

**ASSEMBLY-GROUP A**  
OCCUPANCY RATINGS:  
50 TO 270 OCCUPANTS;  
ASSEMBLY TYPES: GROUP A-2

**IBC 2021**  
**WFCM**  
**ECC 2021**  
40 MPH WIND SPEED  
EXPOSURE B  
DESIGN WINDS THE PRESCRIPTIVE  
ENERGY CODE REQUIREMENTS  
CLIMATE ZONE 2  
MANUAL J CALCULATIONS BY OTHERS

**BUILDING IS NOT LOCATED IN A WINDBORNE DEBRIS PROTECTION REGION**

**THERMAL COMPONENT CRITERIA (U-FACTOR AND R-VALUE)**  
(MAX. SHGC = 0.25 FOR GLAZING)

MAXIMUM GLAZING PERCENTAGE	MIN. INSULATION R-VALUE		
	GLAZING	WALLS	FLOORS
≤ 2%	R-5	R-5	R-5

R-5 DUCT INSULATION  
ATTIC ACCESS INSULATED  
INSULATE HOT/COLD WATERLINE IN UNCONDITIONED ATTIC AND CRAWSPACES.  
PURGE OUT 24 HOURS AS REQUIRED FOR BATT INSULATION AT CEILING/CRAWL SPACE OR USE SPRAYED FOAM INSULATION IF ACCEPTABLE.

- NOTES**
- CONTRACTOR SHALL SELECT WINDOW & DOOR PRODUCTS MEETING THE ENERGY EFFICIENCY REQUIREMENTS OF THE BUILDING CODE
  - CONTRACTOR SHALL SELECT WINDOW & DOOR PRODUCTS MEETING WIND DESIGN PRESSURE REQUIREMENTS OF IBC 602
  - SAFETY GLAZING (TEMPERED GLASS) IS REQUIRED AT LOCATIONS IDENTIFIED IN IBC 2406
  - PROVIDE CODE COMPLIANT HAND RAIL AT PORCH AND STAIRS.
  - OPENING IN THE BUSINESS SHALL BE PROTECTED BY 45 MIN. RATED DOORS.

**WINDOW SCHEDULE**

MARK	DESCRIPTION	HDR
AA	6040 VINYL FIXED GLASS	13'-4"

**DOOR SCHEDULE**

MARK	WIDTH	HEIGHT	THICK.	DESCRIPTION
1	6'-0"	8'-0"	1 3/4"	SEE ELEVATION
2	6'-0"	8'-0"	1 3/8"	PR. 3080 RAISED PANEL INT.
3	3'-0"	8'-0"	1 3/8"	RAISED PANEL INTERIOR
4	2'-8"	8'-0"	1 3/8"	RAISED PANEL INTERIOR
5	3'-0"	8'-0"	1 3/8"	PR. 1680 RAISED PANEL INT.
6	3'-0"	-	-	BATHROOM STALL DOOR
7	2'-4"	-	-	BATHROOM STALL DOOR
8	3'-0"	8'-0"	1 3/4"	RAISED PANEL EXTERIOR

**1ST LEVEL FLOOR PLAN**  
TRUE LIFE CHURCH  
6216 AIRPORT ROAD  
ST. TAMMANY PARISH, LA

**AREA**

LOWER LEVEL HEATED & COOLED SPACE	10,080
DRIVE THRU CAR-PORT	1,330
TOTAL AREA UNDER B/W	11,410
UPPER LEVEL STORAGE	494

HOUSE PLANS by  
**DesignTech**  
**OF LOUISIANA, LLC**  
St. Tammany Parish, LA  
SULZBERG 288-S&T-B006

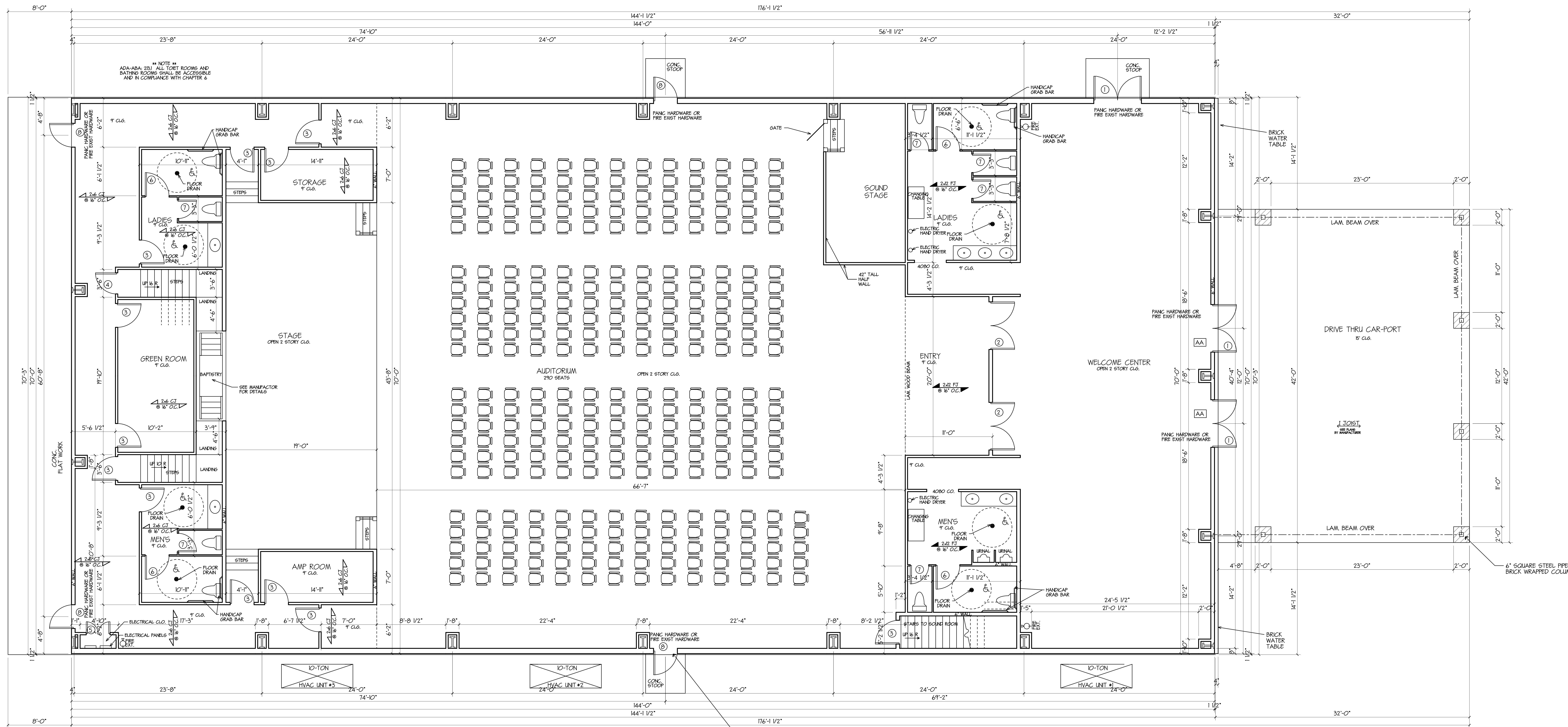
DATE: 4-11-24

CODE	REVISED	DATE	BY	INDEX
0	10080	11410	13069	

DATE: 4-11-24

INDEX: A-1

Although every effort has been made in preparing these plans, the contractor shall verify the accuracy of all dimensions and conditions shown on these plans. The contractor shall be responsible for obtaining all necessary permits and approvals. The contractor shall be responsible for obtaining all necessary permits and approvals. The contractor shall be responsible for obtaining all necessary permits and approvals. The contractor shall be responsible for obtaining all necessary permits and approvals.



1ST LEVEL FLOOR PLAN  
SCALE 1/4"=1'-0"

CONTRACTOR TO VERIFY THAT ALL EXISTING PANIC HARDWARE IS IN PLACE, OPERABLE, AND COMPLIANT WITH THE REQUIREMENTS OF IBC 10102.1 (TYPICAL ALL DOORS)

NOTES:

SPRAY FOAM ON UNDER SIDE OF ROOF PANELS AND SUPPORTS  
INSULATE EXTERIOR WALLS WITH STANDARD METAL BUILDING INSULATION THAT MEETS CODE  
NO SPRINKLERS THEREFORE NO LOAD CALCULATIONS REQUIRED  
HVAC UNITS ARE ON THE GROUND SEE PLANS FOR APPROXIMATE LOCATION

ASSEMBLY-GROUP A  
OCCUPANCY RATINGS:  
50 TO 270 OCCUPANTS  
ASSEMBLY TYPES: GROUP A-2

IBC 2021  
WFCM  
ECC 2021  
40 MPH WIND SPEED  
EXPOSURE B  
DESIGN WINDS THE PRESCRIPTIVE ENERGY CODE REQUIREMENTS CLIMATE ZONE 2  
MANUAL J CALCULATIONS BY OTHERS

BUILDING IS NOT LOCATED IN A WINDBORNE DEBRIS PROTECTION REGION

THERMAL COMPONENT CRITERIA (U-FACTOR AND R-VALUE) (MAX. SHGC = 0.25 FOR GLAZING)			
MAXIMUM GLAZING PERCENTAGE	GLAZING U-FACTOR	WALLS R-VALUE	FLOORS R-VALUE
15%	0.30	R-5	R-5

R-8 DUCT INSULATION  
ATTIC ACCESS INSULATED  
INSULATE HOT/COLD WATERLINE IN UNCONDITIONED ATTIC AND CRAWSPACES  
PURGE OUT 24 HOURS AS REQUIRED FOR BATT INSULATION AT CEILING/CRAWL SPACE OR USE SPRAYED FOAM INSULATION IF ACCEPTABLE

NOTES

- CONTRACTOR SHALL SELECT WINDOW & DOOR PRODUCTS MEETING THE ENERGY EFFICIENCY REQUIREMENTS OF THE BUILDING CODE
- CONTRACTOR SHALL SELECT WINDOW & DOOR PRODUCTS MEETING WIND DESIGN PRESSURE REQUIREMENTS OF IBC 602
- SAFETY GLAZING (TEMPERED GLASS) IS REQUIRED AT LOCATIONS IDENTIFIED IN IBC 2406
- PROVIDE CODE COMPLIANT HAND RAIL AT PORCH AND STAIRS
- OPENING IN THE BUSINESS SHALL BE PROTECTED BY 45 MIN. RATED DOORS

WINDOW SCHEDULE

MARK	DESCRIPTION	HDR
AA	6040 VINYL FIXED GLASS	13'-4"

DOOR SCHEDULE

MARK	WIDTH	HEIGHT	THICK.	DESCRIPTION
1	6'-0"	8'-0"	1 3/4"	SEE ELEVATION
2	6'-0"	8'-0"	1 3/8"	PR. 3080 RAISED PANEL INT.
3	3'-0"	8'-0"	1 3/8"	RAISED PANEL INTERIOR
4	2'-8"	8'-0"	1 3/8"	RAISED PANEL INTERIOR
5	3'-0"	8'-0"	1 3/8"	PR. 1680 RAISED PANEL INT.
6	3'-0"	-	-	BATHROOM STALL DOOR
7	2'-4"	-	-	BATHROOM STALL DOOR
8	3'-0"	8'-0"	1 3/4"	RAISED PANEL EXTERIOR

1ST LEVEL FLOOR PLAN

TRUE LIFE CHURCH  
6216 AIRPORT ROAD  
ST. TAMMANY PARISH, LA

AREA	10080	1330	1440
LOWER LEVEL HEATED & COOLED SPACE	10080		
DRIVE THRU CAR-PORT		1330	
TOTAL AREA UNDER B/W			1440
UPPER LEVEL STORAGE			494

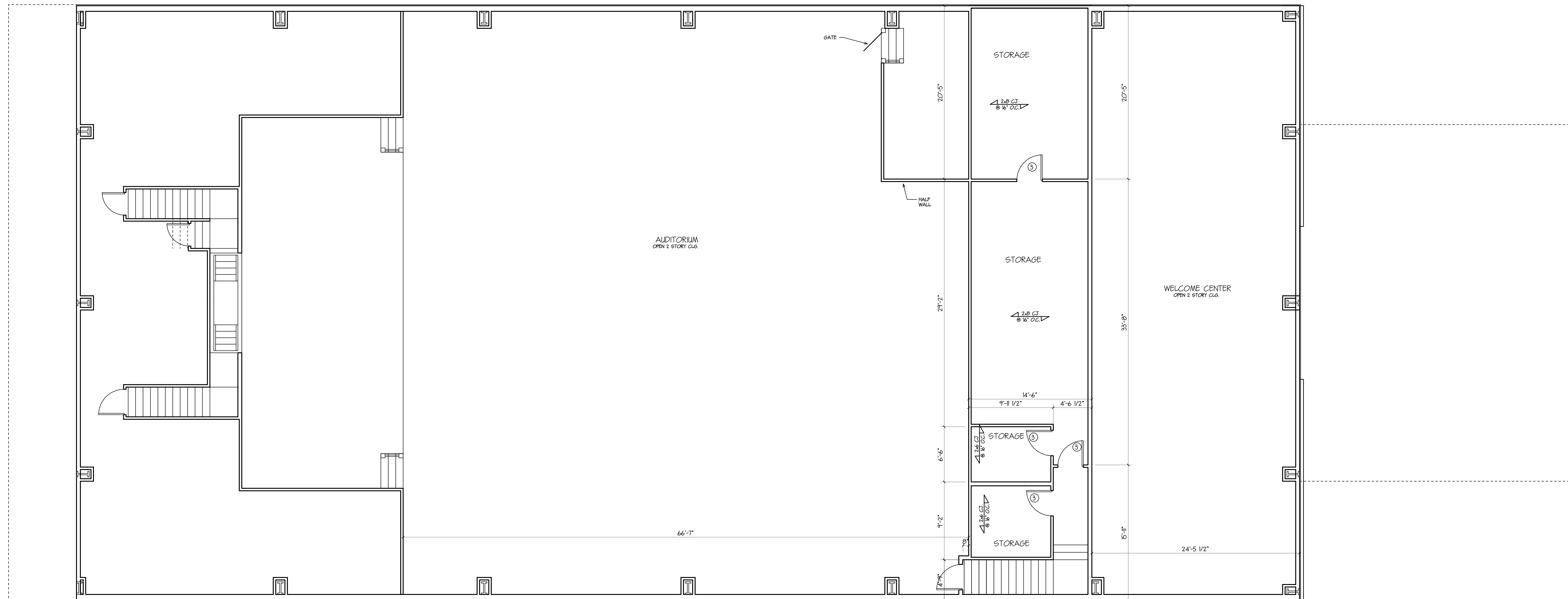
HOUSE PLANS by  
**DesignTech**  
OF LOUISIANA, LLC  
St. Tammany Parish, LA  
SUBMIT 288-SHT-0000

CODE	REV.	DATE	DESCRIPTION
0	0080	11/10	
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100	1110	11/10	

DATE: 4-11-24  
SHEET: 13069  
INDEX: A-1

DESIGNED BY: JWC  
CHECKED BY: JWC  
DATE: 4-11-24

ALL RIGHTS RESERVED.  
E-MAIL: houssaint@designtechusa.com



UPPER LEVEL FLOOR PLAN  
SCALE 1/4"=1'-0"

ASSEMBLY-GROUP A  
OCCUPANCY RATING:  
50 TO 270 OCCUPANTS  
ASSEMBLY TYPE: GROUP A-2

IBC 2021  
WFCM  
ECC 2021  
40 MPH WIND SPEED  
EXPOSURE B  
DESIGN MEETS THE PRESCRIPTIVE  
ENERGY CODE REQUIREMENTS  
CLIMATE ZONE: 2  
MANUAL J CALCULATIONS BY OTHERS

BUILDING IS NOT LOCATED IN A  
WINDBORNE DEBRIS PROTECTION REGION

THERMAL COMPONENT CRITERIA  
(U-FACTOR AND R-VALUE)  
(MAX. SHGC = 0.25 FOR GLAZING)

MAXIMUM GLAZING PERCENTRATION U-FACTOR	MIN. INSULATION R-VALUE		
	GLAZING	WALLS	FLOORS
0.25	R-5	R-5	R-5

R-8 DUCT INSULATION  
ATTIC ACCESS INSULATED  
INSULATE HOT/COLD WATERLINE IN UNCONDITIONED ATTIC AND CRAWLSPACES.  
TURN OUT 2" RAFTERS AS REQUIRED FOR BATT INSULATION AT CATHEDRAL CEILING OR USE SPRAYED FOAM INSULATION IF ACCEPTABLE.

NOTES

- CONTRACTOR SHALL SELECT WINDOW & DOOR PRODUCTS MEETING THE ENERGY EFFICIENCY REQUIREMENTS OF THE BUILDING CODE.
- CONTRACTOR SHALL SELECT WINDOW & DOOR PRODUCTS MEETING WIND DESIGN PRESSURE REQUIREMENTS OF BC 2406.
- SAFETY GLAZING (TEMPERED GLASS) IS REQUIRED AT LOCATIONS IDENTIFIED IN BC 2406.
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WINDOW SCHEDULE

MARK	DESCRIPTION	HDR
AA	6040 VINYL FIXED GLASS	13'-4"

DOOR SCHEDULE

MARK	WIDTH	HEIGHT	THICK	DESCRIPTION
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2	6'-0"	8'-0"	1 3/8"	PR. 3080 RAISED PANEL INT.
3	3'-0"	8'-0"	1 3/8"	RAISED PANEL INTERIOR
4	2'-8"	8'-0"	1 3/8"	RAISED PANEL INTERIOR
5	3'-0"	8'-0"	1 3/8"	PR. 1680 RAISED PANEL INT.
6	3'-0"	-	-	BATHROOM STALL DOOR
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8	3'-0"	8'-0"	1 3/4"	RAISED PANEL EXTERIOR

UPPER LEVEL FLOOR PLAN

PLANS FOR:  
TRUE LIFE CHURCH  
62160 AIRPORT ROAD  
ST. TAMMANY PARISH, LA

HOUSE PLANS by **DesignTech**  
OF LOUISIANA, LLC  
St. Tammany Parish, LA  
SCHEDULE 208-SMT-0008

CODE	REV	DATE	DESCRIPTION
0	0080	11/10	13069

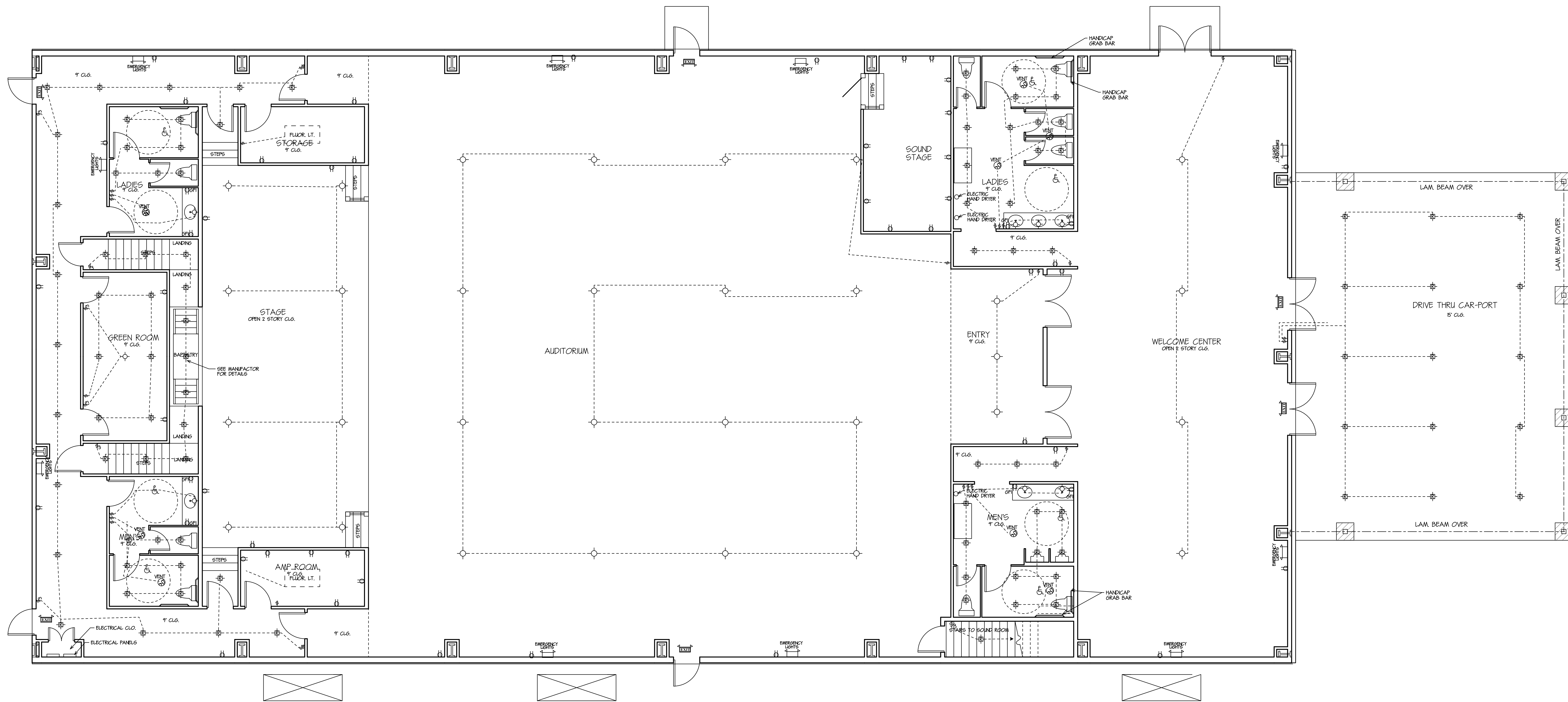
DATE: 4-11-24

36" X 60"

A-2

Although every effort has been made in preparing these plans, the contractor shall be responsible for verifying the accuracy of the information provided on these plans. The architect shall not be responsible for any errors or omissions on the part of the contractor. The architect shall not be responsible for any damage to property or persons resulting from the use of these plans. The architect shall not be responsible for any damage to property or persons resulting from the use of these plans. The architect shall not be responsible for any damage to property or persons resulting from the use of these plans.





1ST LEVEL ELECTRICAL PLAN  
SCALE 1/4"=1'-0"

NOTES:  
 SPRAY FOAM ON UNDER SIDE OF ROOF PANELS AND SUPPORTS  
 INSULATE EXTERIOR WALLS WITH STANDARD METAL BUILDING INSULATION THAT MEETS CODE  
 NO SPRINKLERS THEREFORE NO LOAD CALCULATIONS REQUIRED  
 HVAC UNITS ARE ON THE GROUND SEE PLANS FOR APPROXIMATE LOCATION

- EMER INDICATES EMERGENCY LIGHTING BATTERY BACKUP REQUIRED
- EXIT INDICATES LIGHTED EXIT SIGN WITH EMERGENCY LIGHTING BATTERY BACKUP REQUIRED
- INDICATES FIRE EXTINGUISHER

LIGHTING LEGEND	
⊕	CEILING LIGHT
⊗	RECESS CAN
⊕	FLOOD LIGHT
⊗	FAN WITH LIGHT KIT
⊕	FLUORESCENT LIGHT
⊗	OUTLET
⊕	250 V OUTLET
⊗	SMOKE DETECTOR
⊕	CARBON MONOXIDE DETECTOR
⊗	HEAT/VENTILATION
⊕	VENTILATION
⊗	CAMERA
⊕	WATERPROOF OUTLET

ELECTRICAL NOTES

NEC408.2 EACH GARAGE SHALL HAVE AT LEAST ONE RECEPTACLE OUTLET FOR EACH GARAGE AND THE CIRCUIT SHALL NOT SUPPLY ANY OUTLETS OUTSIDE OF THE GARAGE.  
 NEC408.22 GROUND-FALLT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.  
 (A) DWELLING UNITS. ALL 120-VOLT, SINGLE-PHASE 15- AND 20-AMPERE RECEPTACLES INSTALLED IN THE LOCATION SPECIFIED IN THIS SECTION SHALL HAVE GROUND-FALLT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.  
 (B) GARAGES AND ALSO ACCESSORY BUILDINGS THAT HAVE A FLOOR LOCATED AT OR BELOW GRADE LEVEL NOT INTENDED AS HABITABLE ROOMS AND LIMITED TO STORAGE AREAS, WORK AREAS, AND AREAS OF SIMILAR USE.  
 (C) OUTDOORS.  
 (D) GARAGES AND ALSO ACCESSORY BUILDINGS THAT HAVE A FLOOR LOCATED AT OR BELOW GRADE LEVEL NOT INTENDED AS HABITABLE ROOMS AND LIMITED TO STORAGE AREAS, WORK AREAS, AND THE LIKE SHALL BE PROTECTED BY A LISTED ARC-FALLT CIRCUIT-INTERRUPTER. COMMENT ON THE RECEPTACLE OUTLET PROTECTION OF THE BRANCH CIRCUIT.  
 (E) EACH GARAGE SHALL HAVE AT LEAST ONE RECEPTACLE OUTLET FOR EACH GARAGE AND THE CIRCUIT SHALL NOT SUPPLY ANY OUTLET OUTSIDE OF THE GARAGE. NEC 408.22  
 NEC408.224 LOCATION IN OR ON REWESES  
 (A) ACCESSIBILITY. OVERCURRENT DEVICES SHALL BE READILY ACCESSIBLE AND SHALL BE INSTALLED SO THAT THE CENTER OF THE GRIP OF THE OPERATING HANDLE OF THE SWITCH OR CIRCUIT BREAKER WHEN IN ITS HIGHEST POSITION IS NOT MORE THAN 4 FEET 7 INCHES ABOVE THE FLOOR OR WORKING PLATFORM.  
 (B) OCCUPANCY. EACH OCCUPANT SHALL HAVE READY ACCESS TO ALL OVERCURRENT DEVICES PROTECTING THE CONDUCTORS OF THE CIRCUIT.  
 (C) NOT EXPOSED TO PHYSICAL DAMAGE. OVERCURRENT DEVICES SHALL BE LOCATED WHERE THEY WILL NOT BE EXPOSED TO PHYSICAL DAMAGE.  
 (D) NOT IN VICINITY OF EASILY IGNITABLE MATERIAL. OVERCURRENT DEVICES SHALL NOT BE LOCATED IN THE VICINITY OF EASILY IGNITABLE MATERIAL SUCH AS IN CLOTHES CLOSETS.  
 (E) NOT LOCATED IN BATHROOMS. IN DWELLING UNITS AND GUEST ROOMS OR GUEST SUITES OF HOTELS AND MOTELS, OVERCURRENT DEVICES, OTHER THAN SUPPLEMENTARY OVERCURRENT PROTECTION, SHALL NOT BE LOCATED IN BATHROOMS.  
 NEC409.2 TAMPER PROOF RECEPTACLES SHALL BE INSTALLED IN ALL AREAS LESS THAN 14' ABOVE THE FLOOR.  
 NEC 409.22 ACCESS REQUIREMENTS  
 1. MUST BE WITHIN 50 FEET OF ATTIC ACCESS.  
 2. MINIMUM 24 INCH WIDE SOLID WALKING SURFACE WITH HEADROOM OF 50 ACCESS IS TO BE PROVIDED.  
 3. 3" X 3" 90° SERVICE LOCATION IS REQUIRED AT UNIT.  
 4. ATTIC LIGHTING REQUIRED - WITH LIGHT SWITCH AT ATTIC ENTRY.  
 MECHANICAL VENTILATION TEST REQUIRED  
 MEC 302 SECTION 8301.4 REQUIRES A BLOWER DOOR TEST. COMPL WITH SECTION N 802.15 FOR EACH DWELLING UNIT. A WRITTEN REPORT BY A THIRD PARTY INSPECTOR SHALL BE PROVIDED TO THE BUILDING INSPECTOR FOR APPROVAL.  
 MEC 302.4 MEANS OF AIR REQUIRED  
 EXHAUST FLOOD SYSTEMS CAPABLE OF 4000 CFM PER FEET PER MINUTE (CFM) 1/4" SHALL BE MECHANICAL OR NATURALLY PROVIDED WITH SHARED AIR AT A RATE APPROPRIATE TO THE EXHAUST AIR RATE. EACH MEANS OF AIR SYSTEM SHALL BE EQUIPPED WITH NOT LESS THAN ONE DAMPER EACH DAMPER SHALL BE A SHATTY DAMPER OR AN ELECTRICALLY OPERATED DAMPER THAT AUTOMATICALLY OPENS WHEN THE EXHAUST SYSTEM OPERATES. DAMPERS SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REQUIRING PERMANENT CONSTRUCTION WITHOUT REQUIRING REPAIR, CONNECTED TO THE DAMPER RANG RESPECTED, SERVICE, OR REPLACED.

1ST LEVEL ELECTRICAL PLAN

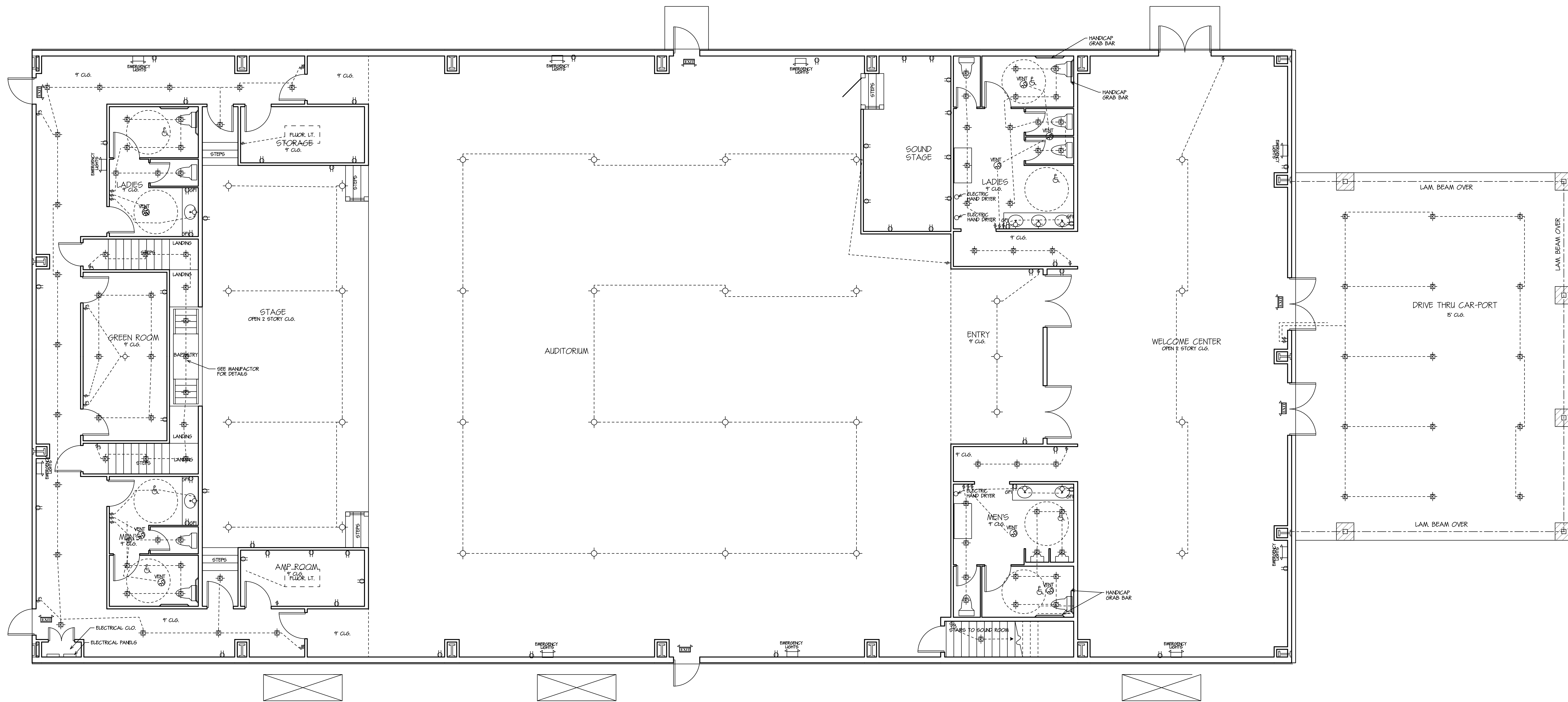
TRUE LIFE CHURCH  
 62160 AIRPORT ROAD  
 ST. TAMMANY PARISH, LA

HOUSE PLANS by **DesignTech OF LOUISIANA, LLC** DATE 4-11-24  
 St. Tammany Parish, LA. SCHEDULE 288-NAT-0000

CODE	REV	DATE	DESCRIPTION
0	0080	1140	13069
DWH	JNC	DWH	36" X 60"

Sheet Size: E-1

Although every effort has been made in preparing these plans, the contractor shall be responsible for checking all dimensions and conditions on the job site. The contractor shall be responsible for obtaining all necessary permits and approvals. The contractor shall be responsible for obtaining all necessary permits and approvals. The contractor shall be responsible for obtaining all necessary permits and approvals.



1ST LEVEL ELECTRICAL PLAN  
SCALE 1/4"=1'-0"

NOTES:

- SPRAY FOAM ON UNDER SIDE OF ROOF PANELS AND SUPPORTS
- INSULATE EXTERIOR WALLS WITH STANDARD METAL BUILDING INSULATION THAT MEETS CODE
- NO SPRINKLERS THEREFORE NO LOAD CALCULATIONS REQUIRED
- HVAC UNITS ARE ON THE GROUND SEE PLANS FOR APPROXIMATE LOCATION

- EMER INDICATES EMERGENCY LIGHTING BATTERY BACKUP REQUIRED
- EXIT INDICATES LIGHTED EXIT SIGN WITH EMERGENCY LIGHTING BATTERY BACKUP REQUIRED
- INDICATES FIRE EXTINGUISHER

LIGHTING LEGEND	
⊕	CEILING LIGHT
⊗	RECESS CAN
⊙	FLOOD LIGHT
⊗	FAN WITH LIGHT KIT
⊕	1 FLUOR. LT. 1
⊕	OUTLET
⊕	220 V. OUTLET
⊕	SMOKE DETECTOR
⊕	CARBON MONOXIDE DETECTOR
⊕	HEAT/VENTILATION
⊕	VENTILATION
⊕	CAMERA
⊕	WATERPROOF OUTLET

ELECTRICAL NOTES

- NEC408.2 EACH GARAGE SHALL HAVE AT LEAST ONE RECEPTACLE OUTLET FOR EACH GARAGE AND THE CIRCUIT SHALL NOT SUPPLY ANY OUTLETS OUTSIDE OF THE GARAGE.
- NEC408.5 GROUND-FULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.
- (A) DWELLING UNITS: ALL 120-VOLT, SINGLE-PHASE 15- AND 20-AMPERE RECEPTACLES INSTALLED IN THE LOCATION SPECIFIED BY THIS SECTION SHALL HAVE GROUND-FULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.
- (B) GARAGES AND ALSO ACCESSORY BUILDINGS THAT HAVE A FLOOR LOCATED AT OR BELOW GRADE LEVEL NOT INTENDED AS HABITABLE ROOMS AND LIMITED TO STORAGE AREAS, WORK AREAS, AND AREAS OF SIMILAR USE.
- (C) OUTDOORS.
- (D) GARAGES AND ALSO ACCESSORY BUILDINGS THAT HAVE A FLOOR LOCATED AT OR BELOW GRADE LEVEL NOT INTENDED AS HABITABLE ROOMS AND LIMITED TO STORAGE AREAS, WORK AREAS, AND THE LIKE SHALL BE PROTECTED BY A LISTED ARC-FULT CIRCUIT-INTERRUPTER, COMBINED WITH THE RECEPTACLE OUTLET TO PROTECT THE BRANCH CIRCUIT.
- NEC408.224 LOCATION IN OR ON REWESES.
- (A) ACCESSIBILITY: OVERCURRENT DEVICES SHALL BE READILY ACCESSIBLE AND SHALL BE INSTALLED SO THAT THE CENTER OF THE GRIP OF THE OPERATING HANDLE OF THE SWITCH OR CIRCUIT BREAKER WHEN IN ITS HIGHEST POSITION IS NOT MORE THAN 4 FEET 7 INCHES ABOVE THE FLOOR OR WORKING PLATFORM.
- (B) OCCUPANCY: EACH OCCUPANT SHALL HAVE READY ACCESS TO ALL OVERCURRENT DEVICES PROTECTING THE CONDUCTORS OF THE CIRCUIT.
- (C) NOT EXPOSED TO PHYSICAL DAMAGE: OVERCURRENT DEVICES SHALL BE LOCATED WHERE THEY WILL NOT BE EXPOSED TO PHYSICAL DAMAGE.
- (D) NOT IN VICINITY OF EASILY OBTAINABLE MATERIAL: OVERCURRENT DEVICES SHALL NOT BE LOCATED IN THE VICINITY OF EASILY OBTAINABLE MATERIAL SUCH AS IN CLOTHES CLOSETS.
- (E) NOT LOCATED IN BATHROOMS: IN DWELLING UNITS AND GUEST ROOMS OR GUEST SUITES OF HOTELS AND MOTELS, OVERCURRENT DEVICES, OTHER THAN SUPPLEMENTARY OVERCURRENT PROTECTION, SHALL NOT BE LOCATED IN BATHROOMS.
- NEC409.1 TAMPER PROOF RECEPTACLES SHALL BE INSTALLED IN ALL AREAS LESS THAN 14' ABOVE THE FLOOR.
- NEC 409.5 ACCESS REQUIREMENTS.
- 1. MUST BE WITHIN 50 FEET OF ATTIC ACCESS.
- 2. MINIMUM 24 INCH WIDE SOLID WALKING SURFACE WITH HEADROOM OF 50 ACCESS IS TO BE PROVIDED.
- 3. 3" X 3" 90° SERVICE LOCATION IS REQUIRED AT UNF.
- 4. ATTIC LIGHTING REQUIRED - WITH LIGHT SWITCH AT ATTIC ENTRY.
- MECHANICAL VENTILATION TEST REQUIRED.
- ME 302 SECTION 8301.4 REQUIRES A BLOWER DOOR TEST. COMPL WITH SECTION N 802.13 FOR EACH DWELLING UNIT. A WRITTEN REPORT BY A THIRD PARTY INSPECTOR SHALL BE PROVIDED TO THE BUILDING INSPECTOR FOR APPROVAL.
- NEC 314.16(A) MAKEUP AIR REQUIRED.
- EXHAUST FLOOD SYSTEMS CAPABLE OF 4000 CFM PER FEET PER MINUTE (CFM) 140 SHALL BE MECHANICAL OR NATURALLY PROVIDED WITH MAKEUP AIR AT A RATE APPROPRIATE TO THE EXHAUST AIR RATE. EXHAUST AIR SYSTEMS SHALL BE EQUIPPED WITH NOT LESS THAN ONE DAMPER EACH DAMPER SHALL BE A GRAVITY DAMPER OR AN ELECTRICALLY OPERATED DAMPER THAT AUTOMATICALLY OPENS WHEN THE EXHAUST SYSTEM OPERATES. DAMPERS SHALL BE ACCESSIBLE FOR INSPECTION, REPAIR, AND REPLACEMENT WITHOUT REQUIRING REMOVAL OF CEILING OR FLOORING. DAMPERS SHALL BE CONNECTED TO THE DAMPER RING RESPECTED, SERVICE, OR REPLACED.

1ST LEVEL ELECTRICAL PLAN

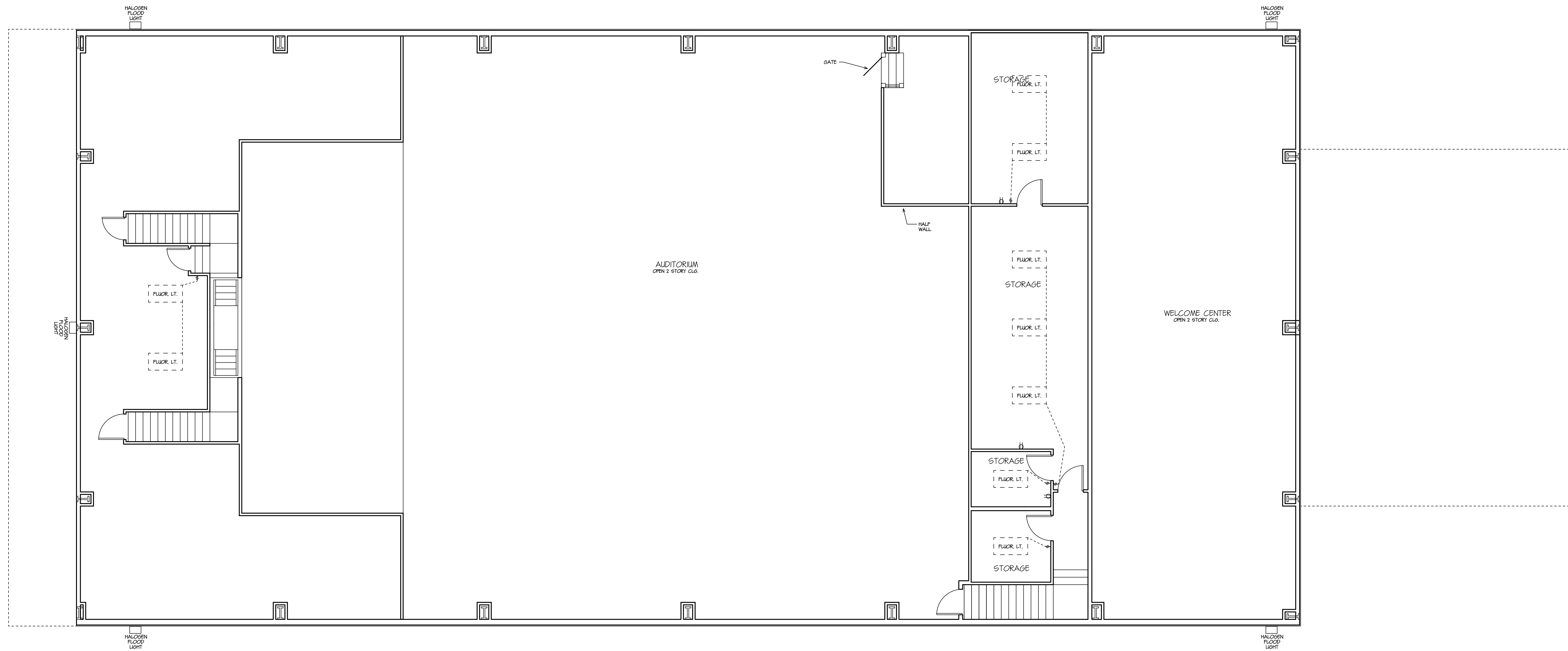
TRUE LIFE CHURCH  
62160 AIRPORT ROAD  
ST. TAMMANY PARISH, LA

HOUSE PLANS by **DesignTech OF LOUISIANA, LLC** DATE 4-11-24  
St. Tammany Parish, LA.

CODE	REV	DATE	DESCRIPTION
0	0080	1140	13069
DWH	JNC	DWH	36" X 60"
			E-1

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Although every effort has been made in preparing these plans, the contractor shall verify all dimensions and conditions of work and shall be responsible for any errors or omissions. The contractor shall not be held responsible for any errors or omissions. The contractor shall be responsible for any errors or omissions. The contractor shall be responsible for any errors or omissions.



2ND LEVEL  
ELECTRICAL PLAN

PLANS FOR:  
TRUE LIFE CHURCH  
62160 AIRPORT ROAD  
ST. TAMMANY PARISH, LA

HOUSE PLANS by **DesignTech** OF LOUISIANA, LLC  
St. Tammany Parish, LA  
SHEET # 285-SHT-0008

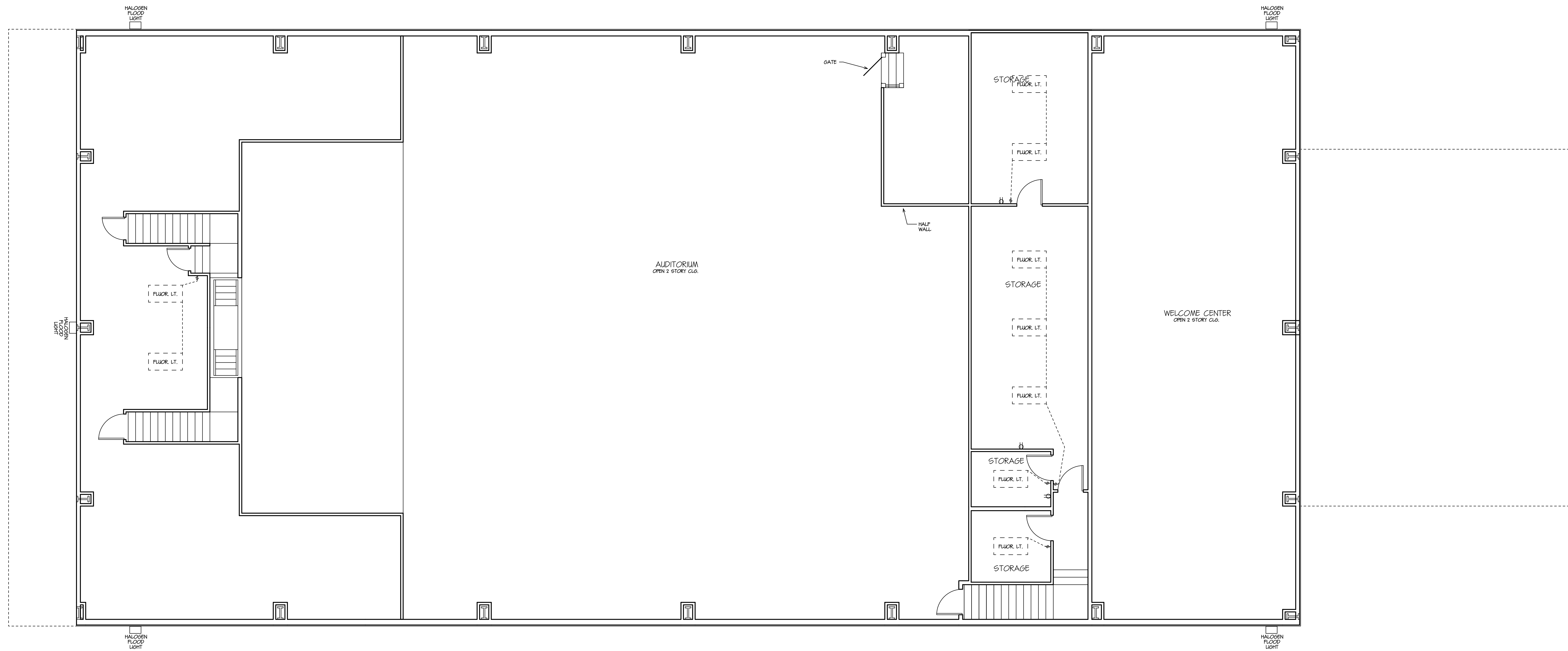
DATE: 4-11-24

CODE	REV	DATE	INDEX
0	0080	1110	13069

DESIGNED BY	CHECKED BY	SHEET SIZE
DWH	JWC	36" X 60"

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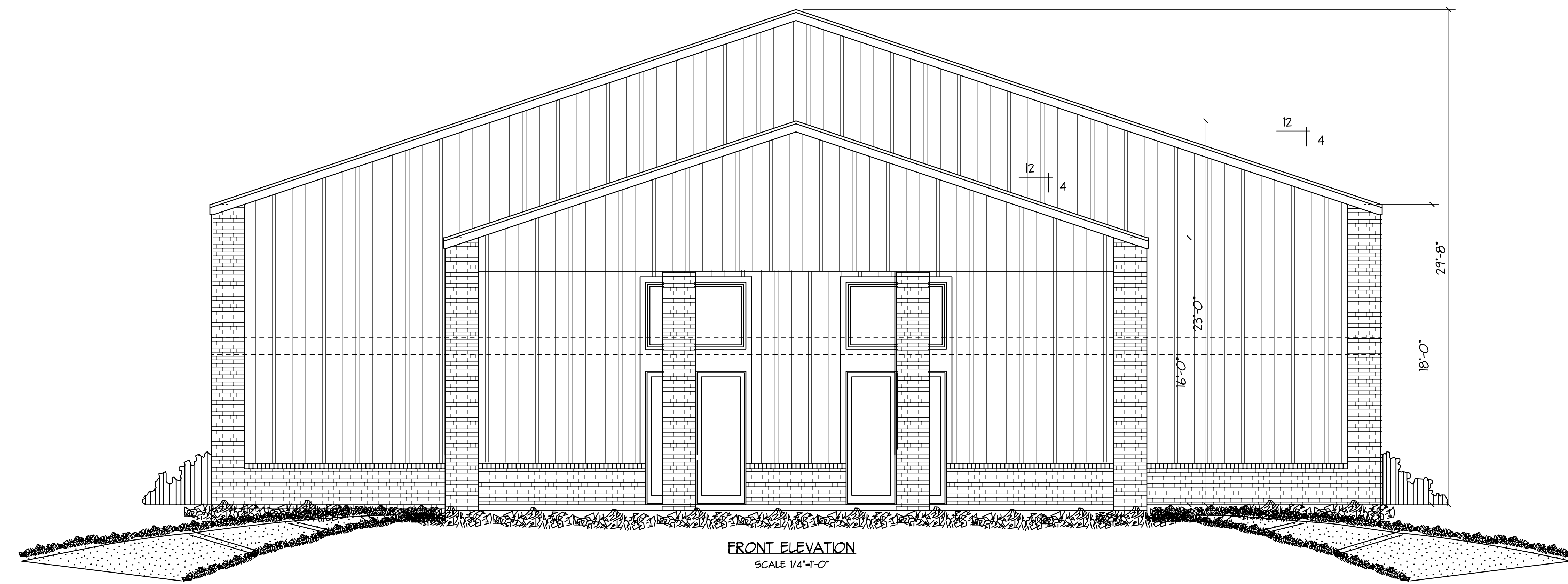
CODE	REV.	DATE	INDEX
0	0080	1110	13069

DESIGNED BY	CHECKED BY	SHEET SIZE
DWH	JWC	36" X 60"

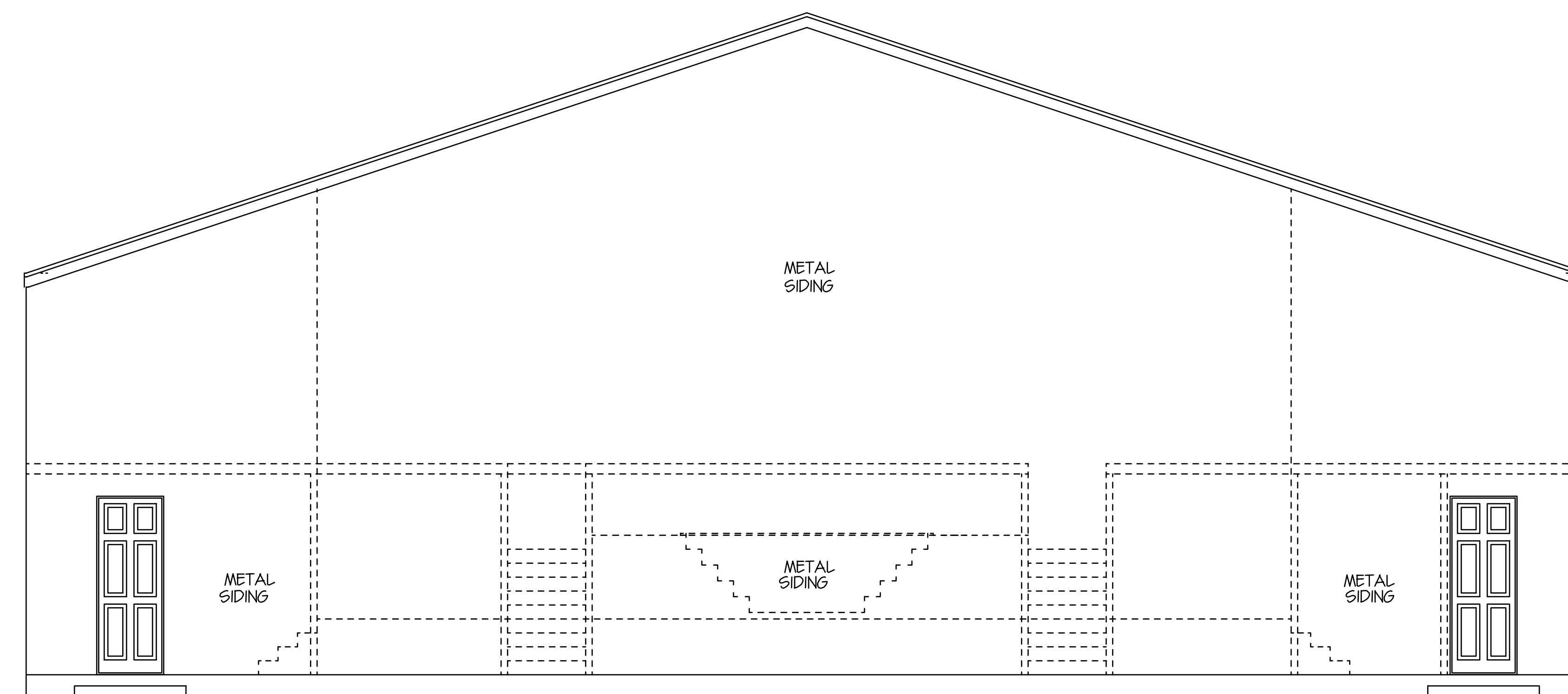
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E-2

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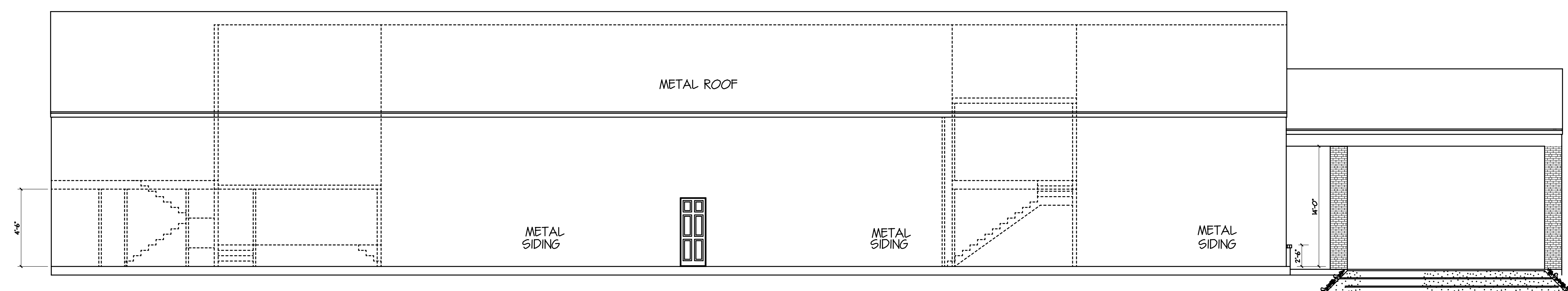
EMAIL: housetech@designtechusa.com



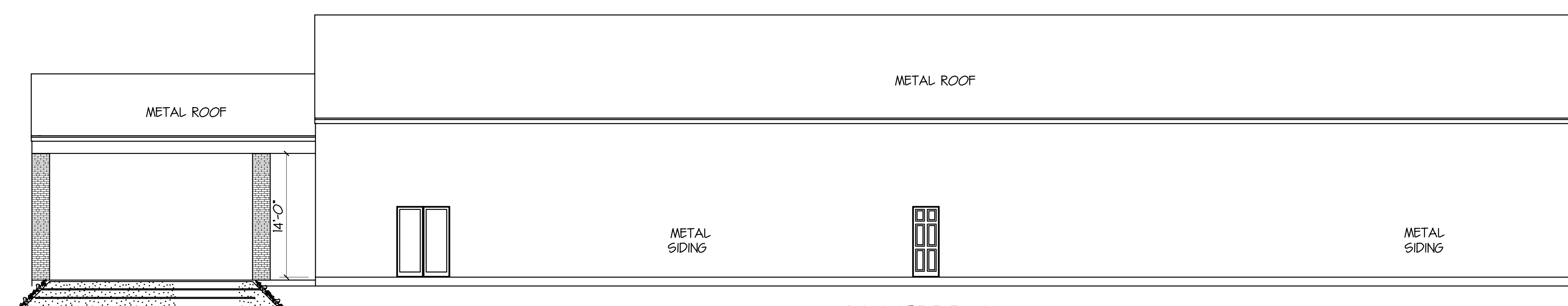
FRONT ELEVATION  
SCALE 1/4" = 1'-0"



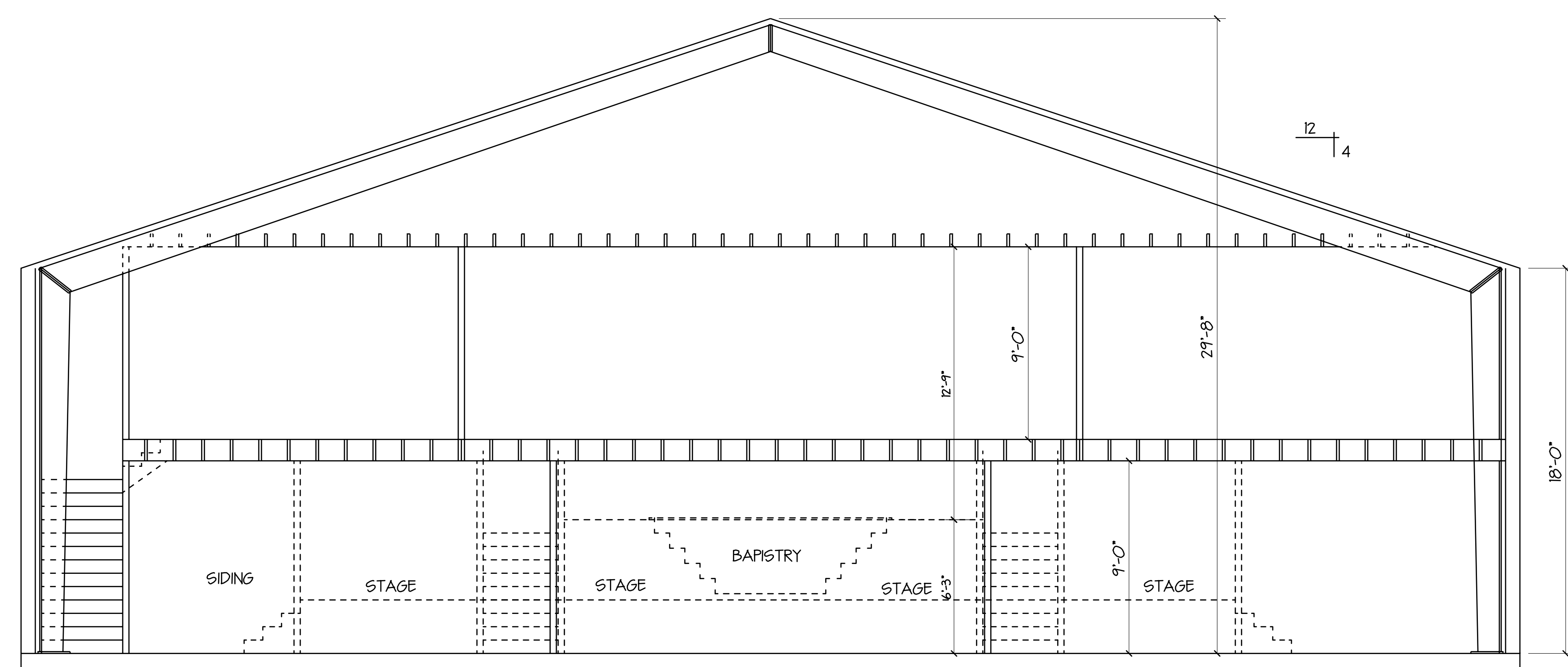
REAR ELEVATION  
SCALE 1/4" = 1'-0"



LEFT SIDE ELEVATION  
SCALE 1/4" = 1'-0"



RIGHT SIDE ELEVATION  
SCALE 1/4" = 1'-0"



SECTION @ 2 STORY AREA  
SCALE 1/4" = 1'-0"  
METAL BUILDING  
SEE PLANS BY OTHERS

- NOTES**
- BRICK VENEER REQUIREMENTS**
- RC 703.1.1 - REQUIRES BRICK TIES AT 16" HORIZONTAL AND 16" VERTICAL.
  - RC 703.1.2 - REQUIRE 1" OF AIRSPACE BETWEEN BRICK AND OUTSIDE BARRIER.
  - RC 703.1.6 - REQUIRES WEEDPINS BE PLACED AT MAXIMUM OF 33" O.C.
  - RC 703.8 - REQUIRES THE USE OF FLASHING.
- RC GLASS REQUIREMENTS**
- GLASS WILL MEET 140 MPH WIND LOAD REQUIREMENTS (PSF) & PASS IMPACT RESISTANCE TEST ASTM E888 OR BE BOARDED WITH AN APPROVED ASSEMBLY THAT MEETS PRESCRIBED REQUIREMENTS OF THE RC.
  - GLASS DOORS & WINDOWS WITHIN 18" OF FINISHED FLOOR ARE CONSIDERED HIGH HAZARD AREAS AND MUST COMPLY WITH RC 308 GLAZING.
  - REBROWNS ARE REQUIRED TO HAVE A RESCUE POINT WINDOW THAT POINTS SHALL HAVE 50 SQ. FT. OF OPENING AT GROUND LEVEL AND 57 SQ. FT. ABOVE GROUND LEVEL. THE MINIMUM ANY ONE SIDED OVERHUNG SHALL BE 20" IN LENGTH AND 24" IN HEIGHT.
  - SHUTTERS SHALL BE ENGINEERED IF USED INSTEAD OF IMPACT GLASS.
  - GARAGE DOOR SHALL BE 140 MPH WIND RATED DOOR

**ELEVATIONS & SECTION**

PLANS FOR:  
TRUE LIFE CHURCH  
62160 AIRPORT ROAD  
ST. TAMMANY PARISH, LA

HOUSE PLANS BY: **DesignTech OF LOUISIANA, LLC** DATE: 4-11-24  
St. Tammany Parish, LA. SUIREDL 2024-04-11-2024

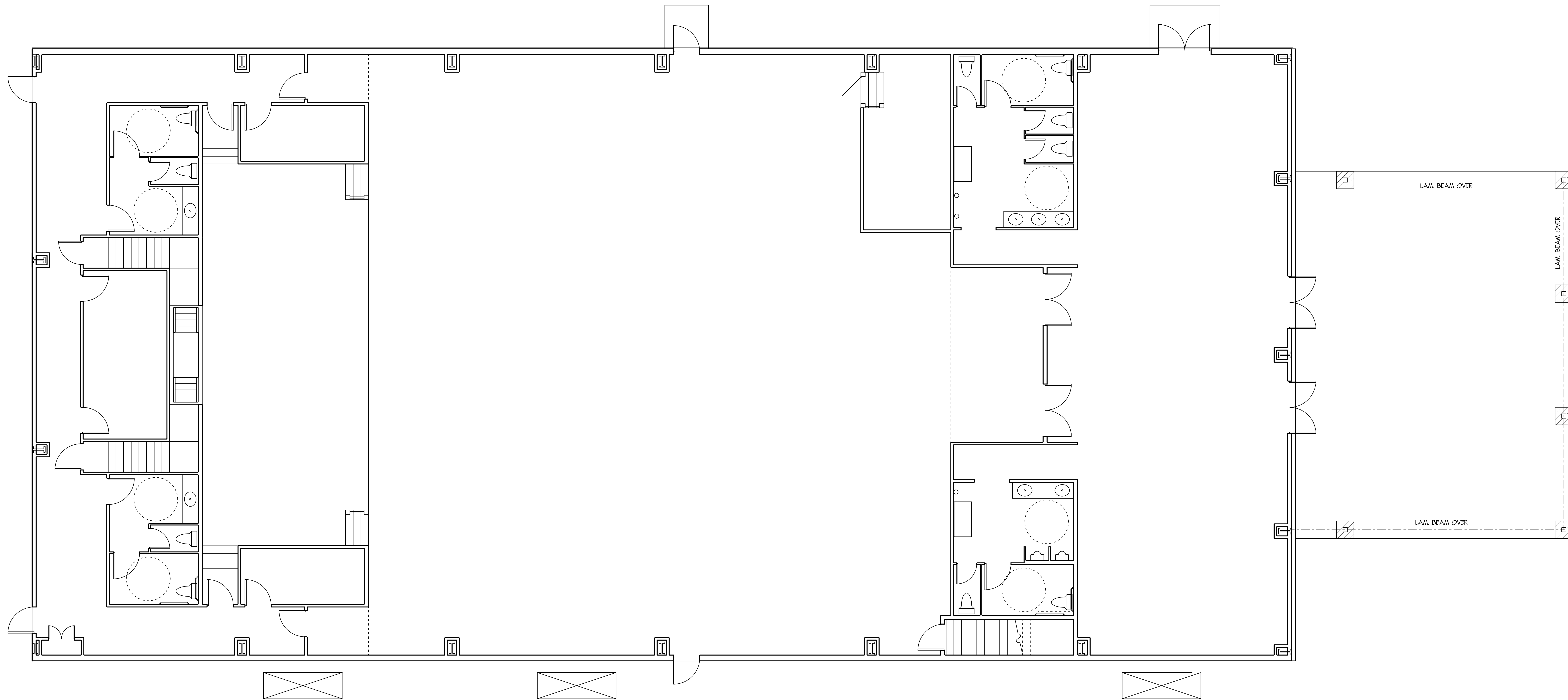
CODE	REV	DATE	INDEX
0	0080	11410	13069
DESIGNED	FINISHED	CHECKED	SHEET SIZE
DWH	JMC	DWH	36" X 60"

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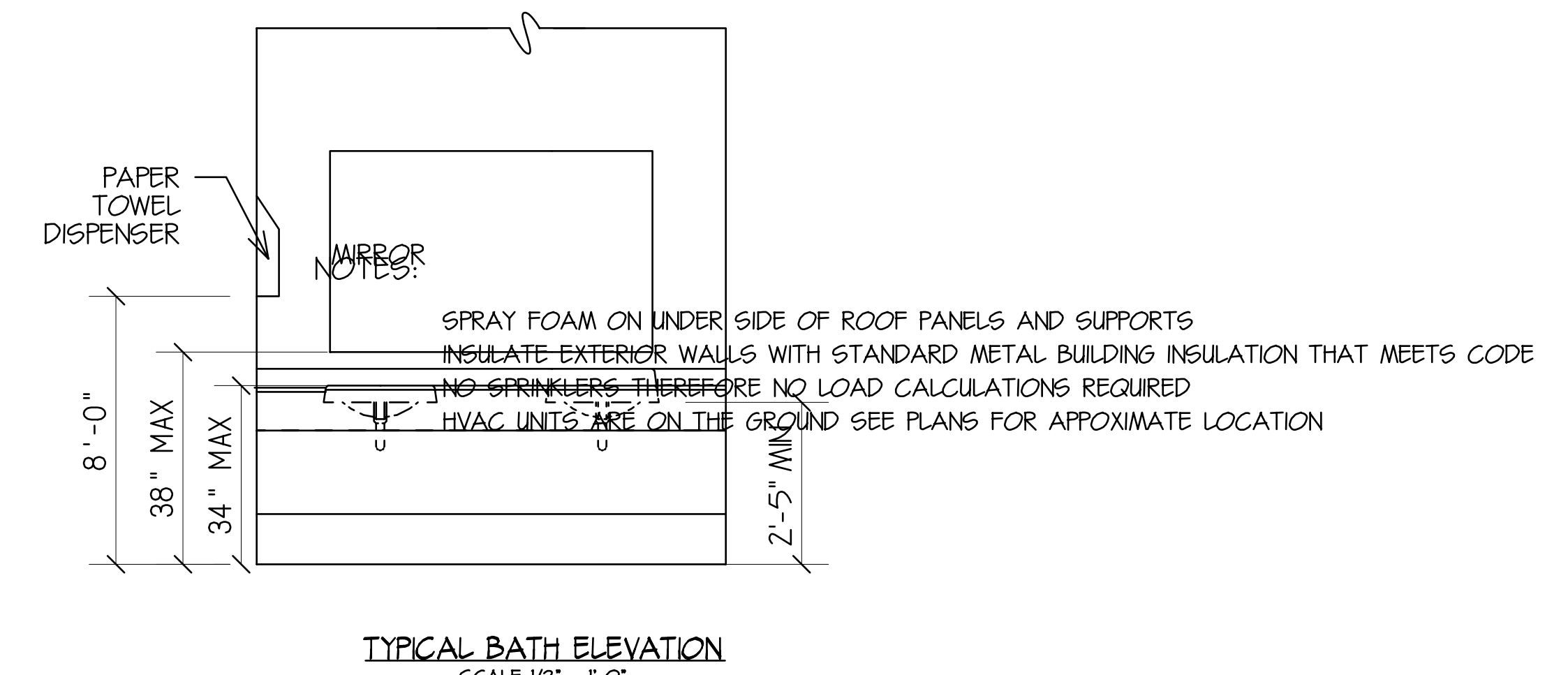
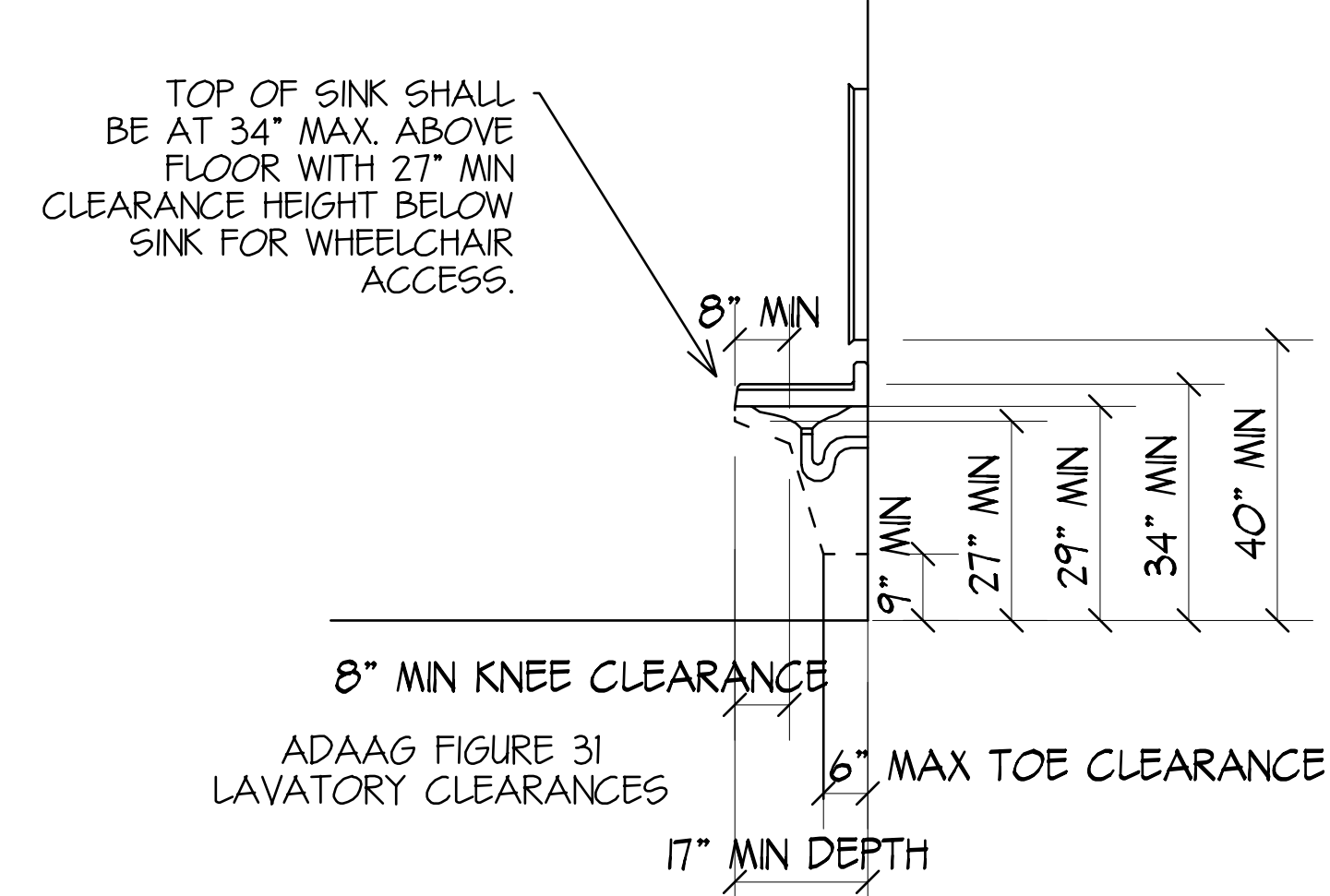
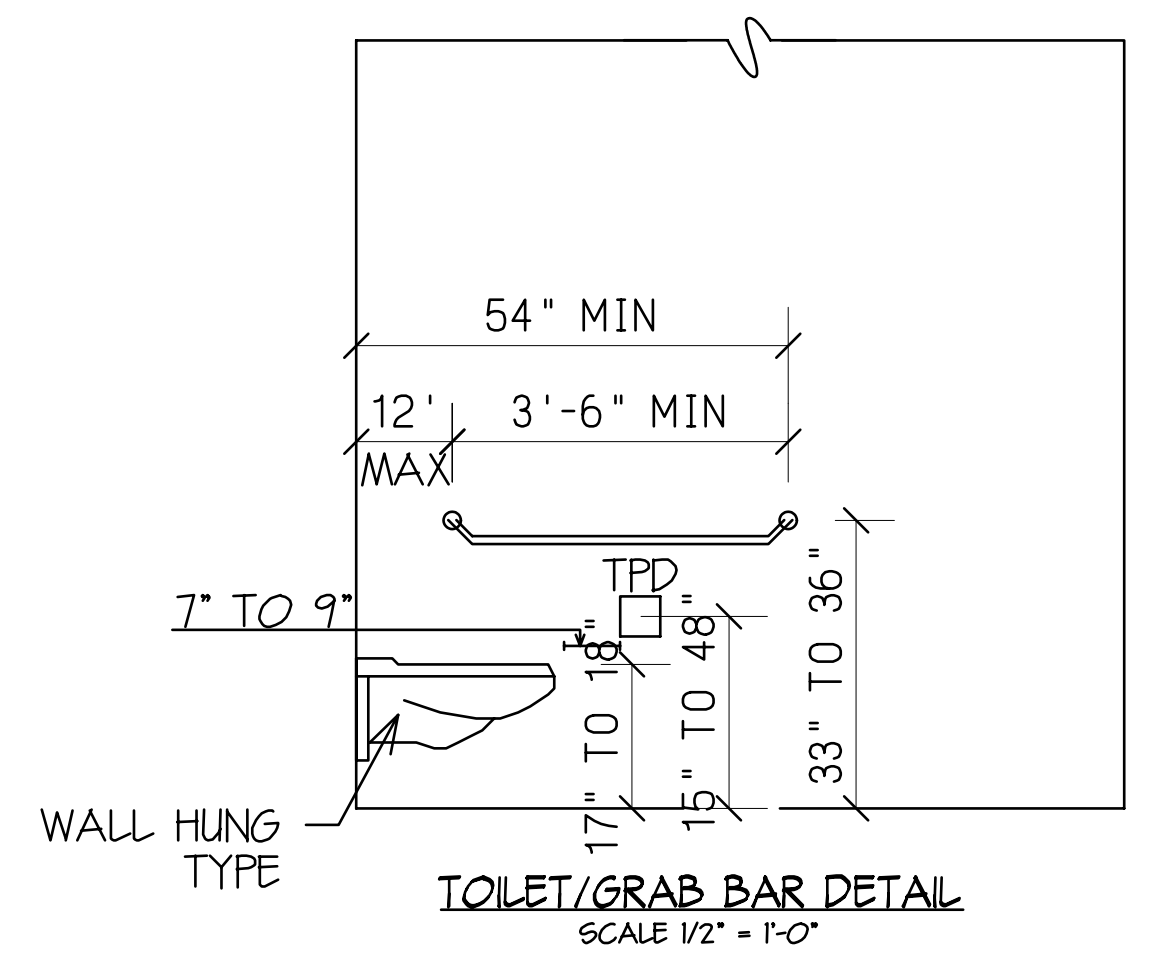
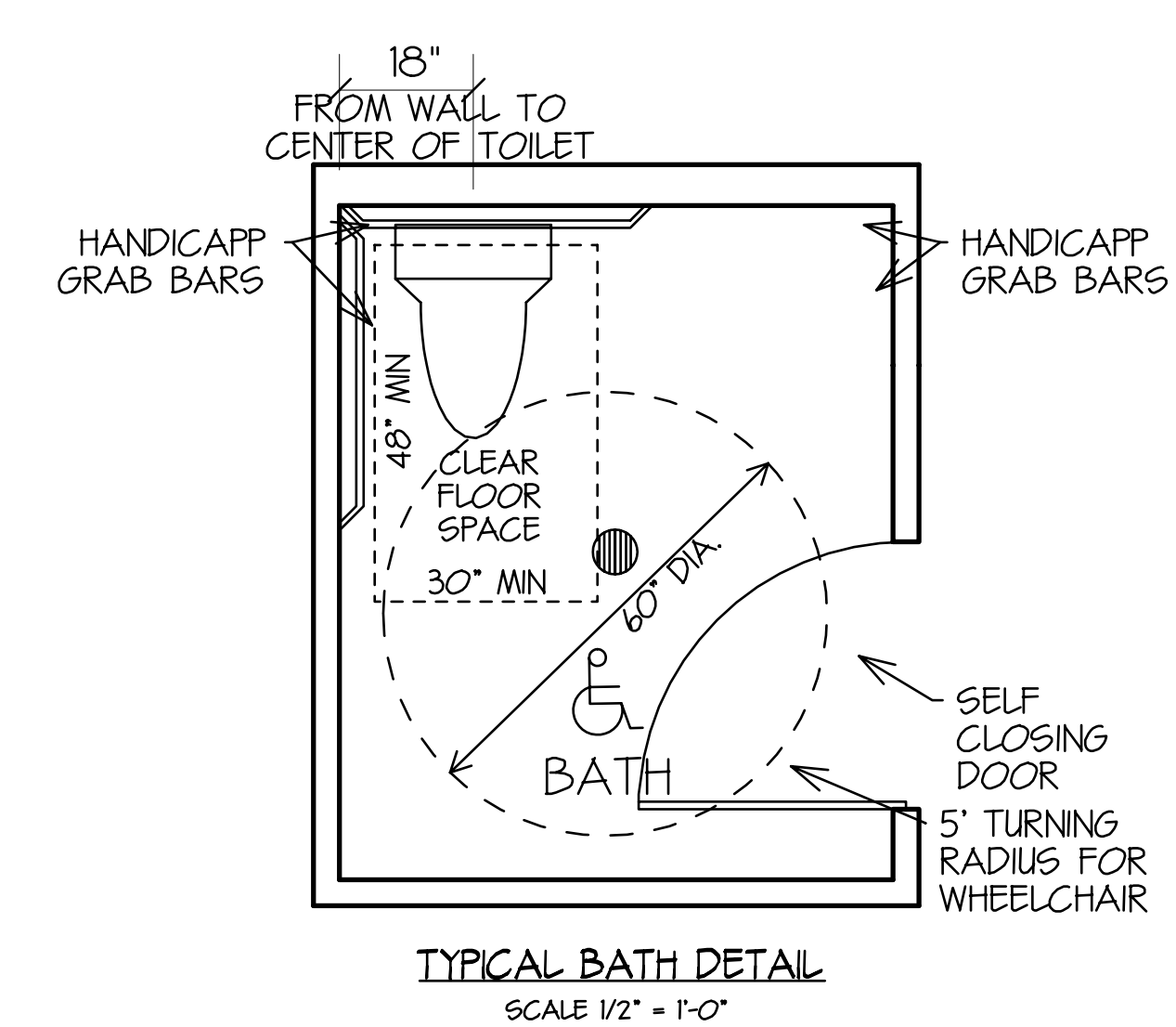
EMAIL: housetech@designtechusa.com

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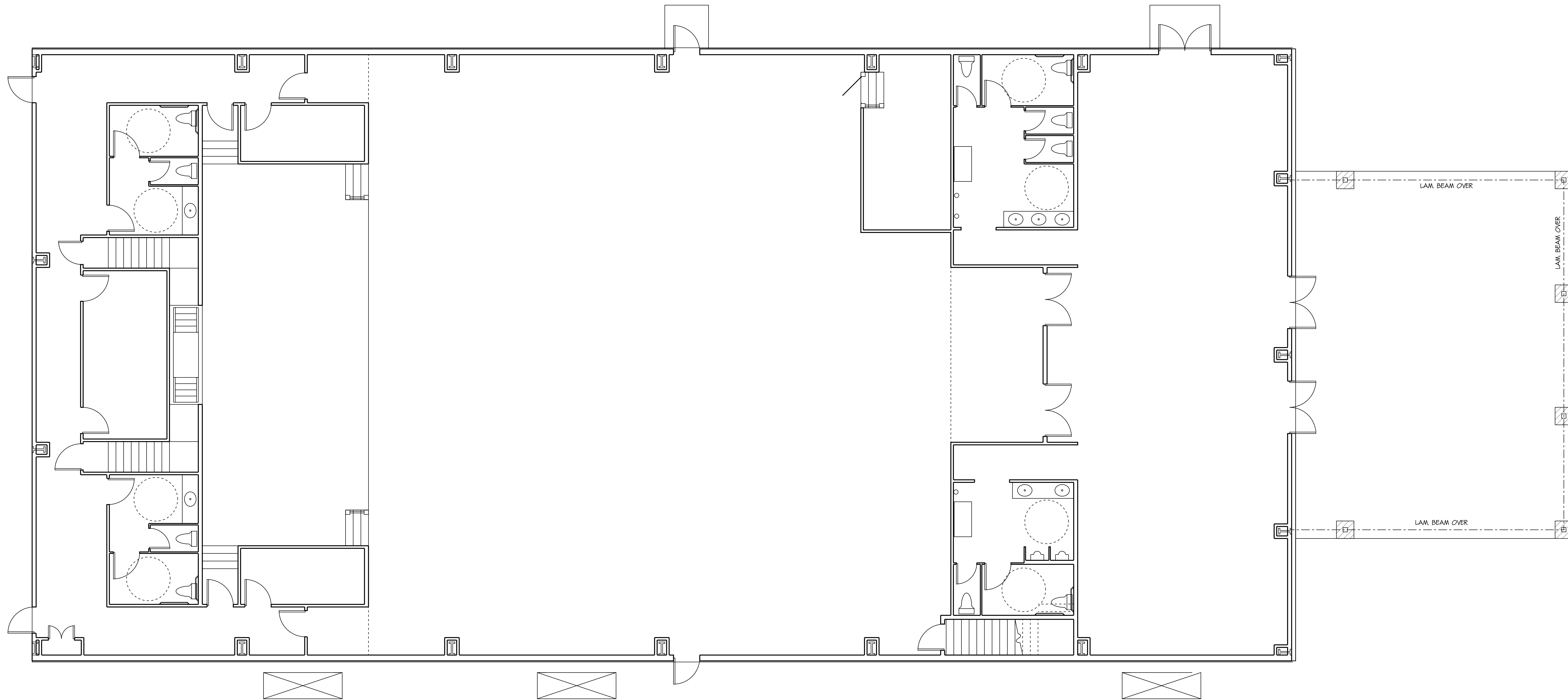
ADA-ABA604 WATER CLOSETS AND TOILET COMPARTMENTS SHALL COMPLY WITH 604.2 THROUGH 604.8 AND 609 AS FOLLOWS:  
 -604.2 THE CENTERLINE OF THE WATER CLOSET SHALL BE 16 INCHES MINIMUM TO 18 INCHES MAXIMUM FROM THE NEAREST ADJACENT WALL. (11 INCHES MINIMUM TO 19 INCHES MAXIMUM IN AN AMBULATORY ACCESSIBLE TOILET COMPARTMENT SPECIFIED IN 604.8.2)  
 -604.3.1 PROVIDE A CLEARANCE AROUND THE WATER CLOSET THAT COMPLES WITH FIGURE 604.3.1 CLEARANCE AROUND WATER CLOSET SHE BE 60 INCHES MINIMUM MEASURED PERPENDICULAR FROM THE SIDE WALL AND 56 INCHES MINIMUM MEASURED PERPENDICULAR FROM THE REAR WALL. (NOTE: AS PER 604.3.2 NO OTHER FIXTURES OR OBSTRUCTIONS SHALL BE LOCATED WITHIN THE REQUIRED WATER CLOSET CLEARANCE.)  
 -604.3.2 PROVIDE A 5' TURNING RADIUS OR T-SHAPED TURNING SPACE COMPLYING WITH 304 WITHIN THE ROOM LOCATED OUTSIDE OF STALL AND CLEAR OF ALL FIXTURES.)  
 -604.4 THE SEAT ABOVE THE FINISHED FLOOR SHALL BE 17" MINIMUM TO 19" MAXIMUM TO THE TOP OF THE SEAT.  
 -604.5 GRAB BARS OF WATER CLOSETS SHALL COMPLY WITH 609. (PROVIDE A 42" LONG GRAB BAR ADJACENT TO THE TOILET AND A 36" LONG GRAB BAR BEHIND THE TOILET.)  
 -604.6 FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET.  
 -604.7 TOILET PAPER DISPENSERS SHALL COMPLY WITH FIGURE 604.7  
 -604.8 WHEELCHAIR ACCESSIBLE TOILET COMPARTMENTS SHALL MEET THE REQUIREMENTS OF 604.8.1 THROUGH 604.8.3 AS FOLLOWS:  
 -604.8.1 WHEELCHAIR ACCESSIBLE COMPARTMENTS:  
 -604.8.1.1 WHEELCHAIR COMPARTMENTS SHALL BE SIZED IN ACCORDANCE WITH FIGURE 604.8.1.1  
 -604.8.1.2 TOILET COMPARTMENT DOORS, INCLUDING HARDWARE, SHALL COMPLY WITH SECTION 404 AND LOCATED IN ACCORDANCE WITH FIGURE 604.8.1.2  
 -604.8.1.3 COMPARTMENTS SHALL BE ARRANGED FOR A LEFTHAND OR RIGHT HAND APPROACH TO THE WATER CLOSET.  
 -604.8.1.4 PROVIDE TOE CLEARANCE IN ACCORDANCE WITH FIGURE 604.8.1.4  
 -604.8.1.5 GRAB BAR SHALL COMPLY WITH SECTION 609. (PROVIDE A 42" LONG GRAB BAR ADJACENT TO THE TOILET AND A 36" GRAB BAR BEHIND THE TOILET.)



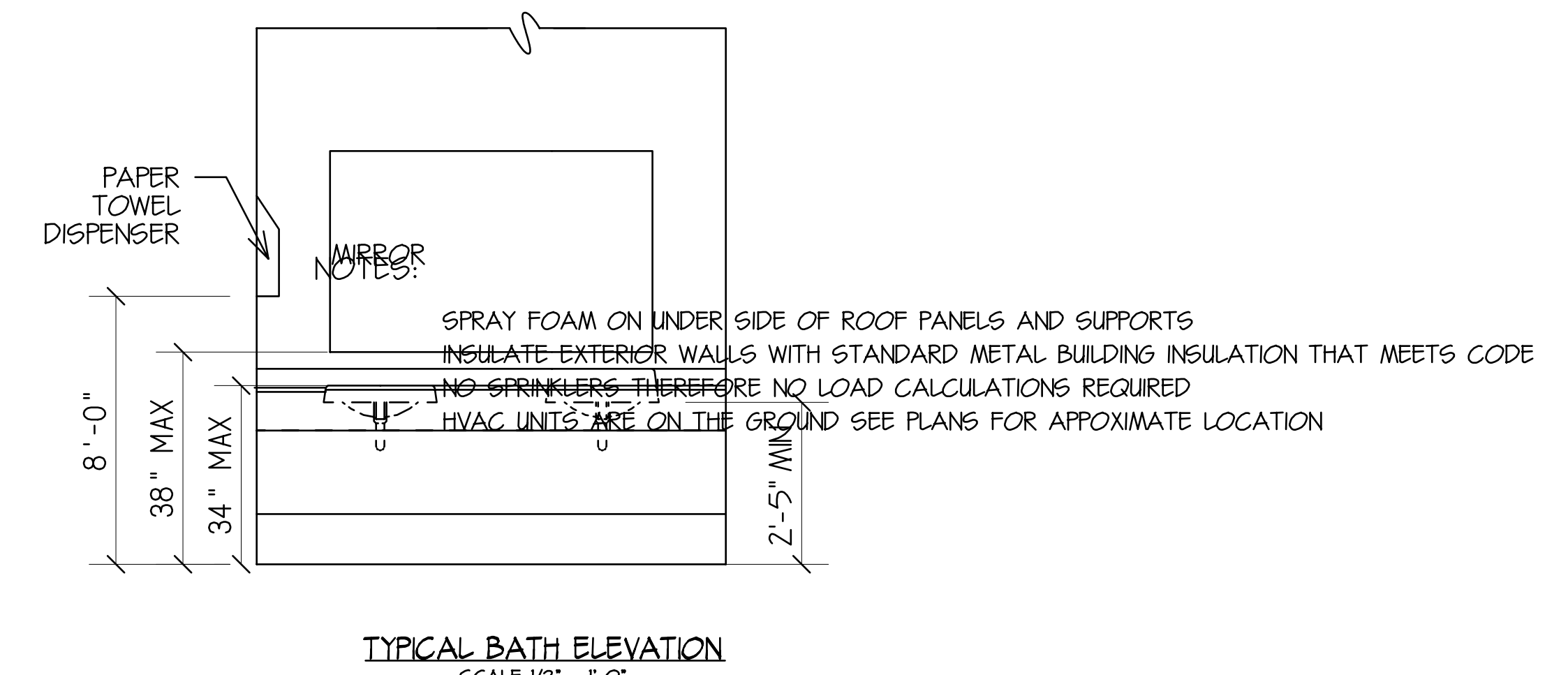
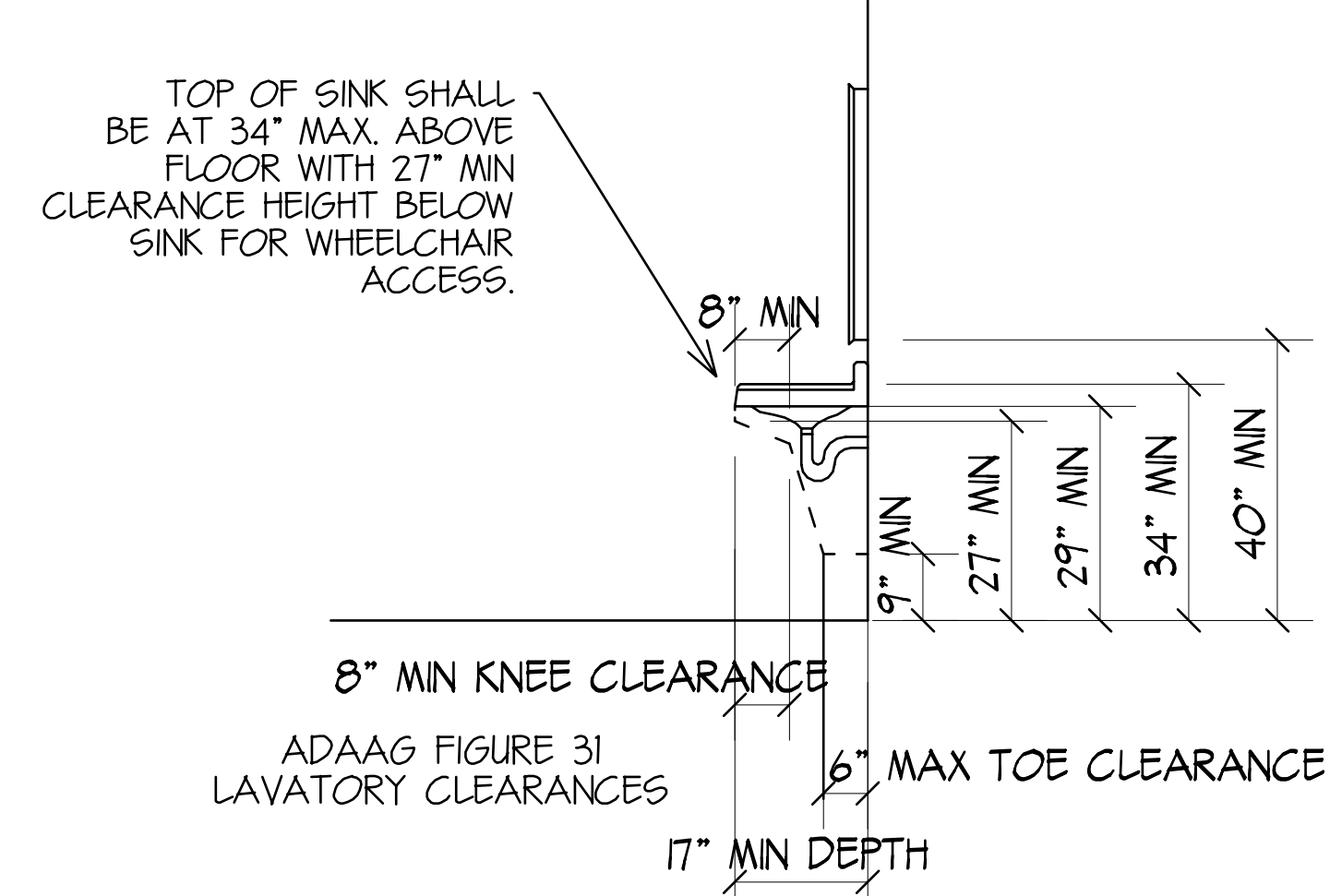
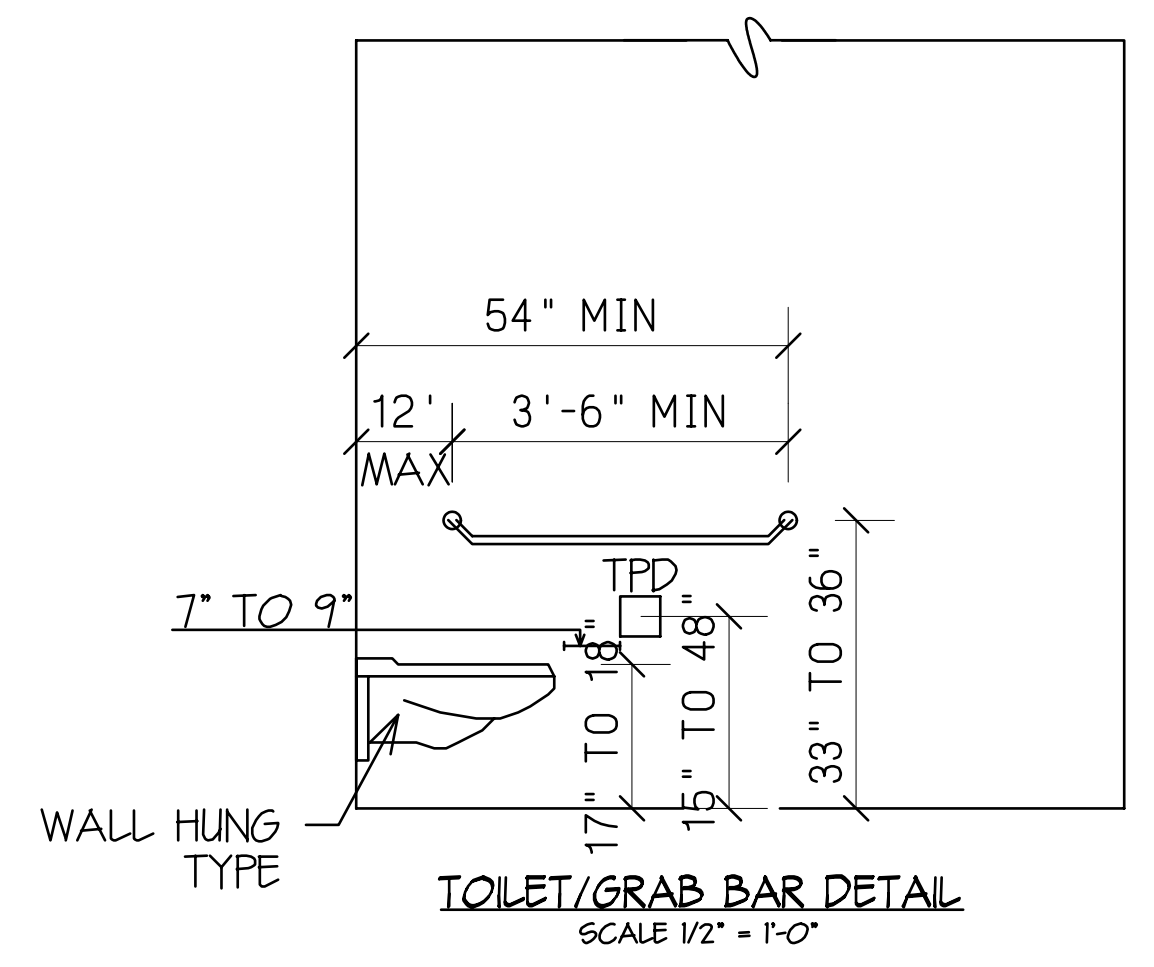
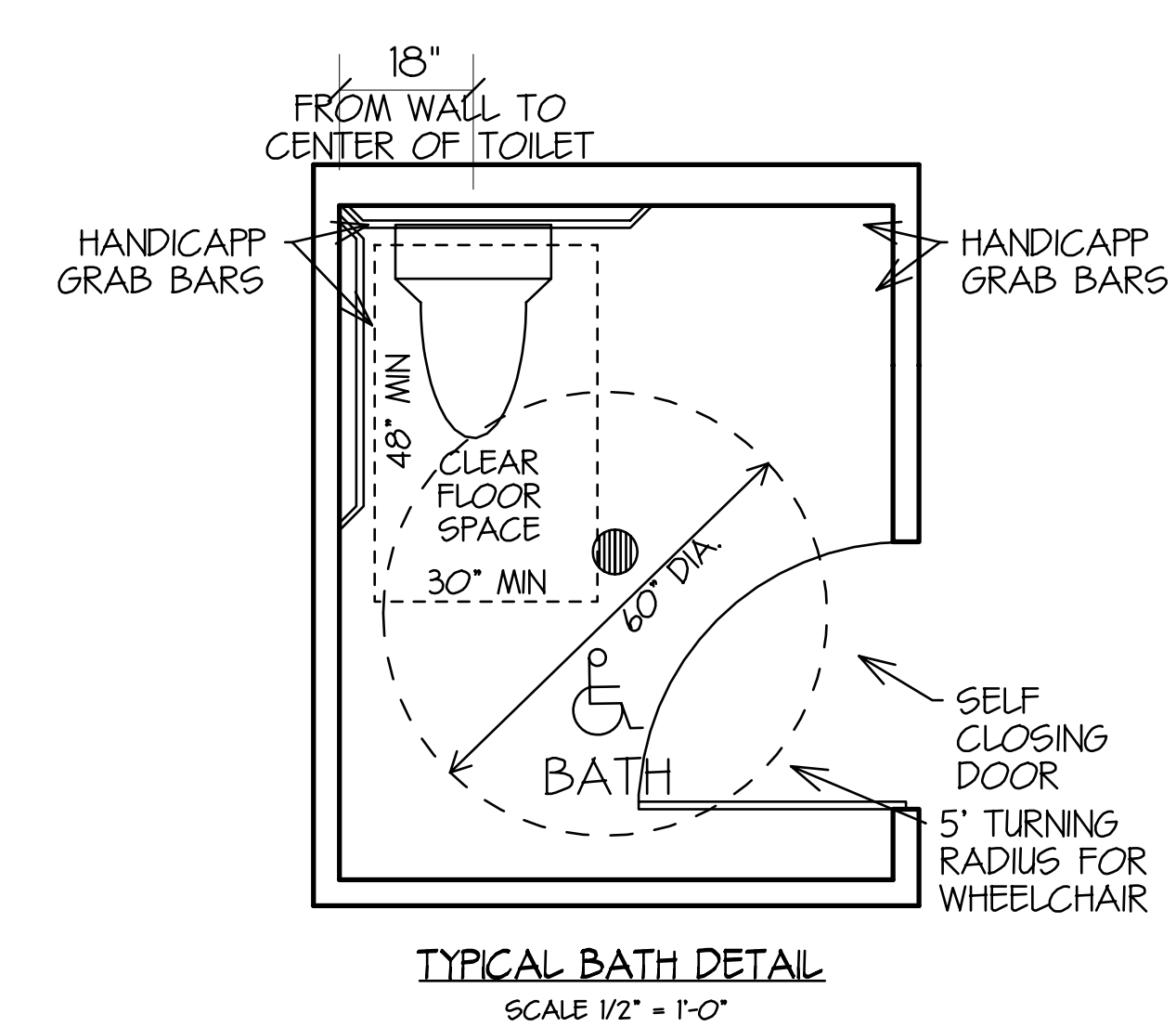
H/C RESTROOMS TYPICAL LAYOUT & DIMENSIONS  
SCALE 1/2" = 1'-0"

<b>ADA PLUMBING PLAN</b>			
PROJECT: TRUE LIFE CHURCH 62160 AIRPORT ROAD ST. TAMMANY PARISH, LA			
HOUSE PLANS by <b>DesignTech OF LOUISIANA, LLC</b> St. Tammany Parish, LA SUBJECT: 988-847-8008			DATE: 4-11-24
CODE	REV	AREA U. B.	INDEX
0	10080	11410	13069
DESIGNED BY	DWH	CHECKED BY	JNC
DRAWN BY	DWH	DATE	3/6" X 60"
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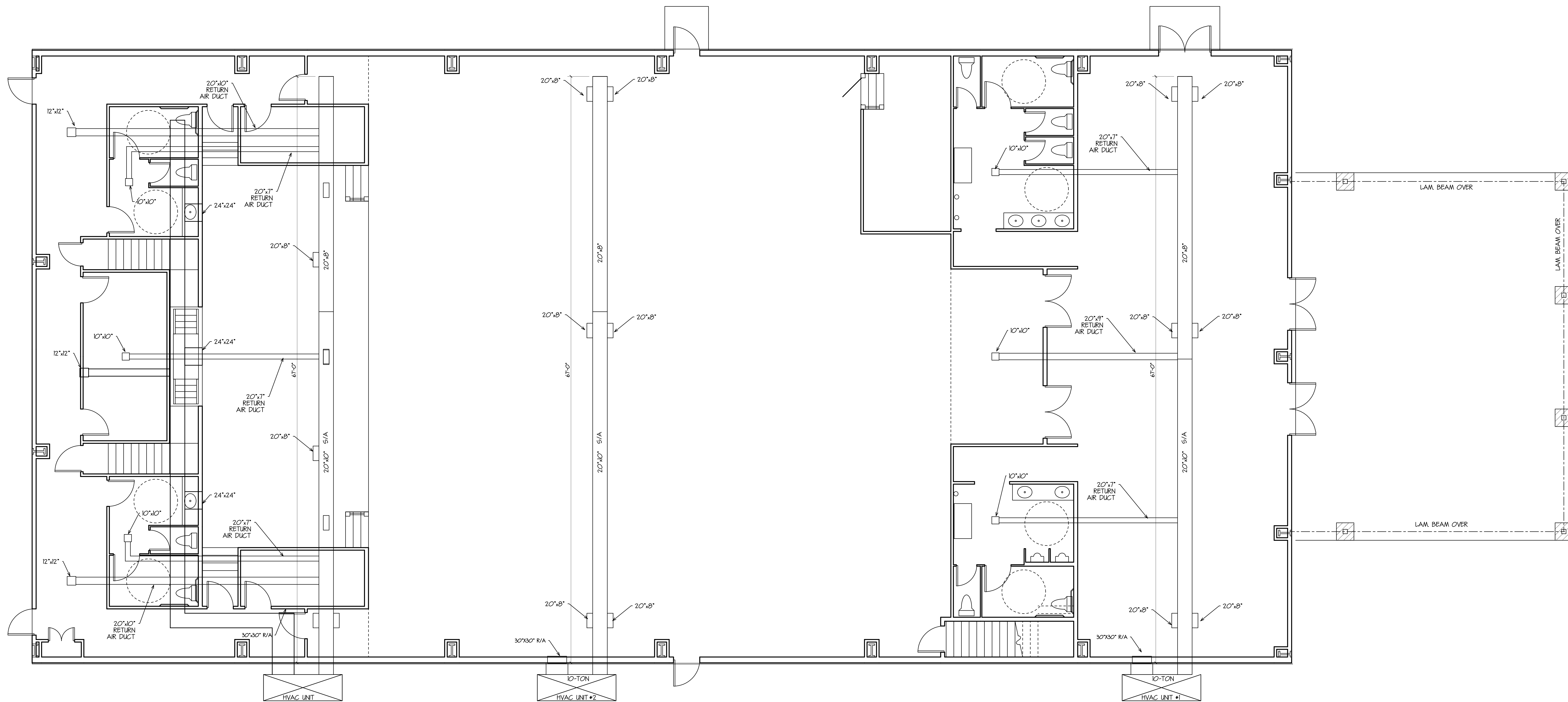


H/C RESTROOMS TYPICAL LAYOUT & DIMENSIONS  
SCALE 1/2" = 1'-0"

<b>ADA PLUMBING PLAN</b>			
PROJECT: TRUE LIFE CHURCH 62160 AIRPORT ROAD ST. TAMMANY PARISH, LA			
HOUSE PLANS by <b>DesignTech OF LOUISIANA, LLC</b> St. Tammany Parish, LA SUBJECT: 988-847-8008			DATE: 4-11-24
CODE	REV	INDEX	
0	10080	11410	13069
DESIGNED BY	DWH	CHECKED BY	JNC
DRAWN BY	DWH	SCALE	36" X 60"
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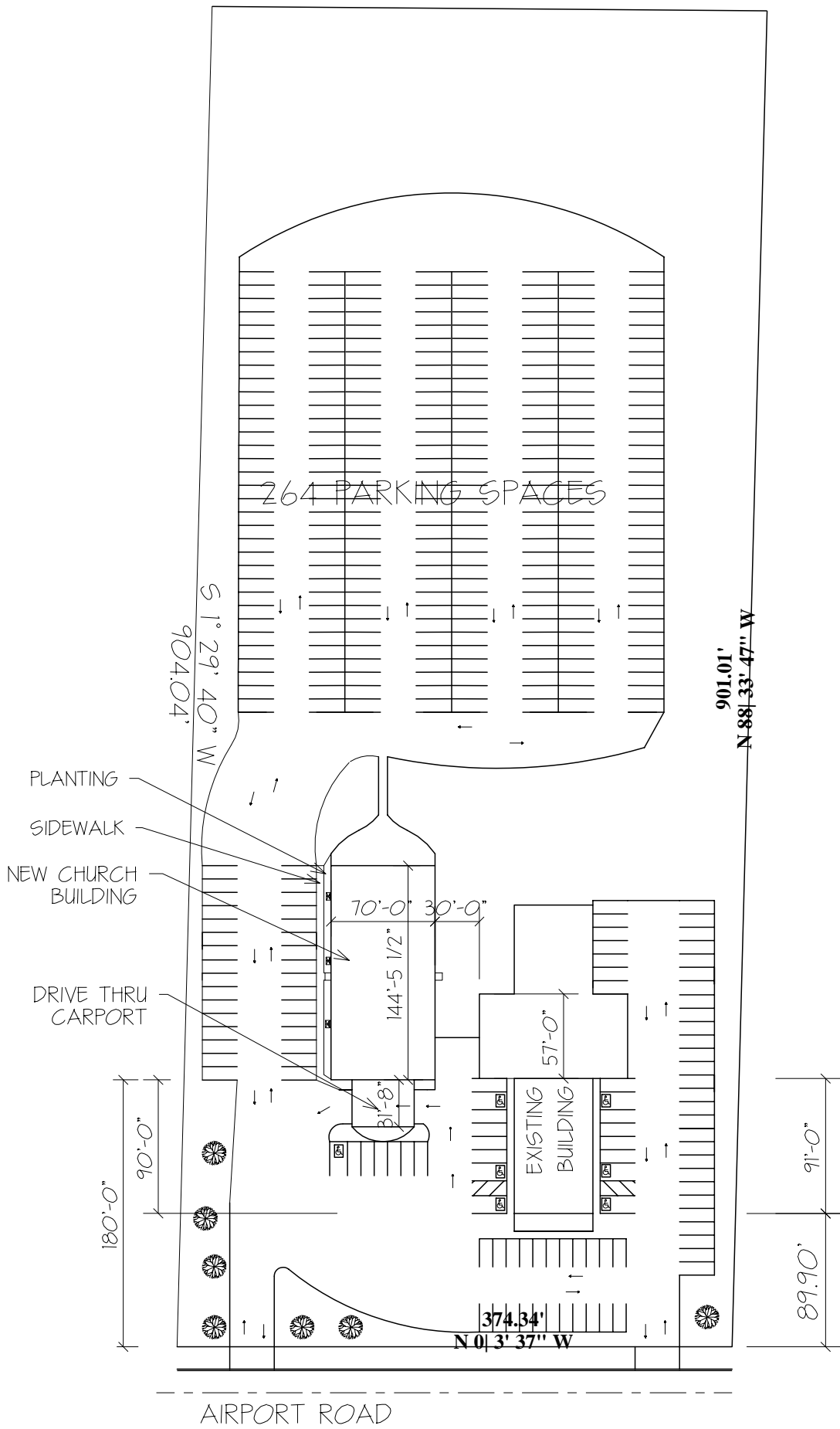
HVAC PLAN  
SCALE 1/4" = 1'-0"

NOTES:

- SPRAY FOAM ON UNDER SIDE OF ROOF PANELS AND SUPPORTS
- INSULATE EXTERIOR WALLS WITH STANDARD METAL BUILDING INSULATION THAT MEETS CODE
- NO SPRINKLERS THEREFORE NO LOAD CALCULATIONS REQUIRED
- HVAC UNITS ARE ON THE GROUND SEE PLANS FOR APPROXIMATE LOCATION

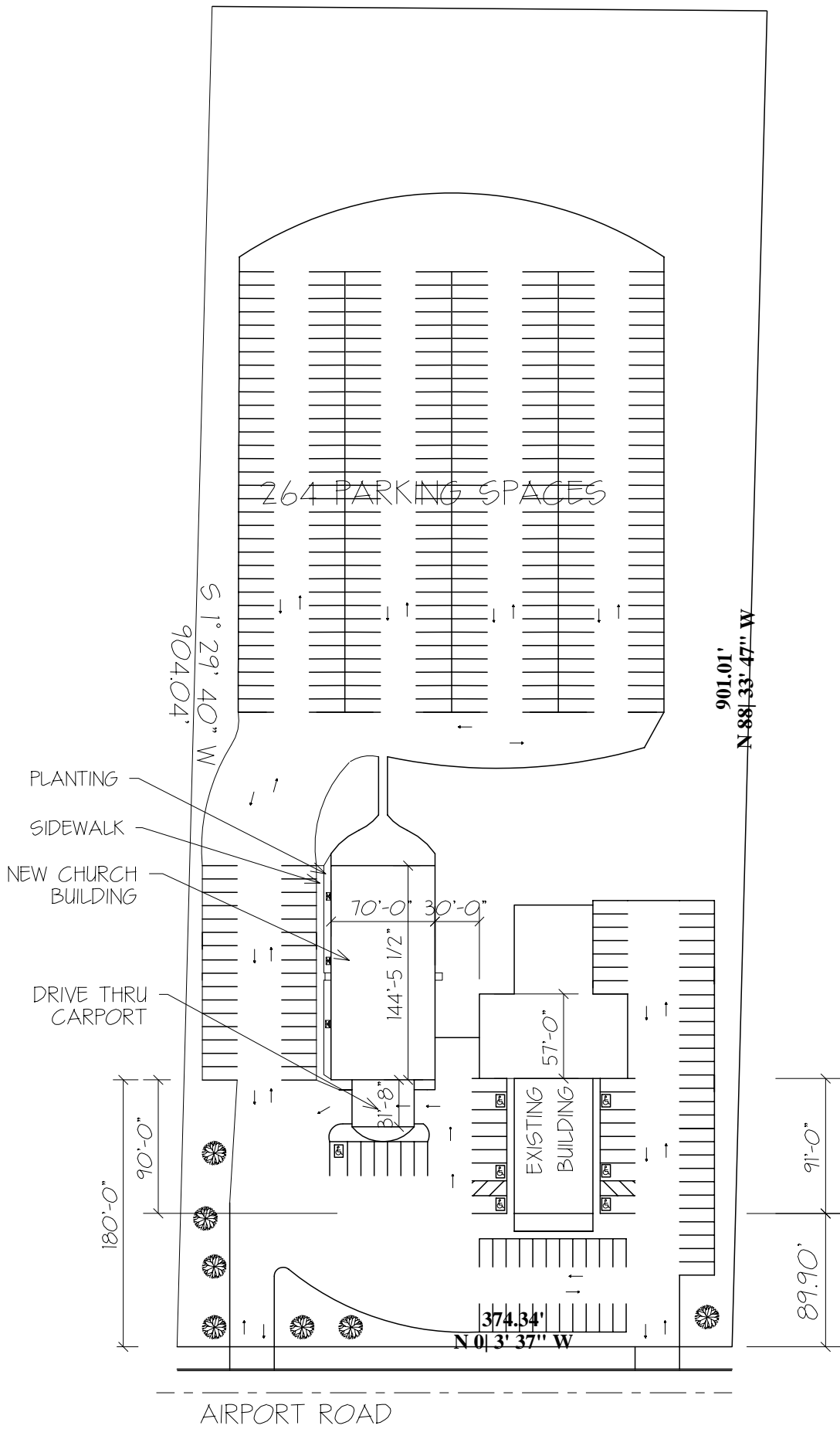
<b>HVAC PLAN</b>			
PLANS FOR TRUE LIFE CHURCH 62160 AIRPORT ROAD ST. TAMMANY PARISH, LA			
<b>HOUSE PLANS by</b> <b>DesignTech</b> <b>OF LOUISIANA, LLC</b> St. Tammany Parish, LA SUITE 111 988-5417-0606			DATE 4-11-24
CODE	LIVING	AREA U. E.	INDEX
0	0080	11410	13069
DESIGNED	FINISHED	CHECKED	SHEET SIZE
DWH	JWC	DWH	36" X 60"
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<b>MEMBER</b> <b>A</b>   <b>B</b> <b>D</b> ®	PLANS FOR: TRUE LIFE CHURCH 62160 AIRPORT ROAD ST. TAMMANY PARISH, LA.	HOUSE PLANS by <b>DesignTech</b> <b>OF LOUISIANA, LLC</b> St. Tammany Parish, LA. SLIDELL 985-847-0600		<b>DATE</b> 4-11-24
	<b>PLOT PLAN</b> SCALE 1" = 100'-0"	<b>CODE</b> 0	<b>LIVING</b> 10080	<b>AREA U.B.</b> 11410
<b>FLOOD ZONE</b> ?				
<b>WIND ZONE</b> 140 MPH				



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	<b>PLOT PLAN</b> SCALE 1" = 100'-0"	<b>CODE</b> 0	<b>LIVING</b> 10080	<b>AREA U.B.</b> 11410
<b>FLOOD ZONE</b> ?				
<b>WIND ZONE</b> 140 MPH				

*True Life Church  
HVAC Load Calculations*

for



**RHVAC** RESIDENTIAL  
HVAC LOADS

Prepared By:

Wednesday, November 8, 2023



## Project Report

### General Project Information

Project Title: True Life Church  
 Designed By: Richard Carter  
 Project Date: Wednesday, November 8, 2023

### Design Data

Reference City: Bogalusa, Louisiana  
 Building Orientation: Front door faces East  
 Daily Temperature Range: Medium  
 Latitude: 30 Degrees  
 Elevation: 119 ft.  
 Altitude Factor: 0.996

	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	28	26.14	n/a	n/a	70	n/a
Summer:	102	77	33%	50%	75	35

### Check Figures

Total Building Supply CFM:	6,176	CFM Per Square ft.:	0.710
Square ft. of Room Area:	8,700	Square ft. Per Ton:	271
Volume (ft <sup>3</sup> ):	145,800		

### Building Loads

Total Heating Required Including Ventilation Air:	71,839 Btuh	71.839 MBH
Total Sensible Gain:	135,291 Btuh	58 %
Total Latent Gain:	96,211 Btuh	42 %
Total Cooling Required Including Ventilation Air:	231,502 Btuh	32.07 Tons (Based On 75% Sensible Capacity) (and Elev. Derating).

### Notes

Rhvac is an ACCA approved Manual J, D and S computer program.  
 Calculations are performed per ACCA Manual J 8th Edition, Version 2.50, and ACCA Manual D.  
 All computed results are estimates as building use and weather may vary.  
 Be sure to select a unit that meets both sensible and latent loads according to the manufacturer's performance data at your design conditions.



## Miscellaneous Report

System 1 Input Data	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	28	26.14	80%	n/a	70	n/a
Summer:	102	77	33%	50%	75	35.31

System 2 Copy of system 1 Input Data	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	28	26.14	80%	n/a	70	n/a
Summer:	102	77	33%	50%	75	35.31

System 3 Copy of system 1 Input Data	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	28	26.14	80%	n/a	70	n/a
Summer:	102	77	33%	50%	75	35.31

### Duct Sizing Inputs

	Main Trunk	Runouts
Calculate:	Yes	Yes
Use Schedule:	Yes	Yes
Roughness Factor:	0.00300	0.01000
Pressure Drop:	0.1000 in.wg./100 ft.	0.1000 in.wg./100 ft.
Minimum Velocity:	0 ft./min	0 ft./min
Maximum Velocity:	900 ft./min	750 ft./min
Minimum Height:	0 in.	0 in.
Maximum Height:	0 in.	0 in.

### Outside Air Data

	Winter	Summer
Infiltration Specified:	0.280 AC/hr 680 CFM	0.150 AC/hr 365 CFM
Infiltration Actual:	0.280 AC/hr	0.150 AC/hr
Above Grade Volume:	X 145,800 Cu.ft. 40,824 Cu.ft./hr	X 145,800 Cu.ft. 21,870 Cu.ft./hr
	X 0.0167	X 0.0167
Total Building Infiltration:	680 CFM	365 CFM
Total Building Ventilation:	0 CFM	0 CFM

#### ---System 1---

Infiltration & Ventilation Sensible Gain Multiplier:	29.57 = (1.10 X 0.996 X 27.00 Summer Temp. Difference)
Infiltration & Ventilation Latent Gain Multiplier:	23.91 = (0.68 X 0.996 X 35.31 Grains Difference)
Infiltration & Ventilation Sensible Loss Multiplier:	46.00 = (1.10 X 0.996 X 42.00 Winter Temp. Difference)
Winter Infiltration Specified:	0.280 AC/hr (197 CFM), Construction: Average
Summer Infiltration Specified:	0.150 AC/hr (105 CFM), Construction: Average

#### ---System 2---

Infiltration & Ventilation Sensible Gain Multiplier:	29.57 = (1.10 X 0.996 X 27.00 Summer Temp. Difference)
Infiltration & Ventilation Latent Gain Multiplier:	23.91 = (0.68 X 0.996 X 35.31 Grains Difference)
Infiltration & Ventilation Sensible Loss Multiplier:	46.00 = (1.10 X 0.996 X 42.00 Winter Temp. Difference)
Winter Infiltration Specified:	0.280 AC/hr (433 CFM), Construction: Average
Summer Infiltration Specified:	0.150 AC/hr (232 CFM), Construction: Average

#### ---System 3---

Infiltration & Ventilation Sensible Gain Multiplier:	29.57 = (1.10 X 0.996 X 27.00 Summer Temp. Difference)
Infiltration & Ventilation Latent Gain Multiplier:	23.91 = (0.68 X 0.996 X 35.31 Grains Difference)
Infiltration & Ventilation Sensible Loss Multiplier:	46.00 = (1.10 X 0.996 X 42.00 Winter Temp. Difference)
Winter Infiltration Specified:	0.280 AC/hr (50 CFM), Construction: Average
Summer Infiltration Specified:	0.150 AC/hr (27 CFM), Construction: Average

### Duct Load Factor Scenarios for System 1



*Miscellaneous Report (cont'd)*

No.	Type	Description	Location	Attic Ceiling	Duct Leakage	Duct Insulation	Surface Area	From [T]MDD
1	Supply		Attic	16B	0.12	8	100	No

Duct Load Factor Scenarios for System 2

No.	Type	Description	Location	Attic Ceiling	Duct Leakage	Duct Insulation	Surface Area	From [T]MDD
1	Supply		Attic	16B	0.12	8	100	No

Duct Load Factor Scenarios for System 3

No.	Type	Description	Location	Attic Ceiling	Duct Leakage	Duct Insulation	Surface Area	From [T]MDD
1	Supply		Attic	16B	0.12	8	100	No



## Load Preview Report

Scope	Rec Ton	ft. <sup>2</sup> /Ton	Area	Sen Gain	Lat Gain	Net Gain	Sen Loss	Sys Htg CFM	Sys Clg CFM	Sys Act CFM
Building	32.07	271	8,700	135,291	96,211	231,502	71,839	937	6,176	6,176
System 1	4.75	492	2,340	28,520	14,261	42,781	25,017	326	1,302	1,302
Supply Duct Latent					144	144				
Zone 1 - Clg.: 93%, Htg.: 100%			1,500	26,616	12,517	39,133	25,017	326	1,215	1,215
1-Entry			1,500	26,616	12,517	39,133	25,017	326	1,215	1,215
Zone 2 - Clg.: 7%, Htg.: 0%			840	1,904	1,600	3,504	0	0	87	87
2-BathRooms			840	1,904	1,600	3,504	0	0	87	87
System 2 Copy of system 1	26.05	198	5,160	96,357	78,153	174,509	34,536	450	4,399	4,399
Supply Duct Latent					202	202				
Zone 1			5,160	96,357	77,951	174,308	34,536	450	4,399	4,399
3-Auditorium			3,960	86,689	74,260	160,949	23,467	306	3,957	3,957
4-Stage			1,200	9,667	3,691	13,358	11,069	144	441	441
System 3 Copy of system 1	1.27	948	1,200	10,414	3,797	14,211	12,286	160	475	475
Supply Duct Latent					152	152				
Zone 1			1,200	10,414	3,645	14,059	12,286	160	475	475
5-BehindStage			1,200	10,414	3,645	14,059	12,286	160	475	475
Sum of room airflows may be greater than system airflow because system has multiple zones.										



## Duct Size Preview

Room or Duct Name	Source	Minimum Velocity	Maximum Velocity	Rough Factor	Design L/100	SP Loss	Duct Velocity	Duct Length	Htg Flow	Clg Flow	Act. Flow	Duct Size	Reg Size
System 1													
<b>Supply Runouts</b>													
Zone 1													
1-Entrv	Built-In	0	750	0.01	0.1		378.9		326	1,215	1,215	12--7	
Zone 2													
2-BathRooms	Built-In	0	750	0.01	0.1		442.6		0	87	87	1--6	
<b>Other Ducts in System 1</b>													
Supply Main Trunk	Built-In	0	900	0.003	0.1		868		326	1,302	1,302	12x18	
System 2													
<b>Supply Runouts</b>													
Zone 1													
3-Auditorium	Built-In	0	750	0.01	0.1		411.3		306	3,957	3,957	36--7	
4-Stage	Built-In	0	750	0.01	0.1		449.5		144	441	441	5--6	
<b>Other Ducts in System 2</b>													
Supply Main Trunk	Built-In	0	900	0.003	0.1		807.9		450	4,399	4,399	28x28	
System 3													
<b>Supply Runouts</b>													
Zone 1													
5-BehindStage	Built-In	0	750	0.01	0.1		484.3		160	475	475	5--6	
<b>Other Ducts in System 3</b>													
Supply Main Trunk	Built-In	0	900	0.003	0.1		691.5		160	475	475	9x11	

### Summary

System 1	
Heating Flow:	326
Cooling Flow:	1302
System 2	
Heating Flow:	450
Cooling Flow:	4399
System 3	
Heating Flow:	160
Cooling Flow:	475



### Total Building Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
11D: Door-Wood - Solid Core, U-value 0.39	80	1,310	0	1,186	1,186
12C-0sw: Wall-Frame, R-13 insulation in 2 x 4 stud cavity, no board insulation, siding finish, wood studs, U-value 0.091	1120	4,281	0	3,414	3,414
16B-13: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), Vented Attic, No Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-13 insulation, U-value 0.07	3900	11,466	0	16,926	16,926
22A-ph: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, heavy moist soil, U-value 1.358	320	18,251	0	0	0
Subtotals for structure:		35,308	0	21,526	21,526
People:	435		87,000	100,050	187,050
Equipment:			0	0	0
Lighting:	0			0	0
Ductwork:		5,232	498	2,936	3,434
Infiltration: Winter CFM: 680, Summer CFM: 365		31,299	8,713	10,779	19,492
Ventilation: Winter CFM: 0, Summer CFM: 0		0	0	0	0
Total Building Load Totals:		71,839	96,211	135,291	231,502

### Check Figures

Total Building Supply CFM:	6,176	CFM Per Square ft.:	0.710
Square ft. of Room Area:	8,700	Square ft. Per Ton:	271
Volume (ft <sup>3</sup> ):	145,800		

### Building Loads

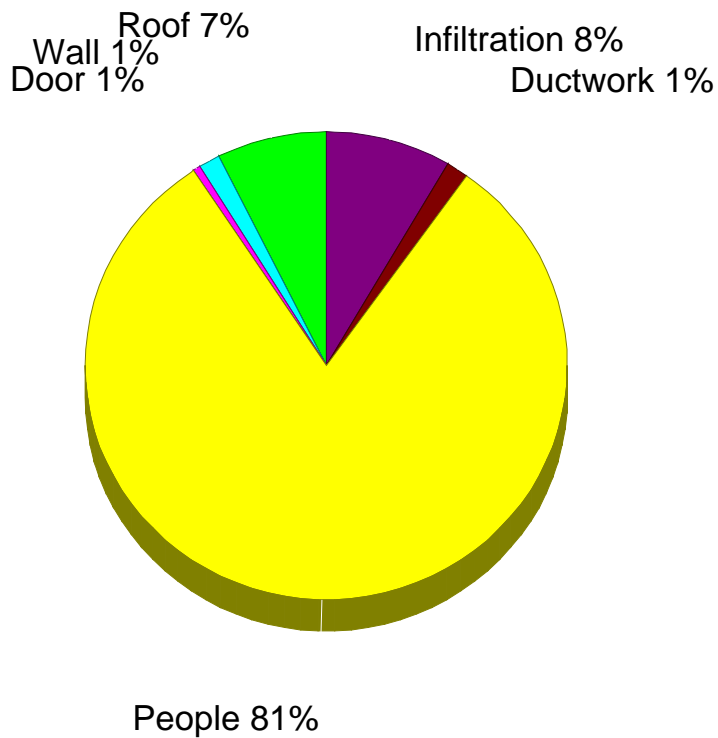
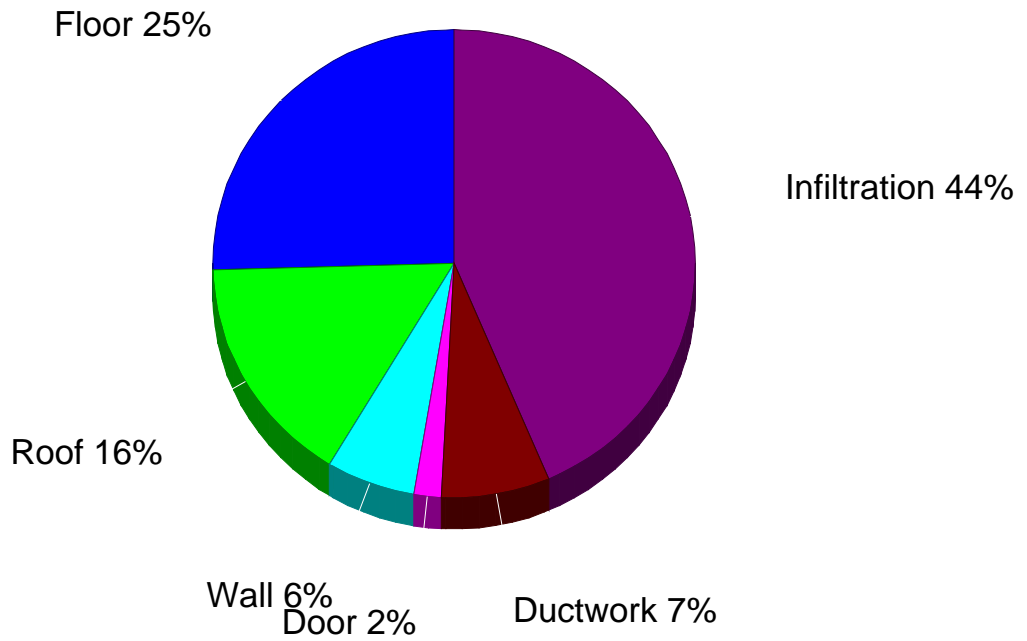
Total Heating Required Including Ventilation Air:	71,839 Btuh	71.839 MBH
Total Sensible Gain:	135,291 Btuh	58 %
Total Latent Gain:	96,211 Btuh	42 %
Total Cooling Required Including Ventilation Air:	231,502 Btuh	32.07 Tons (Based On 75% Sensible Capacity) (and Elev. Derating).

### Notes

Rhvac is an ACCA approved Manual J, D and S computer program.  
 Calculations are performed per ACCA Manual J 8th Edition, Version 2.50, and ACCA Manual D.  
 All computed results are estimates as building use and weather may vary.  
 Be sure to select a unit that meets both sensible and latent loads according to the manufacturer's performance data at your design conditions.



**Building Pie Chart**





**Detailed Room Loads - Room 1 - Entry (Peak Fenestration Gain Procedure)**

**General**

Room is in zone 1, which peaks at 7 pm

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	1
Room Width:	25.0 ft.	Zone Number:	1
Area:	1,500.0 sq.ft.	Supply Air:	1,215 CFM
Ceiling Height:	18.0 ft.	Supply Air Changes:	2.7 AC/hr
Volume:	27,000 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	12	Actual Winter Vent.:	0 CFM
Runout Air:	101 CFM	Percent of Supply.:	0 %
Runout Duct Size:	7 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	379 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	379 ft./min.	Actual Winter Infil.:	197 CFM
Actual Loss:	0.075 in.wg./100 ft.	Actual Summer Infil.:	105 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
E -Wall-12C-0sw 60 X 20	1120	0.091	3.8	4,281	3.0	0	3,414
E -Door-11D 8 X 10	80	0.390	16.4	1,310	14.8	0	1,186
UP-Ceil-16B-13 60 X 25	1500	0.070	2.9	4,410	4.3	0	6,510
Floor-22A-ph 75 ft..Per.	75	1.358	57.0	4,278	0.0	0	0
Subtotals for Structure:				14,279		0	11,110
Infil.: Win.: 196.6, Sum.: 105.3	1,200		7.535	9,042	2.595	2,517	3,114
Ductwork:				1,696			892
People: 200 lat/per, 230 sen/per:	50					10,000	11,500
Room Totals:				25,017		12,517	26,616



**Detailed Room Loads - Room 2 - BathRooms (Peak Fenestration Gain Procedure)**

**General**

Room is in zone 2, which peaks at 7 pm

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	1
Room Width:	14.0 ft.	Zone Number:	2
Area:	840.0 sq.ft.	Supply Air:	87 CFM
Ceiling Height:	18.0 ft.	Supply Air Changes:	0.3 AC/hr
Volume:	15,120 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	1	Actual Winter Vent.:	0 CFM
Runout Air:	87 CFM	Percent of Supply.:	0 %
Runout Duct Size:	6 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	443 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	443 ft./min.	Actual Winter Infil.:	0 CFM
Actual Loss:	0.126 in.wg./100 ft.	Actual Summer Infil.:	0 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
Subtotals for Structure:				0		0	0
Infil.: Win.: 0.0, Sum.: 0.0	0		0	0	0	0	0
Ductwork:				0			64
People: 200 lat/per, 230 sen/per:	8					1,600	1,840
Room Totals:				0		1,600	1,904



**Detailed Room Loads - Room 3 - Auditorium (Average Load Procedure)**

**General**

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	2
Room Width:	66.0 ft.	Zone Number:	1
Area:	3,960.0 sq.ft.	Supply Air:	3,957 CFM
Ceiling Height:	18.0 ft.	Supply Air Changes:	3.3 AC/hr
Volume:	71,280 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	36	Actual Winter Vent.:	0 CFM
Runout Air:	110 CFM	Percent of Supply.:	0 %
Runout Duct Size:	7 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	411 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	411 ft./min.	Actual Winter Infil.:	333 CFM
Actual Loss:	0.088 in.wg./100 ft.	Actual Summer Infil.:	178 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
Floor-22A-ph 120 ft..Per.	120	1.358	57.0	6,844	0.0	0	0
Subtotals for Structure:				6,844		0	0
Infil.: Win.: 332.6, Sum.: 178.2	0		0	15,302	0	4,260	5,270
Ductwork:				1,321			919
People: 200 lat/per, 230 sen/per:	350					70,000	80,500
Room Totals:				23,467		74,260	86,689



**Detailed Room Loads - Room 4 - Stage (Average Load Procedure)**

**General**

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	2
Room Width:	20.0 ft.	Zone Number:	1
Area:	1,200.0 sq.ft.	Supply Air:	441 CFM
Ceiling Height:	18.0 ft.	Supply Air Changes:	1.2 AC/hr
Volume:	21,600 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	5	Actual Winter Vent.:	0 CFM
Runout Air:	88 CFM	Percent of Supply.:	0 %
Runout Duct Size:	6 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	450 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	450 ft./min.	Actual Winter Infil.:	101 CFM
Actual Loss:	0.130 in.wg./100 ft.	Actual Summer Infil.:	54 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
UP-Ceil-16B-13 60 X 20	1200	0.070	2.9	3,528	4.3	0	5,208
Floor-22A-ph 40 ft..Per.	40	1.358	57.0	2,281	0.0	0	0
Subtotals for Structure:				5,809		0	5,208
Infil.: Win.: 100.8, Sum.: 54.0	0		0	4,637	0	1,291	1,597
Ductwork:				623			102
People: 200 lat/per, 230 sen/per:	12					2,400	2,760
Room Totals:				11,069		3,691	9,667



**Detailed Room Loads - Room 5 - BehindStage (Average Load Procedure)**

**General**

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	3
Room Width:	20.0 ft.	Zone Number:	1
Area:	1,200.0 sq.ft.	Supply Air:	475 CFM
Ceiling Height:	9.0 ft.	Supply Air Changes:	2.6 AC/hr
Volume:	10,800 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	5	Actual Winter Vent.:	0 CFM
Runout Air:	95 CFM	Percent of Supply.:	0 %
Runout Duct Size:	6 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	484 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	484 ft./min.	Actual Winter Infil.:	50 CFM
Actual Loss:	0.150 in.wg./100 ft.	Actual Summer Infil.:	27 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
UP-Ceil-16B-13 60 X 20	1200	0.070	2.9	3,528	4.3	0	5,208
Floor-22A-ph 85 ft..Per.	85	1.358	57.0	4,848	0.0	0	0
Subtotals for Structure:				8,376		0	5,208
Infil.: Win.: 50.4, Sum.: 27.0	0		0	2,318	0	645	798
Ductwork:				1,592			958
People: 200 lat/per, 230 sen/per:	15					3,000	3,450
Room Totals:				12,286		3,645	10,414



## System 1 Room Load Summary

Room No	Room Name	Area SF	Htg Sens Btuh	Min Htg CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Min Clg CFM	Act Sys CFM
---Zone 1---										
1	Entry	1,500	25,017	326	12-7	379	26,616	12,517	1,215	1,215
Zone 1 subtotal		1,500	25,017	326			26,616	12,517	1,215	1,215
---Zone 2---										
2	BathRooms	840	0	0	1-6	443	1,904	1,600	87	87
Zone 2 subtotal		840	0	0			1,904	1,600	87	87
Duct Latent								144		
System 1 total		2,340	25,017	326			28,520	14,261	1,302	1,302

System 1 Main Trunk Size: 12x18 in.  
 Velocity: 868 ft./min  
 Loss per 100 ft.: 0.105 in.wg

Note: Since the system is multizone, the Peak Fenestration Gain Procedure was used to determine glass sensible gains at the room and zone levels, so the sums of the zone sensible gains and airflows for cooling shown above are not intended to equal the totals at the system level. Room and zone sensible gains and cooling CFM values are for the hour in which the glass sensible gain for the zone is at its peak. Sensible gains at the system level are based on the "Average Load Procedure + Excursion" method.

### Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Recommended:	4.75	75% / 25%	42,784	14,261	57,045

### Equipment Data

	Heating System	Cooling System
Type:	Natural Gas Furnace	Standard Air Conditioner
Model:		
Indoor Model:		
Brand:		
Efficiency:	0 AFUE	0 SEER
Sound:	0	0
Capacity:	0 Btuh	0 Btuh
Sensible Capacity:	n/a	0 Btuh
Latent Capacity:	n/a	0 Btuh



## System 2 Room Load Summary

Room No	Room Name	Area SF	Htg Sens Btuh	Min Htg CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Min Clg CFM	Act Sys CFM
---Zone 1---										
3	Auditorium	3,960	23,467	306	36-7	411	86,689	74,260	3,957	3,957
4	Stage	1,200	11,069	144	5-6	450	9,667	3,691	441	441
Duct Latent								202		
System 2 total		5,160	34,536	450			96,357	78,153	4,399	4,399

System 2 Main Trunk Size: 28x28 in.  
 Velocity: 808 ft./min  
 Loss per 100 ft.: 0.039 in.wg

## Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Recommended:	26.05	75% / 25%	234,458	78,153	312,611

## Equipment Data

	Heating System	Cooling System
Type:	Natural Gas Furnace	Standard Air Conditioner
Model:		
Indoor Model:		
Brand:		
Efficiency:	0 AFUE	0 SEER
Sound:	0	0
Capacity:	0 Btuh	0 Btuh
Sensible Capacity:	n/a	0 Btuh
Latent Capacity:	n/a	0 Btuh



### System 3 Room Load Summary

Room No	Room Name	Area SF	Htg Sens Btuh	Min Htg CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Min Clg CFM	Act Sys CFM
---Zone 1---										
5	BehindStage	1,200	12,286	160	5-6	484	10,414	3,645	475	475
	Duct Latent							152		
	System 3 total	1,200	12,286	160			10,414	3,797	475	475

System 3 Main Trunk Size: 9x11 in.  
 Velocity: 691 ft./min  
 Loss per 100 ft.: 0.109 in.wg

### Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Recommended:	1.27	75% / 25%	11,392	3,797	15,189

### Equipment Data

	Heating System	Cooling System
Type:	Natural Gas Furnace	Standard Air Conditioner
Model:		
Indoor Model:		
Brand:		
Efficiency:	0 AFUE	0 SEER
Sound:	0	0
Capacity:	0 Btuh	0 Btuh
Sensible Capacity:	n/a	0 Btuh
Latent Capacity:	n/a	0 Btuh

*True Life Church  
HVAC Load Calculations*

for



**RHVAC** RESIDENTIAL  
HVAC LOADS

Prepared By:

Wednesday, November 8, 2023



## Project Report

### General Project Information

Project Title: True Life Church  
 Designed By: Richard Carter  
 Project Date: Wednesday, November 8, 2023

### Design Data

Reference City: Bogalusa, Louisiana  
 Building Orientation: Front door faces East  
 Daily Temperature Range: Medium  
 Latitude: 30 Degrees  
 Elevation: 119 ft.  
 Altitude Factor: 0.996

	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	28	26.14	n/a	n/a	70	n/a
Summer:	102	77	33%	50%	75	35

### Check Figures

Total Building Supply CFM:	6,176	CFM Per Square ft.:	0.710
Square ft. of Room Area:	8,700	Square ft. Per Ton:	271
Volume (ft <sup>3</sup> ):	145,800		

### Building Loads

Total Heating Required Including Ventilation Air:	71,839 Btuh	71.839 MBH
Total Sensible Gain:	135,291 Btuh	58 %
Total Latent Gain:	96,211 Btuh	42 %
Total Cooling Required Including Ventilation Air:	231,502 Btuh	32.07 Tons (Based On 75% Sensible Capacity) (and Elev. Derating).

### Notes

Rhvac is an ACCA approved Manual J, D and S computer program.  
 Calculations are performed per ACCA Manual J 8th Edition, Version 2.50, and ACCA Manual D.  
 All computed results are estimates as building use and weather may vary.  
 Be sure to select a unit that meets both sensible and latent loads according to the manufacturer's performance data at your design conditions.



## Miscellaneous Report

System 1 Input Data	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	28	26.14	80%	n/a	70	n/a
Summer:	102	77	33%	50%	75	35.31

System 2 Copy of system 1 Input Data	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	28	26.14	80%	n/a	70	n/a
Summer:	102	77	33%	50%	75	35.31

System 3 Copy of system 1 Input Data	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	28	26.14	80%	n/a	70	n/a
Summer:	102	77	33%	50%	75	35.31

### Duct Sizing Inputs

	Main Trunk	Runouts
Calculate:	Yes	Yes
Use Schedule:	Yes	Yes
Roughness Factor:	0.00300	0.01000
Pressure Drop:	0.1000 in.wg./100 ft.	0.1000 in.wg./100 ft.
Minimum Velocity:	0 ft./min	0 ft./min
Maximum Velocity:	900 ft./min	750 ft./min
Minimum Height:	0 in.	0 in.
Maximum Height:	0 in.	0 in.

### Outside Air Data

	Winter	Summer
Infiltration Specified:	0.280 AC/hr 680 CFM	0.150 AC/hr 365 CFM
Infiltration Actual:	0.280 AC/hr	0.150 AC/hr
Above Grade Volume:	X 145,800 Cu.ft. 40,824 Cu.ft./hr	X 145,800 Cu.ft. 21,870 Cu.ft./hr
	X 0.0167	X 0.0167
Total Building Infiltration:	680 CFM	365 CFM
Total Building Ventilation:	0 CFM	0 CFM

#### ---System 1---

Infiltration & Ventilation Sensible Gain Multiplier:	29.57 = (1.10 X 0.996 X 27.00 Summer Temp. Difference)
Infiltration & Ventilation Latent Gain Multiplier:	23.91 = (0.68 X 0.996 X 35.31 Grains Difference)
Infiltration & Ventilation Sensible Loss Multiplier:	46.00 = (1.10 X 0.996 X 42.00 Winter Temp. Difference)
Winter Infiltration Specified:	0.280 AC/hr (197 CFM), Construction: Average
Summer Infiltration Specified:	0.150 AC/hr (105 CFM), Construction: Average

#### ---System 2---

Infiltration & Ventilation Sensible Gain Multiplier:	29.57 = (1.10 X 0.996 X 27.00 Summer Temp. Difference)
Infiltration & Ventilation Latent Gain Multiplier:	23.91 = (0.68 X 0.996 X 35.31 Grains Difference)
Infiltration & Ventilation Sensible Loss Multiplier:	46.00 = (1.10 X 0.996 X 42.00 Winter Temp. Difference)
Winter Infiltration Specified:	0.280 AC/hr (433 CFM), Construction: Average
Summer Infiltration Specified:	0.150 AC/hr (232 CFM), Construction: Average

#### ---System 3---

Infiltration & Ventilation Sensible Gain Multiplier:	29.57 = (1.10 X 0.996 X 27.00 Summer Temp. Difference)
Infiltration & Ventilation Latent Gain Multiplier:	23.91 = (0.68 X 0.996 X 35.31 Grains Difference)
Infiltration & Ventilation Sensible Loss Multiplier:	46.00 = (1.10 X 0.996 X 42.00 Winter Temp. Difference)
Winter Infiltration Specified:	0.280 AC/hr (50 CFM), Construction: Average
Summer Infiltration Specified:	0.150 AC/hr (27 CFM), Construction: Average

### Duct Load Factor Scenarios for System 1



*Miscellaneous Report (cont'd)*

No.	Type	Description	Location	Attic Ceiling	Duct Leakage	Duct Insulation	Surface Area	From [T]MDD
1	Supply		Attic	16B	0.12	8	100	No

Duct Load Factor Scenarios for System 2

No.	Type	Description	Location	Attic Ceiling	Duct Leakage	Duct Insulation	Surface Area	From [T]MDD
1	Supply		Attic	16B	0.12	8	100	No

Duct Load Factor Scenarios for System 3

No.	Type	Description	Location	Attic Ceiling	Duct Leakage	Duct Insulation	Surface Area	From [T]MDD
1	Supply		Attic	16B	0.12	8	100	No



## Load Preview Report

Scope	Rec Ton	ft. <sup>2</sup> /Ton	Area	Sen Gain	Lat Gain	Net Gain	Sen Loss	Sys Htg CFM	Sys Clg CFM	Sys Act CFM
Building	32.07	271	8,700	135,291	96,211	231,502	71,839	937	6,176	6,176
System 1	4.75	492	2,340	28,520	14,261	42,781	25,017	326	1,302	1,302
Supply Duct Latent					144	144				
Zone 1 - Clg.: 93%, Htg.: 100%			1,500	26,616	12,517	39,133	25,017	326	1,215	1,215
1-Entry			1,500	26,616	12,517	39,133	25,017	326	1,215	1,215
Zone 2 - Clg.: 7%, Htg.: 0%			840	1,904	1,600	3,504	0	0	87	87
2-BathRooms			840	1,904	1,600	3,504	0	0	87	87
System 2 Copy of system 1	26.05	198	5,160	96,357	78,153	174,509	34,536	450	4,399	4,399
Supply Duct Latent					202	202				
Zone 1			5,160	96,357	77,951	174,308	34,536	450	4,399	4,399
3-Auditorium			3,960	86,689	74,260	160,949	23,467	306	3,957	3,957
4-Stage			1,200	9,667	3,691	13,358	11,069	144	441	441
System 3 Copy of system 1	1.27	948	1,200	10,414	3,797	14,211	12,286	160	475	475
Supply Duct Latent					152	152				
Zone 1			1,200	10,414	3,645	14,059	12,286	160	475	475
5-BehindStage			1,200	10,414	3,645	14,059	12,286	160	475	475
Sum of room airflows may be greater than system airflow because system has multiple zones.										



## Duct Size Preview

Room or Duct Name	Source	Minimum Velocity	Maximum Velocity	Rough Factor	Design L/100	SP Loss	Duct Velocity	Duct Length	Htg Flow	Clg Flow	Act. Flow	Duct Size	Reg Size
System 1													
<b>Supply Runouts</b>													
Zone 1													
1-Entrv	Built-In	0	750	0.01	0.1		378.9		326	1,215	1,215	12--7	
Zone 2													
2-BathRooms	Built-In	0	750	0.01	0.1		442.6		0	87	87	1--6	
<b>Other Ducts in System 1</b>													
Supply Main Trunk	Built-In	0	900	0.003	0.1		868		326	1,302	1,302	12x18	
System 2													
<b>Supply Runouts</b>													
Zone 1													
3-Auditorium	Built-In	0	750	0.01	0.1		411.3		306	3,957	3,957	36--7	
4-Stage	Built-In	0	750	0.01	0.1		449.5		144	441	441	5--6	
<b>Other Ducts in System 2</b>													
Supply Main Trunk	Built-In	0	900	0.003	0.1		807.9		450	4,399	4,399	28x28	
System 3													
<b>Supply Runouts</b>													
Zone 1													
5-BehindStage	Built-In	0	750	0.01	0.1		484.3		160	475	475	5--6	
<b>Other Ducts in System 3</b>													
Supply Main Trunk	Built-In	0	900	0.003	0.1		691.5		160	475	475	9x11	

### Summary

System 1	
Heating Flow:	326
Cooling Flow:	1302
System 2	
Heating Flow:	450
Cooling Flow:	4399
System 3	
Heating Flow:	160
Cooling Flow:	475



### Total Building Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
11D: Door-Wood - Solid Core, U-value 0.39	80	1,310	0	1,186	1,186
12C-0sw: Wall-Frame, R-13 insulation in 2 x 4 stud cavity, no board insulation, siding finish, wood studs, U-value 0.091	1120	4,281	0	3,414	3,414
16B-13: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), Vented Attic, No Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-13 insulation, U-value 0.07	3900	11,466	0	16,926	16,926
22A-ph: Floor-Slab on grade, No edge insulation, no insulation below floor, any floor cover, passive, heavy moist soil, U-value 1.358	320	18,251	0	0	0
Subtotals for structure:		35,308	0	21,526	21,526
People:	435		87,000	100,050	187,050
Equipment:			0	0	0
Lighting:	0			0	0
Ductwork:		5,232	498	2,936	3,434
Infiltration: Winter CFM: 680, Summer CFM: 365		31,299	8,713	10,779	19,492
Ventilation: Winter CFM: 0, Summer CFM: 0		0	0	0	0
Total Building Load Totals:		71,839	96,211	135,291	231,502

### Check Figures

Total Building Supply CFM:	6,176	CFM Per Square ft.:	0.710
Square ft. of Room Area:	8,700	Square ft. Per Ton:	271
Volume (ft <sup>3</sup> ):	145,800		

### Building Loads

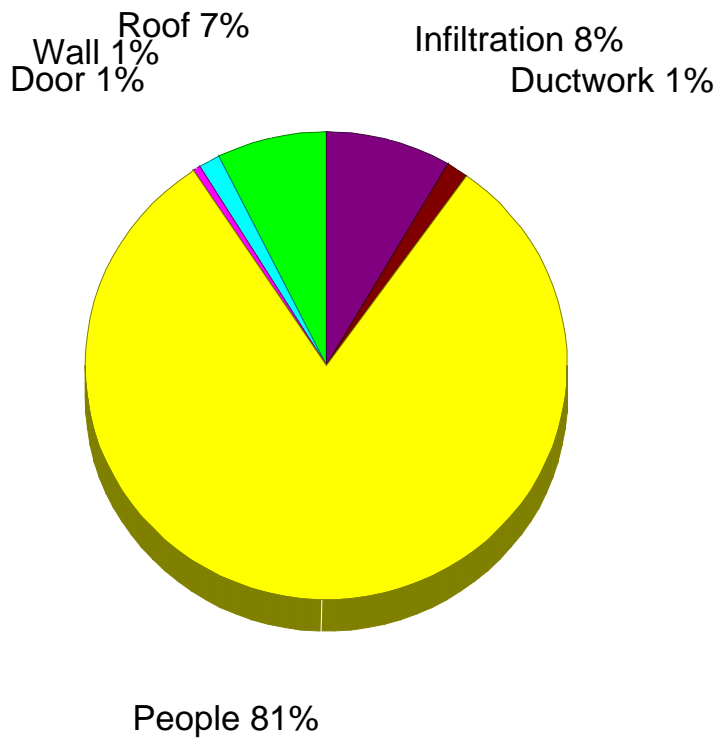
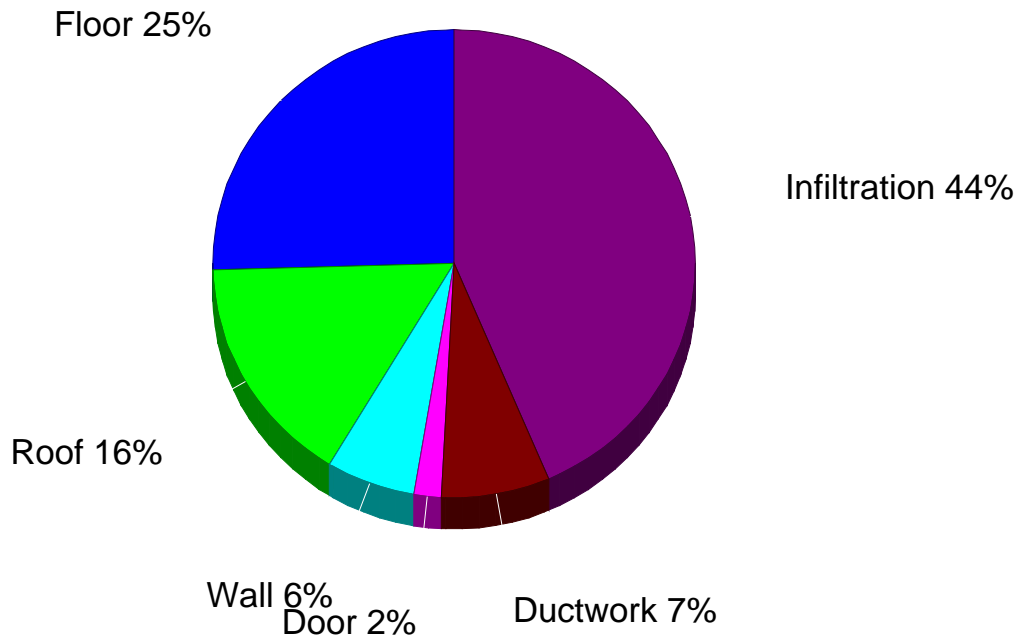
Total Heating Required Including Ventilation Air:	71,839 Btuh	71.839 MBH
Total Sensible Gain:	135,291 Btuh	58 %
Total Latent Gain:	96,211 Btuh	42 %
Total Cooling Required Including Ventilation Air:	231,502 Btuh	32.07 Tons (Based On 75% Sensible Capacity) (and Elev. Derating).

### Notes

Rhvac is an ACCA approved Manual J, D and S computer program.  
 Calculations are performed per ACCA Manual J 8th Edition, Version 2.50, and ACCA Manual D.  
 All computed results are estimates as building use and weather may vary.  
 Be sure to select a unit that meets both sensible and latent loads according to the manufacturer's performance data at your design conditions.



**Building Pie Chart**





**Detailed Room Loads - Room 1 - Entry (Peak Fenestration Gain Procedure)**

**General**

Room is in zone 1, which peaks at 7 pm

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	1
Room Width:	25.0 ft.	Zone Number:	1
Area:	1,500.0 sq.ft.	Supply Air:	1,215 CFM
Ceiling Height:	18.0 ft.	Supply Air Changes:	2.7 AC/hr
Volume:	27,000 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	12	Actual Winter Vent.:	0 CFM
Runout Air:	101 CFM	Percent of Supply.:	0 %
Runout Duct Size:	7 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	379 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	379 ft./min.	Actual Winter Infil.:	197 CFM
Actual Loss:	0.075 in.wg./100 ft.	Actual Summer Infil.:	105 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
E -Wall-12C-0sw 60 X 20	1120	0.091	3.8	4,281	3.0	0	3,414
E -Door-11D 8 X 10	80	0.390	16.4	1,310	14.8	0	1,186
UP-Ceil-16B-13 60 X 25	1500	0.070	2.9	4,410	4.3	0	6,510
Floor-22A-ph 75 ft..Per.	75	1.358	57.0	4,278	0.0	0	0
Subtotals for Structure:				14,279		0	11,110
Infil.: Win.: 196.6, Sum.: 105.3	1,200		7.535	9,042	2.595	2,517	3,114
Ductwork:				1,696			892
People: 200 lat/per, 230 sen/per:	50					10,000	11,500
Room Totals:				25,017		12,517	26,616



**Detailed Room Loads - Room 2 - BathRooms (Peak Fenestration Gain Procedure)**

**General**

Room is in zone 2, which peaks at 7 pm

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	1
Room Width:	14.0 ft.	Zone Number:	2
Area:	840.0 sq.ft.	Supply Air:	87 CFM
Ceiling Height:	18.0 ft.	Supply Air Changes:	0.3 AC/hr
Volume:	15,120 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	1	Actual Winter Vent.:	0 CFM
Runout Air:	87 CFM	Percent of Supply.:	0 %
Runout Duct Size:	6 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	443 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	443 ft./min.	Actual Winter Infil.:	0 CFM
Actual Loss:	0.126 in.wg./100 ft.	Actual Summer Infil.:	0 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
Subtotals for Structure:				0		0	0
Infil.: Win.: 0.0, Sum.: 0.0	0		0	0	0	0	0
Ductwork:				0			64
People: 200 lat/per, 230 sen/per:	8					1,600	1,840
Room Totals:				0		1,600	1,904



**Detailed Room Loads - Room 3 - Auditorium (Average Load Procedure)**

**General**

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	2
Room Width:	66.0 ft.	Zone Number:	1
Area:	3,960.0 sq.ft.	Supply Air:	3,957 CFM
Ceiling Height:	18.0 ft.	Supply Air Changes:	3.3 AC/hr
Volume:	71,280 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	36	Actual Winter Vent.:	0 CFM
Runout Air:	110 CFM	Percent of Supply.:	0 %
Runout Duct Size:	7 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	411 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	411 ft./min.	Actual Winter Infil.:	333 CFM
Actual Loss:	0.088 in.wg./100 ft.	Actual Summer Infil.:	178 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
Floor-22A-ph 120 ft..Per.	120	1.358	57.0	6,844	0.0	0	0
Subtotals for Structure:				6,844		0	0
Infil.: Win.: 332.6, Sum.: 178.2	0		0	15,302	0	4,260	5,270
Ductwork:				1,321			919
People: 200 lat/per, 230 sen/per:	350					70,000	80,500
Room Totals:				23,467		74,260	86,689



**Detailed Room Loads - Room 4 - Stage (Average Load Procedure)**

**General**

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	2
Room Width:	20.0 ft.	Zone Number:	1
Area:	1,200.0 sq.ft.	Supply Air:	441 CFM
Ceiling Height:	18.0 ft.	Supply Air Changes:	1.2 AC/hr
Volume:	21,600 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	5	Actual Winter Vent.:	0 CFM
Runout Air:	88 CFM	Percent of Supply.:	0 %
Runout Duct Size:	6 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	450 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	450 ft./min.	Actual Winter Infil.:	101 CFM
Actual Loss:	0.130 in.wg./100 ft.	Actual Summer Infil.:	54 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
UP-Ceil-16B-13 60 X 20	1200	0.070	2.9	3,528	4.3	0	5,208
Floor-22A-ph 40 ft..Per.	40	1.358	57.0	2,281	0.0	0	0
Subtotals for Structure:				5,809		0	5,208
Infil.: Win.: 100.8, Sum.: 54.0	0		0	4,637	0	1,291	1,597
Ductwork:				623			102
People: 200 lat/per, 230 sen/per:	12					2,400	2,760
Room Totals:				11,069		3,691	9,667



**Detailed Room Loads - Room 5 - BehindStage (Average Load Procedure)**

**General**

Calculation Mode:	Htg. & clg.	Occurrences:	1
Room Length:	60.0 ft.	System Number:	3
Room Width:	20.0 ft.	Zone Number:	1
Area:	1,200.0 sq.ft.	Supply Air:	475 CFM
Ceiling Height:	9.0 ft.	Supply Air Changes:	2.6 AC/hr
Volume:	10,800 cu.ft.	Req. Vent. Clg:	0 CFM
Number of Registers:	5	Actual Winter Vent.:	0 CFM
Runout Air:	95 CFM	Percent of Supply.:	0 %
Runout Duct Size:	6 in.	Actual Summer Vent.:	0 CFM
Runout Air Velocity:	484 ft./min.	Percent of Supply:	0 %
Runout Air Velocity:	484 ft./min.	Actual Winter Infil.:	50 CFM
Actual Loss:	0.150 in.wg./100 ft.	Actual Summer Infil.:	27 CFM

Item Description	Area Quantity	-U- Value	Htg HTM	Sen Loss	Clg HTM	Lat Gain	Sen Gain
UP-Ceil-16B-13 60 X 20	1200	0.070	2.9	3,528	4.3	0	5,208
Floor-22A-ph 85 ft..Per.	85	1.358	57.0	4,848	0.0	0	0
Subtotals for Structure:				8,376		0	5,208
Infil.: Win.: 50.4, Sum.: 27.0	0		0	2,318	0	645	798
Ductwork:				1,592			958
People: 200 lat/per, 230 sen/per:	15					3,000	3,450
Room Totals:				12,286		3,645	10,414



### System 1 Room Load Summary

Room No	Room Name	Area SF	Htg Sens Btuh	Min Htg CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Min Clg CFM	Act Sys CFM
---Zone 1---										
1	Entry	1,500	25,017	326	12-7	379	26,616	12,517	1,215	1,215
Zone 1 subtotal		1,500	25,017	326			26,616	12,517	1,215	1,215
---Zone 2---										
2	BathRooms	840	0	0	1-6	443	1,904	1,600	87	87
Zone 2 subtotal		840	0	0			1,904	1,600	87	87
Duct Latent								144		
System 1 total		2,340	25,017	326			28,520	14,261	1,302	1,302

System 1 Main Trunk Size: 12x18 in.  
 Velocity: 868 ft./min  
 Loss per 100 ft.: 0.105 in.wg

Note: Since the system is multizone, the Peak Fenestration Gain Procedure was used to determine glass sensible gains at the room and zone levels, so the sums of the zone sensible gains and airflows for cooling shown above are not intended to equal the totals at the system level. Room and zone sensible gains and cooling CFM values are for the hour in which the glass sensible gain for the zone is at its peak. Sensible gains at the system level are based on the "Average Load Procedure + Excursion" method.

### Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Recommended:	4.75	75% / 25%	42,784	14,261	57,045

### Equipment Data

	Heating System	Cooling System
Type:	Natural Gas Furnace	Standard Air Conditioner
Model:		
Indoor Model:		
Brand:		
Efficiency:	0 AFUE	0 SEER
Sound:	0	0
Capacity:	0 Btuh	0 Btuh
Sensible Capacity:	n/a	0 Btuh
Latent Capacity:	n/a	0 Btuh



## System 2 Room Load Summary

Room No	Room Name	Area SF	Htg Sens Btuh	Min Htg CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Min Clg CFM	Act Sys CFM
---Zone 1---										
3	Auditorium	3,960	23,467	306	36-7	411	86,689	74,260	3,957	3,957
4	Stage	1,200	11,069	144	5-6	450	9,667	3,691	441	441
Duct Latent								202		
System 2 total		5,160	34,536	450			96,357	78,153	4,399	4,399

System 2 Main Trunk Size: 28x28 in.  
 Velocity: 808 ft./min  
 Loss per 100 ft.: 0.039 in.wg

## Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Recommended:	26.05	75% / 25%	234,458	78,153	312,611

## Equipment Data

	Heating System	Cooling System
Type:	Natural Gas Furnace	Standard Air Conditioner
Model:		
Indoor Model:		
Brand:		
Efficiency:	0 AFUE	0 SEER
Sound:	0	0
Capacity:	0 Btuh	0 Btuh
Sensible Capacity:	n/a	0 Btuh
Latent Capacity:	n/a	0 Btuh



### System 3 Room Load Summary

Room No	Room Name	Area SF	Htg Sens Btuh	Min Htg CFM	Run Duct Size	Run Duct Vel	Clg Sens Btuh	Clg Lat Btuh	Min Clg CFM	Act Sys CFM
---Zone 1---										
5	BehindStage	1,200	12,286	160	5-6	484	10,414	3,645	475	475
	Duct Latent							152		
	System 3 total	1,200	12,286	160			10,414	3,797	475	475

System 3 Main Trunk Size: 9x11 in.  
 Velocity: 691 ft./min  
 Loss per 100 ft.: 0.109 in.wg

### Cooling System Summary

	Cooling Tons	Sensible/Latent Split	Sensible Btuh	Latent Btuh	Total Btuh
Recommended:	1.27	75% / 25%	11,392	3,797	15,189

### Equipment Data

	<u>Heating System</u>	<u>Cooling System</u>
Type:	Natural Gas Furnace	Standard Air Conditioner
Model:		
Indoor Model:		
Brand:		
Efficiency:	0 AFUE	0 SEER
Sound:	0	0
Capacity:	0 Btuh	0 Btuh
Sensible Capacity:	n/a	0 Btuh
Latent Capacity:	n/a	0 Btuh