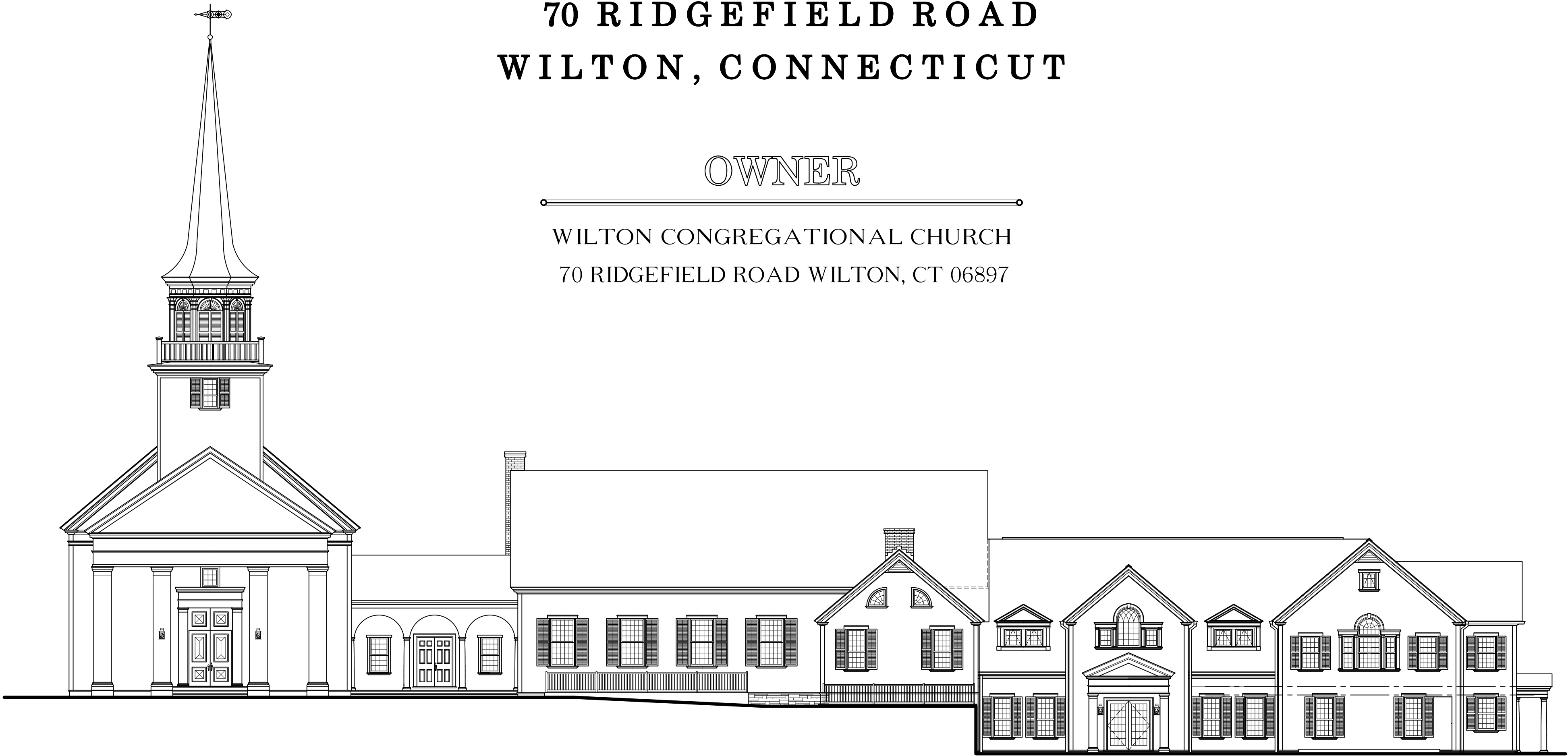


WILTON CONGREGATIONAL CHURCH  
GENERATOR INSTALLATION

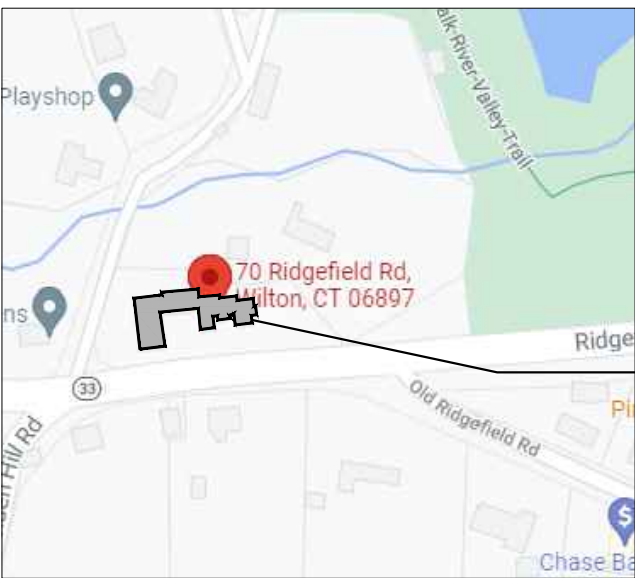
70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

OWNER

WILTON CONGREGATIONAL CHURCH  
70 RIDGEFIELD ROAD WILTON, CT 06897



LOCATION



WILTON  
CONGREGATIONAL  
CHURCH

DRAWING LIST

COVER		STRUCTURAL	
ARCHITECTURAL		S-001	STRUCTURAL NOTES
		S-100	PLAN & DETAILS
		MECHANICAL	
SPI	SITE PLAN	M01	MECHANICAL COVER SHEET
R10	GENERAL NOTES, CODE INFORMATION	M10	MECHANICAL LOWER LEVEL PLANS
R20	ACOUSTIC REPORT & SPECIFICATIONS	M11	MECHANICAL FIRST FLOOR - PART. PLANS
R21	ACOUSTIC REPORT & SPECIFICATIONS	M21	MECHANICAL DETAILS & SCHEDULES
R22	ACOUSTIC REPORT & SPECIFICATIONS	M31	MECHANICAL SPECIFICATIONS
R23	ACOUSTIC REPORT & SPECIFICATIONS	M32	MECHANICAL SPECIFICATIONS
LS10	LIFE SAFETY PLAN	M33	MECHANICAL SPECIFICATIONS
D10	DEMOLITION - PARTIAL LOWER LEVEL PLAN	ELECTRICAL	
D11	DEMOLITION - PARTIAL FIRST FLOOR PLAN	E01	ELECTRICAL COVER SHEET
D20	DEMOLITION - NORTH ELEVATION	E02	ELECTRICAL DETAILS
A10	PARTIAL LOWER LEVEL PLAN	E010B	ELECTRICAL LOWER LEVEL DEMOLITION PART. PLAN
A11	PARTIAL FIRST FLOOR PLAN	E10B	ELECTRICAL LOWER LEVEL POWER PART. PLAN
A20	PARTIAL LOWER LEVEL REFLECTED CEILING PLAN	E20B	ELECTRICAL LOWER LEVEL LIGHTING PART. PLAN
A30	EXTERIOR ELEVATION - NORTH	E31	ELECTRICAL RISER DIAGRAMS
A31	SECTIONS	E41	ELECTRICAL DETAILS
A31	SECTION	E51	ELECTRICAL SPECIFICATIONS
		E52	ELECTRICAL SPECIFICATIONS
		E53	ELECTRICAL SPECIFICATIONS
		E54	ELECTRICAL SPECIFICATIONS
		E55	ELECTRICAL SPECIFICATIONS

ARCHITECT

PAUL B. BAILEY  
• ARCHITECT •  
110 AUDUBON STREET  
NEW HAVEN, CONNECTICUT 06510  
203 • 776 • 8888

DATE : 04/22/2022 PERMIT SET

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**Stantec**  
30 OAK STREET  
STAMFORD, CT 06905  
203-352-1717 FAX 203-352-1718  
PROJECT NUMBER 223030790

PROJECT:  
**WILTON  
CONGREGATIONAL  
CHURCH**  
**70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT**

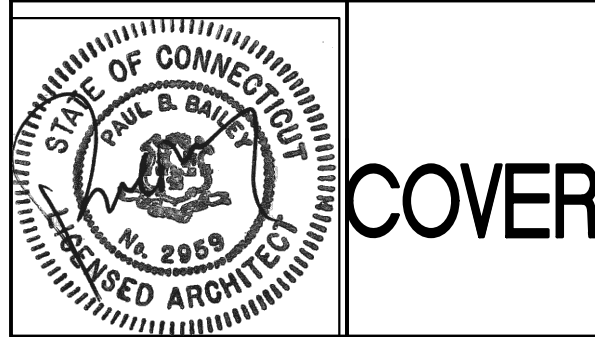
ISSUE	DATE	DESCRIPTION
	11/19/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:  
**PERMIT SET**

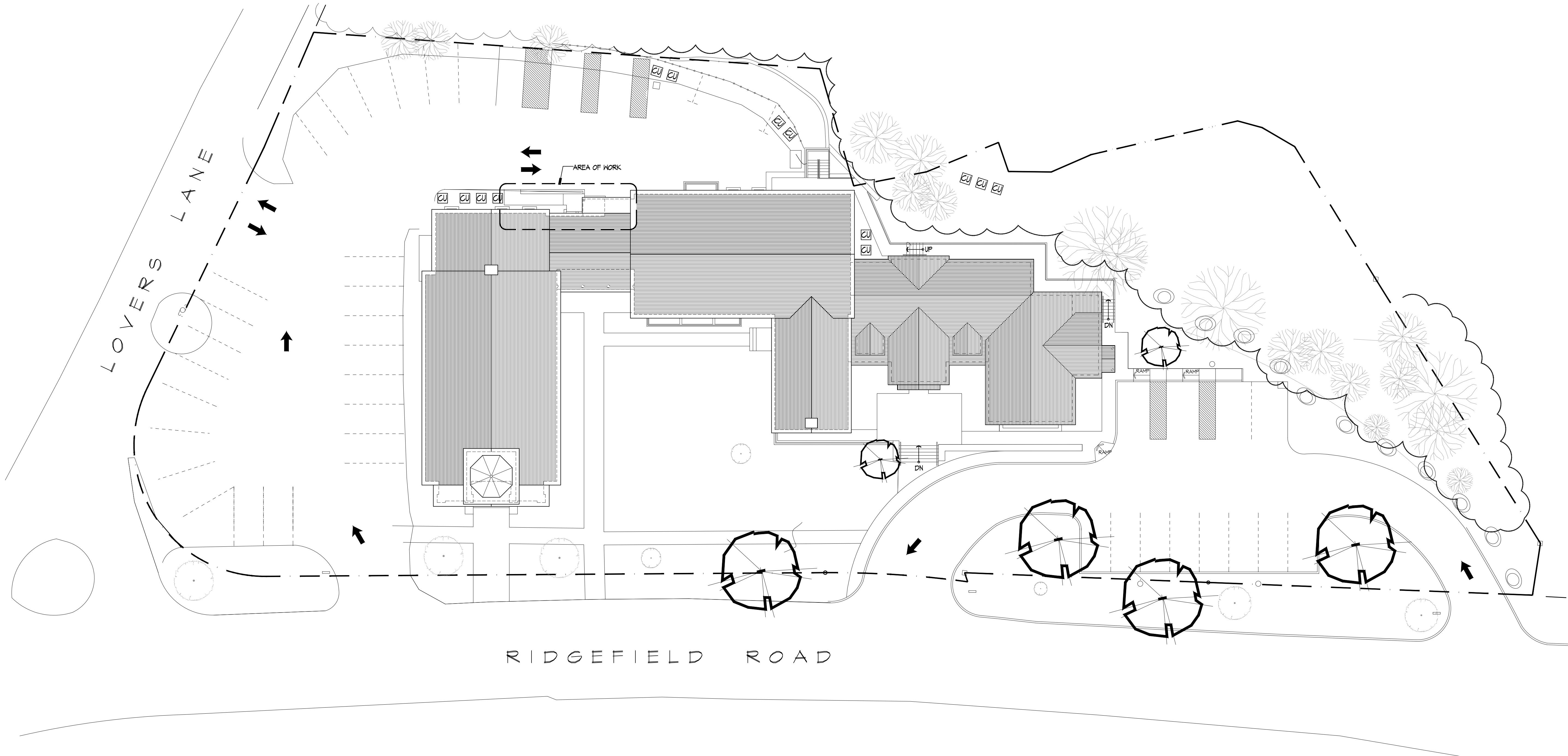
PAUL B. BAILEY  
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110 AUDUBON STREET  
NEW HAVEN, CONNECTICUT 06510  
203 • 776 • 8888 F 203 • 772 • 1365

DATE: 10/15/2021 DRAWN BY:  
SCALE: AS NOTED CHECKED BY: SO  
JOB NO: 21-045

DRAWING NAME:  
**COVER**



F:\Proj\2021\21-045 Wilton Church Generator Enclosure\DWG\21-045 SPI\1 WILTON CHURCH SITE PLAN.dwg, 4/27/2022



1 ARCHITECTURAL SITE PLAN  
SPI.1 1/16"=1'-0"

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**Stantec**  
30 OAK STREET  
STAMFORD, CT 06905  
203-352-1717 FAX 203-352-1718  
PROJECT NUMBER: 223030790

PROJECT:  
**WILTON  
CONGREGATIONAL  
CHURCH**  
70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:  
**PERMIT SET**

PAUL B. BAILEY  
• ARCHITECT •  
110 AUDUBON STREET  
NEW HAVEN, CONNECTICUT 06510  
203 • 776 • 8888 F 203 • 772 • 1365

DATE: 10/15/2021	DRAWN BY:
SCALE: AS NOTED	CHECKED BY: SO
JOB NO: 21-045	

DRAWING NAME:  
**SITE PLAN**



SP1.1



F:\Proj 2021\21-045 Wilton Church General Enclosure\DWGS\21-045 R1.0 WILTON CHURCH REFERENCE SHEET.dwg 4/21/2022

## ABBREVIATIONS

AREA OF REFUGE	A.O.R.
ABOVE FINISHED FLOOR	A.F.F.
ALUMINUM	ALUM.
AIR CONDITIONING	A/C
AVERAGE	AVG.
BEAM	BM
BOARD	BRD.
BOTTOM	BTM.
BOTTOM OF FOOTING	B.O.F.
BUILDING	BLDG.
CEILING	CLG.
CENTER LINE	C.
CENTIMETER	CM
CERAMIC TILE	C.T.
COLD WATER	C.W.
COLUMN	COL.
CONTROL JOINT	C.J.
CONCRETE	CONC.
CONCRETE MASONRY UNIT	C.M.U.
CONSTRUCTION	CONSTR.
CONTINUOUS	CONT.
DEEP OR DEPTH	D
DEMOLITION	DEMO
DETAIL	DET.
DIAMETER	Ø OR DIA.
DIMENSION	DIM.
DOWN	D
DRAWING	DWG.
DRINKING FOUNTAIN	D.F.
EACH	EAC.
ELECTRIC	ELEC.
ELECTRIC WATER COOLER	E.W.C.
EQUIPMENT	EQUIP.
EXHAUST FAN	E.F.
EXISTING	EXIST.
EXTERIOR	EXT.
FEET	FT. OR (')
FIBERGLASS	F.G.
FLOURESCENT	F.L.
FULL SIZE OR SCALE	F.S.
GALVANIZED	GALV.
GAUGE	GA.
GYPSUM BOARD	GWB.
HARDWOOD	HWD.
HANDICAPPED	HIC OR H.C.
HEIGHT	HT.
HORIZONTAL	HORIZ.
HOT WATER	H.W.
INCH	(') OR IN.
INSULATION	INSUL.
INTERIOR	INT.
LABORATORY	LAV.
LAMINATED VENEER LUMBER	L.V.L.
MANUFACTURER	MFR.
MASONRY OPENING	M.O.
MATERIAL	MATL.
MAXIMUM	MAX.
MEDIUM DENSITY OVERLAY	M.D.O.
MECHANICAL	MECH.
METER	M
MILLIMETER	MIL.
MINIMUM	MIN.
MISCELLANEOUS	MISC.
MOISTURE RESISTANT	MR
MOUNTED	MTD.
NOMINAL	NOM.
NOT IN CONTRACT	N.I.C.
NOT TO SCALE	N.T.S.
ON CENTER	O.C.
OUTSIDE DIAMETER	O.D.
OPENING	ORNG.
PARTITION	PARTN.
PLASTIC LAMINATE	PL. LAM.
PLYWOOD	PLYND.
QUARRY TILE	Q.T.
RAIN WATER LEADER	R.W.L.
REFERENCE	REF.
REINFORCE	REINF.
REQUIRED	REQ'D
RISER	R
ROOM	RM.
ROUGH OPENING	R.O.
SANITARY	SAN.
SHEET	SHT.
SIMILAR	SIM.
SPECIFICATIONS	SPECS.
SQUARE EDGE	S.E.
SQUARE FEET	S.F.
SQUARE INCHES	S.I.
SQUARE YARD	S.Y.
STAINLESS STEEL	S.S.
STANDARD	STD.
STEEL	STL.
STRUCTURAL	STRUCT.
SUSPENDED	SUSP.
SYSTEM	SYS.
TELEPHONE	TEL.
TEMPORARY	TEMP.
THICKNESS OR THICK	TH.
THRESHOLD	THRESH.
TONGUE & GROOVE	T&G
TOP OF	T.O.
TOP OF CONCRETE	T.O.C.
TOP OF SUBFLOOR	T.O.S.
TREAD	T
TYPICAL	TYP.
VAPOR BARRIER	V.B.
VENT THROUGH ROOF	V.T.R.
VERIFY IN THE FIELD	V.I.F.
VERTICAL	VERT.
VINYL COMPOSITION TILE	V.C.T.
WATER CLOSET	W.C.
WEIGHT	WT.
WELDED WIRE FABRIC	W.W.F.
WIDTH OR WIDE	W.
WITH	W/
WITHOUT	W/O

## MATERIAL SYMBOLS

EXISTING WALL CONST.  
TO REMAIN - PLANS



CONCRETE IN SECTION



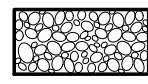
BRICK IN SECTION



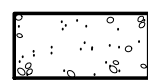
CONCRETE MASONRY UNIT  
(C.M.U.) IN SECTION



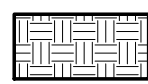
CRUSHED GRAVEL FILL  
IN SECTION



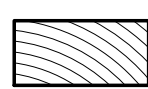
COMPACTED BACKFILL  
IN SECTION



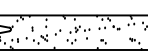
UNDISTURBED SOIL  
IN SECTION



FINISH WOOD TRIM  
IN SECTION



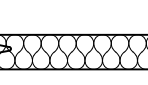
GYPSUM BOARD IN SECTION



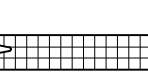
PLYWOOD IN SECTION



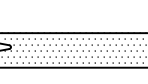
BATT INSULATION IN  
SECTION



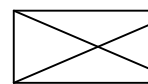
RIGID INSULATION BOARD  
IN SECTION



SPRAYFOAM INSULATION  
IN SECTION



NOMINAL LUMBER  
IN SECTION

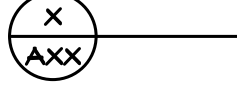


BLOCKING IN SECTION



## CONSTRUCTION SYMBOLS

DETAIL SECTION  
TAG - CUT



DETAIL SECTION  
TAG - BUBBLE



BUILDING SECTION  
TAG



WINDOW TAG - SEE  
WINDOW SCHEDULE



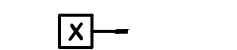
DOOR TAG - SEE  
DOOR SCHEDULE



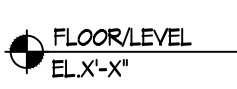
REVISION CLOUD  
AND TAG



WALL TYPE TAG



FLOOR/LEVEL  
ELEVATION TAG



INTERIOR ELEVATION  
TAG



HANDICAPPED SYMBOL



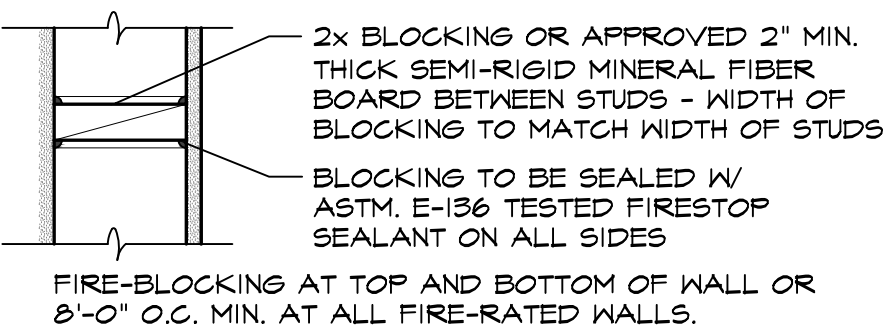
## GENERAL NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL STATE, LOCAL AND FEDERAL REGULATIONS.
  2. CONTRACTOR SHALL PROTECT ALL EXISTING TREES AND SHRUBS SCHEDULED TO REMAIN, & SHALL PROTECT EXISTING ADJACENT BUILDINGS.
  3. CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS.
  4. NO CONSTRUCTION MATERIALS SHALL BE STORED WITHIN THE DRIP LINE OF EXISTING TREES.
  5. DO NOT SCALE DRAWINGS. ALL DIMENSIONS ARE GIVEN FROM FACE OF FRAMING TO FACE OF FRAMING UNLESS OTHERWISE INDICATED.
  6. PROVIDE CEILING WOOD BLOCKING (FIRE RETARDANT IN RATED LOCATIONS) FOR WALL AND CEILING MOUNTED ITEMS.
  7. ALL WALLS WITH INSULATION (ACOUSTIC OR THERMAL) TO EXTEND TO UNDERSIDE OF SHEATHING OR SOLID FRAMING ABOVE AND ALL JOINTS AND SEAMS SHALL BE SEALED.
  8. FOR RATED ASSEMBLIES, CONSTRUCTION MUST CONFORM TO SPECIFIC U.L. DESIGN OR GYPSUM ASSOCIATION ASSEMBLIES.
  9. ALL RATED WALLS SHALL EXTEND TO UNDERSIDE OF SHEATHING ABOVE AND SHALL BE SEALED WITH FIRE SAFE CAULK. ALL JOINTS, SEAMS AND PENETRATIONS TO BE FIRE-CAULKED WITH 4800 CO/DW FIRESTOP SEALANT.
  10. ALL WALLS AROUND PIPE & DUCT CHASES TO BE FIRE RATED.
  11. CUT AND PATCH ALL OPENINGS REQUIRED FOR NEW ELECTRICAL, PLUMBING AND HVAC WORK WHETHER SHOWN ON THIS PLAN OR NOT.
  12. FILL SOLID ANY OPENINGS OR PENETRATIONS IN WALL, CEILING, & FLOOR SURFACES WITHIN THE CONTRACT AREA WITH EQUIVALENT MATERIAL & THICKNESS OF THE ADJACENT SURROUND SURFACE, WHETHER EXPOSED OR NOT.
  13. ALL GYPSUM WALL BOARD ON EXTERIOR WALLS ARE TO RECEIVE A VAPOR RETARDER IN PAINT OR PRIMER.
  14. GYPSUM BOARD TO BE MOLD RESISTANT IN ALL TOILET ROOMS & AT BACK WALLS OF ALL KITCHENS & LAUNDRY ROOMS. GYPSUM BOARD TO BE FIRE CODE AT ALL RATED CONDITIONS. WHEN A RATED WALL OCCURS AT A TOILET ROOM, ETC., USE FIRE CODE, MOLD RESISTANT GYPSUM BOARD. 5/8" TYPE C GYPSUM WALL BOARD MUST EXTEND BEHIND BATHUB ENCLOSURES AT ALL RATED CONDITIONS.
  15. INSTALL FIRE BLOCKING AS REQUIRED PER STATE OF CONNECTICUT BUILDING CODE SECTION 102.1.6. IN CONCEALED SPACES OF ALL NEW CONSTRUCTION AND AT PENETRATIONS MADE BY ELECTRICAL, MECHANICAL AND PLUMBING SYSTEMS.
  16. REFER TO STRUCTURAL DRAWINGS FOR LOCATION OF SHEAR WALLS WHICH REQUIRE ADDITIONAL LAYERS OF PLYWOOD.
- FRAMING, BLOCKING & FURRING**
17. G.C. SHALL PROVIDE & INSTALL FRAMING, BLOCKING, FURRING, AND FINISH MATERIAL AS REQUIRED FOR SOFFITS, CEILINGS, AND CEILING GLOBS SHOWN ON DRAWINGS AS REQUIRED TO ENCLOSE MATERIALS AND EQUIPMENT FOR DIVISION 15 AND 16 WORK.
  18. G.C. SHALL PROVIDE & INSTALL FRAMING, BLOCKING, FURRING & FINISH MATERIAL FOR SHAFTS & FURRED OUT WALLS SHOWN AS REQUIRED TO ENCLOSE MATERIALS AND EQUIPMENT FOR DIVISION 15 & 16 WORK.
- HANGING & MOUNTING FOR DIVISION 15 & 16 WORK**
19. G.C. AND/OR SUBCONTRACTOR TO PROVIDE & INSTALL FRAMING, BLOCKING, FURRING, HANGERS, AND STRAPS AS REQUIRED FOR PIPING, DUCTS, RACETRAYS & EQUIPMENT SHOWN ON DIVISION 15 & 16 DRAWINGS. MOUNTING & ATTACHMENT METHODS TO COMPLY WITH RECOMMENDED DETAILS OF LUMBER/FRAMING MANUFACTURER.

## FIRE BLOCKING & CAULKING

1. PROVIDE FIRE-BLOCKING (AS DEFINED BY BUILDING CODE SECTION 102.1 AND DETAIL BELOW) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING AT THE CEILING, FLOOR AND ROOF LEVELS.
2. PROVIDE FIRE BLOCKING (AS DEFINED BY BUILDING CODE SECTION 102.1) AT ALL INTERCONNECTIONS BETWEEN VERTICAL & HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS OVER CABINETS, DROP CEILINGS, COVE CEILINGS AND SIMILAR LOCATIONS.
3. PROVIDE FIRE BLOCKING (AS DEFINED BY BUILDING CODE SECTION 102.1) IN CONCEALED SPACES BETWEEN STAIRWAY STRINGERS AT THE TOP AND BOTTOM OF THE RUN.
4. ALL PENETRATIONS & RATED ASSEMBLIES TO BE FIRE CAULKED WITH ASTM E-136 TESTED FIRESTOP SEALANT.
5. RATED ASSEMBLIES TO EXTEND TO UNDERSIDE OF FLOOR OR ROOF DECK. JOINTS TO BE FIRE CAULKED WITH ASTM E-136 TESTED FIRESTOP SEALANT.
6. SEE PLUMBING AND MECHANICAL DRAWINGS FOR ADDITIONAL DETAILS ON PENETRATIONS, BLOCKING, AND SEALANT.
7. CAULK ALL WALL PENETRATION OPENINGS AROUND PIPING, SUCH AS SINK DRAIN, HOT AND COLD WATER PIPING AT SINK, TOILET, AND AT ALL FIRE RATED CONSTRUCTION. USE DOW "GREAT STUFF" INSULATION AT ALL NON-RATED CONDITIONS.

### TYP. FIRE BLOCKING DETAIL



## CODE DATA

### SCOPE OF WORK

The scope of work for this project involves the addition of a generator in an existing basement of an existing church building complex. The building is being evaluated as a Level 2 Alteration under chapter 8 of the 2015 International Existing Building Code, as a component of the 2018 CT Building Code.

USE GROUP		EXISTING TO REMAIN: A-3		IBC REF.
CONSTRUCTION TYPE		EXISTING TO REMAIN: TYPE 5B		602.2
HEIGHT & AREA FOR NFPA 13 A-3 USE		REQUIRED	PROVIDED	IBC REF.
HEIGHT LIMIT IN FEET		60	>60 ft existing at steeple	TABLE 504.3
HEIGHT LIMIT IN STORIES ABOVE GRADE PLANE		2	2 stories existing above grade plane	TABLE 504.4
AREA LIMIT		18,000 s.f. per floor	9,995 s.f. largest floor exist'g	TABLE 506.2
FIRE RESISTANCE RATINGS		REQUIRED	PROVIDED	IBC REF.
STRUCTURAL FRAME		0 HR	EXIST'G TO REMAIN	TABLE 601
NON-LOAD-BEAR'G EXT. WALLS > 10' FROM PROP. LINE		0 HR	EXIST'G TO REMAIN	TABLE 602
LOAD-BEAR'G EXT. WALLS		0 HR	EXIST'G TO REMAIN	TABLE 601
LOAD-BEAR'G INT. WALLS		0 HR	EXIST'G TO REMAIN	TABLE 601
NON-LOAD-BEAR'G INT. WALLS		0 HR	0 HR	TABLE 601
FLOOR CONSTRUCTION		0 HR	EXIST'G TO REMAIN	TABLE 601
ROOF CONSTRUCTION		0 HR	EXIST'G TO REMAIN	TABLE 601
FIRE BARRIERS:		REQUIRED	PROVIDED	IBC REF.
EXITS: 3 and 4 STORY STAIRS		3 ST: 1 HR 4 ST: 2 HR	3 ST: 1 HR 4 ST: 2 HR	1023.2
SHAFTS: 3 and 4 STORIES		3 ST: 1 HR 4 ST: 2 HR	3 ST: 1 HR 4 ST: 2 HR	715.4
CORRIDORS: A-3 serving >30		0 HR	0 HR	TABLE 1020.1
SMOKE PARTITIONS		0 HR	0 HR	
FIRE DOORS & SHUTTERS		REQUIRED	PROVIDED	IBC REF.
DOORS @ 1-HOUR FIRE BARRIERS: EXIT ENCLOSURES, SHAFTS & EXIT PASSAGEWAY WALLS		60 MIN	60 MIN	TABLE 716.5
DOORS @ 2-HOUR FIRE BARRIERS: EXIT ENCLOSURES, SHAFTS & EXIT PASSAGEWAY WALLS		90 MIN	90 MIN	TABLE 716.5
MEANS OF EGRESS		REQUIRED	PROVIDED	IBC REF.
PER BUILDING		2 MEANS	MORE THAN 2 MEANS	TABLE 1018.1
ACCESSIBLE EGRESS		1 MEANS	1 MEANS	1007.1
ACCESSIBLE ENTRANCE		50% MIN.	50%	1105.1
PATHS OF TRAVEL		REQUIRED	PROVIDED	IBC REF.
TRAVEL DISTANCE		250' MAX	85' MAX.	TABLE 1017.2
COMMON PATH OF TRAVEL		75' MAX	31' MAX.	TABLE 1006.2
DEAD END CORRIDORS		35' MAX	10'-2" MAX. EXISTING	IEBC 605.6
SPRINKLERS		REQUIRED	PROVIDED	IBC REF.
		NFPA 13	NFPA 13	FIGURE 405.2
STANDPIPE		REQUIRED	PROVIDED	405.3.1 - 405.3.8
FIRE & SMOKE DETECTION		REQUIRED	PROVIDED	IBC REF.
FIRE ALARM		REQUIRED	PROVIDED	907.2.1

## APPLICABLE CODES

- 2018 CONNECTICUT STATE BUILDING CODE, CONSISTING OF:
- 2015 INTERNATIONAL BUILDING CODE (IBC), AS AMENDED BY THE 2018 CONNECTICUT STATE BUILDING CODE
  - 2015 INTERNATIONAL EXISTING BUILDING CODE (IEBC), AS AMENDED BY THE 2018 CONNECTICUT STATE BUILDING CODE
  - 2015 INTERNATIONAL PLUMBING CODE (IPC), AS AMENDED BY THE 2018 CONNECTICUT STATE BUILDING CODE
  - 2015 INTERNATIONAL MECHANICAL CODE (IMC), AS AMENDED BY THE 2018 CONNECTICUT STATE BUILDING CODE
  - 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC), AS AMENDED BY THE 2018 CONNECTICUT STATE BUILDING CODE
  - 2017 NATIONAL ELECTRICAL CODE (NFPA 70), AS AMENDED BY THE 2018 CONNECTICUT STATE BUILDING CODE
  - 2009 ICC/ANSI A117.1 ACCESSIBLE & USABLE BLDGS & FACILITIES, AS AMENDED BY THE 2018 CONNECTICUT STATE BUILDING CODE

- 2018 CONNECTICUT STATE FIRE SAFETY CODE, CONSISTING OF:
- 2015 INTERNATIONAL FIRE CODE, AS AMENDED BY THE 2018 CONNECTICUT STATE FIRE SAFETY CODE
  - 2015 NFPA 101, LIFE SAFETY CODE, AS AMENDED BY THE 2018 CONNECTICUT STATE FIRE SAFETY CODE

## APPLICABLE REQUIREMENTS FOR LEVEL 2 RENOVATION

BUILDING ELEMENT	REQUIRED	PROVIDED	IEBC REF.
EXISTING VERTICAL OPENINGS	1/2 HR IF CONNECTING 2 OR 3 STORIES	PROVIDED AS REQ'D	803.2.1 EXCEPTION 4
INTERIOR FINISH OF WALLS & CLGS IN EXITS & CORRIDORS IN ANY WORK AREA	CLASS C	PROVIDED AS REQ'D	803.4 & IBC TABLE 803.1
NEW INTERIOR FLOOR FINISH	COMPLY W/REQMTS OF DOC FF-1 "FILL TEST" OR ASTM D2894	PROVIDED AS REQ'D	702.2 & IBC 804
NEW INTERIOR TRIM	1) COMBUSTIBLE DECORATIVE MATERIALS SUSPENDED FROM WALLS OR CLGS SHALL NOT EXCEED 10% OF THE SPECIFIC WALL OR CLG AREA TO WHICH THEY ARE ATTACHED & MEET ACCEPTANCE CRITERIA LISTED. 2) FOAM PLASTIC TRIM SHALL HAVE A MIN DENSITY OF 20 LB PER CUBIC FT, MAX 1/2" THICKNESS, 8" WIDTH & 10% OF AGGREGATE WALL & CLG AREA. 3) INTERIOR TRIM SHALL BE MIN. CLASS C 4) INTERIOR FLR WALL BASE 6" OR LESS IN HEIGHT SHALL BE CLASS II	PROVIDED AS REQ'D	702.3 & IBC 806
MATERIALS & METHODS	ALL NEW WORK SHALL COMPLY W/MATERIALS & METHODS REQMTS IN IBC, IECC, IMC & IPC	PROVIDED AS REQ'D	702.6
FUEL GAS CODE	ANY ALTERATION OF FUEL GAS EQUIPMENT OR PIPING SHALL COMPLY W/FUEL GAS MATERIALS & METHODS REQMTS OF THE IFGC.	PROVIDED AS REQ'D	702.6.1
GUARDS	WHERE > 30" ABOVE FLR OR GRADE BELOW OR EXIST'G GUARDS IN DANGER OF COLLAPSING	PROVIDED AS REQ'D	803.5.1 & IBC 702.4
FIRE PROTECTION	MAINTAIN THE EXIST'G LEVEL OF PROTECTION	PROVIDED AS REQ'D	703
ACCESSIBILITY	NO GREATER THAN THAT WHICH IS REQ'D FOR NEW CONSTRUCTION.	PROVIDED AS REQ'D	806 & 705.1.13 & IRC R320.1
STRUCTURAL	1) NEW STRUCTURAL ELEMENTS SHALL COMPLY WITH IBC 2) MIN. DESIGN LOADS ON EXIST'G STRUCTURAL ELEMENTS TO WHICH ADD'L LOADS ARE NOT ADDED SHALL BE LOADS APPLICABLE AT TIME OF BLDG. CONSTRUCTION. 3) EXIST'G STRUCTURAL ELEMENTS CARRYING GRAVITY LOADS SHALL NOT HAVE THEIR CAPACITY TO CARRY GRAVITY LOADS DIMINISHED. 4) IF ALTERATION CHANGES LATERAL LOADS, THE STRUCTURE SHALL MEET WIND & SEISMIC PROVISIONS OF IBC. 5) VOLUNTARY LATERAL FORCE-RESISTING SYSTEM ALTERATIONS THAT ARE NOT REQ'D BY OTHER SECTIONS OF THIS CODE SHALL NOT BE REQ'D TO BE DESIGNED TO THE IBC W/SUBMISSION OF ENGINEERING ANALYSIS.	PROVIDED AS REQ'D	807.2 - 807.6
ELECTRICAL, IN WORK AREAS ONLY	1) MIN. 2 DUPLEX OUTLETS OR 1 DUPLEX OUTLET & 1 CLG OR WALL-TYPE LIGHTING OUTLET IN ALL ENCLOSED AREAS OTHER THAN CLOSETS, KITCHENS, BASEMENTS, GARAGES, HALLWAYS, LAUNDRY AREAS, UTILITY AREAS, STORAGE AREAS & BATHROOMS. 2) MIN. 2 DUPLEX OUTLET IN KITCHEN AREAS 3) MIN. 1 DUPLEX OUTLET ON INDEPENDENT CIRCUIT NEAR LAUNDRY EQUIPMENT 4) GROUND FAULT CIRCUIT INTERRUPTION PER NFPA 70 ON NEW OUTLETS 5) MIN. 1 LIGHTING OUTLET IN EVERY BATHROOM, HALLWAY, STAIRWAY, ATTACHED GARAGE & DETACHED GARAGE W/ELEC POWER, & TO ILLUMINATE OUTDOOR ENTRANCES & EXITS 6) MIN. 1 LIGHTING OUTLET IN UTILITY ROOMS & BASEMENTS WHERE SUCH SPACES ARE USED FOR STORAGE OR CONTAINING EQUIPMENT REQUIRING SERVICE 7) CLEARANCE FOR ELEC SERVICE EQUIPMENT PER NFPA 70	PROVIDED IN WORK AREAS AS REQ'D.	808.3
MECHANICAL, IN WORK AREAS ONLY	1) ALL RECONFIGURED OR CONVERTED SPACES INTENDED FOR OCCUPANCY SHALL BE PROVIDED W/NATURAL OR MECH VENTILATION PER IMC. 2) EXIST'G MECH VENTILATION SYSTEMS THAT ARE ALTERED, RECONFIGURED OR EXTENDED SHALL PROVIDE NOT LESS THAN 5 CFM PER PERSON OF OUTDOOR AIR & NOT LESS THAN 15 CFM OF VENTILATION AIR PER PERSON, OR NOT LESS THAN THE AMOUNT OF VENTILATION AIR DETERMINED BY THE INDOOR AIR QUALITY PROCEDURE OF ASHRAE 62. 3) ALL NEW DEVICES, EQUIPMENT OR OPERATIONS THAT PRODUCE AIRBORNE PARTICULATE MATTER, ODORS, FUMES, VAPOR, COMBUSTION PRODUCTS, GASEOUS CONTAMINANTS, PATHOGENIC & ALLERGENIC ORGANISMS & MICROBIAL CONTAMINANTS IN SUCH QUANTITIES AS TO AFFECT ADVERSELY OR IMPAIR HEALTH OR CAUSE DISCOMFORT TO OCCUPANTS SHALL BE PROVIDED W/LOCAL EXHAUST.	PROVIDED IN WORK AREAS AS REQ'D.	809

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30 OAK STREET  
STAMFORD, CT 06905  
203-352-1717 FAX 203-352-1718  
PROJECT NUMBER: 223030790

PROJECT:

## WILTON CONGREGATIONAL CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:

### PERMIT SET

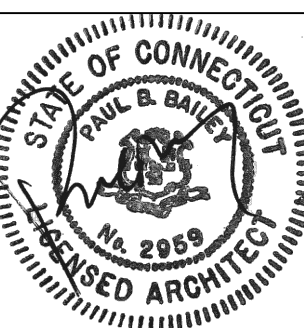
PAUL B. BAILEY  
• ARCHITECT •

110 AUDUBON STREET  
NEW HAVEN, CONNECTICUT 06510  
203 • 776 • 8888 F 203 • 772 • 1365

DATE: 10/05/2021	DRAWN BY:
SCALE: AS NOTED	CHECKED BY: 50
JOB NO: 21-045	

DRAWING NAME:

### GENERAL NOTES CODE INFORMATION



R1.0



F:\Proj\2020\13-045 Wilton Church Generator Enclosure\DWG\CD\13-045 R2.0 WILTON CHURCH ACOUSTIC REPORT.dwg, 4/27/2022



In circumstances under which the generator would be used during nighttime hours, such as during a widespread power outage, it is unknown whether the town of Wilton or the state of Connecticut would require compliance with the nighttime limit (55 dBA in either case). Given the project constraints detailed below, we do not believe that the Church will be able to meet this limit by any practicable measures. We note that Connecticut statute provides for the possibility of a variance, for which the Church may apply.

#### Code Requirements

Code requirements in this case are ambiguous. There are both state and local noise control regulations, but the two establish different standards, and the manner in which they are to be coordinated is not 100% clear.

State of Connecticut statutes (Chapter 442, Sec. 22a-67 through Sec. 22a-69-7.4) govern noise issues, and they state that town codes must be at least as stringent as the state's codes (Sec. 22a-73 (c)). Town codes can be more stringent, but not less.

The same section of statute states that town codes must be approved by the Commissioner of the former Department of Environmental Protection (DEP, now and henceforth in this document, DEEP). The state maintains a list of towns whose noise codes have been submitted and approved; the town of Wilton is not on this list. This can be the case when either a) the town's noise code pre-dates the state's noise code (generally June 15, 1978), or b) the town enacted a code without sending it to the state for approval.

To the best of our ability to determine this, Wilton does not appear to have a stand-alone noise regulation. Instead, a number of sections of the town's Zoning Regulations make reference to noise issues; we will refer to these references as the town's "noise code." The Zoning Regulations currently in force were adopted March 15, 1994 and revised December 7, 2021. It is not clear whether the noise control aspects of Wilton's Zoning Regulations are subject to the statutory requirement for approval by DEEP because they are not a stand-alone noise ordinance.

The situation is complicated by the fact that DEEP has not been involved in the enforcement of noise regulations for 15-20 years, but rather refers complaints to municipalities for resolution.\*

State and town codes are as follows:

##### State of Connecticut

The state's Standard Land Use Classification Manual establishes land use "Classes" and designates which types of property fall in each Class. Maximum permissible noise levels are tied to the Class of the emitter (the noise producing property) and the receiver (the noise receiving property). Properties used for religious activities (Wilton Congregational Church) and residences (the abutting property at the rear of the Church) fall in Class A. Maximum permissible noise levels from a Class A emitter to a Class A receiver are 55 dBA during daytime hours (defined as 7:00 am to 10:00 pm local time) and 45 dBA during nighttime hours.

##### Town of Wilton

Section 29-9.H of the Wilton Zoning Regulations do not distinguish between land use classes but simply state that the maximum permissible noise levels transmitted outside a property from which it originates may not exceed 80 dBA during daytime hours (7:00 am to 10:00 pm) and 55 dBA during nighttime hours.

Acoustics Report  
Wilton Congregational Church Emergency Generator

15 April 2022  
2 of 6



#### Allowances and Exemptions

State code provides for some allowances (i.e., an increase in allowable levels over baseline amounts). Sec. 22a-69-3.7 states that existing noise sources as of 1960 are granted a permanent 10 dBA allowance. We asked DEEP whether this allowance is restricted to buildings or to specific uses within a building, and the answer we received leads us to believe that the Church may qualify as an existing noise source regardless of what specific new sources of noise come into existence on the property. This would mean that the maximum permissible noise levels according to state standards would be 65 dBA during daytime hours and 55 dBA during nighttime hours.

The "adaptive reuse" provision (Sec. 22a-68-3.8), which brings a permanent 5 dBA allowance, may also apply. However, allowances cannot be combined; only the maximum allowance under any one provision would pertain. The "existing noise source" allowance provides the greatest allowance that might apply.

It is also worth noting that the intent of the "emergency" exemption in state code (Sec. 22a-69-1.8) is not believed to apply to a generator running because of a widespread power outage. DEEP expressed the opinion that that exemption was intended to address sirens, vehicular noise, and other noise related to an urgent response to an emergency.

We also investigated whether the Church might fall in a "high background noise" area (Sec. 22a-69-3.6). Measurements of ambient (primarily traffic) noise taken at the rear property line on 3.28.22 at 4:00-5:00 pm yielded a sound level of 54 dBA. Since this does not exceed the baseline 55 dBA daytime level permitted for a Class A emitter to a Class A receiver, the Church does not fall in a high background noise area.

In summary, of the two noise standards (state and municipal), the more stringent is the state standard. Although it is not clear which standard would take precedence in a dispute, we believe that the prudent course of action is to make a reasonable attempt to meet the state standard. Taking into account the "existing noise source" allowance, we believe this standard to be a maximum permissible noise level at the property line of 65 dBA during daytime hours and 55 dBA during nighttime hours.

In addition, short-term noise level excursions above "the noise level standards established by [state] regulation" are permitted and discussed below under **Recommendations: Testing Regimen**. We believe these excursions would be permissible on top of the 10 dBA allowance previously mentioned, which would provide a "buffer" during regular generator testing of 15 minutes or less (but not during continuous use).

\* This was verified by Mark Potash, Supervising Air Pollution Control Engineer, Bureau of Air Management, DEEP. Because the state is no longer engaged in enforcing noise regulations, there is no staff or office dedicated to noise control.

#### Constraints

There are two principal paths by which noise produced by the generator will reach the exterior: a ducted radiator path and a ducted engine exhaust path. The former terminates in an acoustical louver in the exterior wall of the generator room, while the latter travels upward through the Church interior, exiting through the roof.

Acoustics Report  
Wilton Congregational Church Emergency Generator

15 April 2022  
3 of 6



#### Ducted Radiator Path

The dimensional constraints of the generator room, in combination with a very low maximum permissible pressure drop of 0.1 wg specified for this path, do not permit any of the methods that would ordinarily be implemented in order to attenuate noise in a ducted path: long sections of lined ductwork, silencers, or plenums. The low pressure drop condition also limits the attenuation that can be achieved from the acoustical louver.

The location of the louver within a sub-grade, concrete "area way" will provide additional attenuation because line of sight from the louver to the property line is broken, and the area way acts as a type of "barrier." To some degree, the access ramp that will pass over the area way will also serve to attenuate sound.

As drawn on the plans dated 12.20.21, we expect the sound level at the property line from this path alone to be 65-68 dBA.

Some additional sound attenuation can be obtained by lining the inside surface of the area way with an exterior-grade sound absorption product such as IAC Acoustics' Noise Foil V (see attached cutsheet). The quoted cost of the Noise Foil V product is \$45/SF, and approximately 40 SF of product is needed.

The mechanical engineer has confirmed that this product or a similar product can be accommodated but that the area way dimensions should be increased to maintain the open cross-sectional area. However, because of the geometry of the sound path (the louver extends nearly to the top of the area way), we expect that a significant portion of the acoustic energy exiting the louver will encounter little or none of the absorptive material before exiting the area way completely, reducing its benefit. We estimate a reduction of 4 dBA may be obtained by lining the area way in this manner, resulting in a predicted sound level of 61-64 dBA at the property line from this path alone.

#### Ducted Engine Exhaust Path

Engine exhaust and noise therefrom is ducted upward through the building and exits the roof, with the exhaust duct extending above the ridgeline of the Church. A CAT silencer is scheduled for installation in this sound path. Octave-band sound test data are not available for this silencer, but data for an aftermarket silencer that the generator manufacturer's representative has indicated should be comparable were made available.

Because of its elevation, sound emanating from the exhaust duct has line-of-sight to the nearest property line and to the house located on that property, which we estimate to be ~120 lateral feet from the exhaust duct.

Based on the available data, we anticipate the maximum sound level from this path alone to be 62 dBA at the property line and 54 dBA at the house. The level at the property line is the level relevant to code requirements, but it is fortunate that the nearest structure at which noise is likely to reach listeners is at a greater distance than the property line itself.

Acoustics Report  
Wilton Congregational Church Emergency Generator

15 April 2022  
4 of 6



#### Sum of the Two Sound Paths

The two sound paths must be summed to yield the expected noise level at the property line from their combined effect. This results in an expected maximum sound level from the generator of 67-70 dBA at the property line if the area way is not lined with absorption and 63-66 dBA if it is.

#### Recommendations

##### Ducted Radiator Path

Essential noise control elements in this path are the acoustic duct lining indicated on the plans dated 12.20.21 and an acoustic louver designed for the specified pressure drop. Cutsheets for a suitable duct liner product and an acoustic louver are attached.<sup>†</sup> In both cases, product with performance equal or superior to those indicated here should be specified.

<sup>†</sup>The louver specified in this cutsheet is for a somewhat lower airflow than is required on current mechanical plans. Updated information has been requested and will be forwarded when received.

##### Engine Exhaust Path

Ensure that the specified silencer (Critical Grade, 35 dBA noise attenuation) is installed in the sound path. The cutsheet for the specified silencer supplied to us is attached here. A detail is supplied for penetration of the exhaust duct through floor/ceiling assemblies. No additional measures are recommended.

##### Area Way Absorptive Lining

Attached is a brochure for a product suitable for lining the area way (IAC Acoustics Noise-Foil Acoustic Metal Panels, Type V, 2.5" thick) as well as an IAC Acoustics detail illustrating the mounting method to a concrete surface.

One possible arrangement of panels would be two courses on the long wall of the area way, with each panel being 2' tall (vertical dimension; the brochure refers to this as the "width") and 8' long (horizontal dimension); and two courses on each short wall of the area way, with each panel being 2' tall and 2' long, for a total of 48 SF. If the side walls of the area way cannot accommodate 2' panels, lining just the long wall of the area way is still recommended. Note that the bottom edge of each panel is perforated for drainage, and the panels must be mounted in the correct orientation in order to drain properly.

##### Generator Room Wall Treatment

To reduce noise within the generator room itself, cover 100% of the available wall and ceiling surface with Owens Corning SelectSound 2"-thick Acoustic Board (see attached cutsheet).

##### Testing Regimen

The mechanical engineer has stated that generator is an optional standby generator and that weekly testing is not required. We understand that the client does intend to perform weekly testing for up to 15 continuous minutes in order to maintain lubrication of parts. We recommend scheduling these tests during statutorily defined daytime hours (7:00 am to 10 pm) on non-holiday weekdays at an hour when there are high levels of activity in the neighborhood and background noise is at a maximum (late afternoon rush

Acoustics Report  
Wilton Congregational Church Emergency Generator

15 April 2022  
5 of 6

Acoustics Report  
Wilton Congregational Church Emergency Generator

15 April 2022  
6 of 6

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PROJECT:

**WILTON  
CONGREGATIONAL  
CHURCH**

**70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT**

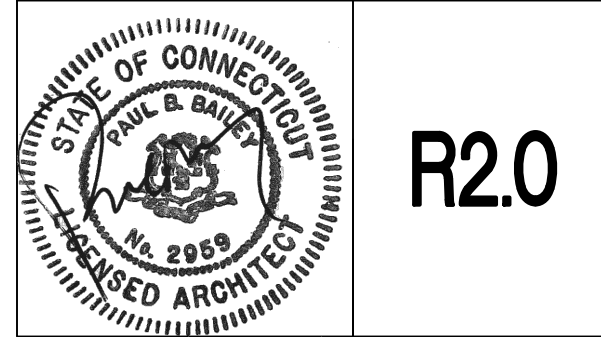
ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:

**PERMIT SET**

<b>PAUL B. BAILEY • A R C H I T E C T •</b>	
110 AUDUBON STREET NEW HAVEN, CONNECTICUT 06510 203 • 776 • 8888 F 203 • 772 • 1365	
DATE: 10-15-21	DRAWN BY:
SCALE: AS NOTED	CHECKED BY: SO
JOB NO: 21-045	

DRAWING NAME:  
**ACOUSTIC REPORT  
& SPECIFICATIONS**

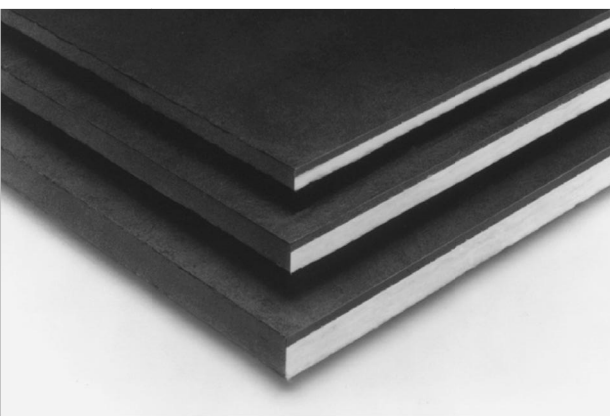






Air Handling Systems

Permacote® Linacoustic® R-300  
Rigid Fiber Glass Plenum Liner Board



**Description**  
Permacote® Linacoustic® R-300 is a rigid fiber glass board that meets or exceeds all ASTM C1071 Type II duct liner requirements. The airstream surface and the long edges are coated with a tough, smooth, state-of-the-art acrylic polymer. R-300 offers exceptional durability and superior acoustical and thermal performance.

**Uses**  
R-300 is specifically designed for use as an extended performance lining insulation for HVAC plenums and air distribution ductwork.

**General Properties**  
Operating temperature (max.) – ASTM C411 250°F (121°C)  
Air velocity (max.) – ASTM C1071 6000 fpm (30.5 m/sec)  
Water repellency – INDA IST 80.6 >6  
Fungi resistance – ASTM C1338 Does not breed or promote  
Fungi resistance – ASTM G21 No growth  
Bacteria resistance – ASTM G22 No growth

Standard Thicknesses and Packaging					
Thickness	Width		Length		
in	mm	in	mm	in	mm
1	25	48	1219	96	2438
1½	25	48	1219	96	2438
2	51	48	1219	96	2438

Non-standard sizes up to 4" (102 mm) thickness and 120" (3.1 m) length available on special request.

Surface Burning Characteristics

Permacote Linacoustic R-300 meets the Surface Burning Characteristics and Limited Combustibility of the following standards:  
Standard Test Method  
• ASTM E84  
• UL 723  
• NFPA 285  
• NFPA 90A and 90B  
• NFPA 259  
• CAN/ULC S102-M88  
UL labels supplied on packages when requested on order.

Specification Compliance

- ASTM C1071, Type II
- ASHRAE 62
- MEAF 353-83-M
- SMACNA Application Standards for Duct Liners
- NAIMA Fibrous Glass Duct Liner Installation Standard
- Canada: C55B 51.10-92

Green Building Attributes

GREENGUARD® certification is not intended for residential environments. Instead, the certification is intended only for buildings meeting ASHRAE 62.1-2007 commercial building ventilation rates. This certification is proof that the product meets the GREENGUARD Environmental Institute's indoor air quality standards and product emission standards for VOCs.



**Advantages**  
**Improves Indoor Building Environment.** Permacote Linacoustic R-300 helps improve indoor environmental quality by helping to control both temperature and sound.

**Absorbs Disturbing Sound.** Permacote Linacoustic R-300 has exceptional sound-absorbing properties far exceeding the requirements of ASTM C1071. Duct-transmitted noise, such as crosstalk and sound energy from air movement and mechanical equipment, is noticeably reduced.

**Resistant to Dust and Dirt.** The tough, acrylic polymer Permacote coating helps guard against incursion of dust or dirt into the substrate, minimizing the potential for biological growth.

**Will Not Support Microbial Growth.** Permacote coating is formulated with an immobilized, EPA-registered, protective agent to protect the coating from potential growth of fungus and bacteria.

Permacote Linacoustic R-300 passes ASTM C1071 fungi testing, as well as the more stringent ASTM G 21. Bacteria tests were conducted in accordance with ASTM G22. Detailed information is available in Johns Manville fact sheet HSE-103FS.

Note: As with any type of surface, microbial growth may occur in accumulated duct system dirt, given certain conditions. This risk is minimized with proper design, filtration, maintenance and operation of the HVAC system.

**Withstands High Velocity.** Permacote Linacoustic R-300 has been tested to the recommended maximum velocity of 6000 fpm (30.5 m/sec). Fiber erosion test results were determined using the Isokinetic Sampling Method described in Johns Manville Fiber Erosion Testing Fact Sheet HSE-133FS.

**Cleanability.** If necessary, the surface may be cleaned using standard industry-recognized dry methods. See the North American Insulation Manufacturers Association (NAIMA) "Cleaning Fibrous Glass Insulated Air Duct Systems."

**Resists Damage.** The specially designed Permacote airstream surface enhances the ability of R-300 to resist damage from typical in-shop handling, fabrication and jobsite shipment.

Permacote® Linacoustic® R-300

Rigid Fiber Glass Plenum Liner Board

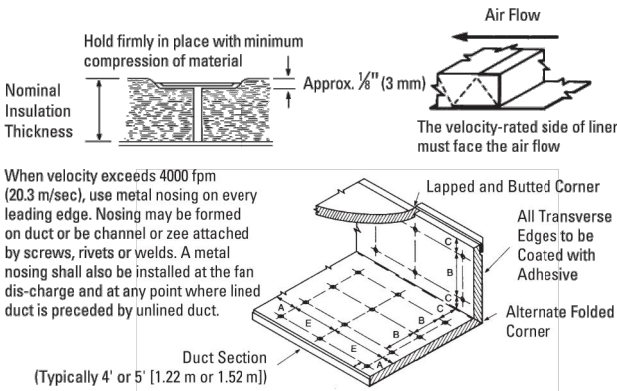
Installation

All portions of duct designated to receive duct liner should be completely covered with Permacote Linacoustic R-300. The smooth, black Permacote surface of the Linacoustic R-300 must face the airstream. All Permacote Linacoustic R-300 should be cut to ensure tight, overlapped corner joints. The top pieces should be supported by the side pieces.

Permacote Linacoustic R-300 must be adhered to the sheet metal with full coverage of an approved adhesive that meets ASTM C916, and all exposed leading edges and transverse edges should be coated with Johns Manville SuperSeal® Duct Butter, Johns Manville SuperSeal® Edge Treatment or an approved adhesive.

The Permacote Linacoustic R-300 must be additionally secured with mechanical fasteners spaced per the schedule shown in the diagram below. The pin length should be such as to hold the material firmly in place with minimum compression of the material.

All material must be installed in accordance with the NAIMA Fibrous Glass Duct Liner Installation Standard.



Velocity*	Dimensions			
	A	B	C	D
	in	mm	in	mm
0 – 2500 fpm (0 – 127 m/sec)	3	76	12	305
2501 – 6000 fpm (127 – 30.5 m/sec)	3	76	12	305

\*Unless a lower level is set by the listing agency.  
Liner adhered to the duct with 80% minimum area coverage of adhesive. Adhesive shall conform to ASTM C916.  
Shop or field cuts shall be liberally coated with SuperSeal Edge Treatment or approved adhesive.

Recycled Content



ISO 9001 Certification

Johns Manville mechanical insulation products are designed, manufactured and tested in our own facilities, which are certified and registered to stringent ISO 9001 (ANSI/ASQC 90) series quality standards. This certification, along with regular, independent third-party auditing for compliance, is your assurance that Johns Manville products deliver consistent high quality.

Thermal Performance		Conductance	
Thickness	R-value	Thickness	Conductance
in	mm	in	mm
1	25	4.3	0.26
1½	38	6.3	0.16
2	51	8.7	0.12

R-value and conductance are calculated from the material thermal conductivity tested in accordance with ASTM C518 at 75°F (24°C) mean temperature.

Sound Absorption Coefficients (Type "A" Mounting)		Sound Absorption Coefficient at Frequency	
Thickness		(Cycles per Second) of:	
in	mm	125	250
1	25	0.04	0.26
1½	38	0.14	0.52
2	51	0.26	0.73

Coefficients were tested in accordance with ASTM C423 and ASTM E795.



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HVAC-156 3/14 (R10)

North American Sales Offices, Insulation Systems

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Fax: (419) 784-7866

**Western Region and Canada**  
P.O. Box 5108  
Denver, CO 80217  
(800) 368-4431  
Fax: (303) 978-4661

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Boulder Energy Systems  
Silencer Specifications Sheet - 01/12/22

Customer Name : H.O. Penn Machinery Company

Contact Name : Jeffrey A. Meyer

Job Reference : Wilton Congregational

Quote-Number : 2201-007 Reference Date : 01/12/22 Prepared By : Ted Karas

Engine : Cat C-Series Diesel Model C4.4 @ 100 KW 60 Hz Stdby @ 1800 RPM.  
Engine Rated At 100 K/W 60 Hertz Standby Operating At 1800 Rpm.

Engine Exh-Flow = 714 CFM Exh-Outlet Diam = 2.5 In Engine NA/TA = Turbo  
Max Engine B/P = 60.2 In H2O Nbr Exh-Outlets = 1 Port Eng Pwr Lev1 = 144 HP  
Engine Exh-Temp = 942 °F Exh-Mass Flw = 1159 LB/HR

Silencer Model : 1036-VRS-4-SI  
Harco Critical Grade Model 1036-VRS-4-SI Side Inlet / End Outlet Silencer

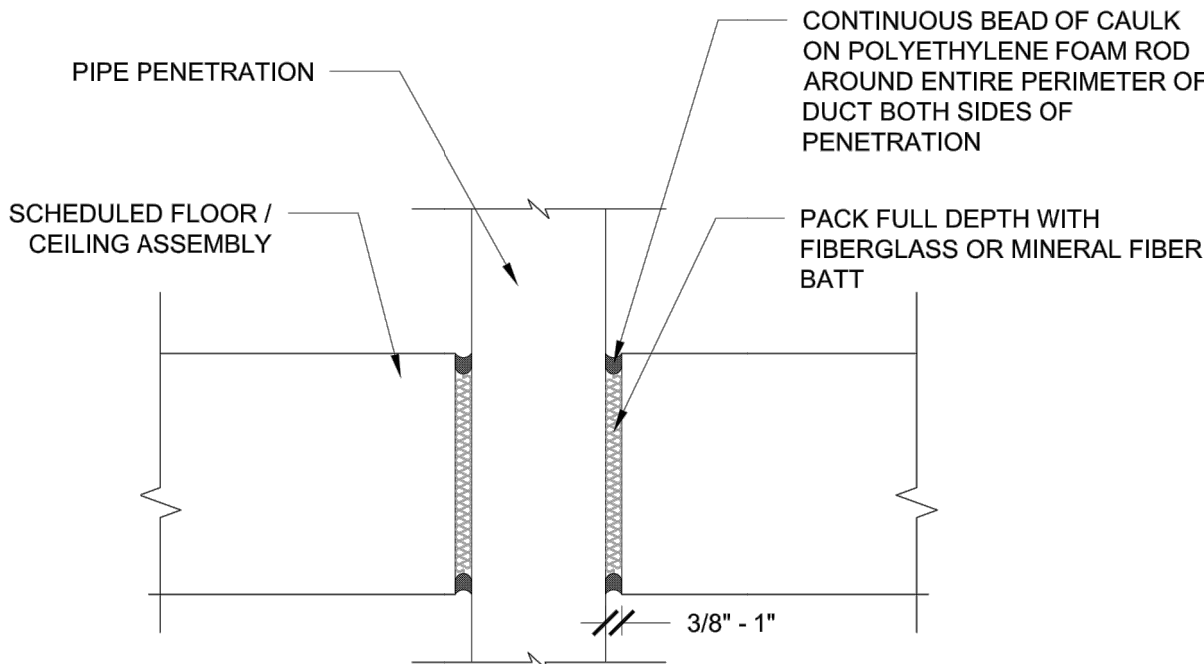
SILENCER DIMENSIONAL DATA		INLET/OUTLET DATA		OCTAVE BAND		INLET Db		Db REDUCTN		OUTLET Db	
Silencer Diameter = 10.0 In		Silencer Weight = 70 lbs		63 Hz		98.0 Db		14.5 Db		83.5 Db	
Silencer Length = 36.0 In		Silencer Inlet = 4.0 In ASA		125 Hz		112.0 Db		21.0 Db		91.0 Db	
		Silencer Outlet = 4.0 In ASA		250 Hz		108.0 Db		26.5 Db		81.5 Db	
				500 Hz		104.0 Db		29.5 Db		74.5 Db	
A-Weighted Exhaust Noise into Silencer at 23 Feet = 110.0 dBA		1000 Hz		103.0 Db		27.0 Db		76.0 Db			
Broad Band Exhaust Noise Entering Loss Thru Silencer = 27.5 dBA		2000 Hz		104.0 Db		27.5 Db		76.5 Db			
A-Weighted Exhaust Noise From Silencer at 23 Feet = 82.5 dBA		4000 Hz		102.0 Db		27.0 Db		75.0 Db			
Estimated Back Pressure Loss Thru Exhaust Silencer = 14.2 In H2O		8000 Hz		100.0 Db		28.0 Db		72.0 Db			

FLEX/PIPE DATA		PIPE RUN ONE DATA		PIPE RUN TWO DATA		* ALLOWABLE ADDITIONAL EXH-PIPE *			
Flex Diam = 2.5 In		Pipe Diam = 4.0 In		Pipe Diam = 4.0 In		PIPE-DIAM		MAX- LGTH	
Flex Lgth = 18.0 In		Pipe Lgth = 0.0 Feet		Pipe Lgth = 0.0 Feet		B/P		10 FT	
Nbr 90/45 = 0/0 Elbows		Nbr 90/45 = 0/0 Elbows		Nbr 90/45 = 0/0 Elbows		3.00 In		132 Ft	
Pipe Lgth = 0.0 Feet		Pipe 90/90 = 0/0 In H2O		Pipe 90/90 = 0/0 In H2O		3.50 In		246 Ft	
Flex B/P = 2.5 In H2O		Exhat-Vel = 8182 F.P.M		Exhat-Vel = 8182 F.P.M		4.00 In		557 Ft	
Exhat-Vel = 20946 F.P.M						5.00 In		1701 Ft	
		Estimated Exhaust System Back Pressure = 16.7 In H2O				6.00 In		4233 Ft	

** OCTAVE BAND ADJUSTMENT **		**** CALCULATION OF A-WEIGHTED ENGINE EXHAUST NOISE WITH SILENCER ****	
63 Hz : 81.5 - 27.5 = 54.0		77.5 =	
125 Hz : 91.0 - 17.0 = 74.0		76.0  >= 77.5 + 2.0 = 79.5 =	
250 Hz : 81.5 - 9.0 = 72.5		76.0 =	
500 Hz : 74.5 - 3.5 = 71.0		74.0  >= 76.0 + 2.0 = 78.0  >= 79.5 + 2.0 = 81.5 =	
1000 Hz : 74.0 - 0.0 = 76.0		72.5 =	
2000 Hz : 76.5 + 1.0 = 77.5		71.0  >= 72.5 + 2.0 = 74.5  >= 74.5 + 1.5 = 76.0 =	
4000 Hz : 75.0 + 1.0 = 76.0		70.5 =	
8000 Hz : 72.0 - 1.5 = 70.5		66.0  >= 70.5 + 0.0 = 70.5 =	

Louver Submittal Info			
Project Details			
Project Number		220310RH	
Project Name		AD Louvers	
Project Date		March 17, 2022	
Customer		Vibration Products	
Revision Number			
Revision Date			
Louver Dimension (in)		Configuration	
Tag		LV-1	
Model		KCAL-F/1 - 6 x 60 x 36	
Quantity		1	
Louver Type		1	
Width		60	
Height		36	
Thickness		6	
Total Weight (lb)		69	
Noise Reduction (db)		Aerodynamic Performance	
63		9	
125		11	
250		13	
500		15	
1000		16	
2000		16	
4000		16	
8000		18	
Louver Construction Options		Notes	
Casing Thickness		18 Gauge	
Perforated Lining Thickness		22 Gauge	
Material		Galvanized Steel	
Acoustic Media		Fiberglass (Standard)	
Media Covering		None	
Solid Side Connection		2" x 2" x 3/16 Angle	
Solid Side Attachment Method		Unattached	
Solid Side Bird Screen		None	
Perforated Side Connection		None	
Perforated Side Attachment Method		None	
Perforated Side Bird Screen		Fixed	
Louver Finish/Color		Powder Coat (TBD)	
Seams Locked		Yes	

© Kinetics Noise Control, Inc • 6300 Irelan Place • Dublin, Ohio, 43017-0655, USA • Ph: 614-889-0480 • Fax: 614-889-0540



Date: 3/17/2022  
Job: Acoustic Distinctions - Louver

QUANTITY	TAG:	DESCRIPTION	PRICE
1	Louver	Kinetics KCAL-F/1 - 6" x 60" x 36" Louver	\$3,850.00
NOTE:			
TOTAL:			\$3,850.00

Above prices are F.O.B. Factory with freight allowed to jobsite. Standard terms of sale are net 30 days from date of invoice  
\* Sales tax is NOT included.

Respectfully,

Chris Burczyk  
Vibration Products



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PROJECT:

WILTON  
CONGREGATIONAL  
CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:

PERMIT SET

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# Noise-Foil™ Acoustic Metal Panels

Sound Absorption Systems  
for Industry & Commerce



- Abuse resistant metal jacketed constructions
- Lab certified acoustic performances
- Suitable for interior and exterior installations
- Durable and attractive powder coated finish
- Broad palette of available colors
- Easily installed
- Class A fire resistant materials
- Decades of successful installations



## Noise-Foil™ Acoustic Metal Panels

Acoustical Conditioning & Reverberation Control

IAC Acoustics Noise-Foil acoustical metal panels combine maximum noise absorption and durability in an attractive, modular unit. Our functional perforated panels can be located anywhere on walls and ceilings to instantly reduce noise levels and control reverberation — addressing work-place safety, worker productivity and potential property line noise complaints. They also solve problems that make communication and concentration difficult in many environments.

Noise-Foil units are rugged enough for industrial environments and attractive enough for placement in commercial and institutional spaces; Noise-Foil is one of the most versatile sound absorption systems available. With high noise reduction characteristics, most problems can be addressed with 50% – 60% coverage making Noise-Foil a very cost-effective solution to your problem.

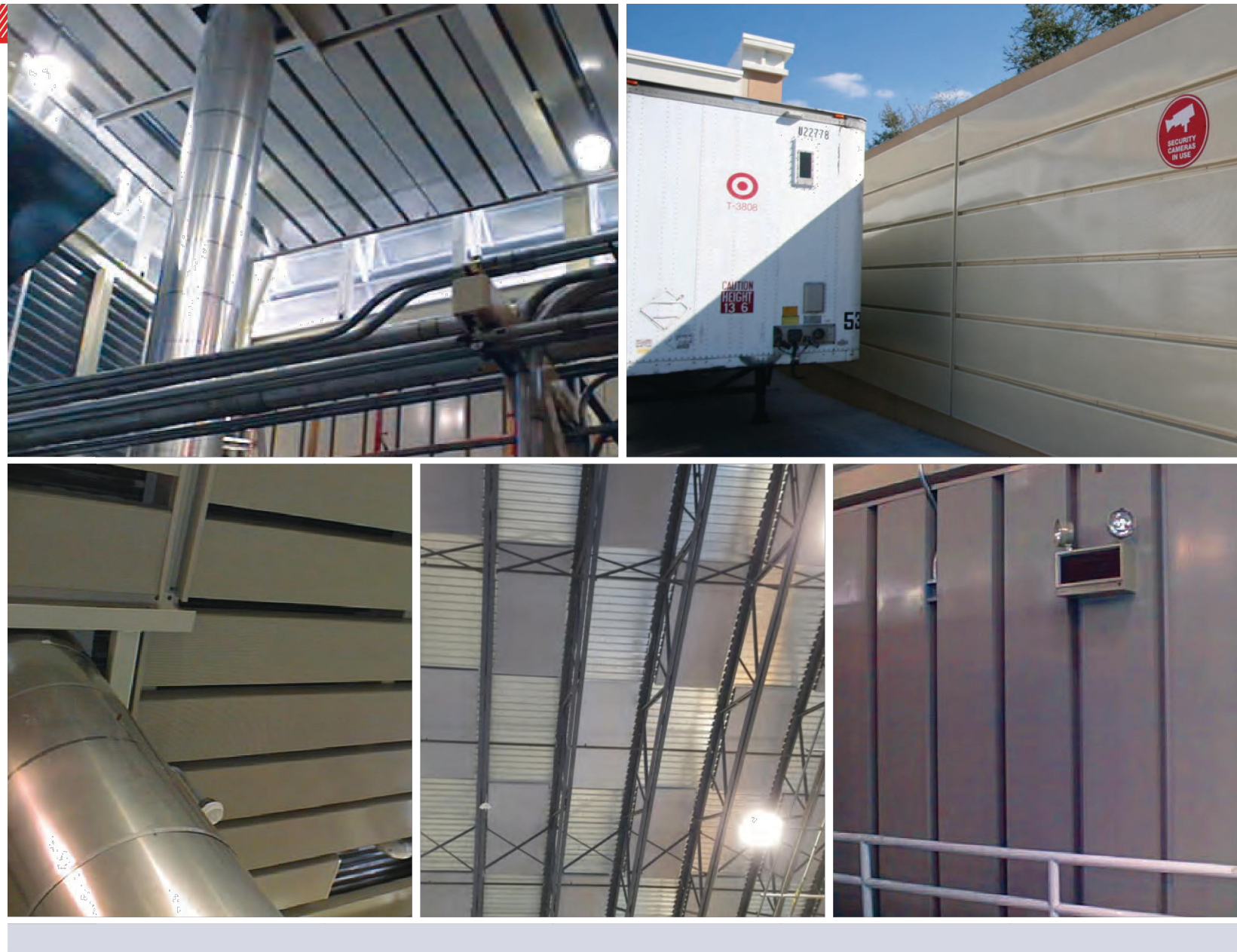
Offered in a variety of styles, colors, and sizes, Noise-Foil acoustical panels can be installed in rows or a variety of configurations that will best address your project's configuration. All versions are available with mounting channel details and performance data is provided for both continuous and intermittent coverages to address a broad range of installation possibilities.

### Construction Features Include:

- High-performance noise absorption characteristics up to NRC 1.30
- All panels feature sturdy attractive fully formed perforated metal panel shell
- Panels are available with a range of installation options for all project requirements
- Available in our flat panel design and our roll formed pan section
- Variety of standard dimensions, custom widths and lengths available
- Individual panels available up to 12' long
- Components constructed from corrosion resistant G90 galvanized steel, cold rolled steel, aluminum and stainless steel
- Available in 22 gauge through 14 gauge thickness

### Versatile Interior and Exterior Sound Absorption and Reverberation Control

- Self-draining panel designs for outdoor use
- Durable powder coated finish
- Galvanized materials of construction; aluminum & stainless steel available
- Available fill protection options include polywrap & acoustic spacer



### Typical Noise-Foil Applications

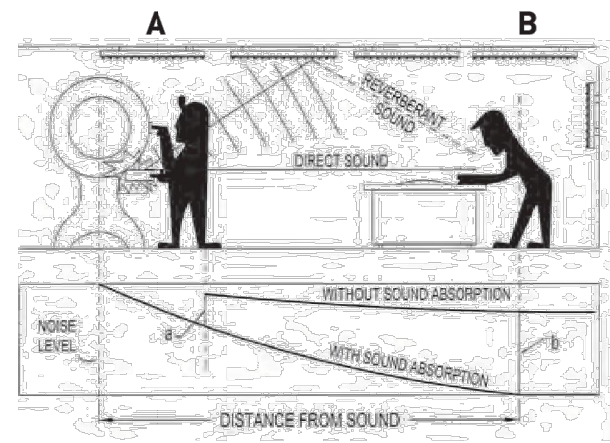
- Power Plants
- Engine Gen-Set Halls
- Pump & Compressor Stations
- Sheet Metal Shops
- Structural Shops
- Textile Plants
- Auditoriums
- Gymnasiums
- Convention Centers
- Concert Halls
- Restaurants
- Houses of Worship
- Engine Test Facilities
- Schools/Theaters
- Plasma Spray Shops
- Correctional Facilities
- Broadcasting/Recording Studios
- Rail & Roadway Transit Systems
- Plate Fabrication Shops
- Tank Fabrication Shops

## How Sound Absorbing Panels Reduce Plant Noise Levels

Noise-Foil Sound Absorbing Modules are practical and effective for reducing high noise levels in industrial and commercial facilities. Maximum benefit is achieved for workers and areas affected by the reverberant sound path, typically a substantial distance from the offending source.

In drawing at right: Operators at A are affected primarily by the direct sound. Noise-Foil panels address personnel at B who benefit from reduced noise levels as reflected sound is absorbed 'en route'. The risk of hearing loss is reduced and speech intelligibility is improved.

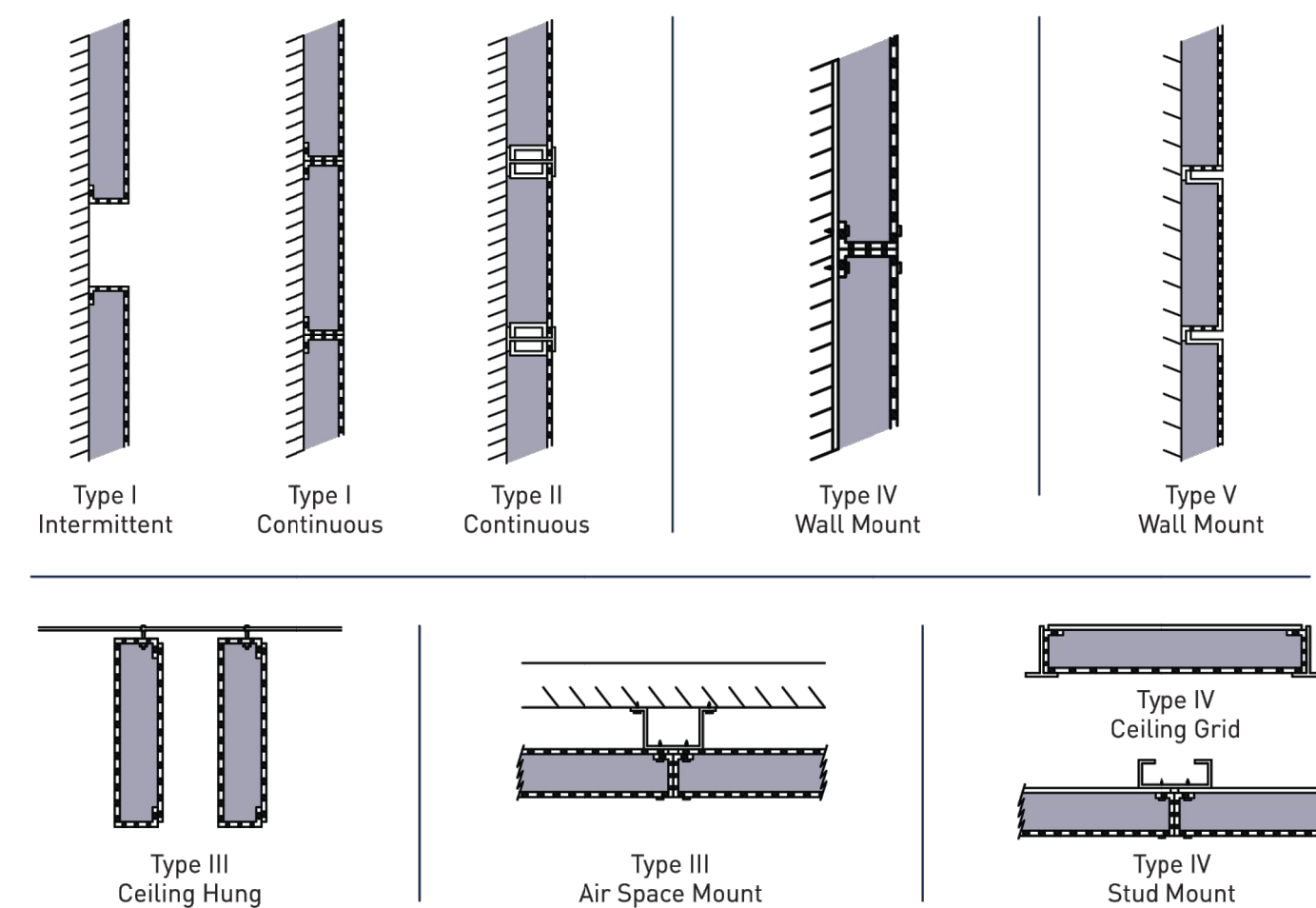
Noise reduction of 3 - 5 dB are typical and as much as 8 - 10 dB may be achieved in highly reverberant areas.



## Noise-Foil Panel Types

Type	Acoustic Ratings	Description	Applications
NF-I	• NRC 0.70 to 1.30 • ASTM C 423-84a	• Open back - non-welded construction • Face sheet fully perforated • Max width 14" W & 4" thick; 18" W & 2" thick • Galvanized, steel, aluminum & stainless materials, with a powder coated finish	• Wall mount • No air space • No joiners required • Mounting track available
NF-II	• NRC 0.70 to 1.30 • ASTM C 423-84a	• Open back - welded steel construction with fully perforated face sheet • Max width 48" & 4" thick • Galvanized, steel, aluminum & stainless materials, with a powder coated finish (after fabrication)	• Wall mount • No air space • H-Joiners or trim required
NF-III	• NRC 0.70 to 1.30 • ASTM C 423-84a (Apply to total panel surface area, i.e. both sides)	• Fully perforated front & back and non-welded construction • Max width 42" x 64" x 2" thick, 38" x 62" x 4" thick • Galvanized, steel, aluminum & stainless materials, with a powder coated finish (after fabrication)	• Ceiling hung • Wall mount with air space • Mounting track available
NF-IV	• NRC 0.95 - ASTM C 423-84a • STC 33 - AMA two room method, ASTM E 413	• Closed back panel • Max width 42" x 64" x 2" thick, 38" x 62" x 4" thick • Galvanized, steel, aluminum & stainless materials, with a powder coated finish (after fabrication)	• Wall, stud and ceiling grid
NF-V	• NRC 1.00 • ASTM C 423-84a	• Open back roll formed single piece construction • Solid top surface, perforated bottom surface • 18" & 24" widths x 2 1/2" thick, suitable for standoff mounting for 3" & 4" overall depth • Galvanized, steel, aluminum & stainless materials, with a powder coated finish (after fabrication) • Accelerated Weather Tested - 4000 hr/ASTM B 117, 2400 hr/ASTM G 23	• Wall mount • Ideal for outdoor applications • No air space • No joiners required • Mounting track available

## Noise-Foil Installation Details



## Design Guidelines

Acoustic panel sound absorption is affected by the panel-module placement as demonstrated in the NVLAP accredited Aero-Acoustic Laboratory test results.

Wall/Ceiling-Mounted Noise-Foil Modules can be very effective in long narrow spaces and relatively low ceilings. See Table 1 for sound absorption coefficients in continuous installations and Table 2 for Sabins per array in intermittent installations; Table 3 gives Sabins per module for ceiling-hung arrangements.

Ceiling-Hung Panels were tested in several configurations as per ASTM C 423. Sound absorption per sq. ft. of panel area improved with increased spacing. In the Speech Frequencies (500, 1000, and 2000 Hz) a 63 in. (1600 mm) panel spacing provides highest number of Sabins per module (Sabin or Metric Sabin is the equivalent of 1 sq. ft. or 1 sq. m. respectively of a perfectly sound absorptive surface). Increased spacing reduces the total number of panels that can be installed and the total sound absorptive Sabins that can be provided. Cost-effective applications can be maximized by considering ceiling-hung and/or ceiling wall-mounted configurations.

Ceiling-Hung Noise-Foil Type III Modules can be used to great advantages where there are larger areas with widely spaced walls. For cost-effective recommendations please check with IAC Acoustics.

Table 1: Continuous, Wall-Mounted (Types I, II, III and V)							
Fill Protection Option	Sound Absorption Coefficients, 1/3 Octave Band Center Frequency, Hz						
	125	250	500	1K	2K	4K	NRC
4" (102mm) Thick							
-N	0.97	1.39	1.34	1.29	1.19	1.01	1.30
-P	0.86	0.89	0.93	0.89	0.84	0.77	0.90
-PS	0.57	0.60	1.01	1.06	0.99	0.86	0.90
2 1/2" (64mm) Thick TYPE V							
-N	0.24	0.95	1.13	0.99	0.94	0.86	1.00
2" (51mm) Thick							
-N	0.35	0.65	1.20	1.21	1.07	0.92	1.00
-P	0.41	0.47	0.64	0.79	0.85	0.72	0.70
-PS	0.39	0.48	0.71	1.01	0.93	0.77	0.80

Table 2: Intermittent, Wall-Mounted (Types I, II, III and IV)							
Fill Protection Option	Spacing Inches (mm)	Total Absorption, Sabins/array, 1/3 Octave Band Center Frequency, Hz					
		125	250	500	1K	2K	4K
4" (102mm) Thick 6 panels 14" x 120" (356mm x 3048mm) Total area 701ft² (6.5m²)							
-N	3 (76)	66	111	110	98	95	84
	14 (356)	81	116	140	117	112	100
	3 (76)	67	74	88	70	66	75
	14 (356)	75	71	91	92	77	67
-PS	3 (76)	47	56	94	85	85	58
	14 (356)	63	52	102	105	94	67
2" (51mm) Thick 5 panels 18" x 120" (457mm x 3048mm) Total area 751ft² (7m²)							
-N	3 (76)	24	48	98	98	88	75
	18 (457)	25	58	112	114	107	82
	3 (76)	25	42	54	64	60	65
	18 (457)	32	32	50	61	66	63
-PS	3 (76)	37	38	54	80	72	65
	18 (457)	36	32	58	86	82	63

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PROJECT NUMBER: 223030790

PROJECT:

**WILTON  
CONGREGATIONAL  
CHURCH**

**70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT**

ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:

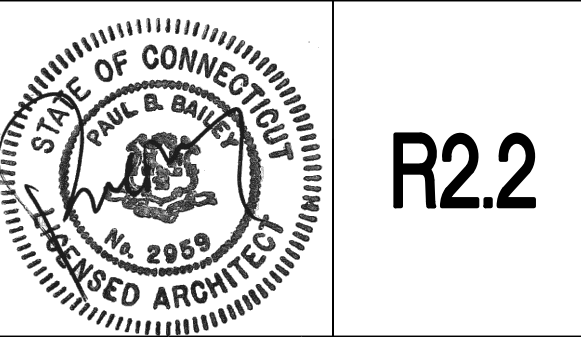
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JOB NO: 21-045

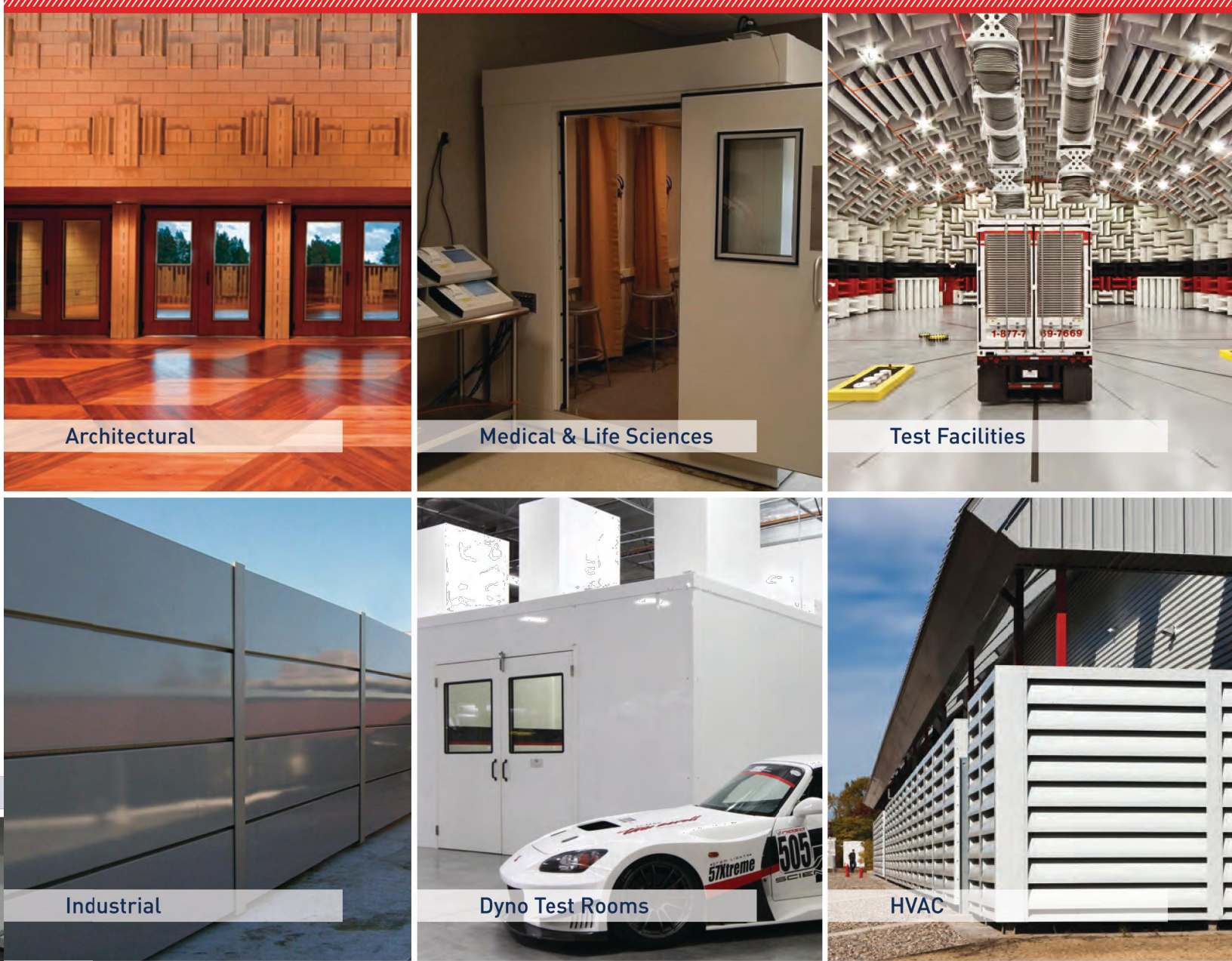
DRAWING NAME:  
**ACOUSTIC REPORT  
& SPECIFICATIONS**



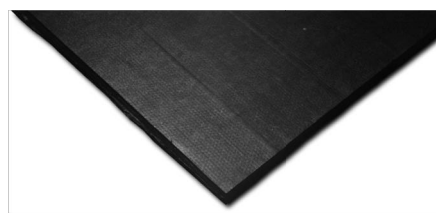
**R2.2**



## Markets Served by IAC Acoustics



Follow Us



SelectSound Black acoustic board provides excellent acoustical performance for multiplex theaters, sound studios and performing arts centers. Depending on specified thickness, SelectSound Black acoustic board absorbs up to 100% of the sound striking its surface.

**SelectSound** Black acoustic board is dimensionally stable and will not shrink or warp. The board's resilient composition resists jobsite damage. When necessary, the durable black mat facing may be cleaned by vacuuming. **SelectSound** Black acoustic board, composed of inorganic glass fibers, will not rot or mildew and is noncorrosive to steel, copper and aluminum.

Lightweight and resilient, **SelectSound Black** acoustic board is easy to handle, fabricate and install. Both stick pins and

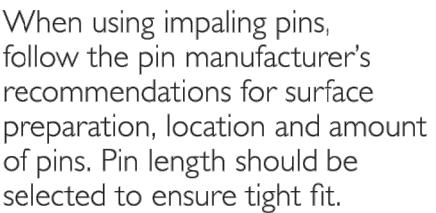
## Product Data Sheet

When wet, coated surfaces in contact with galvanized steel may cause discoloration of the sheet metal. The surface burning characteristics of these products have been determined in accordance with UL 723 and CAN/ULC-S102-M. These standards should be used to measure and describe the properties of materials, products or assemblies in response to heat and flame under controlled laboratory conditions and should not be used to describe or appraise the fire hazard or fire risk of materials, products or assemblies under actual fire conditions. However, results of this test may be used as elements of a fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard of a particular end use. Values are reported to the nearest 5 rating.

SelectSound Black acoustic board is available in 48" x 96" size. It can also be pre-cut in custom sizes to improve productivity and speed installation.

*SelectSound* Black acoustic board has a gray/black fiber glass core with a black mat finish that provides low light reflectivity. The black surface is ideal for eliminating screen light reflections and preventing insulation from showing through most surface treatments.

Acoustical performance of interior surfaces can generally be improved by increasing acoustical material thickness. *SelectSound* Black acoustic board can be specified for use in conjunction with other Owens Corning



## Product Data Sheet

Keep product dry during shipping, storage and installation.

Mounting A										
Product Type and Thickness	Density	Octave Band Frequencies, Hz.							Thermal Resistance' R-Value (hr·ft <sup>2</sup> ·°F)/Btu	
	pcf	kg/m <sup>3</sup>	125	250	500	1000	2000	4000		NRC
1" Mist Faced	3.0	48	0.06	0.75	0.62	0.91	0.99	0.98	0.70	4.3
2" Mist Faced	3.0	48	0.18	0.77	1.12	0.91	0.99	1.02	1.00	8.6

Fasteners should be a minimum of 3" from edge

Figure 1 illustrates typical wall and ceiling details for Owens Corning Fiberglas® Pipe Insulation. The diagram shows three vertical wall sections and one ceiling section.

- Corridor Wall:** Features a **Suspended Ceiling System** and **SelectSound® Black Theater Blanket**.
- Concrete Demising Wall:** Features **Owens Corning Batt Insulation** and **SelectSound® Black Theater Blanket**.
- Screen Wall:** Features **Owens Corning Integrated Thermal Lift-up System** and **Perforated Screen**.
- Ceiling:** Features **Owens Corning Duct Liner Insulation** and **Owens Corning Fiberglas® Pipe Insulation**.

For CSI type sample specification, please contact your local Owens Corning representative



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PROJECT NUMBER: 223030790

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
	11/19/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

**PHASE:**

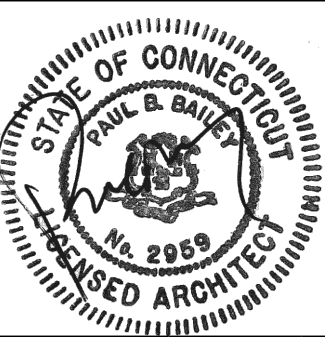
**PERMIT SET**

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JOB NO: 21-045	

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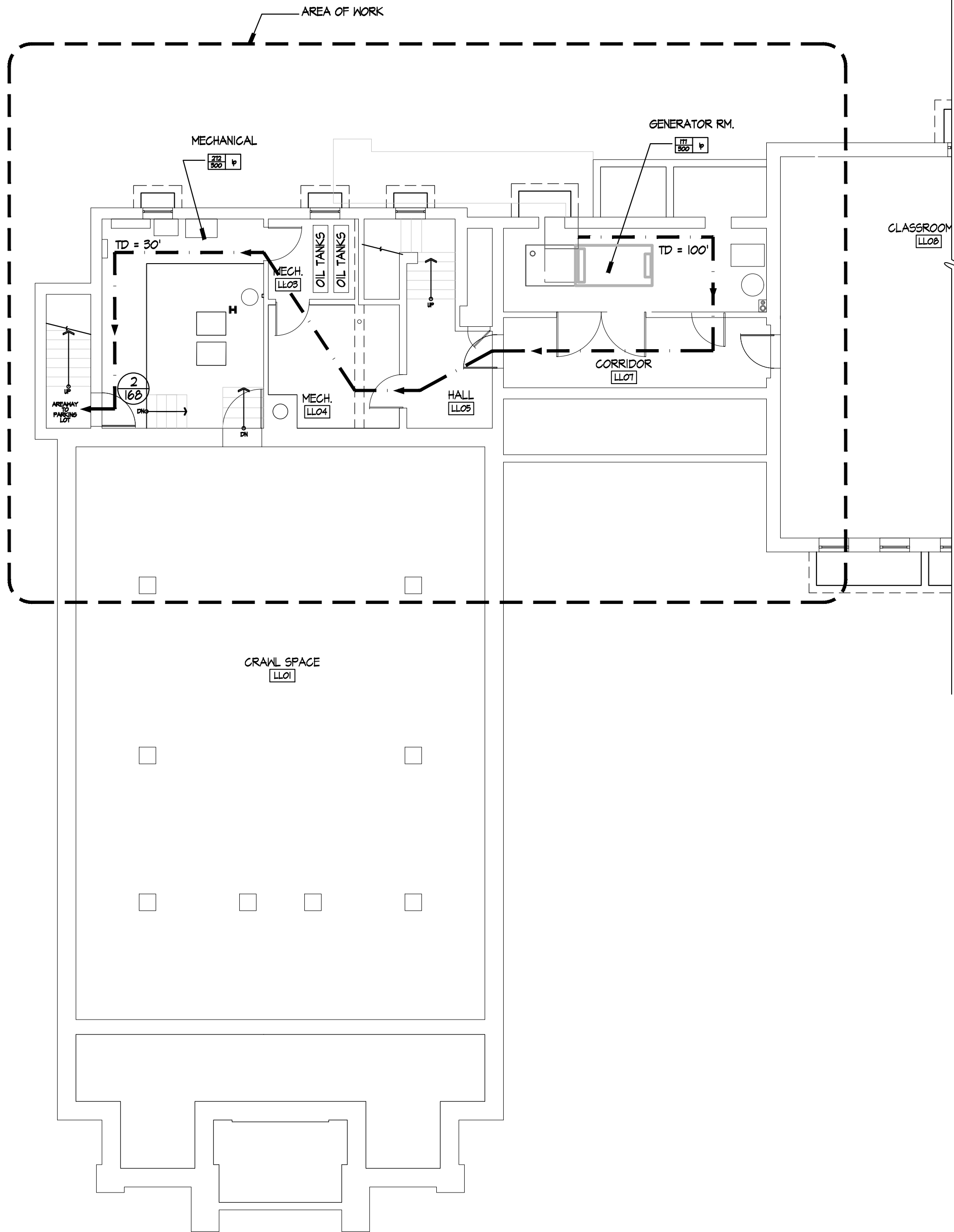
## ACOUSTIC REPORT & SPECIFICATIONS



## R2.3



F:\Proj\2021\21-045 Wilton Church Generator Enclosure\DWG\CD\3-045 LS.O WILTON CHURCH LIFE SAFETY PLAN.dwg 4/27/2022



1 LOWER LEVEL LIFE SAFETY PLAN  
LS1.0 1/8"=1'-0"

CODE PLAN LEGEND

EXIT CAPACITY

75

168

Actual egress capacity of door

Max. allowable egress capacity of door

ROOM OCCUPANCY LOAD

S-2

900

20

45p

Use of space/ room

Room/ unit area in square feet

Occupant load

Occupancy load factor

CP = 85'

TD = 85'

Max. travel dist.

Common path of travel

Max. travel dist.

Path of max. travel distance

FIRE RATED SEPARATION DESIGNATIONS

1/2 Hour rated separation

1 Hour exit stair enclosure

Note:

Other partitions and assemblies may contain ratings for other req's which are not shown here. See partition and floor/ cgl tags on architectural sheets for further info.

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Stantec

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PROJECT NUMBER: 223030790

PROJECT:

WILTON  
CONGREGATIONAL  
CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

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	4/22/22	PERMIT SET

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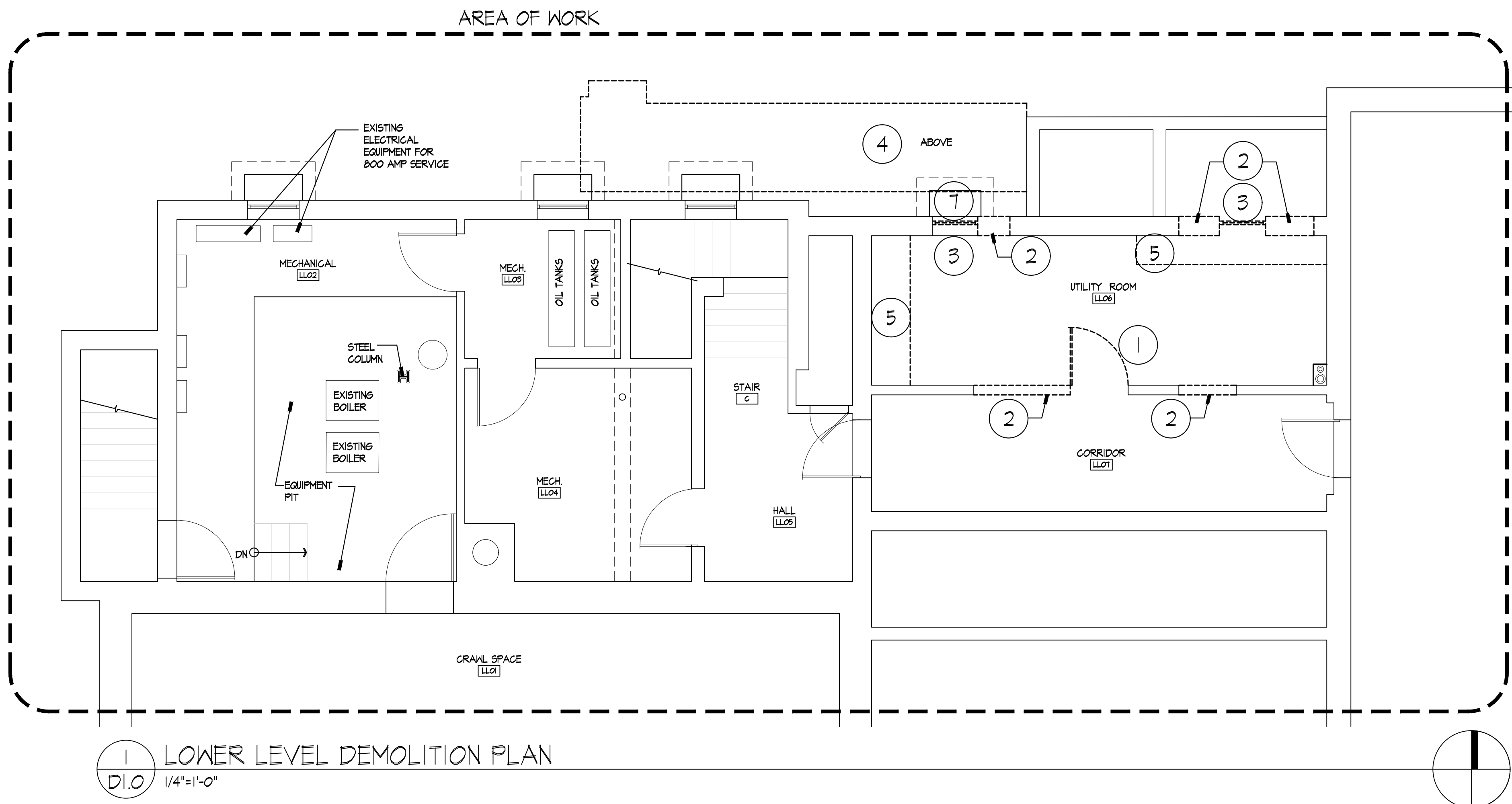
LIFE SAFETY PLAN

STATE OF CONNECTICUT  
PAUL B. BAILEY  
No. 9989  
LICENSED ARCHITECT

LS1.0

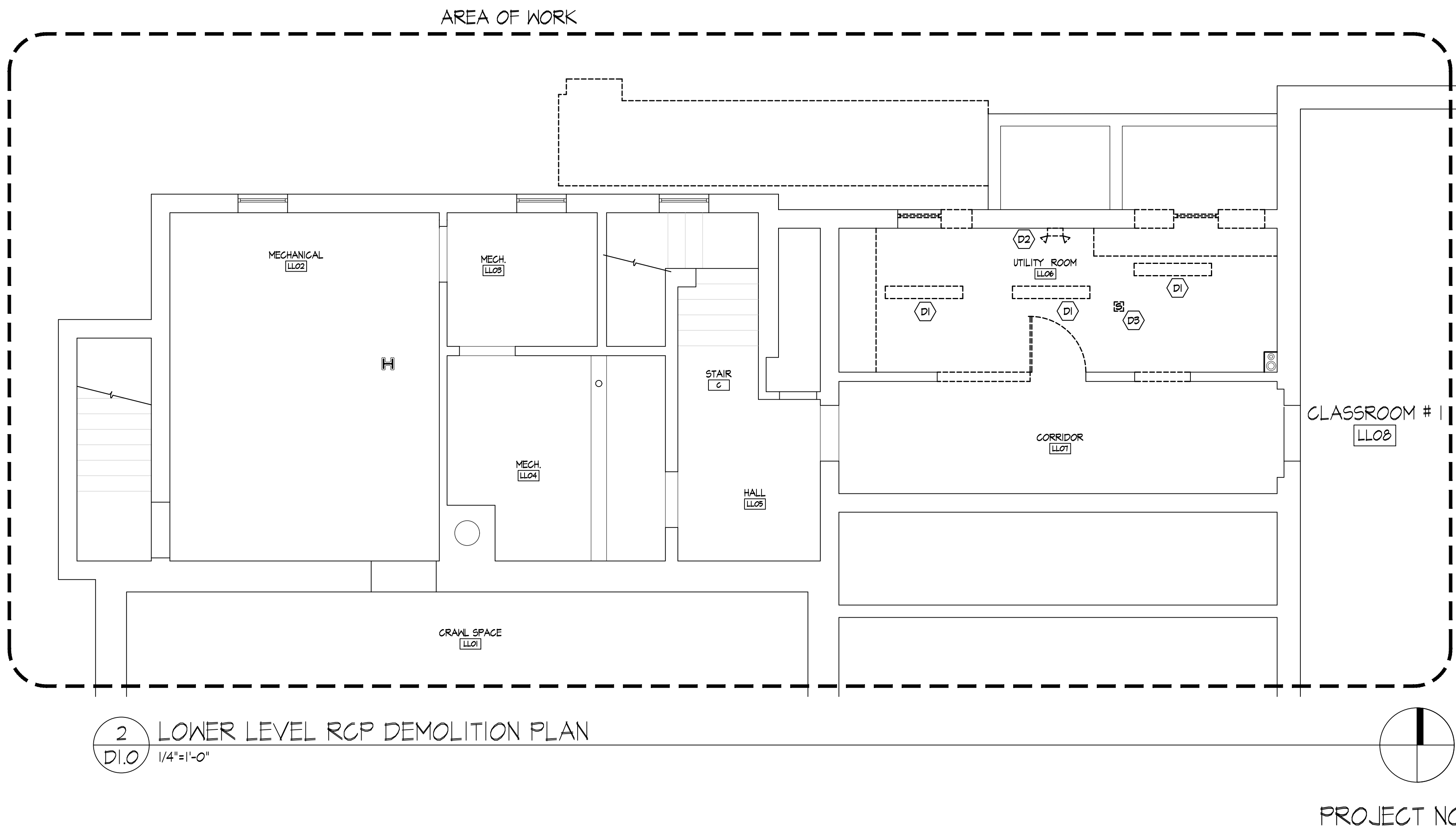


F:\P\1\2021\21-045 Wilton Church Enclosure\DWGS\21-045 D1.0 WILTON CHURCH QUARTER INCH SCALE DEMO FLOOR PLANS.dwg  
4/27/2022



DEMOLITION NOTES	
1	REMOVE DOOR.
2	REMOVE PORTION OF WALL.
3	REMOVE WINDOW.
4	REMOVE WOOD PORTION OF RAMP, DECK AND STEPS AND METAL RAILINGS. PRESERVE RAILINGS FOR REINSTALLATION.
5	RELOCATE WORK BENCH AND SHELVING TO SEXTON'S OFFICE, ROOM B-3 BASEMENT LEVEL.
6	REMOVE SHELVING.
7	REMOVE AREAWAY.

SYMBOL KEY	
	EXISTING WALLS, DOORS, WINDOWS, TO BE REMOVED
	EXISTING WALLS TO REMAIN



RCP - DEMOLITION NOTES	
D1	REMOVE EXISTING LIGHTING FIXTURE AND CONTROL.
D2	REMOVE EXISTING EMERGENCY LIGHTING FIXTURE.
D3	REMOVE EXISTING SMOKE DETECTOR.

SYMBOL KEY	
	EXISTING WALLS, DOORS, WINDOWS, TO BE REMOVED
	EXISTING WALLS TO REMAIN

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PROJECT NUMBER 223030790

PROJECT:  
**WILTON  
CONGREGATIONAL  
CHURCH**  
  
70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

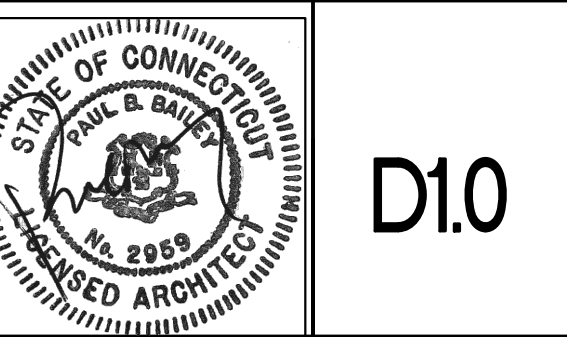
ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:  
**PERMIT SET**

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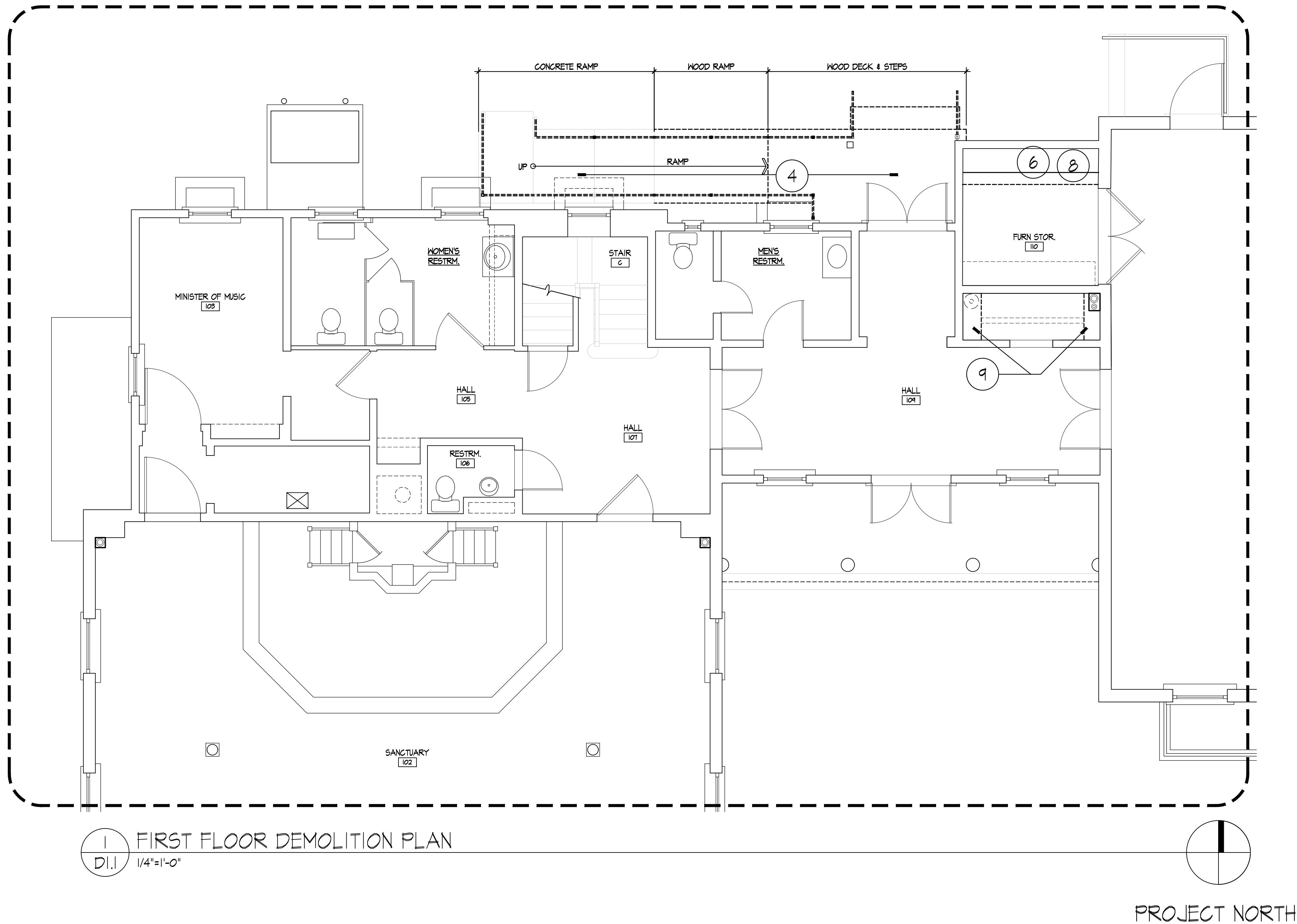
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SCALE: AS NOTED	CHECKED BY: SO
JOB NO: 21-045	

DRAWING NAME:  
**LOWER LEVEL  
DEMOLITION PLAN**





F:\P\61-2021\21-045 Wilton Church Enclosure\DWG\21-045 D1.1 WILTON CHURCH QUARTER INCH SCALE DEMO FLOOR PLANS.dwg  
11/21/2022



DEMOLITION NOTES	
①	REMOVE DOOR.
②	REMOVE PORTION OF WALL.
③	REMOVE WINDOW.
④	REMOVE WOOD AND CONCRETE PORTIONS OF RAMP, DECK AND STEPS AND METAL RAILINGS. PRESERVE RAILINGS FOR REINSTALLATION. PROVIDE SUPPORT FOR EXISTING PORCH ROOF TO REMAIN.
⑤	RELOCATE WORK BENCH AND SHELVING TO SEXTON'S OFFICE, ROOM B-3 BASEMENT LEVEL.
⑥	REMOVE SHELVING.
⑦	REMOVE AREAWAY.
⑧	REMOVE PORTION OF FLOOR.
⑨	REMOVE PORTION OF CEILING

SYMBOL KEY	
	EXISTING WALLS, DOORS, WINDOWS, TO BE REMOVED
	EXISTING WALLS TO REMAIN

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PROJECT NUMBER 223030790

PROJECT:  
**WILTON  
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CHURCH**  
**70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT**

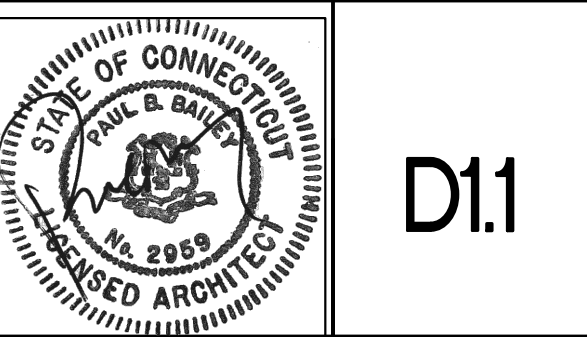
ISSUE	DATE	DESCRIPTION
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DRAWING NAME:  
**FIRST FLOOR  
DEMOLITION PLAN**



D1.1



F:\Proj\2020\21-045 Wilton Church Generator Enclosure\DWG\21-045 D21 WILTON CHURCH DEMO ELEVATIONS.dwg 4/17/2022



1 NORTH ELEVATION - DEMOLITION  
D2.0 1/8"=1'-0"

DEMOLITION NOTES	
①	REMOVE DOOR
②	REMOVE PORTION OF WALL
③	REMOVE WINDOW
④	REMOVE WOOD PORTION OF RAMP, DECK AND STEPS AND RAILINGS. PRESERVE RAILINGS FOR REINSTALLATION
⑤	RELOCATE WORK BENCH AND SHELVING TO SEXTON 'S OFFICE, ROOM B-3 BASEMENT LEVEL
⑥	REMOVE SHELVING
⑦	REMOVE AREAWAY.

SYMBOL KEY	
	EXISTING WALLS, DOORS, WINDOWS, TO BE REMOVED
	EXISTING WALLS TO REMAIN

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STAMFORD, CT 06905  
203-352-1717 FAX 203-352-1718  
PROJECT NUMBER: 223030790

PROJECT:  
**WILTON  
CONGREGATIONAL  
CHURCH**  
**70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT**

ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:  
**PERMIT SET**

**PAUL B. BAILEY  
• ARCHITECT •**  
110 AUDUBON STREET  
NEW HAVEN, CONNECTICUT 06510  
203 • 776 • 8888 F 203 • 772 • 1365

DATE: 10-15-21 DRAWN BY:  
SCALE: AS NOTED CHECKED BY: SO  
JOB NO: 21-045

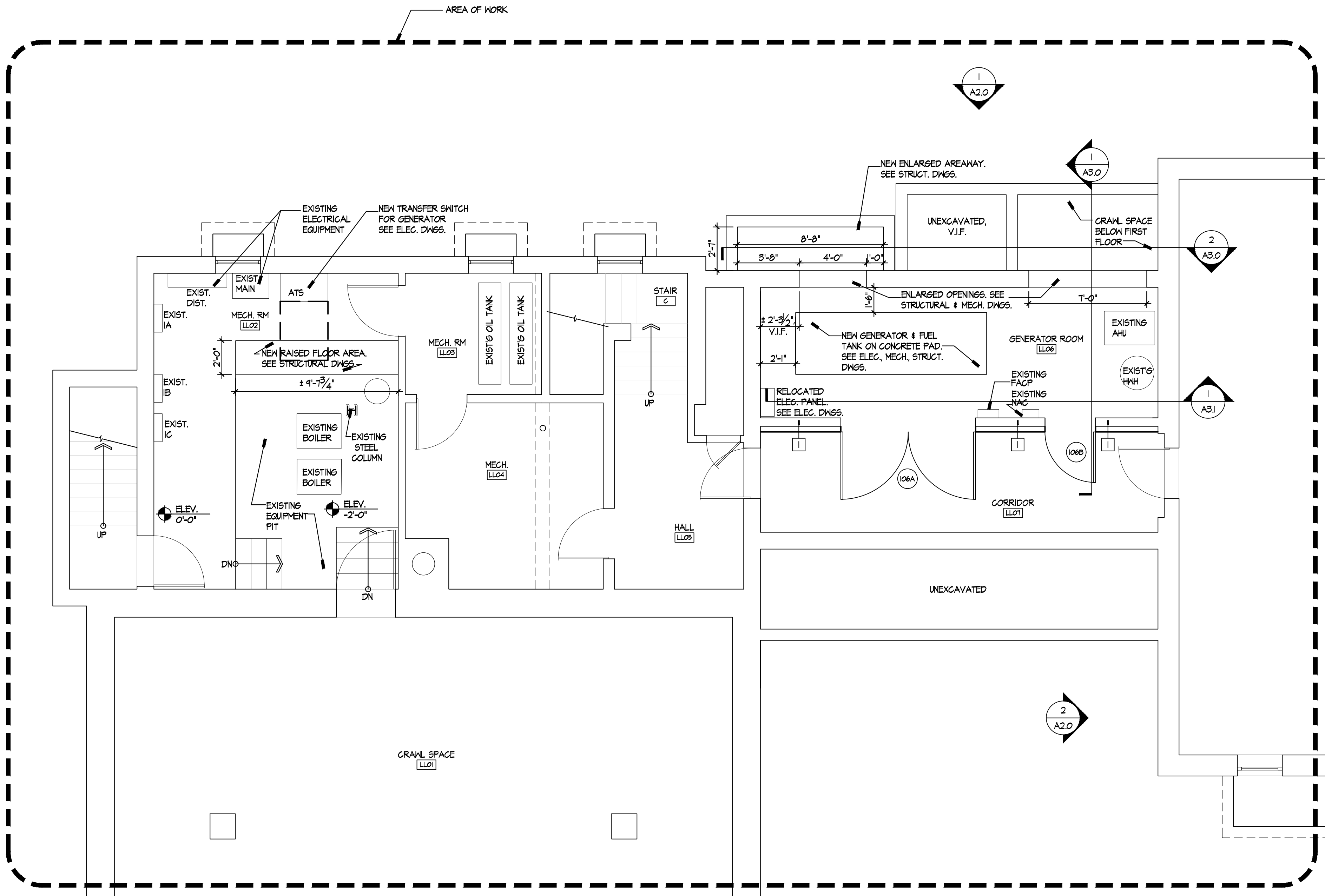
DRAWING NAME:  
**NORTH ELEVATION  
DEMOLITION**



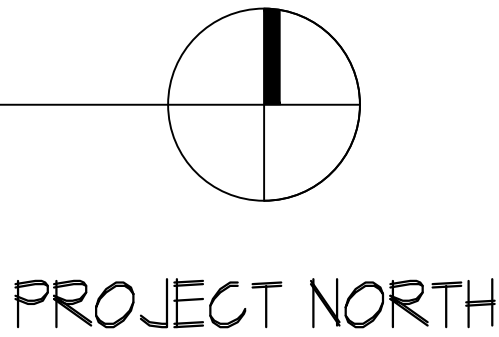
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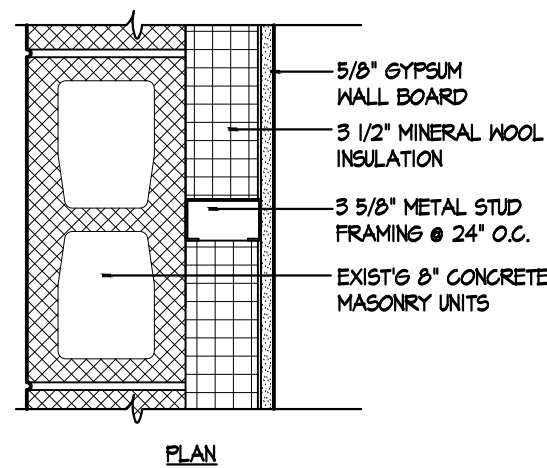
F:\Proj 2021\045 Wilton Church Generator Elevation\DWG\CD-045 A1.0 WILTON CHURCH QUARTER INCH FLOOR PLANS.dwg 4/27/2022



1 LOWER LEVEL PLAN  
A1.0 1/4"=1'-0"

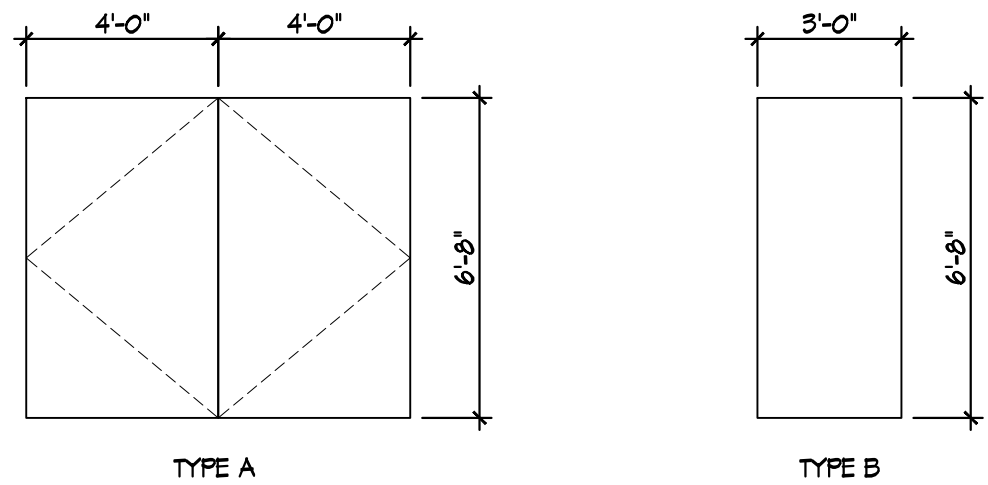


EXIST'G CMU WALL W/NEW FURRED WALL  
FIRE RATING: 3 HR UL# (M12)  
SOUND RATING: +/- STC 56



3 WALL TYPES  
N.T.S.

DOOR SCHEDULE						
DOOR NO.	TYPE	DESCRIPTION	FRAME	RATING	HARDWARE	MANUFACTURER
106A	A	(2)4'-0" x 6'-8" INSULATED HM	HM	90 MIN	SEE SPEC SECTION 0810 FOR SCHEDULE	SEE SPEC SECTION 0810 FOR LIST OF ACCEPTABLE MANUFACTURERS
106B	B	3'-0" x 6'-8" INSULATED HM	HM	90 MIN	SEE SPEC SECTION 0810 FOR SCHEDULE	SEE SPEC SECTION 0810 FOR LIST OF ACCEPTABLE MANUFACTURERS



2 DOOR SCHEDULE AND ELEVATIONS  
A1.0 1/4"=1'-0"

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PROJECT NUMBER 223030790

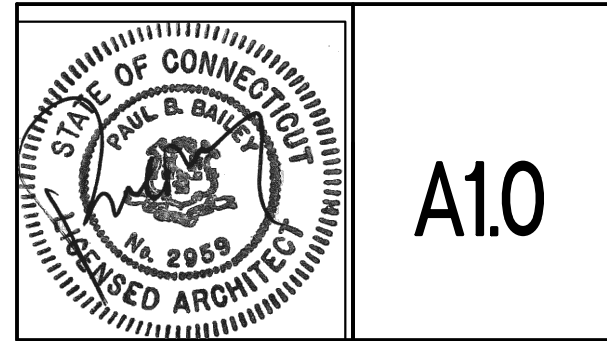
PROJECT:  
**WILTON CONGREGATIONAL CHURCH**  
70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:  
**PERMIT SET**

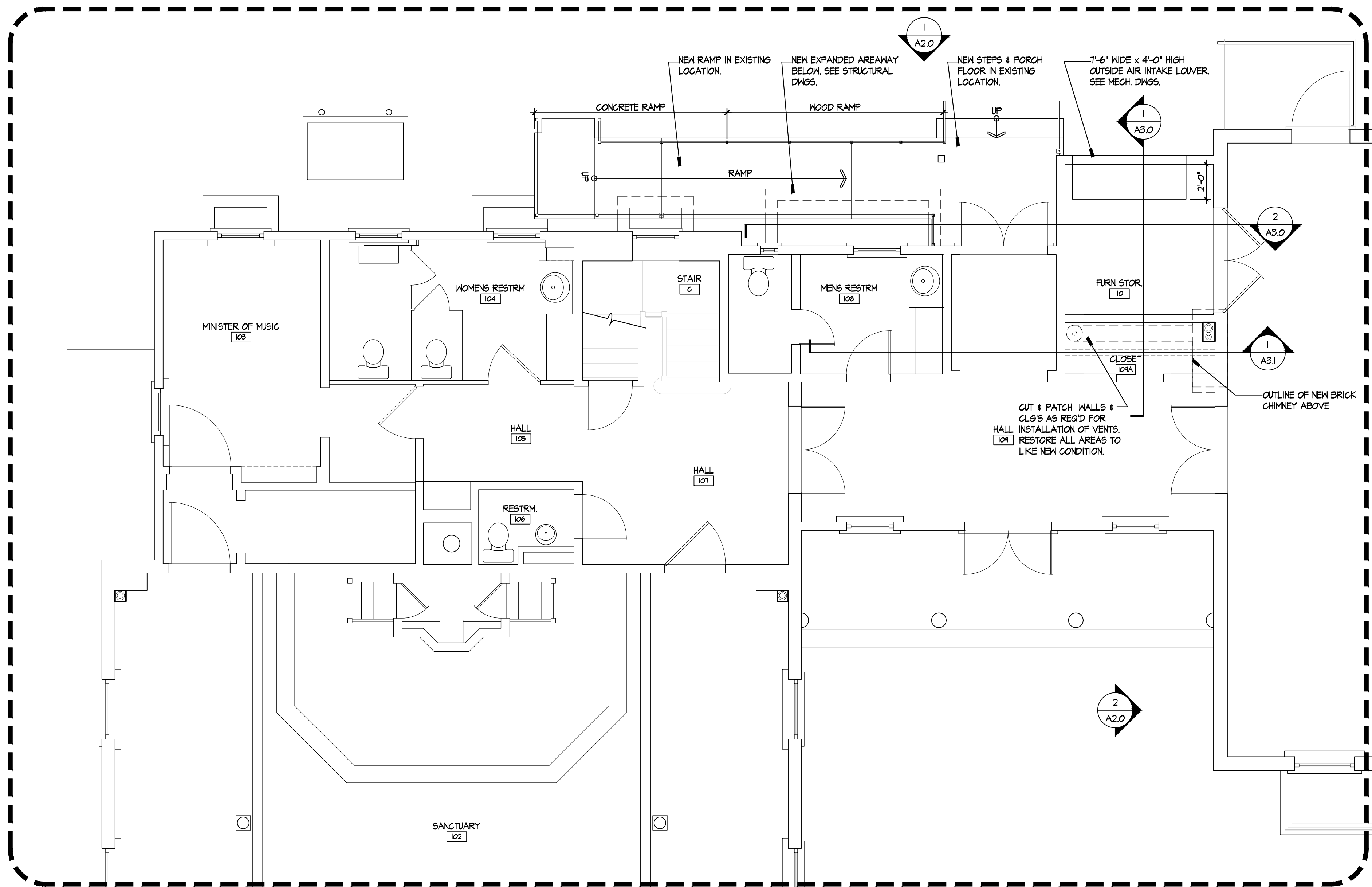
**PAUL B. BAILEY  
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203 • 776 • 8888 F 203 • 772 • 1365  
DATE: 10/15/2021 DRAWN BY:  
SCALE: AS NOTED CHECKED BY: SO  
JOB NO: 21-045

DRAWING NAME:  
**ENLARGED LOWER LEVEL PLAN**

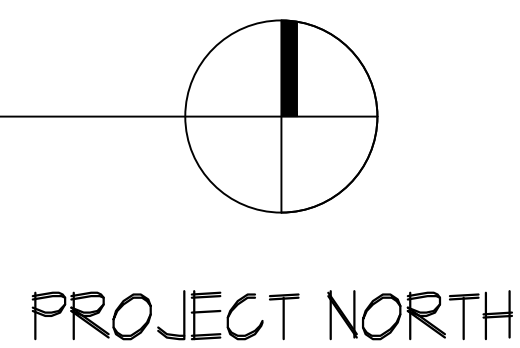




F:\P\p\ 2021\21-045 Wilton Church Enclosure\DWG\21-045 A1.0 WILTON CHURCH QUARTER INCH FLOOR PLANS.dwg 4/27/2022



1 FIRST FLOOR PLAN  
A1.1 1/4"=1'-0"



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PROJECT NUMBER 223030790

PROJECT:  
**WILTON CONGREGATIONAL CHURCH**  
70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:  
**PERMIT SET**

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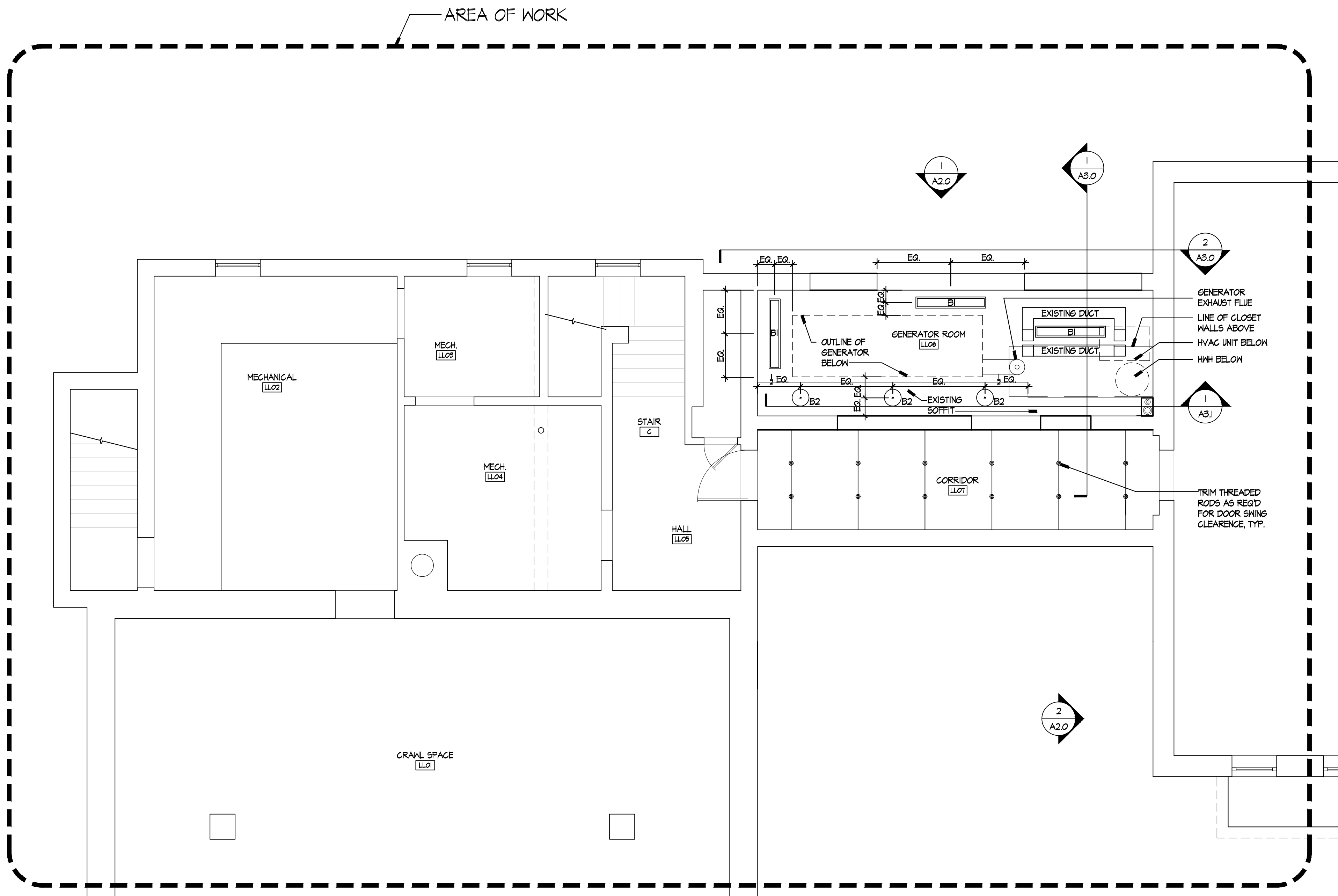
DATE: 10/15/2021 DRAWN BY:  
SCALE: AS NOTED CHECKED BY: 50  
JOB NO: 21-045

DRAWING NAME:  
**ENLARGED  
FIRST FLOOR PLAN**

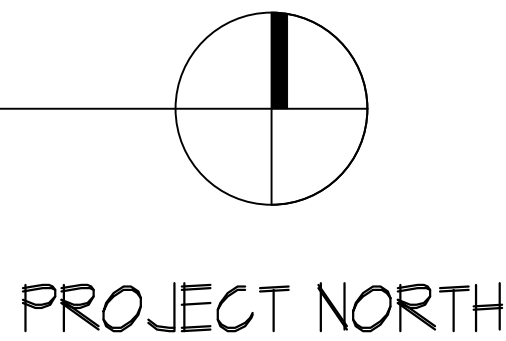




F:\Proj 2021\2-045 Wilton Church Generator Enclosure\DWG\CD\2-045 A1.2 WILTON CHURCH QUARTER INCH RCP PLAN.dwg 4/27/2022



1 A1.20 LOWER LEVEL REFLECTED CEILING PLAN  
1/4"=1'-0"



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PROJECT NUMBER 223030790

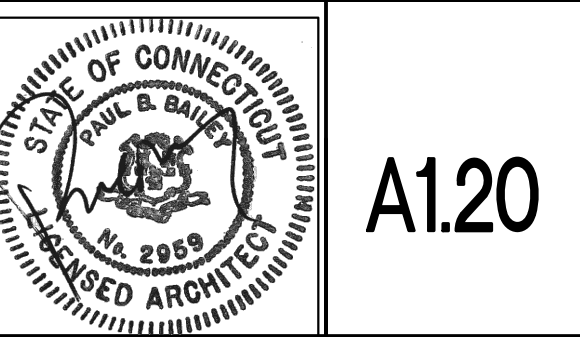
PROJECT:  
**WILTON  
CONGREGATIONAL  
CHURCH**  
70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:  
**PERMIT SET**

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DATE: 10/15/2021 DRAWN BY:  
SCALE: AS NOTED CHECKED BY: SO  
JOB NO: 21-045

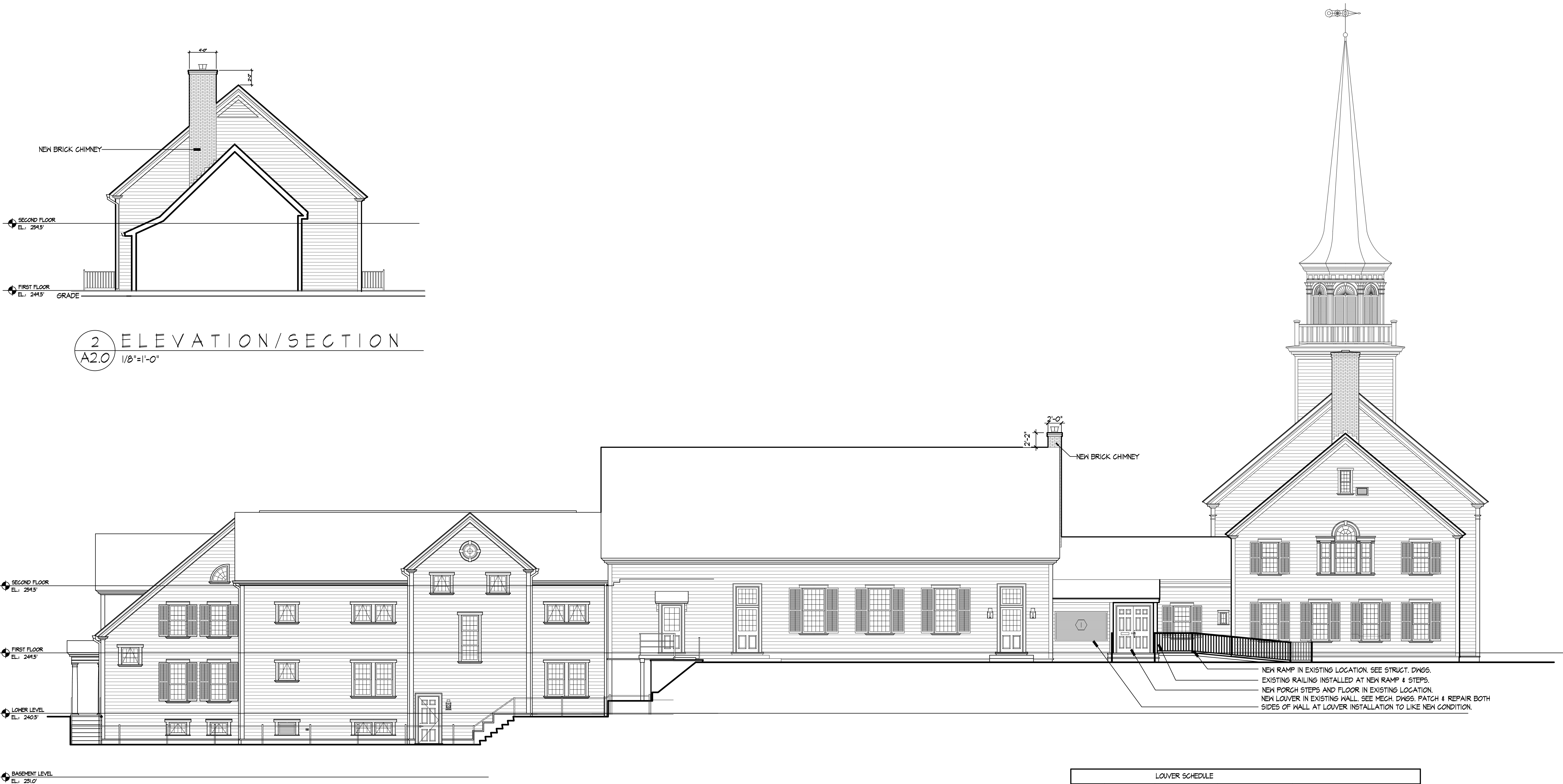
DRAWING NAME:  
**ENLARGED RCP  
LOWER LEVEL PLAN**



A1.20



F:\Proj\2020\1-045 Wilton Church Exterior Elevations.dwg, 4/21/2022



2 ELEVATION/SECTION  
A2.0 1/8"=1'-0"

1 NORTH ELEVATION  
A2.0 1/8"=1'-0"

LOUVER SCHEDULE				
ID	SIZE	COLOR	NET FREE AREA	MANUFACTURER
1	7'-6" x 4'-0"	WHITE	50%	SEE SPEC SECTION 10200 FOR LIST OF ACCEPTABLE MANUFACTURERS
2	4'-0" x 5'-0"	BLACK	50%	SEE SHEET R21 FOR SPECIFICATION

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PROJECT NUMBER: 223030790

PROJECT:

**WILTON  
CONGREGATIONAL  
CHURCH**

**70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT**

ISSUE	DATE	DESCRIPTION
	11/14/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:

**PERMIT SET**

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NEW HAVEN, CONNECTICUT 06510  
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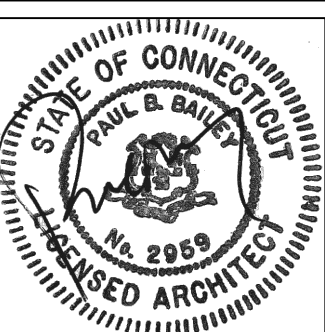
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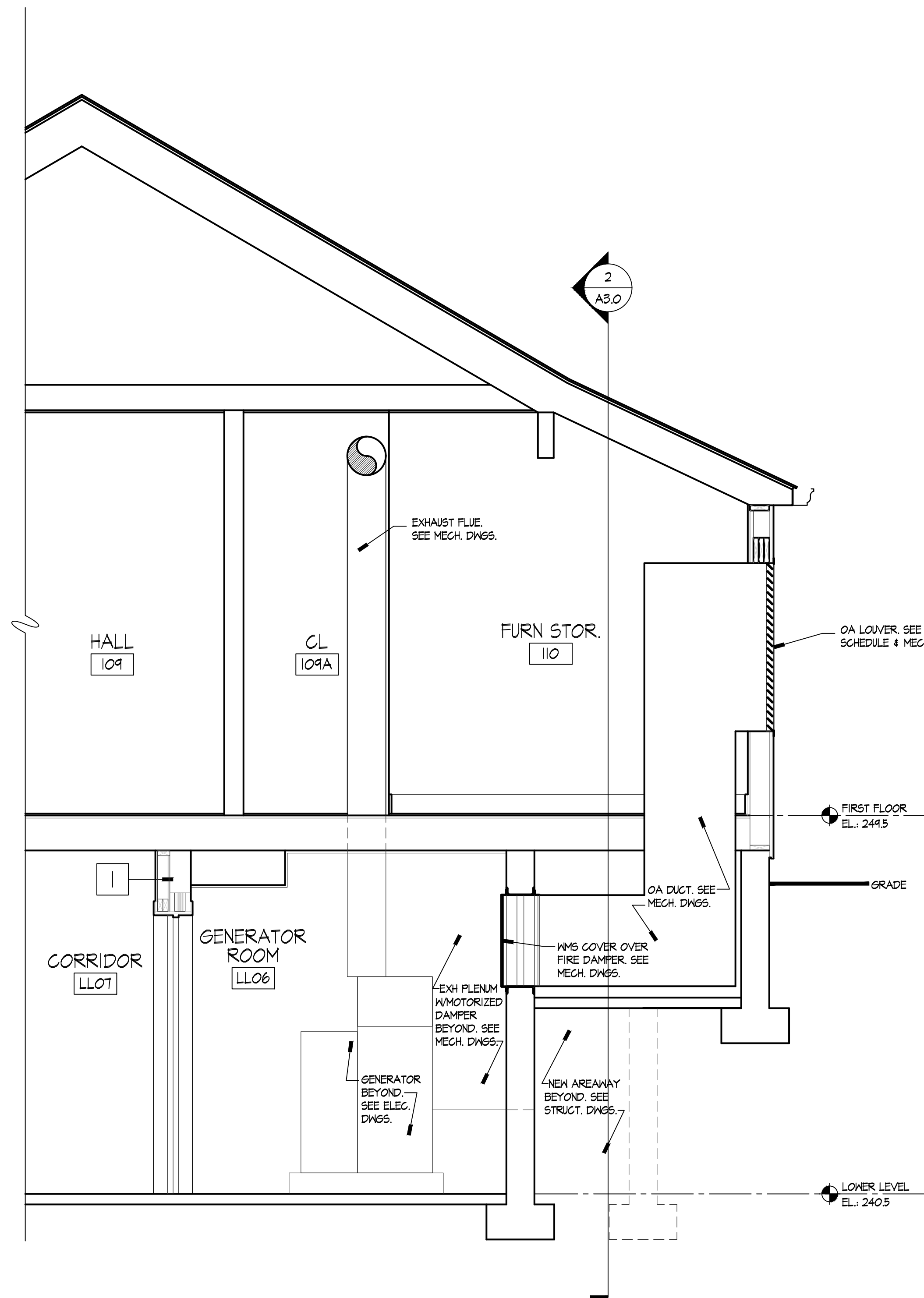
**EXTERIOR ELEVATIONS**



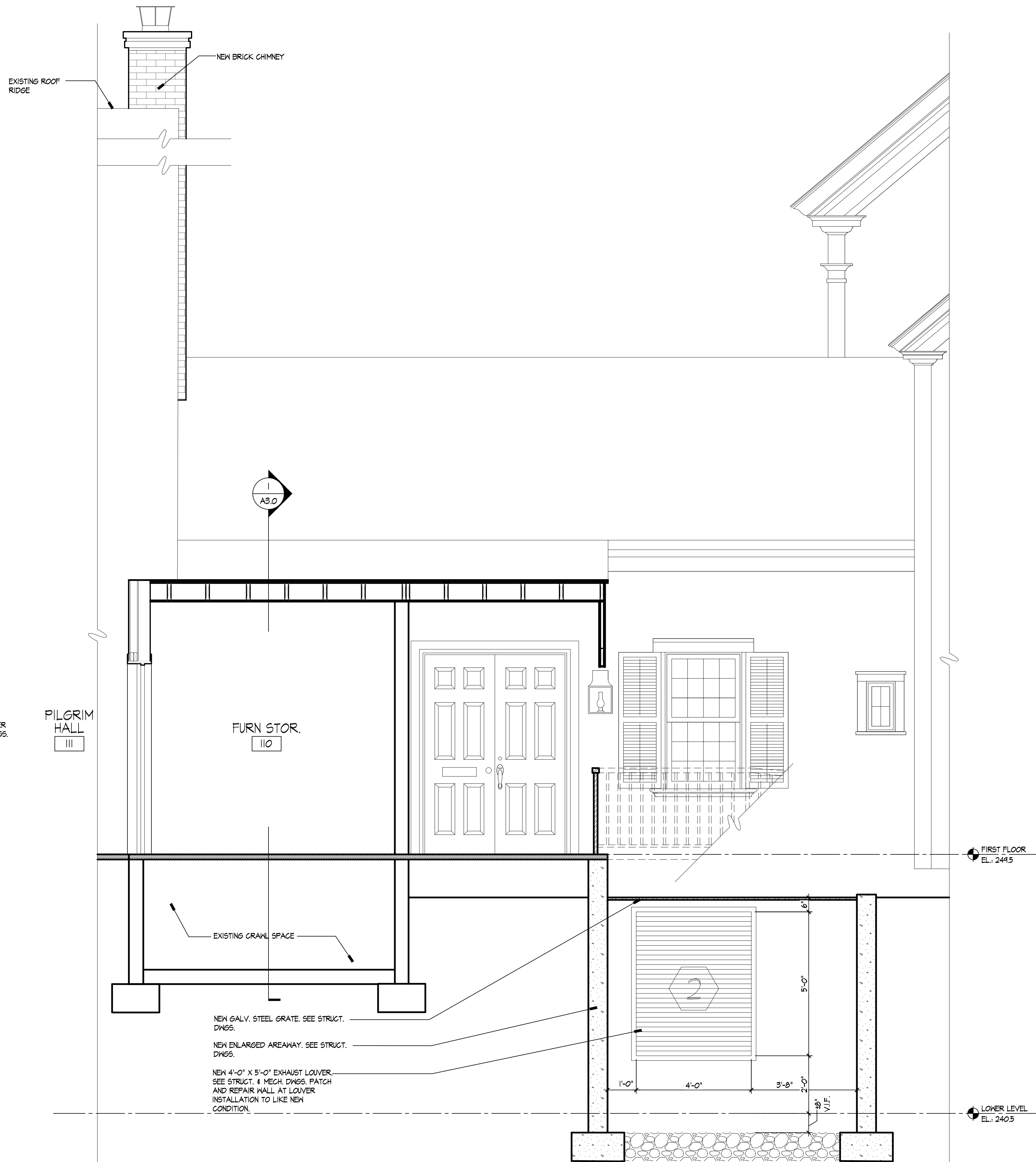
**A2.0**



F:\Proj\2021\21-045 Wilton Church Generator Enclosure\DWG\21-045 A3.0 WILTON CHURCH SECTIONS.dwg, 4/27/2022



1 SECTION  
A3.0 1/2"=1'-0"



2 SECTION @ NORTH ELEVATION  
A3.0 1/2"=1'-0"

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PROJECT NUMBER: 223030790

PROJECT:  
**WILTON CONGREGATIONAL CHURCH**  
70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

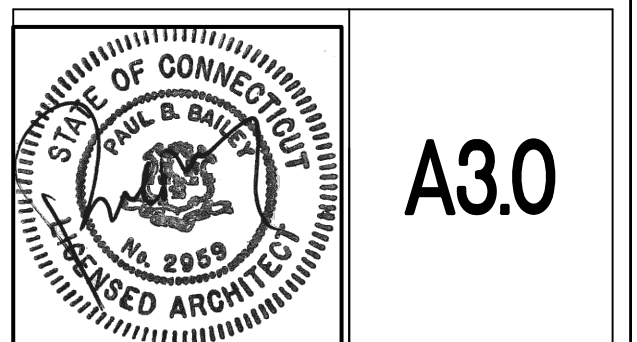
ISSUE	DATE	DESCRIPTION
	11/19/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:  
**PERMIT SET**

**PAUL B. BAILEY  
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110 AUBURN STREET  
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203 • 776 • 8888 F 203 • 772 • 1365

DATE: 10-5-21	DRAWN BY:
SCALE: AS NOTED	CHECKED BY: SO
JOB NO: 21-045	

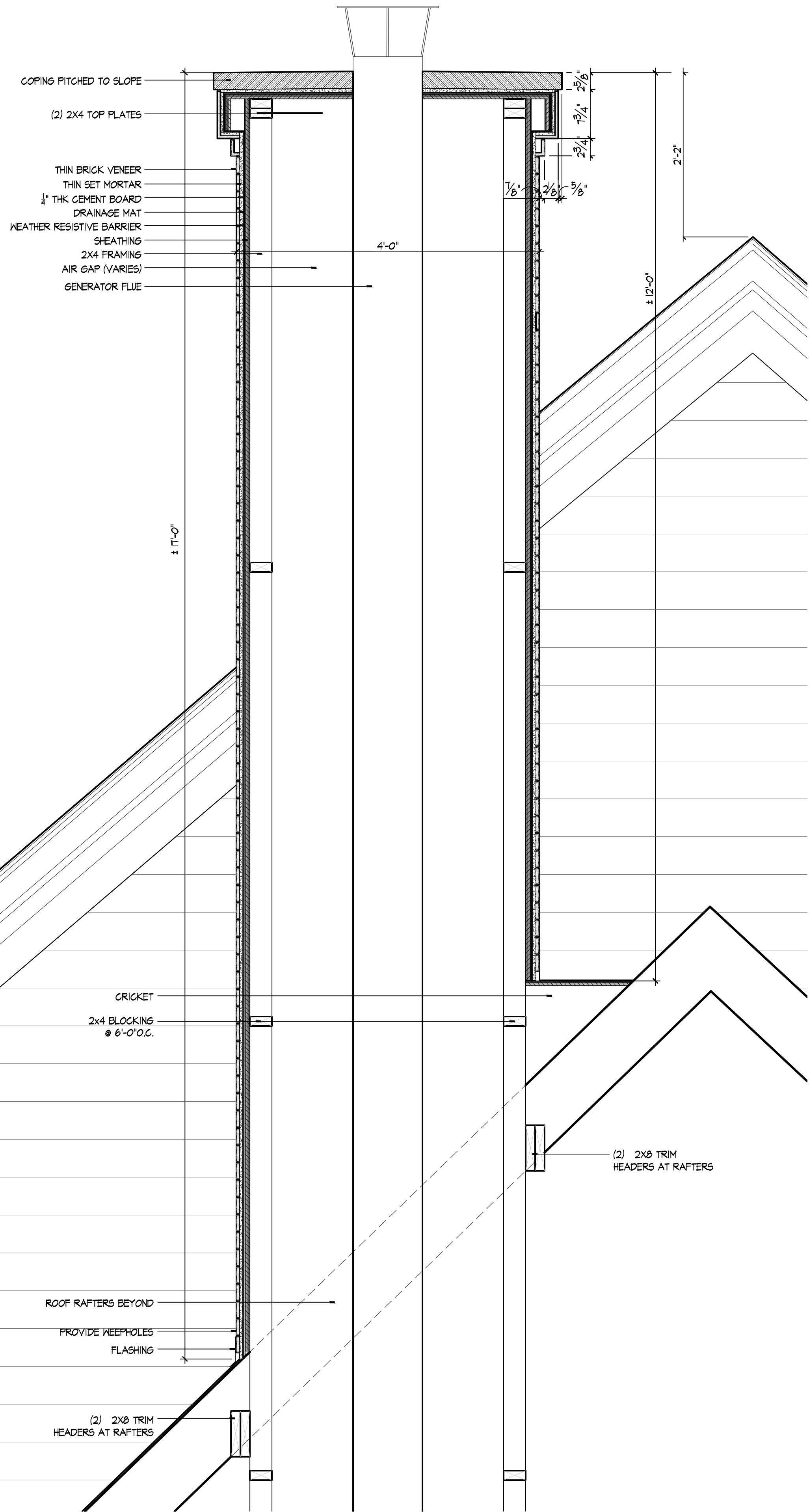
DRAWING NAME:  
**SECTIONS**



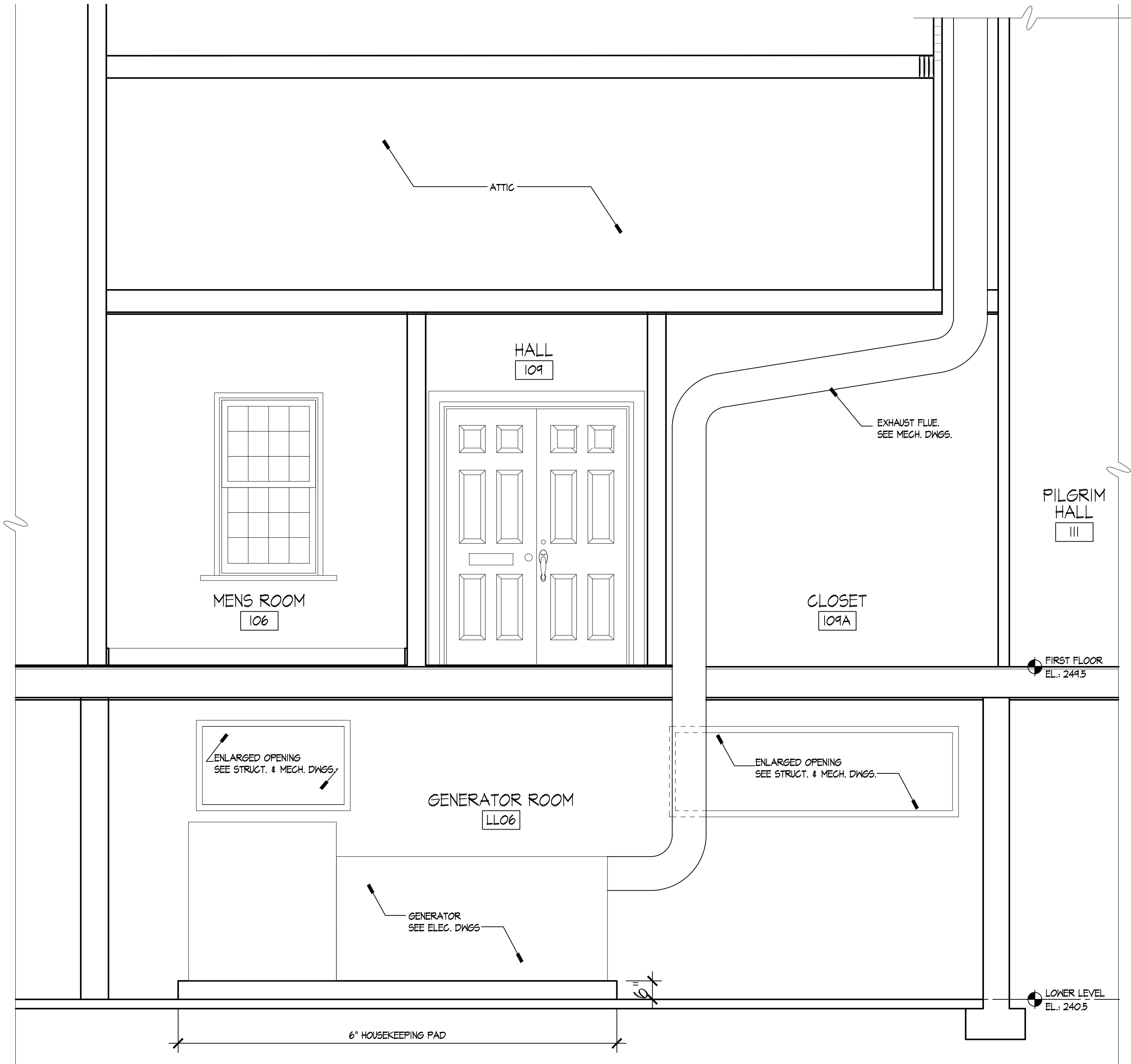
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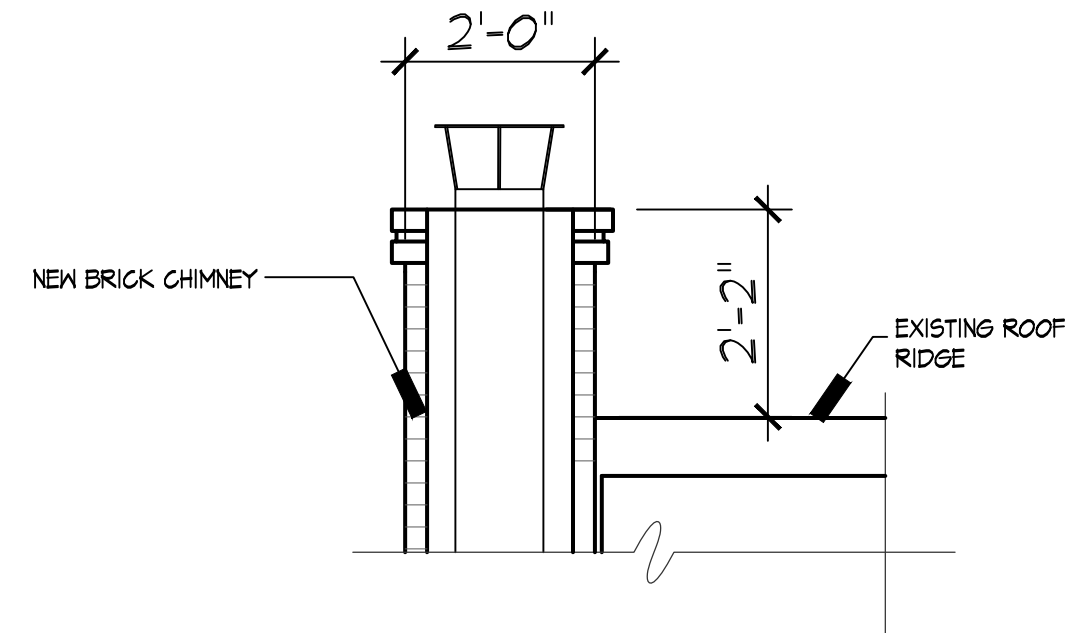
F:\Proj\2021\21-045 Wilton Church Generator Enclosure\DWG\21-045\_A3.0 WILTON CHURCH SECTION.dwg, 4/27/2022



2 DETAIL OF CHIMNEY AT GENERATOR FLUE  
A3.1 1"=1'-0"



1 SECTION  
A3.1 1/2"=1'-0"



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203-352-1717 FAX 203-352-1716  
PROJECT NUMBER: 223030790

PROJECT:

WILTON  
CONGREGATIONAL  
CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
	11/19/21	OWNER REVIEW SET
	12/20/21	BID SET
	4/1/22	HISTORIC COMMISSION REVIEW
	4/22/22	PERMIT SET

PHASE:

PERMIT SET

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• ARCHITECT •

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203 • 776 • 8888 F 203 • 772 • 1365

DATE: 10-15-21	DRAWN BY:
SCALE: AS NOTED	CHECKED BY: 50
JOB NO: 21-045	

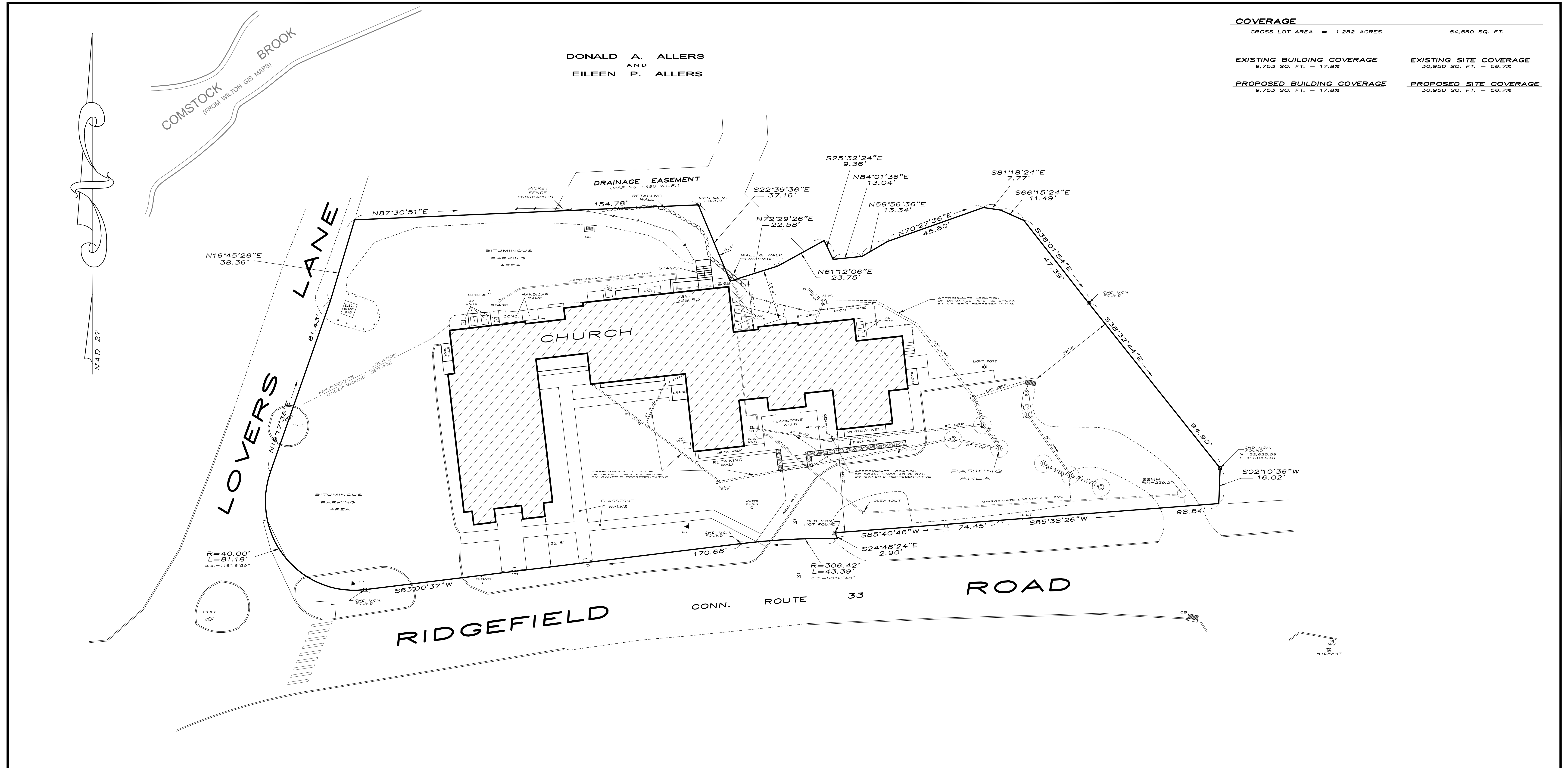
DRAWING NAME:

SECTION



A3.1





COVERAGE	
GROSS LOT AREA	= 1.252 ACRES
54,560 SQ. FT.	
<u>EXISTING BUILDING COVERAGE</u>	<u>EXISTING SITE COVERAGE</u>
9,753 SQ. FT. = 17.8%	30,950 SQ. FT. = 56.7%
<u>PROPOSED BUILDING COVERAGE</u>	<u>PROPOSED SITE COVERAGE</u>
9,753 SQ. FT. = 17.8%	30,950 SQ. FT. = 56.7%

NOTES

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THROUGH 20-300b-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC.

THE TYPE OF SURVEY IS A LIMITED PROPERTY/BOUNDARY - ZONING LOCATION SURVEY. IT IS INTENDED TO DEPICT COMPLIANCE OR NONCOMPLIANCE WITH ZONING REGULATIONS WITH RESPECT TO THE IMPROVEMENTS DEPICTED HEREON.

HORIZONTAL ACCURACY STANDARD - CLASS A-2.

BOUNDARY DETERMINATION/OPINION IS BASED UPON A RESURVEY.

REFERENCE IS HEREBY MADE TO MAPS #2992 & #5275, WILTON LAND RECORDS.

PROPERTY LOCATED IN R-2A RESIDENCE ZONE.

PROPERTY LOCATED IN FLOOD ZONE X AS DEPICTED ON FLOOD INSURANCE RATE MAPS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY. REFERENCE IS HEREBY MADE TO COMMUNITY-PANEL NUMBER 090020 0383 F DATED JUNE 18, 2010.

INLAND WETLAND LIMITS, IF ANY, NOT DEPICTED HEREON.

REFERENCE IS MADE TO EASEMENT AGREEMENT DATED NOVEMBER 7, 1987 RECORDED IN VOLUME 626 AT PAGE 349 WILTON LAND RECORDS.

REFERENCE IS MADE TO VARIANCE No. 92-04-12 DATED APRIL 14, 1992 RECORDED IN VOLUME 782 AT PAGE 341 WILTON LAND RECORDS.

REFERENCE IS MADE TO VARIANCE No. 06-05-16 DATED MAY 15, 2006 RECORDED IN VOLUME 1882 AT PAGE 151 WILTON LAND RECORDS.

REFERENCE IS MADE TO VARIANCE No. 06-05-17 DATED MAY 15, 2006 RECORDED IN VOLUME 1882 AT PAGE 152 WILTON LAND RECORDS.

REFERENCE IS MADE TO VARIANCE No. 06-06-21 DATED JUNE 19, 2006 RECORDED IN VOLUME 1882 AT PAGE 153 WILTON LAND RECORDS.

REFERENCE IS MADE TO WETLANDS PERMIT WET#1640 DATED NOVEMBER 10, 2006 ISSUED BY THE INLAND WETLANDS COMMISSION OF THE TOWN OF WILTON.

REFERENCE IS MADE TO SPECIAL PERMIT SP No.49A DATED MARCH 30, 2007 RECORDED IN VOLUME 1931 AT PAGE 325 WILTON LAND RECORDS.

ALL MONUMENTATION, FOUND OR SET, DEPICTED HEREON.

REFERENCE IS MADE TO WETLANDS PERMIT WET#1640 ISSUED UNDER RESOLUTION #1106-107WET DATED NOVEMBER 10, 2006 ON FILE IN THE OFFICE OF THE INLAND WETLANDS COMMISSION OF THE TOWN OF WILTON.

THIS PLAN HAS BEEN PREPARED FROM A FIELD SURVEY COMPLETED ON AUGUST 4, 2011. IT IS SUBJECT TO REVISION AS A CURRENT FIELD SURVEY MAY DISCLOSE.

AREA = 1.252 ACRES

PROPERTY ADDRESS  
70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ZONING LOCATION SURVEY  
PROPOSED GENERATOR IMPROVEMENTS  
PREPARED FOR  
**WILTON CONGREGATIONAL CHURCH, INC.**  
WILTON, CONNECTICUT

REVISIONS	
DATE	DESCRIPTION
MAY 18, 2021	PROPOSED GENERATOR & FENCING REVISED
MAY 28, 2021	PROPOSED BUILDING COVERAGE REVISED
JAN. 18, 2022	PROPOSED GENERATOR REMOVED
	PROPOSED BUILDING COVERAGE REVISED

TO MY KNOWLEDGE AND BELIEF  
THIS MAP IS SUBSTANTIALLY  
CORRECT AS NOTED HEREON.

DOUGLAS R. FAULDS  
LAND SURVEYOR CONN. LIC. No. 13292

FEBRUARY 10, 2021

**Ryan and Faulds**  
LAND SURVEYORS | A Redniss & Mead Company

11 GRUMMAN HILL ROAD  
WILTON, CT 06897  
Ph. (203) 762-9492 ryanandfaulds.com



MECHANICAL SYMBOLS - GENERAL	
	NEW PIPING, DUCTWORK, OR EQUIPMENT
	EXISTING PIPING, DUCTWORK, OR EQUIPMENT TO REMAIN
	EXISTING PIPING, DUCTWORK, OR EQUIPMENT TO BE REMOVED
	NEW EQUIPMENT
	EXISTING EQUIPMENT TO BE REMOVED
	EXISTING EQUIPMENT TO REMAIN
	EXISTING EQUIPMENT TO BE REMOVED AND RELOCATED
	RELOCATED POSITION OF EXISTING EQUIPMENT
	CONTINUATION FOR DUCTWORK OR PIPING
	TYPE OF EQUIPMENT (AIR HANDLING UNIT) UNIT NUMBER
	POINT OF CONNECTION (OF NEW WORK TO EXISTING WORK) OR POINT OF DISCONNECTION (TO REMOVE AND PATCH EXISTING WORK)
	DRAWING NOTE TAG
	REVISION SYMBOL
	THERMOSTAT (HAS DISPLAY, OCCUPANT ADJUSTMENT, OR BOTH) TO BE WALL MOUNTED. REFER TO PLANS FOR LOCATION.

MECHANICAL SYMBOLS - DUCTWORK		
		DUCT SIZE (FIRST FIGURE INDICATES HORIZONTAL SIZE)
		ROUND DUCT DIAMETER
		SUPPLY OR OUTSIDE AIR INTAKE DUCT UP
		SUPPLY OUTSIDE AIR INTAKE DUCT DOWN
		RETURN OR EXHAUST DUCT UP
		RETURN OR EXHAUST DUCT DOWN
		ACOUSTICAL LINING IN DUCT
		MITERED ELBOW WITH TURNING VANES
		RADIUS ELBOW (INNER RADIUS = WIDTH)
		DUCT SPLIT
		90° BRANCH TAP (USE 45° BOOT, OR CONICAL TAP FOR BRANCH SERVING A SINGLE DIFFUSER/REGISTER ONLY)
		45° BRANCH TAP
		SPLIT (SUPPLY) OR CONVERGENCE (RETURN/EXHAUST) RADIUS ELBOW TYPE
		SPLIT (SUPPLY) OR CONVERGENCE (RETURN/EXHAUST) MITERED ELBOW TYPE WITH TURNING VANES
		SPLIT (SUPPLY) OR CONVERGENCE (RETURN/EXHAUST) BULLHEAD TYPE
		OFFSET (WITH RADIUS ELBOWS)
		VOLUME DAMPER
		FIRE DAMPER W/DUCT ACCESS DOOR (FD/AD)
		MOTORIZED DAMPER W/DUCT ACCESS DOOR
		FLEXIBLE CONNECTION

## MECHANICAL GENERAL NOTES

- THESE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND ARE INTENDED TO CONVEY THE SCOPE OF WORK AS WELL AS INDICATE GENERAL ARRANGEMENT OF EQUIPMENT, DUCTWORK AND PIPING. THE CONTRACTOR SHALL ADHERE TO THESE DRAWINGS AS CLOSELY AS POSSIBLE. HOWEVER, THE RIGHT IS RESERVED TO VARY THE RUNS OF DUCTWORK AND PIPING AND TO MAKE OFFSETS, WHERE NECESSARY, TO ACCOMMODATE CONDITIONS ARISING AT THE JOB SITE. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO WORK SHALL BE PERFORMED PRIOR TO RECEIPT OF EQUIPMENT, DUCTWORK, AND PIPING FABRICATION SHOP DRAWING APPROVAL.
- THE DRAWINGS AND SPECIFICATIONS SHALL BE INTERPRETED SO AS TO REQUIRE THE MOST SUBSTANTIAL AND COMPREHENSIVE PERFORMANCE OF THE WORK, CONSISTENT WITH THE INTENT AND REQUIREMENTS OF THE CONTRACT DOCUMENTS, AND SUCH WORK SHALL BE PERFORMED BY THE CONTRACTOR WITHOUT EXTRA COST TO THE OWNER. IN THE CASE OF A DISCREPANCY WITHIN THE CONTRACT DOCUMENTS, THE WORST CASE OR HIGHEST COST SHALL APPLY FOR BIDDING PURPOSES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY VIA RFI PRIOR TO PERFORMING THE ASSOCIATED WORK.
- ANY MATERIAL, WORK, OR INCIDENTAL ACCESSORIES OR MINOR DETAILS NOT SHOWN BUT NECESSARY TO MAKE THE WORK COMPLETE IN ALL RESPECTS AND READY FOR OPERATION, EVEN IF NOT PARTICULARLY SHOWN ON THE DRAWINGS, SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. WHERE ACOUSTICALLY LINED DUCT IS SPECIFIED, OUTER DUCT DIMENSIONS SHALL BE INCREASED TO ACCOMMODATE LINING.
- WHERE WORK IS INDICATED TO BE BY OTHER CONTRACTORS, FOR EXAMPLE: "BY GENERAL CONSTRUCTION CONTRACTOR", THIS WORK IS NOT IN THE HVAC/MECHANICAL CONTRACT. EACH CONTRACTOR WILL BE RESPONSIBLE FOR CLOSE COORDINATION WITH OTHER CONTRACTORS' WORK.
- INSTALL THERMOSTATS, FAN SPEED CONTROLLERS, AND OTHER ROOM OCCUPANT ADJUSTABLE CONTROLS WITH TOP OF DEVICE 4'-0" ABOVE FINISHED FLOOR OR AS DIRECTED OTHERWISE BY ARCHITECT. COORDINATE EXACT LOCATIONS WITH THE ARCHITECTURAL PLANS. DEVICE COLORS TO BE SELECTED BY THE ARCHITECT. MANUFACTURER'S LOGO SHALL NOT BE EXPOSED.
- PROVIDE FIRESTOPPING FOR ALL DUCT, PIPE, AND CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS.
- WHERE DUCTS AND PIPES PENETRATE FIRE AND/OR SMOKE RATED WALLS, LEAVE A MINIMUM OF 2 INCHES CLEAR ABOVE THE DUCTS AND PIPES, SUCH THAT THE GENERAL CONTRACTOR CAN SEAL THE WALL ABOVE THE DUCTS. DO NOT INSTALL FLEXIBLE DUCTWORK THROUGH FIRE AND/OR SMOKE RATED WALLS.
- PROVIDE ESCUTCHEON PLATES WHERE DUCTS OR PIPES PENETRATE CEILINGS, WALLS, OR FLOORS WHERE EXPOSED TO VIEW IN FINISHED AREAS. ESCUTCHEONS FOR DUCTS SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS DUCT. PIPE ESCUTCHEONS SHALL BE CHROME-PLATED BRASS.
- REFER TO SPECIFICATIONS FOR ACOUSTIC LINING REQUIREMENTS NOT SHOWN OR NOTED ON THE DRAWINGS.
- GENERAL NOTES, SYMBOLS, ABBREVIATIONS, AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
- RELOCATE EXISTING WORK THAT INTERFERES WITH WORK OF THIS CONTRACT.
- COORDINATE THIS WORK WITH THAT OF OTHER TRADES.
- DIMENSIONS SHOWN ON PLAN ARE HORIZONTAL. DIMENSIONS SHOWN IN ELEVATION ARE VERTICAL, EXCEPT IN WAY OF STRUCTURAL STEEL, DIMENSIONS ARE MEASURED PERPENDICULAR TO FLANGE.
- PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURERS' RECOMMENDATIONS.
- PROVIDE HANGERS, INSERTS, ANCHORS, SUPPLEMENTAL STEEL & SUPPORTS AS REQUIRED TO SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM STRUCTURE.
- PROVIDE CONCRETE HOUSEKEEPING PADS FOR ALL FLOOR-MOUNTED EQUIPMENT, UNLESS OTHERWISE NOTED. EACH CONCRETE EQUIPMENT PAD SHALL BE 4" HIGH AND EXTEND 3" BEYOND THE BASE OF THE UNIT/UNITS IT SERVES ON ALL SIDES, UNLESS OTHERWISE NOTED IN PLANS, SPECIFICATIONS, OR EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
- SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERING WITH EXISTING OPERATIONS IN THE FACILITY.
- COORDINATE ALL ROOF PENETRATIONS WITH THE WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS. COORDINATE ALL ROOF PENETRATION LOCATIONS WITH THE OWNER. NOTIFY THE OWNER PRIOR TO STARTING WORK AND VERIFY COMPLIANCE WITH BOND AND WARRANTY OF THE ROOF.
- RUN DUCTS AND PIPING CONCEALED, UNLESS OTHERWISE SPECIFIED, AND CLEAR OF CEILING INSERTS.
- PROVIDE CLEARANCE IN FRONT OF ALL ELECTRIC CONTROL PANELS PER N.E.C. AND EQUIPMENT MANUFACTURERS' REQUIREMENTS.
- PRIOR TO SUBMISSION OF SHOP DRAWINGS, COORDINATE WITH ELECTRICAL CONTRACTOR TO VERIFY VOLTAGES AVAILABLE FOR MECHANICAL EQUIPMENT.
- USE FLAT TRANSVERSE SEAM FOR DUCTWORK WHERE SPACE AVAILABLE DICTATES.
- ALL DUCTWORK AND PIPING SHALL BE INSTALLED TIGHT TO BOTTOM OF STRUCTURAL MEMBERS UNLESS OTHERWISE NOTED OR ABSOLUTELY REQUIRED BY FIELD CONDITIONS.
- DO NOT INSTALL DUCTWORK OR PIPING DIRECTLY UNDER AND PARALLEL TO THE WEB OF STRUCTURAL MEMBERS. OFFSET IN ORDER TO ALLOW FUTURE DUCTWORK AND PIPING TO CROSS OVER IN BETWEEN STRUCTURAL MEMBERS.
- NEW AND EXISTING PERMANENT HVAC AIR EQUIPMENT MAY BE USED BY CONTRACTORS DURING CONSTRUCTION FOR TEMPORARY HEATING, COOLING, AND VENTILATION, ONLY UNDER THE FOLLOWING CONDITIONS:
  - CONTRACTOR TO PROVIDE TEMPORARY FILTERS IN EACH UNIT DURING CONSTRUCTION, WHICH SHALL BE REPLACED WITH NEW CLEAN FILTERS AFTER GENERAL CONSTRUCTION IS COMPLETED.
  - CONTRACTOR TO PROVIDE FILTER FABRIC AT ALL RETURN AND EXHAUST REGISTERS, GRILLES, AND OPENINGS DURING CONSTRUCTION.

## MECHANICAL GENERAL NOTES (CONTINUED)

- THE WARRANTY PERIOD FOR ALL EQUIPMENT SHALL NOT BEGIN UNTIL CONSTRUCTION IS COMPLETED. IF THE EQUIPMENT MANUFACTURER'S WARRANTY PERIOD BEGINS WHILE THE UNIT USED DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH EXTENDING THE WARRANTY TO PROVIDE THE FULL PERIOD OF COVERAGE TO THE OWNER.
- IF NEW PERMANENT HVAC AIR EQUIPMENT INSTALLED UNDER THIS PROJECT WILL NOT BE OPERATED BY THE CONTRACTOR DURING CONSTRUCTION, ALL OPEN OR INCOMPLETE DUCTWORK SHALL BE CAPPED AIRTIGHT WITH HEAVY POLYETHYLENE PLASTIC. AFTER THE INSTALLATION OF DUCTWORK, REGISTERS, GRILLES, AND DIFFUSERS, THE CONTRACTOR SHALL BLANK OFF ALL REGISTERS, GRILLES, AND DIFFUSERS WITH HEAVY POLYETHYLENE PLASTIC AND TAPE AIR TIGHT, IN AREAS THAT ARE UNDER CONSTRUCTION, UNTIL WORK IS COMPLETE IN THOSE AREAS.
- IF THE ABOVE CONDITIONS ARE NOT MET, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY NECESSARY TEMPORARY HEATING, COOLING, AND VENTILATION EQUIPMENT, DUCTWORK, CONTROLS, PIPING, AND POWER AT HIS OWN EXPENSE.
- IF PERMANENT HVAC EQUIPMENT IS USED DURING CONSTRUCTION BUT NOT PROPERLY PROTECTED AS DESCRIBED ABOVE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING OUT DUST AND DEBRIS FROM DUCTWORK AND EQUIPMENT, AS WELL AS ANY NECESSARY REPAIR OR REPLACEMENT OF DAMAGED EQUIPMENT AT HIS OWN EXPENSE.
- WHEN GENERAL CONSTRUCTION IS COMPLETE, VACUUM CLEAN ALL DIFFUSERS, REGISTERS, GRILLES, AND HVAC EQUIPMENT IN THE PROJECT AREA OR SERVING THE PROJECT AREA. REMOVE ANY CONSTRUCTION DEBRIS.

## MECHANICAL SYMBOL LIST - PIPING

		DIRECTION OF FLOW IN PIPE
		PITCH PIPE DOWN IN DIRECTION OF ARROW
		ELBOW TURNED UP
		ELBOW TURNED DOWN
		BOTTOM PIPE CONNECTION
		TOP PIPE CONNECTION
		CHECK VALVE (ARROW INDICATES FLOW DIRECTION)
		BALL VALVE
		FUEL OIL SUPPLY
		FUEL OIL RETURN

## MECHANICAL ABBREVIATIONS

AD	ACCESS DOOR
AH	AIR HANDLING UNIT
ATC	AUTOMATIC TEMPERATURE CONTROL
BMS	BUILDING MANAGEMENT SYSTEM
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
CV	CONSTANT VOLUME
E	EXISTING
ER	EXISTING EQUIPMENT TO REMOVED
ERR	EXISTING EQUIPMENT TO REMOVED AND RELOCATED
EW	ENTER WATER TEMPERATURE
FXC	FLEXIBLE CONNECTION
FLA	FULL LOAD AMPS
GPM	GALLONS PER MINUTE
HWP	HOT WATER PUMP
HX	HEAT EXCHANGER
HZ	HERTZ
KW	KILOWATT
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PH	PHASE
PSI	POUND PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAUGE
RE	RELOCATED POSITION OF EXISTING EQUIPMENT
TYP	TYPICAL
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
WMS	WIRE MESH SCREEN

## MECHANICAL DEMOLITION GENERAL NOTES

- DEMOLITION NOTES, SYMBOL LIST, AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
- ALL PIPING IN WALLS AND FLOORS NOT TO BE REUSED WILL BE PLUGGED OR CAPPED, AND CUTTING AND PATCHING WILL BE PERFORMED TO RESTORE SURFACE TO ORIGINAL CONDITION BY THIS CONTRACTOR.
- AFTER REMOVING PIPE THROUGH THE FLOOR SLABS, PACK OPENING WITH APPROVED FIRE-RATED PACKING.
- THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF HVAC WORK AS DESCRIBED ON THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORESEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE OWNER/ENGINEER.
- THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING HVAC SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
- DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR, OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION.
- THE CONTRACTOR SHALL REMOVE ALL DUCT AND PIPING SUPPORTS, ETC. FROM PARTITIONS THAT ARE TO BE REMOVED, WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING PIPING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
- ALL PIPING WHICH BECOMES EXPOSED DURING THE ALTERATION WORK SHALL BE REAVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
- PORTIONS OF PIPING AND DUCTWORK TO BE REMOVED OR ABANDONED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ACTIVE, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED, AND RECONNECTED.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE, SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
- ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE HVAC CONTRACTOR, AS DIRECTED BY THE OWNER.
- ARRANGE TO WORK CONTINUOUSLY, INCLUDING OVER TIME, IF REQUIRED, TO ASSURE THAT SYSTEMS WILL BE SHUT DOWN ONLY DURING THE TIME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
- THE SHUTDOWN OF EXISTING BUILDING HVAC SERVICES SHALL BE COORDINATED WITH WITH THE OWNER. MAKE ARRANGEMENTS AT LEAST FIVE (5) BUSINESS DAYS PRIOR TO A SHUTDOWN.
- CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
- WHERE THE DEMOLITION OF EXISTING PNEUMATIC CONTROL EQUIPMENT, THERMOSTATS, OR TUBING IS INDICATED IN THE PLANS, THE CONTRACTOR SHALL CAP THE ENDS OF ALL EXISTING TO REMAIN PNEUMATIC LINES AIRTIGHT UNLESS OTHERWISE NOTED. IF ADDITIONAL PNEUMATIC LINES OR DEVICES ARE DISCOVERED BY THE CONTRACTOR INSIDE WALLS OR ABOVE CEILINGS DURING DEMOLITION, THE CONTRACTOR SHALL INFORM THE DESIGN TEAM PRIOR TO REMOVAL OF THESE LINES OR DEVICES.

## CONNECTICUT STATE CODES & STANDARDS

- 2018 CONNECTICUT STATE BUILDING CODE
- 2015 INTERNATIONAL EXISTING BUILDING CODE
- 2015 INTERNATIONAL PLUMBING CODE
- 2015 INTERNATIONAL MECHANICAL CODE
- 2017 NATIONAL ELECTRICAL CODE (NFPA 70)
- LOCAL FIRE DEPARTMENT/FIRE MARSHAL
- ALL OTHER LOCAL AUTHORITIES HAVING JURISDICTION

## CONNECTICUT STATE ENERGY CODES

- 2015 INTERNATIONAL ENERGY CONSERVATION CODE

## REFERENCED STANDARDS

APPLICABLE REFERENCE STANDARDS SHALL BE AS REFERENCED BY ALL STATE AND LOCAL CODES, THE LIST BELOW IS FOR QUICK REFERENCE AND DOES NOT INCLUDE ALL APPLICABLE REFERENCE STANDARDS.

- 2013 NFPA 13 – STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS
- 2013 NFPA 14 – STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS
- 2013 NFPA 20 – STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
- 2015 NFPA 54 – NATIONAL FUEL GAS CODE
- 2017 NFPA 70 – NATIONAL ELECTRICAL CODE
- 2013 NFPA 72 – NATIONAL FIRE ALARM AND SIGNALING CODE

## MECHANICAL DRAWING LIST

SHEET NUMBER	SHEET TITLE
M0.1	MECHANICAL COVER SHEET
M1.0	MECHANICAL LOWER LEVEL PLANS
M1.1	MECHANICAL FIRST FLOOR PART PLANS
M2.1	MECHANICAL DETAILS AND SCHEDULES
M3.1	MECHANICAL SPECIFICATIONS
M3.2	MECHANICAL SPECIFICATIONS
M3.3	MECHANICAL SPECIFICATIONS

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30 OAK STREET  
STAMFORD, CT 06905  
203-352-1717 FAX 203-352-1718  
PROJECT NUMBER: 223030790

PROJECT:

## WILTON CONGREGATIONAL CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
-	11.24.21	BID REVIEW SET
-	12.20.21	BID SET
-	04.22.22	PERMIT SET
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

PHASE:

## PERMIT SET

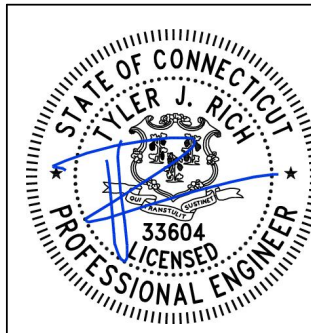
PAUL B. BAILEY  
ARCHITECT

110 AUDUBON STREET  
NEW HAVEN, CONNECTICUT 06510  
203 · 776 · 8888 F 203 · 772 · 1365

DATE: 4/21/2022	DRAWN BY: JPR
SCALE: NONE	CHECKED BY: MG
JOB NO: 21-045	

DRAWING NAME

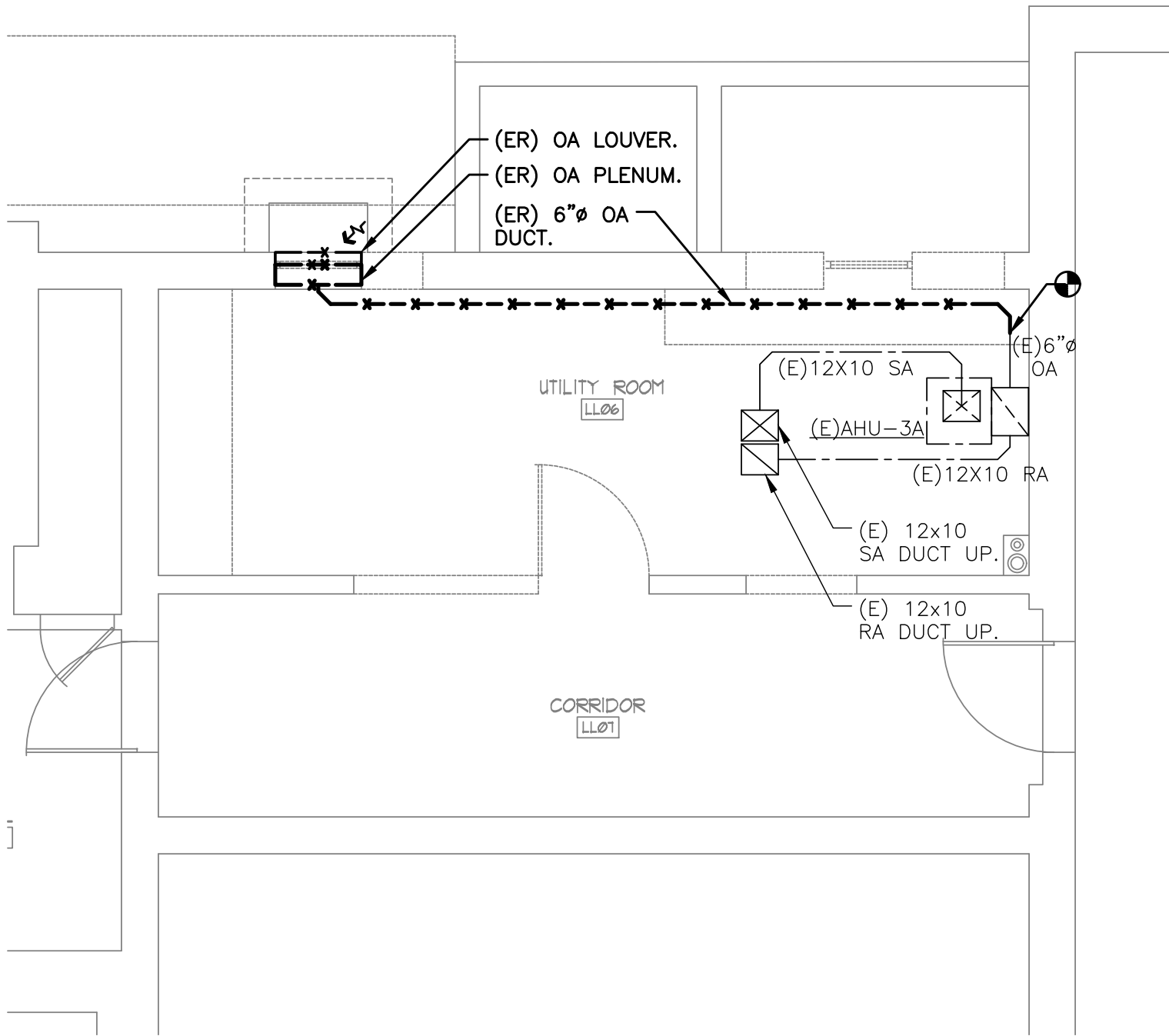
## MECHANICAL COVER SHEET



M0.1

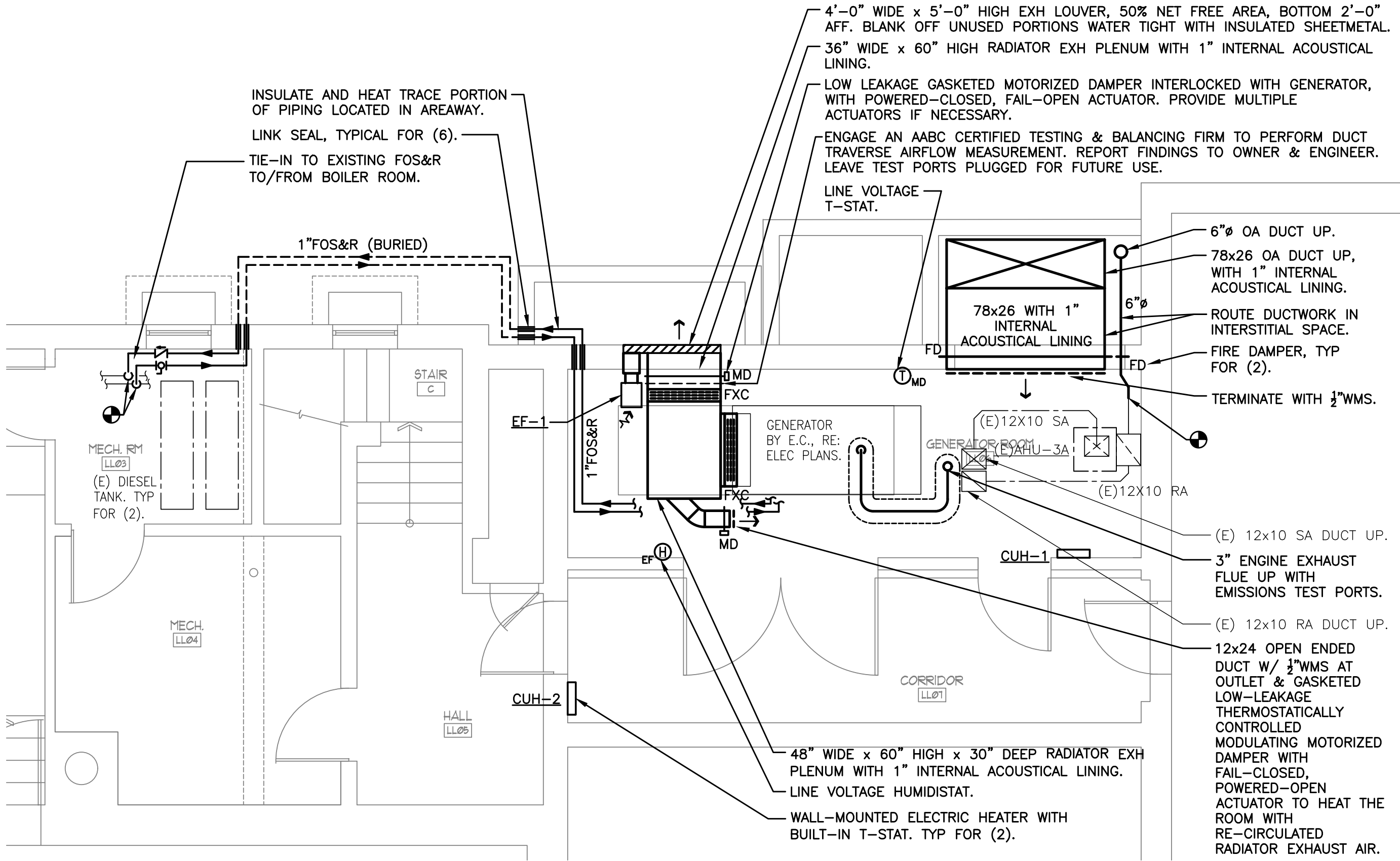


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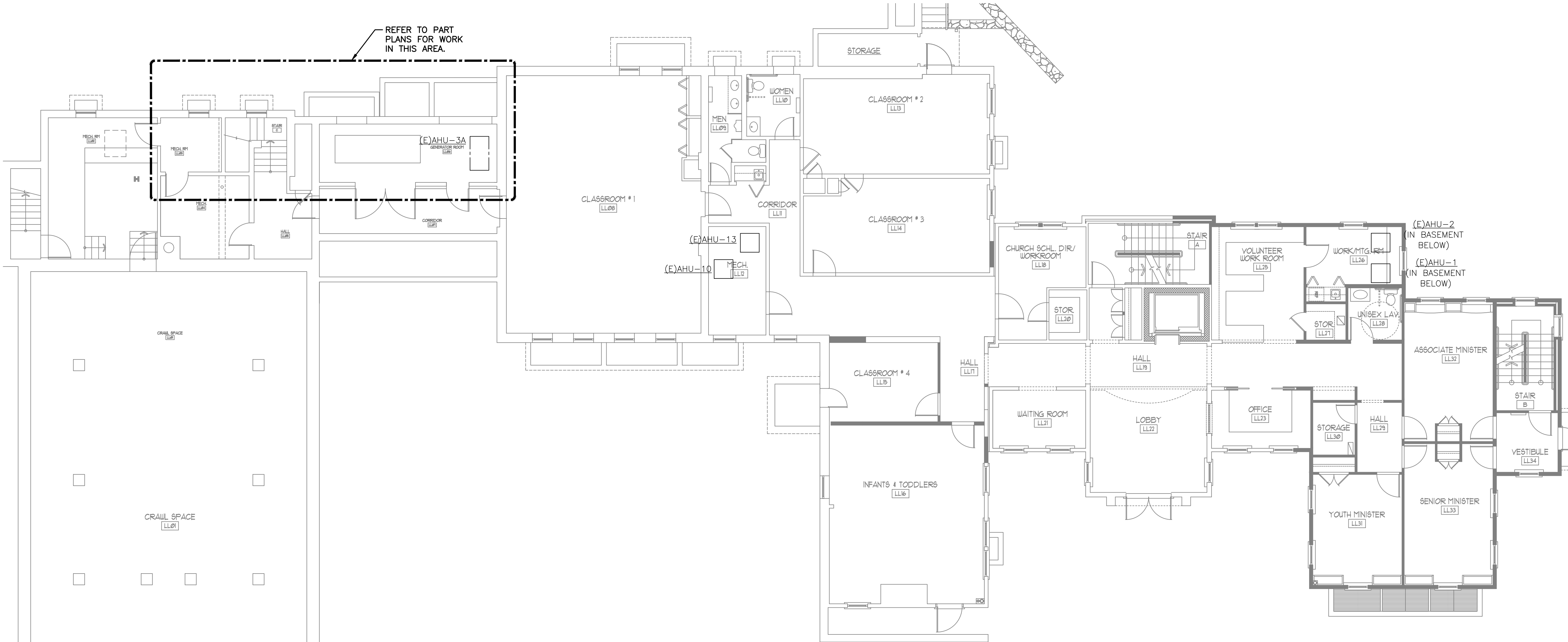
LOWER LEVEL DEMOLITION PART PLAN

1/4" = 1'-0"



LOWER LEVEL PART PLAN

1/4" = 1'-0"



LOWER LEVEL OVERALL PLAN

1/8" = 1'-0"

KEY NOTES:

- FURNISH AND INSTALL NEW ADJUSTABLE TIME DELAY RELAY AT EXISTING OUTDOOR AIR-COOLED CONDENSING UNIT, ADJ MODEL "DELAY ON MAKE", RATED FOR: 18-240 VAC VOLTAGE RANGE, 1.0 AMP RATING, 0.1 - 8 MINUTES TIME DELAY RANGE, KNOB ADJUSTMENT, 50/60 HZ VOLTAGE. INSTALL IN EXISTING AIR-COOLED CONDENSING UNIT CABINET AND WIRE TO TERMINAL STRIP IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES. SET TIME DELAYS FOR NON-SIMULTANEOUS RESTART OF EQUIPMENT AFTER A LOSS OF POWER/GENERATOR STARTUP.

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STAMFORD, CT 06905  
203-352-1717 FAX 203-352-1718  
PROJECT NUMBER: 223030790

PROJECT:

WILTON  
CONGREGATIONAL  
CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
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PHASE:

PERMIT SET

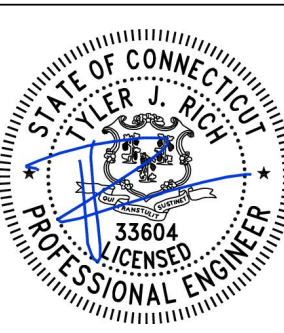
PAUL B. BAILEY  
ARCHITECT

110 AUDUBON STREET  
NEW HAVEN, CONNECTICUT 06510  
203 · 776 · 8888 F 203 · 772 · 1365

DATE: 4/21/2022	DRAWN BY: JPR
SCALE: AS NOTED	CHECKED BY: MG
JOB NO: 21-045	

DRAWING NAME:

MECHANICAL LOWER  
LEVEL PLANS



M1.0





**Stantec**  
30 OAK STREET  
STAMFORD, CT 06905  
203-352-1717 FAX 203-352-1718  
PROJECT NUMBER: 223030790

① FURNISH AND INSTALL NEW ADJUSTABLE TIME DELAY RELAY AT EXISTING OUTDOOR AIR-COOLED CONDENSING UNIT, ADJ MODEL "DELA ON MAKE", RATED FOR: 18-240 VAC VOLTAGE RANGE, 1.0 AMP RATING, 0.1 - 8 MINUTES TIME DELAY RANGE, KNOB ADJUSTMENT, 50-60 HZ VOLTS. MOUNT IN EXISTING AIR-COOLED CONDENSING UNIT CABINET AND WIRE TO TERMINAL STRIP IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES. SET TIME DELAYS FOR NON-SIMULTANEOUS RESTART OF EQUIPMENT AFTER A LOSS OF POWER/GENERATOR STARTUP.



**WILTON  
CONGREGATIONAL  
CHURCH**

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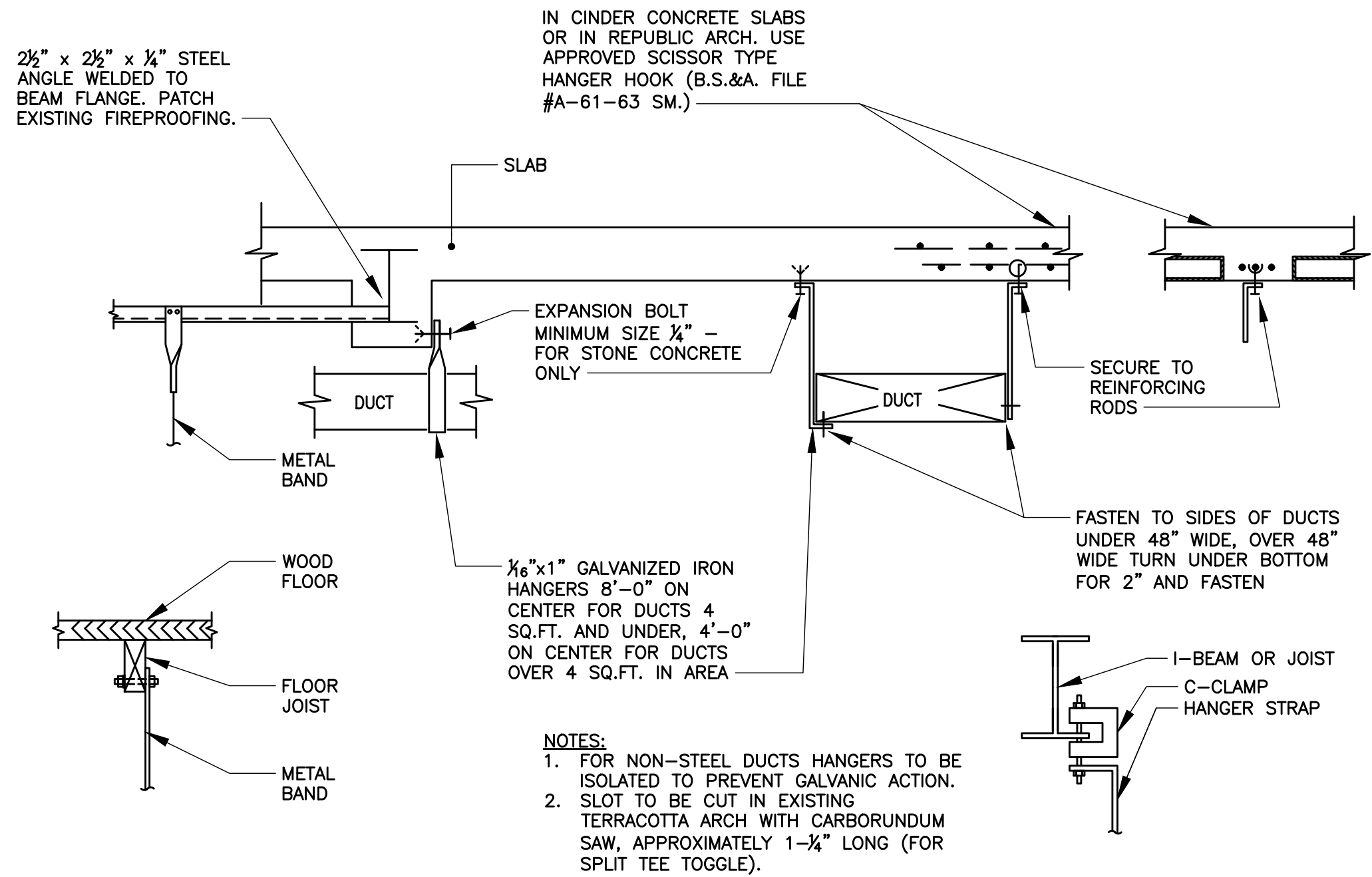
**PERMIT SET**

DATE: 4/27/2022	DRAWN BY: PJR
SCALE: 1/4" = 1'-0"	CHECKED BY: JMR/MG
JOB NO: 21-045	

## M1.1

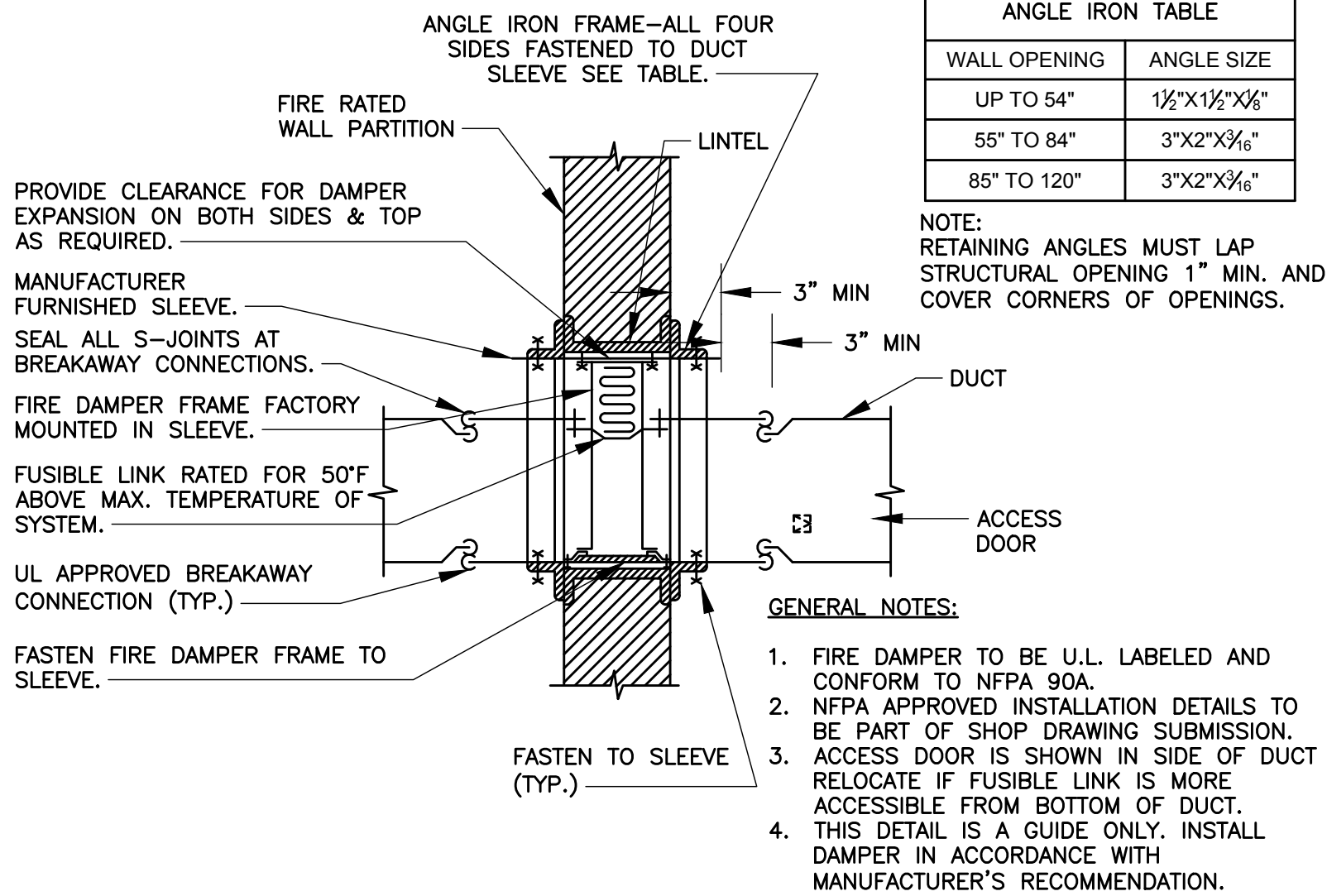


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4/27/2022 4:00 PM Averion, Alvin



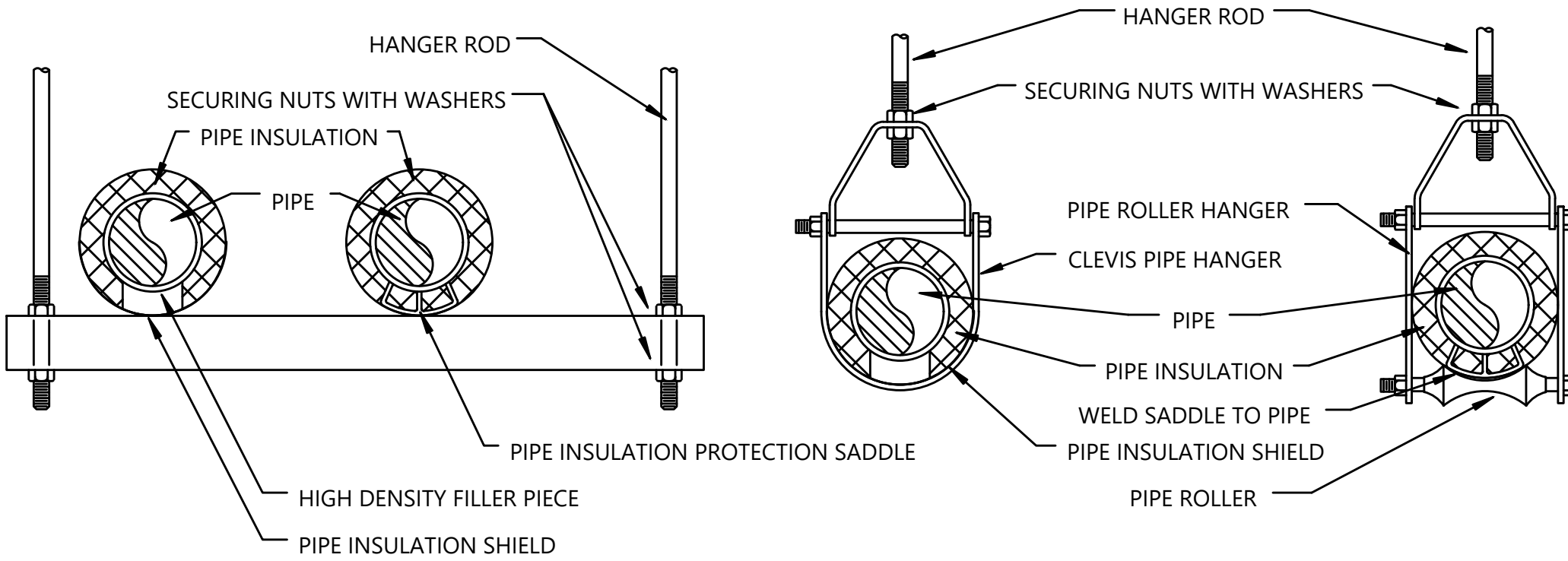
TYPICAL DUCT HANGING DETAIL

N.T.S.



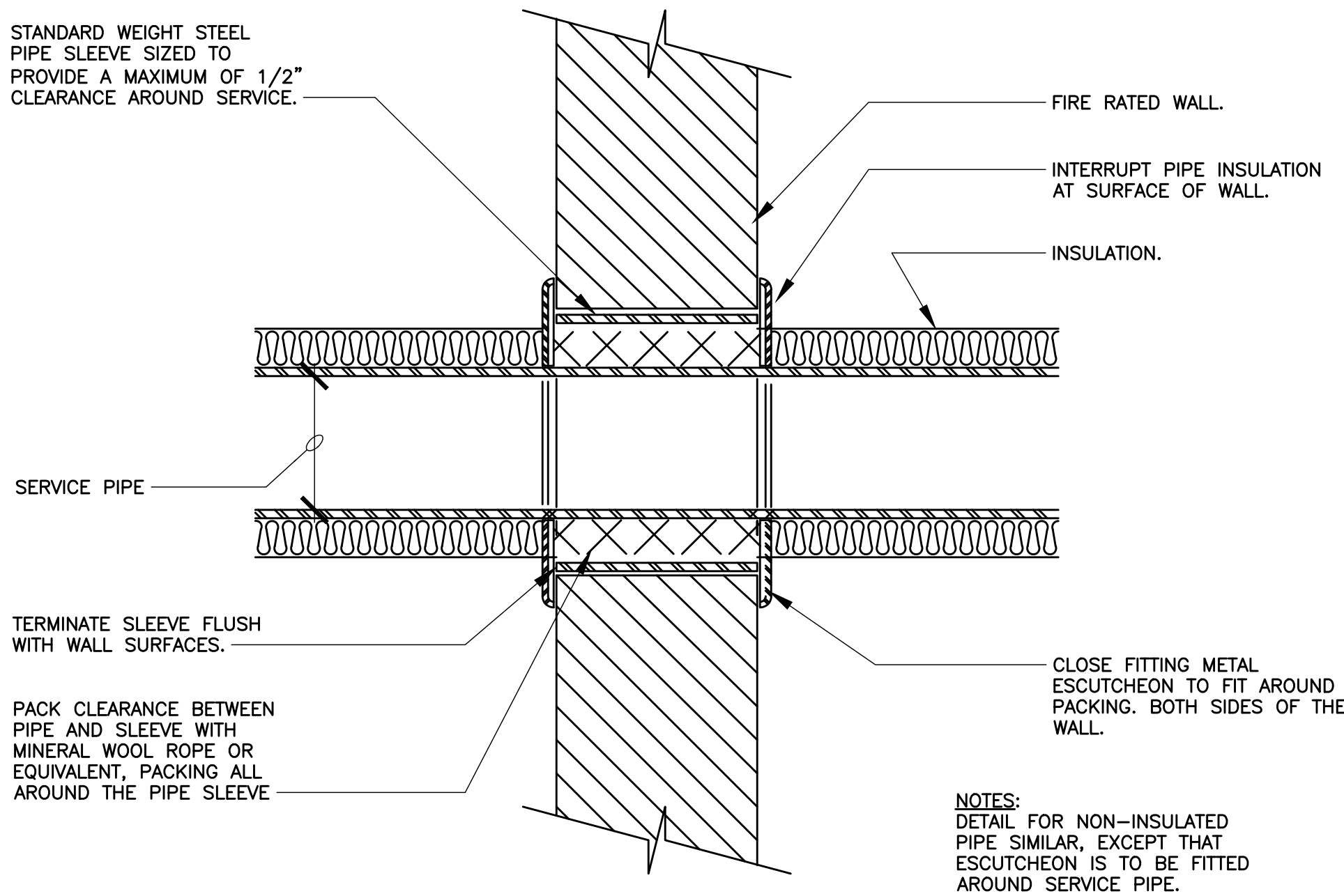
VERTICAL FIRE DAMPER DETAIL TYPE "B" (OUT OF AIR STREAM)

N.T.S.



PIPE HANGING DETAIL

N.T.S.



DETAIL OF PIPE THROUGH RATED PARTITION OR FLOOR

N.T.S.

FAN SCHEDULE																							
DESIGNATION	SERVICE	CONTROL	CONFIGURATION	DRIVE TYPE	AIRFLOW (CFM)	EXTERNAL STATIC PRESSURE (IN WC)	RPM	MOTOR HP	ELECTRICAL DATA										WEIGHT (LBS)	MANUFACTURER	MODEL	REMARKS	
									VOLTS	PH	Hz	DISCONNECT			STARTER								
												BY E.C. OR MANUF.	LOCATION	TYPE	ENCL. TYPE	BY M.C., E.C., OR MANUF.	LOCATION	TYPE					ENCL. TYPE
EF-1	EXHAUST	LINE VOLTAGE HUMIDISTAT	CABINET	DIRECT	70	0.50	838	23 WATTS	120	1	60	MANUF.	UNIT MTD.	NON-FUSED	NEMA 1	M.C.	UNIT-MTD.	ECM	NEMA 1	23	GREENHECK	SP-A50-90-VG	SEE NOTES BELOW
NOTES:																							
1. PROVIDE THE FOLLOWING FOR EACH FAN:																							
1.1. INTEGRAL BACKDRAFT DAMPER.																							
1.2. ECM MOTOR WITH MANUAL SPEED ADJUSTMENT DIAL FOR INITIAL BALANCING.																							

ELECTRIC CABINET UNIT HEATER SCHEDULE																								
DESIGNATION	MOUNTING TYPE	MOUNTING LOCATION	HEATING CAPACITY (BTU/H)	AIRFLOW (CFM)	ELECTRICAL DATA							FINISH COLOR	T-STAT TYPE (REMOTE/ BUILT-IN)	FILTER TYPE	DIMENSIONS						WEIGHT (LBS)	MANUF.	MODEL	REMARKS
					WATTS	VOLTS	PH	HZ	DISC. BY E.C. OR MANUF.	EMER. PWR.	CABINET				GRILLE									
											HEIGHT (IN)				WIDTH (IN)	DEPTH OR LENGTH (IN)	HEIGHT (IN)	WIDTH (IN)	DEPTH OR LENGTH (IN)					
CUH-1	RECESSED	WALL	5,100	65	1,500	120	1	60	MANUF.	N	WHITE	BUILT-IN	N/A	11	9	4	12	11	1	12	Q-MARK	CWH1151DSAF	SEE NOTES BELOW	
CUH-2	RECESSED	WALL	5,100	65	1,500	120	1	60	MANUF.	N	WHITE	BUILT-IN	N/A	11	9	4	12	11	1	12	Q-MARK	CWH1151DSAF	SEE NOTES BELOW	
NOTES: 1. PROVIDE THE FOLLOWING MANUFACTURER FEATURES AND OPTIONS FOR ALL UNITS: 1.1. HEAT PURGE FAN DELAY SWITCH. 1.2. BUILT-IN POWER ON/OFF SWITCH. 1.3. THERMAL CUTOFF. 3. ALL FINISH COLORS ARE SUBJECT TO APPROVAL BY THE ARCHITECT. SUBMIT COLOR CHART FOR REVIEW. 4. FOR ALL "WALL MOUNTED" UNITS, MOUNTING HEIGHT SHALL BE AS PER ARCHITECTURAL DRAWINGS. IF NO MOUNTING HEIGHT IS INDICATED ON ARCHITECTURAL DRAWINGS, MOUNT BOTTOM AT 12" AFF.																								

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30 OAK STREET  
STAMFORD, CT 06905  
203-352-1717 FAX 203-352-1718  
PROJECT NUMBER: 223030790

PROJECT:

## WILTON CONGREGATIONAL CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

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PHASE:

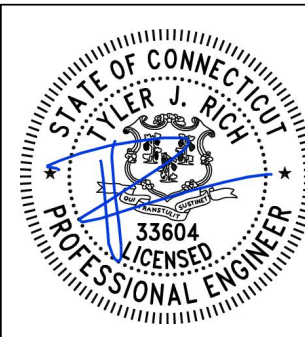
PERMIT SET

PAUL B. BAILEY  
ARCHITECT

110 AUDUBON STREET  
NEW HAVEN, CONNECTICUT 06510  
203 · 776 · 8888 F 203 · 772 · 1365

DATE: 4/21/2022	DRAWN BY: JPR
SCALE: NONE	CHECKED BY: MG
JOB NO: 21-045	

DRAWING NAME  
MECHANICAL DETAILS  
AND SCHEDULES



M2.1



MECHANICAL SPECIFICATIONS

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

- A. INSTALL ALL NEW WORK IN A NEAT WORKMANLIKE MANNER READILY ACCESSIBLE FOR OPERATION, MAINTENANCE, AND REPAIR.
- B. CODES, PERMITS AND INSPECTIONS:
1. ALL REQUIREMENTS OF THE BUILDING DEPARTMENT, BUILDING MANAGEMENT, AND ALL AUTHORITIES HAVING JURISDICTION, AND ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK, SHALL BE INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS. CONTRACTOR IS TO INFORM ENGINEER OF ANY EXISTING WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE BY THIS CONTRACTOR AND AT NO EXPENSE TO THE OWNER.
2. THIS CONTRACTOR SHALL OBTAIN ALL EQUIPMENT APPROVALS AS REQUIRED BY STATE AND LOCAL AUTHORITIES. PERMITS SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION.
- C. SITE VERIFICATION:
1. PRIOR TO SUBMISSION OF THE BID, THIS CONTRACTOR SHALL VISIT THE JOB SITE TO ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN. DISCREPANCIES, IF ANY, SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO SUBMISSION OF THE BID, AND IF NOT RESOLVED TO SATISFACTION, SHALL BE SUBMITTED AS A WRITTEN QUALIFICATION OF THE BID. SUBMISSION OF A BID SHALL BE EVIDENCE THAT SITE VERIFICATION HAS BEEN PERFORMED AS DESCRIBED ABOVE.
- D. CONTRACT DOCUMENTS:
1. PRIOR TO SUBMISSION OF A FORMAL BID, THIS CONTRACTOR SHALL REVIEW ALL DRAWINGS OF THE ENTIRE PROJECT INCLUDING GENERAL CONSTRUCTION, DEMOLITION, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SPRINKLER AND SHALL INCLUDE ANY WORK REQUIRED IN THE BID WHICH IS INDICATED OR IMPLIED TO BE PERFORMED BY THIS TRADE IN OTHER SECTIONS OF THE WORK.
2. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK AND APPROXIMATE LOCATION OF EQUIPMENT. REFER TO ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AND COORDINATE FINAL LOCATIONS OF DIFFUSERS, GRILLES, REGISTERS, THERMOSTATS, SENSORS, SWITCHES AND ANY WALL MOUNTED DEVICES. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT.
3. IF A CONFLICT OCCURS IN THE SPECIFICATIONS AND/OR ON THE DRAWINGS, THE MORE STRINGENT SITUATION SHALL APPLY.
- E. GUARANTEE:
1. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF THIS WORK. FINAL ACCEPTANCE SHALL BE DEFINED AS THE TIME AT WHICH THE MECHANICAL WORK IS TAKEN OVER BY THE OWNER AND IS UNDER CARE, CUSTODY, AND CONTROL OF THE OWNER. ENGAGE THE SERVICES OF VARIOUS MANUFACTURERS SUPPLYING THE EQUIPMENT FOR THE PROPER STARTUP AND OPERATION OF ALL SYSTEMS INSTALLED. INSTRUCT THE OWNER'S PERSONNEL IN THE PROPER OPERATION AND SERVICING OF THE SYSTEM.
2. THE CONTRACTOR SHALL GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN THE GUARANTEE PERIOD. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL INCLUDE RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THIS CONTRACTOR.
3. THIS CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND OPERATION OF ALL SYSTEMS UNTIL THE FINAL ACCEPTANCE OF THE WORK.
4. ALL AIR CONDITIONING UNIT COMPRESSORS AND REFRIGERATION COMPONENTS SHALL HAVE A 5–YEAR WARRANTY.
- F. THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION AIA DOCUMENT A201, LATEST EDITION, OR AS REQUIRED BY THE ARCHITECT'S DOCUMENTS, AND/OR THE STRUCTURAL ENGINEER'S DOCUMENTS, AS APPLICABLE, ARE PART OF THIS CONTRACT.
- G. DEFINITIONS:
1. MECHANICAL CONTRACTOR, THIS CONTRACTOR – THE PARTY OR PARTIES HAVE BEEN DULY AWARDED THE CONTRACT FOR AND ARE THEREBY MADE RESPONSIBLE FOR THE MECHANICAL WORK AS DESCRIBED HEREIN.
2. THIS CONTRACT , THE CONTRACT – THE AGREEMENT COVERING THE WORK TO BE PERFORMED BY THIS CONTRACTOR.
3. APPROVED , EQUAL , SATISFACTORY , ACCEPTED , ACCEPTABLE , EQUIVALENT – SUITABLE FOR USE ON THE PROJECT, AS DETERMINED BY THE ENGINEER BASED ON DOCUMENTS PRESENTED FOR SUCH DETERMINATION.
4. THESE SPECIFICATIONS , THIS SECTION, PART, DIVISION (OF THE SPECIFICATION) – THE DOCUMENT SPECIFYING THE WORK TO BE PERFORMED BY THIS CONTRACTOR .
5. THE MECHANICAL WORK , THIS WORK – ALL LABOR MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES, AND OTHER ITEMS REQUIRED FOR A PROPER AND COMPLETE INSTALLATION BY THE MECHANICAL CONTRACTOR.
6. ARCHITECT , ENGINEER , OWNER'S REPRESENTATIVE – THE PARTY OR PARTIES RESPONSIBLE FOR INTERPRETING, ACCEPTING AND OTHERWISE RULING ON THE PERFORMANCE UNDER THIS CONTRACT.
7. FURNISH – PURCHASE AND DELIVER TO THE PROJECT SITE COMPLETE WITH EVERY NECESSARY APPURTENANCE AND SUPPORT, ALL AS PART OF THE MECHANICAL WORK.
8. INSTALL – UNLOAD AT THE DELIVERY POINT AT THE SITE AND PERFORM EVERY OPERATION NECESSARY TO ESTABLISH SECURE MOUNTING INSTALLATION AND CORRECT OPERATION AT THE PROPER LOCATION IN THE PROJECT, ALL AS PART OF THE MECHANICAL WORK.
9. PROVIDE – FURNISH AND INSTALL .
10. NEW – MANUFACTURED WITHIN THE PAST TWO YEARS AND NEVER BEFORE USED.
11. RELOCATE – MOVE EXISTING EQUIPMENT AND ALL ACCESSORIES AS REQUIRED.
12. REMOVE – DISMANTLE AND CART AWAY FROM SITE INCLUDING ALL RELATED ACCESSORIES. ALL ITEMS SHALL BE LEGALLY DISPOSED OF. ALL OTHER EQUIPMENT AND OPERATIONS IN ANY WAY AFFECTED BY THE REMOVAL IS TO REMAIN IN FULL OPERATION. PROVIDE ALL NECESSARY COMPONENTS TO MAINTAIN SUCH OPERATION.
- 1.02 SCOPE OF WORK
- A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND CONTRACTOR'S SERVICES NECESSARY FOR COMPLETE, SAFE INSTALLATION OF ALL MECHANICAL WORK. THE SCOPE OF WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
1. DEMOLITION AND REMOVAL OF ITEMS AS REQUIRED.
2. DUCTWORK AND DUCTWORK ACCESSORIES.
3. PIPING AND PIPING ACCESSORIES INCLUDING ALL VALVING.
4. INSULATION OF DUCTWORK.
5. SOUND LINING.
6. AUTOMATIC TEMPERATURE CONTROLS.
7. TESTING AND BALANCING.
8. CUTTING AND PATCHING.
9. SHOP DRAWINGS.
10. AS–BUILT DRAWINGS.
11. OPERATING AND MAINTENANCE MANUALS.
12. FULL COORDINATION WITH OTHER TRADES.
13. WARRANTY AND GUARANTY.
14. PHASING AS REQUIRED BY OWNER, CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR BUILDING MANAGEMENT.

15. PREMIUM TIME FOR WORK TO BE PERFORMED AFTER–HOURS AS REQUIRED BY BUILDING MANAGEMENT AND/OR OWNER.
16. FILING AND PERMITS.
17. FULL TESTING AND STARTUP OF ALL SYSTEMS.
18. COMMISSIONING.
- B. SECURE CERTIFICATES, PAY ALL FEES AND CHARGES FOR ALL WORK INSTALLED, CERTIFYING COMPLIANCE WITH ALL AUTHORITIES. CONTRACTOR TO COORDINATE WITH OWNER FOR REQUIRED SPECIAL INSPECTIONS AND OBTAIN ALL APPROVALS. DELIVER CERTIFICATES TO OWNER FOR SIGNING BEFORE FILING.
- C. THE DRAWINGS AND SPECIFICATIONS SHALL BE INTERPRETED SO AS TO REQUIRE THE MOST SUBSTANTIAL AND COMPREHENSIVE PERFORMANCE OF THE WORK, CONSISTENT WITH THE INTENT AND REQUIREMENTS OF THE CONTRACT DOCUMENTS, AND SUCH WORK SHALL BE PERFORMED BY THE CONTRACTOR WITHOUT EXTRA COST TO THE OWNER. IN THE CASE OF A DISCREPANCY WITHIN THE CONTRACT DOCUMENTS, THE WORST CASE OR HIGHEST COST SHALL APPLY FOR BIDDING PURPOSES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY VIA RFI PRIOR TO PERFORMING THE ASSOCIATED WORK.
- 1.03 COORDINATION WITH BUILDING MANAGEMENT
- A. THIS CONTRACTOR IS TO OBTAIN A COPY OF THE BUILDING RULES AND REGULATIONS PRIOR TO BID SUBMISSION TO DETERMINE THE REQUIREMENTS AND THE EXTENT OF PREMIUM TIME WORK REQUIRED BY THE BUILDING.
- B. THIS CONTRACTOR IS RESPONSIBLE FOR ADHERING TO THE BUILDING OWNER'S RULES AND REGULATIONS. ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND THE BUILDING RULES AND REGULATIONS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT/ENGINEER FOR REVIEW WITH BID SUBMISSION.
- D. COORDINATE WITH BUILDING OWNER FOR ANY SERVICE INTERRUPTION OF EXISTING SYSTEMS AND GIVE NOTICE AS REQUIRED BY BUILDING RULES AND REGULATIONS, OR CONTRACTOR TO PROVIDE A MINIMUM OF TWO (2) DAYS NOTICE PRIOR TO ANY WORK BEING PERFORMED, WHICHEVER IS THE MORE STRINGENT. CONTRACTOR IS TO PERFORM WORK ON PREMIUM TIME, IF SO DIRECTED BY BUILDING OWNER, SO AS NOT TO DISTURB EXISTING TENANTS ON OTHER FLOORS.
- 1.04 SHOP DRAWINGS
- A. SUBMIT SHOP DRAWINGS CERTIFIED BY ALL TRADES THAT COORDINATION HAS BEEN COMPLETED. SUBMIT ALL CERTIFIED EQUIPMENT CUTS WITH CONSTRUCTION WIRING DIAGRAMS AND AUTOMATIC TEMPERATURE CONTROL REQUIREMENTS. SHOP DRAWINGS SUBMISSION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:
1. DUCTWORK – PROVIDE DUCT SHOP STANDARDS AND LEAKAGE TEST CERTIFICATION, AS REQUIRED, AND 3/8 SCALE DUCT LAYOUT.
2. PIPING LAYOUT AND APPURTENANCES – PROVIDE PIPING, VALVING, CHEMICAL TREATMENT, SHOP STANDARDS AND 3/8 SCALE PIPING LAYOUT WITH ALL VALVING.
3. INSULATION FOR DUCTWORK.
4. EQUIPMENT CATALOG CUTS FOR ALL ITEMS TO BE UTILIZED ON PROJECT.
5. AUTOMATIC TEMPERATURE CONTROL DIAGRAMS, DEVICES AND SEQUENCE OF OPERATION.
6. AS–BUILT DRAWINGS AT PROJECT COMPLETION OF THE INSTALLED CONDITION OF WORK.
- B. ALL SHOP DRAWINGS SHALL BE SUBMITTED AS PDF FILES. SPECIFIC JOB REQUIREMENTS MAY BE MORE STRINGENT AND CONTRACTOR IS RESPONSIBLE TO OBTAIN REQUIREMENTS FROM OWNER, CONSTRUCTION MANAGER, GENERAL CONTRACTOR, OR ARCHITECT.
- C. THE CONTRACTOR SHALL INCLUDE IN THE BID SKETCHING TIME FOR ANY REVISIONS REQUIRED DUE TO THE ENGINEER'S REVIEW OF SHOP DRAWINGS FOR EQUIPMENT, DUCTWORK AND PIPING LAYOUTS.
- 1.05 MAINTENANCE MANUALS
- A. SUBMIT FOUR (4) LOOSE–LEAF BOUND OPERATING AND MAINTENANCE MANUALS WITH INDEX AND INDEX TABS. IN ADDITION, SUBMIT FOUR (4) PDF COPIES OF THE COMPLETE MANUALS ON CD'S. INCLUDE THE FOLLOWING:
1. OPERATING AND MAINTENANCE INSTRUCTIONS ON ALL SYSTEMS.
2. MANUFACTURERS' CATALOG CUTS ON ALL EQUIPMENT.
3. AUTOMATIC TEMPERATURE CONTROL SYSTEMS WITH SEQUENCE OF OPERATIONS, CATALOG CUTS OF ALL DEVICES AND POINT–TO–POINT WIRING DIAGRAMS.
4. DUCT AND PIPING AS–BUILT DRAWINGS WITH VALVE CHART AND KEY PLAN DRAWINGS INSERTED IN BINDER.
5. ALL ITEMS SUBMITTED FOR REVIEW IN SHOP DRAWING SECTION.
- 1.06 AS–BUILT DRAWINGS
- A. CONTRACTOR SHALL MAINTAIN RECORD DRAWING PRINTS ON JOB SITE AND RECORD, AT TIME OF OCCURRENCE, DEVIATIONS FROM CONTRACT DOCUMENTS DUE TO FIELD COORDINATION, BULLETINS, OR ADDENDA.
- B. CONTRACTOR SHALL REVISE SHOP DRAWINGS TO CONFORM TO RECORD DRAWINGS AND SUBMIT AS–BUILT CONDITION (PIPING AND DUCTWORK) DRAWINGS UPON COMPLETION OF THE PROJECT. FINAL SUBMISSION OF REPRODUCIBLE AS–BUILT DRAWINGS ARE TO BE SIGNED AND CERTIFIED BY THE INSTALLING CONTRACTOR THAT THIS IS THE AS–BUILT CONDITION OF THE WORK.
- C. ALSO PROVIDE FOUR (4) COPIES OF ALL AS–BUILT DRAWINGS AS PDF FILES AND AUTOCAD DWG FILES ON CD'S.
- 1.07 SERVICE AND WARRANTY (MAINTENANCE CONTRACT)
- A. THIS CONTRACTOR SHALL PROVIDE AS AN ADD ALTERNATE PRICE, A FULL ONE YEAR SERVICE AND WARRANTY OF ALL MECHANICAL COMPONENTS AND SYSTEMS, WITH PRICES FOR YEARS 2, 3 AND 4 FOLLOWING THIS FIRST YEAR. AT THE TIME OF ACCEPTANCE OF PROJECT, THE TENANT OR OWNER'S REPRESENTATIVE WILL DECIDE TO ACCEPT WHICH ALTERNATE, IF ANY.
- 1.08 SUBSTITUTIONS
- A. NO SUBSTITUTE MATERIAL OR MANUFACTURER OF EQUIPMENT SHALL BE PERMITTED WITHOUT A FORMAL WRITTEN SUBMITTAL TO THE ENGINEER WHICH INCLUDES ALL DIMENSIONAL, PERFORMANCE AND MATERIAL SPECIFICATIONS. ANY CHANGES IN LAYOUT, ELECTRICAL CHARACTERISTICS, STRUCTURAL REQUIREMENTS, OR DESIGN DUE TO THE USE OF A SUBSTITUTION SHALL BE SUBMITTED TO THE ENGINEER AS PART OF THIS PROPOSAL. THE CONTRACTOR TAKES FULL RESPONSIBILITY FOR THE SUBSTITUTION AND ALL CHANGES RESULTING FROM SUBSTITUTION. ALL ITEMS SHALL BE SUBMITTED FOR REVIEW IN CONJUNCTION WITH THE SUBMITTAL OF THE SUBSTITUTION. ANY SUBSTITUTION MUST BE SUBMITTED WITH AN EXPLANATION AS TO WHY A SUBSTITUTION IS BEING UTILIZED. IF THE SUBSTITUTED ITEM DEVIATES FROM THE SPECIFIED ITEM, THOSE DEVIATIONS ARE TO BE IDENTIFIED ON A LINE–BY–LINE BASIS. IF THE SUBSTITUTE IS BEING UTILIZED FOR FINANCIAL REASONS, THE ASSOCIATED CREDIT MUST BE SIMULTANEOUSLY SUBMITTED.
- B. ALL SUBSTITUTED EQUIPMENT SHALL CONFORM TO SPACE REQUIREMENTS AND PERFORMANCE REQUIREMENTS SHOWN ON CONTRACT DOCUMENTS. CONTRACTOR SHALL REPLACE ANY EQUIPMENT THAT DOES NOT MEET THESE REQUIREMENTS AT HIS OWN EXPENSE. ANY MODIFICATIONS TO ASSOCIATED SYSTEMS OR ADDITIONAL COSTS ATTRIBUTED TO THIS SUBSTITUTION SHALL BE AT THIS CONTRACTOR'S EXPENSE.
- C. CONTRACTOR SHALL SUBMIT BID BASED ON SPECIFIED ITEMS AND SHALL SUPPLY AS AN ALTERNATE PRICE ANY SUBSTITUTIONS.
- 1.09 ACCESS DOORS IN GENERAL CONSTRUCTION
- A. THIS CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR APPROVAL A PLAN INDICATING THE SIZE AND LOCATION OF ALL ACCESS DOORS REQUIRED FOR OPERATION AND MAINTENANCE OF ALL CONCEALED EQUIPMENT, DEVICES, VALVES, DAMPERS AND CONTROLS. CONTRACTOR SHALL ARRANGE FOR FURNISHING AND INSTALLATION OF ALL ACCESS DOORS IN FINISHED CONSTRUCTION AND INCLUDE COSTS IN THE BID. ACCESS DOORS SHALL BE OF ADEQUATE SIZE TO PROVIDE ACCESS TO CONCEALED ITEMS FOR OPERATION AND MAINTENANCE, WITH A MINIMUM SIZE OF 18" X 18".
- 1.10 DEMOLITION, REMOVAL AND RELOCATION
- A. REMOVAL, TEMPORARY CONNECTIONS AND RELOCATION OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE INSTALLATION OF THE NEW SYSTEMS. ALL EXISTING CONDITIONS ARE NOT TO BE COMPLETELY DETAILED ON THE DRAWINGS. THE CON–TRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON EXISTING CONDITIONS FOR PROPER INSTALLATION OF NEW WORK.
- B. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT, AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW SYSTEM.
- C. EQUIPMENT REQUIRED TO BE TEMPORARILY DISCONNECTED AND RELOCATED SHALL BE CAREFULLY REMOVED, STORED, CLEANED, REINSTALLED, RECONNECTED, AND MADE OPERATIONAL.
- D. ALL EXISTING WORK NOT INDICATED FOR DEMOLITION SHALL BE PROTECTED FROM DAMAGE. WHERE EXISTING WORK

- TO REMAIN IS DAMAGED OR DISTURBED, THE CONTRACTOR SHALL REPAIR OR REPLACE TO OWNER'S AND BUILDING MANAGER'S SATISFACTION AT NO COST TO THE OWNER OR BUILDING MANAGEMENT.
- E. GENERAL CONTRACTOR REMOVE ALL CEILING IN AREAS WHERE NEW DUCTWORK OR PIPING IS TO BE INSTALLED OR EXISTING IS ALTERED, AS PER ARCHITECT'S INSTRUCTIONS.
- F. ALL NECESSARY CUTTING AND PATCHING TO ACCOMMODATE THE NEW HVAC WORK SHALL BE PERFORMED BY THIS CONTRACTOR AND COORDINATED WITH BUILDING MANAGEMENT SO AS TO MINIMIZE DISRUPTION OF EXISTING TENANTS AND SERVICES. RESTORE ALL ITEMS TO MATCH EXISTING CONDITIONS.
- G. ALL EXISTING MATERIAL AND EQUIPMENT TO BE REMOVED UNDER THIS CONTRACT WILL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE LEGALLY DISPOSED OF BY THIS CONTRACTOR AS DIRECTED BY THE ARCHITECT OR OWNER. REFRIGERATION CONTAINED IN EXISTING EQUIPMENT TO BE REMOVED SHALL BE RECLAIMED OR LEGALLY DISPOSED OF IN ACCORDANCE WITH EPA REQUIREMENTS AND ASHRAE.
- H. PROVIDE FOR LEGAL REMOVAL AND DISPOSAL OF ALL RUBBISH AND DEBRIS FROM THE BUILDING AND SITE. COORDINATE ALL DEMOLITION AND REMOVALS WITH BUILDING MANAGEMENT.
- 1.11 CONNECTION TO EXISTING WORK
- A. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING MANAGEMENT. INSTALL ISOLATION VALVES AT POINT OF CONNECTION TO THE EXISTING PIPING. INSTALL ISOLATION DAMPERS AT CONNECTION TO EXISTING DUCTWORK. PROVIDE TEMPORARY DUCTWORK AND PIPING CONNECTIONS AS REQUIRED TO MINIMIZE SHUTDOWN TIME.
- B. CONNECT NEW WORK TO EXISTING WORK IN A NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED WHILE INSTALLING NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY ARCHITECT AND BUILDING MANAGER.
- C. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES.
- 1.12 CHASING, CHOPPING OR CORE DRILLING
- A. PRIOR TO ANY CHASING, CHOPPING, OR CORE DRILLING BEING PERFORMED, THIS CONTRACTOR SHALL FIELD INVESTIGATE EXISTING CONDITIONS AND COORDINATE WITH ALL APPROPRIATE TRADES AND BUILDING MANAGEMENT TO ENSURE THAT WORK WILL BE IN HARMONY WITH OTHER WORK AND NOT AFFECT ANY EXISTING BUILDING SYSTEMS. THIS WORK MUST BE APPROVED BY BUILDING MANAGEMENT PRIOR TO PROCEEDING.
- 1.13 SYSTEM STARTUP, TESTING, COMMISSIONING, DEMONSTRATION, AND TRAINING
- A. STARTUP, TESTING, AND COMMISSIONING OF THE SYSTEM BY THIS CONTRACTOR SHALL BE SCHEDULED BEFORE THE SPACE IS OCCUPIED LEAVING ENOUGH TIME TO CORRECT THE SYSTEM'S DEFICIENCIES AND AFTER SHOP DRAWING ACCEPTANCE.
- B. THIS TESTING SHALL TAKE PLACE AFTER HAVING SATISFACTORILY MET THE REQUIREMENTS OF SHOP DRAWING ACCEPTANCE.
- C. UPON SUCCESSFUL COMPLETION OF SYSTEM STARTUP, TESTING, AND COMMISSIONING, THE CONTRACTOR SHALL SUBMIT A STATEMENT STATING THAT THE FULL OPERATION OF ALL SYSTEMS, FUNCTIONS AND ALARMS HAS BEEN DEMONSTRATED AND ARE OPERATIONAL AS WELL AS A LISTING OF ALL SYSTEMS, ALARMS AND FUNCTIONS THAT HAVE BEEN COMMISSIONED.
- D. AFTER CONTRACTOR IS SATSFIED THAT THE SYSTEM IS FULLY OPERATIONAL, A COMPLETE DEMONSTRATION AND TESTING OF THE SYSTEM OPERATING FUNCTIONS AND ALARMS SHALL BE PERFORMED BY THIS CONTRACTOR IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE, ENGINEER, AND BUILDING ENGINEER.
- E. ALL ITEMS SHALL BE SUBMITTED FOR REVIEW AND ACCEPTANCE TO THE OWNER, OWNER'S REPRESENTATIVE AND ENGINEER BEFORE FINAL ACCEPTANCE CAN TAKE PLACE.
- F. AFTER FINAL ACCEPTANCE, THIS CONTRACTOR SHALL PROVIDE TRAINING TO THE OWNER'S AND/OR LANDLORD'S PERSONNEL FOR ALL MECHANICAL SYSTEMS INSTALLED AND/OR MODIFIED UNDER THIS RPOJECT. IF CONTRACTOR'S PERSONNEL CANNOT PROVIDE COMPREHENSIVE TRAINING FOR SPECIFIC EQUIPMENT TYPES, CONTRACTOR SHALL HIRE QUALIFIED MANUFACTURER'S REPRESENTATIVES TO PERFORM THIS TRAINING AT NO ADDITIONAL COST TO THE OWNER. INCLUDE AN ALLOW FOR A MINIMUM OF (8) HOURS OF TRAINING AND (2) SEPARATE TRIPS.

PART 2 – PRODUCTS/APPLICATIONS

2.01 DUCTWORK AND ACCESSORIES

- A. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE, LATEST EDITION, SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL, LATEST EDITION, NFPA 90A LATEST EDITION, AND ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES. THE MOST STRINGENT REQUIREMENT OF ANY CODES SHALL APPLY.
- I. PROVIDE ALL SUPPORTING AND HANGING DEVICES IN ACCORDANCE WITH BUILDING CODE AND SMACNA.
- J. PROVIDE FIRESTOPPING FOR ALL DUCT PENETRATIONS THROUGH FIRE–RATED PARTITIONS.
- D. DUCTWORK LAYOUT AND ROUTING IS SCHEMATIC AND THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL DUCT SIZE CHANGES AND RELOCATIONS TO ACCOMMODATE SPACE AND STRUCTURAL CONDITIONS. OFFSETS AND TRANSFORMATIONS SHALL PRESERVE THE FULL INSIDE CROSS–SECTIONAL AREA OF DUCTWORK SHOWN ON THE DRAWINGS.
- E. DUCTWORK (NEW AND EXISTING TO BE REUSED) SHALL HAVE PRESSURE CLASSIFICATION, SEALING REQUIREMENTS AND LEAKAGE TESTING IN ACCORDANCE WITH SMACNA AND AS LISTED BELOW UNLESS OTHERWISE SPECIFIED OR SHOWN ON THE DRAWINGS.
1. 2" CLASS: ALL LOW PRESSURE DUCTWORK. SEAL CLASS C, LEAKAGE CLASS 24 (RECTANGULAR) OR CLASS 12 (ROUND).
- F. MATERIALS:
1. GALVANIZED STEEL: UNLESS OTHERWISE SPECIFIED OR INDICATED, DUCTS SHALL BE CONSTRUCTED OF HOT–DIPPED GALVANIZED SHEETMETAL WITH 60 COMMERCIAL COATING ACCORDING TO ASTM 653 AND A924.
2. ALUMINUM: PROVIDE DUCTWORK OF ALUMINUM CONSTRUCTION, WHERE INDICATED. DUCTWORK SHALL BE ALLOY 3003–H14, OF THICKNESS REQUIRED BY THE SMACNA DUCT CONSTRUCTION STANDARDS. PROVIDE FOR ALL DUCTWORK EXPOSED TO WEATHER AND MOISTURE INCLUDING OUTSIDE AIR DUCTS WITHIN 10 FEET OF LOUVERS AND DISHWASHER EXHAUST.
3. FLEXIBLE CONNECTIONS AT FANS SHALL BE NEOPRENE COATED, FLAME RETARDANT GLASS FABRIC (COMPLYING WITH NFPA 90 AND 96), 30 OZ./SQ. YD. WITH SOWN AND CEMENTED SEAMS. FLEXIBLE CONNECTIONS MUST BE TESTED IN ACCORDANCE WITH UL 181, LISTED AND LABELED AS CLASS 0 OR CLASS 1 FLEXIBLE AIR CONNECTORS .
4. FLEXIBLE DUCTWORK SHALL NOT BE USED ON THIS PROJECT.
- G. FABRICATION:
1. CONFORM TO SMACNA AND MECHANICAL CODE REQUIREMENTS FOR METAL THICKNESS, REINFORCING, JOINTS, AND SEALING FOR MAXIMUM STATIC PRESSURES INVOLVED. ALL SEAMS AND JOINTS SHALL BE SEALED AND TAPED.
2. ELBOWS SHALL CONFORM TO SMACNA REQUIREMENTS AND THE FOLLOWING:
- A) PROVIDE LONG RADIUS TYPE WITH CENTERLINE RADIUS MINIMUM 1.5 TIMES DUCT WIDTH. PROVIDE SHORT RADIUS OR SQUARE ELBOWS WHERE INDICATED OR WHERE REQUIRED TO FIT RESTRICTED SPACES. PROVIDE DOUBLE THICKNESS TURNING VANES ON ALL SHORT RADIUS AND MITERED ELBOWS. CONFORM TO SMACNA FOR THE NUMBER OF VANES FOR FITTINGS
3. BRANCH CONNECTIONS: PROVIDE 45 DEGREE ENTRY OR CONICAL TAPS. PROVIDE RADIUS TYPE FITTINGS FOR DIVIDED FLOW BRANCHES.
- H. ACOUSTICALLY LINED DUCTWORK:
1. PROVIDE MATTE–FACED GLASS DUCT LINER, 1–INCH THICK –2 LB/CF DENSITY. DUCT DIMENSIONS INDICATED ARE CLEAR (NET) INSIDE DIMENSIONS. FOR DUCT VELOCITIES GREATER THAN 2,000 FPM, FACE DUCT LINER WITH 24 GAUGE PERFORATED ALUMINUM OR GALVANIZED STEEL, FULLY COVERING DUCT LINER, AND SUPPORTED 12" ON CENTER. CONFORM TO SMACNA REQUIREMENTS FOR INSTALLATION. PROVIDE ACOUSTICALLY LINED DUCT WHERE INDICATED ON THE DRAWINGS:
- I. FIRE DAMPERS:
1. DYNAMIC FIRE DAMPERS:
- A) FUSIBLE LINK DYNAMIC RATED FIRE DAMPERS SHALL BE FURNISHED AND INSTALLED WHERE SHOWN ON PLANS AND/OR AS DESCRIBED ON SCHEDULES. DAMPERS SHALL MEET THE REQUIREMENTS OF NFPA 80, 90A & 101 AND FURTHER SHALL BE TESTED, RATED AND LABELED IN ACCORDANCE WITH THE LATEST EDITION OF UL STANDARD 555. DAMPERS SHALL HAVE A UL555 FIRE RATING OF 1 1/2 HOURS OR 3 HOURS.

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203-352-1717 FAX 203-352-1718  
PROJECT NUMBER: 223030790

PROJECT:

WILTON  
CONGREGATIONAL  
CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
-	11.24.21	BID REVIEW SET
-	12.20.21	BID SET
-	04.22.22	PERMIT SET
-	-	-
-	-	-
-	-	-
-	-	-
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PHASE:

PERMIT SET

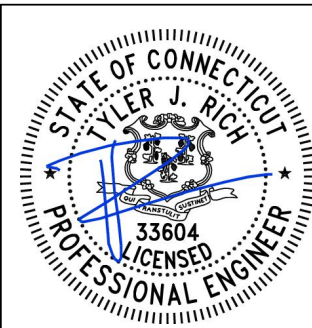
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DATE: 4/27/2022	DRAWN BY: JPR
SCALE: NONE	CHECKED BY: MG
JOB NO: 21-045	

DRAWING NAME

MECHANICAL  
SPECIFICATIONS



M3.1



- B) DAMPERS SHALL BE CONSTRUCTED WITH A GALVANIZED STEEL FRAME, GALVANIZED CURTAIN STYLE BLADES IN GAUGES REQUIRED BY UL LISTING R13317. EACH FIRE DAMPER SHALL BE SUPPLIED AS A SINGLE ASSEMBLY WITH A FACTORY SLEEVE. EACH FIRE DAMPERS SHALL BE EQUIPPED WITH A FACTORY INSTALLED HEAT RESPONSIVE DEVICE, FUSIBLE LINK (REPLACEABLE), RATED TO CLOSE THE DAMPER WHEN TEMPERATURE AT THE DAMPERS REACHES 165°F.
- C) DAMPERS SHALL HAVE A MINIMUM UL555 DIFFERENTIAL PRESSURE RATING OF 4IN. WG. DAMPERS SHALL ALSO A MINIMUM UL555 VELOCITY RATING OF 2,000 FPM.
- D) EACH DAMPER SHALL BE SUPPLIED WITH FACTORY RETAINING ANLES SIZED TO PROVIDE INSTALLATION OVERLAP IN ACCORDANCE WITH THE MANUFACTURER'S UL LISTING.
- E) FIRE DAMPERS SHALL BE TYPE B WITH SHUTTER OUT OF AIRSTREAM. DO NOT USE TYPE A WITH SHUTTER IN AIRSTREAM.
- F) FIRE DAMPER SHALL BE MANUFACTURED BY POTTORFF MODEL DFD-10D (1-1/2 HR. RATED) OR MODEL DFD-30D (3-HOUR RATED), OR APPROVED EQUAL.
- J. SEAL OPENINGS AROUND DUCTS THROUGH WALLS WITH MINERAL WOOL OR OTHER NON-COMBUSTIBLE MATERIAL. SEAL ALL DUCT PENETRATIONS THROUGH WALLS AIRTIGHT.
- K. ALL DUCTS EXPOSED TO MOISTURE SHALL BE ALUMINUM, SLOPED AND DRAINED AND SHALL NOT BE INTERNALLY LINED.
- L. AUTOMATIC CONTROL DAMPERS:
1. PROVIDE DAMPERS WITH PARALLEL BLADES FOR 2-POSITION CONTROL, OR OPPOSED BLADES FOR MODULATING CONTROL OF CONSTANT OR VARIABLE VOLUME SYSTEM.
2. AUTOMATIC DAMPERS TO BE VERY LOW LEAKING TYPE WITH JAMB AND BLADE SEALS RATED FOR SMOKE DAMPER APPLICATION. CONSTRUCT BLADES OF 16 GAUGE GALVANIZED STEEL. PROVIDE HEAVY-DUTY MOLDED SELF-LUBRICATING NYLON BEARINGS, 1/2" DIAMETER STEEL AXLES SPACED ON 9" CENTERS, BLADES TO BE MAXIMUM 10" HIGH. FRAME SHALL BE CONSTRUCTED OF 16 GAUGE X 4-3/8" GALVANIZED HAT SHAPED STEEL PROPERLY BRACED WITH GALVANIZED STEEL FINISH AND ALUMINUM TOUCH-UP.
3. AUTOMATIC DAMPERS SHALL HAVE A MAXIMUM LEAKAGE RATE OF 4 CFM/FT2 AT 1.0 INCHES W.G. WHEN TESTED IN ACCORDANCE WITH AMCA 500D.
4. DAMPERS INSTALLED IN ALUMINUM DUCTS SHALL BE ALUMINUM WITH WEATHERPROOF COMPONENTS.
5. DAMPERS TO BE MANUFACTURED BY IMPERIAL OR APPROVED EQUAL.
- M. LOUVERS:
1. PROVIDE ALL LOUVERS WITH BIRD SCREENS. ALL LOUVERS AND BIRD SCREENS SHALL CONFORM TO SMACNA. CONTRACTOR SHALL CONNECT DUCTWORK AND PLENUMS TO LOUVERS. SUBMIT SHOP DRAWINGS OF LOUVERS AND INSTALLATION DETAILS TO THE DESIGN TEAM FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WORK.
2. THE FIXED LOUVER PANELS SHALL BE MADE OF EXTRUDED ALUMINUM. LOUVER BLADES SHALL BE SPACED AT 4 INCHES, 0.081 INCHES THICK AT 45 DEGREE ANGLE DIRECTED FOR INTAKE OR DISCHARGE CONFIGURATION AS REQUIRED. JAMBS AND HEAD/SILL SHALL BE EXTRUDED ALUMINUM AND 0.081 INCHES THICK BY 4 INCHES DEEP. FRAMES SHALL BE 1/8 INCH THICK, BOX TYPE AND DRAINABLE WITH NECESSARY BRACES FOR RIGID REINFORCEMENT. PROVIDE STATIONARY TOP AND BOTTOM STOPS TO PREVENT AIR LEAKAGE. PROVIDE DIAMOND MESH BIRD/INSECT SCREEN. THE NET FREE AREA SHALL NOT BE LESS THAN 50% OF GROSS LOUVER AREA.
3. COORDINATE LOUVER SIZES WITH DUCTWORK OR EQUIPMENT TO BE CONNECTED TO LOUVERS.
4. LOUVERS SHALL BE MANUFACTURED BY IMPERIAL OR APPROVED EQUAL BY THE ENGINEER. COLOR AND FINISH TO BE AS PER BUILDING STANDARDS AND SELECTED BY THE ARCHITECT.
- N. EXPOSED DUCTWORK:
1. WHERE DUCTWORK IS INDICATED TO BE EXPOSED TO VIEW IN OCCUPIED SPACES, PROVIDE MATERIALS WHICH ARE FREE FROM VISUAL IMPERFECTIONS, INCLUDING PITTINGS, SEAM MARKS, STAINS, DISCOLORATIONS, AND OTHER IMPERFECTIONS.
2. PROVIDE FINISHES WHICH WILL ALLOW PAINTING. CLEAN SURFACES OF ALL DUST, GREASE, AND DEBRIS PRIOR TO PAINTING BY THE GENERAL CONTRACTOR.
3. PROVIDE FLAT TYPE SEAMS AND JOINTS FOR ALL EXPOSED DUCT CONSTRUCTION.
4. UNLESS OTHERWISE NOTED, ALL EXPOSED DUCTWORK IN FINISHED SPACES SHALL BE SPIRAL ROUND OR FLAT OVAL TYPE, WITH SOLID OUTER WALL, PERFORATED INNER WALL, AND 1 INCH THICK INTERSTITIAL ACOUSTICAL LINING.
- O. GENERATOR FLUE - PRE-FABRICATED (DOUBLE WALL):
1. PROVIDE PRE-FABRICATED FLUE COMPLETE WITH ALL FITTINGS AND ACCESSORIES INCLUDING DRAFT INDUCER (IF REQUIRED BY STACK/DRAFT CALCULATIONS) AND STRUCTURAL SUPPORTS REQUIRED FOR COMPLETE INSTALLATION.
2. THIS FACTORY-BUILT MODULAR EXHAUST SYSTEM WITH PUBLISHED SKIN TEMPERATURES SHALL BE LABORATORY TESTED AND LISTED BY UNDERWRITERS LABORATORIES. FOR USE WITH BUILDING HEATING EQUIPMENT AND APPLIANCES WHICH PRODUCE EXHAUST FLUE GASES AT A TEMPERATURE NOT EXCEEDING 1400 DEGREES FAHRENHEIT (F) UNDER CONTINUOUS OPERATING CONDITIONS. THIS EXHAUST SYSTEM SHALL BE DESIGNED TO COMPENSATE FOR ALL FLUE GAS INDUCED THERMAL EXPANSIONS. THE STACK SHALL MEET THE LATEST U.L. REQUIREMENTS FOR PRESSURE CAPABILITY AND PRESSURE TESTING.
3. THE EXHAUST SYSTEM SHALL BE DOUBLE WALL AND HAVE AN OUTER JACKET OF STAINLESS STEEL .025" THICK IN 6" THROUGH 24" DIAMETERS AND .034" THICK FOR LARGE DIAMETERS. THE INNER FLUE GAS CARRYING CONDUIT SHALL BE TYPE 304 STAINLESS STEEL. THE INNER LINER SHALL BE .035" NOMINAL THICKNESS FOR ALL DIAMETERS. PROVIDE FIBER INSULATION BETWEEN THE WALLS OF FOUR (4) INCHES THICK.
4. PROVIDE AN EXPLOSION RELIEF VALVE IN THE EXHAUST SYSTEM PER NFPA 37, TO HELP CONTROL THE VENTING PRESSURE SHOULD A BACKFIRE OCCUR. PROVIDE A DRAIN CONNECTION AT THE FLUE BASE TO PREVENT WATER FROM ENTERING ENGINE.
5. THE INNER PIPE JOINTS SHALL BE SEALED BY USE OF OVERLAPPING TYPE V-BANDS (P-OVB) WITH A PRE-MIXED 2000 DEGREES F SEALANT (P-2000E). THE OUTER CHANNEL BANDS SHALL BE SEALED WITH A 600 DEGREES F SEALANT (P-600) WHERE EXPOSED TO WEATHER.
6. THE ENGINE EXHAUST PIPING SHALL BE INSTALLED AND TERMINATED ACCORDING TO THE MANUFACTURER=S INSTALLATION INSTRUCTIONS, THE LIMITS OF ITS U.L. LISTING, AND IN COMPLIANCE WITH NFPA AND NEW YORK CITY BUILDING CODE.

2.02 PIPING AND ACCESSORIES

- A. PROVIDE ALL PIPING, FITTINGS, VALVES, SPECIALTIES, THERMOMETERS, AND PRESSURE GAUGES REQUIRED FOR THE OPERATING AND MAXIMUM PRESSURE AND TEMPERATURE OF THE PIPING SYSTEMS.
- B. PROVIDE FIRESTOPPING FOR ALL DUCT PENETRATIONS THROUGH FIRE-RATED PARTITIONS.
- C. ALL PIPING SHALL BE NEW, STANDARD SIZE, FREE FROM SCALE OR RUST WITH ENDS CAPPED FOR DELIVERY AND STORAGE. EACH LENGTH OF PIPING SHALL BE PROPERLY MARKED AT THE MILL FOR PROPER IDENTIFICATION WITH NAME OR SYMBOL OF MANUFACTURER.
- D. ALL HORIZONTAL CONDENSATE PIPING SHALL BE PITCHED A MINIMUM OF 1/8 PER FOOT OF LENGTH. CONDENSATE PIPING SHALL NOT BE LESS THAN DIAMETER.
- E. PIPE APPLICATION SCHEDULE:

SERVICE	SIZE	MATERIAL	WEIGHT	STANDARD	JOINT TYPE
FUEL OIL	TO 2"	BLACK STEEL	SCH 40	ASTM A53 SEAMLESS GRADE B	SOCKET WELD
	2-1/2" & LARGER	BLACK STEEL	SCH 40	ASTM A53 SEAMLESS GRADE B	WELDED

D. FITTING MATERIALS AND APPLICATION SCHEDULE:

1. ALL FITTING JOINT TYPE SHALL BE THE SAME AS THE PIPING JOINT TYPE REQUIRED FOR SERVICE, BASED ON THE PIPING APPLICATION SCHEDULE.
2. FITTING CLASS SHALL MEET THE PRESSURE AND TEMPERATURE REQUIREMENT OF THE PIPING SYSTEM BASED ON ITS MAXIMUM OPERATING PRESSURE AND TEMPERATURE OR TEST PRESSURE, WHICHEVER IF MORE STRINGENT. PRESSURE AND TEMPERATURE RATINGS OF A FITTING SHALL BE DETERMINED BY ITS CLASS AND THE CORRESPONDING ANSI STANDARD.

3. FITTING APPLICATION TABLE:

<u>PIPE MATERIAL</u>	<u>PIPE SIZE (INCHES)</u>	<u>JOINT TYPE</u>	<u>FITTING MATERIAL</u>	<u>FITTINGS CLASS</u>
BLACK STEEL	2" & SMALLER	THREADED FLANGE	CAST IRON	125 AND 250
		THREADED	MALLEABLE IRON	150 AND 300
		SOCKET WELD ENDS	FORGED STEEL	2,000 LBS.
-----				
BLACK STEEL	2-1/2" & LARGER	BUTT WELDED	WROUGHT STEEL	SAME WEIGHT AS PIPING
		WELD NECK FLANGES AND FLANGED FITTINGS	WROUGHT STEEL	150 AND 300
-----				
BLACK STEEL BRANCH CONNECTIONS	MAIN TO 2 PIPE SIZES SMALLER - USE WELD TEES			
	3 OR MORE PIPE SIZES SMALLER THAN MAIN - USE BONNY WELD-O-LETS (UP TO BRANCH PIPE CONNECTION SIZE OF 2-1/2")			
	BRANCH CONNECTIONS SIZE OF 2" AND SMALLER - BONNY WELD-O-LETS, THREAD-O-LETS, THREADED NIP-O-LETS, OR STEEL COUPLINGS			

PROVIDE DIELECTRIC FITTING AT ALL PIPING CONNECTIONS JOINING DISSIMILAR METALS, SUCH AS STEEL AND COPPER.

F. FUEL OIL PIPING SYSTEMS:

1. GENERAL:
- A) CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND CERTIFICATES OF COMPLIANCE FROM ALL AGENCIES INCLUDING THE DEPARTMENT OF BUILDINGS (DOB) AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP). ALL PAPERWORK AND THE CERTIFICATE OF COMPLIANCE SHALL BE TURNED OVER TO BUILDING MANAGEMENT AT THE COMPLETION OF THE PROJECT FOR DISPLAY AS REQUIRED BY THE NEW YORK CITY BUILDING CODE.
- B) CONTRACTOR SHALL PROVIDE ALL SIGNAGE AND LABELS AS REQUIRED BY THE NEW YORK CITY BUILDING CODE.
- C) PIPE LINES SHALL BE PITCHED IN THE DIRECTION INDICATED ON THE DRAWINGS, AT LEAST 1" IN 10', UNLESS OTHERWISE SHOWN ON THE DRAWINGS. ALL PIPING CONNECTED TO TANKS SHALL BE PROVIDED WITH DOUBLE SWING JOINTS.
2. FILL PIPE: PROVIDE FILL PIPE, OF SIZE SHOWN ON DRAWINGS, FOR EACH TANK, FILL PIPES SHALL PITCH TOWARD TANKS, SHALL BE CONNECTED INTO TAPPING ON TANKS, AND SHALL BE EXTENDED AS SHOWN ON THE DRAWINGS TO FILL PIPE TERMINALS NEAR THE SIDEWALK CURB. FILL PIPING TERMINALS TO HAVE FILL BOXES WITH INTEGRAL SPILL CONTAINER.
3. NORMAL VENT PIPE: A VENT PIPE OF SIZE INDICATED ON THE DRAWINGS SHALL BE CONNECTED TO THE VENT PIPE TAPPING ON EACH TANK. IT SHALL BE EXTENDED TO THE LOCATION SHOWN ON THE DRAWINGS TO A VENT HEAD. VENT PIPING SHALL BE CONNECTED TO EMERGENCY VENT LINE, ROUTED TO THE OUTDOORS AND SIZED TO AS AN EMERGENCY VENT TO RELIEVE TANK PRESSURE DURING AN EMERGENCY. VENT PIPE SHALL PITCH TOWARD TANK AND SHALL BE SUPPORTED AS INDICATED ON THE DRAWINGS. HEIGHT OF VENT IS NOT TO EXCEED 12 FEET ABOVE FILL.
4. EMERGENCY VENT: THE EMERGENCY VENT SHALL BE CONNECTED TO THE NORMAL VENT LINE AND EXTENDED TO THE OUTDOORS. EMERGENCY VENT SHALL BE SIZED, BASED ON TANK WETTED AREA, TO RELIEVE TANK PRESSURE DURING AN EMERGENCY. EMERGENCY VENT SHALL TERMINATE AS PER NORMAL VENT REQUIREMENTS.
- G. ALL INSTRUMENTATION (PRESSURE GAUGES AND THERMOMETERS) SHALL BE RATED FOR THE SAME PRESSURE AND TEMPERATURE AS PIPING SYSTEM AND RATED SPECIFICALLY FOR THE SAME SERVICE AS THE PIPING. PRESSURE GAUGES ARE TO BE LIQUID FILLED WITH 1% ACCURACY. SELECT GAUGES AND THERMOMETERS SO THAT THE MIDPOINT IS AT THE WORKING PRESSURE AND TEMPERATURE. INSTRUMENTS TO BE MANUFACTURED BY WEISS INSTRUMENTS OR APPROVED EQUAL.

1. PROVIDE THERMOMETERS IN PIPING AS INDICATED ON THE DRAWINGS AND AT THE INLET AND OUTLET OF EACH HYDRONIC COIL, HEAT EXCHANGER AND PIECE OF EQUIPMENT THAT INVOLVES A DIFFERENTIAL TEMPERATURE.
2. PROVIDE PRESSURE GAUGES IN PIPING AS INDICATED ON THE DRAWINGS AND AT SUCTION AND DISCHARGE OF EACH PUMP AND AT INLETS AND OUTLETS OF EACH HYDRONIC COIL, HEAT EXCHANGER AND PIECE OF EQUIPMENT THAT INVOLVES A DIFFERENTIAL PRESSURE.

H. ALL PIPING TO BE VENTED AT HIGH POINTS AND PROVIDED WITH ASSOCIATED DRAIN VALVES AT LOW POINTS. PROVIDE AUTOMATIC AIR VENTS WITH GATE VALVES PIPE TO DISCHARGE TO THE NEAREST DRAIN UNLESS DRAWINGS INDICATE MANUAL AIR VENTS.

I. PROVIDE CORE DRILLED OPENINGS WITH PIPE SLEEVES AT ALL SLAB AND SHAFT PENETRATIONS. PROVIDE FIREPROOFING AS REQUIRED TO MAINTAIN WALL, SHAFT AND SLAB FIRE RATINGS.

J. PROVIDE WATERPROOF SLEEVES (LINK SEAL (LS TYPE) AT ALL EXTERIOR WALL AND FLOOR PENETRATIONS, AND AS REQUIRED OR AS NOTED ON PLANS.

K. PROVIDE LABELING OF ALL PIPING (BOTH EXPOSED AND CONCEALED) IN ACCORDANCE WITH ANSI STANDARDS AND COLOR CODED AS PER BUILDING MANAGEMENT STANDARDS. LABELS TO BE SECURELY FASTENED TO PIPING WITH LETTERING OF SUFFICIENT SIZE FOR EASY IDENTIFICATION BY OPERATING PERSONNEL.

L. ALL PIPING TO BE MAINTAINED AT THE HIGHEST ELEVATIONS POSSIBLE SO AS NOT TO INTERFERE WITH EXISTING OPERATIONS AND SERVICE/MAINTENANCE REQUIREMENTS.

M. HANGERS AND SUPPORTS:

1. PROVIDE ALL PIPE HANGERS, HANGAR RODS SUPPORTS, INSERTS, ATTACHMENTS, CLAMPS, GUIDES, SUPPLEMENTAL STEEL AND ANCHORS AS REQUIRED TO INSTALL PIPING SYSTEM SIZED TO ACCOMMODATE THE SYSTEM LOADS. HANGERS AND SUPPORTS ARE TO BE IN ACCORDANCE WITH MSS RECOMMENDATIONS AND TO BE MANUFACTURED BY GRINNELL OR APPROVED EQUAL.
2. PROVIDE INSULATED PROTECTIVE SADDLES FOR INSULATED PIPING.
3. PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH RECOMMENDATIONS OF MSS SP-69 AND ALL APPLICABLE CODES. ALL THREADED ROD IS TO BE GALVANIZED. PROVIDE 2" VERTICAL ADJUSTMENT FOR ALL HANGERS. PROVIDE ADDITIONAL SUPPORTS AT CHANGES IN DIRECTION, BRANCH PIPING OVER 5 FEET, AND CONCENTRATED LOADS DUE TO VALVES, STRAINERS AND OTHER ACCESSORIES.

N. EXPANSION COMPENSATION:

1. ALL PIPING SHALL BE INSTALLED TO COMPENSATE FOR EXPANSION TO PROTECT THE BUILDING, EQUIPMENT AND PIPING SYSTEMS. PROVIDE ALL GUIDES, ANCHORS, EXPANSION LOOPS, SUPPLEMENTAL STEEL AND APPROVED TYPE EXPANSION JOINTS AS INDICATED OR REQUIRED FOR CONTROL OF EXPANSION.

O. TESTING:

1. GENERAL

- A) TESTS SHALL BE CONDUCTED AFTER COMPLETION AND ASSEMBLY OF PIPING SYSTEM, BEFORE ANY INSULATION OR PAINT IS APPLIED TO JOINTS, INCLUDING WELDS AND PRIOR TO MAKING THE SYSTEM OPERABLE. INSULATION MATERIALS INSTALLED PRIOR TO THE TESTS SHALL BE REMOVED.
- B) THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY TEMPORARY PIPING CONNECTIONS, TEES, VALVES, EQUIPMENT, AND LABOR TO PRESSURE TEST PIPING AND EQUIPMENT.
- C) EQUIPMENT THAT IS NOT SUBJECTED TO THE PRESSURE TEST SHALL BE EITHER DISCONNECTED FROM THE SYSTEM OR ISOLATED BY A BLANK OR SIMILAR MEANS. VALVES MAY BE USED FOR THIS PURPOSE PROVIDED THAT VALVE CLOSURE IS SUITABLE FOR THE PROPOSED TEST PRESSURE.
- D) SUBMIT TO THE ENGINEER AND OWNER REPRESENTATIVE A RECORD OF TEST PRESSURE APPLIED TO EACH PIPING SYSTEM.

2.03 INSULATION

- A. ALL INSULATION SHALL MEET THE REQUIREMENTS OF ASTM, NFPA, THE ENERGY CODE AND ALL AUTHORITIES HAVING JURISDICTION. ALL MECHANICAL INSULATION (JACKETING, COVERINGS, ADHESIVES, MASTICS, FACINGS, TAPES, ETC.), SHALL HAVE RATINGS NOT EXCEEDING A FLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPED INDEX OF 50 OR LESS.
- B. BEFORE APPLYING INSULATION, ALL PRESSURE AND LEAK TESTS SHALL BE COMPLETED AND APPROVED. FURNISH AND INSTALL AS PER MANUFACTURER'S REQUIREMENTS.
- C. INSULATION FOR FITTINGS OR ACCESSORIES REQUIRING SERVICING OR INSPECTION SHALL HAVE INSULATION

REMOVABLE AND REPLACEABLE WITHOUT DAMAGE.

D. DUCT INSULATION:

1. GENERAL

A) INSULATION SHALL BE APPLIED WITH MASTICS, ADHESIVES, AND COATINGS, WITH COVERS, WEATHER-PROTECTION AND OTHER WORK AS REQUIRED BY MANUFACTURER'S RECOMMENDATIONS. MATERIALS SHALL MEET REQUIREMENTS OF ADHESIVE AND SEALANT COUNCIL STANDARDS AND SMACNA.

2. INDOOR DUCTWORK

A) ALL SUPPLY AIR, RETURN AIR, OUTSIDE AIR INTAKE, AND EXHAUST/SPILL/RELIEF AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-6 INSULATION WHEN LOCATED WITHIN THE BUILDING ENVELOPE ASSEMBLY, UNLESS OTHERWISE INDICATED. WHEN LOCATED WITHIN THE BUILDING ENVELOPE ASSEMBLY, THE DUCT OR PLENUM MUST BE SEPARATED FROM THE BUILDING EXTERIOR OR UNCONDITIONED OR EXEMPT SPACES BY A MINIMUM OF R-8 INSULATION.

B) CONCEALED DUCTWORK: INSULATE SUPPLY AND FRESH AIR DUCTS AND PLENUMS IN CONCEALED SPACES AND RETURN DUCT NOT IN CEILING PLENUM WITH AT LEAST 1-1/2" THICK FIBROUS GLASS DUCT WRAP, WITH A MINIMUM R-VALUE OF R-6 AND FOIL-KRAFT FLAME RESISTANT VAPOR BARRIER.

C) EXPOSED DUCTWORK: INSULATE EXPOSED SUPPLY, RETURN AND FRESH AIR DUCTS AND EXPOSED PLENUMS WITH AT LEAST 2" THICK, SEMI-RIGID FIBROUS GLASS BOARDS WITH A MINIMUM R-VALUE OF R-6 AND A FACTORY APPLIED FIRE RETARDANT FOIL REINFORCED KRAFT VAPOR BARRIER FACING. PROVIDE WELD PINS AND VAPOR SEAL ALL JOINTS WITH TAPE. (THIS REQUIREMENT DOES NOT APPLY TO INTERNALLY LINED DUCTWORK LOCATED IN FINISHED SPACES.)

D) RETURN DUCTS AND PLENUMS LOCATED IN CONDITIONED SPACES OR CEILING PLENUMS SHALL NOT REQUIRE INSULATION.

E) EXHAUST/SPILL/RELIEF AIR DUCTS AND PLENUMS LOCATED UPSTREAM OF MOTORIZED OR BAROMETRIC ISOLATION DAMPERS SHALL NOT REQUIRE INSULATION. PORTIONS AFTER ISOLATION DAMPERS MUST BE INSULATED FROM THE DAMPER TO THE WALL/ROOF PENETRATION.

F) WHERE INDOOR DUCTWORK IS INTERNALLY ACOUSTICALLY LINED, EXTERNAL INSULATION THICKNESS MAY BE REDUCED SUBJECT TO MAINTAINING THE R-VALUES SPECIFIED HEREIN.

2.04 ELECTRICAL WORK

A. GENERAL

1. ELECTRICAL POWER WIRING SHALL BE PROVIDED BY THE ELECTRICAL CONTRACT; CONTROL WIRING SHALL BE BY THE HVAC CONTRACT. CONTROL WIRING SHALL BE DEFINED AS ANY 12V, 24V, OR 120V WIRING INSTALLED FOR PURPOSES OTHER THAN PROVIDING PRIMARY ELECTRICAL POWER TO EQUIPMENT.
2. ALL ELECTRICAL WORK FOR CONTROL PURPOSES (EXCEPT FOR MOTOR FEEDERS, WIRING BETWEEN MOTORS, MOTOR CONTROLLERS, FEEDER PANELS, FUSES, CIRCUIT BREAKERS AND BUS BARS) REQUIRED FOR THE AUTOMATIC TEMPERATURE CONTROL SYSTEM SHALL BE PROVIDED BY THE AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR. THIS WORK SHALL INCLUDE BUT NOT BE LIMITED TO TIME SWITCHES, DAMPER MOTORS, DAMPER SWITCHES, ELECTRIC THERMOSTATS, ELECTRIC RELAYS, F.P. SWITCHES, INTERLOCKING WIRING, WIRE, CONDUIT, ETC. ALL 120 VOLT POWER REQUIRED FOR CONTROL PURPOSES SHALL BE PROVIDED BY THE AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR FROM A SOURCE ESTABLISHED BY THE ELECTRICAL CONTRACTOR. THIS WORK SHALL BE PERFORMED BY A LICENSED ELECTRICIAN, EITHER EMPLOYED BY THE AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR, OR HIRED BY THE AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR AS A SUBCONTRACTOR.
3. MOTOR STARTERS AND VARIABLE FREQUENCY DRIVES (VFD) SHALL BE FURNISHED BY THE HVAC CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. REFER TO THE EQUIPMENT SECTION FOR VARIABLE FREQUENCY DRIVE SPECIFICATIONS.
4. ALL ELECTRICAL CONTROL WIRING SHALL COMPLY WITH LOCAL ELECTRICAL CODE, ALL AUTHORITIES HAVING JURISDICTION AND THE PROJECT ELECTRICAL SPECIFICATIONS.
5. MECHANICAL CONTRACTOR TO OBTAIN QUANTITY OF CONTROLLERS REQUIRED AND COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ALL OPERATING REQUIREMENTS, INTERLOCKS AND CONNECTIONS FOR STARTERS.
6. THE MECHANICAL CONTRACTOR SHALL PREPARE AND SUBMIT FOR APPROVAL POINT-TO-POINT, COMPLETELY COORDINATED WIRING DIAGRAMS AND INDICATE ALL SOURCE POWER REQUIREMENTS AND ALL FIELD WIRING TO BE PERFORMED BY THE ELECTRICAL CONTRACTOR.
7. WHERE EXISTING STARTERS ARE TO BE REUSED, THIS CONTRACTOR SHALL MAINTAIN ALL EXISTING CONTROL CONNECTIONS. WHERE NEW STARTERS ARE TO BE PROVIDED TO REPLACE EXISTING, THIS CONTRACTOR SHALL SURVEY THE EXISTING CONTROL CONNECTIONS AND PREPARE AN EXISTING CONTROL WIRING DIAGRAM PRIOR TO DEMOLITION FOR SUBMITTAL TO THE ENGINEER. THE NEW STARTERS SHALL BE PROVIDED WITH THE NECESSARY CONTACTS AND RELAYS REQUIRED TO RECONNECT THE EXISTING CONTROLS. PROVIDE ALL REQUIRED CONTACTS FOR UNIT START/STOP AND FIRE ALARM.

2.05 AUTOMATIC TEMPERATURE CONTROLS

A. GENERAL REQUIREMENTS

1. PROVIDE DIGITAL STANDALONE CONTROLS AS INDICATED ON THE DRAWINGS.
2. ALL TEMPERATURE CONTROL SYSTEMS AND COMPONENTS UNDER THIS SUBCONTRACT ARE TO BE FULLY MODULATING TYPE, EXCEPT WHERE NOTED OTHERWISE. THE SYSTEM SHALL BE COMPLETE IN ALL RESPECTS INCLUDING ALL ASSOCIATED CONTROL EQUIPMENT, THERMOSTATS, CONTROL VALVES, VALVE ACTUATORS, DAMPER OPERATORS, RELAYS, PILOT POSITIONERS, CONTROL WIRING, CONTROL AIR PIPING, SWITCHES, INTERLOCK WIRING, ELECTRICAL CONTROL COMPONENTS AND ASSOCIATED PIPING OR WIRING, APPURTENANCES, ETC., TO PROVIDE THE FUNCTIONS DESCRIBED IN THESE SPECIFICATIONS AND PLANS, REGARDLESS OF WHETHER OR NOT SAID DEVICE RELAY, ETC. IS SPECIFICALLY MENTIONED HEREFTER.
3. THE SYSTEM SHALL BE SUPERVISED AND CHECKED OUT COMPLETELY IN ALL RESPECTS BY COMPETENT MECHANICS, REGULARLY EMPLOYED BY THE MANUFACTURER.
4. ALL CONTROLS MUST BE THE PRODUCT OF ONE MANUFACTURER. ALL AUTOMATIC CONTROL VALVES, SENSORS AND DAMPER OPERATORS SHALL BE MANUFACTURED BY THE TEMPERATURE CONTROL MANUFACTURER.
5. THE CONTROL SYSTEMS SHALL BE IN ACCORDANCE WITH THE INFORMATION SHOWN ON THE PLANS AND AS DESCRIBED HEREIN.

B. QUALITY ASSURANCE

1. GENERAL - THE HVAC CONTROL SYSTEM SHALL BE FURNISHED, ENGINEERED, AND INSTALLED BY A LICENSED CONTROLS CONTRACTOR OR SYSTEM INTEGRATOR (SI). ALL WORK PROVIDED UNDER THIS SECTION SHALL BE PROVIDED BY DIRECT EMPLOYEES OF THE SI OR UNDER THE DIRECT SUPERVISION OF THE SI PERSONNEL.
2. HARDWARE AND SOFTWARE COMPONENT MANUFACTURER QUALIFICATIONS

A) THE MANUFACTURER OF THE HARDWARE AND SOFTWARE COMPONENTS MUST BE REGULARLY ENGAGED IN THE MANUFACTURE OF SYSTEMS AS SPECIFIED HEREIN, AND MUST HAVE BEEN SO FOR A MINIMUM OF THREE (3) YEARS. THE MANUFACTURER SHALL DEMONSTRATE THAT THEY ARE THE MANUFACTURER OF ALL DEVICES AND NIAGARA PRODUCTS PROVIDED. REBRANDED PRODUCTS MANUFACTURED BY A DIFFERENT MANUFACTURER ARE NOT ACCEPTABLE.

B) THE MANUFACTURER OF THE HARDWARE AND SOFTWARE COMPONENTS SHALL HAVE A TECHNICAL SUPPORT GROUP ACCESSIBLE VIA A TOLL FREE NUMBER THAT IS STAFFED WITH QUALIFIED PERSONNEL, CAPABLE OF PROVIDING INSTRUCTION AND TECHNICAL SUPPORT SERVICE FOR NETWORKED CONTROL SYSTEMS.

C. NAMEPLATES

1. NAMEPLATES SHALL BE PROVIDED FOR ALL CONTROL ITEMS LISTED OR SHOWN IN THE SUBMITTAL AND APPROVED CONTROL DIAGRAMS.
2. EACH INSCRIPTION SHALL IDENTIFY ITS FUNCTION, SUCH AS "MIXED AIR CONTROLLER", "COLD DECK SENSOR" IN OFFICIAL LANGUAGES ETC. AND WHEN APPLICABLE, ITS POSITION.

A) SIZE OF NAMEPLATES SHALL BE 1 INCH BY 3 INCHES MINIMUM.{USC}

B) LETTERING SHALL BE MINIMUM ¼ INCH HIGH NORMAL BLACK LETTERING. {USC}

C) SUBMIT DUPLICATE SAMPLES OF IDENTIFICATION TAGS AND LISTS OF WORDING PROPOSED FOR APPROVAL.

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PROJECT NUMBER: 223030790

PROJECT:

WILTON  
CONGREGATIONAL  
CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
-	11.24.21	BID REVIEW SET
-	12.20.21	BID SET
-	04.22.22	PERMIT SET
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

PHASE:

PERMIT SET

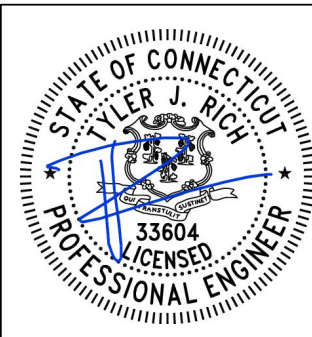
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DATE: 4/21/2022	DRAWN BY: JPR
SCALE: NONE	CHECKED BY: MG
JOB NO: 21-045	

DRAWING NAME

MECHANICAL  
SPECIFICATIONS



M3.2



4/27/2022 4:00 PM U:\223030790\02\_working\_files\00\_mep\02\_cad\wilton\_congregational\_church\_generator\_70\_ridgefield\_rd\Sheets\223030790\_m0.1.dwg 4/27/2022 4:00 PM Avernion, Alvin

D. SUBMITTALS

1. HARDWARE – INCLUDE A COMPLETE LIST OF MATERIALS OF EQUIPMENT TO BE USED, INCLUDING TECHNICAL DATA, PERFORMANCE CURVES, PROJECT SPECIFICATION SHEETS AND INSTALLATION/ MAINTENANCE INSTRUCTIONS.
2. CONTROL SYSTEM DIAGRAMS – PROVIDE SCHEMATIC DIAGRAMS FOR EACH CONTROLLED SYSTEM. ILLUSTRATE THE RELATIONSHIP BETWEEN CONTROL SYSTEM AND CONTROLLED EQUIPMENT. SHOW ALL CONTROL ELEMENTS. SHOW ALL TERMINATIONS AND CABLE/TUBE NUMBERS.
3. OPERATION AND MAINTENANCE MANUALS SHALL BE SUBMITTED INDICATING THE CORRECT PROCEDURES AND PROCESSES TO OPERATE AND MAINTAIN THE SYSTEM. O&M'S SHALL BE DELIVERED EITHER HARD COPY OR ON A CD-ROM DEVELOPED SPECIFICALLY FOR THE PROJECT. CONTRACTOR SHALL SUBMIT (3) COPIES OF THE OPERATION AND MAINTENANCE MANUALS.

E. TRAINING

1. INSTRUCT THE OPERATORS HOW TO ACCOMPLISH CONTROL OF THE SYSTEM. INCLUDE BASIC TROUBLESHOOTING AND OVERRIDE OF EQUIPMENT AND CONTROLS IN THE EVENT OF SYSTEM FAILURE.
2. TRAINING ALLOWANCE: PROVIDE NOT LESS THAN FOUR (4) HOURS FORMAL TRAINING TO THE OWNER'S DESIGNATED OPERATIONS PERSONNEL.

F. AS-BUILT DOCUMENTATION AND OPERATING AND MAINTENANCE (O&M) MANUALS

1. AS-BUILT DOCUMENTATION SHALL CONSIST OF (4) HARD COPIES AND (4) ELECTRONIC COPIES ON CD'S.

G. WARRANTY

1. THE HVAC CONTROL SYSTEM SHALL BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIAL UNDER NORMAL USE AND SERVICE. IF WITHIN TWELVE (12) MONTHS FROM THE DATE OF SUBSTANTIAL COMPLETION, THE INSTALLED EQUIPMENT IS FOUND TO BE DEFECTIVE IN OPERATION, WORKMANSHIP OR MATERIALS, THE BUILDING SYSTEMS CONTRACTOR SHALL REPLACE, REPAIR OR ADJUST THE DEFECT AT NO COST. SERVICE SHALL BE PROVIDED WITHIN 4 HOURS UPON NOTICE FROM OWNER'S DESIGNATED REPRESENTATIVE.
2. THE WARRANTY SHALL EXTEND TO MATERIAL THAT IS SUPPLIED AND INSTALLED BY THE CONTRACTOR. MATERIAL SUPPLIED BUT NOT INSTALLED BY THE CONTRACTOR SHALL BE COVERED PER THE ABOVE TO THE EXTENT OF THE PRODUCT ONLY. INSTALLATION LABOR SHALL BE THE RESPONSIBILITY OF THE TRADE CONTRACTOR PERFORMING THE INSTALLATION.
3. ALL CORRECTIVE SOFTWARE MODIFICATIONS MADE DURING WARRANTY SERVICE PERIODS SHALL BE UPDATED ON ALL USER DOCUMENTATION AND ON USER AND MANUFACTURER ARCHIVED SOFTWARE DISKS.

H. ELECTRIC WIRING

1. ALL ELECTRICAL WORK (EXCEPT FOR MOTOR FEEDERS, WIRING BETWEEN MOTORS, MOTOR CONTROLLERS, FEEDER PANELS, FUSES, CIRCUIT BREAKERS AND BUS BARS) REQUIRED FOR THE AUTOMATIC TEMPERATURE CONTROL SYSTEM SHALL BE PROVIDED BY THIS CONTRACTOR. WORK SHALL INCLUDE BUT NOT BE LIMITED TO TIME SWITCHES, DAMPER MOTORS, DAMPER SWITCHES, ELECTRIC THERMOSTATS, ELECTRIC RELAYS, E/P SWITCHES, INTERLOCKING WIRING, WIRE, CONDUIT, ETC.
2. ALL 115 VOLT POWER REQUIRED FOR CONTROL PURPOSES SHALL BE PROVIDED BY THE CONTROL CONTRACTOR FROM A SOURCE ESTABLISHED BY THE ELECTRICAL CONTRACTOR.
3. THE CONTROL MANUFACTURER SHALL INCLUDE WIRING DIAGRAMS IN HIS SHOP DRAWINGS SUBMITTALS FULLY COORDINATED WITH THE ELECTRICAL CONTRACTOR'S WORK. IT SHALL BE THE AUTOMATIC TEMPERATURE CONTROL CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL WIRING AND CONDUIT AS REQUIRED TO ACHIEVE THE FUNCTION CALLED FOR IN THESE SPECIFICATIONS, CONFORMING WITH LOCAL CODES FOR MATERIAL AND INSTALLATION. THE ELECTRICAL SPECIFICATION FOR THE PROJECT'S ELECTRICAL WORK IS TO BE FOLLOWED.
4. FURNISH A CERTIFICATE INDICATING THE METHOD OF WIRING COMPLIANCE WITH LOCAL CODES AS PART OF THE FIRST SHOP DRAWING SUBMITTAL.THE BAS SYSTEM IS TO BE ACCESSIBLE FROM ANY MOBILE OR TABLET BROWSER. THE MOBILE INTERFACE IS REQUIRED TO HAVE THE SAME GRAPHICS AND ACCESSIBILITY AS THE INTERFACE FROM A PC OR APPLE WEB BROWSER.

I. ROOM THERMOSTAT AND SWITCH LOCATIONS

1. ALL ROOM THERMOSTATS AND SWITCH LOCATIONS (WHETHER SHOWN ON PLANS OR NOT) SHALL BE SELECTED AND SUBMITTED BY THE TEMPERATURE CONTROL MANUFACTURER FOR APPROVAL BY THE ARCHITECT AND ENGINEER PRIOR TO ACTUAL INSTALLATION.
2. EACH PROGRAMMABLE THERMOSTAT SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING LOSS OF POWER FOR AT LEAST 10 HOURS.
3. THE PROGRAMMABLE THERMOSTAT SHALL BE CAPABLE OF MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2-HOURS.
4. EACH PROGRAMMABLE THERMOSTAT SHALL INCLUDE MANUAL SET POINT ADJUSTMENT BY THE ROOM OCCUPANT.
5. HEATING AND COOLING THERMOSTATS SHALL BE PROVIDED WITH A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5°F.
6. COLOR SHALL BE WHITE, UNLESS OTHERWISE NOTED.
7. LABEL EACH THERMOSTAT AND SWITCH WITH THE BMS DESIGNATION FOR THE EQUIPMENT SERVED (I.E. VAV-3-7).

P. AUTOMATIC DAMPERS

1. PROVIDE CONTROLS FOR ALL THE AUTOMATIC DAMPERS, AS SPECIFIED IN THE DUCTWORK SECTION, AND SHOWN ON THE DRAWINGS.
2. CONTROL MOTORS OR ACTUATORS SHALL BE OF THE ELECTRONIC OR PNEUMATIC TYPE, UNLESS OTHERWISE NOTED, OF APPROPRIATE SIZES AND QUANTITIES TO PROVIDE TWO-POSITION OR PROPORTIONING CONTROL ACTION AS SPECIFIED. PROPORTIONING TYPE SHALL BE EQUIPPED WITH PILOT TYPE POSITIONERS. PILOT POSITIONERS SHALL BE SELECTED FOR VARIED SPRING RANGES AND ADJUSTABLE WITHOUT DISMANTLING POSITIONER AND CONTROL MOTOR.
3. AUTOMATIC DAMPERS EXPOSED TO THE ELEMENTS SHALL HAVE ELECTRIC ACTUATORS WITH ALL REQUIRED ACCESSORIES.

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**Stantec**  
30 OAK STREET  
STAMFORD, CT 06905  
203-352-1717 FAX 203-352-1718  
PROJECT NUMBER: 223030790

PROJECT:

**WILTON  
CONGREGATIONAL  
CHURCH**

**70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT**

ISSUE	DATE	DESCRIPTION
-	11.24.21	BID REVIEW SET
-	12.20.21	BID SET
-	04.22.22	PERMIT SET
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

PHASE:

**PERMIT SET**

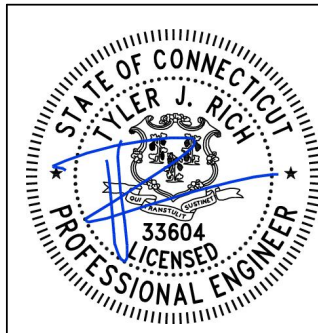
PAUL B. BAILEY  
• A R C H I T E C T •

110 AUDUBON STREET  
NEW HAVEN, CONNECTICUT 06510  
203 · 776 · 8888 F 203 · 772 · 1365

DATE: 4/12/2022	DRAWN BY: JMR
SCALE: NONE	CHECKED BY: MG
JOB NO: 21-045	

DRAWING NAME:

**MECHANICAL  
SPECIFICATIONS**



**M3.3**



A. MATERIALS:

1. THE FOLLOWING ASTM STANDARDS AND DESIGN STRENGTH SHALL BE USED FOR THE APPROPRIATE MATERIALS USED IN THE CONSTRUCTION OF THIS PROJECT.
2. CEMENT: ASTM C150; TYPE I OR III
3. AGGREGATES: ASTM C33 (NORMAL WEIGHT)  
ASTM C330 (STRUCTURAL LIGHTWEIGHT)
4. CONCRETE: ALL CONCRETE SHALL BE AIR-ENTRAINED 5-7%  
1½% BY VOLUME, AIR-ENTRAINING ADMXTURE TO  
COMPLY WITH ASTM C260.
- |                  |            |         |          |
|------------------|------------|---------|----------|
| APPLICATION      | FC@28 DAYS | WT(PCF) | W/C(MAX) |
| a. PAD           | 3000       | 145     | 0.40     |
| b. FOOTINGS/WALL | 3000       | 145     | 0.40     |

5. REINFORCEMENT:

- a. DEFORMED REINFORCING BARS ASTM A615, GRADE 60
- b. WELDABLE DEFORMED REINF. BARS ASTM A706
- c. ADHESIVE REINF. DOWELING SYSTEM HILTI HIT HY200 SYS. OR EQUAL

6. STEEL:

- a. STRUCTURAL PLATES ASTM A36
- b. HI-STRENGTH STRUCT. STEEL ASTM A992, GRADE 50
- c. HIGH STRENGTH BOLTS ASTM A325-N
- d. SMOOTH & THREADED ROD ASTM A36
- e. WELDING ELECTRODES AWS A5.1 RO A5.5, E70XX
- f. EXPANSION BOLTS ITW RAMSET/ REDHEAD, TRU-BOLT, WEDGE ANCHOR, HILTI KWIK-BOLT II, ITW RAMSET/REDHEAD, EPCON SYSTEM, HILTI HVA SYSTEM OR
- g. ADHESIVE ANCHORING SYSTEM

B. CONSTRUCTION:

1. GENERAL:

- a. REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
- b. SHOP DRAWINGS SUBMITTED FOR STRUCTURAL REVIEW SHALL CONSIST OF THREE SETS OF PRINTS. ONLY ONE MARKED UP SET WITH THE STRUCTURAL ENGINEER'S COMMENTS WILL BE RETURNED TO THE CONTRACTOR.
- c. SUBMIT SHOP DRAWINGS AT LEAST 15 DAYS BEFORE DATE REVIEWED SUBMITTALS WILL BE NEEDED. SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT HE HAS VERIFIED ALL FIELD MEASUREMENTS, CONSTRUCTION CRITERIA, MATERIALS AND SIMILAR DATA AND HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION AND COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- d. THESE DRAWINGS REPRESENT THE COMPLETED PROJECT WHICH HAS BEEN DESIGNED FOR THE WEIGHTS OF THE MATERIALS INDICATED ON THE DRAWINGS AND FOR THE SUPERIMPOSED LOADS INDICATED IN THE DESIGN DATA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE PROPER DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGINGS, BRACING, SHEETING AND SHORING, ETC.
- e. IMPLEMENTING JOB SITE SAFETY AND CONSTRUCTION PROCEDURES, TEMPORARY SHORING, AND BRACING OF EXISTING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- f. ALL COSTS OF INVESTIGATION AND/OR REDESIGN, DUE TO CONTRACTOR MISLOCATION OF STRUCTURAL ELEMENTS OR OTHER LACK OF CONFORMANCE WITH THE PROJECT DOCUMENTS, SHALL BE AT THE CONTRACTOR'S EXPENSE.
- g. CONTRACTOR SHALL REFER TO ARCHITECTURAL, MECHANICAL PLUMBING, ELECTRICAL, AND FIRE PROTECTION DRAWINGS FOR SIZE AND LOCATIONS OF OPENINGS, SLEEVES, CONCRETE HOUSEKEEPING PADS, INSERTS, AND DEPRESSIONS.
- h. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR DETAILED INFORMATION REGARDING FINISHES, FIREPROOFING, ETC.
- i. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF MASONRY AND DRYWALL NON-LOAD BEARING PARTITIONS. PROVIDE SLIP CONNECTIONS THAT ALLOW VERTICAL MOVEMENT AT THE HEADS OF ALL SUCH PARTITIONS. CONNECTIONS ARE DESIGNED TO SUPPORT THE TOP OF THE WALLS LATERALLY FOR THE CODE-REQUIRED LATERAL LOAD. PROVIDE COMPRESSIBLE FIRESAFING AT TOP OF WALL AS REQUIRED BY ARCHITECTURAL DRAWINGS.
- j. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, DETAILS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
- k. CONTRACTOR SHALL FURNISH DIMENSIONED COORDINATED SHOP DRAWINGS AT ALL LEVELS SHOWING THE LOCATIONS OF ALL SLEEVES AND OPENINGS REQUIRED BY ALL TRADES.

C. INSPECTION AND TESTING:

1. GENERAL:

- THE CONTRACTOR WILL NOTIFY THE OWNER ASSIGNED TESTING LABORATORY TO PROVIDE SERVICES AS INDICATED BELOW. THE OWNER SHALL BEAR ALL EXPENSES OF THIS WORK.
- a. CAST-IN-PLACE CONCRETE:
- (1) THE SPECIAL INSPECTOR SHALL INSPECT THE FORMWORK AND REINFORCING STEEL PLACEMENT FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND SHOP DRAWINGS. THE SPECIAL INSPECTOR SHALL MONITOR ALL STRUCTURAL CONCRETE PLACEMENT FOR CONFORMANCE WITH APPLICABLE ACI REQUIREMENTS.
- (2) TESTING AGENCY SHALL SAMPLE FRESH CONCRETE IN ACCORDANCE WITH ASTM C172. MOLD TEST CYLINDERS IN ACCORDANCE WITH ASTM C31. MEASURE AIR ENTRAINMENT IN ACCORDANCE WITH ASTM C231 AND PERFORM SLUMP TESTS IN ACCORDANCE WITH C143.
- (3) COMPRESSION TESTS SHALL BE MADE IN ACCORDANCE WITH ASTM C39.
- (4) THE AGENCY WILL MAKE ADDITIONAL TESTS OF IN-PLACE CONCRETE AT THE CONTRACTOR'S EXPENSE, AS DIRECTED BY THE STRUCTURAL ENGINEER, WHEN TEST RESULTS INDICATE SPECIFIED CONCRETE STRENGTHS HAVE NOT BEEN ATTAINED.

b. STRUCTURAL STEEL:

- (1) SPECIAL INSPECTOR SHALL VISUALLY INSPECT ALL FILLET WELDS, BOLTED CONNECTIONS AND SHEAR STUDS.
- (2) THE TESTING AGENCY SHALL MONITOR THE INSTALLATION OF BOLTS REQUIRING PRETENSIONING FOR CONFORMANCE WITH SPECIFIC PRE-CALIBRATED TIGHTENING PROCEDURES.
- (3) EACH FULL PENETRATION BUTT OR GROOVE WELD AND FIFTY PERCENT OF PARTIAL PENETRATION WELDS SHALL BE TESTED BY THE ULTRASONIC METHOD, AND MULTI-PASS WELDS SHALL BE TESTED BY THE MAGNETIC PARTICLE METHOD.
- (4) 10% OF ALL FIELD FILLET WELDS IN PRIMARY CONNECTIONS
- (5) TEST ANY WELD FOR WHICH VISUAL EXAMINATION INDICATES AN UNUSUAL CONDITION AND/OR POOR QUALITY.
- (6) WELDING INSPECTION AND TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH THE AWS CODE.

C. MATERIAL SPECIFICATIONS

CONCRETE:

1. CAST-IN-PLACE:

- a. REINFORCING STEEL CLEAR COVER SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:  
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3"  
CONCRETE EXPOSED TO EARTH OR WEATHER-  
#6 AND LARGER.....2"  
#5 BARS AND SMALLER.....1½"  
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND-  
SLABS, WALL, & JOISTS:  
#11 BARS AND SMALLER.....¾"
- b. CORE DRILLING OF BEAMS, JOISTS, SLABS OR COLUMNS SHALL NOT BE PERMITTED UNLESS AUTHORIZED IN WRITING BY THE STRUCTURAL ENGINEER.
- c. NO SPLICES OF REINFORCEMENT SHALL BE PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. MAKE BARS CONTINUOUS AROUND CORNERS. WHEN PERMITTED, SPLICES SHALL BE MADE BY CONTACT TENSION LAP SPLICES, UNLESS OTHERWISE NOTED.
- d. ALL INSERTS AND SLEEVES SHALL BE CAST-IN-PLACE WHENEVER FEASIBLE. DRILLED OR POWDER DRIVEN FASTENERS WILL BE PERMITTED WHEN PROVEN TO THE SATISFACTION OF THE STRUCTURAL ENGINEER THAT THE FASTENERS WILL NOT SPALL THE CONCRETE AND HAVE THE SAME CAPACITY AS CAST-IN-PLACE INSERTS.
- e. WHEN NSTALLING EXPANSION BOLTS OR ADHESIVE ANCHORS, THE CONTRACTOR SHALL TAKE MEASURES TO AVOID DRILLING OR CUTTING OF ANY EXISTING REINFORCING AND DESTRUCTION OF CONCRETE. HOLES SHALL BE BLOWN CLEAN PRIOR TO PLACING BOLTS OR ADHESIVE ANCHORS.
- f. CHAMFER ALL EXISTING OR EXPOSED CONCRETE CORNERS ⅝ x ⅝" x ⅝" MINIMUM, SMOOTH FOR SKIM FINISH UNLESS NOTED OTHERWISE ON ARCHITECTURAL DRAWINGS.
- g. THE CONCRETE SLABS SHALL BE FINISHED FLAT AND LEVEL WITHIN TOLERANCE, TO THE ELEVATION INDICATED ON THE DRAWINGS. CONTRACTOR SHALL PROVIDE ADDITIONAL CONCRETE REQUIRED DUE TO FORMWORK AND FRAMING DEFLECTION TO ACHIEVE THIS FINISHED TOP OF SLAB ELEVATION.
- h. CONSTRUCTION JOINTS FOR SLABS ON METAL DECK SHALL BE LOCATED MIDWAY BETWEEN BEAMS WHERE THE JOINT IS PARALLEL TO THE BEAM SPAN. JOINTS SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF SPAN WHERE THE JOINT IS PERPENDICULAR TO THE BEAM SPAN. THE CONTRACTOR SHALL SUBMIT, (FOR APPROVAL) A SHOP DRAWING, INDICATING ALL PROPOSED JOINT LOCATIONS AND ALL REINFORCING STEEL TO BE PLACED IN THE SLAB. ANY STOP IN CONCRETE WORK MUST BE MADE WITH VERTICAL BULKHEADS, UNLESS OTHERWISE SHOWN. ALL REINFORCING IS TO BE CONTINUOUS THROUGH JOINTS. SLABS SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE UNLESS SHOWN OTHERWISE.
- i. WELDED WIRE FABRIC REINFORCEMENT SHALL BE SUPPLIED IN SHEETS. LAP TWO FULL MESH LENGTHS AT SPLICES AND WIRE TOGETHER. STAGGER SHEETS TO AVOID MULTIPLE LAPS AT CORNER.
- j. CONCRETE ENGINEERED REINFORCING FIBERS (IF USED) SHALL BE POLYPROPYLENE, COLLATED FIBRILLATED FIBERS. POLYPROPYLENE FIBERS SHALL BE USED ONLY IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. USE 1.5 POUND BAGS PER ONE CUBIC YARD OF CONCRETE. THE FIBER MANUFACTURER OR APPROVED DISTRIBUTOR SHALL PROVIDE THE SERVICES OF A QUALIFIED EMPLOYEE FOR A PRE JOB MEETING AND INITIAL JOB START UP.
- k. NO WELDING OF REINFORCING SHALL BE PERMITTED UNLESS SPECIFICALLY CALLED FOR OR APPROVED BY THE STRUCTURAL ENGINEER.

STRUCTURAL STEEL:

1. GENERAL:

- a. STRUCTURAL STEEL FABRICATOR SHALL BE AISC CATEGORY TWO CERTIFIED. STRUCTURAL STEEL SHALL BE OF DOMESTIC ORIGIN.
- b. ALL SHOP AND FIELD CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS OR WELDS. ALL HIGH STRENGTH BOLTS AND NUTS SHALL BE CLEARLY MARKED AS REQUIRED BY AISC SPECIFICATIONS. CONNECTIONS MADE WITH UNMARKED BOLTS AND NUTS WILL BE REJECTED.
- c. PROVIDE ACCESS FOR INSPECTION OF ALL SHOP AND FIELD CONNECTIONS FOR PROPER MATERIALS AND WORKMANSHIP.
- d. ALL CONNECTIONS, SPLICES AND ERECTION PIECES SHALL BE DESIGNED BY THE FABRICATOR'S ENGINEER REGISTERED IN THE IN THE STATE OF CONNECTICUT. CALCULATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED BEARING THE ENGINEER'S SEAL AND SIGNATURE.
- e. ALL STEEL AT AND BELOW FINISHED GRADE OR FLOOR SLAB SHALL RECEIVE TWO (2) COATS OF BITUMINOUS PAINT - OR 3 MINIMUM CONCRETE COVER.
- f. ALL STRUCTURAL STEEL THAT IS LOCATED IN EXTERIOR UNHEATED SPACES, INCLUDING STEEL DIRECTLY EXPOSED TO WEATHER, SHALL BE HOT-DIPPED GALVANIZED. COLUMN CAP PLATES SHALL BE MINIMUM OF ¾" IN THICKNESS.
- g. CERTIFIED COPIES OF MILL TEST REPORTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER.
- h. THE GENERAL CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY FABRICATION OR ERECTION ERRORS OR DEVIATIONS AND RECEIVE WRITTEN APPROVAL BEFORE ANY FIELD CORRECTIONS ARE MADE.
- i. CONNECTIONS SHALL BE SELECTED FOR REACTIONS AS SHOWN ON PLANS. NO CONNECTION SHALL CONSIST OF LESS THAN 2-3/4 DIA. A325-N BOLTS OR WELDS DEVELOPING LESS THAN 10 KIPS. MINIMUM WELD SHALL BE A ⅝" FILLET WELD.

- j. UNLESS OTHERWISE NOTED, ALL A325 BOLTS SHALL BE TIGHTENED TO THE "SNUG-TIGHT" CONDITION DEFINED AS THE TIGHTNESS ATTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. THE "SNUG-TIGHT" CONDITION MUST ENSURE THAT THE PLUES OF THE CONNECTED MATERIAL HAVE BEEN BROUGHT INTO SNUG CONTACT.
- k. ALL A325 BOLTS SUBJECT TO DIRECT TENSION OR DESIGNATED AS "SC" (SLIP-CRITICAL) SHALL BE PRE-TENSIONED IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS AS DESCRIBED IN THE AISC "MANUAL OF STEEL CONSTRUCTION": TURN-OF-NUT TIGHTENING, CALIBRATED WRENCH TIGHTENING OR DIRECT TENSION INDICATOR TIGHTENING.
- l. PERMANENT FRAMING AND FINAL CONNECTION DETAILS ARE SHOWN ON THE DRAWINGS. THE FABRICATOR AND ERECTOR ARE RESPONSIBLE FOR THE DESIGN OF TEMPORARY BRACING AND RECOMMENDED ERECTION PROCEDURES.

- m. CAMBER INDICATED ON THESE DRAWINGS IS THE REQUIRED CAMBER AT TIME OF ERECTION.
- n. CONCRETE SLABS THAT ARE PART OF COMPOSITE FLOOR FRAMING SYSTEMS SHALL ACHIEVE 28-DAY DESIGN STRENGTH PRIOR TO THE APPLICATION OF ANY SUPERIMPOSED LOADS SUCH AS CURTAIN WALLS, MASONRY VENEERS AND/OR STAIRS.
- o. WHEN INSTALLING EXPANSION BOLTS OR ADHESIVE ANCHORS, THE CONTRACTOR SHALL TAKE MEASURES TO AVOID DRILLING OR CUTTING OF ANY EXISTING REINFORCING AND DESTRUCTION OF CONCRETE. HOLES SHALL BE BLOWN CLEAN PRIOR TO PLACING BOLTS OR ADHESIVE ANCHORS.
- p. WELDING ELECTRODES, WELDING PROCESS, MINIMUM PREHEAT AND INTERPASS TEMPERATURES SHALL BE IN ACCORDANCE WITH THE AISC AND AWS SPECIFICATIONS. ANY STRUCTURAL STEEL DAMAGED IN WELDING IS TO BE REPLACED OR REINFORCED AS ACCEPTABLE TO THE STRUCTURAL ENGINEER.
- q. WELDERS SHALL HAVE CURRENT EVIDENCE OF PASSING THE APPROPRIATE AWS QUALIFICATION TESTS. THE ENGINEER MAY REQUEST SUCH EVIDENCE AT ANY TIME DURING THE PROJECT.
- r. GAS CUTTING TORCHES SHALL NOT BE USED TO CORRECT FABRICATION ERRORS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.

STRUCTURAL STEEL NOTES - TYPICAL UNLESS NOTED OTHERWISE ON PLAN

A. ALL STRUCTURAL STEEL SHALL CONFORM TO THE "SPECIFICATIONS FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS", BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, LATEST EDITION, UNLESS OTHERWISE SPECIFIED.

B. ALL STRUCTURAL STEEL SHALL BE CLEAN, STRAIGHT AND NEW, AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-36, UNLESS OTHERWISE SPECIFIED.

C. SHOP CONNECTIONS MAY BE WELDED OR BOLTED. FIELD CONNECTIONS SHALL BE ASTM A-307 BOLTS, UNLESS OTHERWISE SPECIFIED, AND SHALL BE INSPECTED AND VERIFIED.


D. ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE "CODE FOR ARC AND GAS WELDING", BY THE AMERICAN WELDING SOCIETY, AND SHALL BE PERFORMED BY A CERTIFIED WELDER. QUALIFICATIONS OF WELDERS SHALL BE VERIFIED PRIOR TO START OF WORK.

E. THE USE OF CUTTING TORCHES SHALL BE PROHIBITED IN THE FIELD, UNLESS AUTHORIZED IN WRITING BY A LICENSED STRUCTURAL ENGINEER.

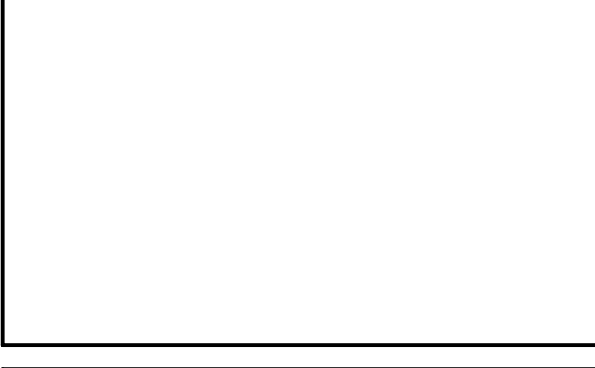
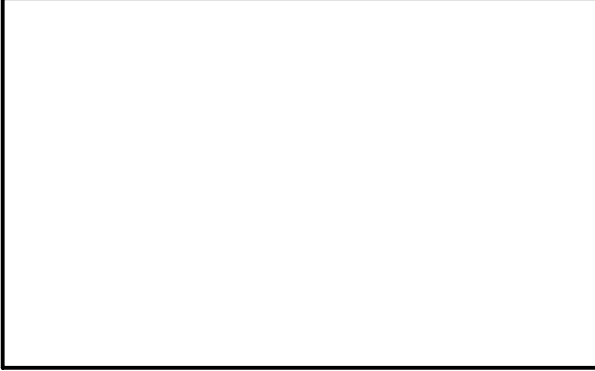
F. ALL STEEL COMPONENTS SHALL BE CARRIED UP TRUE AND PLUMB, AND TEMPORARY BRACING SHALL BE INSTALLED, AS NECESSARY, TO TAKE UP ANY LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING EQUIPMENT AND THE OPERATION OF SUCH EQUIPMENT. TEMPORARY BRACING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL REMAIN IN PLACE AS LONG AS REQUIRED FOR SAFETY.

STRUCTURAL DRAWING LIST	
SHEET NUMBER	SHEET TITLE
S-001	STRUCTURAL NOTES
S-100	PLAN AND DETAILS - 1
S-101	PLAN AND DETAILS - CHIMNEY SUPPORT

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55 CHURCH STREET, STE. 601  
NEW HAVEN  
CONNECTICUT 06510  
(203)495-1645



PROJECT:

WILTON  
CONGREGATIONAL  
CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
-	1/24/2021	BID REVIEW SET
-	12/01/2021	BID SET
-	04/07/2022	PERMIT SET

PHASE:

PERMIT PHASE


**PAUL B. BAILEY**  
**• ARCHITECT •**

110 AUDUBON STREET  
NEW HAVEN, CONNECTICUT 06510  
203 776 8888 F 203 772 1365

DATE: 4/27/2022	DRAWN BY:
SCALE:	CHECKED BY:
JOB NO:	

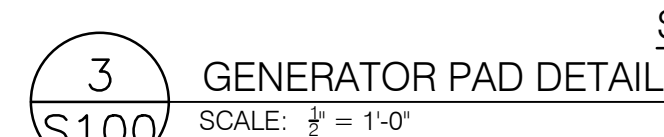
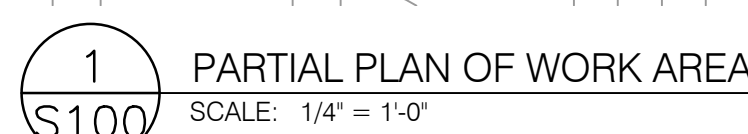
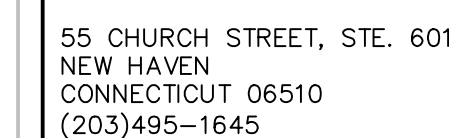
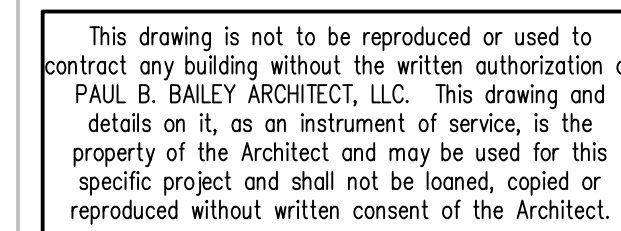
DRAWING NAME:

STRUCTURAL NOTES



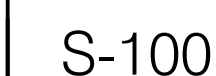
S-001



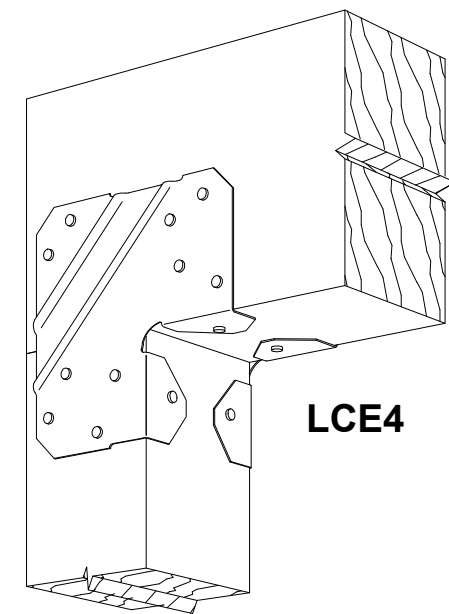
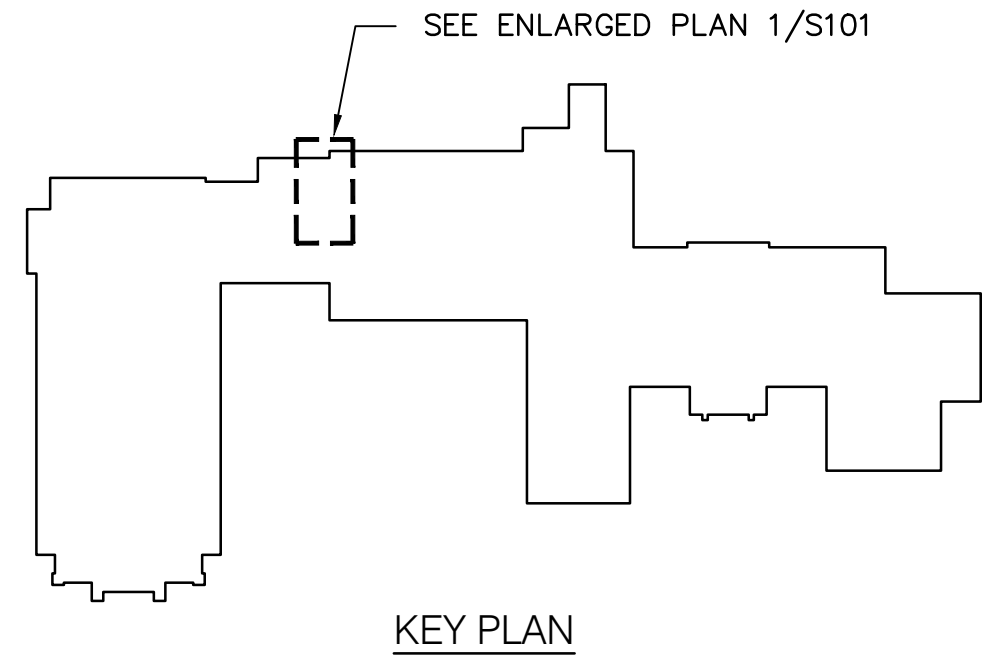
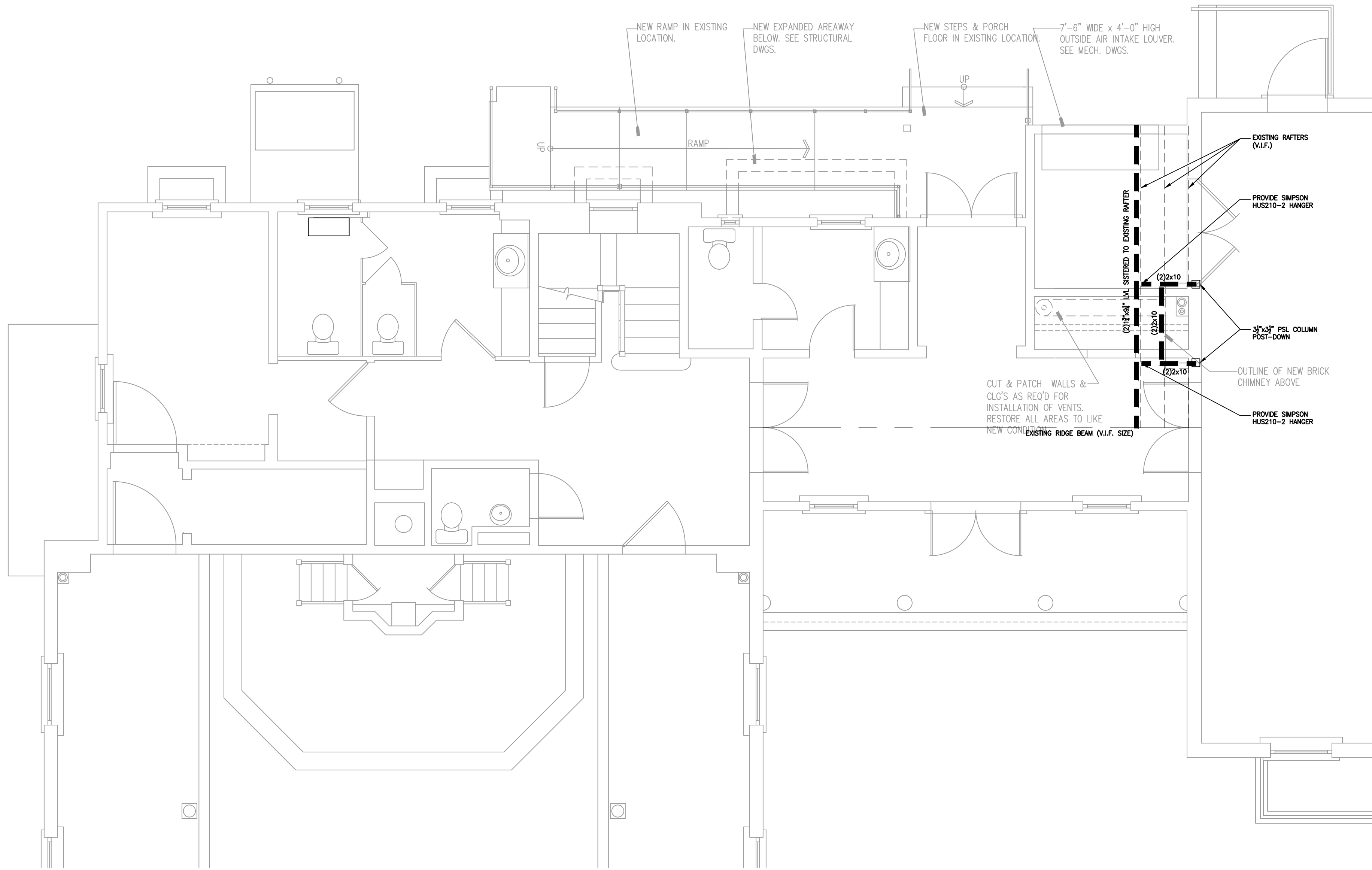


<b>PHASE:</b>	PERMIT PHASE
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DRAWING NAME:  
PLAN & DETAILS - 1







3  
S101 TYP. POST CAP DETAIL (END CONDITION)  
SCALE: N.T.S.

1  
S101 FRAMING PLAN FOR CHIMNEY  
SCALE: 3/8" = 1'-0"

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**PROJECT:**

WILTON  
CONGREGATIONAL  
CHURCH

70 RIDGEFIELD ROAD  
WILTON, CONNECTICUT

ISSUE	DATE	DESCRIPTION
-	11/24/2021	BID REVIEW SET
-	12/20/2021	BID SET
-	04/27/2022	PERMIT SET

**PHASE:**

PERMIT PHASE


**PAUL B. BAILEY  
• ARCHITECT •**

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DATE: 4/27/2022	DRAWN BY:
SCALE:	CHECKED BY:
JOB NO:	

**DRAWING NAME:**

PLAN & DETAILS -  
CHIMNEY SUPPORT



S-101