINED PER NFPA 13: 8.16.2.

A/S SYSTEM INFORMATION:

GENERAL INFORMATION:  
TTU DERRYBERRY HALL  
COOKEVILLE, TN

SEISMIC DESIGN CATEGORY: C

BUILDING HAZARD CLASSIFICATION:  
LIGHT HAZARD OCCUPANCY  
W/ AREAS OF ORDINARY HAZARD 1 & 2 OCCUPANCY

TYPE OF A/S SYSTEM:  
WET PIPE SPRINKLER SYSTEM

TOTAL AREA TO BE SPRINKLERED  
TOTAL LEVEL 2 - 6,715 SQFT  
TOTAL LEVEL 3 - 6,690 SQFT

NUMBER OF SPRINKLER RISERS REQUIRED:  
0 NEW WET RISERS

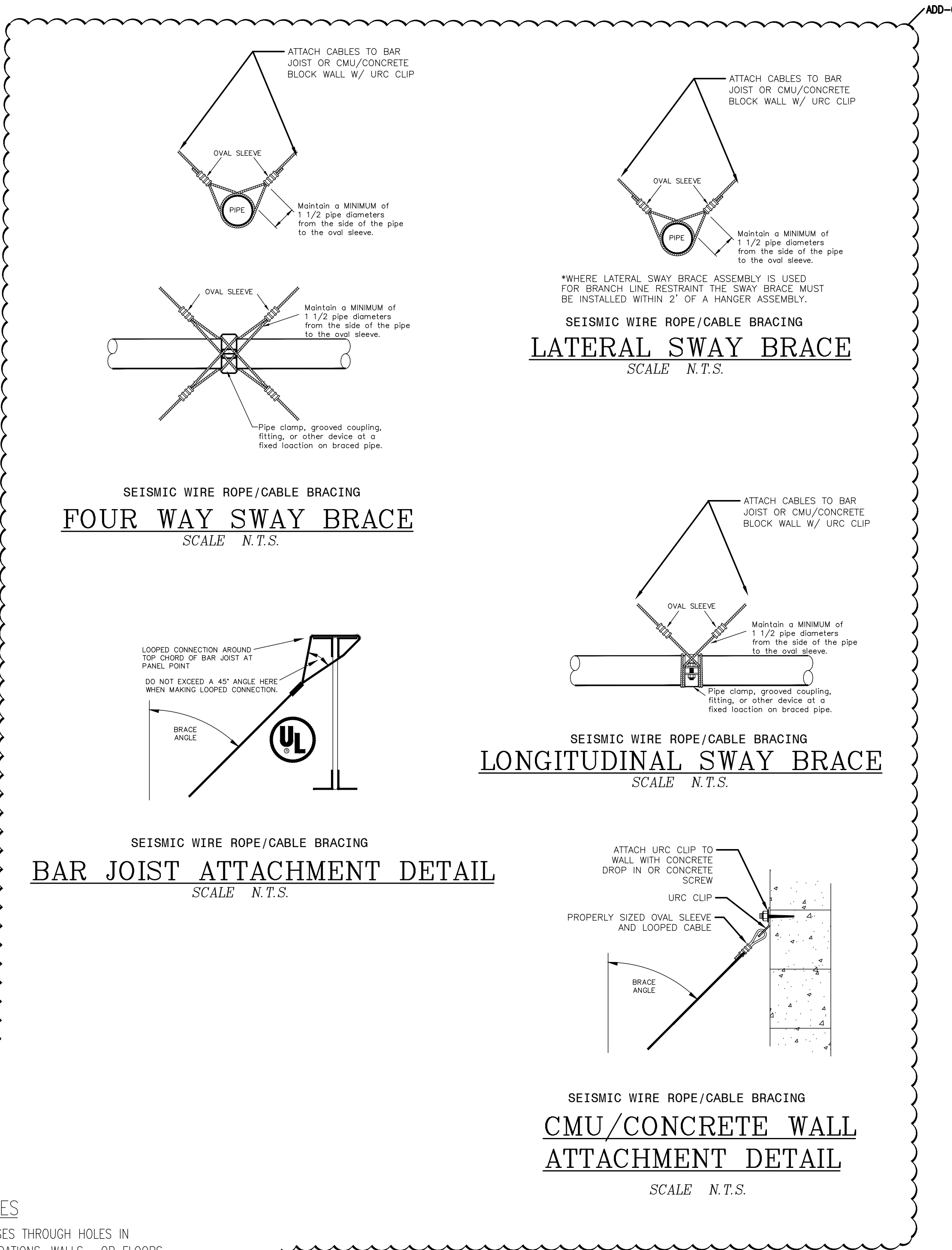
NUMBER & CLASS OF STANDPIPES REQUIRED:  
0 STANDPIPE SYSTEMS REQUIRED

ESTIMATED WATER DEMAND REQUIRED:  
FOR LIGHT HAZARD AREAS, THE SYSTEM SHALL PROVIDE AT LEAST THE FLOW REQUIRED TO PRODUCE A MINIMUM DISCHARGE DENSITY OF 0.10 GPM/SQ. FT OVER 1500 SQ. FT. THE DESIGN AREA IS TO BE CALCULATED AT THE HYDRAULICALLY MOST REMOTE AREA OF THE SYSTEM. A 100 GPM HOSE ALLOWANCE IS TO BE ADDED TO THE TOTAL DEMAND PER NFPA 13.

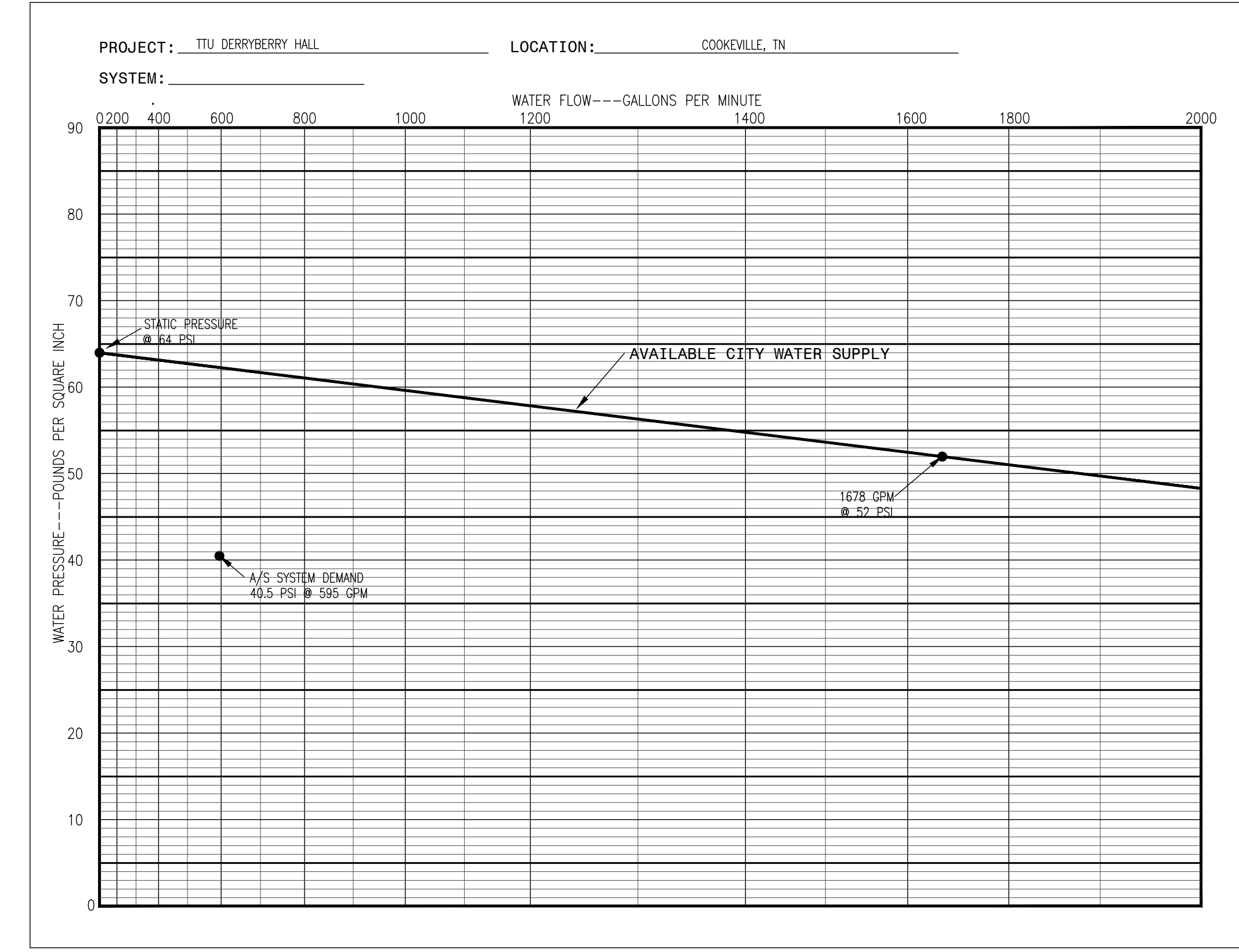
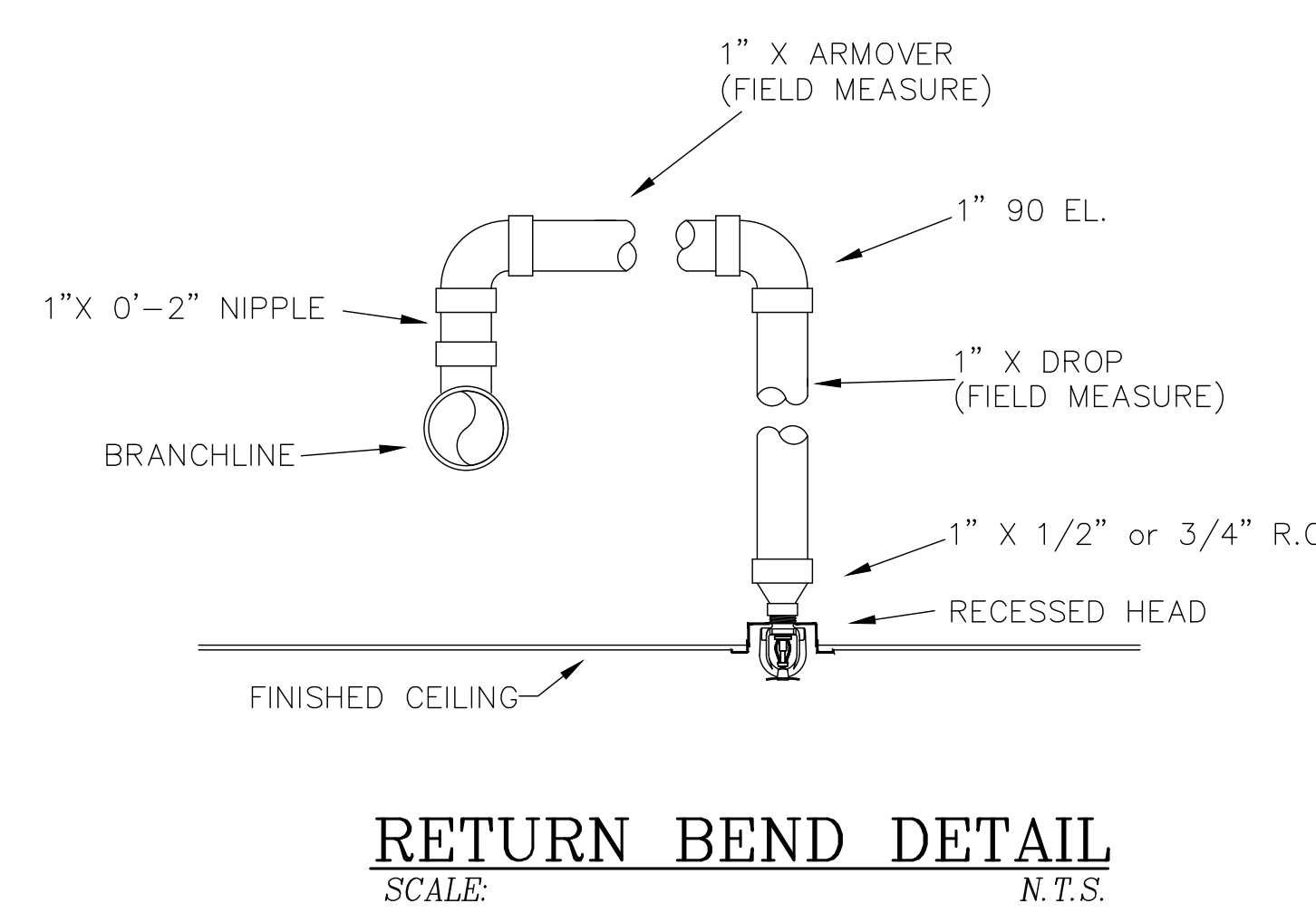
FOR ORDINARY HAZARD GRP 1 AREAS, THE SYSTEM SHALL PROVIDE AT LEAST THE FLOW REQUIRED TO PRODUCE A MINIMUM DISCHARGE DENSITY OF 0.15 GPM/SQ. FT OVER 1500 SQ. FT. THE DESIGN AREA IS TO BE CALCULATED AT THE HYDRAULICALLY MOST REMOTE AREA OF THE SYSTEM. A 250 GPM HOSE ALLOWANCE IS TO BE ADDED TO THE TOTAL DEMAND PER NFPA 13.

FOR ORDINARY HAZARD GRP 2 AREAS, THE SYSTEM SHALL PROVIDE AT LEAST THE FLOW REQUIRED TO PRODUCE A MINIMUM DISCHARGE DENSITY OF 0.2 GPM/SQ. FT OVER 1500 SQ. FT. THE DESIGN AREA IS TO BE CALCULATED AT THE HYDRAULICALLY MOST REMOTE AREA OF THE SYSTEM. A 250 GPM HOSE ALLOWANCE IS TO BE ADDED TO THE TOTAL DEMAND PER NFPA 13.

SPRINKLER LEGEND							
SYMBOL	NAME	METAL	TEMP	K	NPT	ESCUIT	MAX SPACING
○	SSU	BRASS	200°	5.6	1/2"	N/A	225 SQ. FT.
⊙	CSSP	WHITE	150°	5.6	1/2"	CONCEALED	225 SQ. FT.
⊖	SSP	WHITE	150°	5.6	1/2"	SEMI-REC.	225 SQ. FT.



- SEISMIC NOTES**
- WHERE PIPE PASSES THROUGH HOLES IN PLATFORMS, FOUNDATIONS, WALLS, OR FLOORS THE HOLES SHALL BE SIZED SUCH THAT THE DIAMETER OF THE HOLES IS 2" LARGER THAN THE PIPE. NON-RATED FIRE WALLS CONSTRUCTED OF GYPSUM BOARD NEED NOT BE SLEEVED OR OR HAVE THE ABOVE MENTIONED CLEARANCE. REQUIRED PIPE SLEEVES TO BE A NOMINAL 2 INCHES LARGER THAN PIPING BEING SLEEVED.
  - CLEARANCE PER NOTE #1 IS NOT REQUIRED IF FLEXIBLE COUPLINGS ARE LOCATED WITHIN 1' OF EACH SIDE OF A WALL, FLOOR, PLATFORM, OR FOUNDATION.
  - TOPS OF RISERS SHALL BE SECURED AGAINST DRIFTING IN ANY DIRECTION, UTILIZING A FOUR-WAY SWAY BRACE
  - LATERAL SWAY BRACING SHALL BE SPACED 40' MAX ON CENTER, LONGITUDINAL BRACING SHALL BE SPACED 80' MAX ON CENTER
  - ALL COUPLINGS MARKED TO BE FLEXIBLE TYPE COUPLINGS, ALL OTHER COUPLINGS U.N.O. ARE TO BE RIGID TYPE.
  - NO SWAY BRACING REQUIRED WHEN HANGER RODS ARE 6" OR LESS
  - BRANCH LINE RESTRAINTS ARE TO BE LOCATED WITHIN 2 FT OF A HANGER ASSEMBLY. THIS HANGER ASSEMBLY TO HAVE A SURGE CLIP TO RESIST UPWARD MOVEMENT.
  - THE END SPRINKLER ON A LINE IS TO BE RESTRAINED WITH A HANGER ASSEMBLY THAT INCORPORATES A SURGE CLIP.



**FLOW TEST**

STATIC:	64 PSI
RESIDUAL:	52 PSI
FLOW (GPM):	1,678
ELEVATION:	5'
BY:	BRANDON LEE
DATE:	10/12/2023
TIME:	11:20
LOCATION:	#2934 WILLIAM L. JONES / QUADRANGLE

\*IT IS THE FIRE SPRINKLER CONTRACTOR'S RESPONSIBILITY TO HAVE AN UPDATED FLOW TEST PERFORMED FOR USE IN HYDRAULIC CALCULATIONS.

ESTIMATED WATER DEMAND REQUIRED:  
LIGHT HAZARD = 20 GPM/1500 SQ. FT.  
REQUIRED DURATION (LIGHT HAZARD) = 30 MINUTES  
AREA CALCULATED (SEE PLANS)=(STAGE)  
1,500 SQ.FT x .20 GPM x 1.15= 345 GPM  
345 GPM+ 250 GPM HOSE ALLOWANCE= 595 GPM DEMAND  
ELEVATION DIFFERENCE BETWEEN TOP OF SPRINKLER SYSTEM AND BASE OF RISER= APPROX. 40 FT  
40 FT x .433= 17.5 PSI + 7 PSI AT SPRINKLER HEAD= 24.5 PSI ELEVATION LOSS & END HEAD PRESSURE LOSS  
ELEVATION OF TEST HYDRANT IS x 5 FT ABOVE F.F.E.  
5 x .433= 2 PSI GAIN DUE TO ELEVATION  
22.5 PSI TOTAL LOSS (ELEVATION AND END HEAD PRESSURE LOSS)

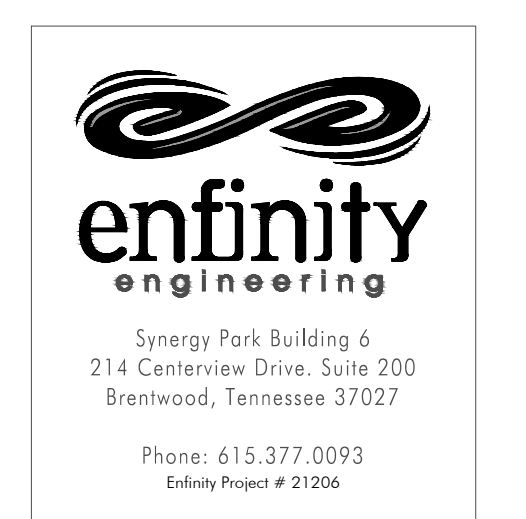
FLOW LOSSES:  
4 PSI/100 FT IN PIPING (INSIDE BUILDING)  
250 FT x 1.15 (PIPE FITTING FACTOR) x 4 PSI/100= 11.5 PSI  
.25 PSI/100 FT IN PIPING (PIPING OUTSIDE BUILDING) (UNDERGROUND PIPING IS EXISTING)  
200 FT x 1.15 x .25 PSI/100= 0.5 PSI  
4 PSI LOSS AT FIRE LINE D.C.V.A.  
2 PSI LOSS AT FIRE METER  
11.5 + 0.5 + 4 + 2 = 18 PSI FLOW LOSSES (DUE TO FRICTION)

TOTAL LOSSES:  
22.5 PSI (ELEVATION LOSS) + 18 PSI (FLOW LOSS)= 40.5 PSI REQUIRED AT TEST HYDRANT AT 595 GPM  
63 PSI AVAILABLE AT 595 GPM  
63 PSI - 40.5 PSI = 22.5 PSI SAFETY MARGIN

FIRE PROTECTION SHEET INDEX	
SHEET NUMBER	SHEET TITLE
FP-1	FIRE PROTECTION NOTES
FP-1.2	FIRE PROTECTION SECOND FLOOR PLAN
FP-1.3	FIRE PROTECTION THIRD FLOOR PLAN

THE WORK SHOWN ON THIS DRAWING IS SCHEMATIC IN NATURE. MATERIAL/LABOR REQUIRED ABOVE AND BEYOND WHAT IS SHOWN WILL BE THE RESPONSIBILITY OF THE AWARDED FIRE SPRINKLER SUBCONTRACTOR. FAILURE TO MAKE SITE VISIT PRIOR TO QUOTING THIS WORK WILL NOT BE GROUNDS FOR A CHANGE ORDER, IF ADDITIONAL MATERIAL/LABOR IS REQUIRED.

TENNESSEE TECH UNIVERSITY  
DERRYBERRY HALL  
BUILDING UPGRADES - PHASE I  
1 WILLIAM L. JONES DRIVE  
COOKEVILLE, TN 38505



ISSUED: 03.08.24  
SBC PROJECT #: 364/011-05-2021  
GMCA PROJECT #: 202113 TDH

REVISED:	DATE	DESCRIPTION
#	04-25-24	ADDENDUM #4

FIRE PROTECTION NOTES