BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP FAIRBANKS ALASKA

05/09/2019

PROJECT DIRECTORY

ARCHITECT

DAVID A. WHITMORE, ARCHITECT
535 THIRD AVENUE SUITE A
FAIRBANKS, ALASKA 99701
PHONE: (907) 452-2339
FAX: (907) 452-2359
E-MAIL:david@whitmorearchitect.com

CIVIL / STRUCTURAL

THOTPRO STRUCTURAL ENGINEERING
2955 PORTILLO PLACE
FAIRBANKS, ALASKA 99709
PHONE: (907) 479-9178
MOBLE (907) 378-7178
E-MAIL: thotpro@gci.com

MECHANICAL

RB RUETER MECHANICAL ENGINEERING
PO. BOX 83585
FAIRBANKS, ALASKA 99708
PHONE: (907) 374-1688
E-MAIL: helena@hbrueter.com

ELECTRICAL

EVAN ROBERTS, P.E.
2790 MONTEVERDE RD
FAIRBANKS, ALASKA 99709
PHONE: (907) 458-8484
CELL: (907) 322-3369
E-MAIL: evan@roberts-kaneko.com

DRAWING INDEX

STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE, ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska 99701
907-452-2339 fax 907-452-2359
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1905
SHEET TITLE
TITLE SHEET
DRAWING INDEX

SHEET T1.0

ABBREVIATIONS

AB	ANCHOR BOLT
ACT	ACOUSTICAL TILE
ADJ	ADJUSTABLE
ALT	ALTERNATE
ALUM	ALUMINUM
ARCH	ARCHITECT(URAL)
ASPH	ASPHALT
BD	BOARD
BIT	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BM	BEAM
BM	BENCH MARK
BOT	BOTTOM
BRG	BEARING
CAB	CABINET
CEM	CEMENT
CI	CAST IRON
CJ	CONTROL JOINT
CL	CENTER LINE
CT	CERAMIC TILE
CLG	CEILING
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONF	CONFERENCE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CONV	CONVECTOR
CORR	CORRIDOR
CU	CUBIC
CUH	CABINET UNIT HEATER
CW	COLD WATER
D.F.	DRINKING FOUNTAIN
DF	DOUGLAS FIR
DET	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DN	DOWN
DR	DOOR
DS	DOWN SPOUT
DWG	DRAWING
ELEC	ELECTRICAL
EL/ELEV	ELEVATION
ENAM	ENAMEL
ENG	ENGINEER(ING)
EO	ELECTRICAL OUTLET
EQ	EQUAL
EQUIP	EQUIPMENT
EXIST	EXISTING
EXP	EXPANSION/ EXPOSED
EXP J	EXPANSION JOINT
EXT	EXTERIOR
FA	FIRE ALARM/ FRESH AIR
FD	FLOOR DRAIN
FDN	FOUNDATION
FEC	FIRE EXTINGUISHER CABINET
FF	FACTORY FINISH
FFL	FINISH FLOOR LINE
FIN	FINISH
FL	FLOOR
FLASH	FLASHING
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FP	FIRE PROOFING
FR	FRAME
FS	FULL SIZE
FTG	FOOTING
FT	FEET/FOOT
FHV	FIRE HOSE VALVE
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GEN	GENERAL
GI	GALVANIZED IRON
GL	GLASS
GWB	GYPSUM WALLBOARD
GYP BD	GYPSUM BOARD
HB	HOSE BIBB
HC	HOLLOW CORE
HCAB	HOSE CABINET
HDR	HEADER
HDWE	HARDWARE
HEX	HEXAGONAL
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING/VENT/ AIR/COND
HW	HOT WATER
ID	INSIDE DIAMETER
IN	INCH
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
L	ANGLE
LIN	LINEAR
LGT	LIGHT/LIGHTING
LL	LIVE LOAD
LVR	LOUVER
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHICAL
MET	METAL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MIR	MIRROR
MULL	MULLION
N	NORTH
NFS	NONFROST SUSCEPTIBLE
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
O	
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFICE
OH	OVERHEAD
OPNG	OPENING
PART	PARTITION
P.L.	PROPERTY LINE/ PLATE
PLAST LAM	PLASTIC LAMINATE
PL GL	PLATE
PLYWD	PLYWOOD
PP	POWER POLE
PROJ	PROJECT
PR	PAIR
PSF	POUNDS PER SQUARE FEET
PSI	POUNDS PER SQUARE INCH
PTD	PAPER TOWEL DISPENSER
R	RADIUS/RISER
RA	RETURN AIR
RAD	RADIUS
RB	RUBBER BASE
RD	ROOF DRAIN
REF	REFERENCE
REFRIG	REFRIGERATOR
REINF	REINFORCE(ING)
REQ	REQUIRED
REV	REVISED
RF	ROOF
RM	ROOM
RO	ROUGH OPENING
SINK	SINK
SC	SOLID CORE
SD	SOAP DISPENSER
SECT	SECTION
SH	SHOWER
SIM	SIMILAR
SMS	SHEET METAL SCREWS
STP	STANDPIPE
SND	SANITARY NAPKIN DISPENSER
SPEC	SPECIFICATION
SNDU	SANITARY NAPKIN DISPOSAL
SS	STAINLESS STEEL
ST	STEEL
STD	STANDARD
STOR	STORAGE
STRUCT	STRUCTURAL
SURV	SURVEY
SUSP	SUSPENDED
SW	SWITCH
TH	TEST HOLE
THOLD	THRESHOLD
TJ	TRUS-JOIST
TPD	TOILET PAPER DISPENSER
TR	TREAD
TYP	TYPICAL
UH	UNIT HEATER
UV	UNIT VENTILATOR
VAC	VACUUM
VCT	VINYL COMPOSITION TILE
VENT	VENTILATION
VEST	VESTIBULE
W/	WITH
WF	WIDE FLANGE
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
W/O	WITHOUT
WPR	WASTE PAPER RECEPTACLE
WP	WATER PROOF
WS	WEATHERSTRIP
WSCT	WAINSCOT
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

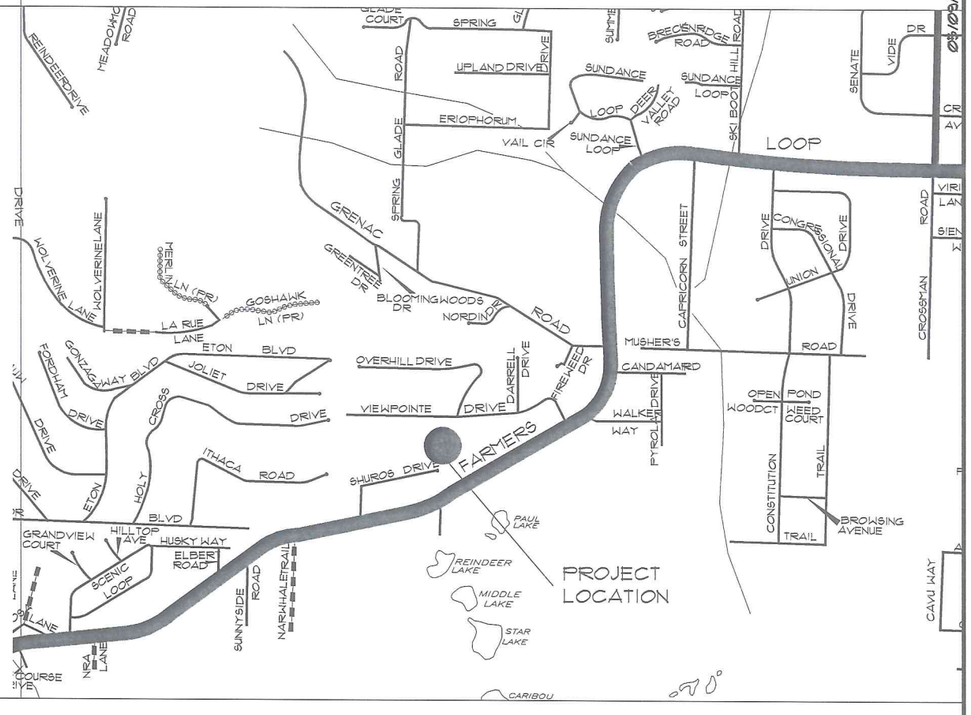
MATERIAL LEGEND

- EARTH
- GRAVEL, ROCK
- SAND, GROUT
- CONCRETE
- CONCRETE BLOCK
- BRICK
- CERAMIC TILE
- METAL
- DIMENSION LUMBER
- BLOCKING, SHIM
- FINISH WOOD
- PLYWOOD
- CEILING TILE
- BATT, LOOSE INSUL.
- RIGID INSULATION

SYMBOLS LEGEND

- BUILDING SECTION / SHEET NUMBER
- WALL SECTION / SHEET NUMBER
- DETAIL NUMBER / SHEET NUMBER
- (A6.1) INTERIOR ELEVATION SHEET NUMBER
- OFFICE / 106 — ROOM NAME / ROOM NUMBER
- A / A2.1 — WINDOW TYPE / SHEET NUMBER
- (101) DOOR NUMBER
- (A) DOOR TYPE
- VERTICAL ELEVATION POINT
- DIMENSION TO FACE
- DIMENSION TO CENTER
- (#) WALL TYPE

VICINITY MAP



CODE INFORMATION

CODES

2012 INTERNATIONAL BUILDING CODE, MECHANICAL AND FIRE CODE
2012 UNIFORM PLUMBING CODE
NFPA 13 AND NFPA 30 AND ALL APPLICABLE AMENDMENTS
2014 NATIONAL ELECTRIC CODE
CONFORM TO THE REQUIREMENTS SET FORTH IN THE AMERICANS WITH DISABILITIES ACT (ADA).
COMPLY WITH THE CURRENT CODES AT THE TIME OF THE CONSTRUCTION CONTRACT.

SEISMIC ZONE	D
WIND SPEED	90 MPH
SNOW LOAD	50 PSF
TYPE OF CONSTRUCTION	V A
OCCUPANY	A-3
OCCUPANT LOAD	802

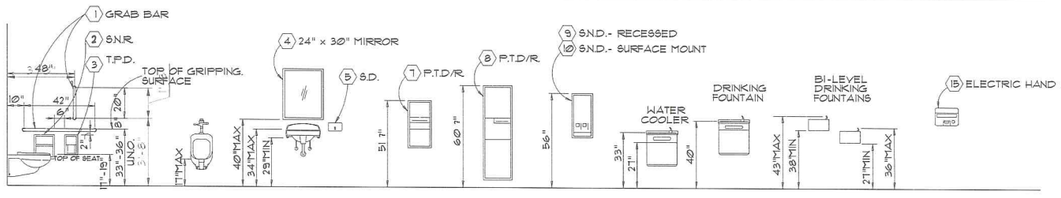
AREA

LOWER LEVEL (EXIST)	7,420 S.F.	
LOWER LEVEL (NEW)		878 S.F.
-		-
MAIN LEVEL (EXIST)	8,202 S.F.	
MAIN LEVEL (NEW)		11,752 S.F.
-		-
UPPER LEVEL (EXIST)	4,214 S.F.	
UPPER LEVEL (NEW)		878 S.F.
-		-
TOTAL NEW		13,508 S.F.

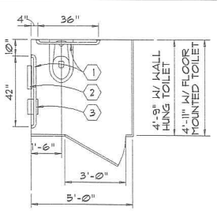
ACCESSORY HEIGHTS

ACCESSORY HEIGHTS

DISABLED

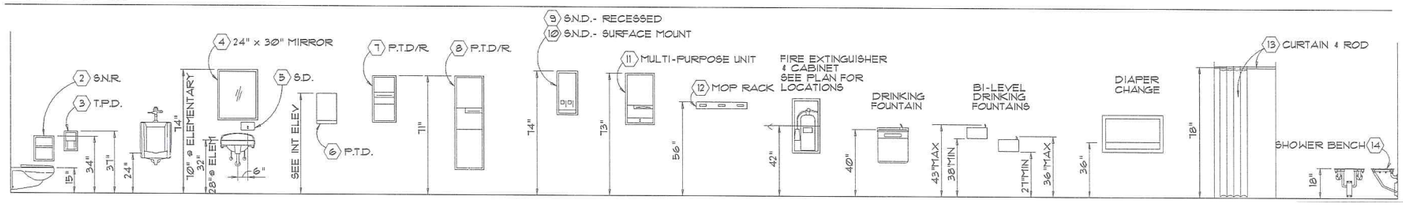


DISABLED STALL (MIN.)



1. THE DIMENSIONS SHOWN ARE FOR MEETING ANSI A117.1 REQUIREMENTS
2. SEE TYPICAL ACCESSORY HEIGHTS FOR OTHER THAN DISABLED HEIGHTS
3. SYMBOL NUMBER OF ACCESSORY IS REFERENCED IN SPECIFICATION FOR TYPE & MANUFACTURER
4. PROVIDE BACKING IN WALLS AS REQUIRED FOR ACCESSORY SUPPORT TYPICAL

TYPICAL



1. THE HEIGHTS SHOWN ARE TYPICAL AND DO NOT NECESSARILY SHOW ALL ACCESSORIES THAT ARE LOCATED ON THE WALLS
2. NUMBER OF ACCESSORY IS REFERENCED IN SPECIFICATION FOR TYPE & MANUFACTURER

STATE OF ALASKA — 49th STATE — DAVID A. WHITMORE — No. A-7664 — REGISTERED PROFESSIONAL ARCHITECT

05/09/2015

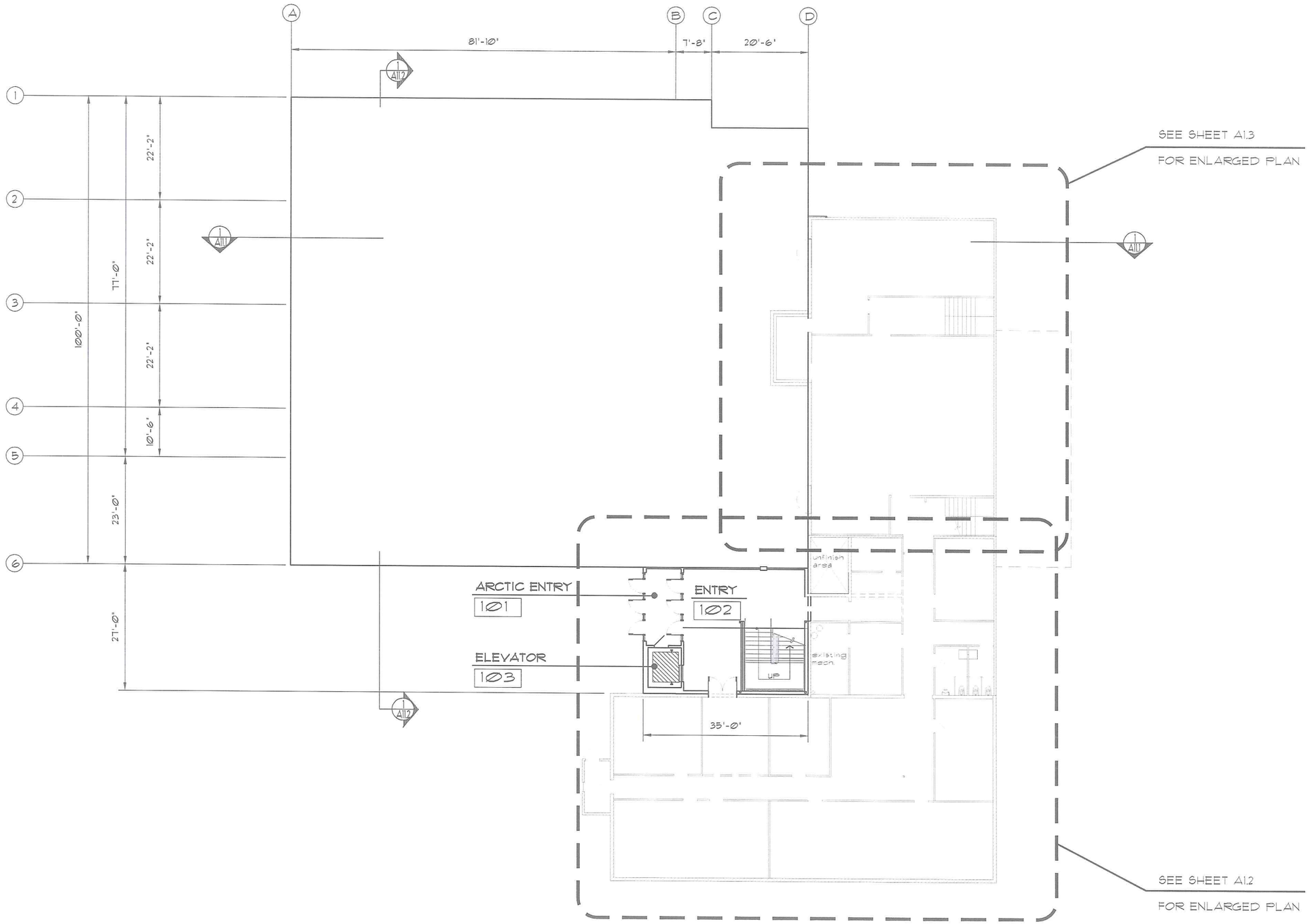
REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
3535 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2559 FAX 907-452-2559
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN	DW
CHECKED	DW
DATE	05/09/2015
JOB NO.	1605
SHEET TITLE	ABBREVIATIONS SYMBOLS LOCATION MAP CODES
SHEET	T2.0



BASEMENT FLOOR PLAN

3/32" = 1'-0" FULL SIZE, 3/64" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2013

STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7664
REGISTERED PROFESSIONAL ARCHITECT

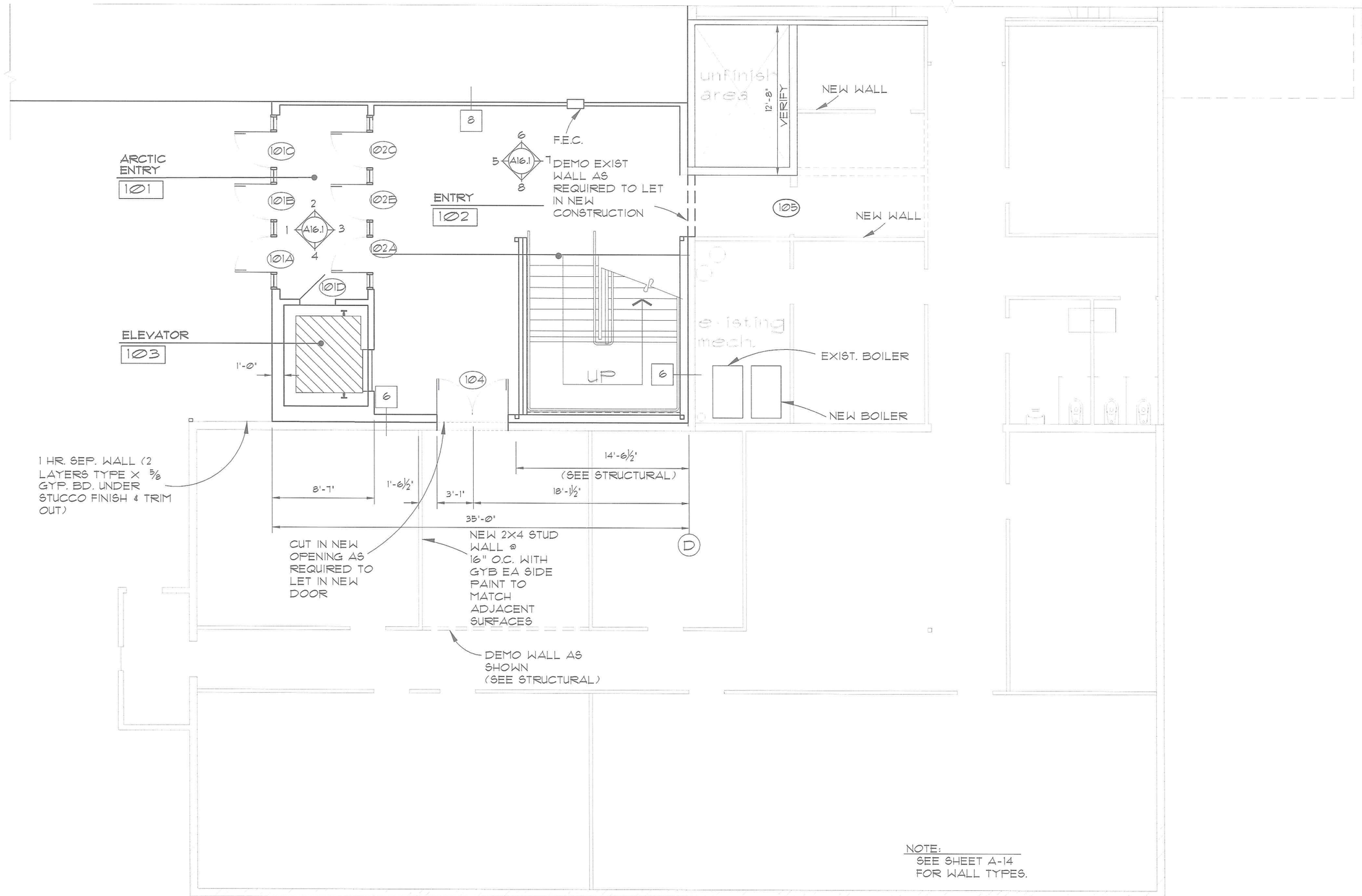
REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2013
JOB NO. 1305
SHEET TITLE BASEMENT FLOOR PLAN
SHEET A1.1



NOTE:
SEE SHEET A-14
FOR WALL TYPES.

ENLARGED BASEMENT FLOOR PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

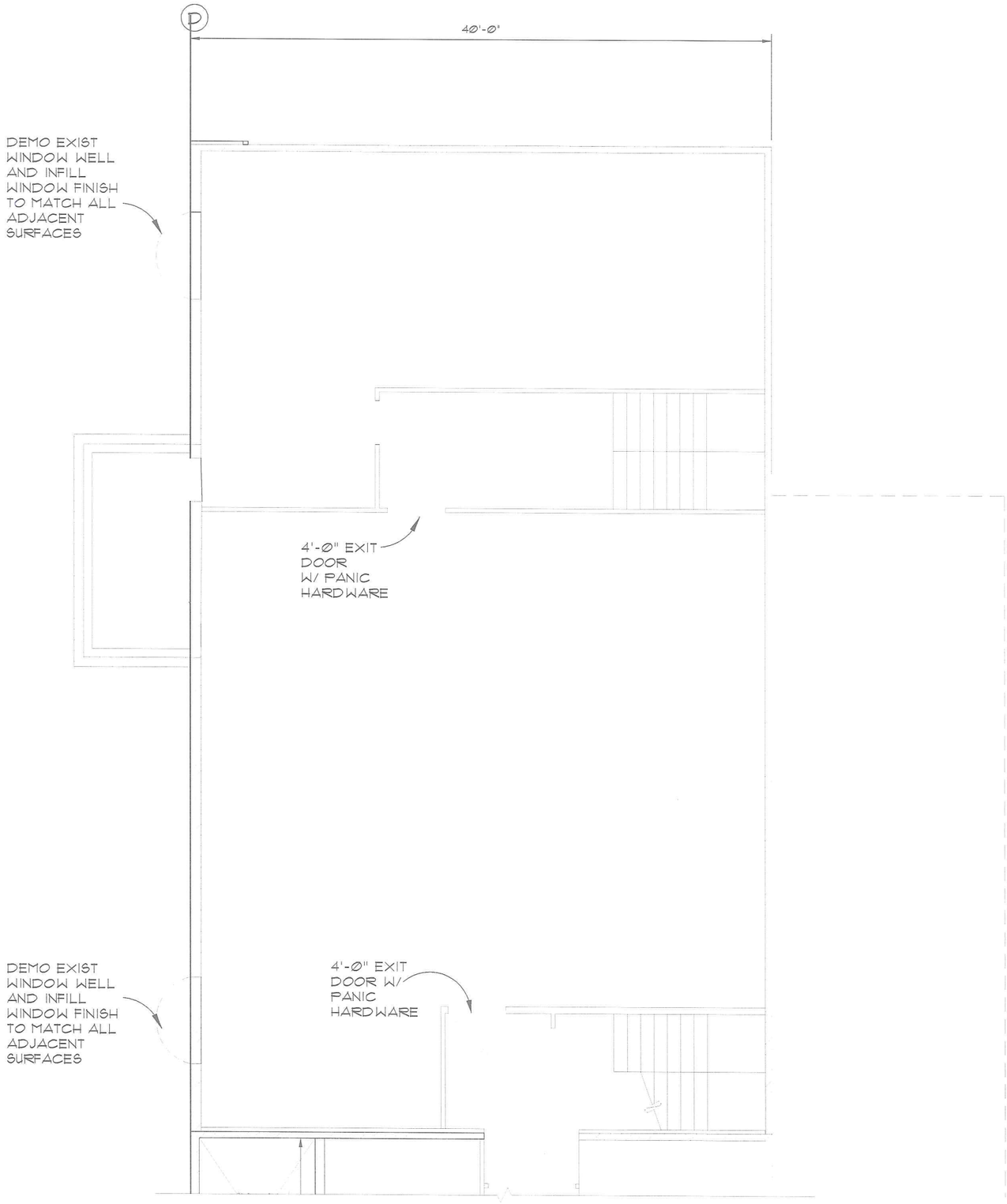
STATE OF ALASKA · 49th · REGISTERED PROFESSIONAL ARCHITECT · DAVID A. WHITMORE · No. A-7654

REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ENLARGED BASEMENT PLAN
SHEET A1.2



ENLARGED BASEMENT FLOOR PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

STATE OF ALASKA 49th DAVID A. WHITMORE No. A-7684 REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

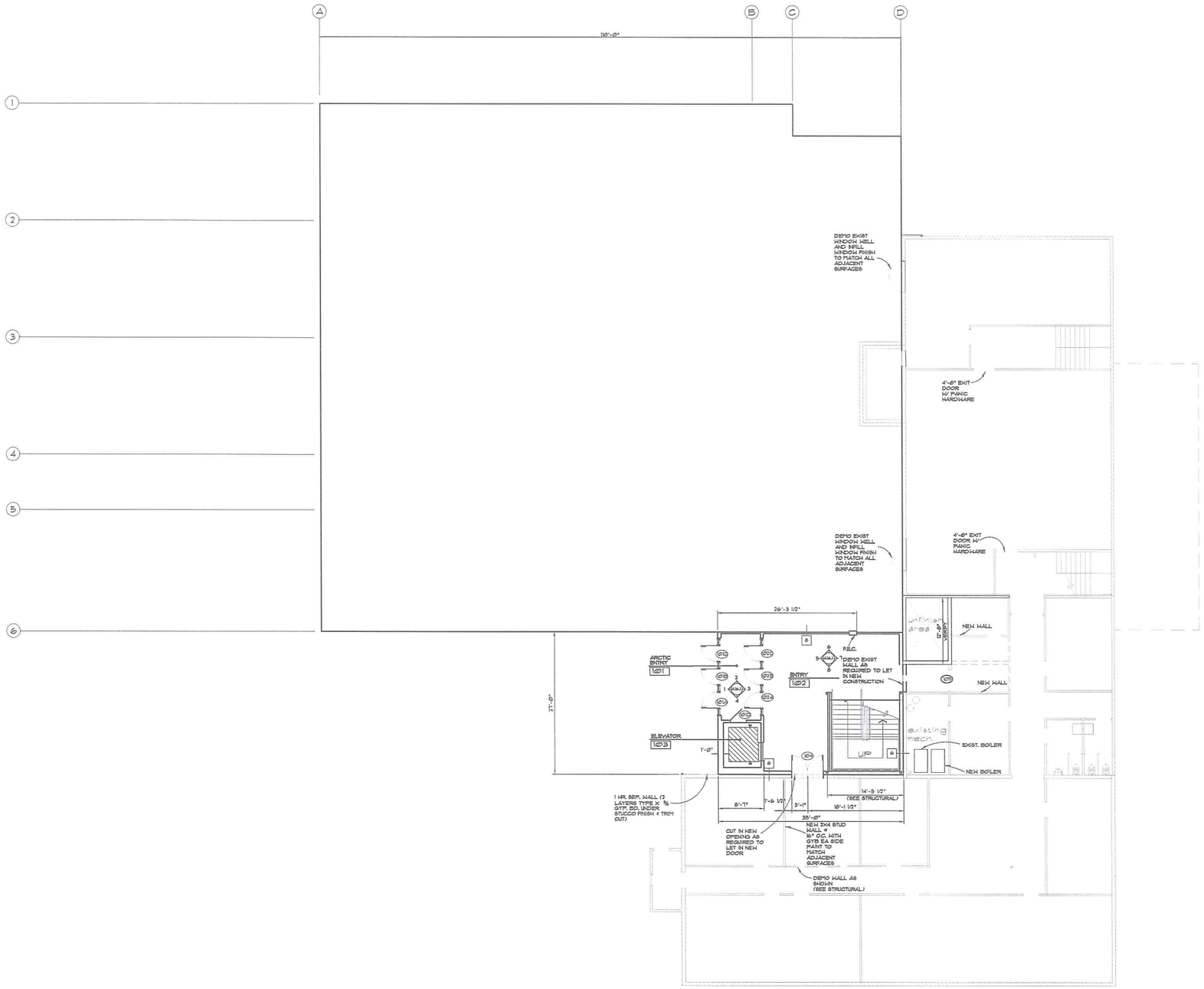
DAVID A. WHITMORE ▫ ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ENLARGED BASEMENT PLAN

SHEET A1.3



NOTE:
SEE SHEET A-14 FOR WALL TYPES.

ENLARGED BASEMENT FLOOR PLAN

3/16" = 1'-0" FULL SIZE, 3/32" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

STATE OF ALASKA
49th
David A. Whitmore
No. A-7664
REGISTERED PROFESSIONAL ARCHITECT

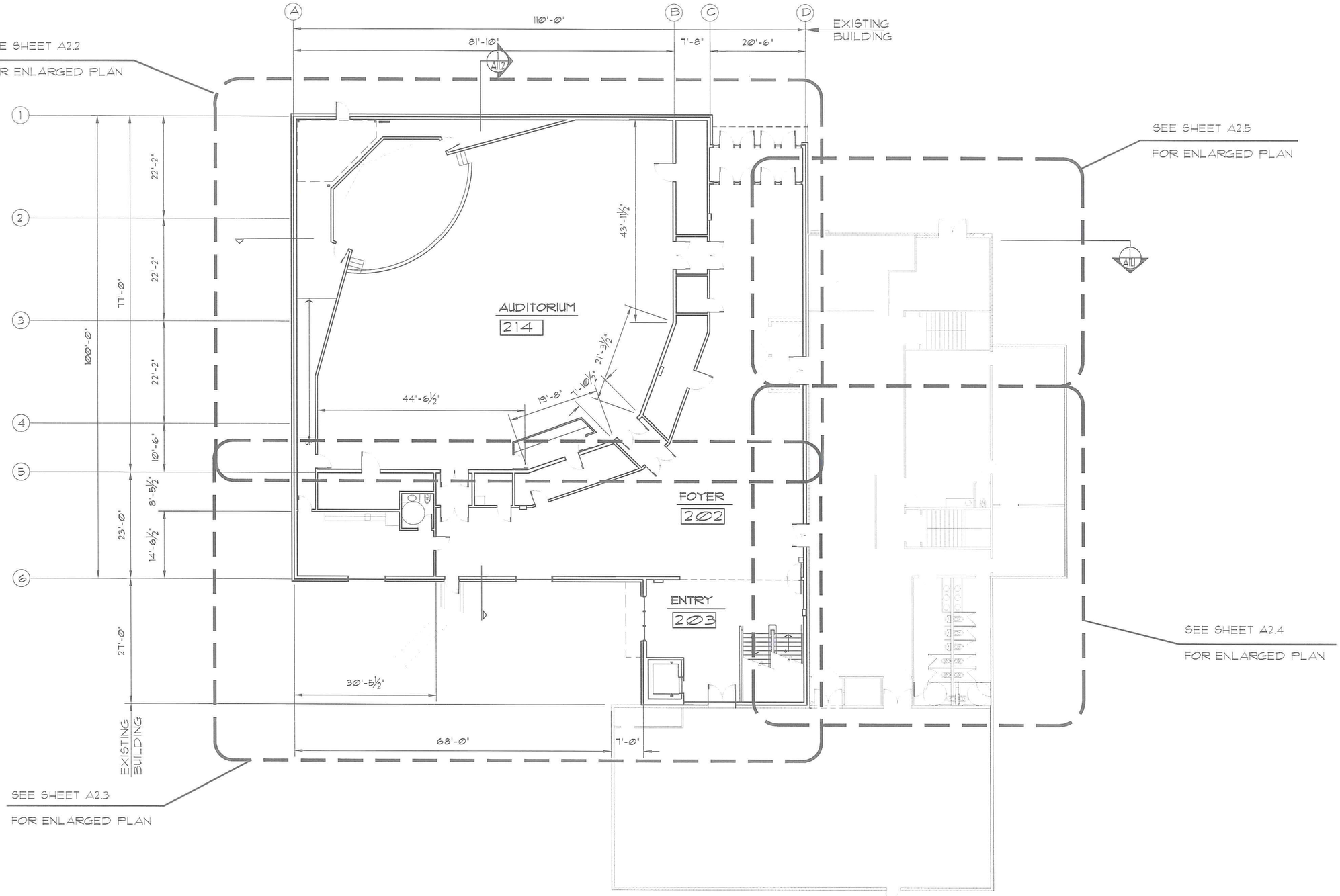
REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
533 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2532 fax 907-452-2532
david.awhitmore.architect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN: DW
CHECKED: DW
DATE: 05/09/2019
JOB NO.: 1805
SHEET TITLE: ENLARGED BASEMENT PLAN
SHEET: A1.4D



MAIN FLOOR PLAN

3/32" = 1'-0" FULL SIZE, 3/64" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▪ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2333 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE MAIN FLOOR PLAN

SHEET A2.1

05/03/2013

STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/03/2013
JOB NO. 1303
SHEET TITLE ENLARGED MAIN FLOOR PLAN
SHEET A2.2

ENLARGED MAIN FLOOR PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

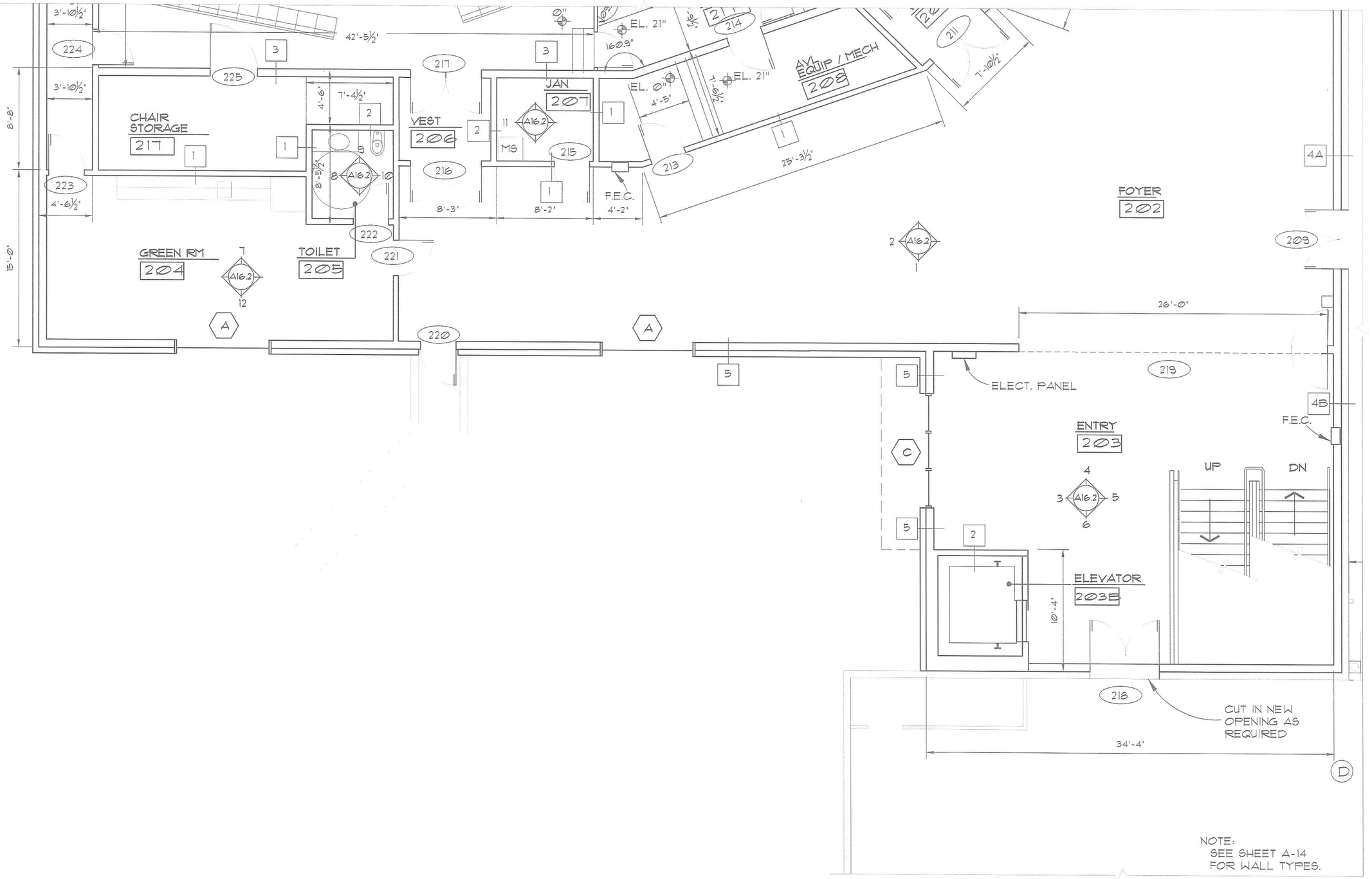
NOTE:
SEE SHEET A-14
FOR WALL TYPES.

BACK STAGE 216
PLATFORM (30" H) 215
ACCESS TO FLR BOX WATER & POWER
AUDITORIUM 214
CHAIR STORAGE 213
ARCTIC ENTRY 201
FOYER 202
VEST. 212
AVL BOOTH 217
AVL EQUIP / MECH 208
VEST 209
STORAGE 210
STORAGE 211

201A 201B 201C 201D
202A 202B 202C 202D
206 205 207 208 210 211 212 214 224 225 226 227 228 229

DEMO EXIST ARCTIC ENTRY PATCH AS REQUIRED TO MATCH ALL EXIST. ADJACENT SURFACES.

LADDER
RAMP 1:12 SLOPE UP
UP 3'-10½"
42" HIGH WALL
F.E.C.
EL. 0"
EL. 21"



NOTE:
SEE SHEET A-14
FOR WALL TYPES.

ENLARGED MAIN FLOOR PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

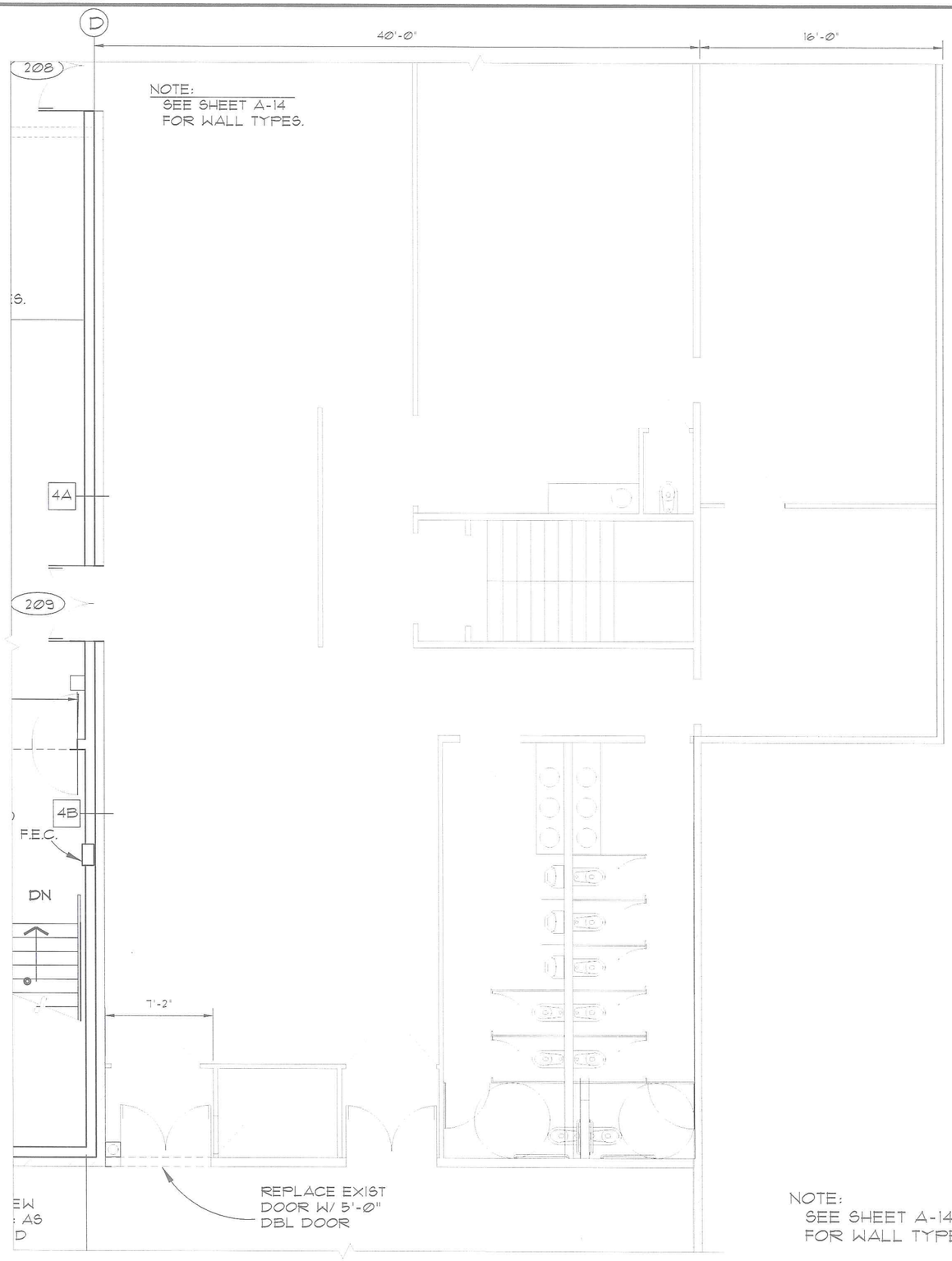
STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7664
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
395 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ENLARGED MAIN FLOOR PLAN
SHEET A2.3



NOTE:
SEE SHEET A-14
FOR WALL TYPES.

ENLARGED MAIN FLOOR PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

STATE OF ALASKA
49th
David A Whitmore
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

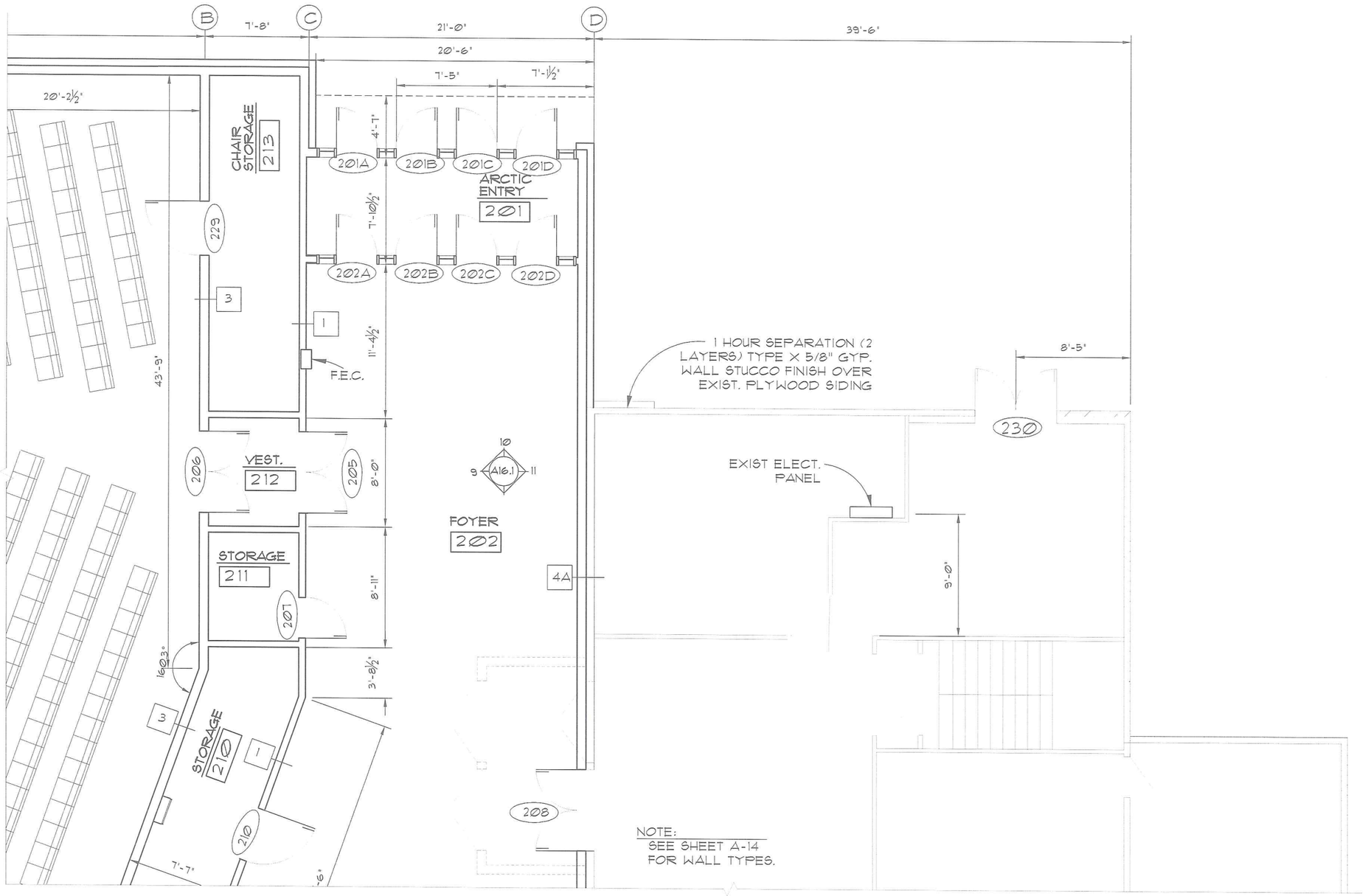
REVISIONS

DAVID A WHITMORE ▫ ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE
ENLARGED
MAIN FLOOR PLAN

SHEET
A2.4



ENLARGED MAIN FLOOR PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7664
REGISTERED PROFESSIONAL ARCHITECT

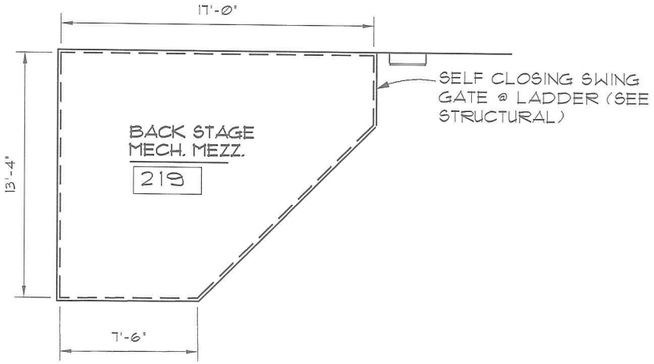
REVISIONS

DAVID A WHITMORE ▫ ARCHITECT
3375 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

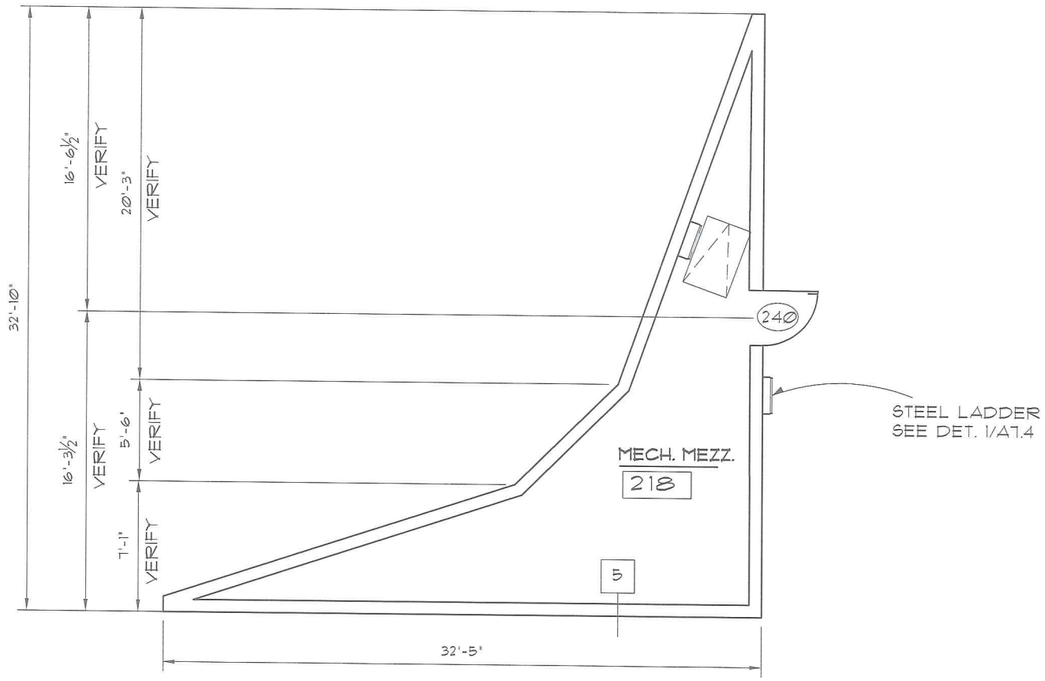
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ENLARGED MAIN FLOOR PLAN
SHEET A2.5



2 / A2.6 BACK STAGE MECH. MEZZ. FLOOR PLAN

SCALE : 1/4" = 1'-0" FULL SIZE 1/8" = 1'-0" HALF SIZE



1 / A2.6 MECH. MEZZ. FLOOR PLAN

SCALE : 1/4" = 1'-0" FULL SIZE 1/8" = 1'-0" HALF SIZE

NOTE:
SEE MECHANICAL DRAWINGS
FOR FURTHER INSTRUCTIONS

MEZZANINE FLOOR PLANS

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7584
REGISTERED PROFESSIONAL ARCHITECT

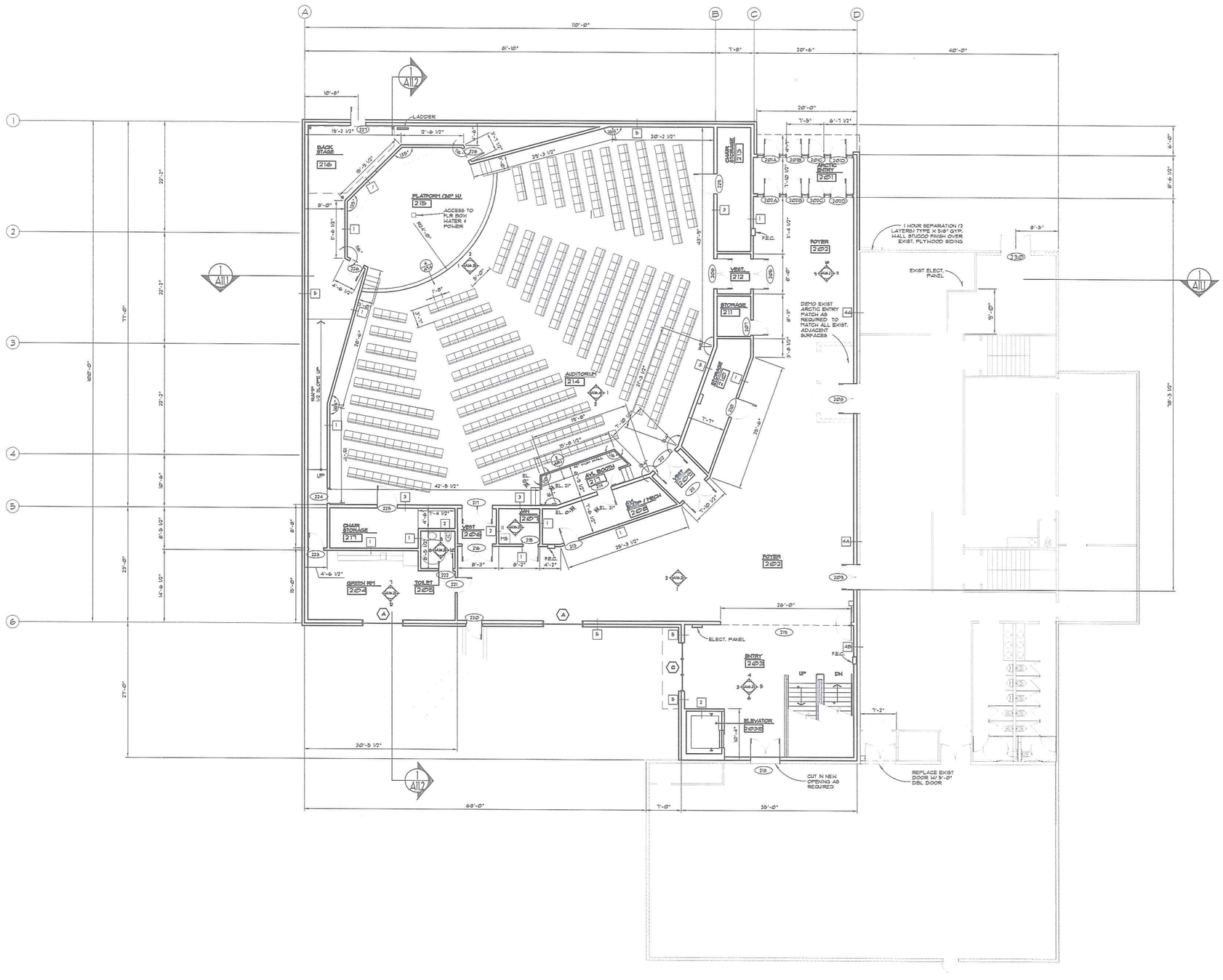
REVISIONS

DAVID A WHITMORE ▪ ARCHITECT
935 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2339 fax 907-452-2559
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE MEZZANINE FLOOR PLANS
SHEET A2.6



NOTE:
SEE SHEET A-14
FOR WALL TYPES.

ENLARGED MAIN
FLOOR PLAN

3/16" = 1'-0" FULL SIZE, 3/32" = 1'-0" HALF SIZE

PLAN NORTH

05/03/2013

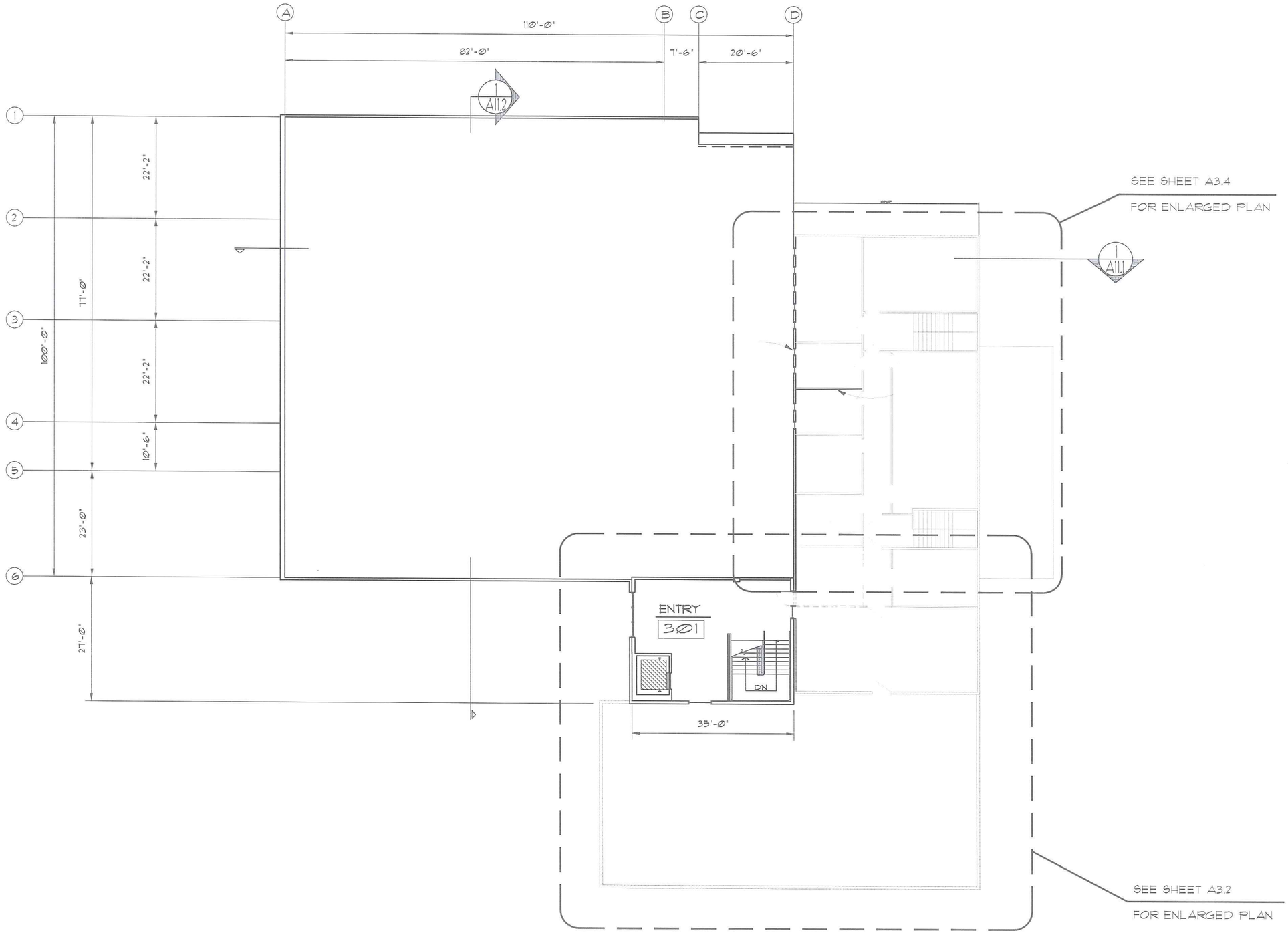
REVISIONS

DAVID A. WHITMORE ▪ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2333 fax 907-452-2333
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN: DW
CHECKED: DW
DATE: 05/03/2013
JOB NO.: 1305
SHEET TITLE: ENLARGED MAIN FLOOR PLAN
SHEET: A2.7D



THIRD
FLOOR PLAN

3/32" = 1'-0" FULL SIZE, 3/64" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2013

STATE OF ALASKA
49th
DAVID A. WHITMORE
DAVID A. WHITMORE
No. A-7664
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

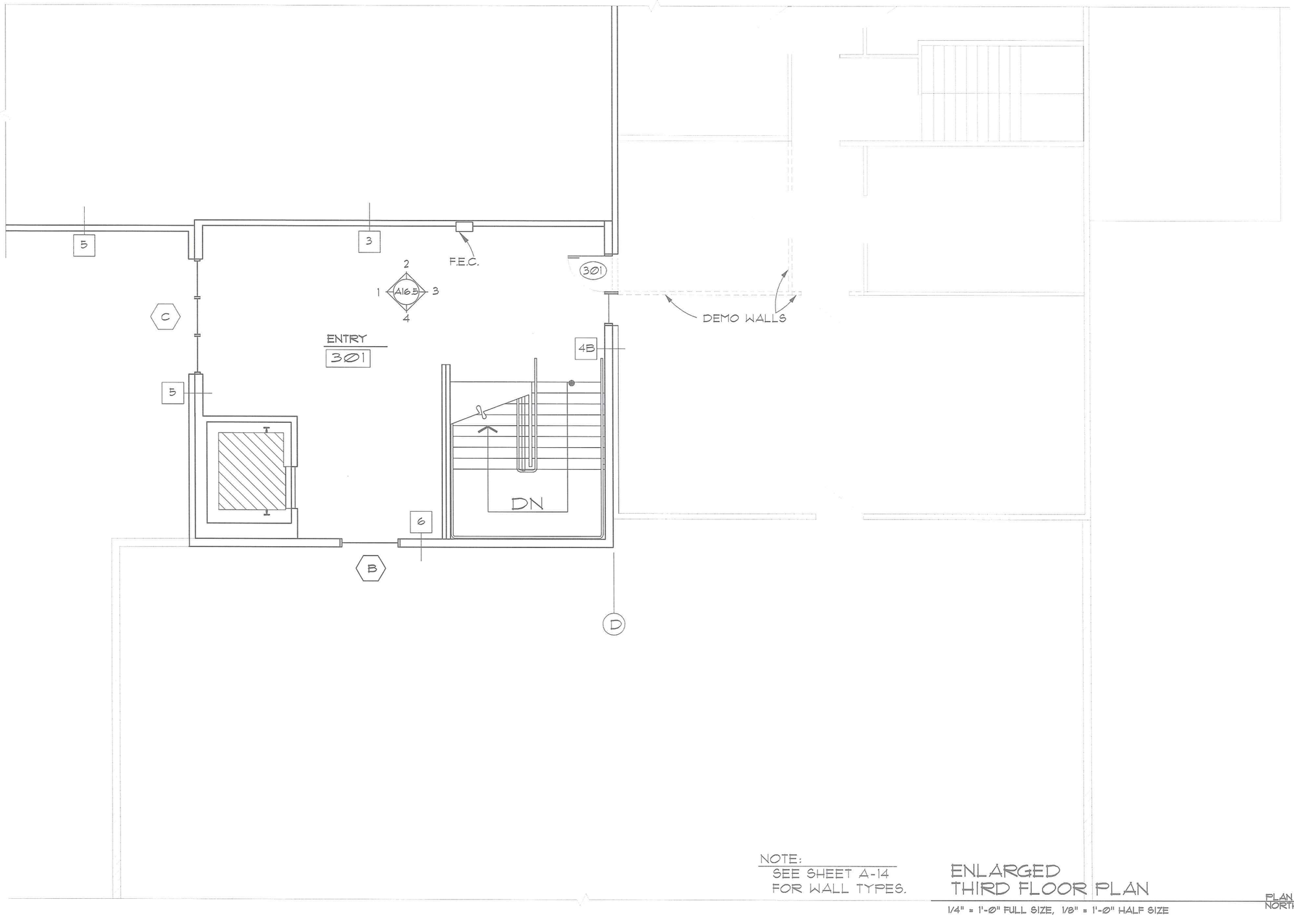
DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452 2339 fax 907-452 2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DN
CHECKED DN
DATE 05/09/2013
JOB NO. 1303
SHEET TITLE THIRD FLOOR PLAN

SHEET A3.1



NOTE:
SEE SHEET A-14
FOR WALL TYPES.

ENLARGED THIRD FLOOR PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7564
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

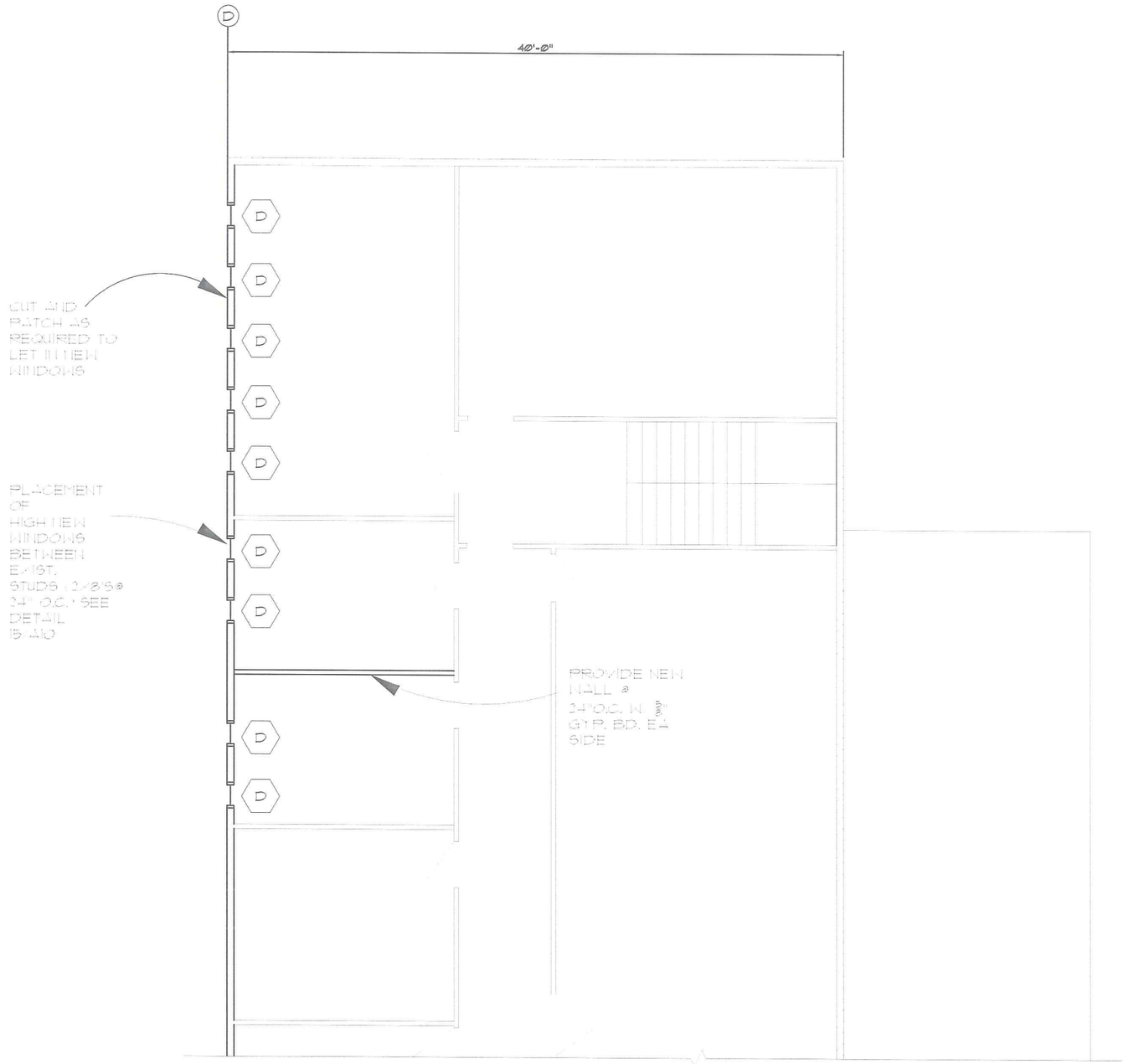
DAVID A. WHITMORE ▪ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2332 fax 907-452-2332
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE
ENLARGED
THIRD FLOOR PLAN

SHEET
A3.2



ENLARGED THIRD FLOOR PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7564
REGISTERED PROFESSIONAL ARCHITECT

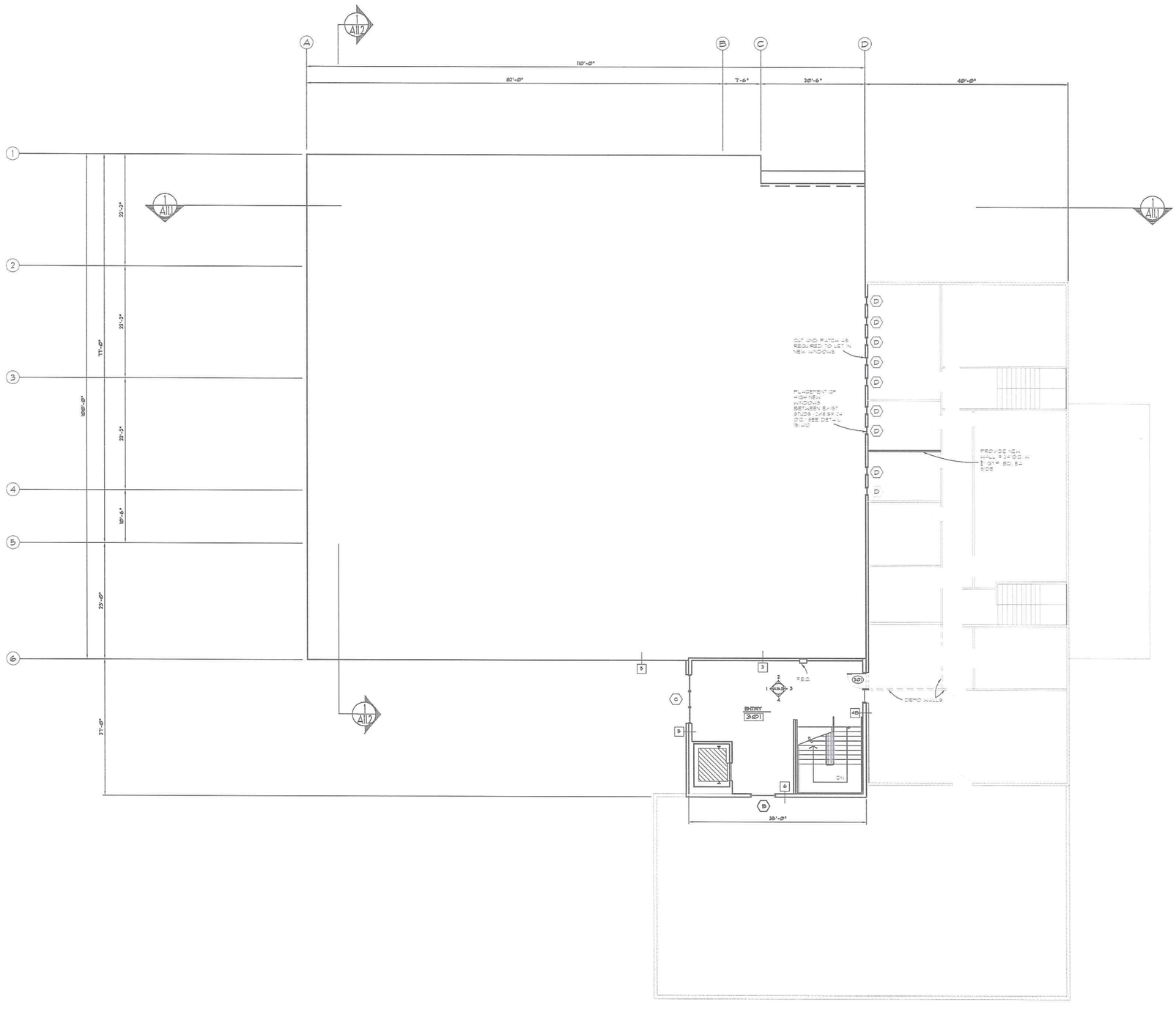
REVISIONS

DAVID A WHITMORE ▪ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2333 fax 907-452-2333
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ENLARGED THIRD FLOOR PLAN
SHEET A3.3



NOTE:
SEE SHEET A7.1
FOR WALL TYPES

ENLARGED
THIRD FLOOR PLAN
3/16" = 1'-0" FULL SIZE, 3/32" = 1'-0" HALF SIZE

PLAN NORTH

05/03/2019

STATE OF ALASKA
49th
David A Whitmore
REGISTERED PROFESSIONAL ARCHITECT
DAVID A. WHITMORE
No. A-7654

REVISIONS

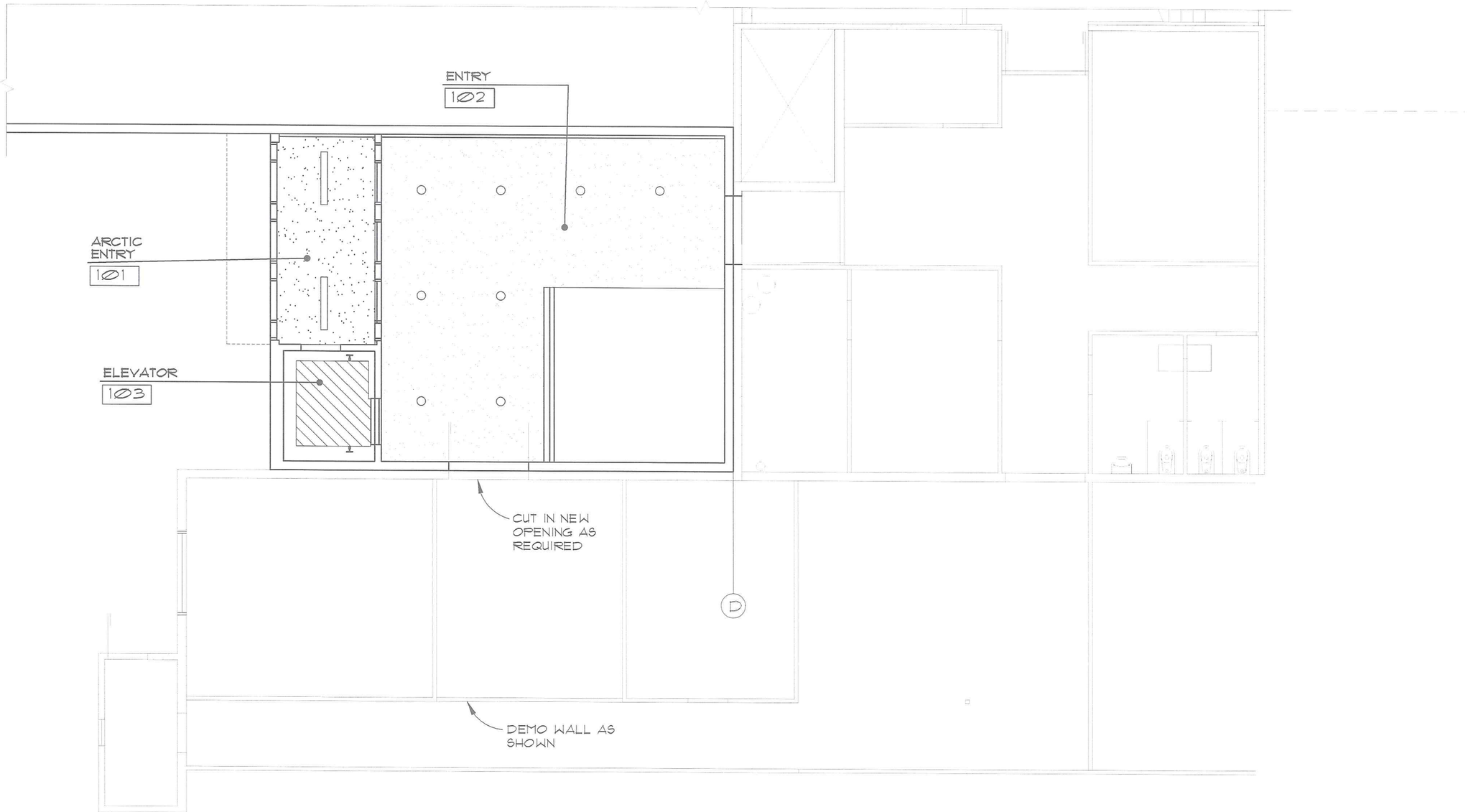
DAVID A WHITMORE • ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska 99701
907-452 2332 Fax 907-452 2332
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/03/2019
JOB NO. 1805
SHEET TITLE
ENLARGED
THIRD FLOOR PLAN

SHEET
A3.4D



NOTE:
SEE ELECTRICAL DRAWINGS FOR LIGHTING LAYOUT.

ENLARGED BASEMENT REFLECTED CEILING PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

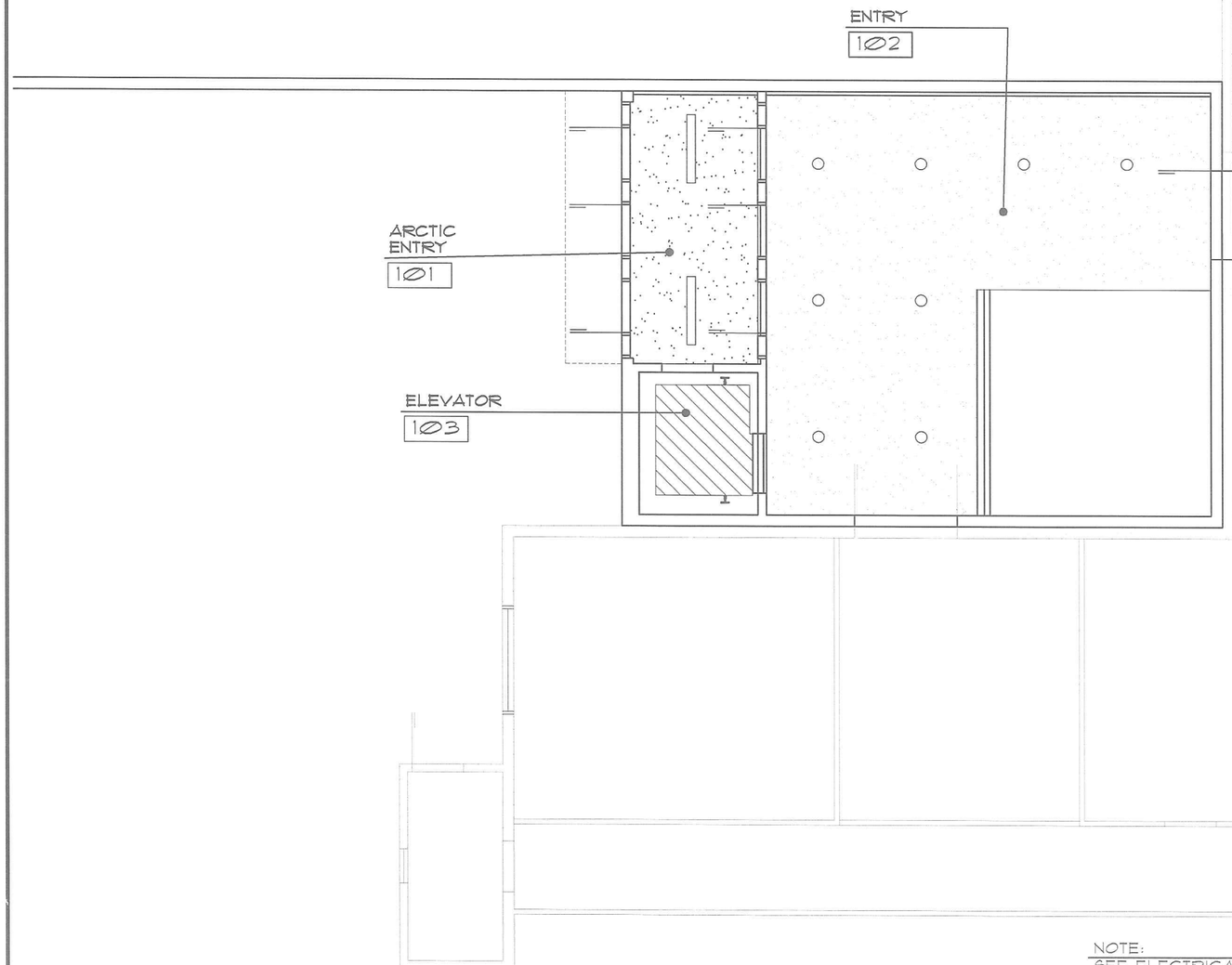
STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2359 fax 907-452-2359
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ENLARGED BASEMENT REFLECTED CEILING PLAN
SHEET A4.0



NOTE:
SEE ELECTRICAL DRAWINGS FOR LIGHTING LAYOUT.

ENLARGED BASEMENT REFLECTED CEILING PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/03/2013

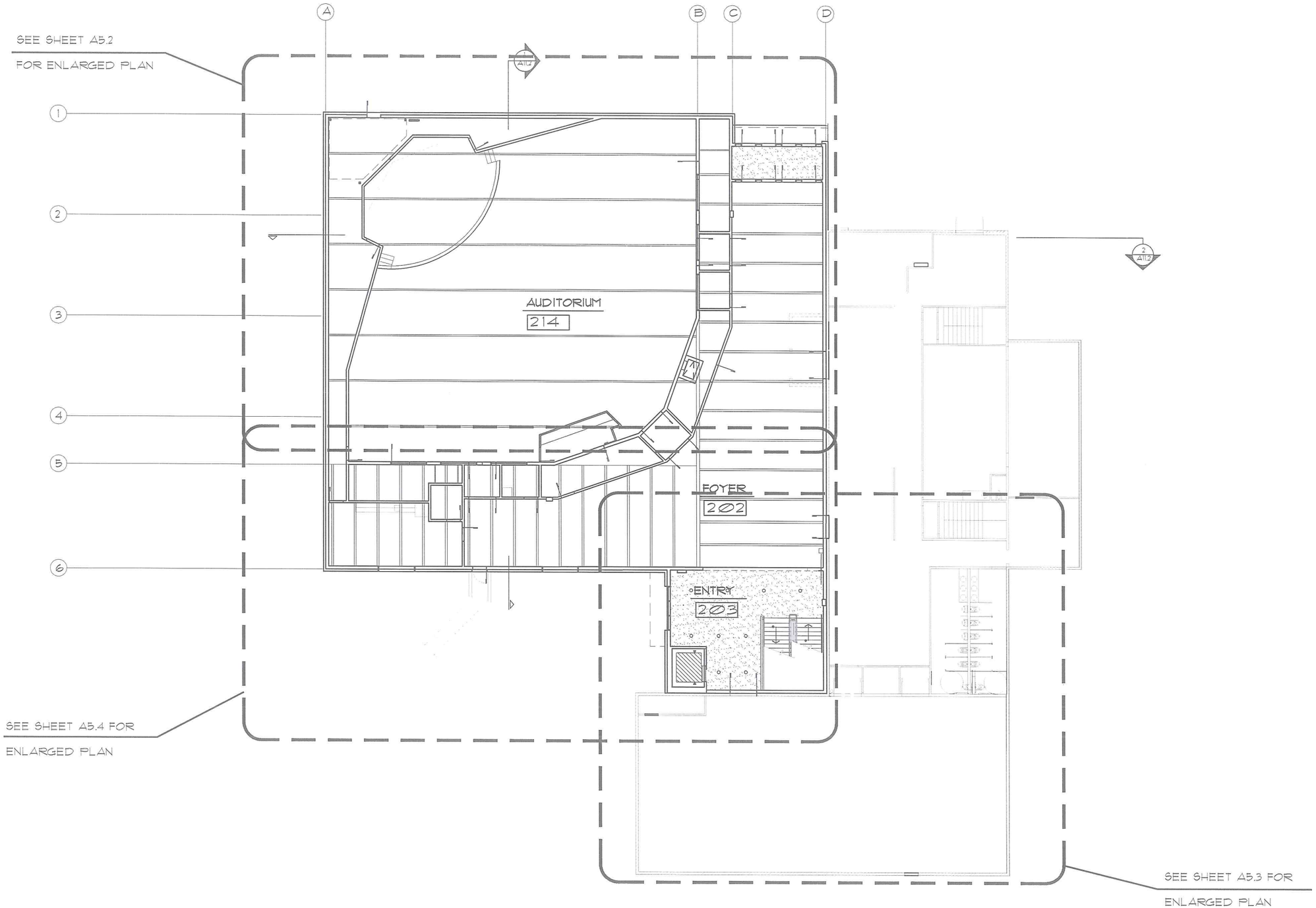
STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7664
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A WHITMORE ▪ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452 2339 fax 907-452 2339
davida whitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/03/2013
JOB NO. 1205
SHEET TITLE ENLARGED BASEMENT REFLECTED CEILING PLAN
SHEET A5.0



NOTE:
SEE ELECTRICAL DRAWINGS FOR LIGHTING LAYOUT.

MAIN FLOOR REFLECTED CEILING PLAN

3/32" = 1'-0" FULL SIZE, 3/64" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

STATE OF ALASKA
49th
David A. Whitmore
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE, ▫ ARCHITECT
339 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907 - 452 2339 fax 907 - 452 2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE MAIN FLOOR REFLECTED CEILING PLAN
SHEET A5.1

NOTE:
SEE ELECTRICAL DRAWINGS
FOR LIGHTING LAYOUT

BACK STAGE
216

PLATFORM (30" H)
215

CHAIR STORAGE
213

ARCTIC ENTRY
201

VEST.
212

STORAGE
211

ACOUSTICAL SPRAY-ON COATING OVER METAL PAN ROOF DECKING (TYP)

AUDITORIUM
214

STORAGE
210

FOYER
202

AVL BOOTH
217

VEST
209

AVL EQUIP / MECH
208

CHAIR STORAGE

A

ENLARGED MAIN FLOOR REFLECTED CEILING PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

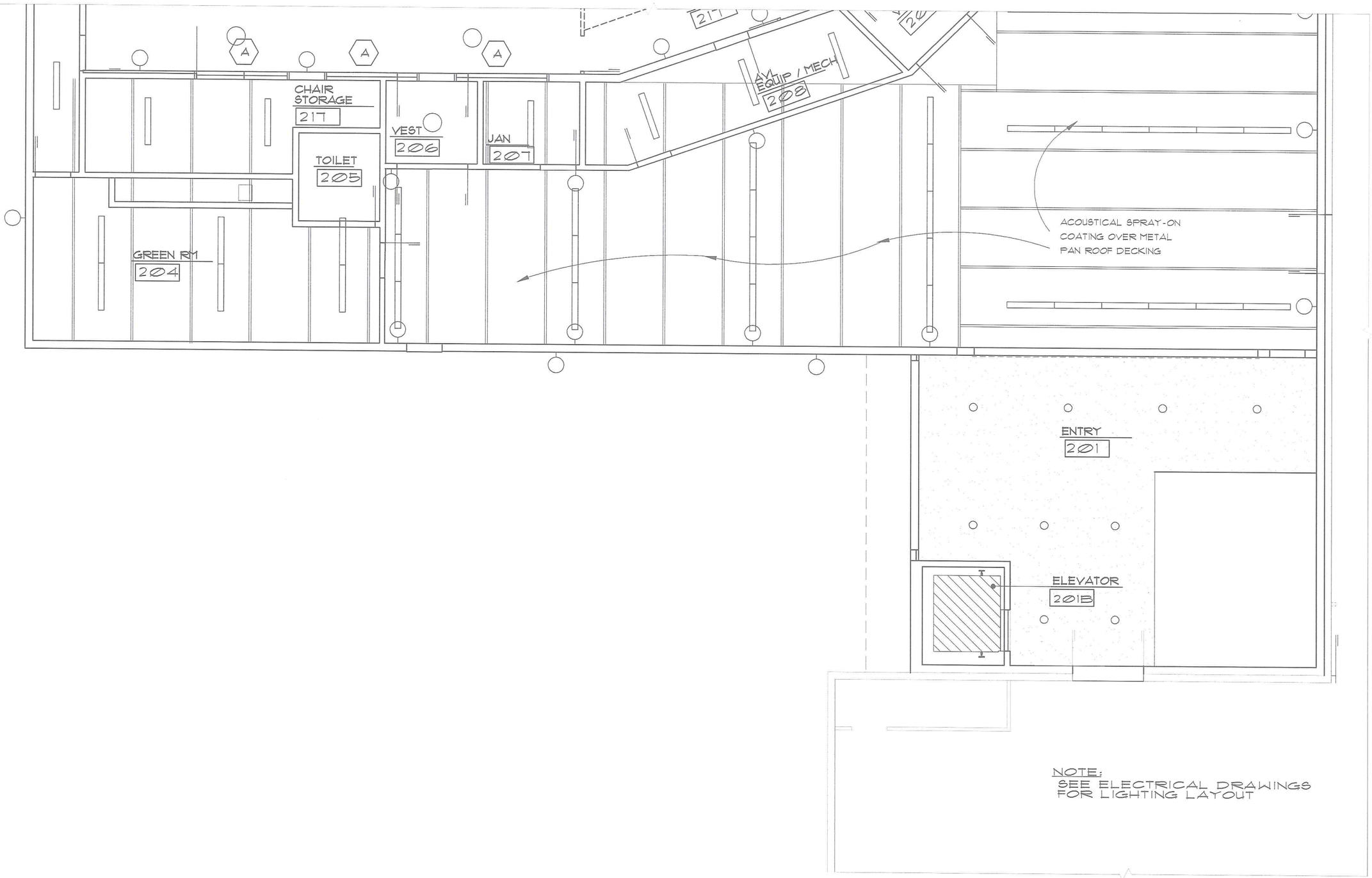
STATE OF ALASKA
49th
David A. Whitmore
DAVID A. WHITMORE, JR.
No. A-7864
PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▪ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2339 fax 907-452-2339
david.whitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE
ENLARGED MAIN FLOOR REFLECTED CEILING PLAN
SHEET
A5.2



ENLARGED MAIN FLOOR REFLECTED CEILING PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/19

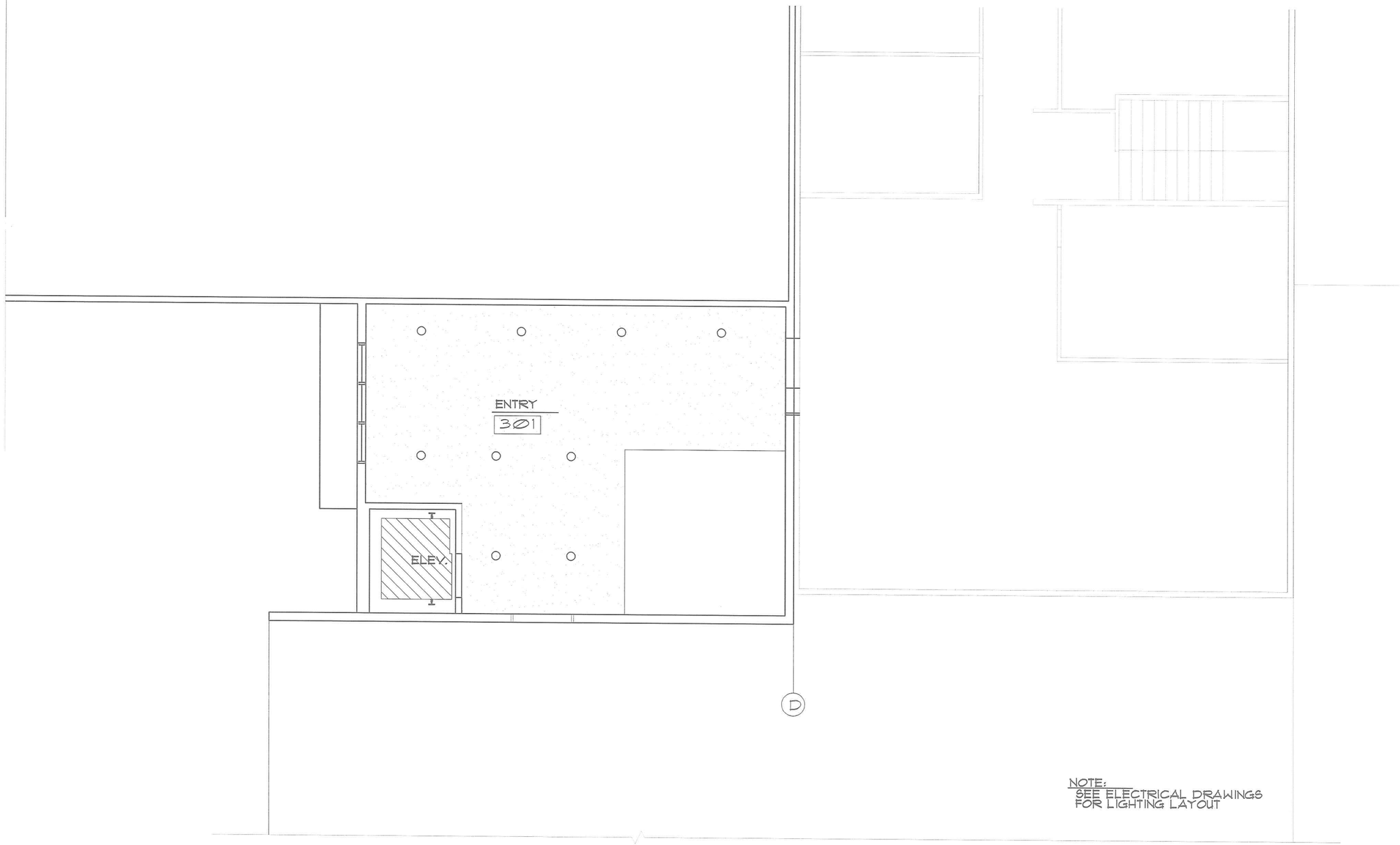
STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7684
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▪ ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2332 fax 907-452-2332
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ENLARGED MAIN FLOOR REFLECTED CEILING PLAN
SHEET A5.3



NOTE:
SEE ELECTRICAL DRAWINGS
FOR LIGHTING LAYOUT

ENLARGED THIRD FLOOR REFLECTED CEILING PLAN

1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

PLAN NORTH

05/09/19

STATE OF ALASKA
49th
DAVID A. WHITMORE
REGISTERED PROFESSIONAL ARCHITECT
No. A-7564

REVISIONS

DAVID A WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE
ENLARGED THIRD FLOOR REFLECTED CEILING PLAN
SHEET
A5.4

ENLARGED THIRD FLOOR
REFLECTED CEILING PLAN

3/16" = 1'-0" FULL SIZE, 3/32" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

STATE OF ALASKA
49th
David A. Whitmore
DAVID A. WHITMORE
No. A-7664
REGISTERED PROFESSIONAL ARCHITECT

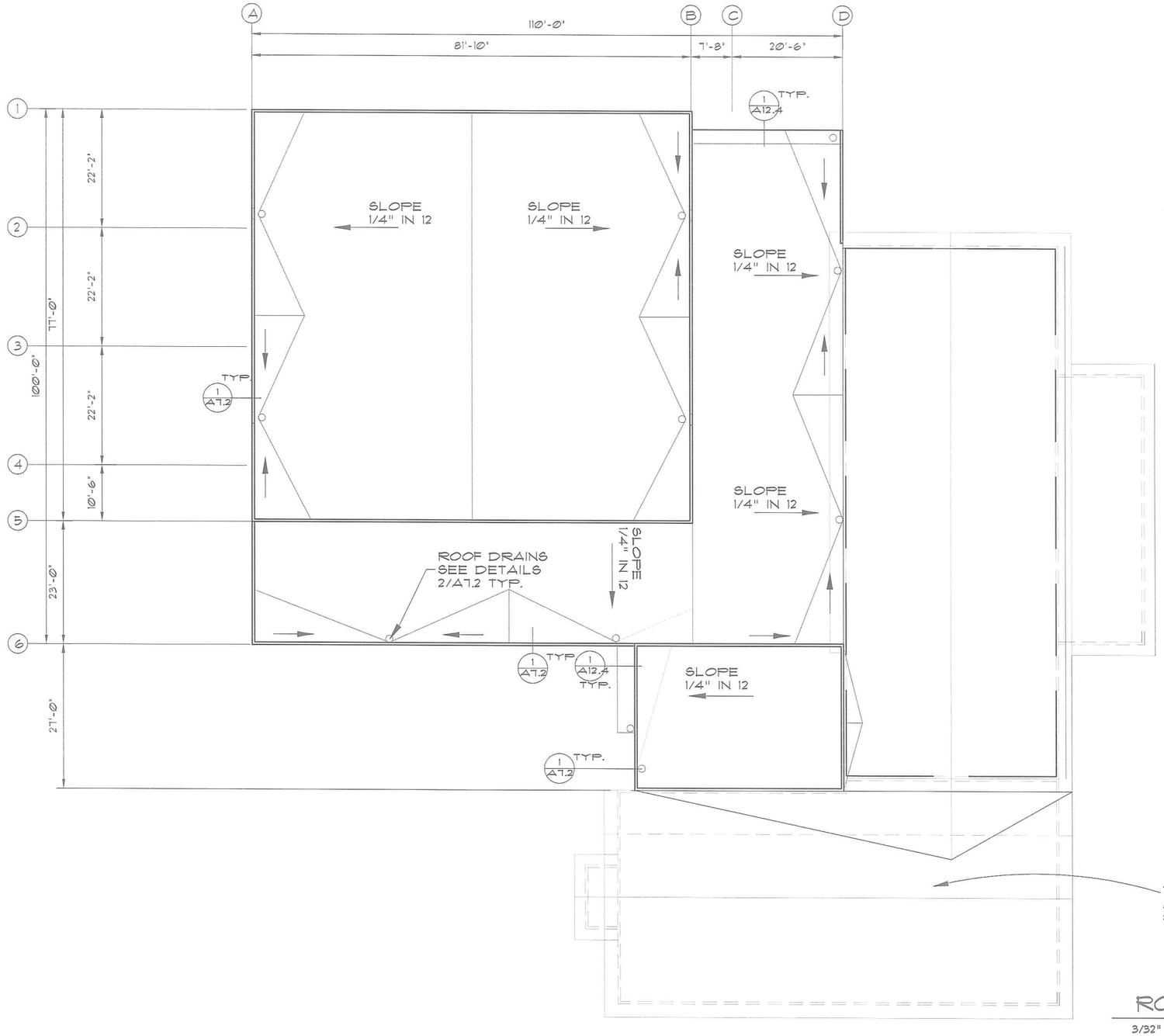
REVISIONS

DAVID A. WHITMORE ▪ ARCHITECT
553 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2339 fax 907-452-2359
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE
ENLARGED THIRD FLOOR REFLECTED CEILING PLAN
SHEET
A6.0



GENERAL NOTES:

FASTENING PATTERN AND BEAD SPACING PER THE FOLLOWING:

1. ROOF SYSTEM BY 'CARLISLE OR APPROVED EQUAL'
2. CARLISLE'S 1/2" THICK DENS DECK PRIME IS MECHANICALLY FASTENED TO DECK W/CARLISLE'S FASTENERS AND INSUL. AT A RATE OF 1 PER 2 SQUARE FEET IN THE FIELD, 24 PER 4'X8' BOARD AT PERIMETER AND 1 PER 1 IN 1 IN CORNER AREAS.
3. CARLISLE'S R-80 TYPE II EPS INSULATION IS OVERLAID W/ CARLISLE'S 1/2" THICK RECOVERY BOARD. EACH LAYER IS ATTACHED W/ CARLISLE'S FAST ADHESIVE AT A BEAD SPACING OF 6" OC IN FIELD AND PERIMETER AND 4" OC IN CORNER AREAS.

GENERAL NOTES:

1. CONTRACTOR SHALL ONLY BE ALLOWED TO USE THE ROOF SURFACE AS STAGING AREA FOR THAT DAYS WORK. DO NOT STORE MATERIALS ON ROOF.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY PROTECTION FROM WEATHER UNTIL COMPLETION
3. LOCATION OF ROOF PENETRATIONS ARE APPROXIMATE.
4. STAGING AREA FOR WORK SHALL BE COORDINATED W/ OWNERS REP.
5. ROOF TO SLOPE TO ALL PRIMARY ROOF DRAINS.
6. ALL DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTORS TO VERIFY.
7. ALL CRICKETS ARE LESS THAN 2" HIGH ABOVE ROOF DRAIN OVERFLOW.
8. ROOF TO BE INSPECTED BY OWNERS REP FOR INSPECTION REQUIREMENTS FOR THE DECKING ATTACHMENT TO THE EXIST STRUCTURAL DECK.

TEAR OFF EXIST. SHINGLES AS REQUIRED TO PROVIDE NEW ASPHALT SHINGLE ROOFING SYSTEM OVER "ICE & WATER SHIELD" UP 8" FROM BOTTOM EDGE.

ROOF PLAN

3/32" = 1'-0" FULL SIZE, 3/64" = 1'-0" HALF SIZE

PLAN NORTH

05/09/2019

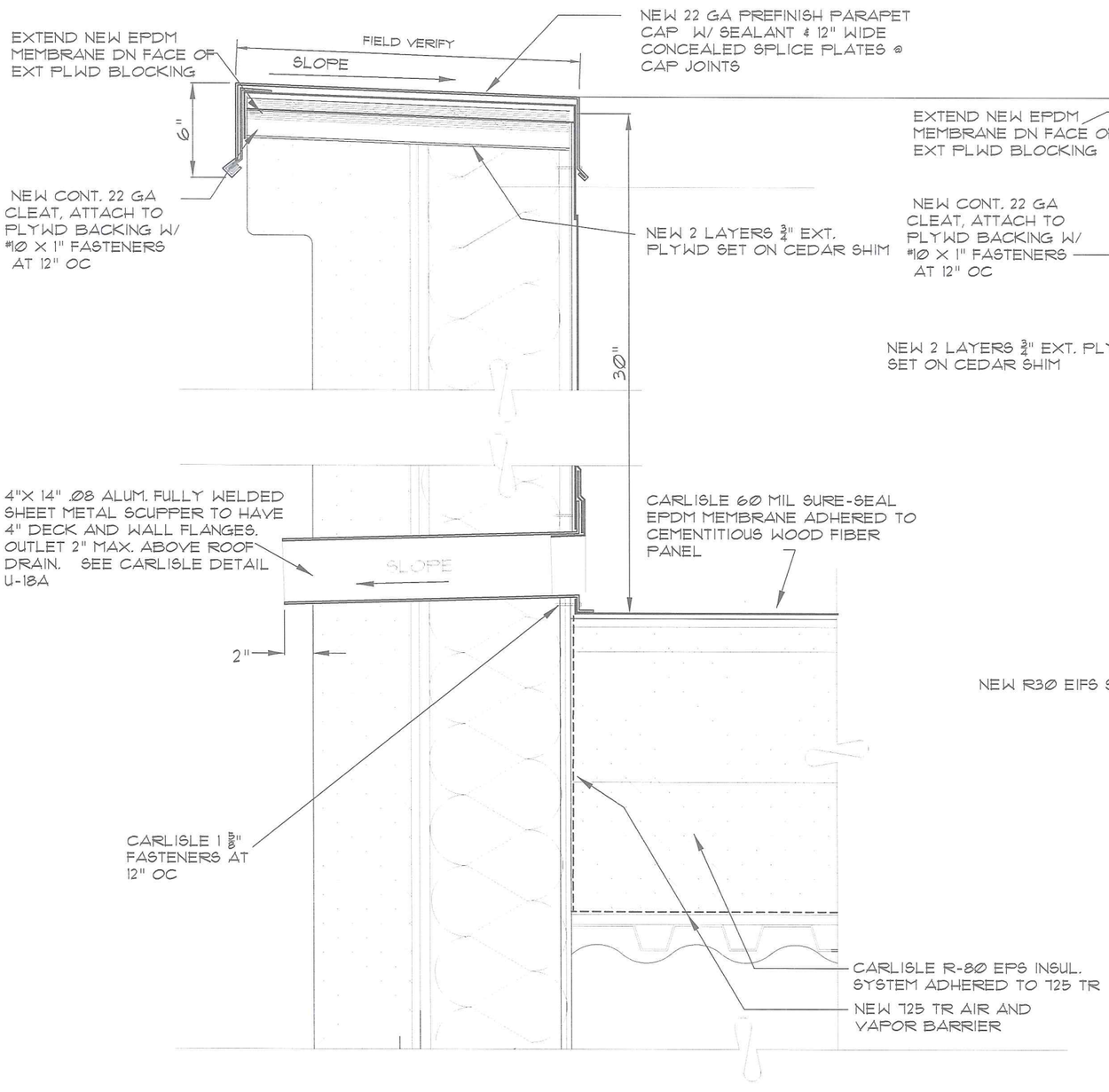
STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2559
davidawhitmorearchitect.com

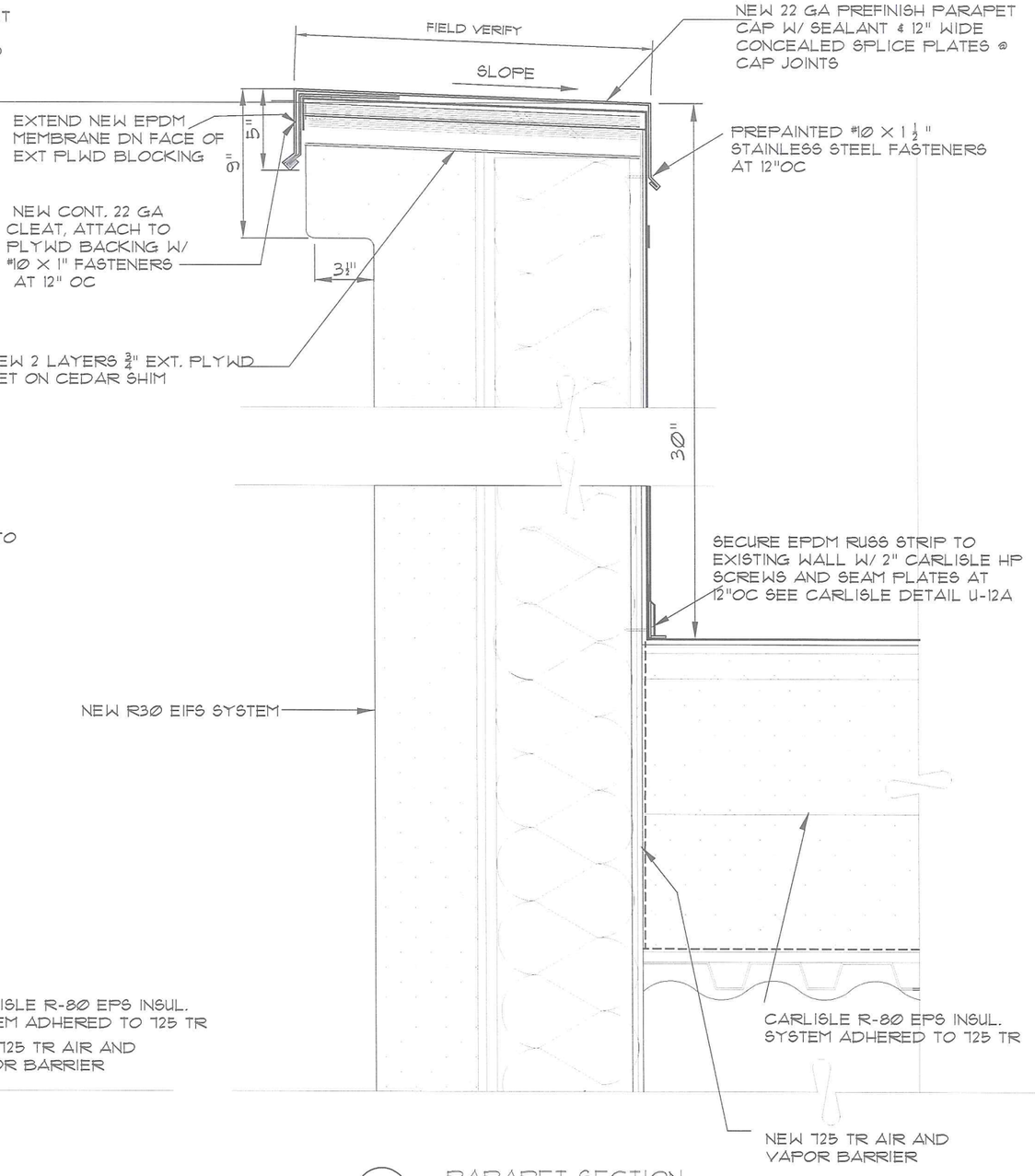
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ROOF PLAN
SHEET A7.1



2 A7.2 PARAPET/SCUPPER DETAIL

SCALE : 1 1/2" = 1'-0" FULL SIZE 3" = 1'-0" HALF SIZE



1 A7.2 PARAPET SECTION

SCALE : 1 1/2" = 1'-0" FULL SIZE 3" = 1'-0" HALF SIZE

ROOF DETAILS

05/09/2019

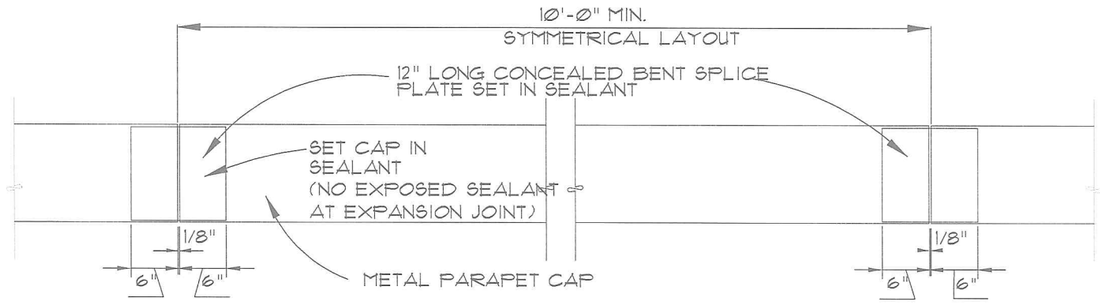
STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7684
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2332 fax 907-452-2332
davidawhitmorearchitect.com

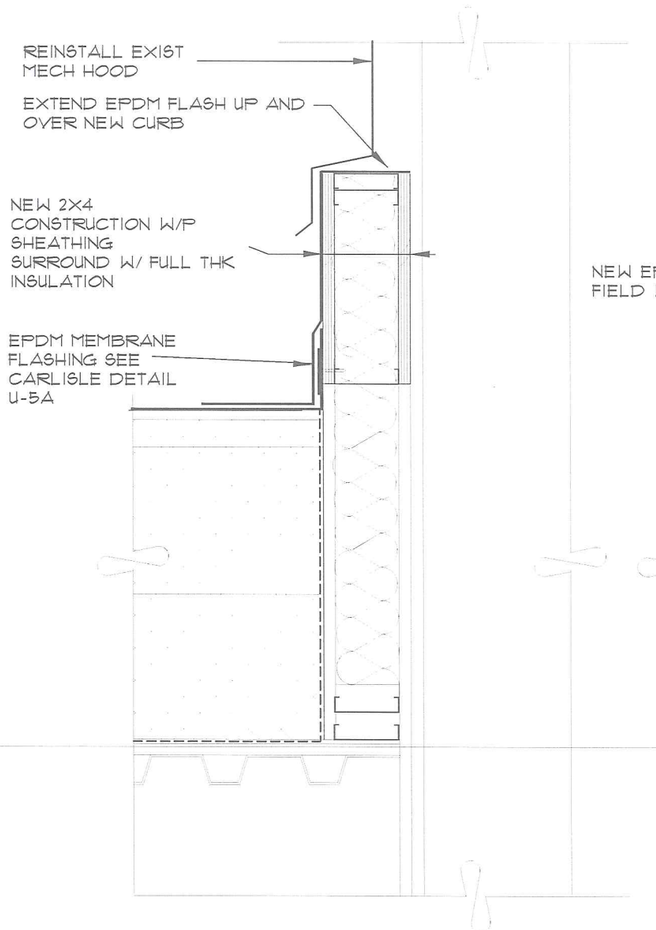
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ROOF DETAILS
SHEET A7.2



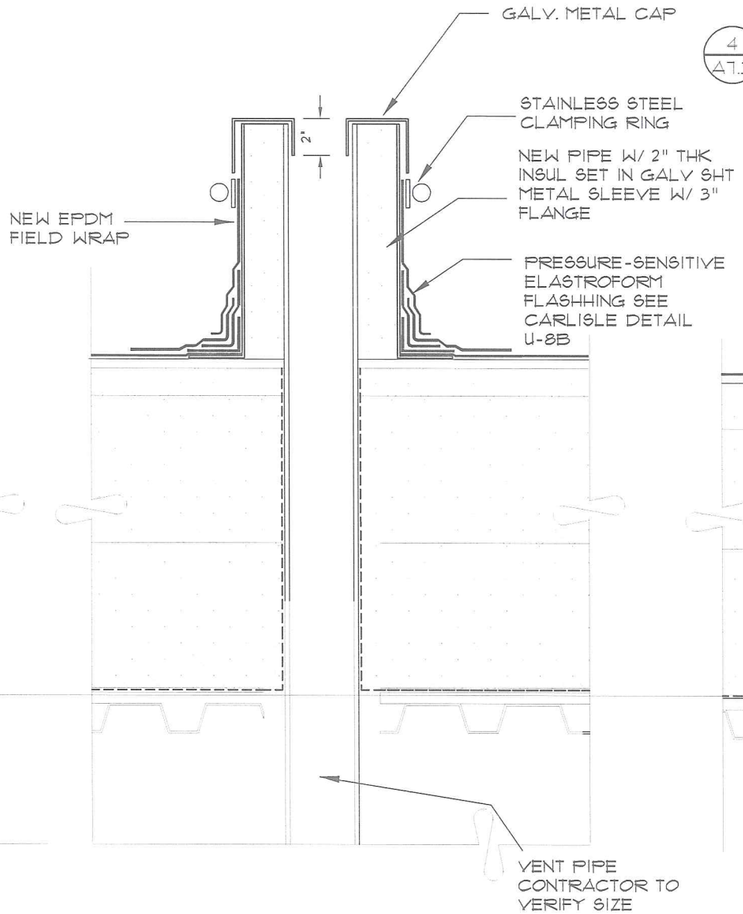
4 / A7.3 PLAN VIEW PAPAPET EXPANSION JOINTS

SCALE : N.T.S.



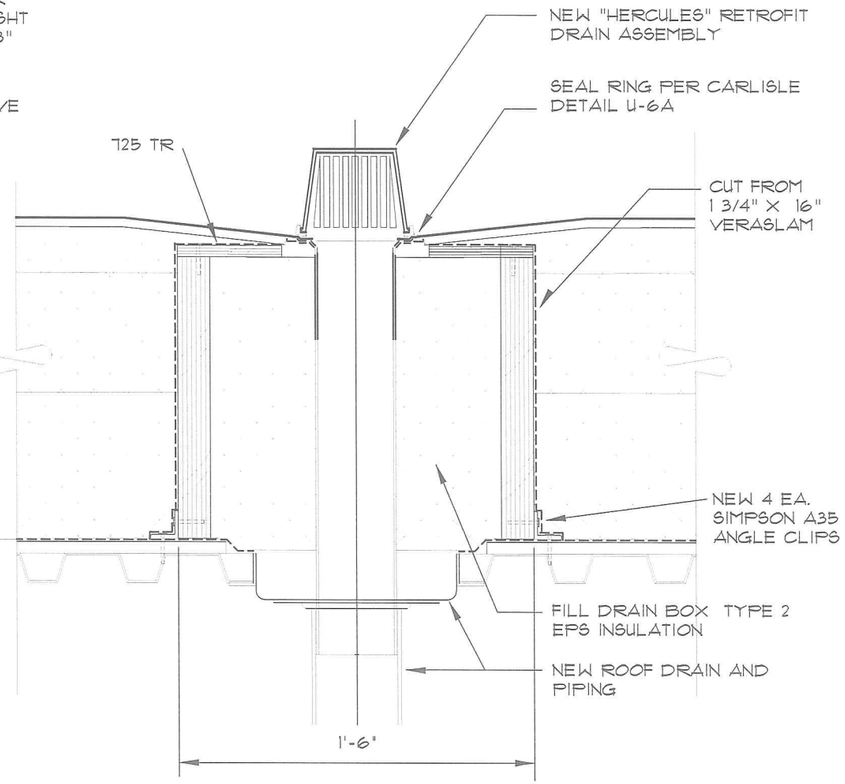
3 / A7.3 MECH. HOOD CURB DETAIL

SCALE : 1 1/2" = 1'-0" FULL SIZE 3" = 1'-0" HALF SIZE



2 / A7.3 MECH VENT DETAIL

SCALE : 1 1/2" = 1'-0" FULL SIZE 3" = 1'-0" HALF SIZE



1 / A7.3 ROOF DRAIN

SCALE : 1 1/2" = 1'-0" FULL SIZE 3" = 1'-0" HALF SIZE

ROOF DETAILS

05/09/2019

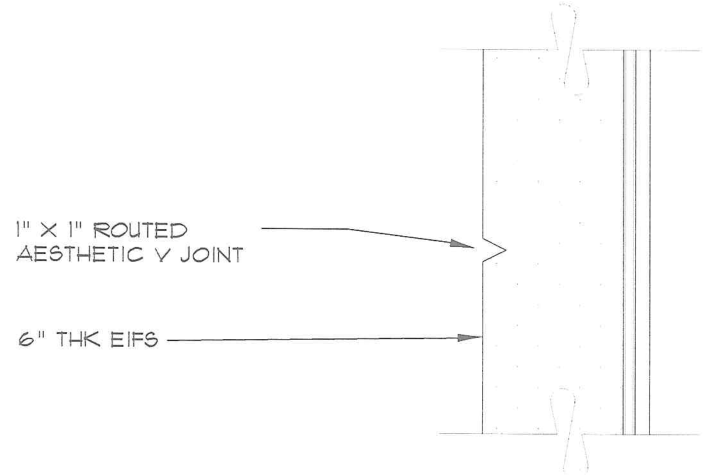
STATE OF ALASKA 49th DAVID A. WHITMORE No. A-7654 REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2332 fax 907-452-2332
davidawhitmorearchitect.com

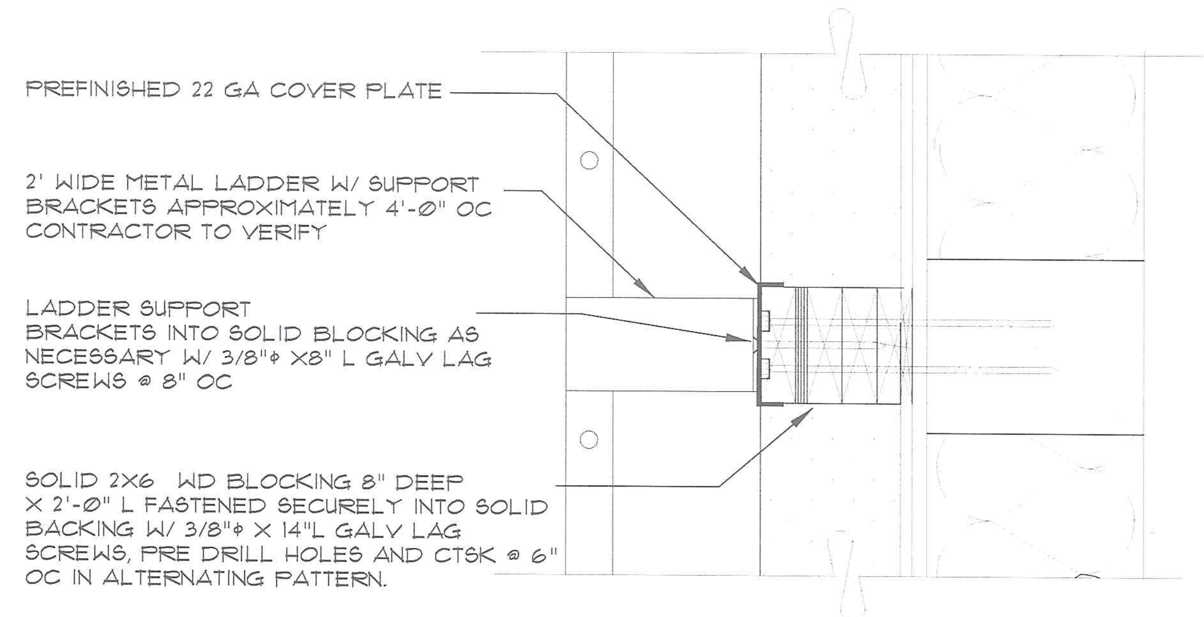
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ROOF DETAILS
SHEET A7.3



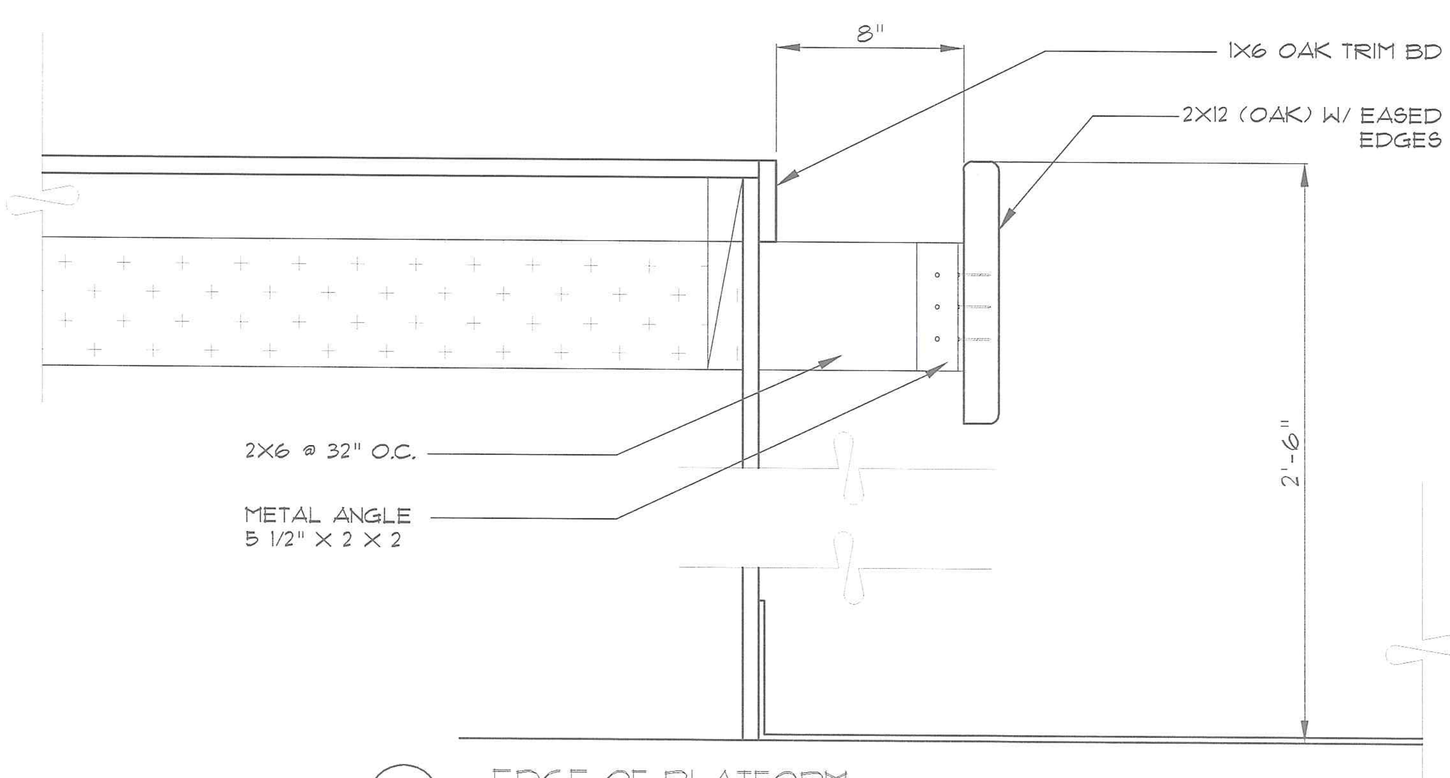
3 / A7.4 CONTROL JOINT

SCALE : 1 1/2" = 1'-0" FULL SIZE 3" = 1'-0" HALF SIZE



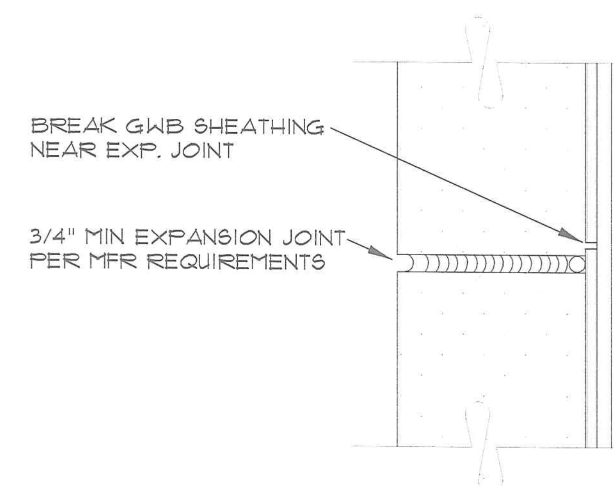
1 / A7.4 LADDER SUPPORT DETAIL

SCALE : 1 1/2" = 1'-0" FULL SIZE 3" = 1'-0" HALF SIZE



4 / A7.4 EDGE OF PLATFORM

SCALE : 3" = 1'-0" FULL SIZE 1 1/2" = 1'-0" HALF SIZE



2 / A7.4 EXPANSION JOINT

SCALE : 1 1/2" = 1'-0" FULL SIZE 3" = 1'-0" HALF SIZE

05/09/2019

STATE OF ALASKA 49th — DAVID A. WHITMORE No. A-7664 REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE • ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska • 99701
907-452-2359 fax 907-452-2359
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN	DW
CHECKED	DW
DATE	05/09/2019
JOB NO.	1805
SHEET TITLE	ROOF DETAILS
SHEET	A7.4

ROOM FINISH SCHEDULE

NO	NAME	FLOOR	BASE	WALLS				WAINSCOT	CEILING	CLG HGT	REMARKS
				NORTH	EAST	SOUTH	WEST				
BASEMENT											
101	ARCTIC ENTRY	WALK OFF CARPET TILE	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		GWB SEMI GLOSS ENAMEL PAINT	10'	
102	ENTRY	CARPET	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		GWB SEMI GLOSS ENAMEL PAINT	10'	
103	ELEVATOR SHAFT	CONCRETE		GWB TYPE X FIRE TAPE	GWB TYPE X FIRE TAPE	GWB TYPE X FIRE TAPE	GWB TYPE X FIRE TAPE		GWB TYPE X FIRE TAPE		
MAIN FLOOR											
201	ARCTIC ENTRY	WALK OFF CARPET TILE	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		GWB SEMI GLOSS ENAMEL PAINT	10'	
202	FOYER	CARPET	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING	OPEN TO STRUCTURE	
203	ENTRY	CARPET	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		GWB SEMI GLOSS ENAMEL PAINT	10'	
204	GREEN ROOM	CARPET	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING	OPEN TO STRUCTURE	
205	TOILET	CERAMIC TILE	CERAMIC TILE	W. P. GYP BD ENAMEL PAINT	W. P. GYP BD ENAMEL PAINT	W. P. GYP BD ENAMEL PAINT	W. P. GYP BD ENAMEL PAINT	CERAMIC TILE 7'-2" HIGH	WP GYP BD SUSP ENAMEL PAINT	10'	
206	VESTIBULE	CARPET	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING	OPEN TO STRUCTURE	
207	JANITOR	VINYL TILE	RUBBER	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING	OPEN TO STRUCTURE	
208	AVL EQUIP/MECH	CARPET	CARPET	GWB FLAT BLACK ENAMEL PAINT	GWB FLAT BLACK ENAMEL PAINT	GWB FLAT BLACK ENAMEL PAINT	GWB FLAT BLACK ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING FLAT BLACK	OPEN TO STRUCTURE	
209	VESTIBULE	CARPET	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING	OPEN TO STRUCTURE	
210	STORAGE	VINYL TILE	RUBBER	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING	OPEN TO STRUCTURE	
211	STORAGE	VINYL TILE	RUBBER	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING	OPEN TO STRUCTURE	
212	VESTIBULE	CARPET	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING	OPEN TO STRUCTURE	
213	CHAIR STORAGE	VINYL TILE	RUBBER	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING	OPEN TO STRUCTURE	
214	AUDITORIUM	CARPET	CARPET	GWB SEMIGLOSS ENAMEL PAINT AND ACOUST. PANEL	GWB SEMIGLOSS ENAMEL PAINT AND ACOUST. PANEL	GWB SEMIGLOSS ENAMEL PAINT AND ACOUST. PANEL	GWB SEMIGLOSS ENAMEL PAINT AND ACOUST. PANEL		ACOUSTICAL SPRAY-ON COATING FLAT BLACK	22'	
215	PLATFORM	CARPET	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING FLAT BLACK	19'	
216	BACK STAGE	VINYL TILE	RUBBER	GWB FLAT BLACK ENAMEL PAINT	GWB FLAT BLACK ENAMEL PAINT	GWB FLAT BLACK ENAMEL PAINT	GWB FLAT BLACK ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING FLAT BLACK	19'	
217	CHAIR STORAGE	VINYL	RUBBER	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		ACOUSTICAL SPRAY-ON COATING	19'	
218	MECH. MEZZ.			GWB FIRE TAPED	GWB FIRE TAPED	GWB FIRE TAPED	GWB FIRE TAPED			OPEN TO STRUCTURE	
219	BACK STAGE MECH. MEZZ.			GWB FIRE TAPED	GWB FIRE TAPED	GWB FIRE TAPED	GWB FIRE TAPED			OPEN TO STRUCTURE	
THIRD FLOOR											
301	ENTRY	CARPET	CARPET	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT	GWB SEMIGLOSS ENAMEL PAINT		GWB SEMI GLOSS ENAMEL PAINT	10'	

05/09/19

STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
539 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452 2339 fax 907-452 2339
davidawhitmorearchitect.com

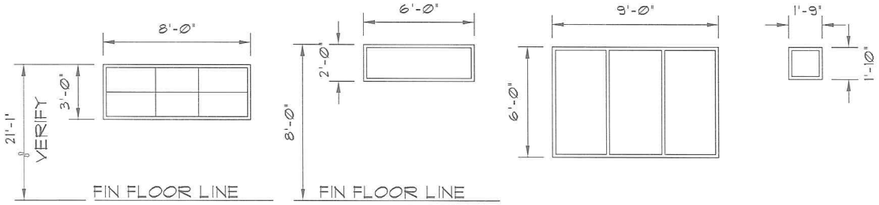
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE ROOM FINISH SCHEDULE
SHEET A8.0

DOOR SCHEDULE

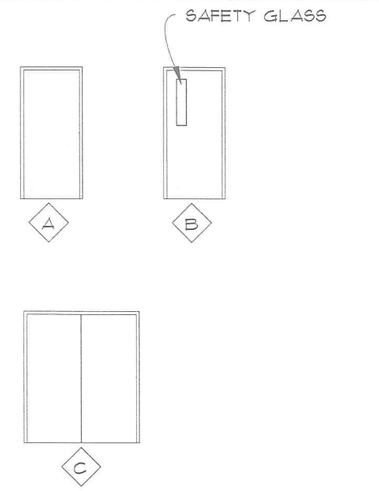
NO.	SIZE	MAT'L	HARDW. NO.	FRAME	DOOR/ FRAME TYPE	RATING	REMARKS
BASEMENT							
101A	3'-0"X 7'-0"X 1 3/4"	ALUM INSUL	05.04.76.A0	ALUM INSUL	G	NONE	ADA AUTO DOOR OPENER
101B	3'-0"X 7'-0"X 1 3/4"	ALUM INSUL	05.04.76	ALUM INSUL	G		
101C	3'-0"X 7'-0"X 1 3/4"	ALUM INSUL	05.04.76	ALUM INSUL	G		
101D	3'-0"X 7'-0"X 1 3/4"	S.C. WOOD		HOLLOW METAL			ELEVATOR ACCESS PANEL
102A	3'-0"X 7'-0"X 1 3/4"	ALUM	05.95.76.A0	ALUM	G		ADA AUTO DOOR OPENER
102B	3'-0"X 7'-0"X 1 3/4"	ALUM	05.95.76	ALUM	G		
102C	3'-0"X 7'-0"X 1 3/4"	ALUM	05.95.76	ALUM	G		
104	(2) 3'-0"X 7'-0"X 1 3/4"	HOLLOW METAL	45.37.25	HOLLOW METAL	D		
105	4'-0" X 7'-0" X 1 3/8"	S.C. WOOD	45.95.60	HOLLOW METAL	B		
MAIN FLOOR							
201A	3'-0"X 7'-0"X 1 3/4"	ALUM INSUL	05.04.76.A0	ALUM INSUL	F		ADA AUTO DOOR OPENER
201B	3'-0"X 7'-0"X 1 3/4"	ALUM INSUL	05.04.76	ALUM INSUL	F		
201C	3'-0"X 7'-0"X 1 3/4"	ALUM INSUL	05.04.76	ALUM INSUL	F		
201D	3'-0"X 7'-0"X 1 3/4"	ALUM INSUL	05.04.76	ALUM INSUL	F		
202A	3'-0"X 7'-0"X 1 3/4"	ALUM	05.95.76.A0	ALUM	F		ADA AUTO DOOR OPENER
202B	3'-0"X 7'-0"X 1 3/4"	ALUM	05.95.76	ALUM	F		
202C	3'-0"X 7'-0"X 1 3/4"	ALUM	05.95.76	ALUM	F		
202D	3'-0"X 7'-0"X 1 3/4"	ALUM	05.95.76	ALUM	F		
205	(2) 3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	45.95.26	HOLLOW METAL	D		
206	(2) 3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	45.95.20	HOLLOW METAL	D		
207	3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	55.04.60	HOLLOW METAL	A		
208	(2) 3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	45.95.26	HOLLOW METAL	D		
209	(2) 2'-6"X 6'-8"X 1 3/8"	S.C. WOOD	45.95.26	HOLLOW METAL	D		
210	4'-0"X 7'-0"X 1 3/4"	S.C. WOOD	55.04.65	HOLLOW METAL	A		
211	(2) 3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	45.95.26	HOLLOW METAL	D		
212	(2) 3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	45.95.20	HOLLOW METAL	D		
213	3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	55.04.65	HOLLOW METAL	A		
214	2'-6"X 7'-0"X 1 3/8"	S.C. WOOD	55.04.65	HOLLOW METAL	A		
215	3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	55.04.60	HOLLOW METAL	A		
216	(2) 3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	45.95.26	HOLLOW METAL	D		
217	(2) 3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	45.95.20	HOLLOW METAL	D		
218	(2) 3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	45.95.60	HOLLOW METAL	D		
219	26'-0"X 8'-0"	ALUM COIL	99	ALUM	H		W/ 3'-0" X 7'-0" MAN DOOR BY MCKEON
220	3'-0"X 7'-0"X 1 3/4"	INSUL METAL	45.04.75	INSUL METAL	A		
221	3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	55.37.60	HOLLOW METAL	A		
222	3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	55.65.60	HOLLOW METAL	A		
223	3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	55.37.60	HOLLOW METAL	D		
224	3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	55.95.60	HOLLOW METAL	A		

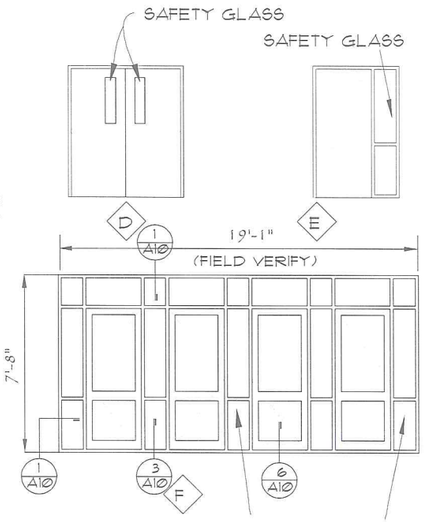
NO.	SIZE	MAT'L	HARDW. NO.	FRAME	DOOR/ FRAME TYPE	RATING	REMARKS
MAIN FLOOR (CONTINUED)							
225	4'-0"X 7'-0"X 1 3/8"	S.C. WOOD	55.95.60	HOLLOW METAL	A		
226	3'-0"X 7'-0"X 1 3/8"	S.C. WOOD	55.95.60	HOLLOW METAL	B		
227	4'-0"X 7'-0"X 1 3/4"	INSUL METAL	45.04.75	INSUL METAL	A		
228	2'-8"X 7'-0"X 1 3/8"	S.C. WOOD	55.95.60	HOLLOW METAL	B		
229	4'-0"X 7'-0"X 1 3/8"	S.C. WOOD	55.95.60	HOLLOW METAL	A		
230	(2) 3'-0"X 7'-0"X 1 3/4"	INSUL METAL		INSUL METAL	A		
MEZZANINE							
240	3'-0"X 7'-0"X 1 3/4"	INSUL METAL		INSUL METAL	A		SEE DETAIL 3/A12.3 & 4/A12.3
THIRD FLOOR							
301	3'-0"X 7'-0"X 1 3/8"	S.C. WOOD		HOLLOW METAL	E		

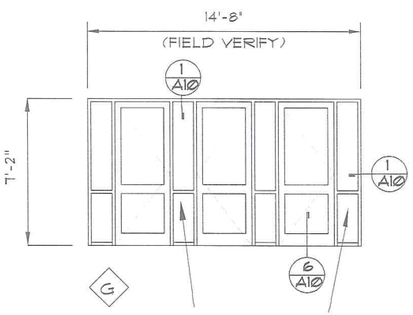


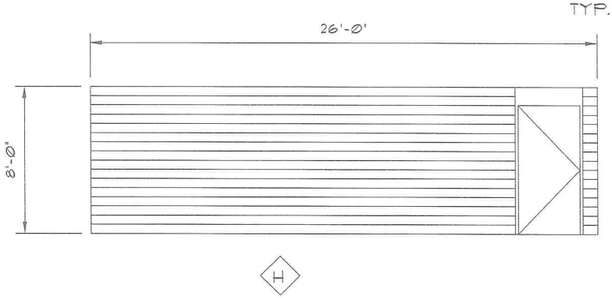
WINDOW TYPES

1/4 ' = 1 ' - 0 "









DOOR TYPES

1/8" = 1 ' - 0 "

05/03/2013

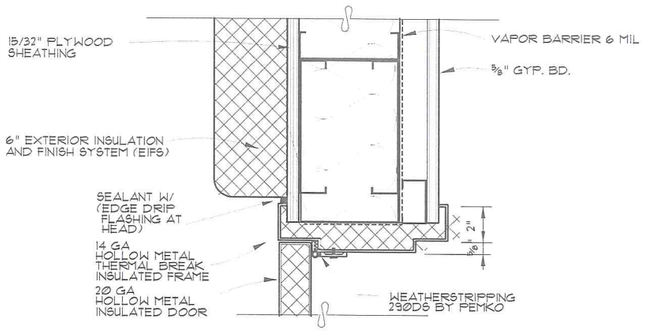
STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7664
PROFESSIONAL ARCHITECT

REVISIONS

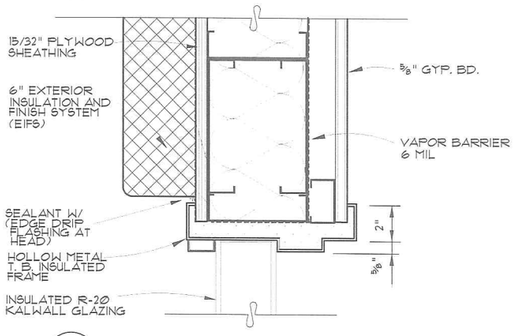
DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect@gci.net

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

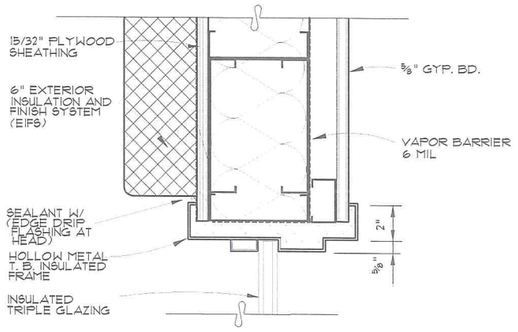
DRAWN DW
CHECKED DW
DATE 05/03/2013
JOB NO. 1305
SHEET TITLE
DOOR SCHEDULE
DOOR TYPES
WINDOW TYPES
SHEET
A9.0



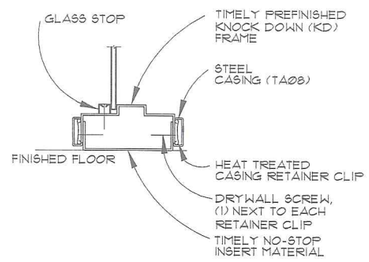
14 DOOR - HEAD
A10.0 JAMB SIMILAR



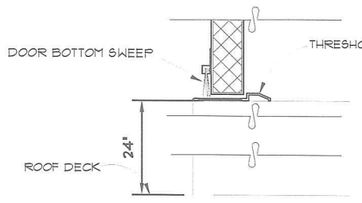
15 WINDOW DETAIL - HEAD
A10.0 JAMB SIMILAR



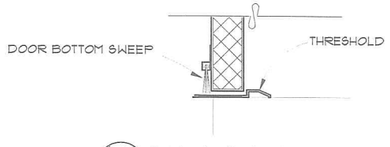
16 WINDOW DETAIL - HEAD
A10.0 JAMB SIMILAR



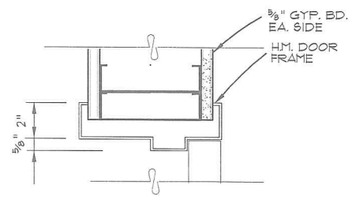
11 SIDELITE SILL
A10.0



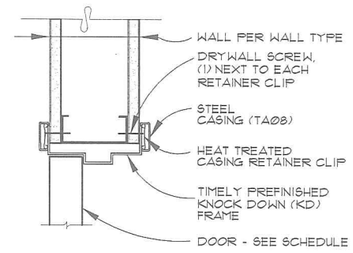
12 THRESHOLD
A10.0



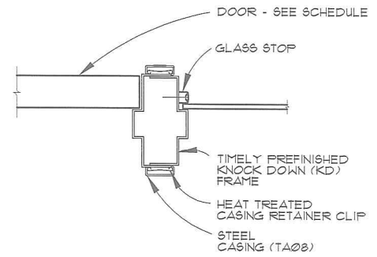
13 THRESHOLD
A10.0



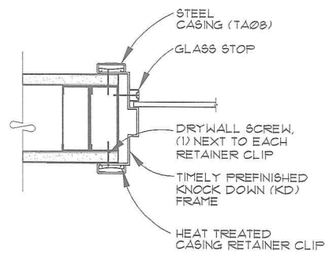
7 DOOR - JAMB
A10.0



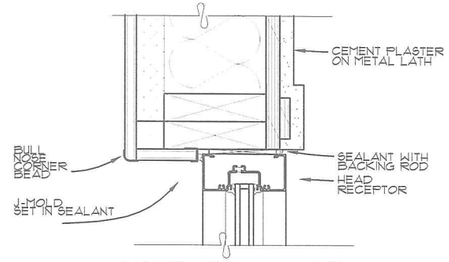
8 DOOR JAMB/HEAD SIM
A10.0



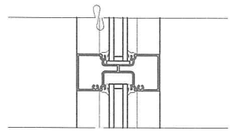
9 DOOR JAMB/SIDELITE
A10.0



10 SIDELITE JAMB
A10.0 (HEAD SIM)

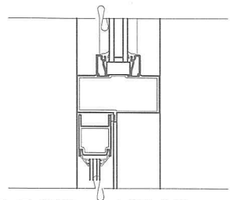


SIDELITE - JAMB
1 (HEAD SIM.)
A10.0

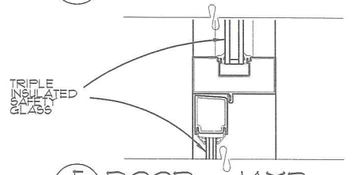


2 SIDELITE - MULLION
A10.0

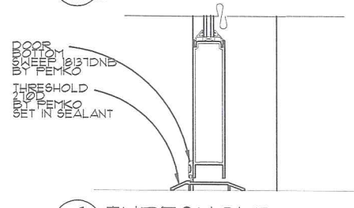
3 SIDELITE - SILL
A10.0



4 DOOR - HEAD
A10.0



5 DOOR - JAMB
A10.0



6 THRESHOLD
A10.0

NOTE:
WALL THICKNESS VARIES. VERIFY WALL THICKNESS BEFORE FABRICATING FRAMES

DOOR & WINDOW DETAILS

05/09/2013

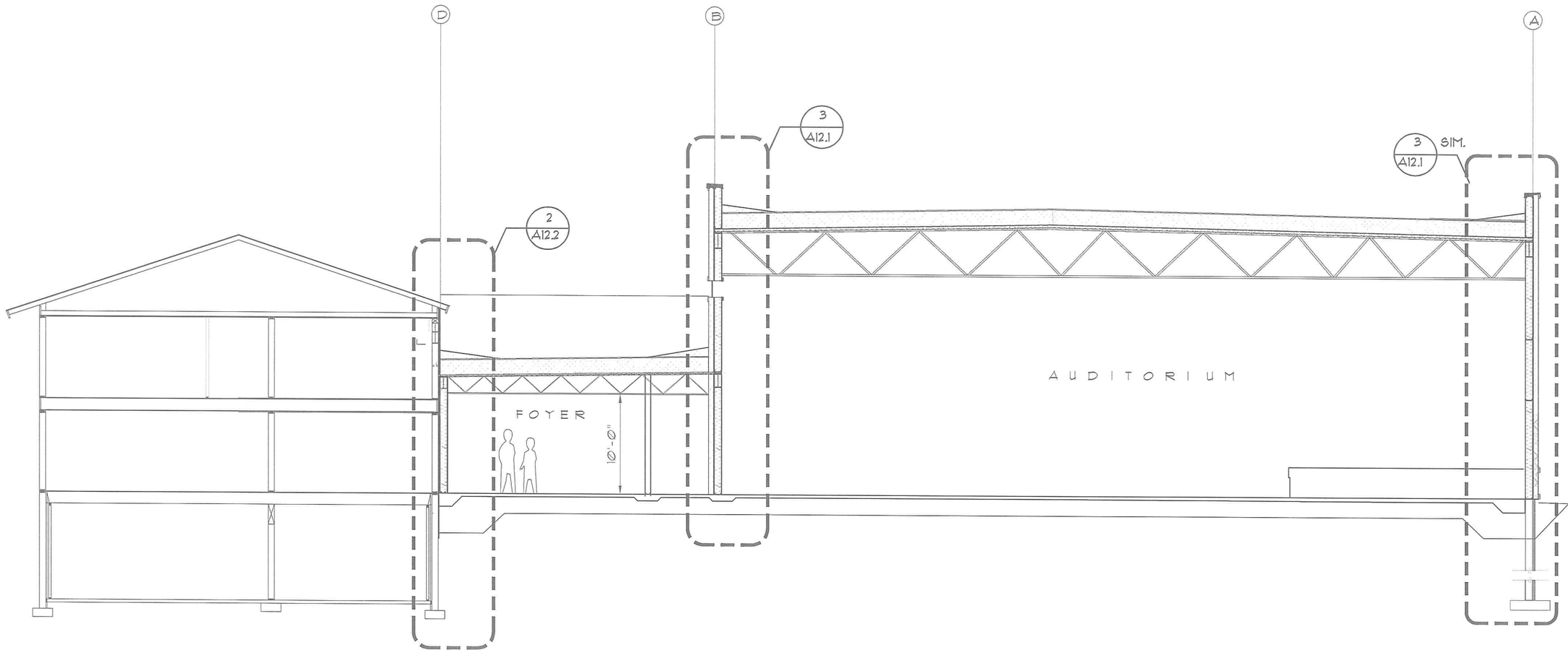
STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7664
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907 - 452 2332 fax 907 - 452 2332
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2013
JOB NO. 1305
SHEET TITLE DOOR & WINDOW DETAILS
SHEET A10.0



1 A11.1 BUILDING CROSS SECTION

3/16" = 1'-0" FULL SIZE, 3/32" = 1'-0" HALF SIZE

05/09/2013

STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

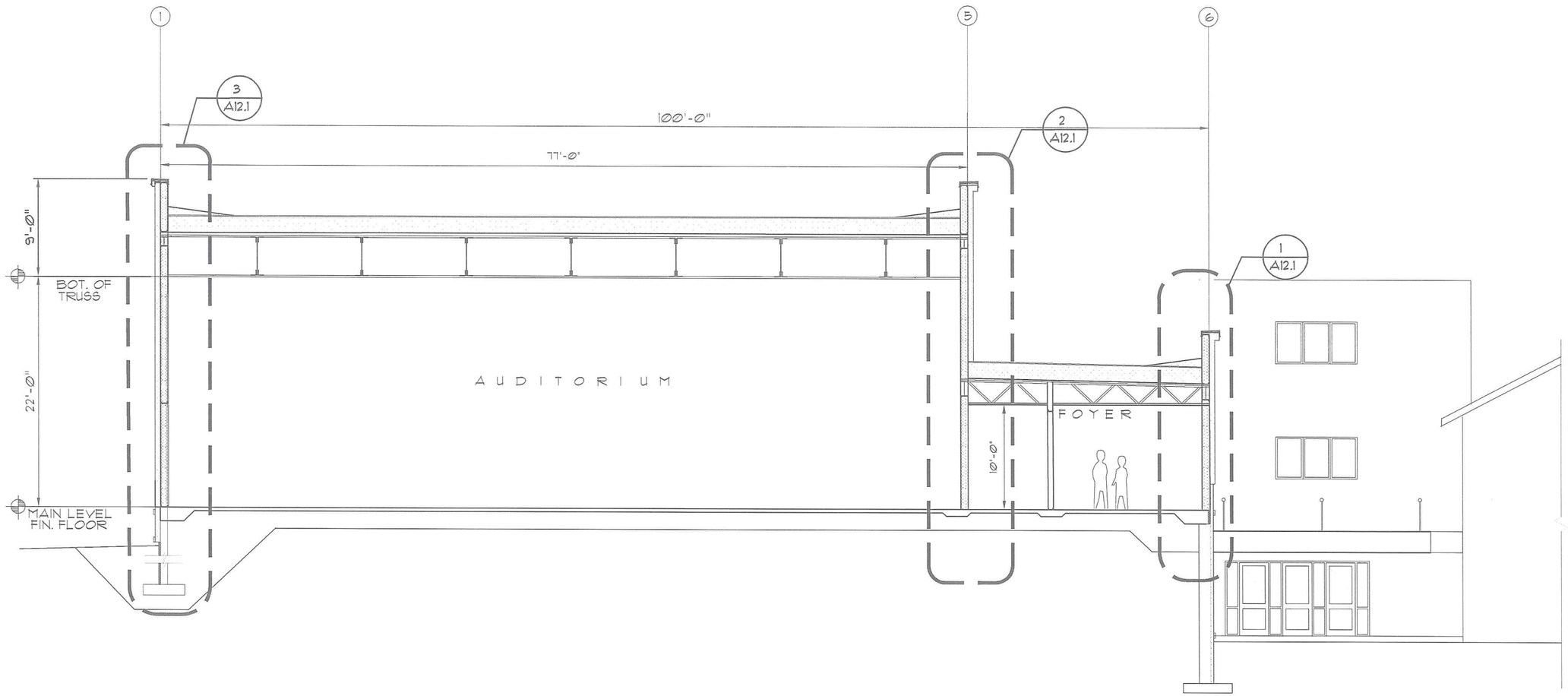
REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2359 fax 907-452-2359
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2013
JOB NO. 1305
SHEET TITLE BUILDING CROSS SECTION
SHEET A11.1



1 / A11.2 BUILDING CROSS SECTION

3/16" = 1'-0" FULL SIZE, 3/32" = 1'-0" HALF SIZE

05/09/2013

STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

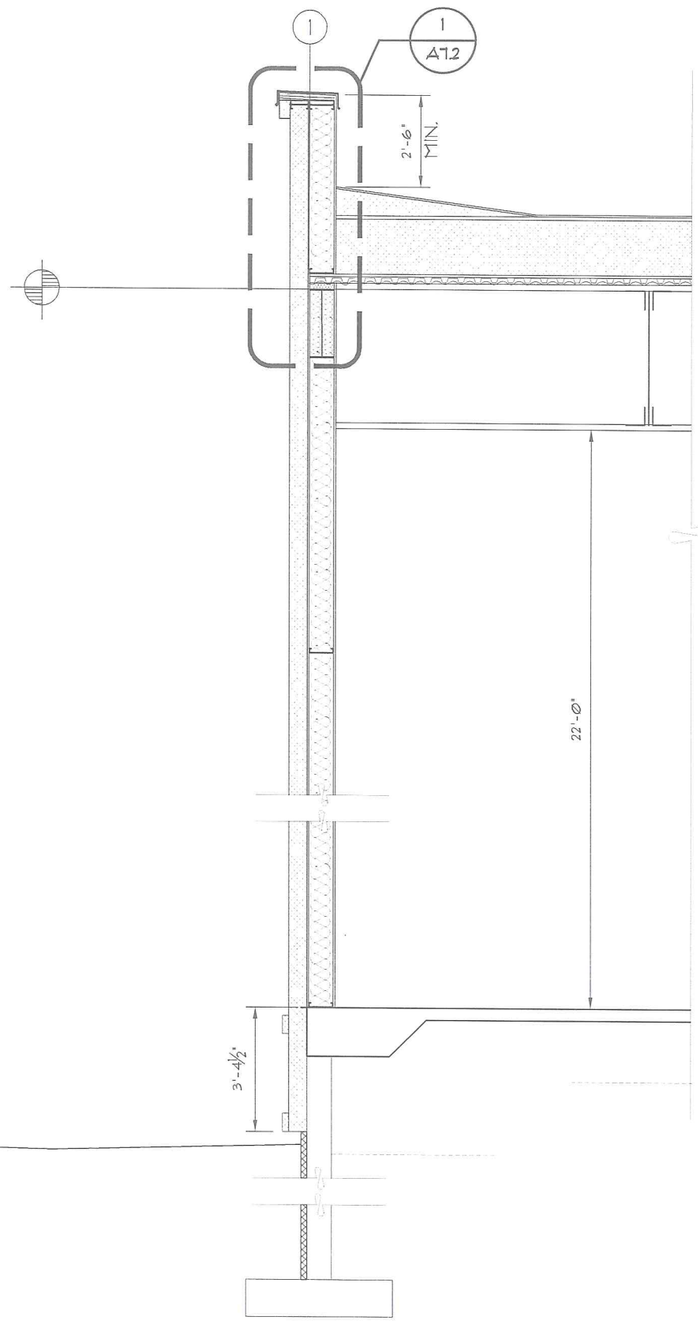
DAVID A. WHITMORE ▪ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2332 fax 907-452-2332
davidawhitmorearchitect.com

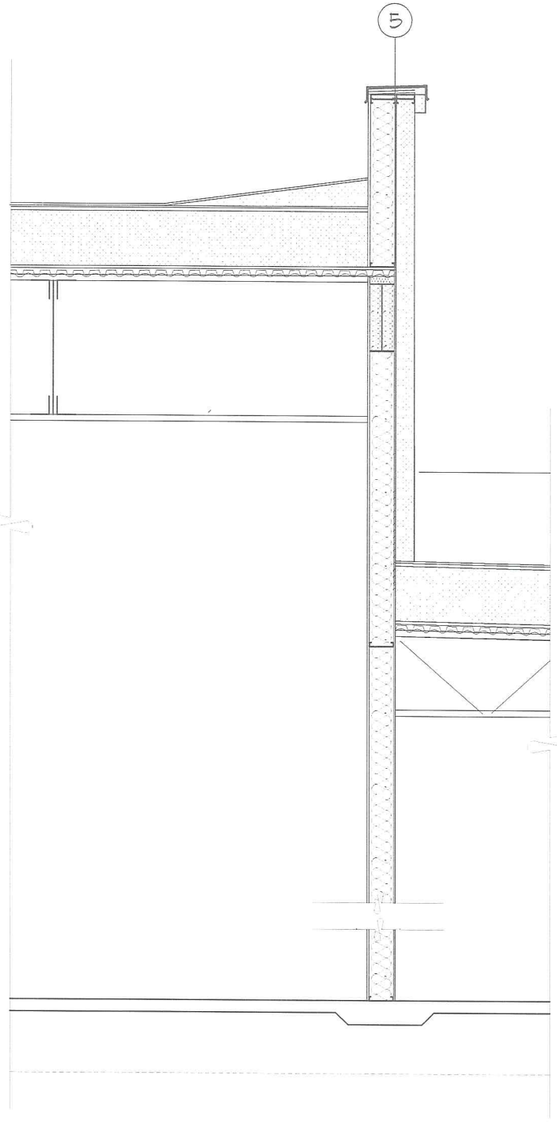
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

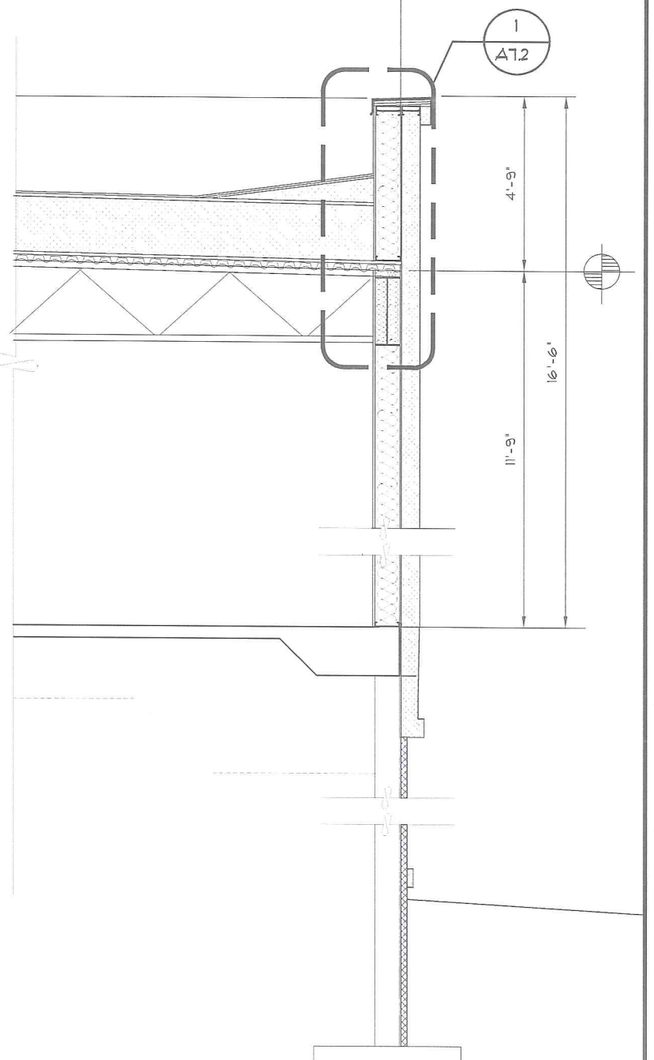
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2013
JOB NO. 1305
SHEET TITLE
BUILDING
CROSS SECTION

SHEET
A11.2







NOTE:

FOR FURTHER INFORMATION SEE STRUCTURAL DRAWINGS (S DRAWINGS)

3 A12.2 WALL SECTION

SCALE : 1/2" = 1'-0" FULL SIZE 1/4" = 1'-0" HALF SIZE

2 A12.2 WALL SECTION

SCALE : 1/2" = 1'-0" FULL SIZE 1/4" = 1'-0" HALF SIZE

1 A12.2 WALL SECTION

SCALE : 1/2" = 1'-0" FULL SIZE 1/4" = 1'-0" HALF SIZE

05/03/2013

STATE OF ALASKA 49th DAVID A. WHITMORE No. A-7654 REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT

535 Third Avenue Suite A

Fairbanks, Alaska ▫ 99701

907-452-2332 fax 907-452-2332

davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW

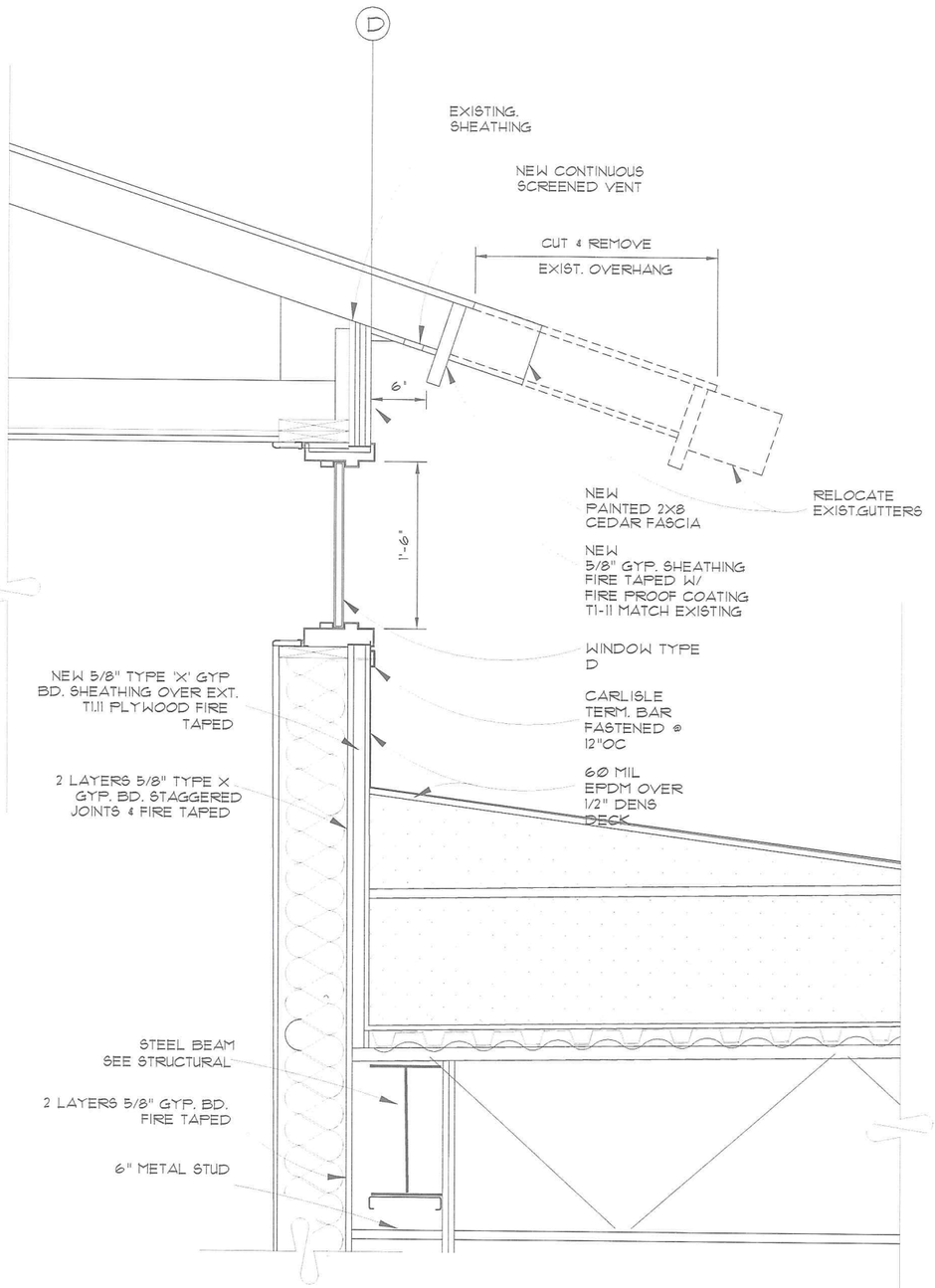
CHECKED DW

DATE 05/03/2013

JOB NO. 1205

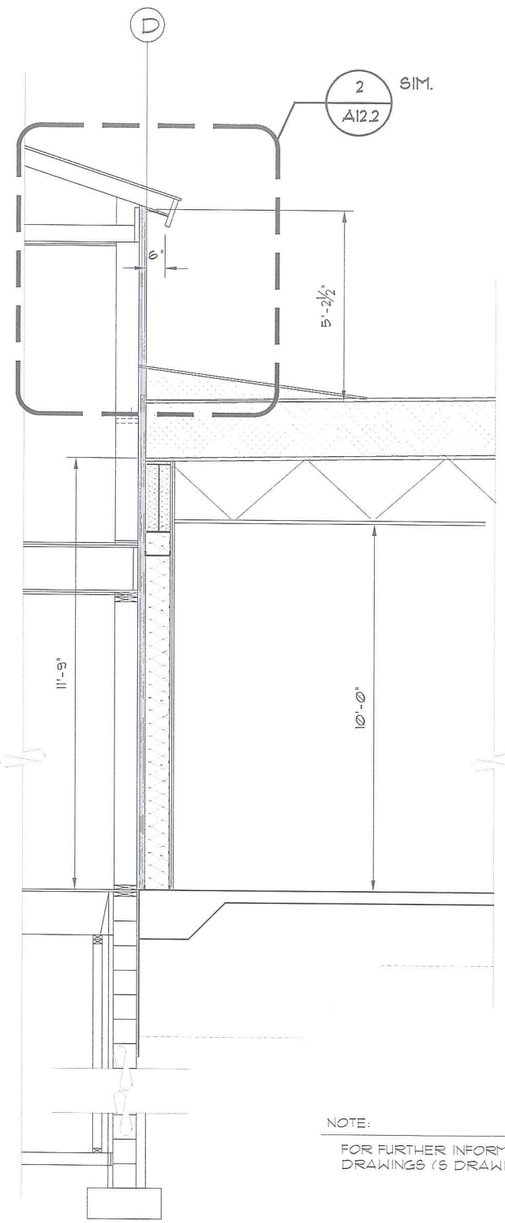
SHEET TITLE
WALL SECTIONS

SHEET
A12.1



2 / A12.2 ROOF DET. AT EXIST GRID D

SCALE : 1 1/2" = 1'-0" FULL SCALE 3/4" = 1'-0" HALF SCALE



NOTE:

FOR FURTHER INFORMATION SEE STRUCTURAL DRAWINGS (9 DRAWINGS)

1 / A12.2 EXIST. TO NEW WALL SECTION

SCALE : 1/2" = 1'-0" FULL SIZE. 1/4" = 1'-0" HALF SIZE

05/09/2013

STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

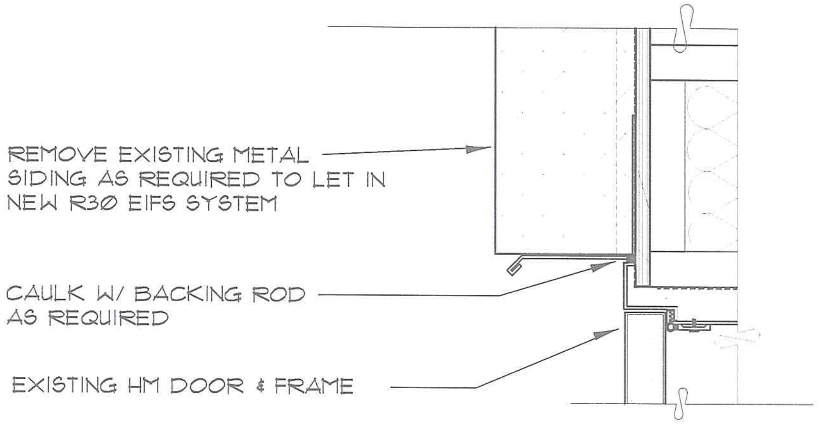
REVISIONS

DAVID A. WHITMORE ▪ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2333 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

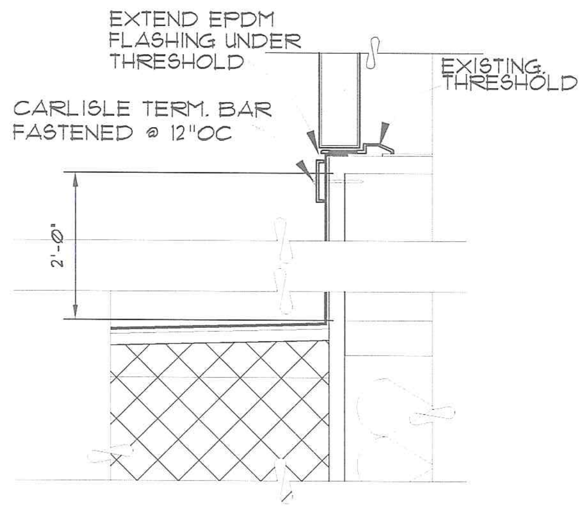
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2013
JOB NO. 1305
SHEET TITLE
WALL
SECTION
& ROOF DETAIL
SHEET
A12.2



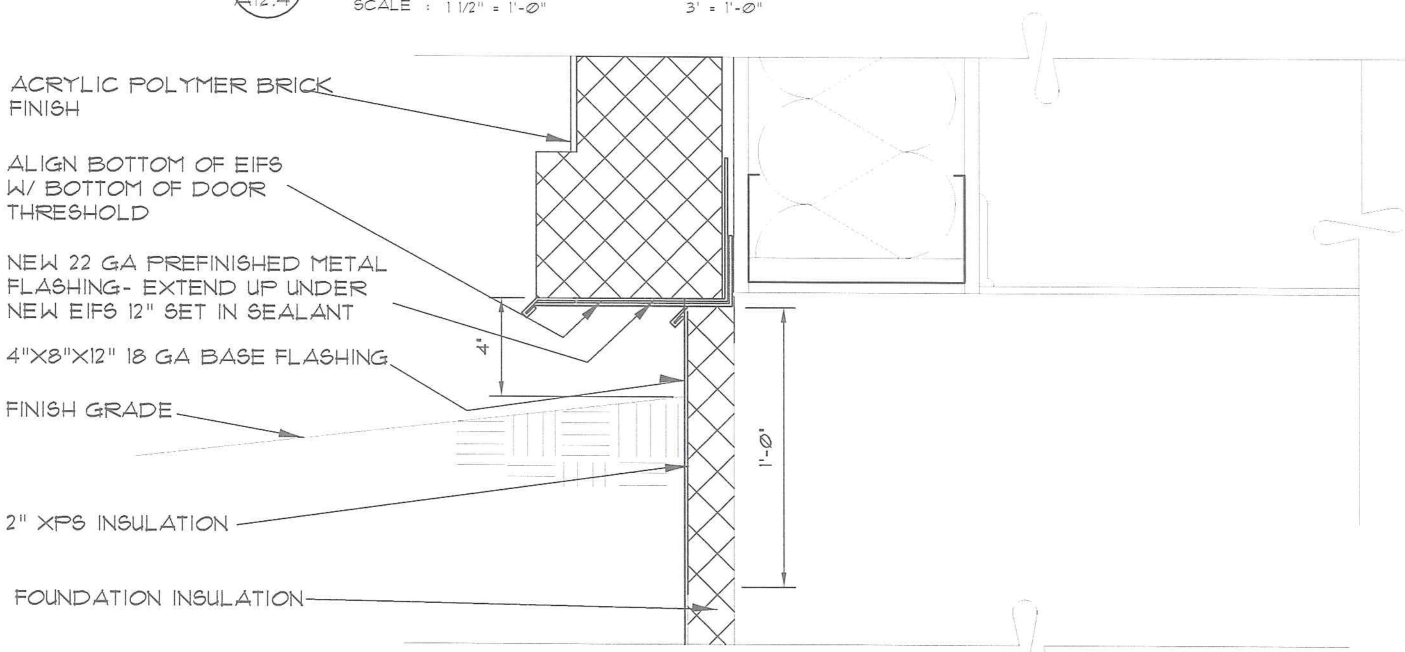
2
A12.4
NEW CONDITION AT EXIST DOOR JAMB

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



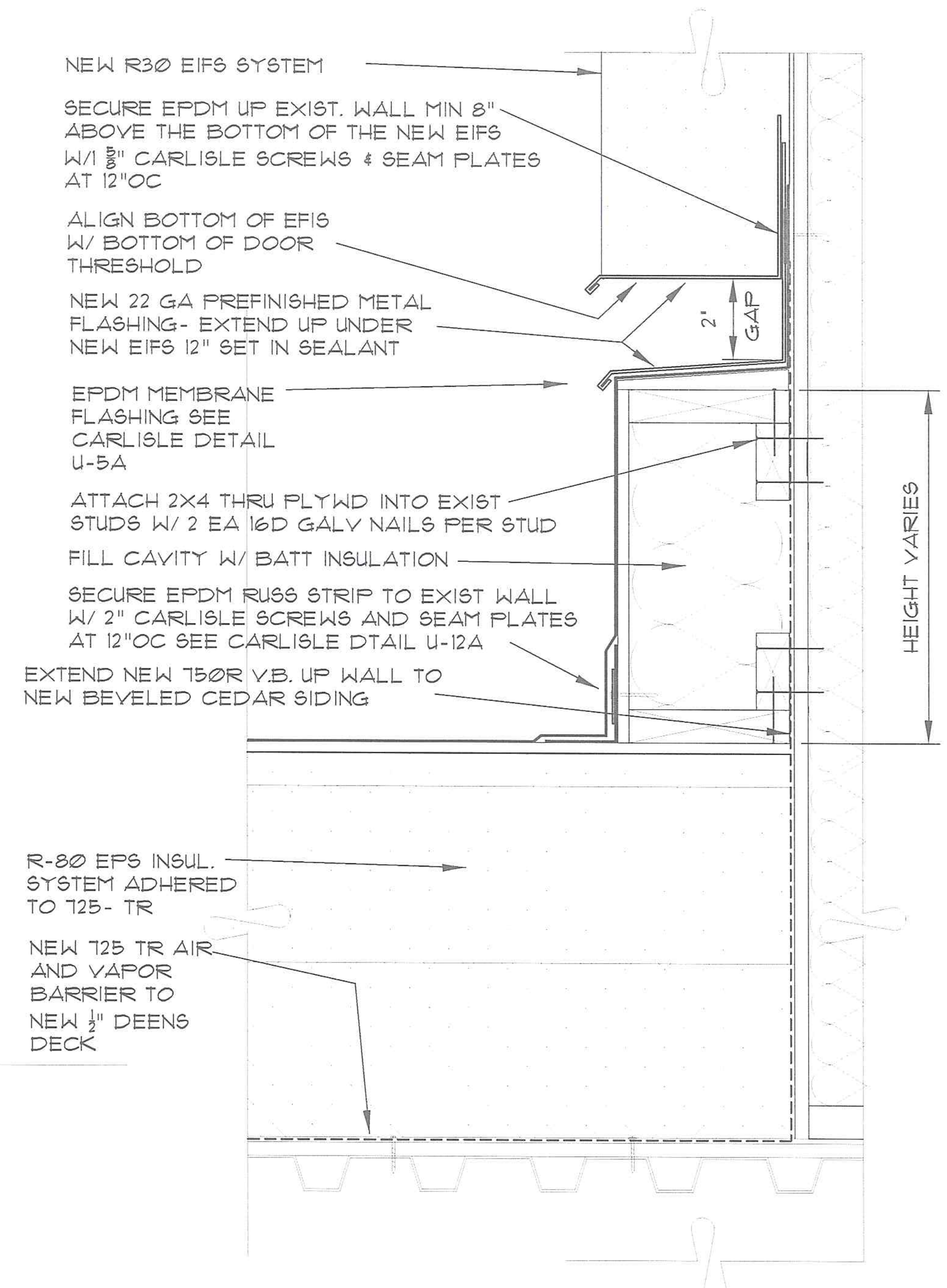
3
A12.4
NEW CONDITION AT THRESHOLD

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



4
A12.4
NEW WALL CONDITION AT GRADE

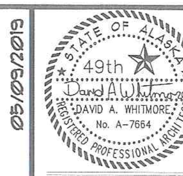
SCALE : 1 1/2" = 1'-0" 3' = 1'-0"



1
A12.4
NEW WALL CONDITION DETAIL

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

05/09/2019



REVISIONS

DAVID A. WHITMORE • ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska • 99701
907-452-2359
fax 907-452-2359
davidawhitmorearchitect.com

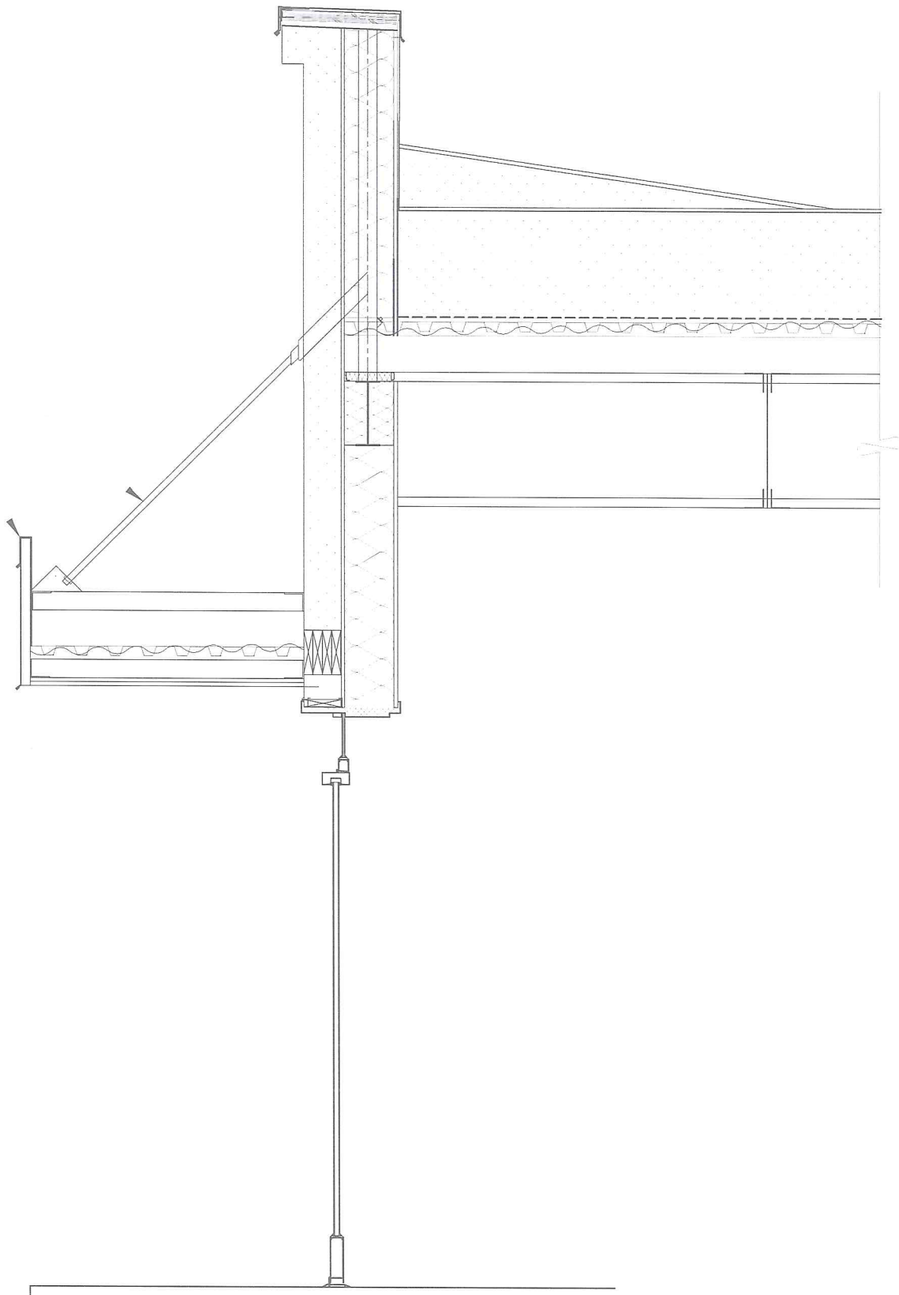
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE
MISC. DETAILS
SHEET
A12.3

SEE STRUCTURAL
FOR FURTHER INFO

NEW 22 GA PREFINISH PARAPET
CAP W/ SEALANT & 12" WIDE
CONCEALED SPLICE PLATES @
CAP JOINTS



1
A12.4

AWNING SECTION

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

05/09/2013

STATE OF ALASKA
49th
DAVID A. WHITMORE
REGISTERED PROFESSIONAL ARCHITECT
No. A-7664

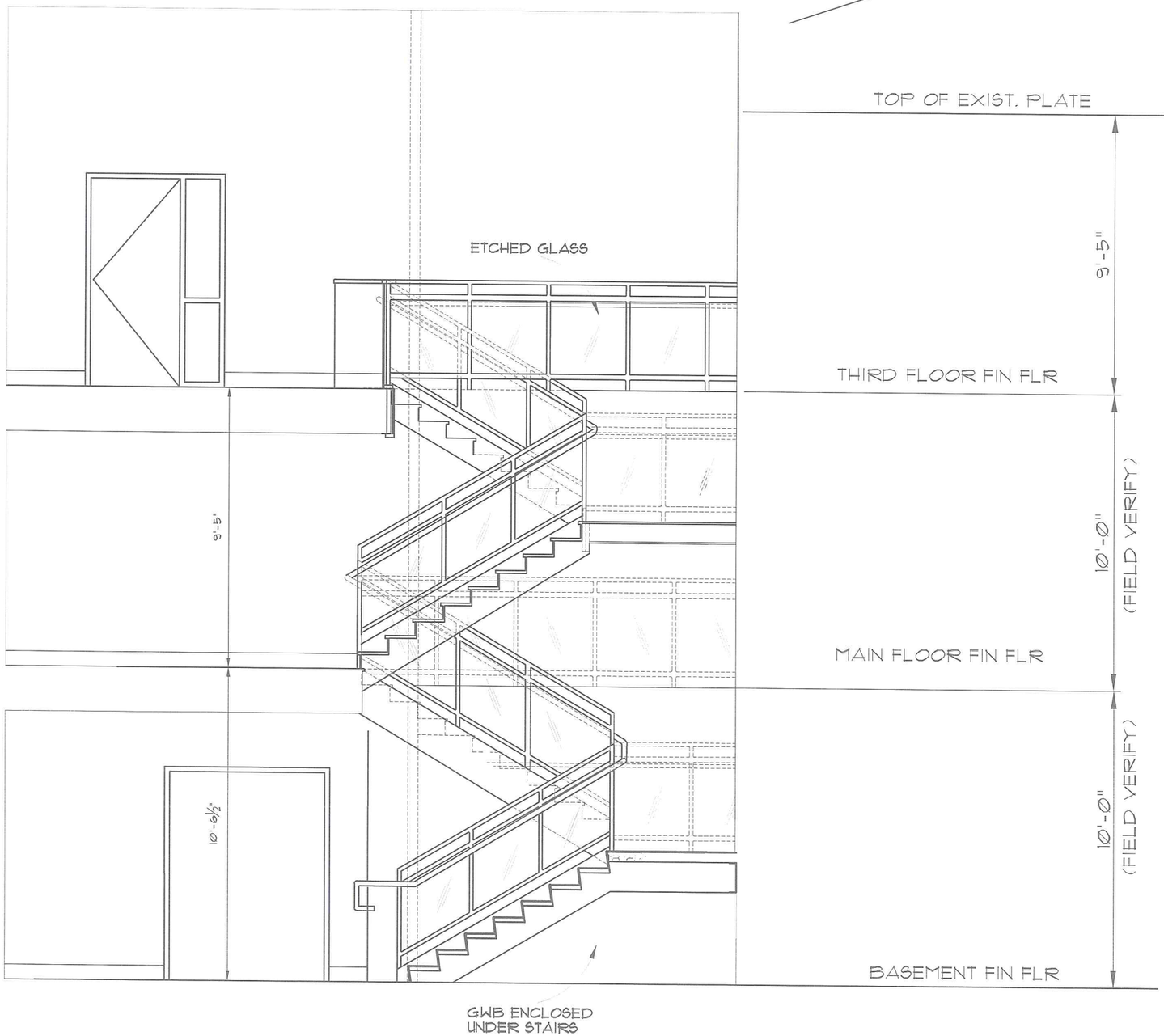
REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452 2332 fax 907-452 2332
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2013
JOB NO. 1305
SHEET TITLE AWNING SECTION
SHEET A12.4



STAIR SECTION

SCALE : 1/2" = 1'-0" FULL SIZE, 1/4" = 1'-0" HALF SIZE

05/09/2013

STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7584
REGISTERED PROFESSIONAL ARCHITECT

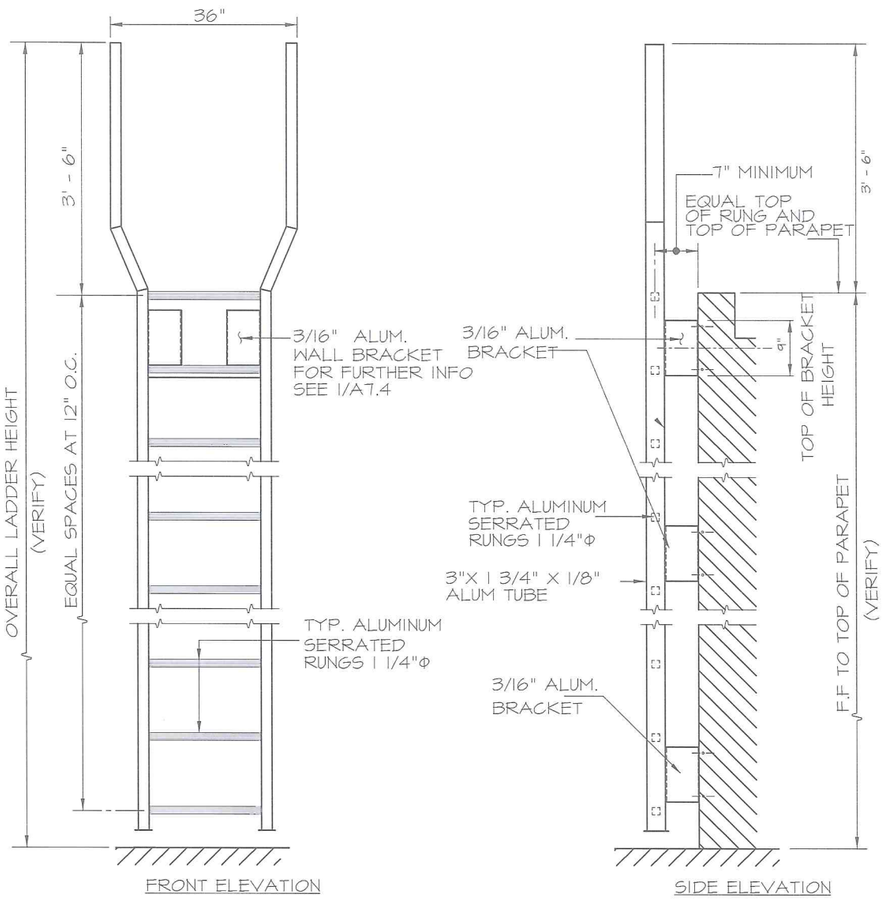
REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2332 fax 907-452-2332
davidawhitmorearchitect.com

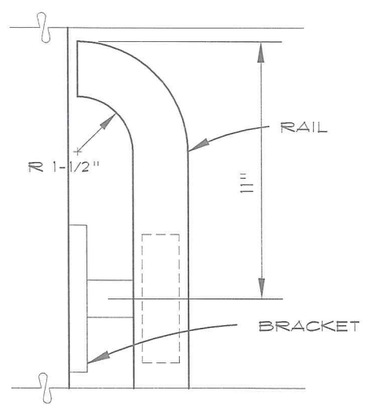
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

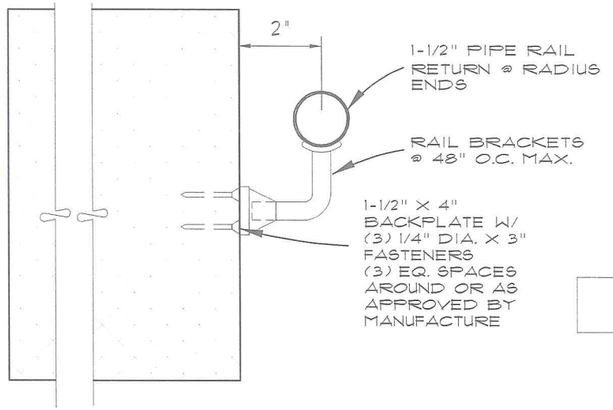
DRAWN DW
CHECKED DW
DATE 05/09/2013
JOB NO. 1005
SHEET TITLE STAIR SECTION
SHEET A13.1



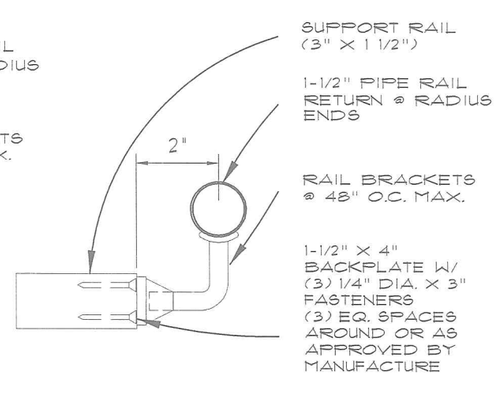
5 A13.2 ROOF LADDER DETAILS



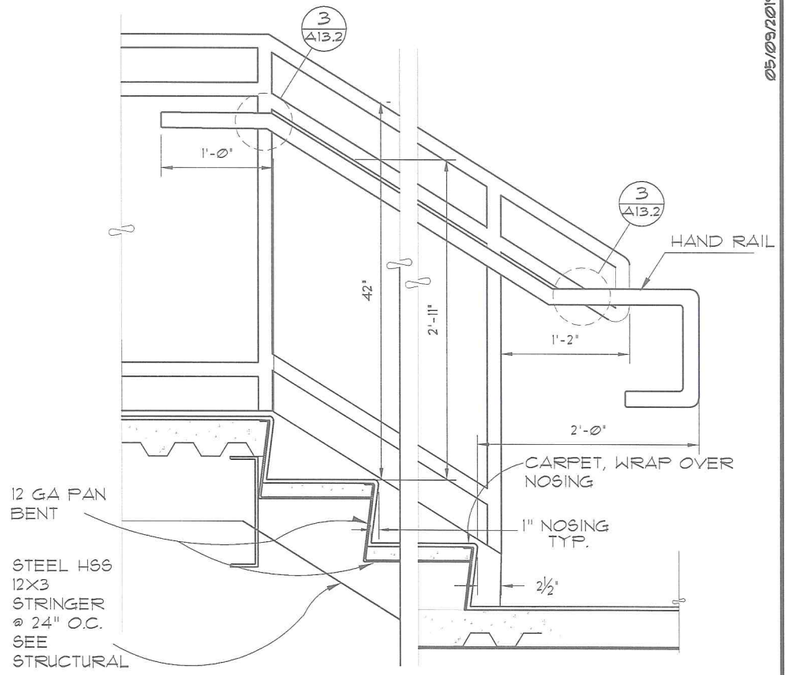
5 A13.2 HANDRAIL END SECTION



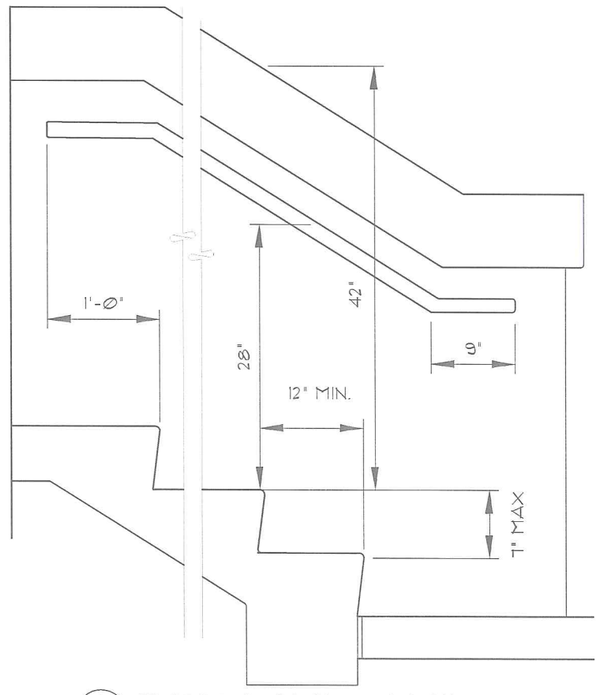
4 A13.2 HANDRAIL DETAIL



3 A13.2 HANDRAIL DETAIL



1 A13.2 TYP. STAIR DETAILS



2 A13.2 TYP.EXT. STAIR DETAILS

05/09/2019

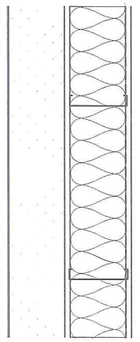
STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7664
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

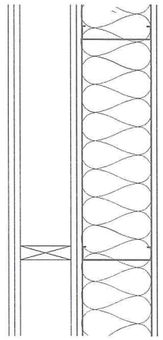
DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE
STAIR AND LADDER DETAILS
SHEET
A13.2



EXTERIOR 6" WALL

- 6" RIGID INSULATION (EPS)
- 1/2" PLYWOOD SHEATHING
- 6" METAL STUDS @ 16" O.C.
- 6 MIL VAPOR BARRIER
- 5/8" TYPE-X GWB

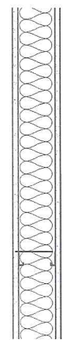
6



PARTY WALL

- OVER EXISTING T1-11 PLYWOOD SIDING 2 LAYERS TYPE X 5/8" GYP. BD W/ STAGGERED JOINTS
- 8" METAL STUDS @ 16" O.C.
- FULL THICK ACOUSTICAL BATT. INSULATION
- 6 MIL VAPOR BARRIER
- 2 LAYERS TYPE 'X' 5/8" TYPE-X GYP. W/ STAGGERED JOINTS

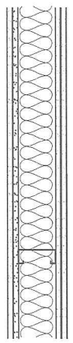
4A



TYPICAL NON-BEARING INTERIOR WALL

- 5/8" TYPE-X GWB
- 4" METAL STUDS (22 GA) @ 16" O.C.
- 3 5/8" ACOUSTICAL BATT INSULATION
- 5/8" TYPE-X GWB

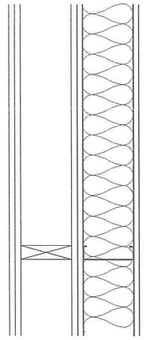
1



TYPICAL NON-BEARING INTERIOR WALL

- 2 LAYERS 5/8" TYPE-X GWB
- 4" METAL STUDS (22 GA) @ 16" O.C.
- 3 5/8" ACOUSTICAL BATT INSULATION
- 2 LAYERS 5/8" TYPE-X GWB

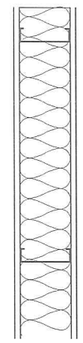
7



PARTY WALL

- OVER EXISTING T1-11 PLYWOOD SIDING 2 LAYERS TYPE X 5/8" GYP. BD W/ STAGGERED JOINTS
- 6" METAL STUDS @ 16" O.C.
- FULL THICK ACOUSTICAL BATT. INSULATION
- 6 MIL VAPOR BARRIER
- 2 LAYERS TYPE 'X' 5/8" TYPE-X GYP. W/ STAGGERED JOINTS

4B



PLUMBING & ELEVATOR WALL (SIM)

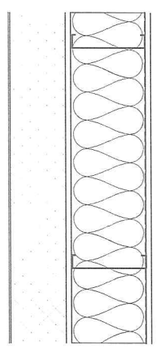
- 5/8" TYPE-X GWB
- 6"METAL STUDS @ 16" O.C.
- 5.5" ACOUSTICAL BATT INSULATION
- 5/8" TYPE-X GWB

2

INTERIOR 8" CONCRETE WALL

- 8" CONCRETE
- 1/2" DENS DECK
- ACRYLIC POLYMER BRICK FINISH

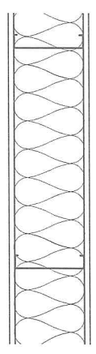
8



EXTERIOR 8" WALL

- 6" RIGID INSULATION (EPS)
- 1/2" PLYWOOD SHEATHING
- 8" METAL STUDS @ 16" O.C.
- 6 MIL VAPOR BARRIER
- 5/8" TYPE-X GWB

5



INTERIOR BEARING WALL

- 5/8" TYPE-X GWB
- 8" METAL STUDS @ 16" O.C.
- 8" ACOUSTICAL BATT INSULATION
- 5/8" TYPE-X GWB

3

NOTES:

1. VERTICAL ASSEMBLIES EXTEND TO ROOF/CEILING ASSEMBLY ABOVE UNLESS NOTES OTHERWISE.
2. SET SOUND SEALANT UNDER BOTTOM PLATE OF ALL NEW PARTITIONS FOR SOUND CONTROL.

VERTICAL WALL ASSEMBLIES

SCALE : 1-1/2" = 1'-0" FULL SIZE, 3/4" = 1'-0" HALF SIZE

05/09/2015

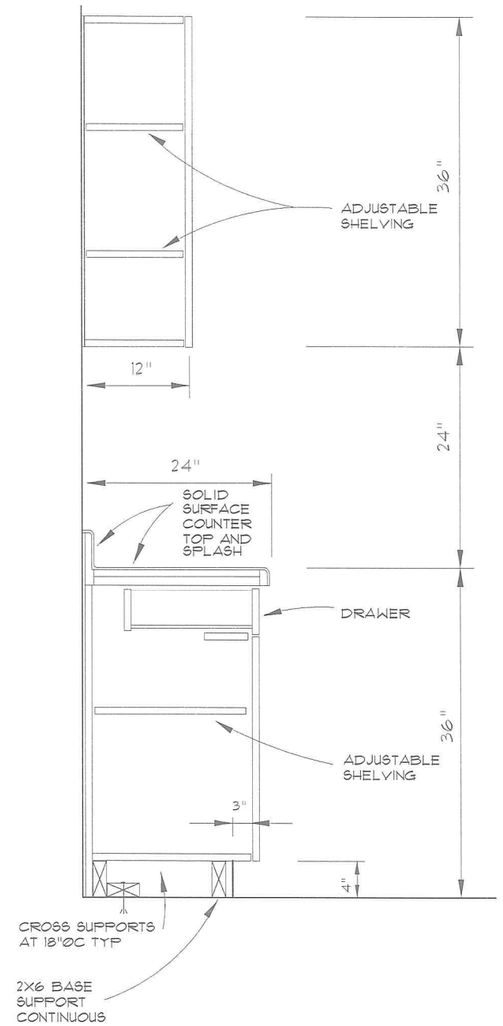
STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7654
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2359 fax 907-452-2359
davidawhitmorearchitect.com

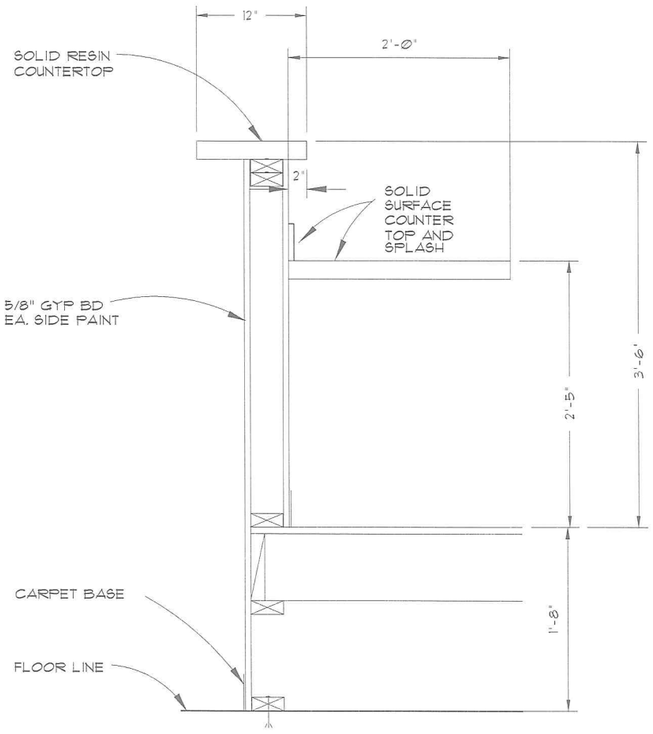
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2015
JOB NO. 1505
SHEET TITLE VERTICAL WALL ASSEMBLIES
SHEET A14.0



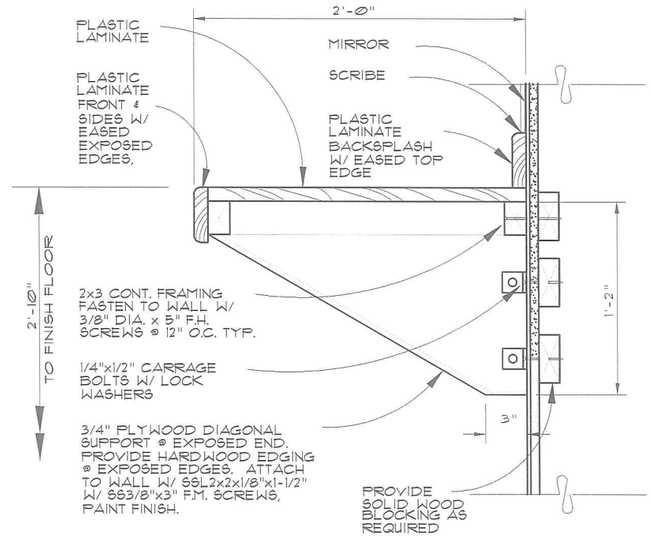
3 / A15.1 CASEWORK DETAIL

SCALE : 1 1/2" = 1'-Ø" FULL SIZE 3/4" = 1'-Ø" HALF SIZE



2 / A15.1 AVL BOOTH DETAIL

SCALE : 1 1/2" = 1'-Ø" FULL SIZE 3/4" = 1'-Ø" HALF SIZE



1 / A15.1 COUNTERTOP

SCALE : 1 1/2" = 1'-Ø" FULL SIZE 3/4" = 1'-Ø" HALF SIZE

05/09/2019

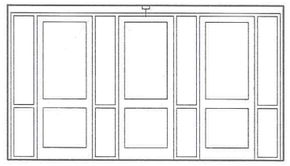
STATE OF ALASKA 49th
DAVID A. WHITMORE
REGISTERED PROFESSIONAL ARCHITECT
No. A-7654

REVISIONS

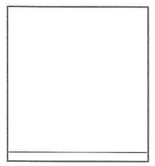
DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

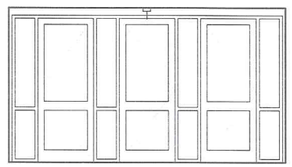
DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE MISC. DETAILS
SHEET A15.1



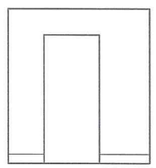
1 SOUTH
ENTRY 101



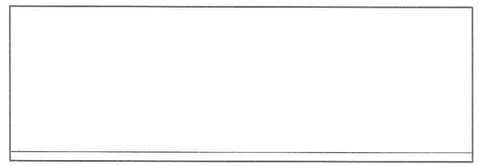
2 WEST



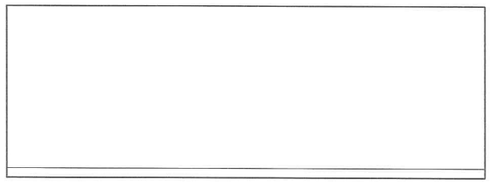
3 NORTH



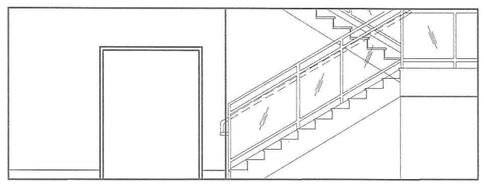
4 EAST



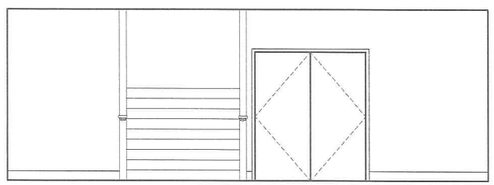
5 SOUTH
ENTRY 102



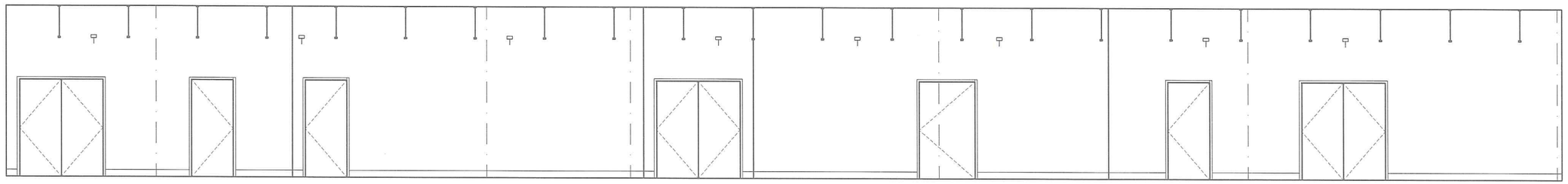
6 WEST
ENTRY 102



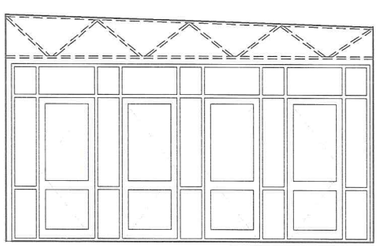
7 NORTH



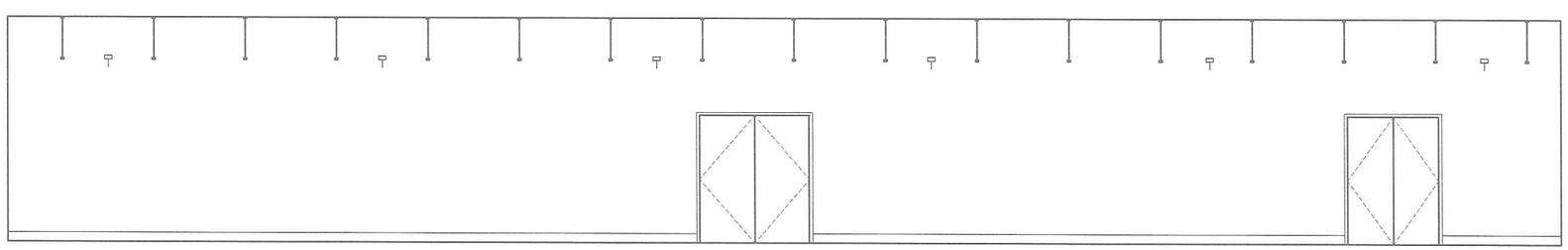
8 EAST



9 WEST SOUTHWEST
FOYER 202



10 WEST
FOYER 202



11 NORTH

NOTE:
SEE ELECTRIAL
FOR LIGHTING LAYOUT

INTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

05/09/2019

STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7564
REGISTERED PROFESSIONAL ARCHITECT

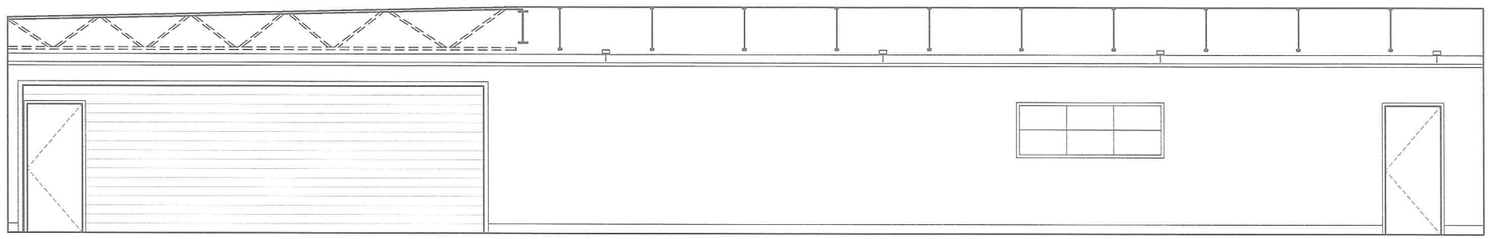
REVISIONS

DAVID A WHITMORE ▪ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2339 fax 907-452-2339
david.a.whitmorearchitect.com

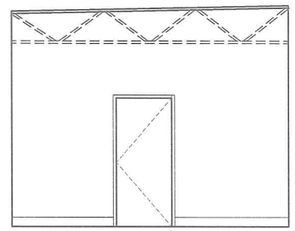
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE INTERIOR ELEVATIONS

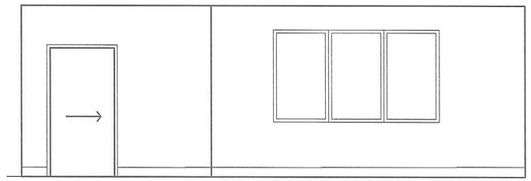
SHEET
A16.1



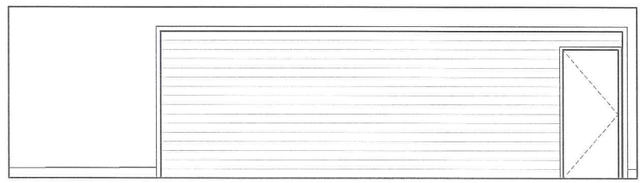
1 EAST
FOYER 202



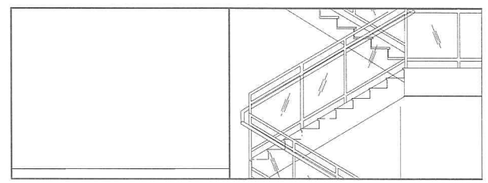
2 SOUTH



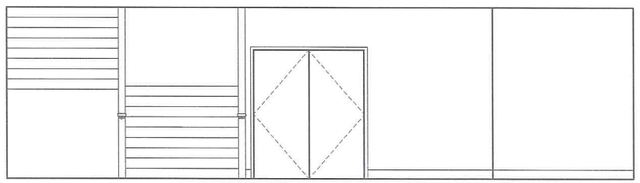
3 SOUTH
ENTRY 203



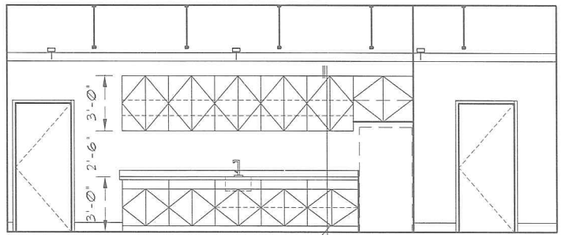
4 WEST



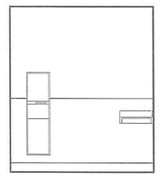
5 NORTH



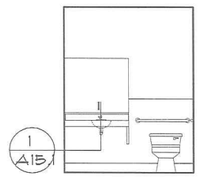
6 EAST
ENTRY 203



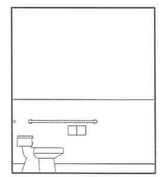
7 WEST
GREEN RM 204



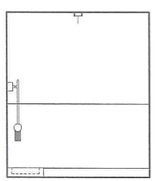
8 SOUTH
TOILET 205



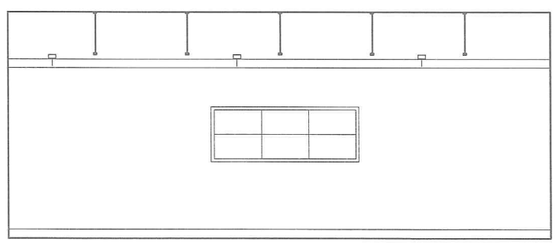
9 WEST



10 NORTH



11 SOUTH
JAN 207



12 EAST
GREEN RM 204

NOTE:
SEE ELECTRIAL
FOR LIGHTING LAYOUT

INTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

05/03/2019

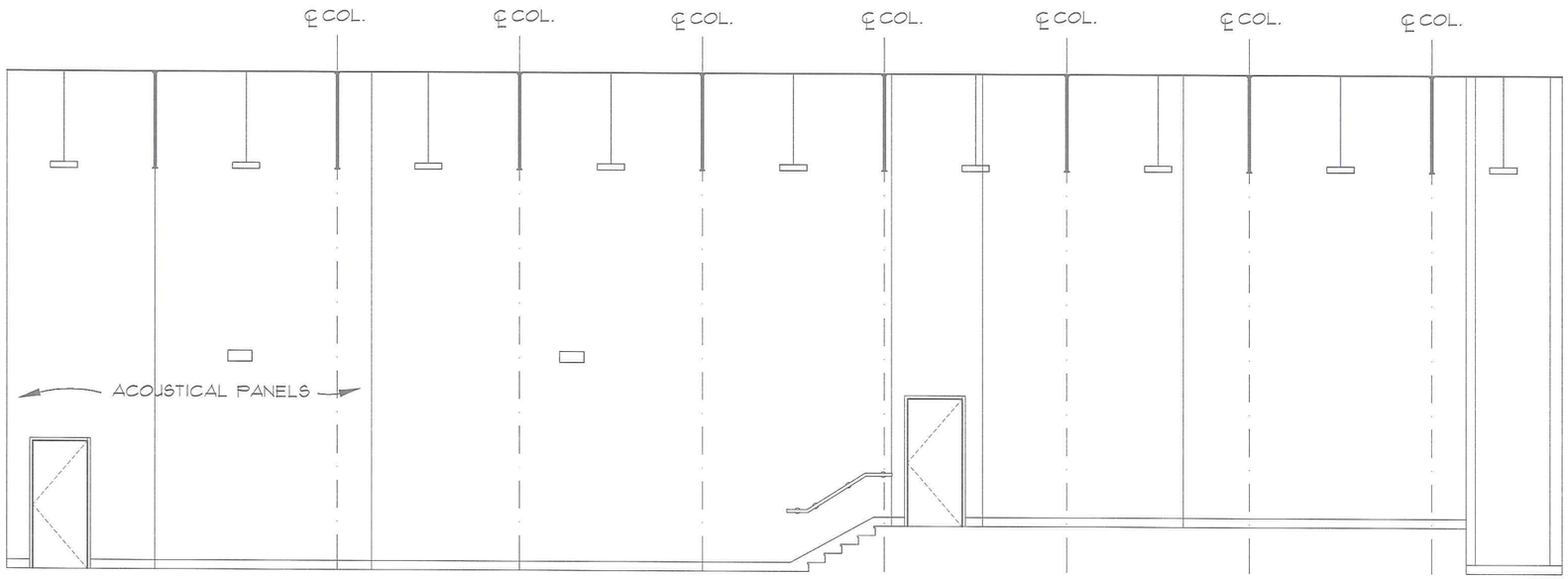
STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7564
PROFESSIONAL ARCHITECT

REVISIONS

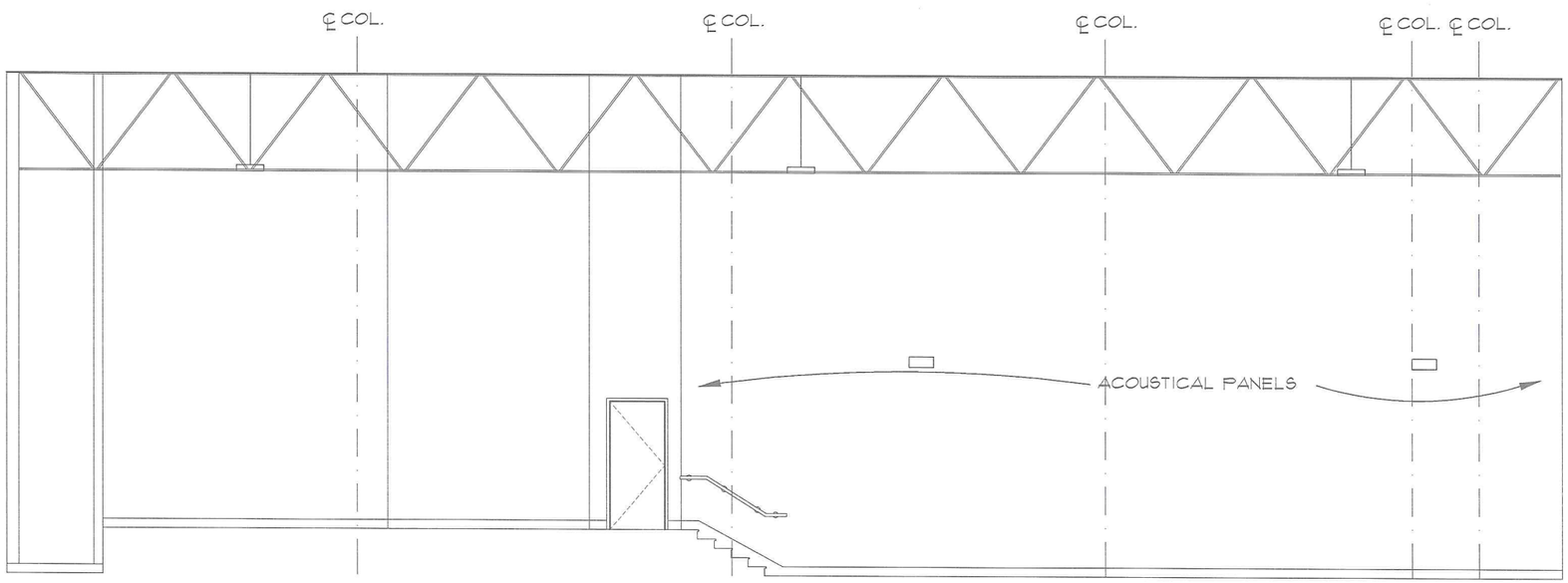
DAVID A WHITMORE ▪ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▪ 99701
907-452-2339 fax 907-452-2339
david@davidawhitmore.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/03/2019
JOB NO. 1805
SHEET TITLE INTERIOR ELEVATIONS
SHEET A16.2



1 SOUTH
AUDITORIUM 214



2 WEST
AUDITORIUM 214

NOTE:
SEE ELECTRIAL
FOR LIGHTING LAYOUT

INTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

05/03/2019

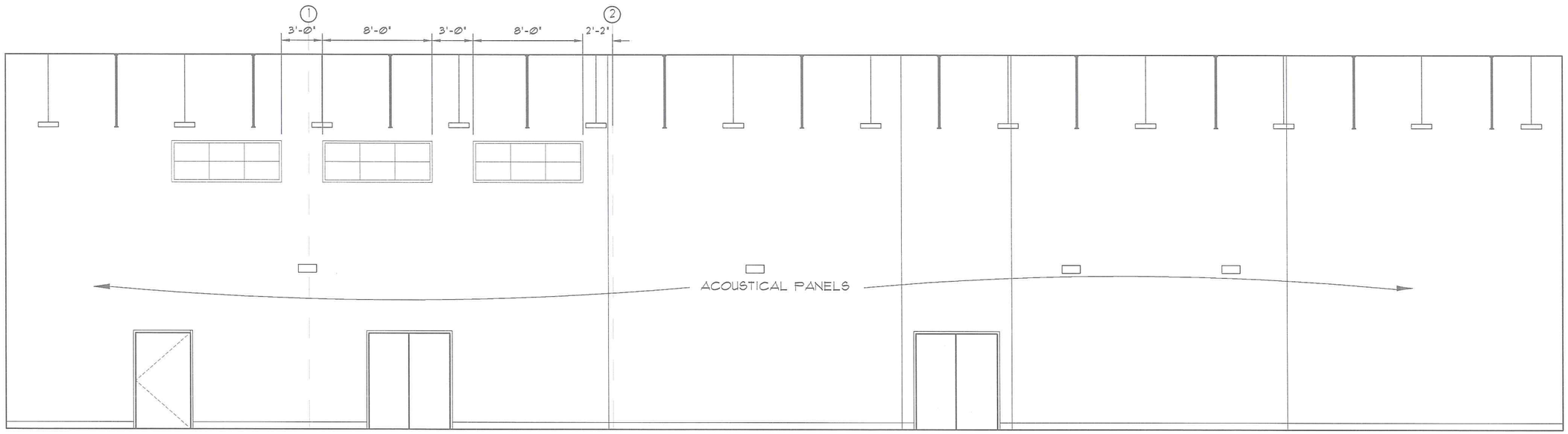
STATE OF ALASKA 49th
DAVID A. WHITMORE
No. A-7554
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

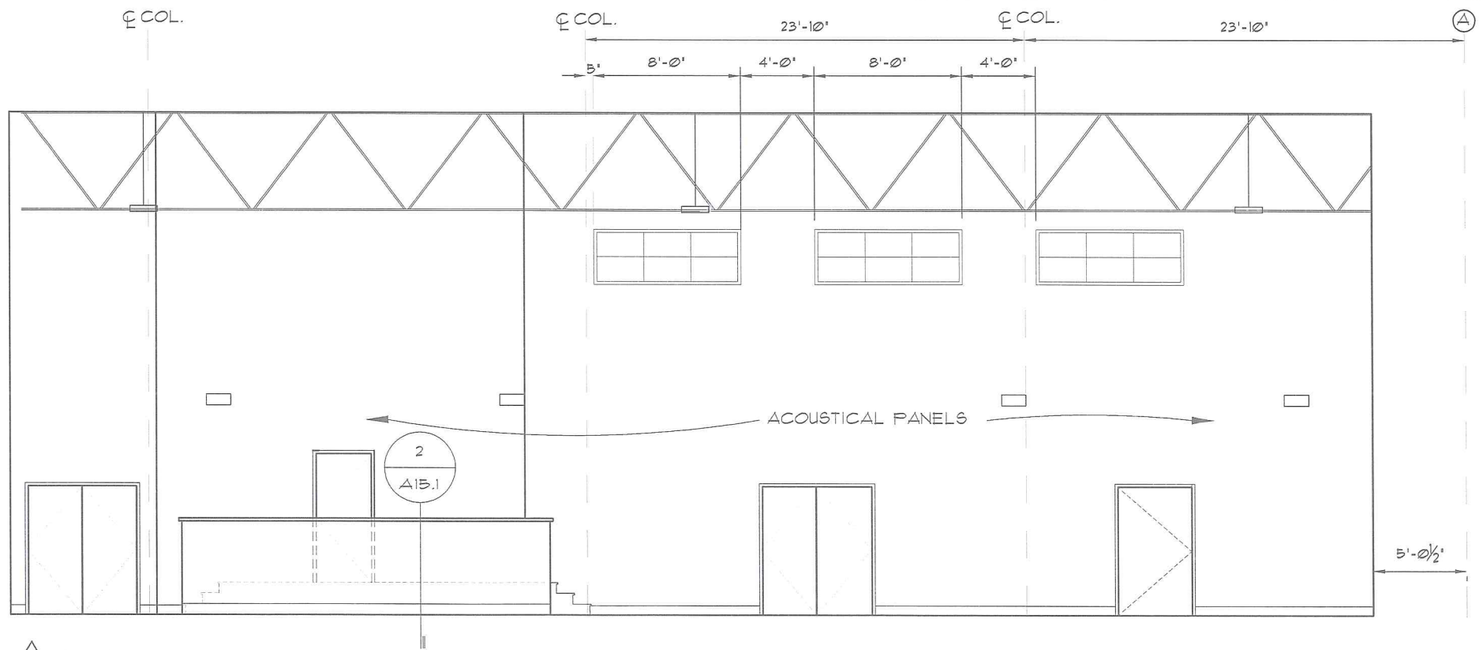
DAVID A WHITMORE ▫ ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2339 fax 907-452-2559
david.whitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/03/2019
JOB NO. 1805
SHEET TITLE INTERIOR ELEVATIONS
SHEET A16.3



1 NORTH
AUDITORIUM 214



2 EAST
AUDITORIUM 214

NOTE:
SEE ELECTRIAL
FOR LIGHTING LAYOUT

INTERIOR ELEVATIONS

SCALE: 1/4" = 1'-Ø" FULL SIZE, 1/8" = 1'-Ø" HALF SIZE

05/03/2019

STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7564
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

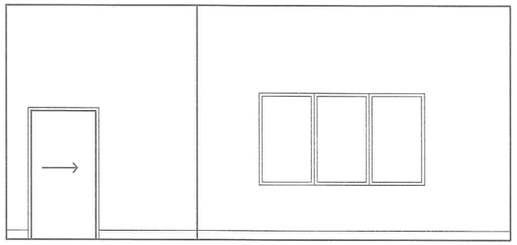
DAVID A WHITMORE ▫ ARCHITECT
355 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2359 fax 907-452-2359
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

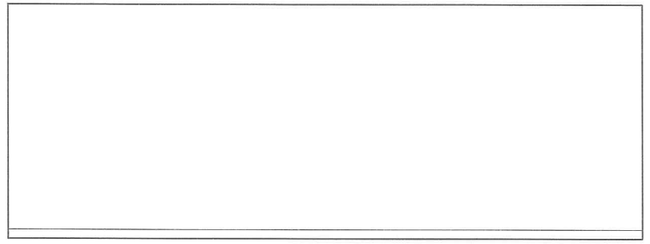
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/03/2019
JOB NO. 1805
SHEET TITLE INTERIOR ELEVATIONS

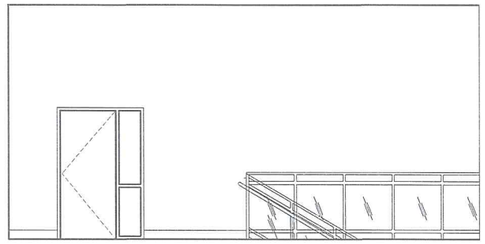
SHEET A16.4



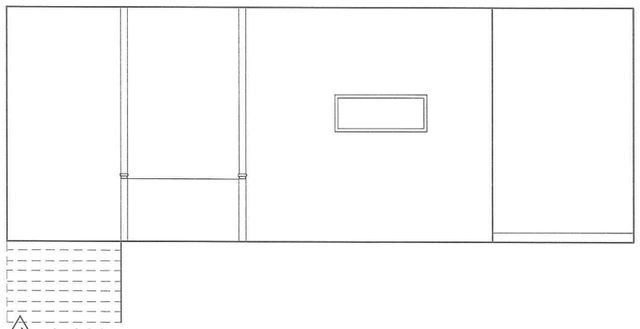
1 SOUTH
ENTRY 301



2 WEST



3 NORTH



4 EAST
ENTRY 301

INTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0" FULL SIZE, 1/8" = 1'-0" HALF SIZE

05/09/2019

STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7564
REGISTERED PROFESSIONAL ARCHITECT

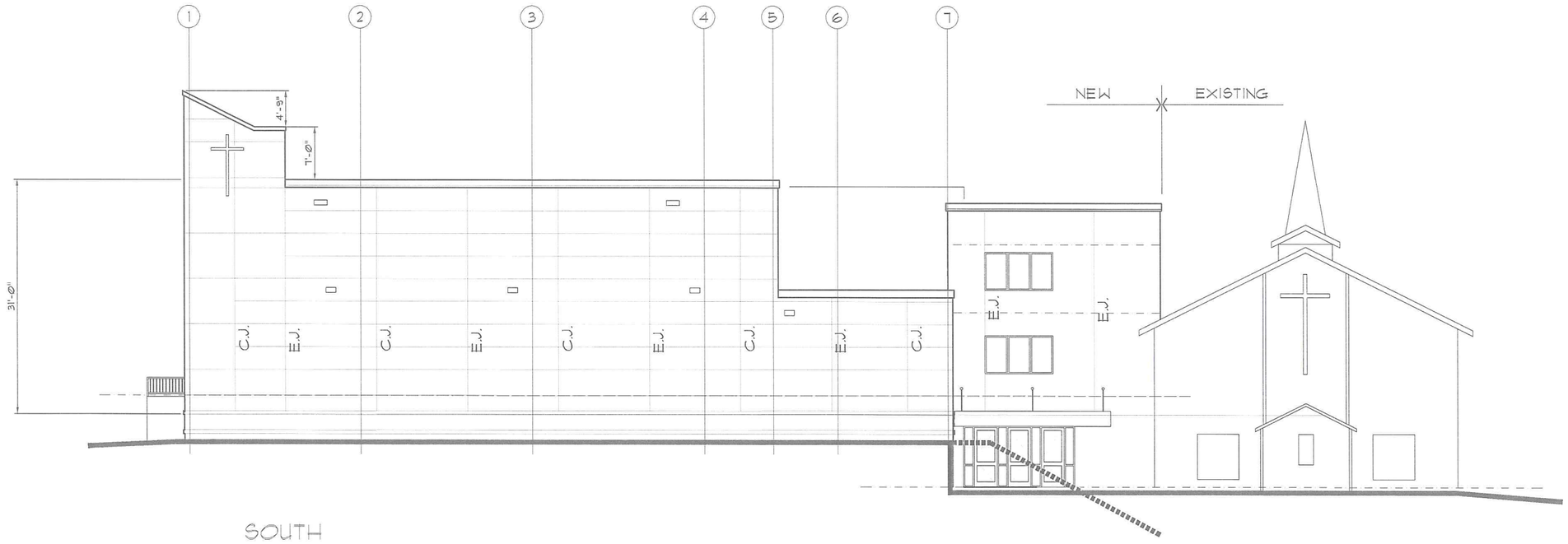
REVISIONS

DAVID A WHITMORE ▫ ARCHITECT
355 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2332 fax 907-452-2332
davidawhitmorearchitect.com

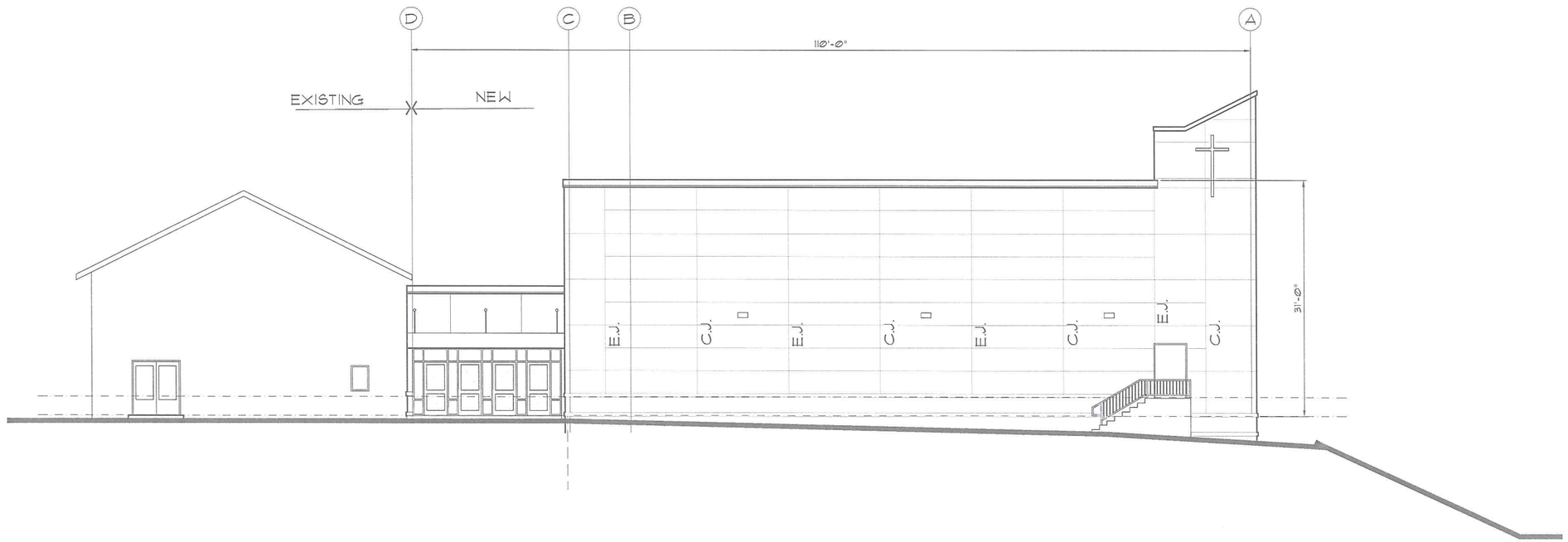
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/03/2019
JOB NO. 1805
SHEET TITLE INTERIOR ELEVATIONS
SHEET A16.5



SOUTH



WEST

EXTERIOR ELEVATIONS

SCALE: 1/8" = 1'-0" FULL SIZE, 1/16" = 1'-0" HALF SIZE

05/09/2019

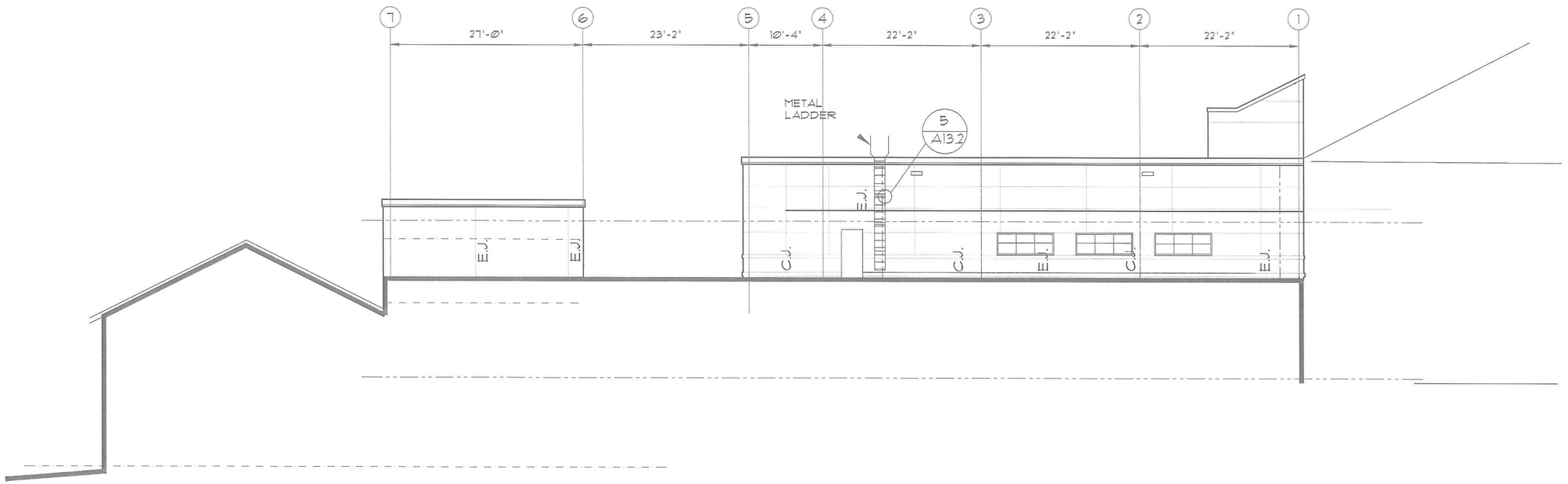
STATE OF ALASKA
49th
Licensed A.K.A. Incorporated
DAVID A. WHITMORE, AIA
No. A-7684
REGISTERED PROFESSIONAL ARCHITECT

REVISIONS

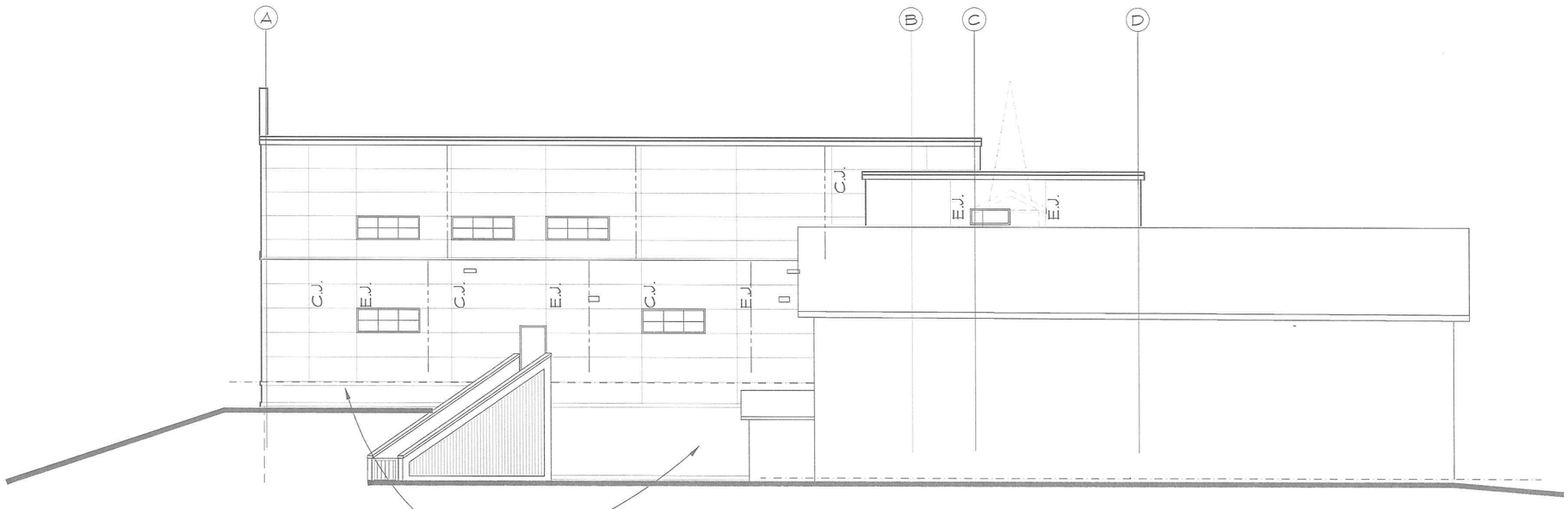
DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2332 fax 907-452-2332
davidawhitmorearchitect.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE EXTERIOR ELEVATIONS
SHEET A17.1



NORTH



EAST

EXTERIOR ELEVATIONS

SCALE: 1/8" = 1'-0" FULL SIZE, 1/16" = 1'-0" HALF SIZE

05/09/2019

STATE OF ALASKA 49th DAVID A. WHITMORE No. A-7654 REGISTERED PROFESSIONAL ARCHITECT

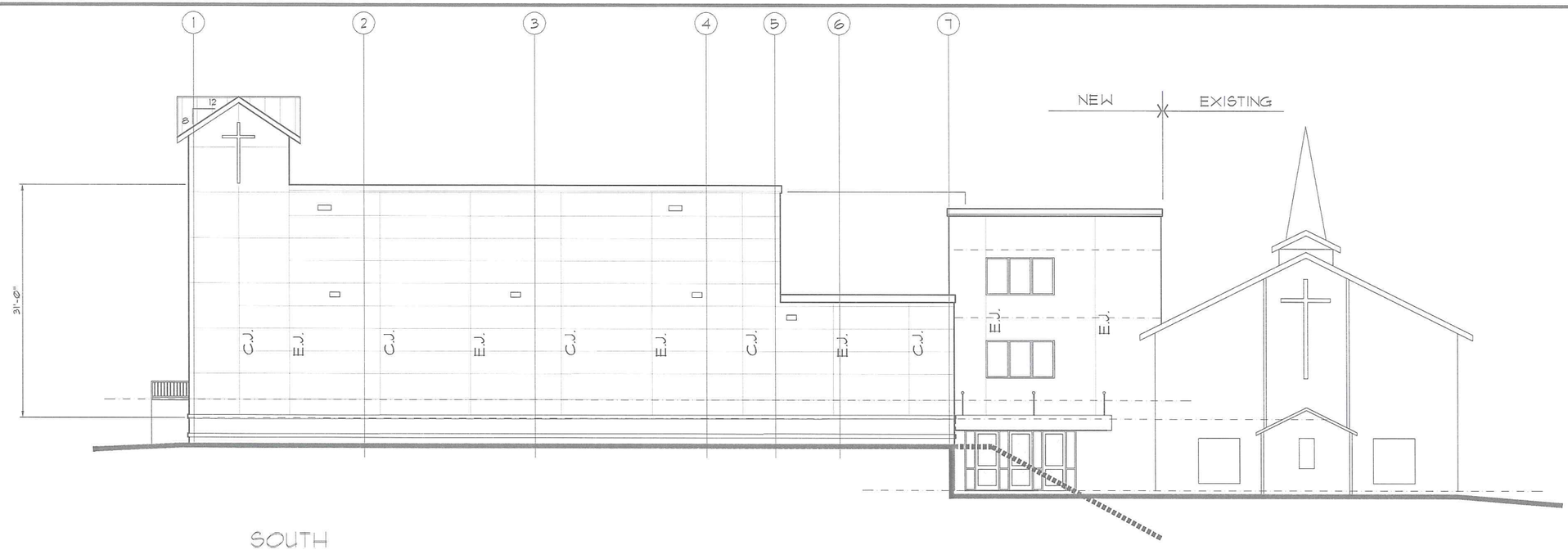
REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452 2339 fax 907-452 2339
davidawhitmorearchitect.com

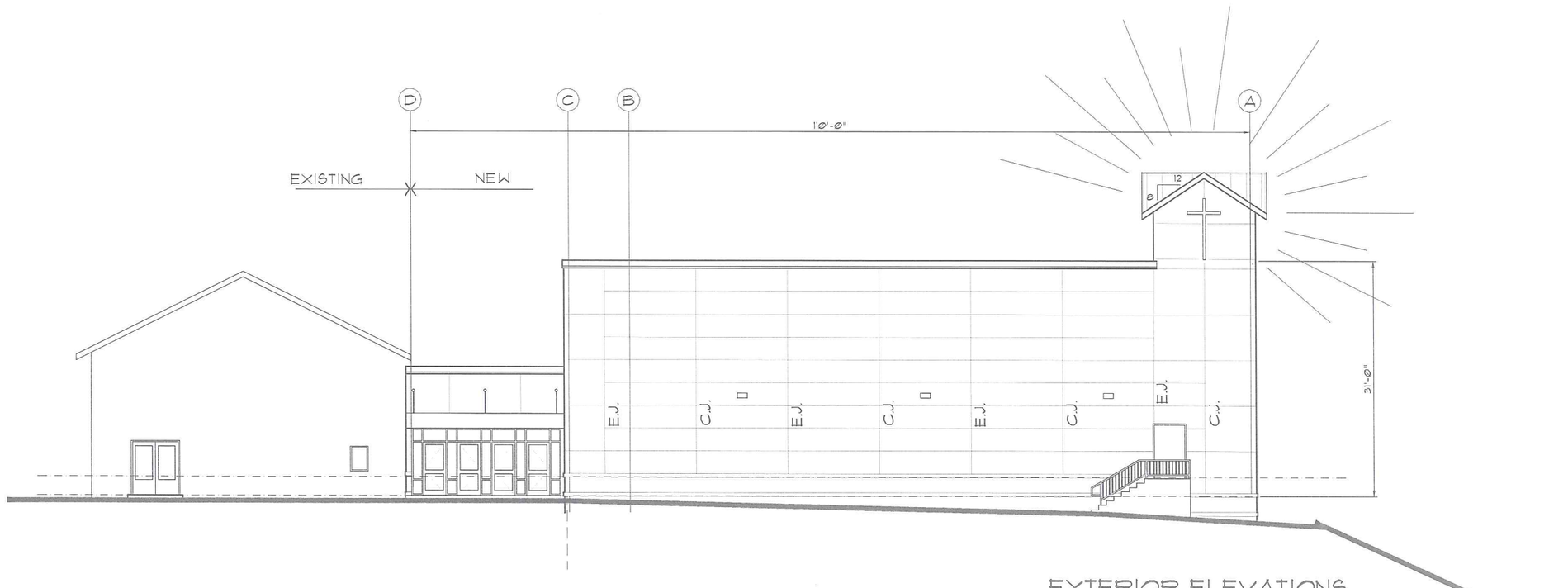
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE EXTERIOR ELEVATIONS
SHEET A17.2



SOUTH



WEST

EXTERIOR ELEVATIONS

SCALE: 1/8" = 1'-0" FULL SIZE, 1/16" = 1'-0" HALF SIZE

ALTERNATE 'A'

05/09/2013

STATE OF ALASKA
49th
DAVID A. WHITMORE
No. A-7664
REGISTERED PROFESSIONAL ARCHITECT

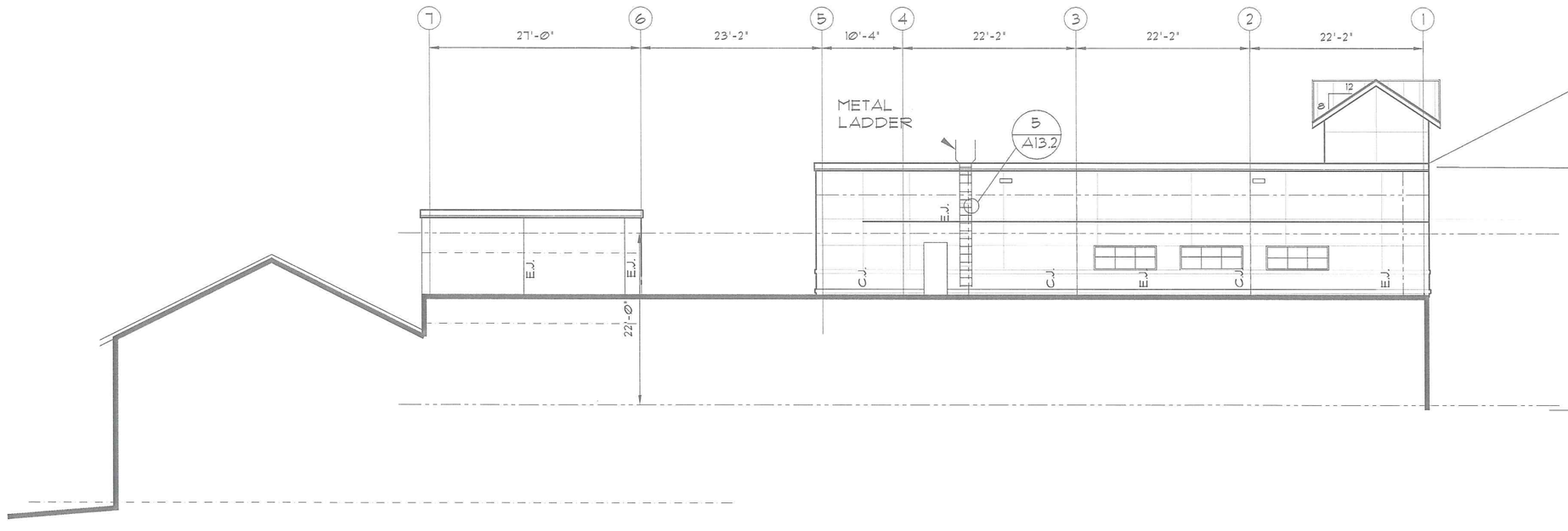
REVISIONS

DAVID A. WHITMORE ▫ ARCHITECT
535 Third Avenue Suite A
Fairbanks, Alaska ▫ 99701
907-452-2352 fax 907-452-2359
davidawhitmorearchitect.com

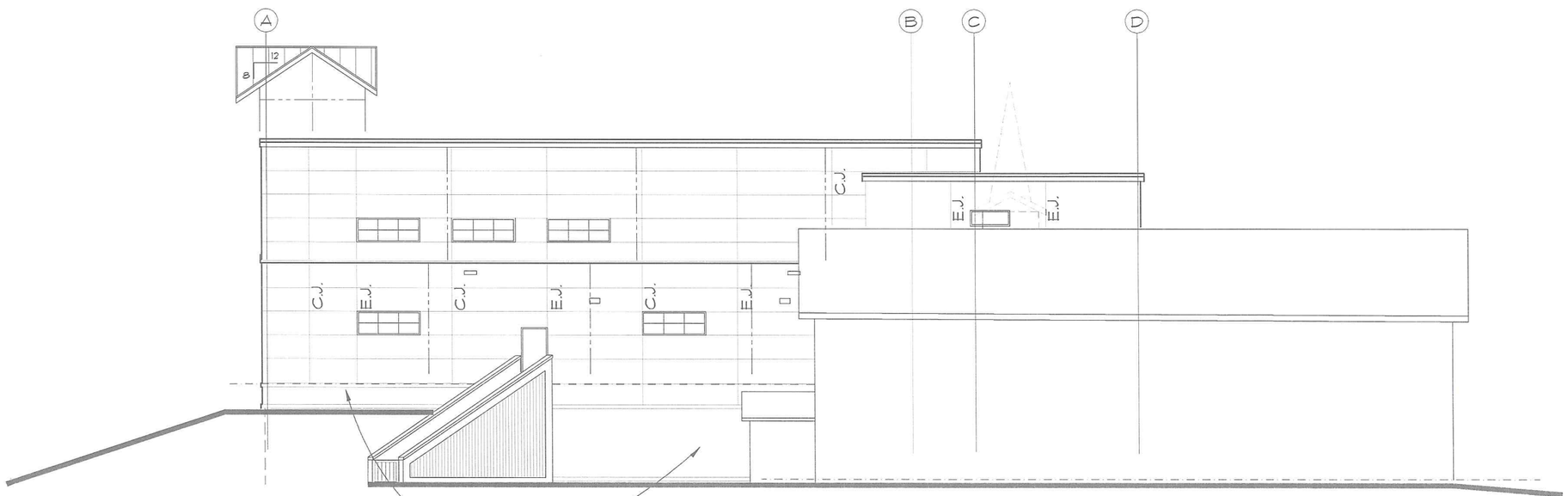
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DW
CHECKED DW
DATE 05/09/2013
JOB NO. 1305
SHEET TITLE EXTERIOR ELEVATIONS
SHEET ALTERNATE 'A'
A17.1

05/09/2019



NORTH



EAST

EXTERIOR ELEVATIONS

SCALE: 1/8" = 1'-0" FULL SIZE, 1/16" = 1'-0" HALF SIZE

ALTERNATE 'A'

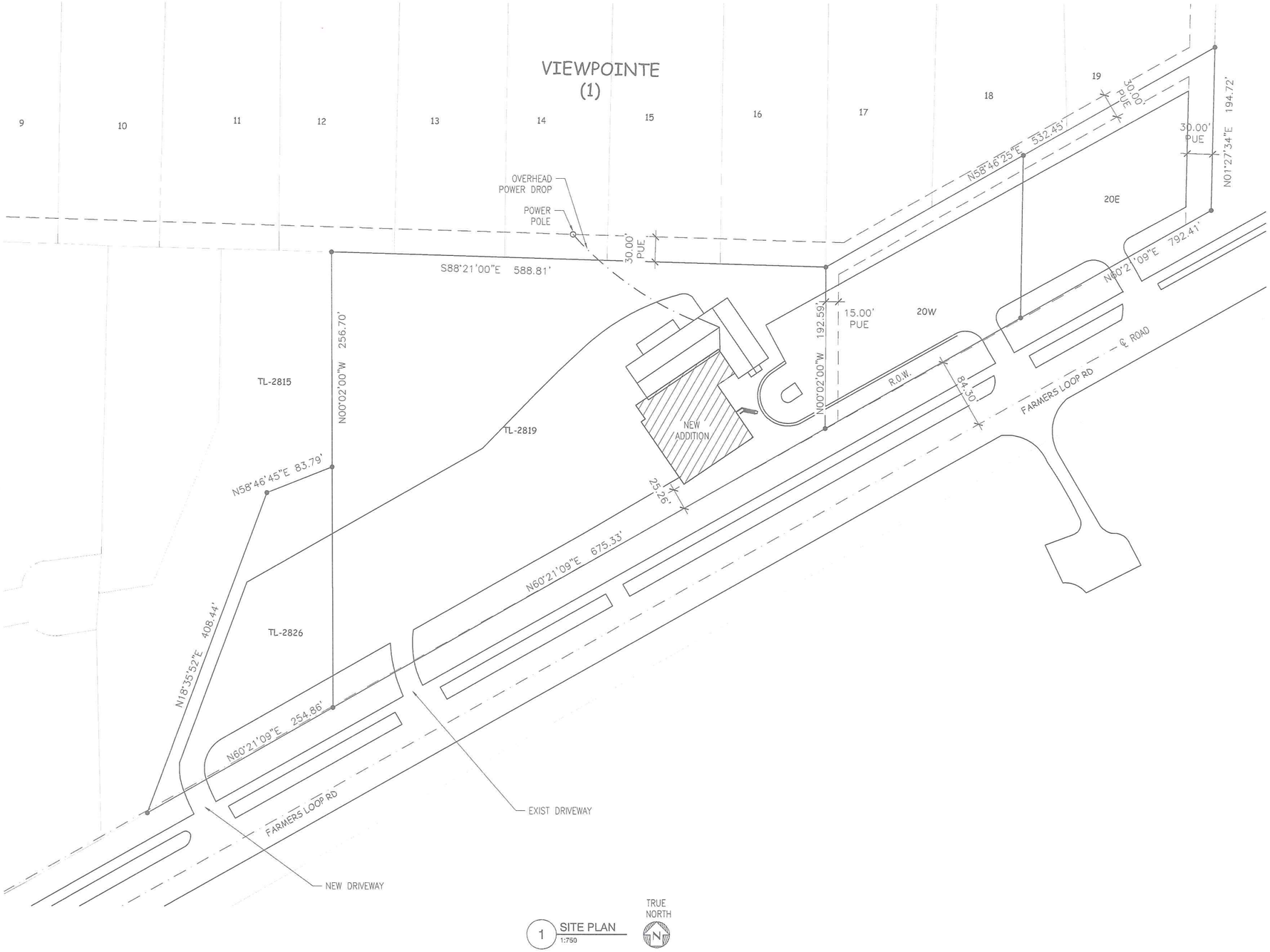
DAVID A. WHITMORE, ARCHITECT
333 Third Avenue Suite A
Fairbanks, Alaska 99701
907-452-2339 fax 907-452-2339
davidawhitmorearchitect.com

REVISIONS

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

DRAWN DH
CHECKED DH
DATE 05/09/2019
JOB NO. 1805
SHEET TITLE EXTERIOR ELEVATIONS

SHEET ALTERNATE 'A'
A17.2



1 SITE PLAN
1:750

TRUE
NORTH

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE3368
5/20/19
REGISTERED PROFESSIONAL ENGINEER

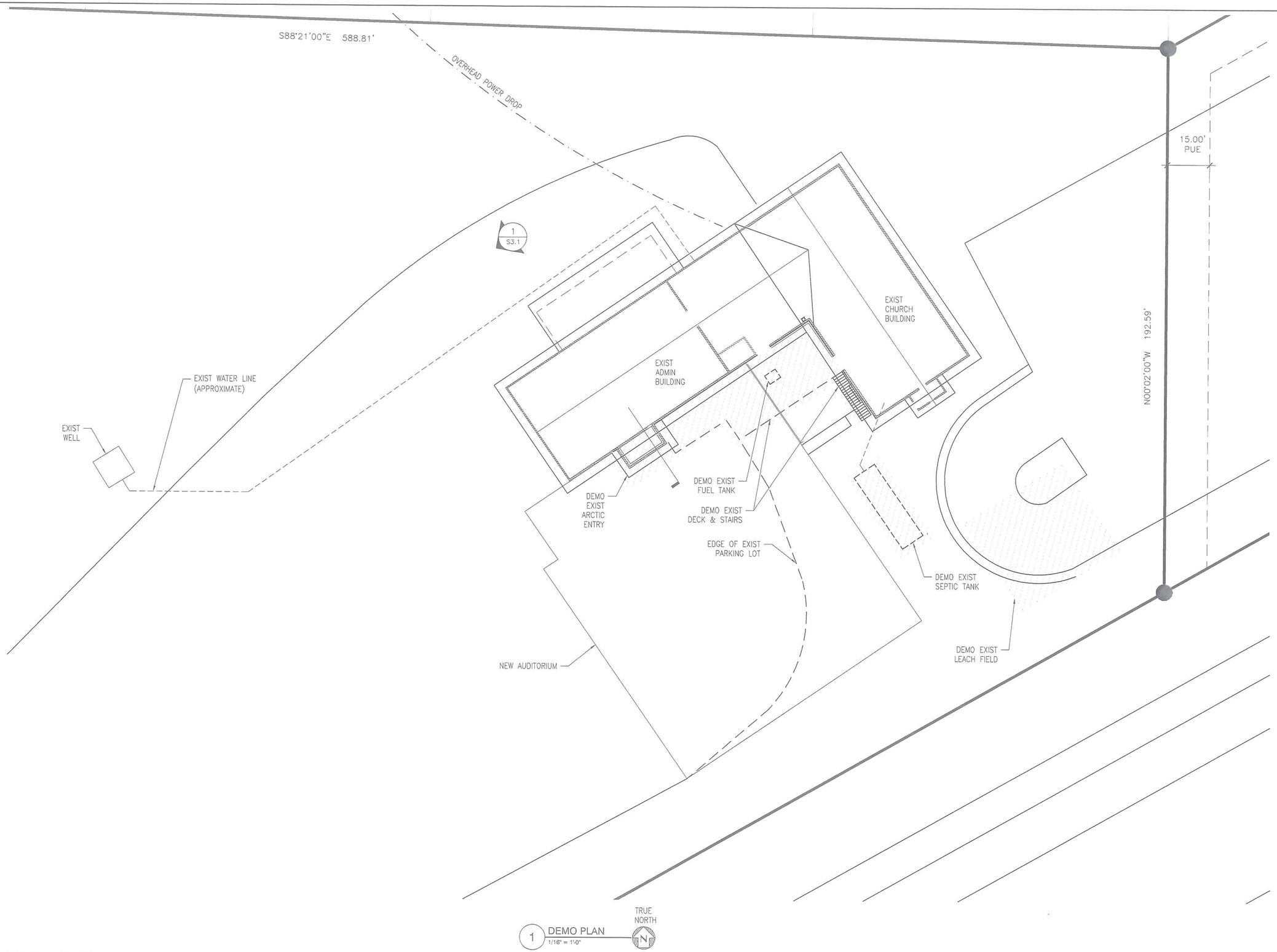
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

CIVIL
SITE
PLAN

C1.1



1 DEMO PLAN
1/16" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9388
5/20/19
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
DEMO
PLAN

C1.2

S88°21'00"E 588.81'

OVERHEAD POWER DROP

NEW 1000 GAL FUEL TANK

NEW GENERATOR BY OTHERS

NEW SEPTIC LEACH FIELD

15.00' PUE

EXIST CHURCH BUILDING

NEW SEPTIC SYSTEM

N00°02'00"W 192.59'

EXIST ADMIN BUILDING

EXIST WATER LINE (APPROXIMATE)

EXIST WELL

2 S3.3

NEW AUDITORIUM

APPROXIMATE EMBANKMENT SHOULDER

1 S3.3

1 NEW PLAN
1/16" = 1'-0"

TRUE NORTH

STATE OF ALASKA 49th
Daniel B. Holmgren
No. CE9368
5/20/19
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
NEW CHURCH
PLAN

C1.3

GENERAL STRUCTURAL NOTES

STRUCTURAL DESIGN DATA

CODE: IBC 2015

LIVE LOADS:

SNOW	50 PSF + Drift
FLOOR & STAIRS	40 PSF

WIND LOADS:
IN ACCORDANCE WITH THE IBC BASIC WIND SPEED = 90 MPH, EXPOSURE B.

SEISMIC LOADS:
IN ACCORDANCE WITH THE IBC, 20% SNOW INCLUDED.

SOIL SITE CLASS:	D
IMPORTANCE:	1.0
Ss:	1.105g
Sds:	0.779g
OCCUPANCY CATEGORY:	II
SEISMIC DESIGN CATAGORY:	D

FOUNDATION

1. ALL SOIL SUPPORTED FOOTINGS SHALL BE FOUNDED UPON UNDISTURBED, NATURAL SUBGRADE OR STRUCTURAL FILL WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 3,000 PSF.
2. ALL FOOTING SUBGRADES AND ALL SLAB SUBGRADES SHALL BE COMPACTED TO 95 PERCENT OF MAXIMUM DRY DENSITY. ALL BACKFILL AROUND AND ABOVE ALL FOUNDATION ELEMENTS, FOOTINGS, CAPS, MATS, WALLS AND PITS SHALL BE COMPACTED TO 90 PERCENT OF MAXIMUM DRY DENSITY.
3. ALL ORGANIC AND/OR OTHER UNSUITABLE MATERIALS SHALL BE REMOVED FROM SUBGRADE AND BACKFILL AREAS AND THE EXCAVATION BACKFILLED WITH STRUCTURAL FILL.
4. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUBGRADES UNTIL SUCH SUBGRADES ARE PROTECTED BY THE PERMANENT BUILDING.
5. THE CONCRETE FOR EACH ISOLATED FOOTING SHALL BE PLACED IN ONE CONTINUOUS PLACEMENT.
6. NO CONSTRUCTION SHALL COMMENCE UNTIL ALL SEASONAL FROST HAS THAWED OR BEEN REMOVED.
7. ANCHOR BOLTS:
   ANCHOR BOLTS, ASTM A1554 GR 36.
   SET ALL COLUMN ANCHOR BOLTS BY TEMPLATE.

STRUCTURAL CONCRETE NOTES

1. ALL CAST-IN-PLACE CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:
2. FOOTINGS F'c = 1,500 PSI
   SLAB ON GRADE F'c = 1,500 PSI
   ALL OTHER CONCRETE F'c = 1,500 PSI
3. ALL CONCRETE PERMANENTLY EXPOSED TO THE WEATHER SHALL CONTAIN AN APPROVED AIR-ENTRAINING ADMIXTURE.
4. ALL REINFORCING BARS, EXCEPT AS NOTED, SHALL BE NEW BILLET STEEL CONFORMING TO THE STANDARDS OF ASTM A615, GRADE 60.
5. WHERE REQUIRED, DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING.
6. MINIMUM CONCRETE COVER SHALL BE:
   a. 3" FOR CONCRETE CAST AGAINST THE EARTH.
   b. 1-1/2" FOR BARS EXPOSED TO WEATHER AND WALLS.
   c. 3/4" FOR SLABS.

DRILLED-IN CONCRETE ANCHORS (DICA) NOTES

ACCEPTABLE DRILLED-IN CONCRETE ANCHORS, OF SIZE, NUMBER, AND SPACING AS SHOWN ON THE DRAWINGS. MINIMUM EMBEDMENT DEPTH SHALL BE 4.5 BOLT DIAMETERS UNLESS OTHERWISE NOTED ON DRAWINGS. ACCEPTABLE ANCHORS AS FOLLOWS:

- HILTI "KWIK BOLT TZ EXPANSION ANCHOR BOLT (ESR-1917)
- ITW RAMSET/RED HEAD TRUBOLT WEDGE ANCHORS (ESR-1372).
- HILTI HIT-RE 500-SD EPOXY ADHESIVE ANCHORING SYSTEM (ESR-2322)
- SIMPSON TITEN HD HEAVY DUTY SCREW ANCHOR (ESR-2713)

TIMBER CONSTRUCTION

1. TIMBER FRAMING -- HEM-FIR #2, SPRUCE, OR BETTER
2. PRE-ENGINEERED LUMBER -- BOISE CASCADE OR EQUAL
3. FLOOR PLYWOOD - 1⅛" T&G CD-X EXTERIOR GLUE (AT PLATFORM)
4. EXTERIOR AND SHEARWALL SHEATHING - 7/16" OSB
5. ROOF PLY - 5/8" CD-X

POWDER ACTUATED FASTENERS

1. POWDER ACTUATED FASTENERS MAY BE USED TO SECURE PARTITION BOTTOM PLATES TO SLAB. PAF SHALL BE RAMSET/RAM HEAD OR EQUAL SECURE BEARING WALLS AND SHEAR WALLS AS SHOWN. ALTERNATELY USE MUSHHEAD SPIKES.

STRUCTURAL STEEL NOTES

1. ALL WIDE FLANGE SHAPES, W6 AND LARGER, SHALL COMPLY WITH ASTM A992. ALL OTHER STRUCTURAL STEEL MAY BE ASTM A36 UNLESS OTHERWISE NOTED. STEEL TUBES SHALL BE ASTM A500, GRADE B.
2. ALL BOLTS, NUTS, AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325. ALL BOLTS SHALL BE ¾ INCH DIAMETER UNLESS OTHERWISE NOTED.
3. ANCHOR BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F1554 GRADE 36 UNLESS NOTED OTHERWISE.
4. ALL WELDING ELECTRODES SHALL BE E70XX.
5. ALL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO AISC SPECIFICATIONS AND CODES LATEST EDITION.
6. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS AND SHALL CONFORM TO THE AWS "D1.1 STRUCTURAL WELDING CODE - STEEL," LATEST EDITION.
7. ALL CONNECTIONS SHALL BE SIMPLE SHEAR CONNECTIONS USING HIGH-STRENGTH BOLTS IN BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN THE SHEAR PLANE IN SINGLE SHEAR UNLESS OTHERWISE NOTED.
8. ALL BOLTS SHALL BE TIGHTENED SO THAT ALL PLIES ARE IN SNUG CONTACT.
9. THE MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE TWO (2), UNO.
10. ALL BEAMS, JOISTS, AND TRUSSES SHALL BE FABRICATED WITH THE NATURAL CAMBER UP. PROVIDE CAMBERS AS INDICATED ON THE DRAWINGS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES.
12. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR APPROVAL OF THE OWNER REPRESENTATIVE.
13. GROUT AT STEEL COLUMNS:
    GROUT - 5,000 PSI MINIMUM 7-DAY CUBE STRENGTH PER ASTM C109. GROUT TO BE PREMIXED, NON-SHRINK "MASTERFLOW" BY MASTER BUILDERS OR APPROVED EQUAL. ICBO CERTIFICATION REQUIRED. USE SPECIFIC GROUT MIX RECOMMENDED BY MANUFACTURER FOR EACH GROUT APPLICATION AND FOLLOW MANUFACTURER'S INSTRUCTIONS.

COLD FORMED STEEL

COLD FORMED STEEL SHALL MEET ASTM A1003 STRUCTURAL GRADE 50 TYPE H (Fy=50 KSI) FOR 14 GAUGE (68 MIL) OR 16 GAUGE (54 MIL) MEMBERS AND ASTM A1003 STRUCTURAL GRADE 33 TYPE H (Fy=33 KSI) FOR 18 GAUGE (43 MIL) AND LIGHTER MEMBERS.

ALL STRUCTURAL MEMBERS SHALL BE DESIGNED PER THE AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS", LATEST EDITION.

USE ONLY ONE MANUFACTURER OF COLD FORMED JOIST THROUGHOUT THE WORK, UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR SPECIFICALLY APPROVED IN ADVANCE BY THE DOR. ACCEPTABLE JOIST MANUFACTURERS INCLUDE ANY MEMBER OF THE STEEL STUD MANUFACTURER'S ASSOCIATION.

PROVIDED ALL ACCESSORIES INCLUDING TRACKS, CLIPS, WEB STIFFENERS, ANCHORS, FASTENING DEVICES, RESILIENT CLIPS, AND OTHER ITEMS REQUIRED FOR A COMPLETE AND PROPER INSTALLATION. INSTALL ALL ITEMS RECOMMENDED BY THE MANUFACTURER.

FASTENING OF COMPONENTS SHALL BE WITH SELF-DRILLING SCREWS (ASTM C1513) OR WELDS OF SUFFICIENT SIZE TO INSURE THE STRENGTH OF THE CONNECTION. WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED. ALL WELDS SHALL BE TOUCHED UP WITH A ZINC-RICH PAINT.

UNLESS OTHERWISE INDICATED:

1. TRACKS SHALL BE CONNECTED WITH TWO #10 SCREWS OR PAF TO SUPPORTING SUBSTRATE AT EACH STUD, OR AN EQUIVALENT EQUAL SPACING;
2. OVERLAPPING STUDS OR BRACES SHALL BE CONNECTED WITH THREE #10 SCREWS;
3. STUDS SHALL BE CONNECTED TO TOP AND BOTTOM TRACKS WITH TWO #10 SCREWS, ONE AT EACH FLANGE;
4. BUILT-UP MEMBERS SHALL BE STITCHED TOGETHER WITH WELDS OR #10 SCREWS AT EACH CORNER AT 6-INCHES ON-CENTER.

PROVIDE COMMERCIAL GROUT FOR LEVELING THE FLOOR RUNNER OF STEEL STUD PARTITIONS AS REQUIRED.

STRUCTURAL ABBREVIATIONS

@	AT	JT	JOINT
AB	ANCHOR BOLT	LL	LIVE LOAD
AFF	ABOVE FINISH FLOOR	LLV	LONG LEG VERTICAL
AISC	AMERICAN INSTITUTE OF STEEL CONST.	LOC	LOCATION
APPROX	APPROXIMATELY	LONG	LONGITUDINAL
ARCH	ARCHITECTURAL	LVL	LAMINATED VENEER LUMBER
BCI	BOISE CASCADE I-JOIST	MAX	MAXIMUM
BET/BTWN	BETWEEN	MIN	MINIMUM
BM	BEAM	ML	MICROLAM
BOF	BOTTOM OF FOOTING	MPH	MILES PER HOUR
BOS	BOTTOM OF STEEL	MTL	METAL
BOT	BOTTOM	NIC	NOT IN CONTRACT
BS	BOTH SIDES	NO	NUMBER
BW	BEARING WALL	NS	NEAR SIDE
CL	CENTER LINE	NTS	NOT TO SCALE
CMU	CONCRETE MASONRY UNIT	OC	ON CENTER
COL	COLUMN	OWJ	OPEN WEB JOIST
CONC	CONCRETE	PL	PLATE
CONT	CONTINUOUS	PLAM	PARALAM
CONTR'S	CONTRACTOR'S	PSF	POUNDS PER SQUARE FOOT
CP	COMPLETE PENETRATION	REF	REFERENCE
DIA/ø	DIAMETER	REINF	REINFORCEMENT
DICA	DRILLED IN CONCRETE ANCHOR	REQ'D	REQUIRED
DIM	DIMENSION	SCHED	SCHEDULE
DL	DEAD LOAD	SIM	SIMILAR
EA	EACH	STD	STANDARD
ELEV	ELEVATION	STL	STEEL
EQ	EQUAL	SW	SHEAR WALL
EW	EACH WAY	T&B	TOP AND BOTTOM
EXIST	EXISTING	TJI	TRUSS JOIST, I-JOIST, OR EQUAL
FB	FLAT BAR	TO	TOP OF
FDN	FOUNDATION	TOC	TOP OF CONCRETE
FF	FINISH FLOOR	TOS	TOP OF STEEL
FS	FAR SIDE	TYP	TYPICAL
FTG	FOOTING	UBC	UNIFORM BUILDING CODE
GA	GAGE	UNO	UNLESS NOTED OTHERWISE
GLB	GLULAM BEAM	V/VERT	VERTICAL
H/HORIZ	HORIZONTAL	W/	WITH
HSS	HOLLOW STEEL STRUCTURE	WP	WORKING POINT
IBC	INTERNATIONAL BUILDING CODE		
ICBO	INT'L CONFERENCE OF BLDG OFFICIALS		

SPECIAL INSPECTION

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION PER IBC CHAPTER 17. THESE INSPECTIONS SHALL BE PERFORMED BY A SPECIAL INSPECTOR APPROVED BY THE CITY OF FAIRBANKS TO PERFORM THE TYPES OF INSPECTIONS SPECIFIED

#	ITEM	DESCRIPTION	INSPECTION INFO
1	CONCRETE	INSPECTION OF THE FOUNDATION NOT REQ'D PER CITY AMENDMENTS	PROVIDE BREAK TESTS
2	BOLTS INSTALLED IN CONCRETE	ANCHOR BOLTS	PRIOR TO CASTING FOOTINGS
3	HIGH STRENGTH BOLTS	ALL BOLTS SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION. THE SNUG TIGHT CONDITION IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT.	
4	SPECIAL GRADING, EXCAVATING AND FILLING	A. FOUNDATION EXCAVATIONS & BEARING STRATA. B. BACKFILL SUPPORTING SLAB-ON-GRADE	SITE INSPECTION PRIOR TO CASTING SLAB, PROVIDE COMPACTION RESULTS
5	SPECIAL CASES	A. ROOF AND FLOOR DIAPHRAGM CONNECTORS	INSPECT PRIOR TO COVERING
6	SEISMIC RESISTANCE (IBC 1707.1)	A. INSPECT BOLTING OF MECHANICAL EQUIPMENT	INSPECT AFTER INSTALLATION

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9368
5/20/19
REGISTERED PROFESSIONAL ENGINEER

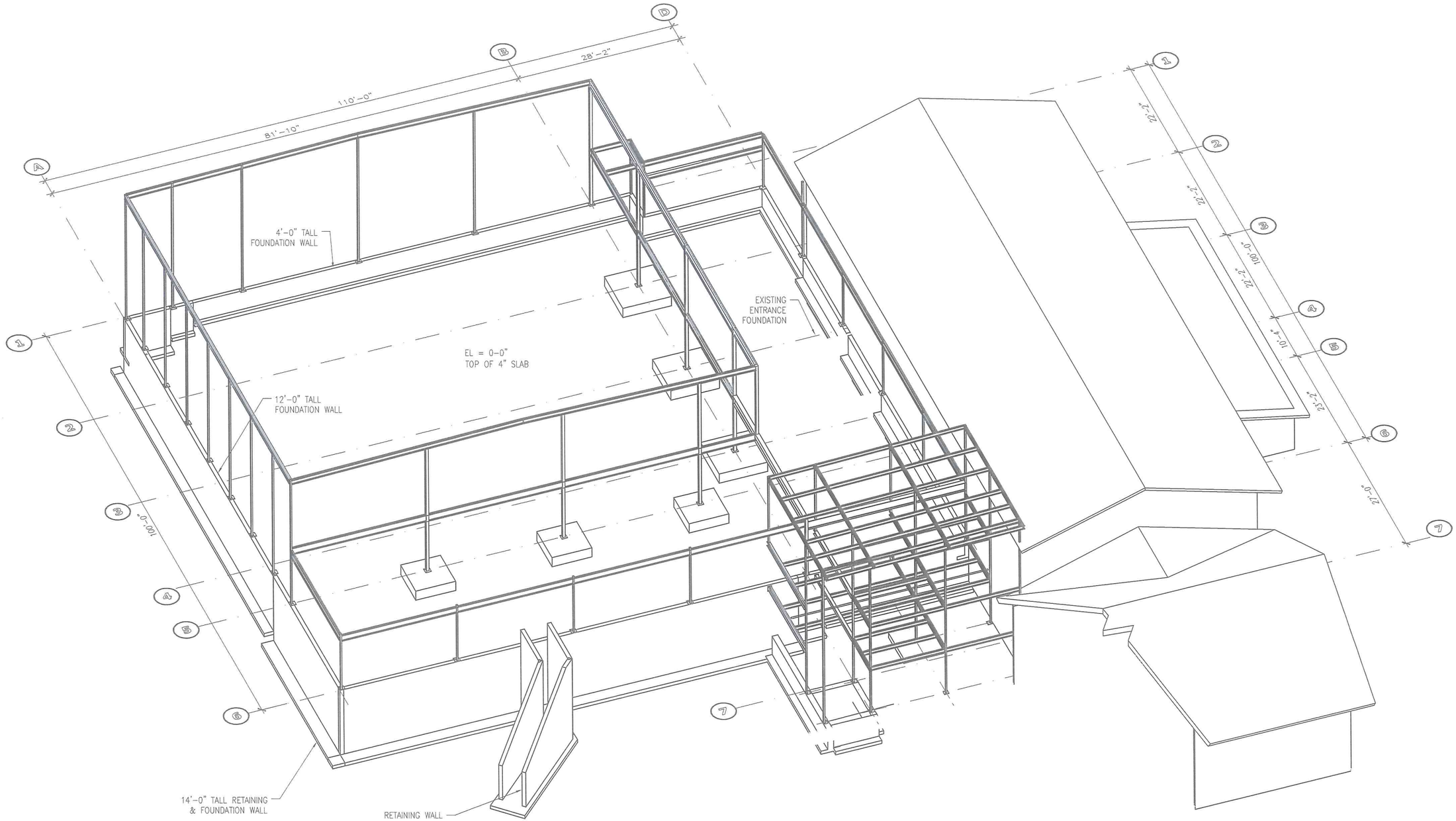
ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

REVISIONS

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
MAIN FLOOR
PLAN

S1.0



1 3-D FOUNDATION

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CR366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

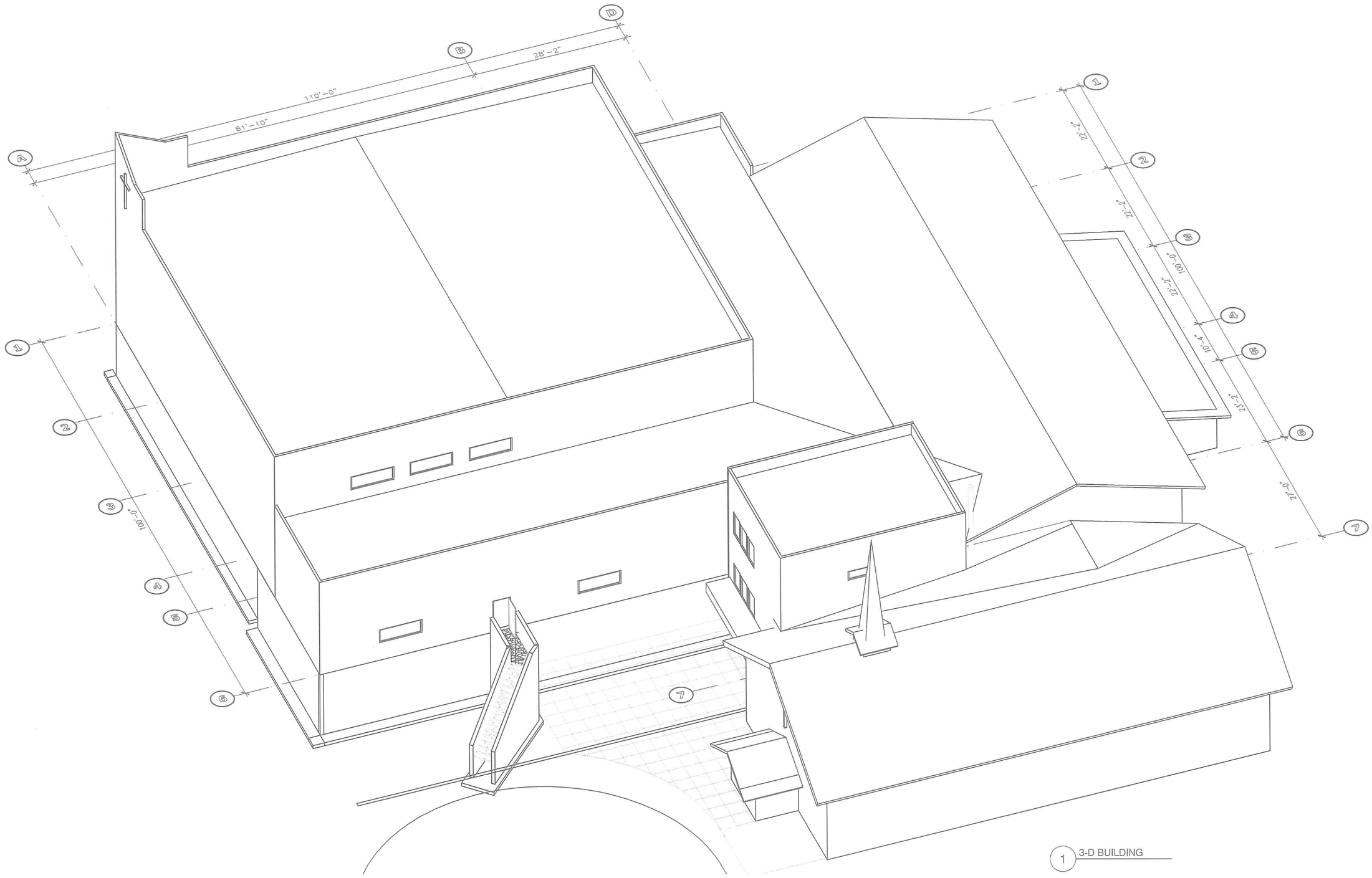
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
3-D FOUNDATION

S1.1



1 3-D BUILDING

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CR3366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

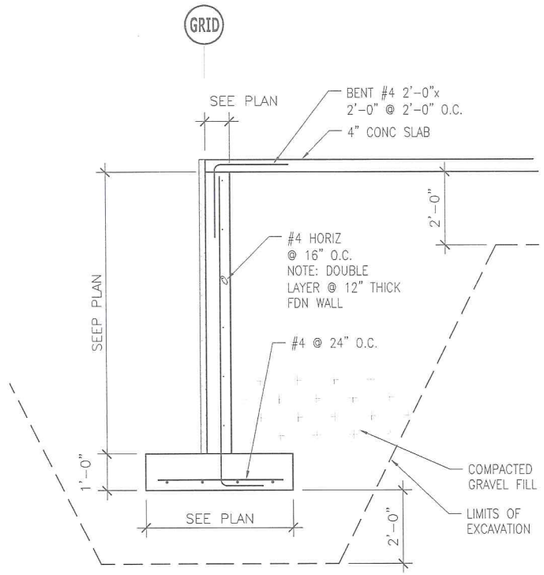
ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

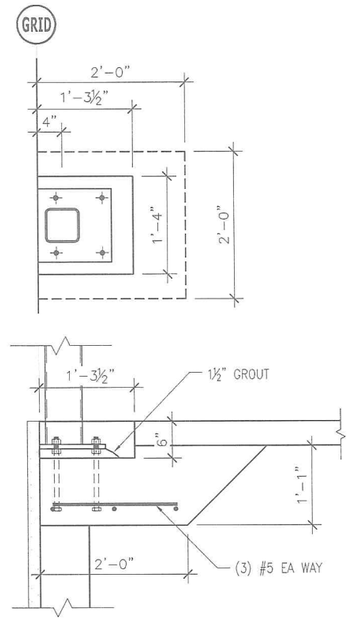
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
3-D ROOF

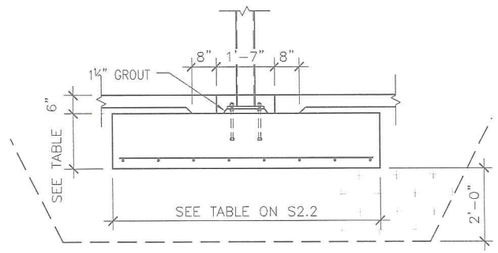
S1.2



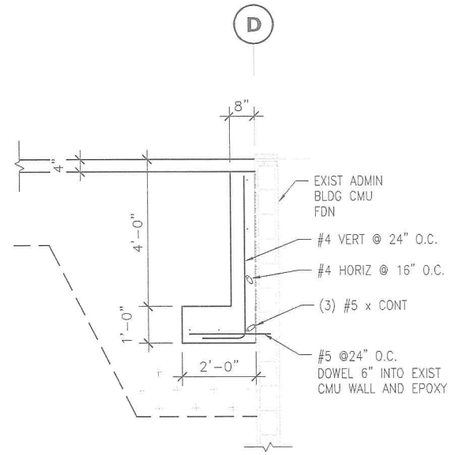
1 TYP PERIMETER FOOTING @ NEW AUDITORIUM
1/2" = 1'-0"



2 THICKENED PERIMETER FTG @ COLS
1" = 1'-0"



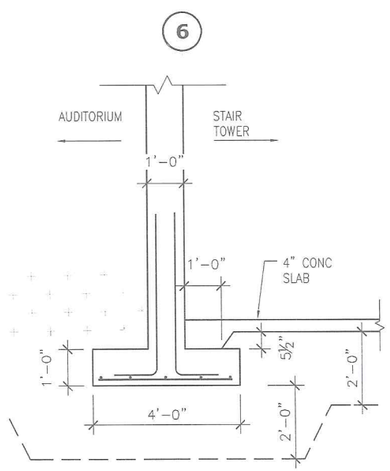
3 TYP SPREAD FOOTING
1/2" = 1'-0"



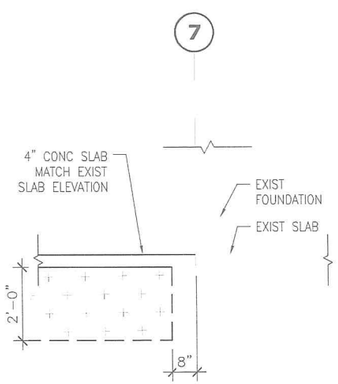
4 TYP PERIM FTG @ ADMIN BUILDING
1/2" = 1'-0"

FOUNDATION WALL REINFORCEMENT		
WALL HEIGHT	VERT SPACING	HOR SPACING
4'-0"	#5 @ 32" O.C.	#4 @ 16" O.C.
8'-0"	#5 @ 16" O.C.	#4 @ 16" O.C.
12'-0"	(2) LAYERS #5 @ 12" O.C.	#4 @ 16" O.C.
14'-0"	(2) LAYERS #5 @ 12" O.C.	#4 @ 16" O.C.

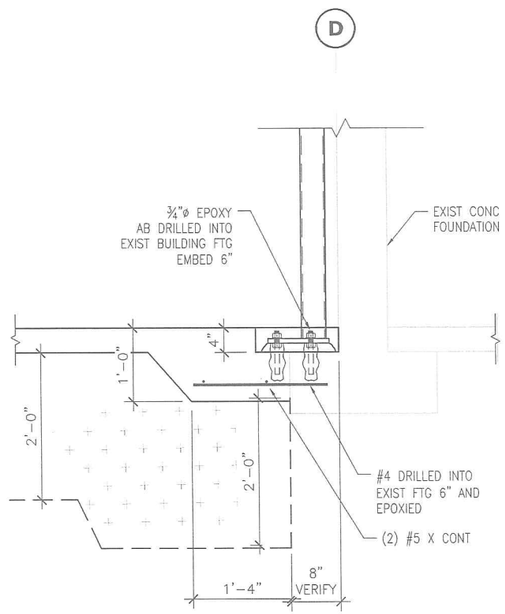
STRIP FOOTING REINFORCEMENT		
FOOTING WIDTH	LONGIT REINF	TRANSVERSE REINF
2'-0"	(3) #5 x CONT	#4'S @24" O.C.
4'-0"	(5) #5 x CONT	#5'S @ 24" O.C.



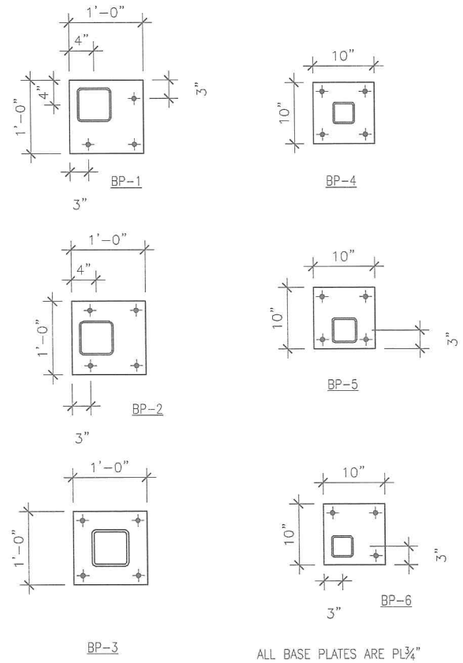
6 FOUNDATION @ STAIR TOWER
1/2" = 1'-0"



7 FOUNDATION @ STAIR TOWER
1/2" = 1'-0"



8 FOUNDATION @ STAIR TOWER
1" = 1'-0"



ALL BASE PLATES ARE PL¾"
ALL ANCHOR BOLT HOLES ARE FOR ¾"ø BOLTS
ALL HOLE EDGE DISTANCE IS 1½" UNO

9 BASE PLATES
1" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
Daniel B. Holmgren
No. CE9368
5/20/19
REGISTERED PROFESSIONAL ENGINEER

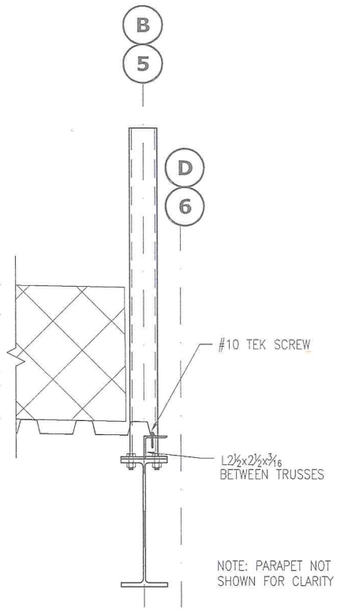
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

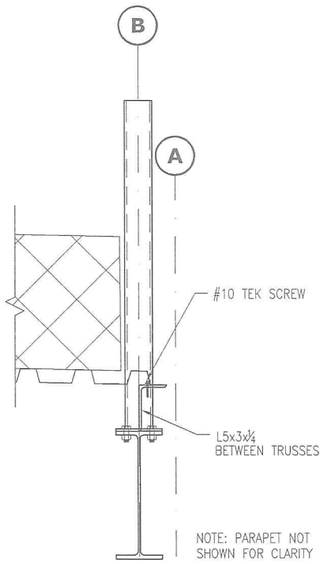
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
TYP FOUNDATION DETAILS

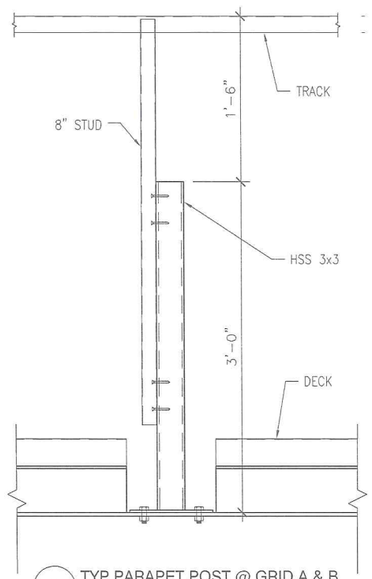
S1.3



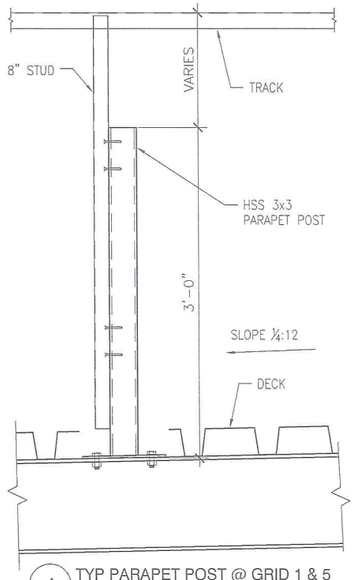
1 LOWER ROOFS DETAIL
1 1/2" = 1'-0"



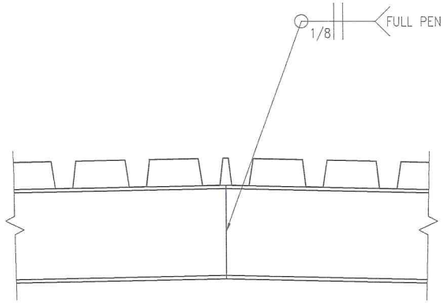
2 UPPER ROOF DETAIL
1 1/2" = 1'-0"



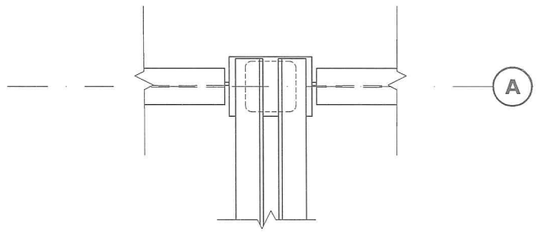
3 TYP PARAPET POST @ GRID A & B
1 1/2" = 1'-0"



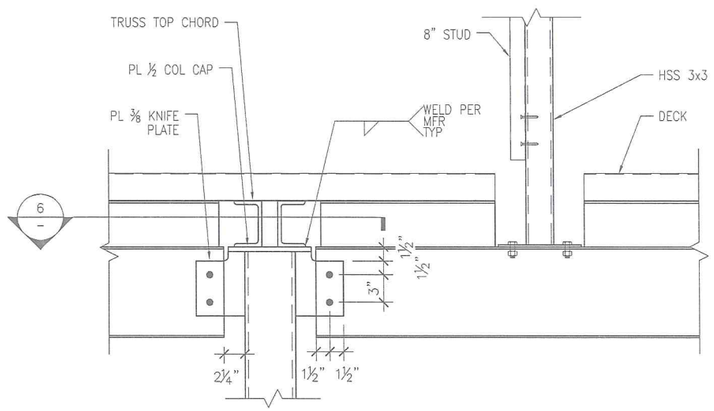
4 TYP PARAPET POST @ GRID 1 & 5
1 1/2" = 1'-0"



5 BEAM WELD AT RIDGE
1 1/2" = 1'-0"



6 TRUSS CONNECTION PLAN @ GRID A
1 1/2" = 1'-0"



11 TYP COL CAP @ GRID A
1 1/2" = 1'-0"

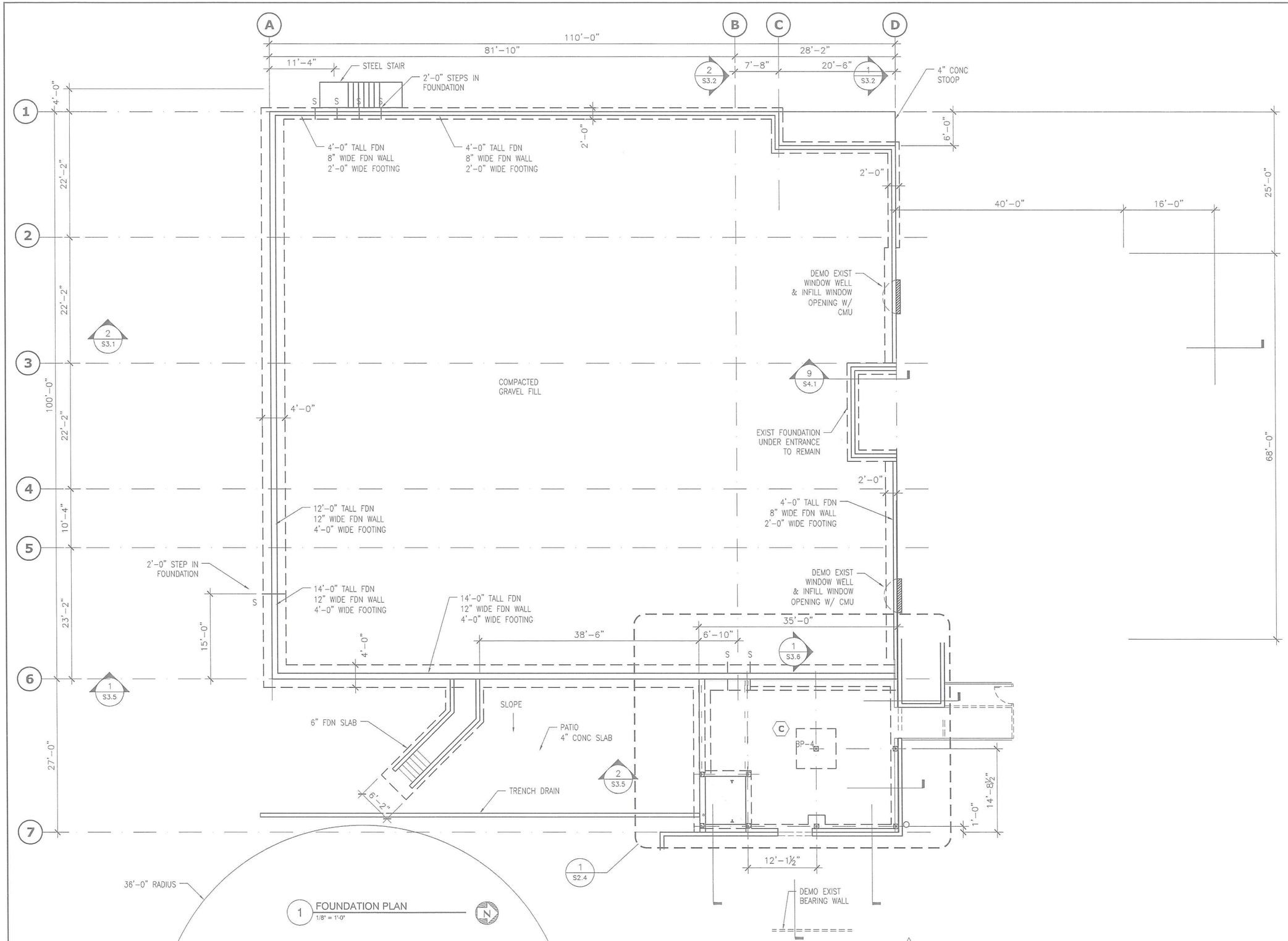
ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

REVISIONS

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
TYP ROOF
DETAILS

S1.4



STATE OF ALASKA
49th
Daniel B. Holmgret
No. CE9366
6/20/19
REGISTERED PROFESSIONAL ENGINEER

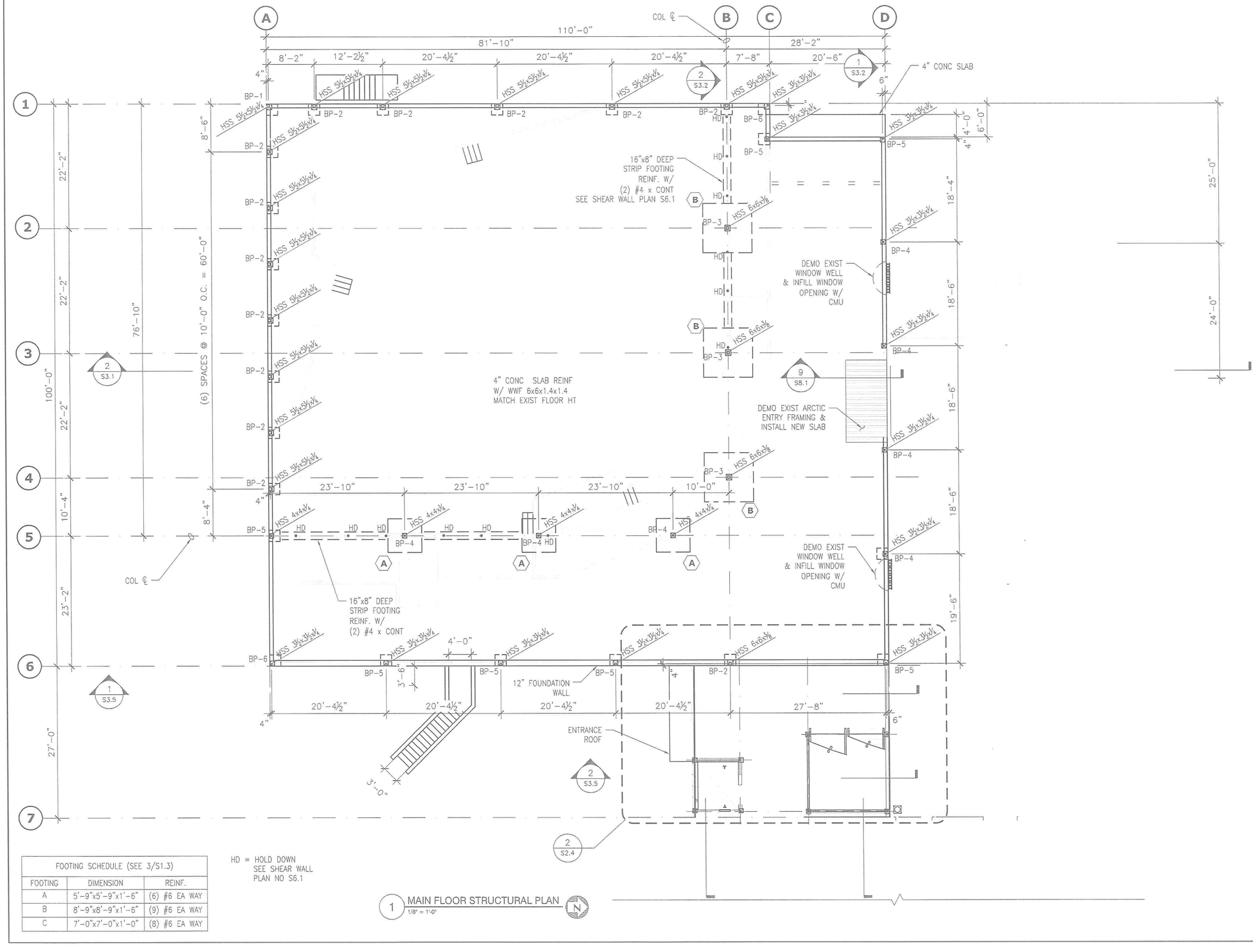
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL FOUNDATION PLAN

S2.1



FOOTING SCHEDULE (SEE 3/S1.3)		
FOOTING	DIMENSION	REINF.
A	5'-9"x5'-9"x1'-6"	(6) #6 EA WAY
B	8'-9"x8'-9"x1'-6"	(9) #6 EA WAY
C	7'-0"x7'-0"x1'-0"	(8) #6 EA WAY

HD = HOLD DOWN
SEE SHEAR WALL
PLAN NO S6.1

1 MAIN FLOOR STRUCTURAL PLAN
1/8" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9388
5/20/19
REGISTERED PROFESSIONAL ENGINEER

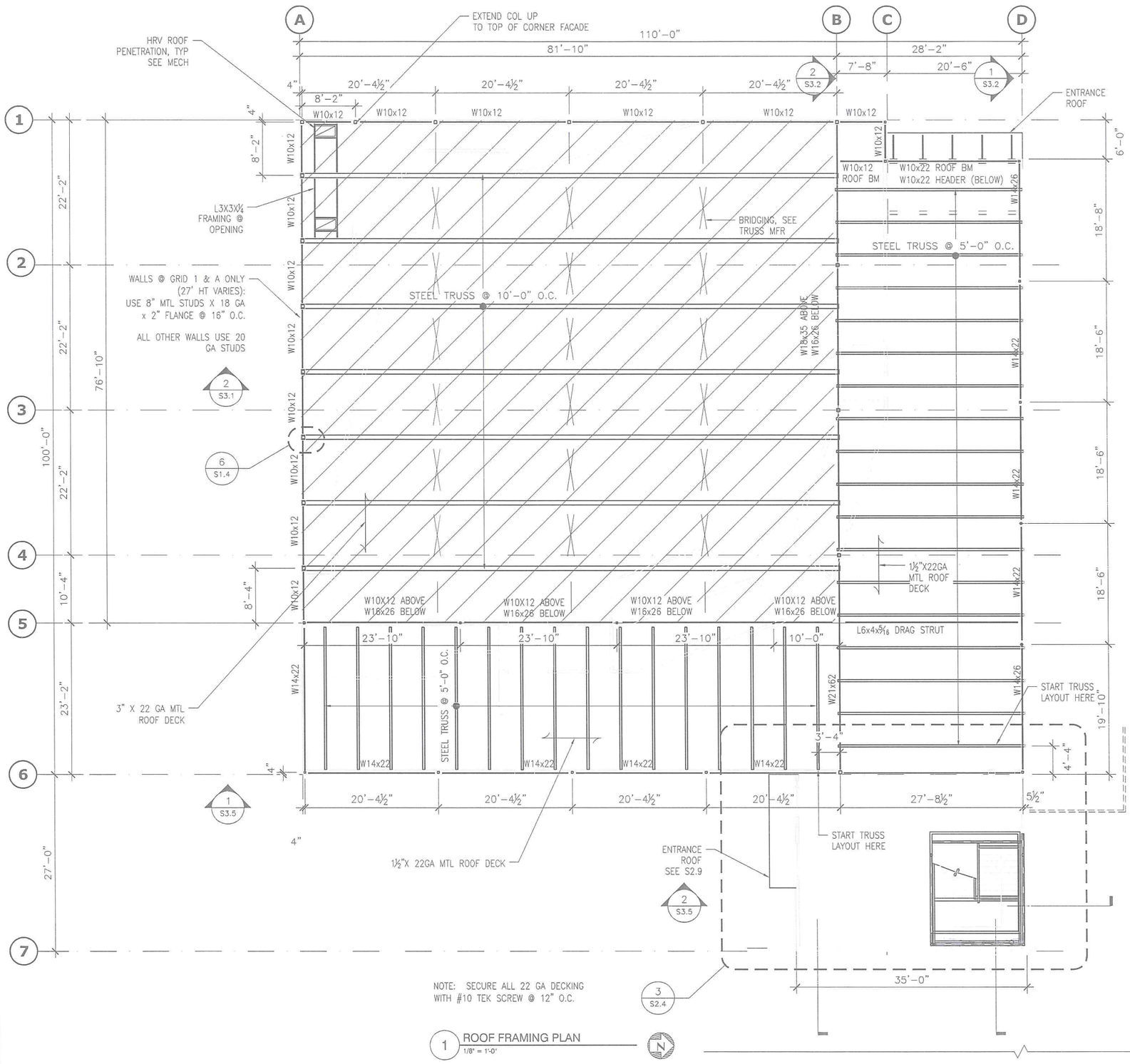
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
MAIN FLOOR
PLAN

S2.2



1 ROOF FRAMING PLAN
1/8" = 1'-0"

N

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
3/20/19
REGISTERED PROFESSIONAL ENGINEER

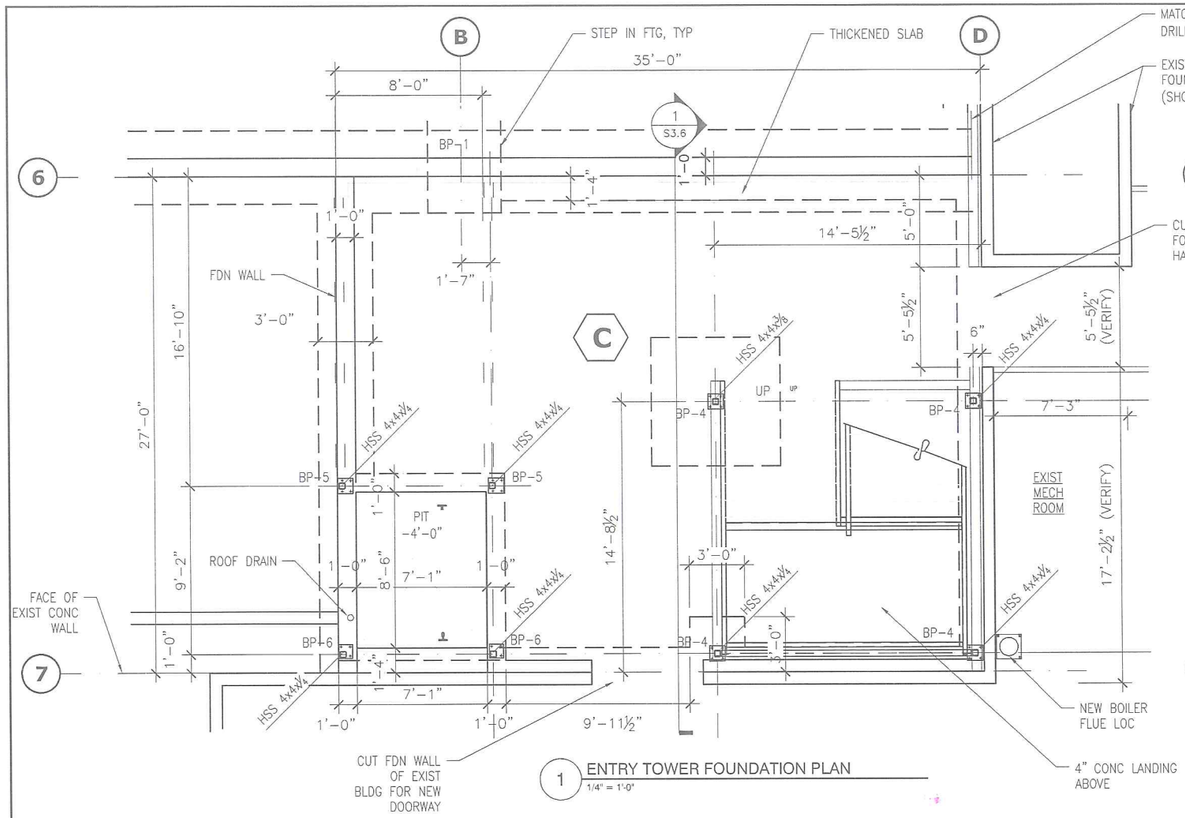
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

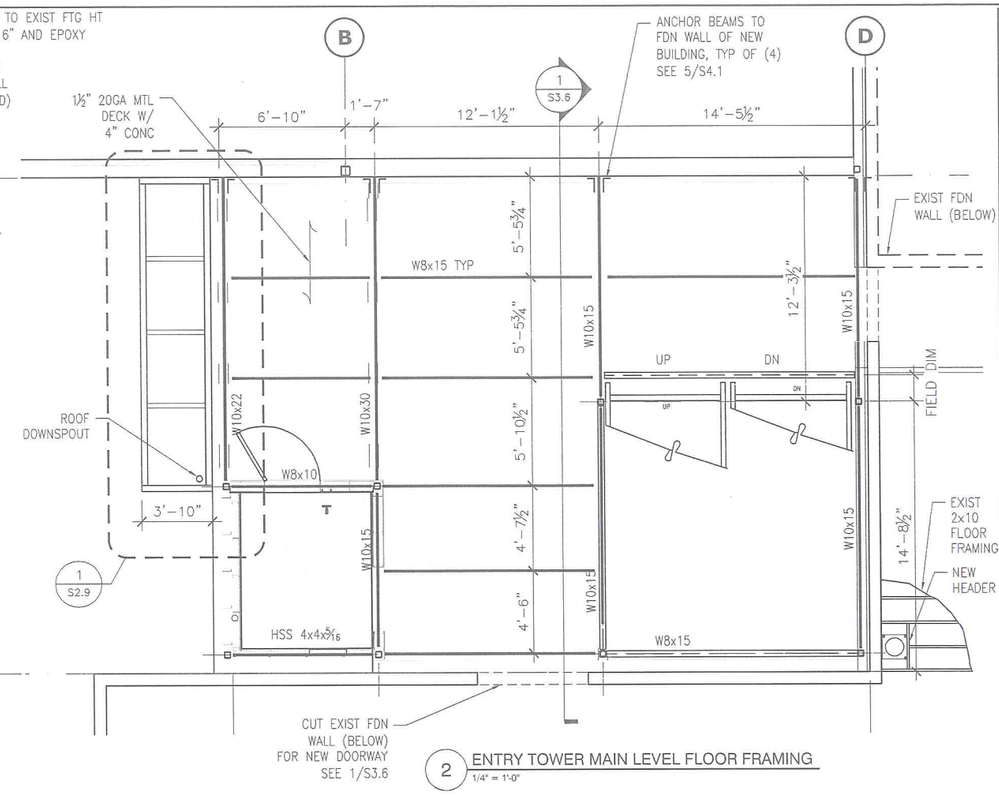
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL ROOF FRAMING PLAN

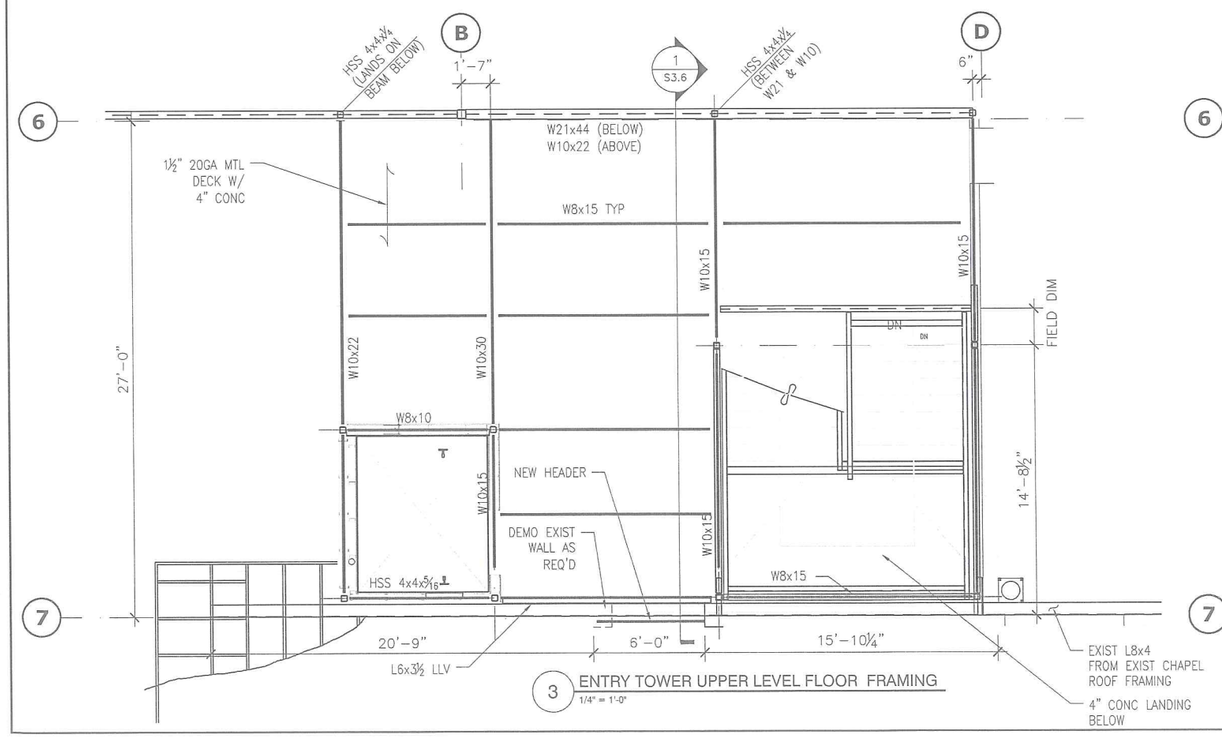
S2.3



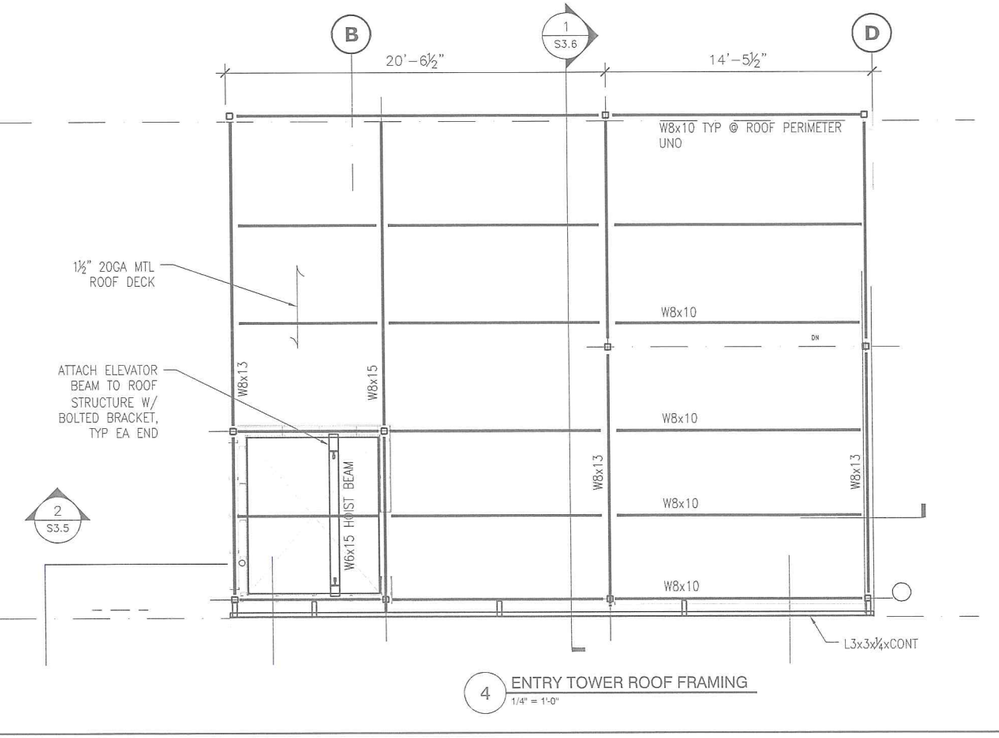
1 ENTRY TOWER FOUNDATION PLAN
1/4" = 1'-0"



2 ENTRY TOWER MAIN LEVEL FLOOR FRAMING
1/4" = 1'-0"



3 ENTRY TOWER UPPER LEVEL FLOOR FRAMING
1/4" = 1'-0"



4 ENTRY TOWER ROOF FRAMING
1/4" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. ZE9388
5/20/19
REGISTERED PROFESSIONAL ENGINEER

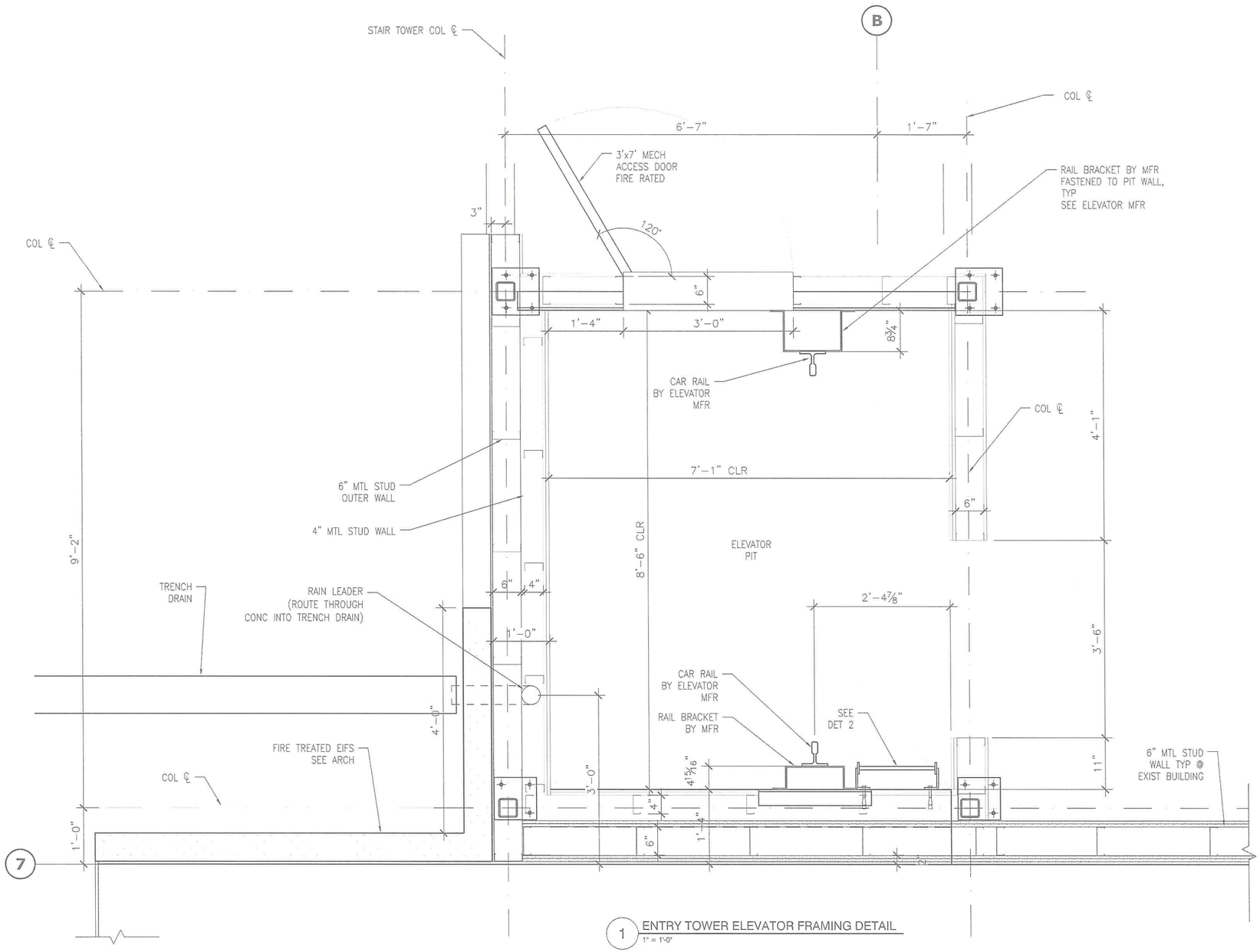
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

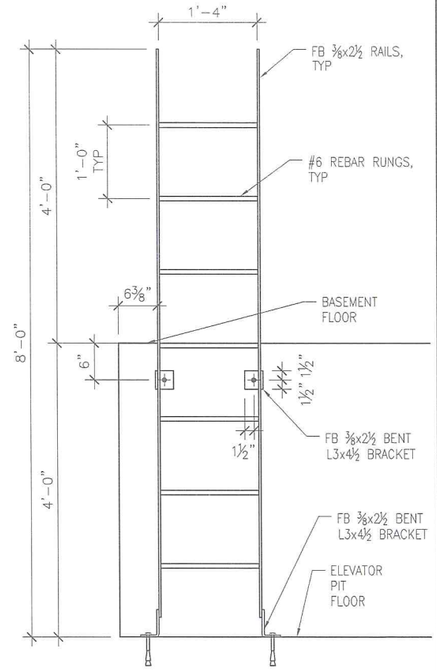
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
ENTRANCE TOWER
FRAMING PLANS

S2.4



1 ENTRY TOWER ELEVATOR FRAMING DETAIL
1" = 1'-0"



2 LADDER
1" = 1'-0"

STATE OF ALASKA 49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

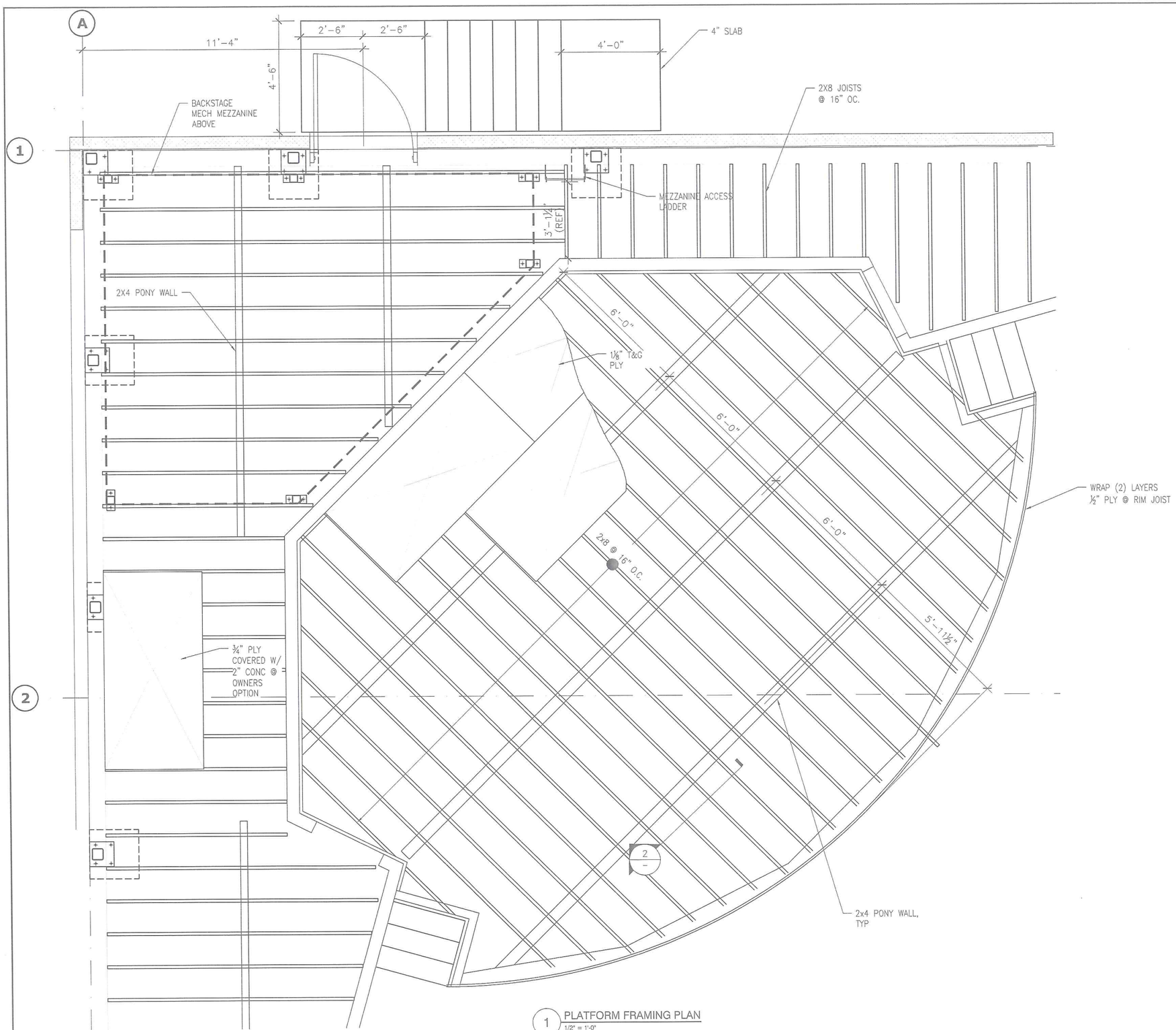
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

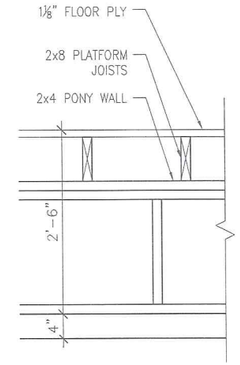
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
ENTRANCE TOWER
ELEVATOR
FRAMING PLANS

S2.5



1 PLATFORM FRAMING PLAN
1/2" = 1'-0"



2 STAGE SECTION
1" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. 259368
5/20/19
REGISTERED PROFESSIONAL ENGINEER

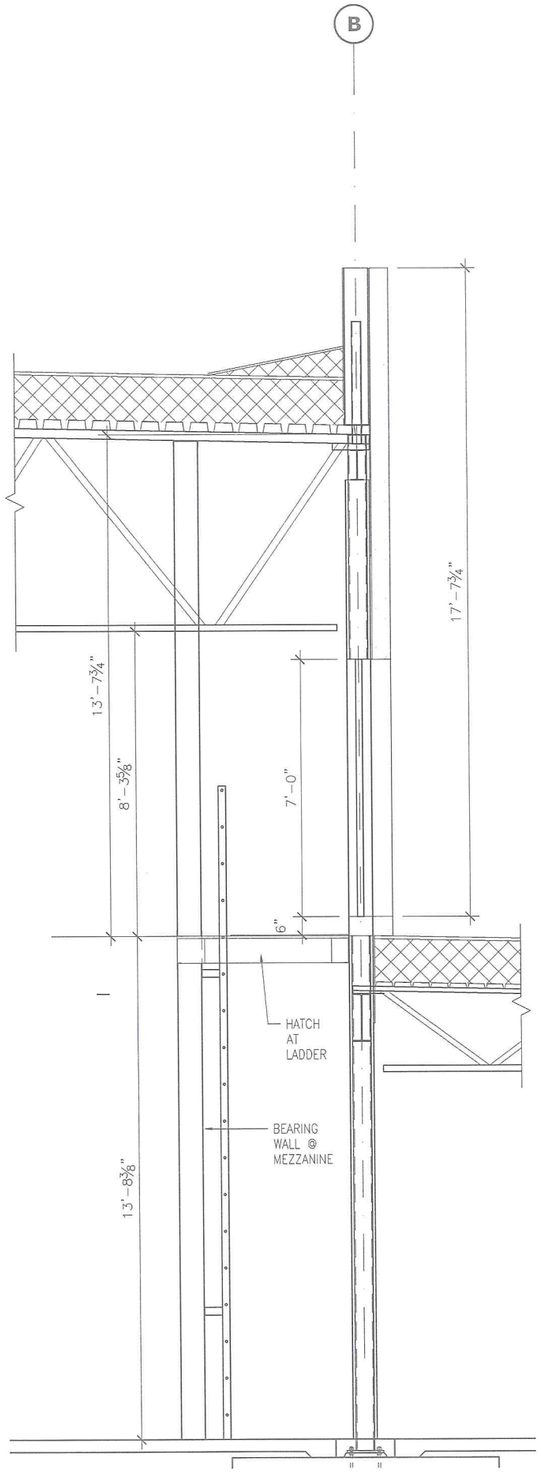
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

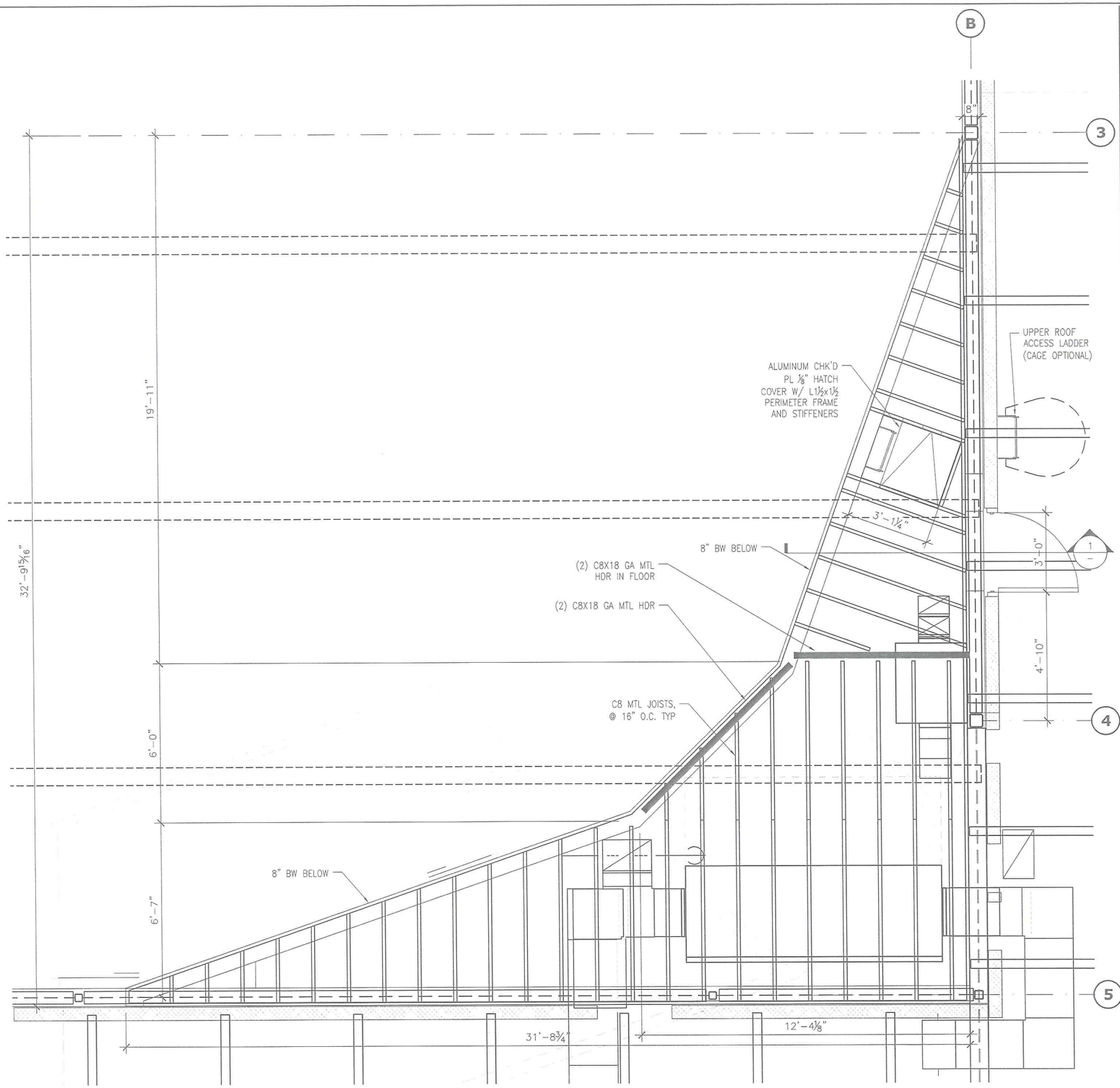
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL PLATFORM PLAN & SECTION

S2.6



1 MEZZANINE SECTION
1/2" = 1'-0"



2 MECH MEZZANINE
1/2" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9368
5/20/19
REGISTERED PROFESSIONAL ENGINEER

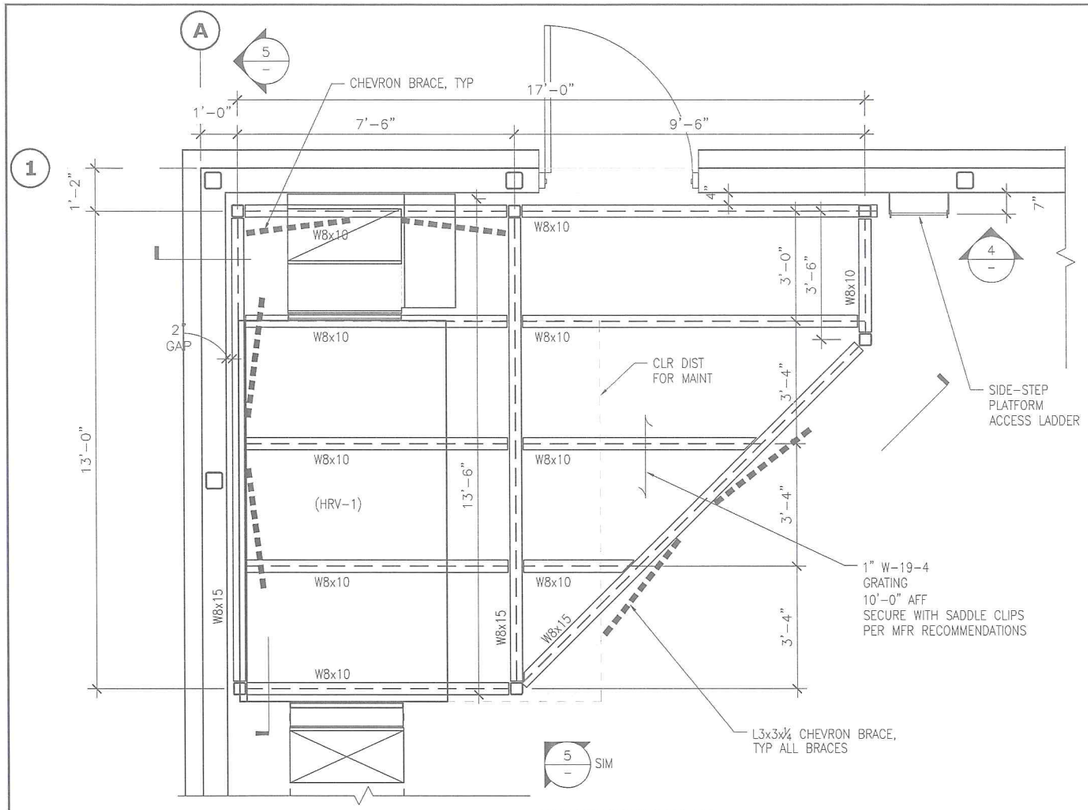
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

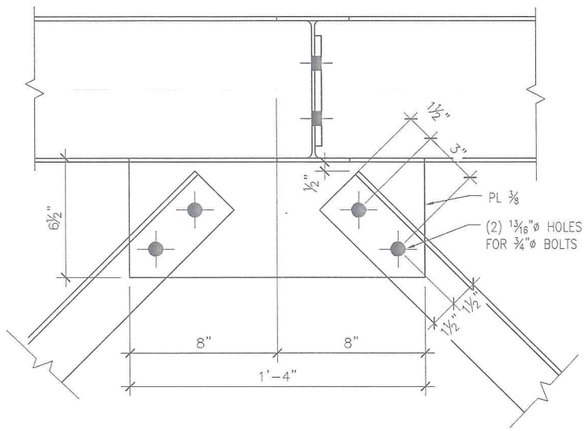
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
VESTIBULE
MEZZANINE

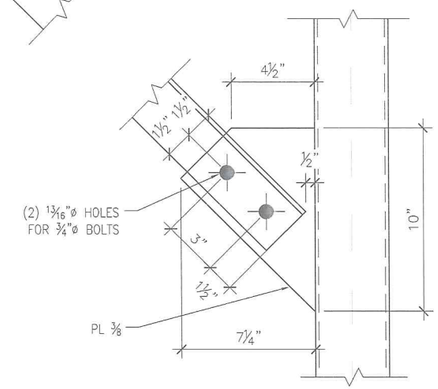
S2.7



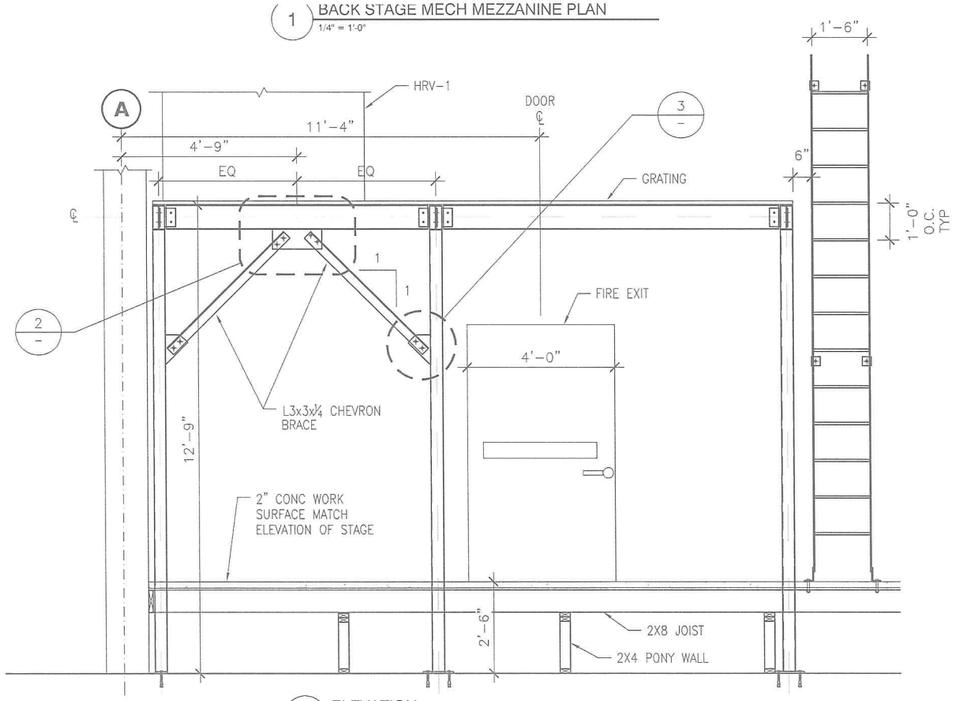
1 BACK STAGE MECH MEZZANINE PLAN
1/4" = 1'-0"



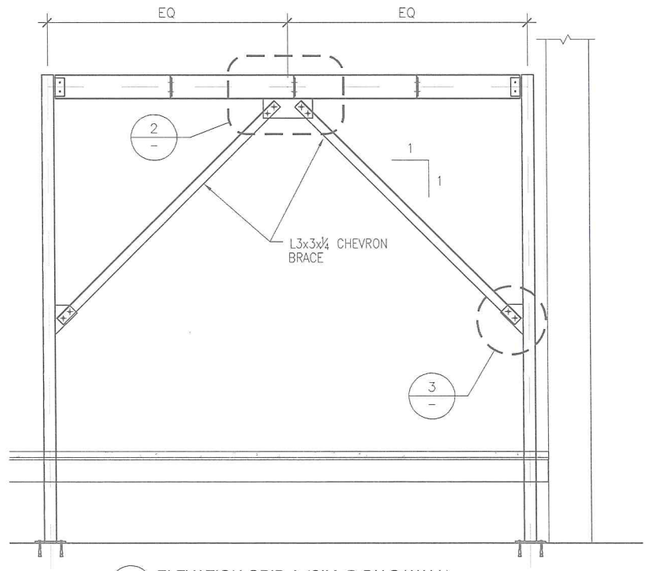
2 TYP BEAM CONNECTION
3" = 1'-0"



3 TYP COL CONNECTION
3" = 1'-0"



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



5 ELEVATION GRID A (SIM @ DIAG WALL)
1/4" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE2366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

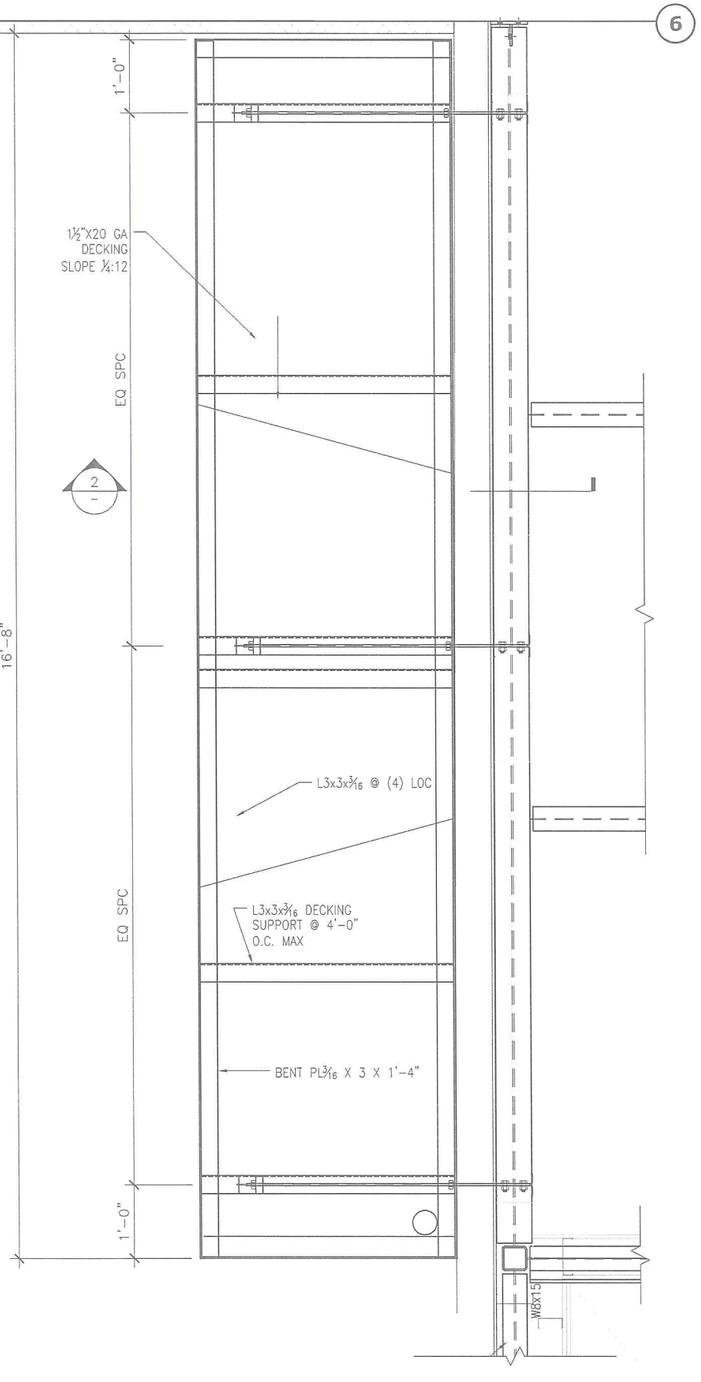
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

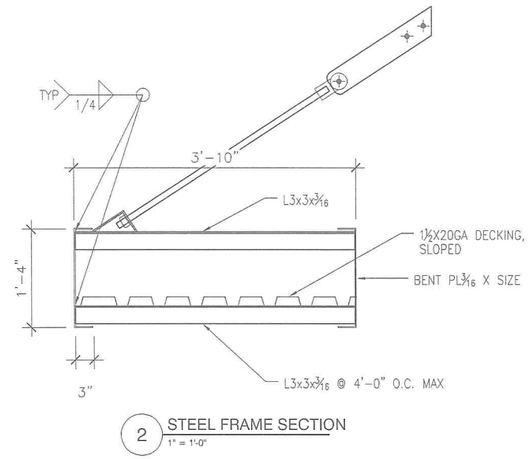
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
BACK STAGE
MEZZANINE

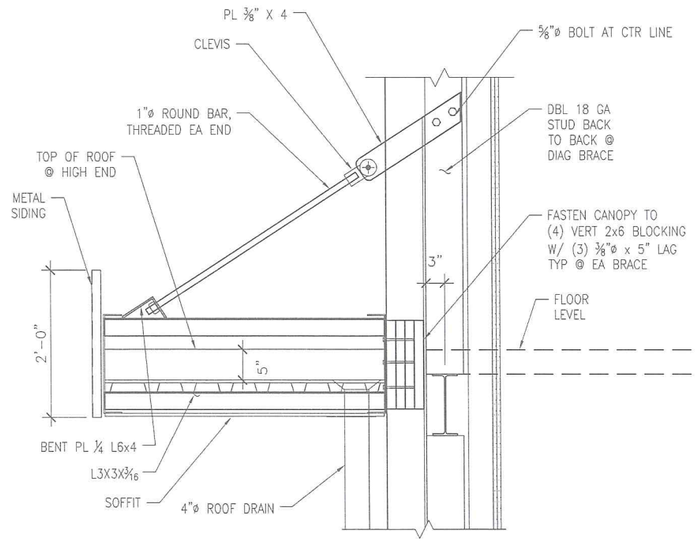
S2.8



1 STAIR TOWER AWNING
1" = 1'-0"



2 STEEL FRAME SECTION
1" = 1'-0"



3 AWNING SECTION
1" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

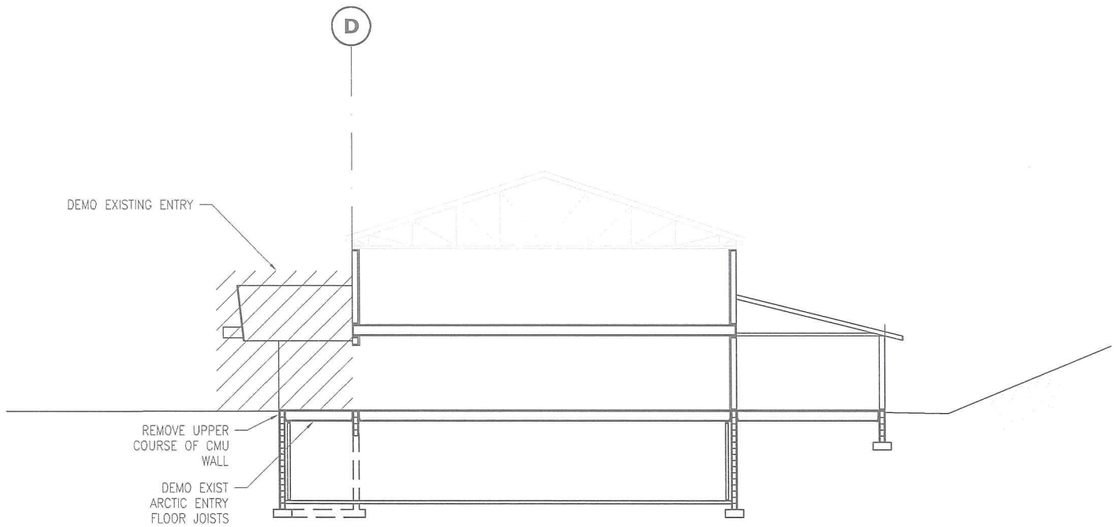
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

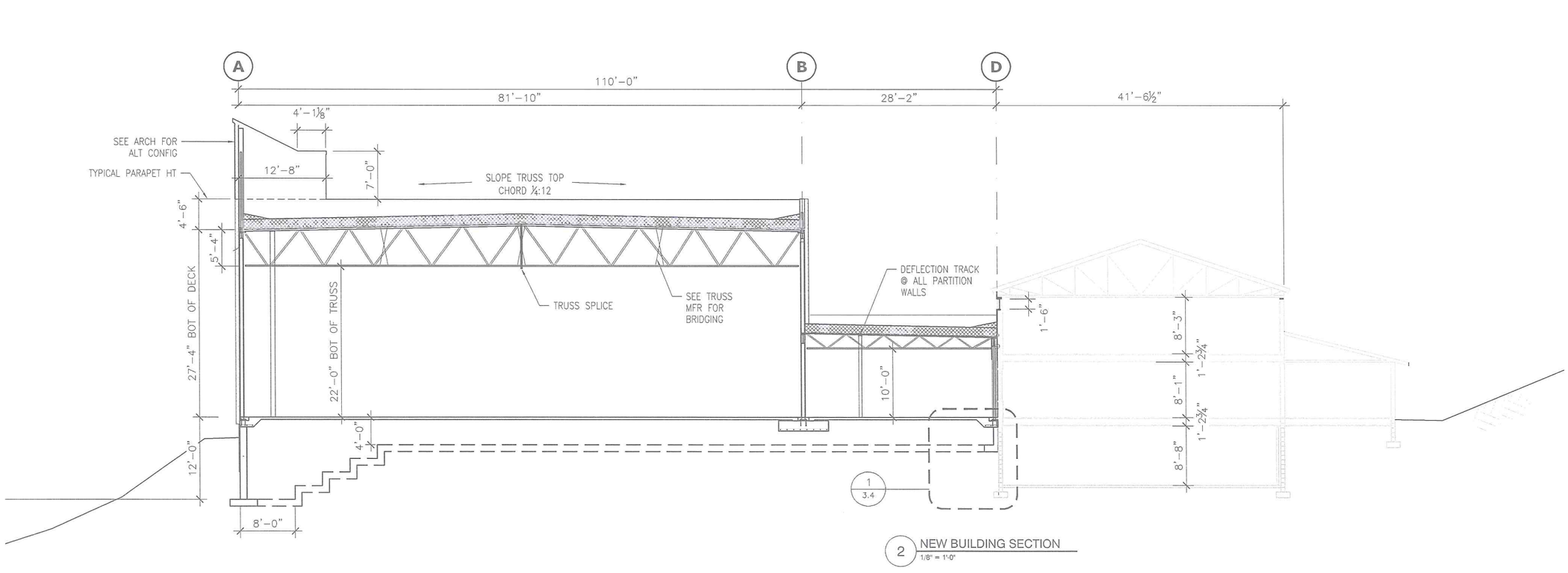
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
STAIR TOWER
AWNING

S2.9



1 EXIST BUILDING SECTION
1/8" = 1'-0"



2 NEW BUILDING SECTION
1/8" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

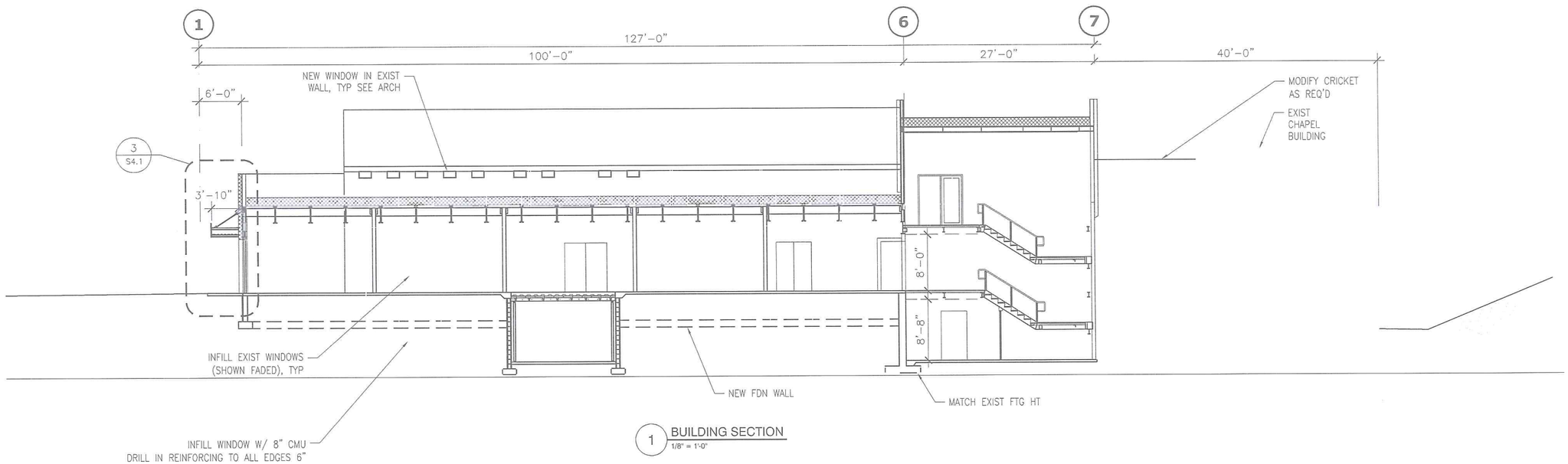
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

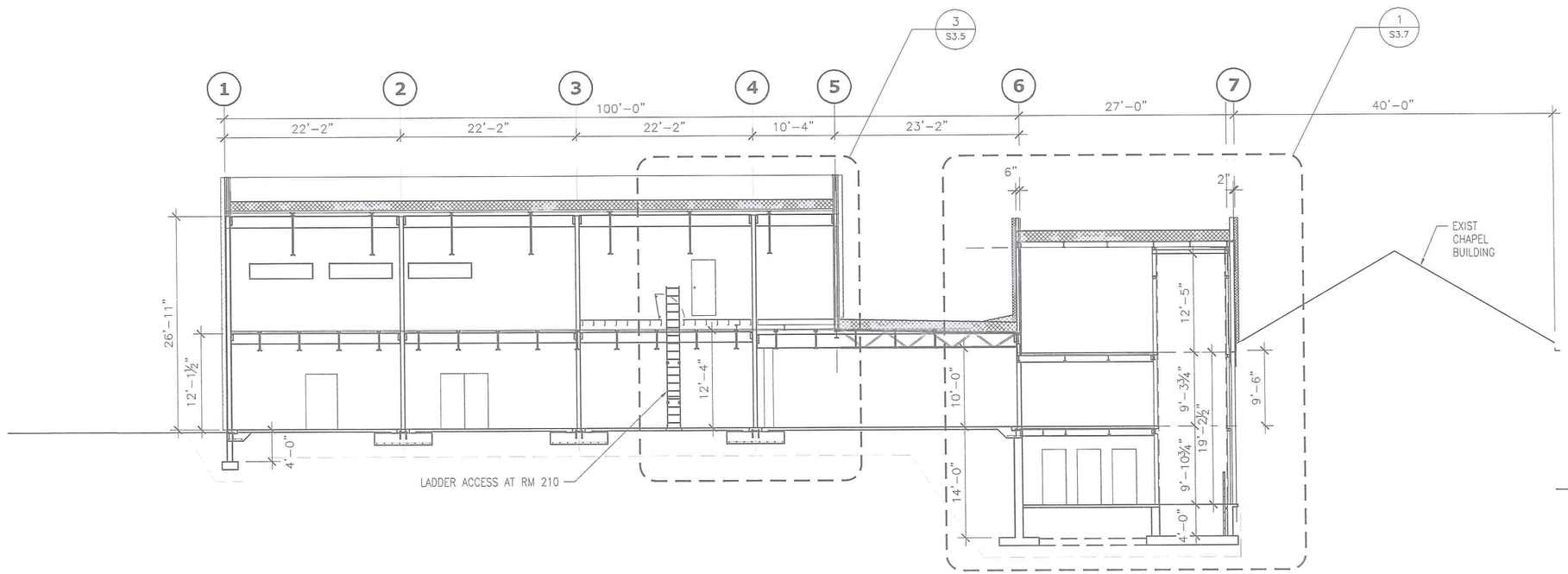
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL BUILDING SECTION

S3.1



1 BUILDING SECTION
1/8" = 1'-0"



2 BUILDING SECTION @ GRID B
1/8" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. ZE9369
5/20/19
REGISTERED PROFESSIONAL ENGINEER

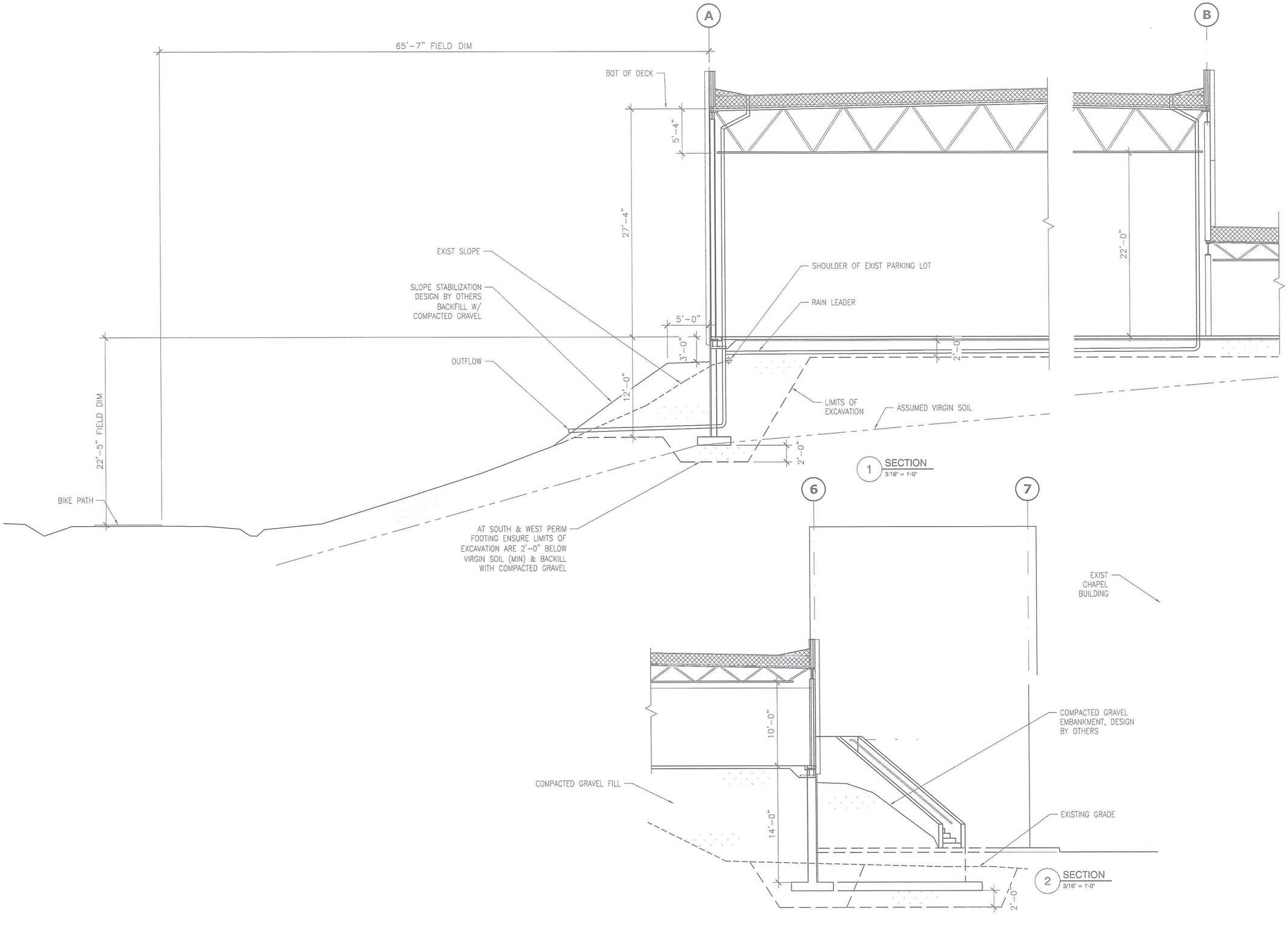
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL BUILDING SECTION

S3.2



STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

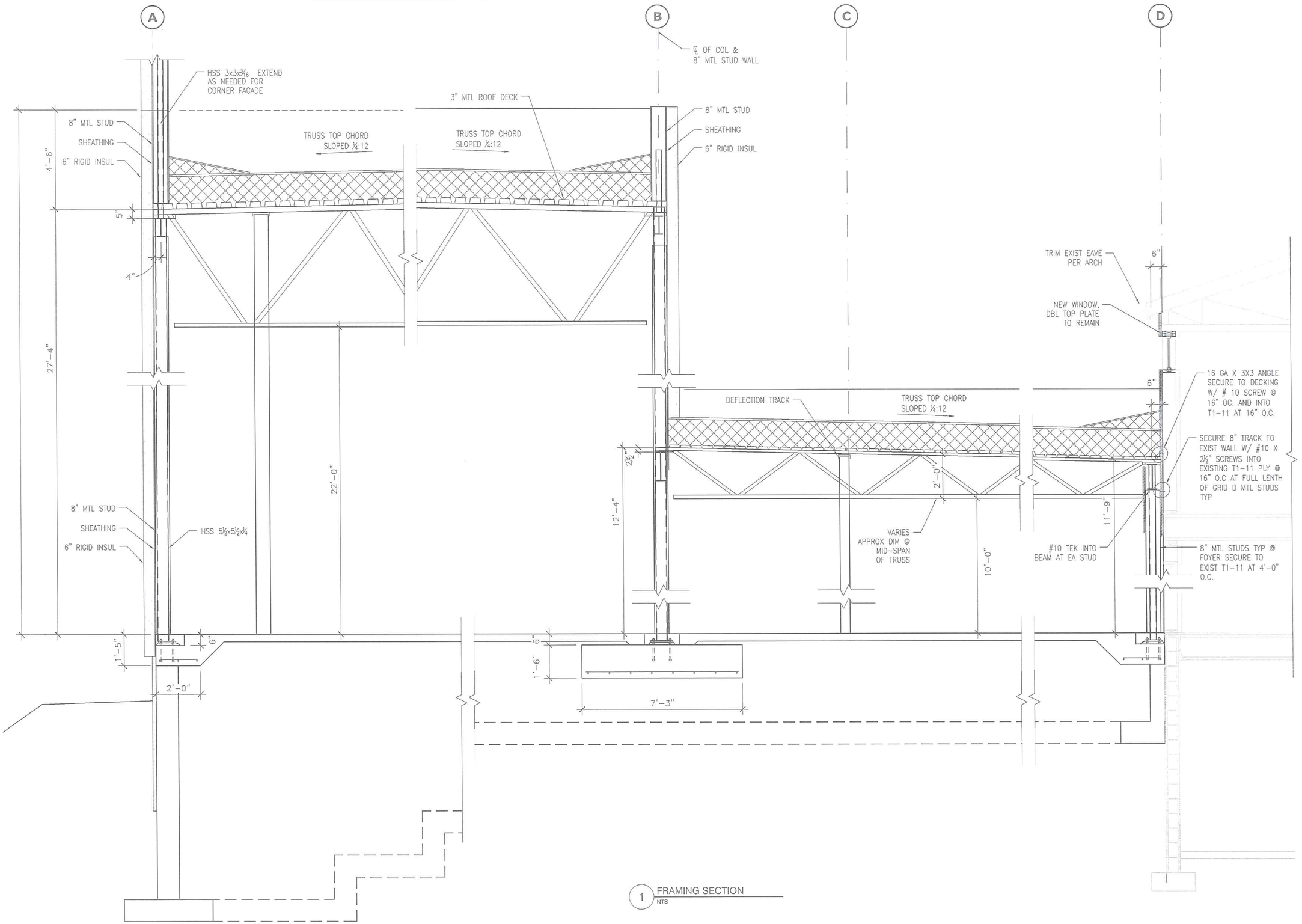
ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL BUILDING SECTION

S3.3



1 FRAMING SECTION
NTS

STATE OF ALASKA 49th
Daniel B. Holmgren
No. CE9366
5/20/19
PROFESSIONAL ENGINEER

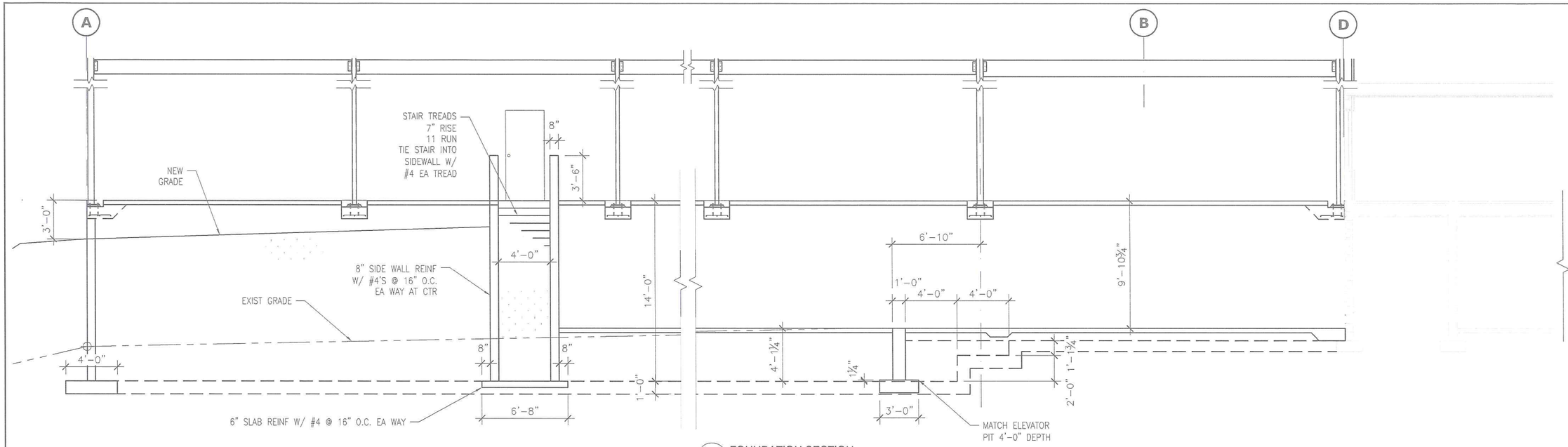
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

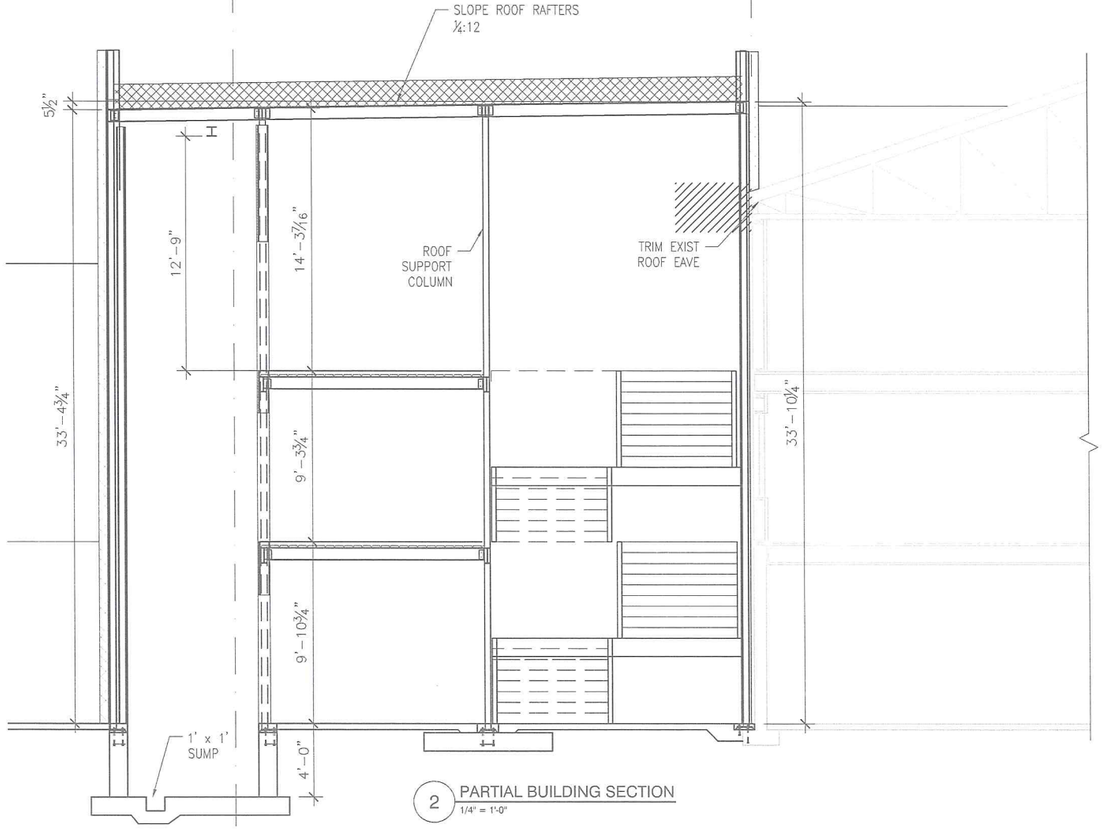
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL FRAMING SECTION

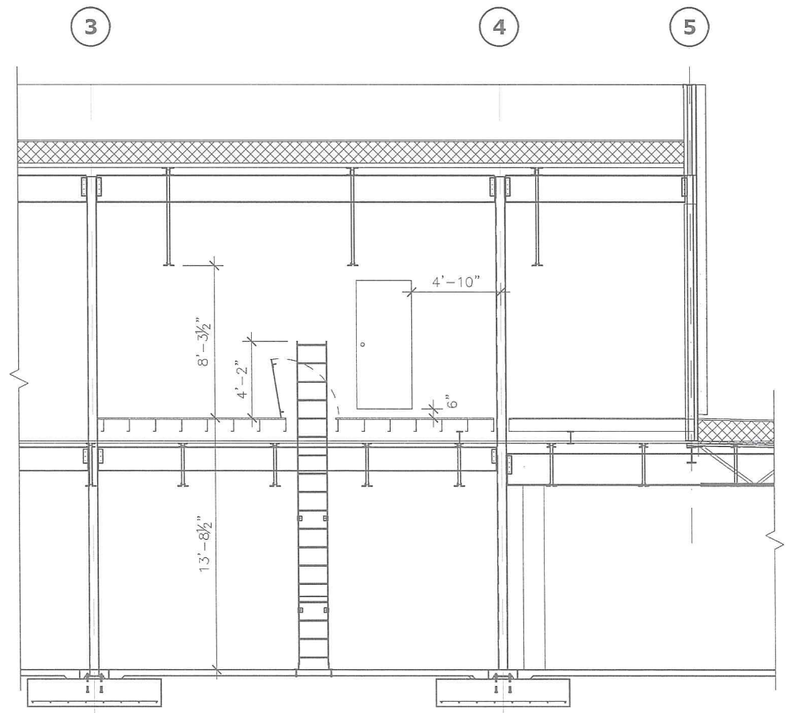
S3.4



1 FOUNDATION SECTION
1/4" = 1'-0"



2 PARTIAL BUILDING SECTION
1/4" = 1'-0"



3 PARTIAL BUILDING SECTION
1/4" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9388
5/20/19
REGISTERED PROFESSIONAL ENGINEER

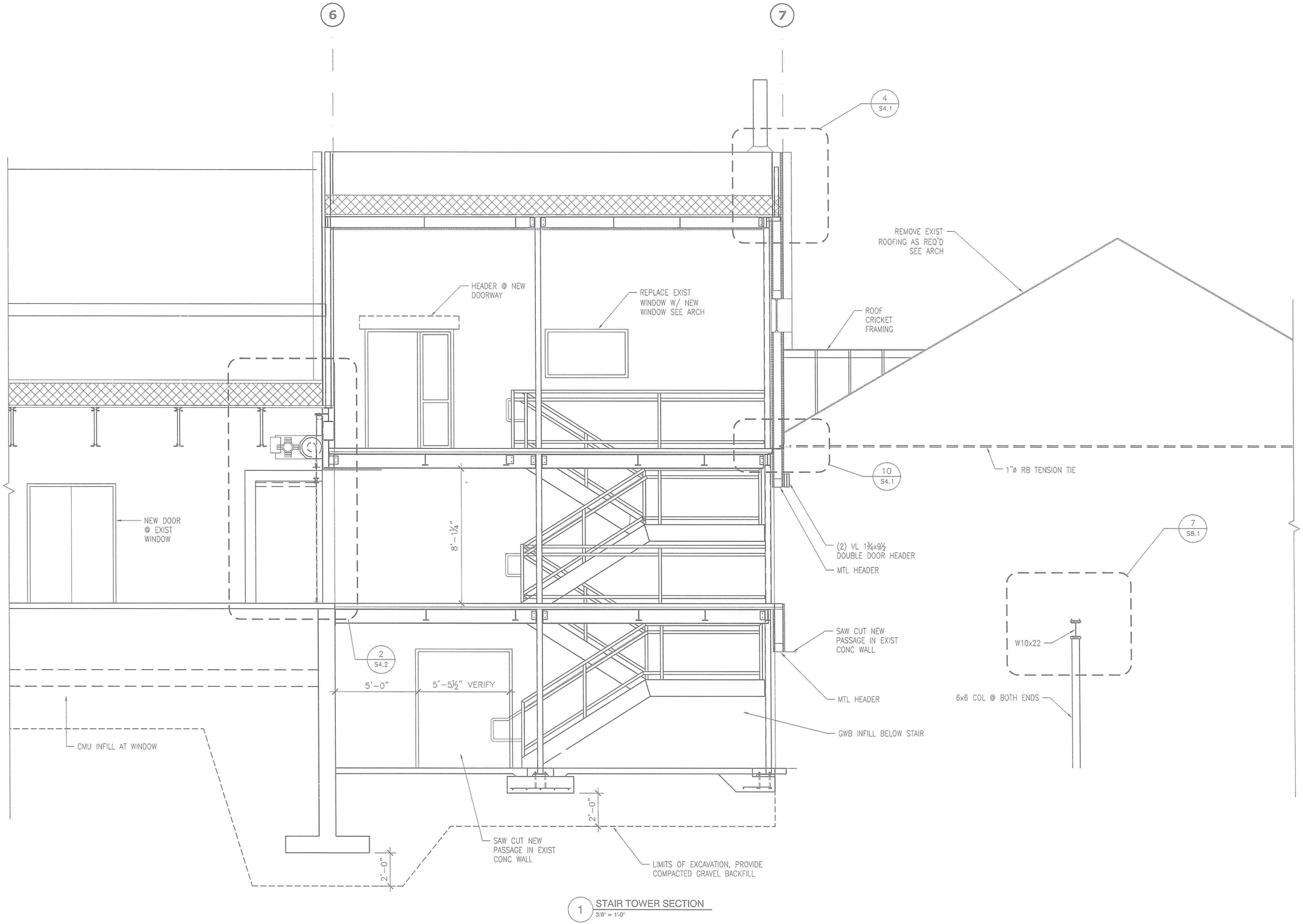
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
PARTIAL BUILDING
SECTIONS

S3.5



1 STAIR TOWER SECTION
3/8" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

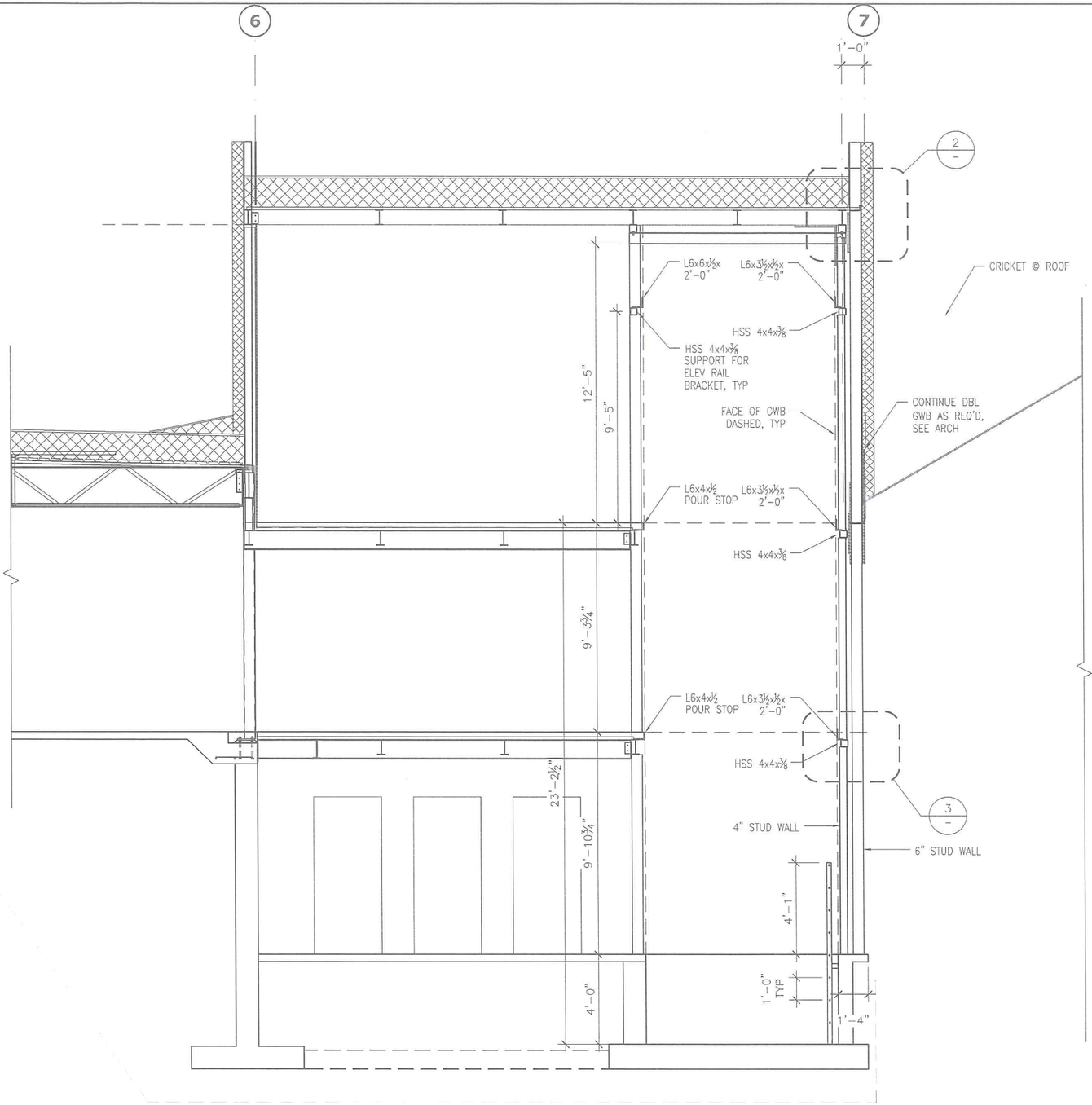
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

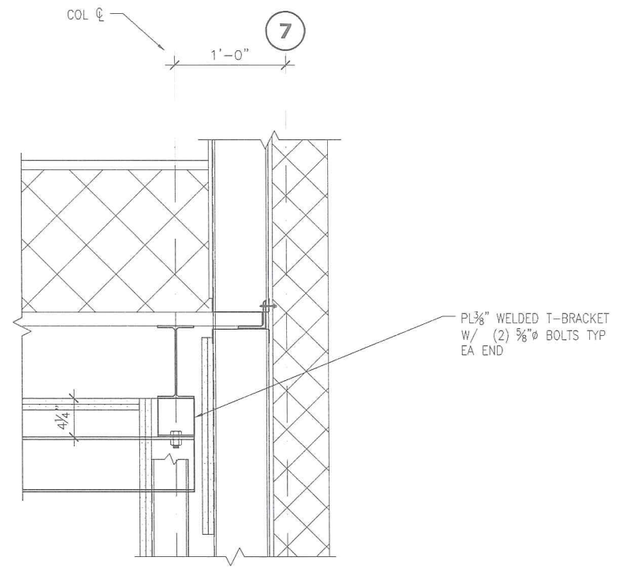
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
STAIR TOWER
SECTION

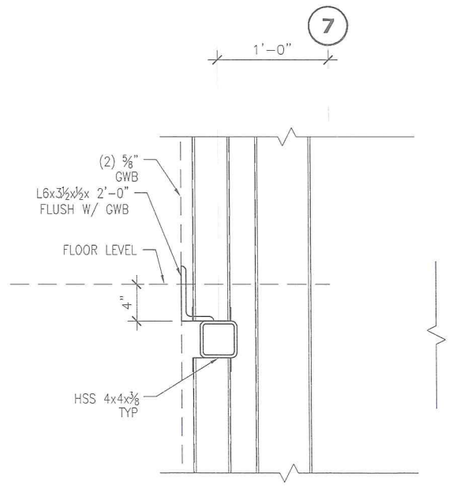
S3.6



1 STAIR TOWER SECTION @ ELEVATOR
3/8" = 1'-0"



2 DETAIL @ ELEVATOR
1 1/2" = 1'-0"



3 DETAIL @ ELEVATOR
1 1/2" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CR366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

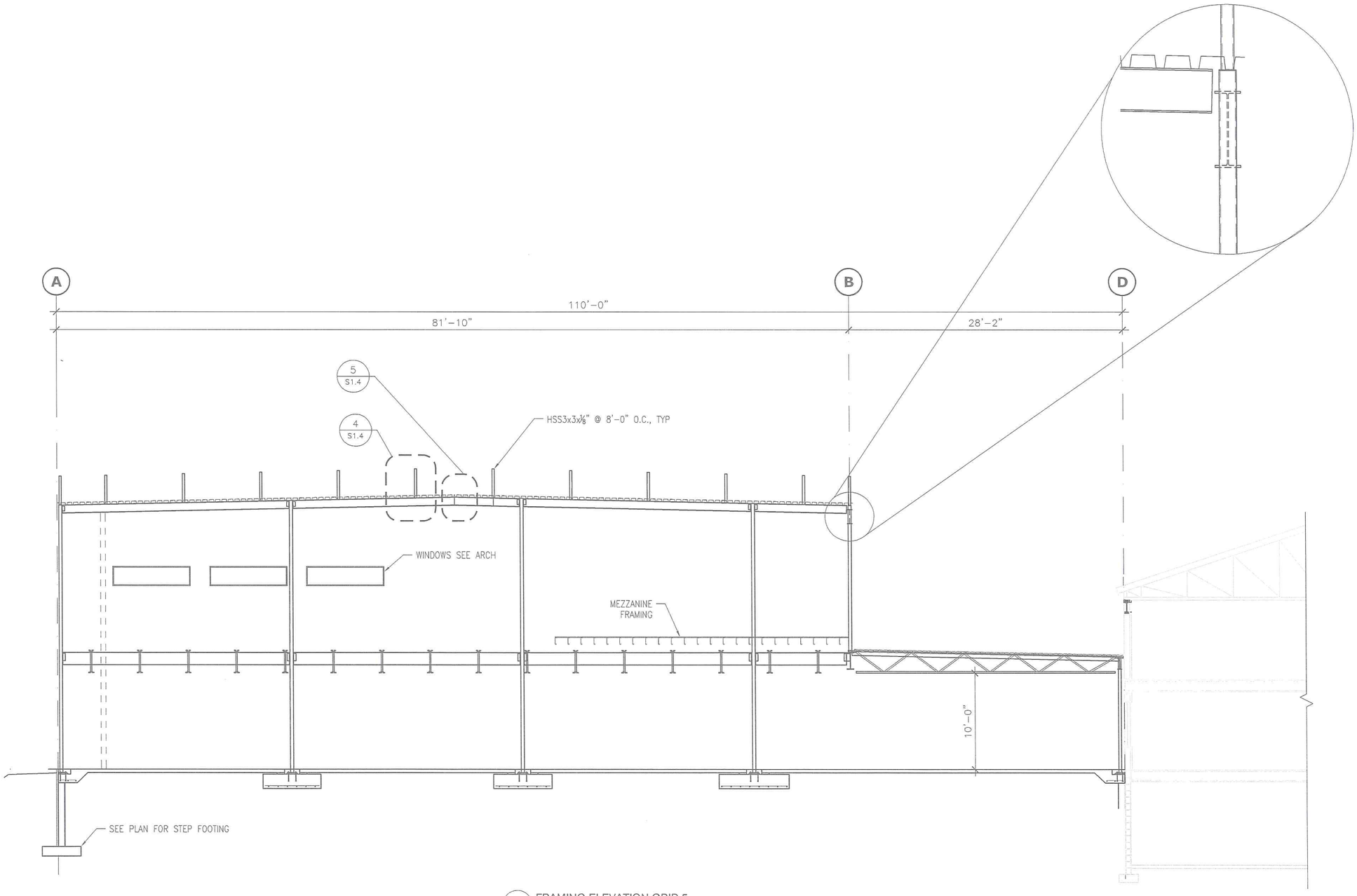
ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

REVISIONS

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
STAIR TOWER
SECTION

S3.7



1 FRAMING ELEVATION GRID 5
3/16" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

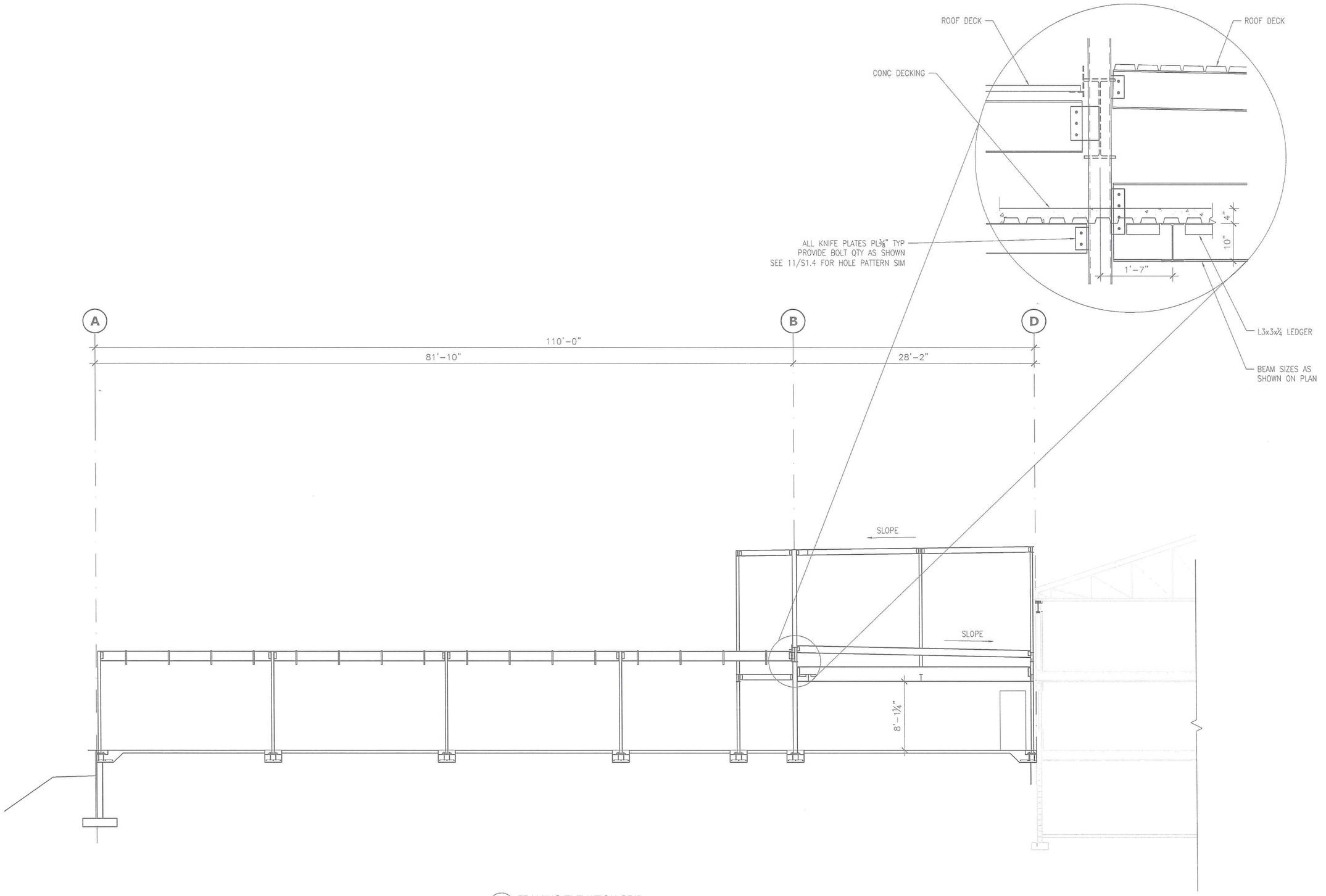
ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
FRAMING
ELEVATION

S3.8



1 FRAMING ELEVATION GRID 6
3/16" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

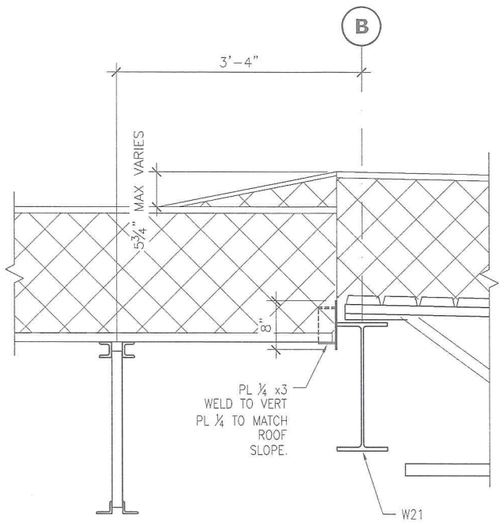
ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

REVISIONS

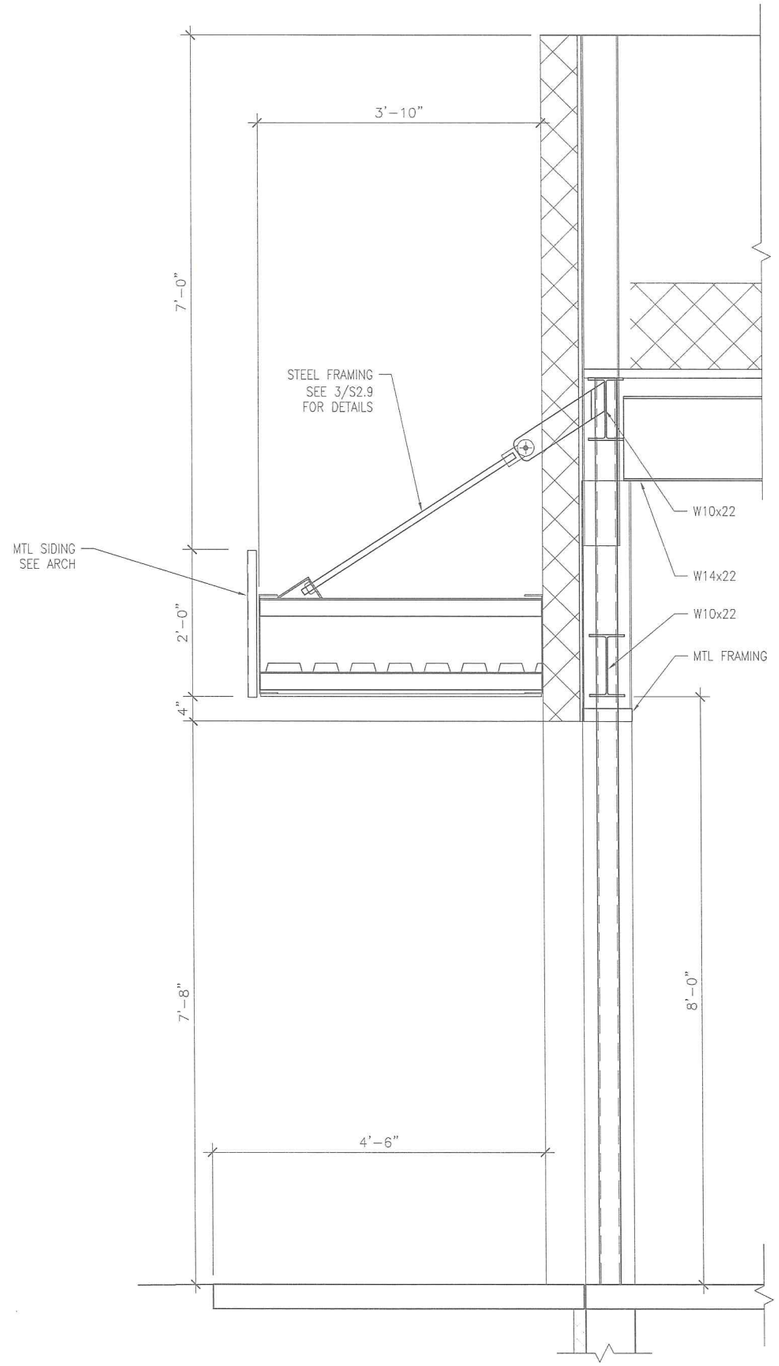
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
FRAMING
ELEVATION

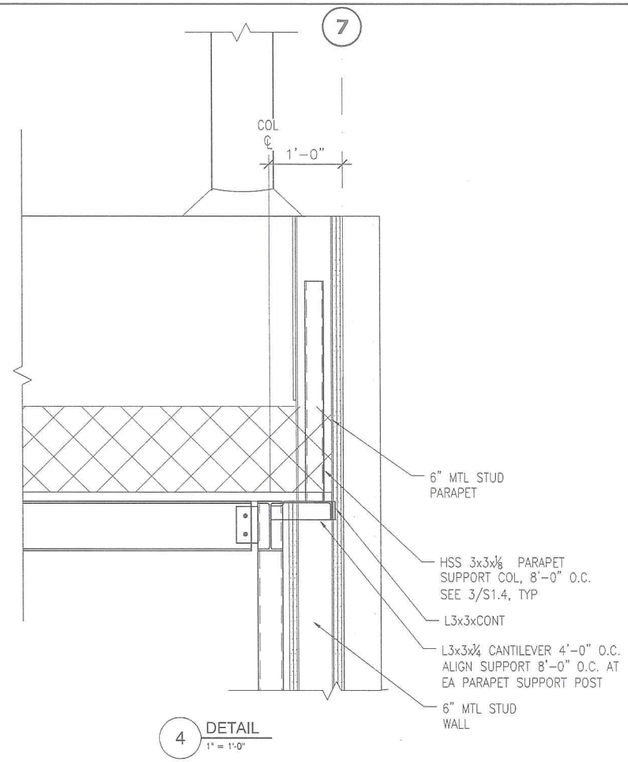
S3.9



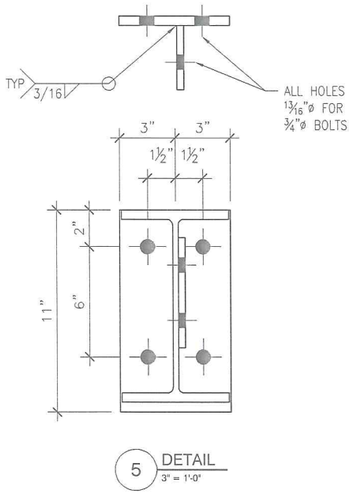
1 DETAIL
1" = 1'-0"



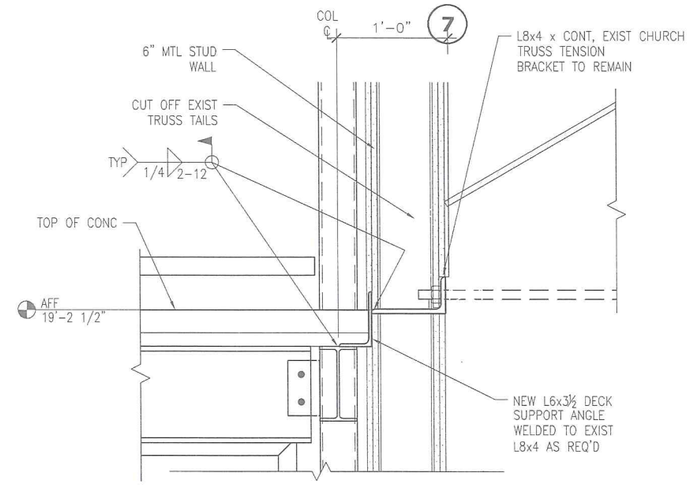
3 ENTRANCE ROOF DETAIL
1" = 1'-0"



4 DETAIL
1" = 1'-0"



5 DETAIL
3" = 1'-0"



10 DETAIL
1 1/2" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

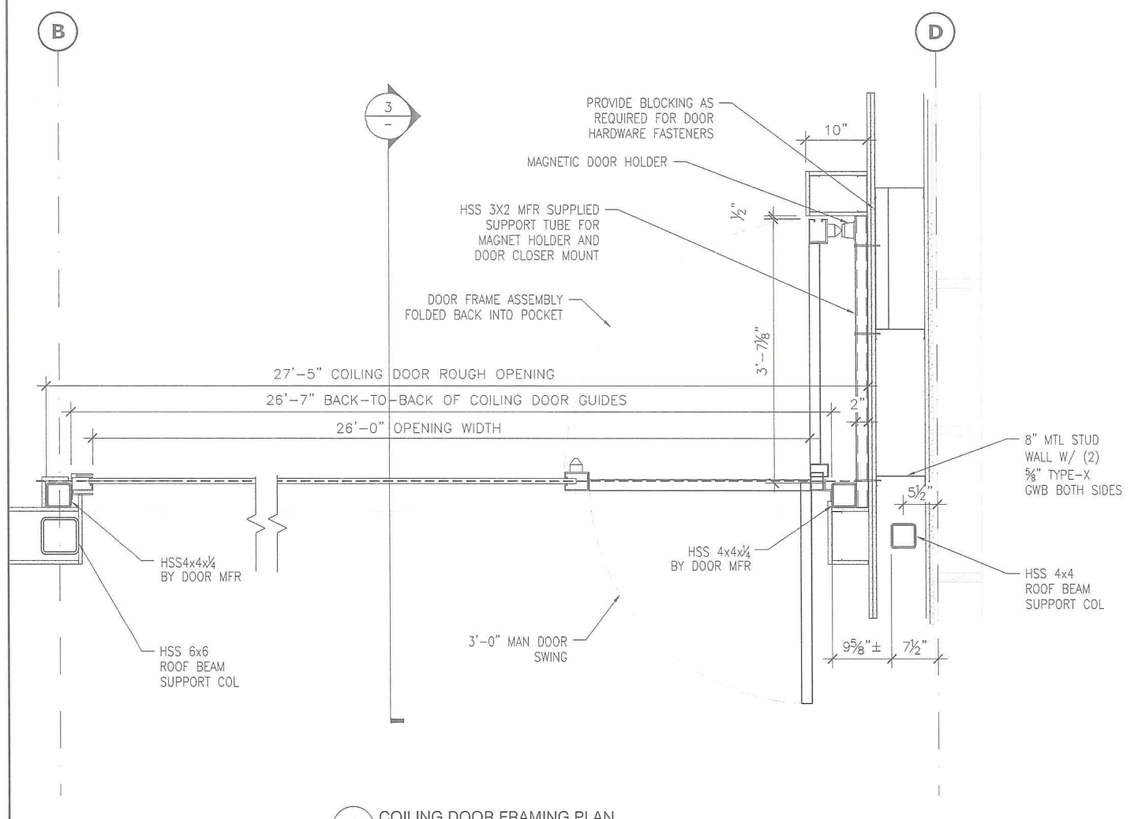
REVISIONS

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

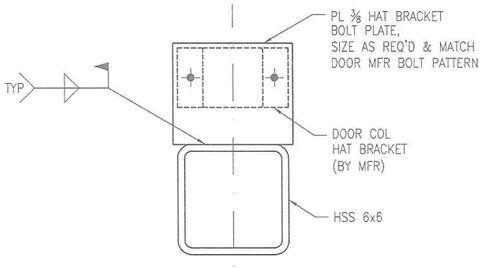
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
BUILDING
DETAILS

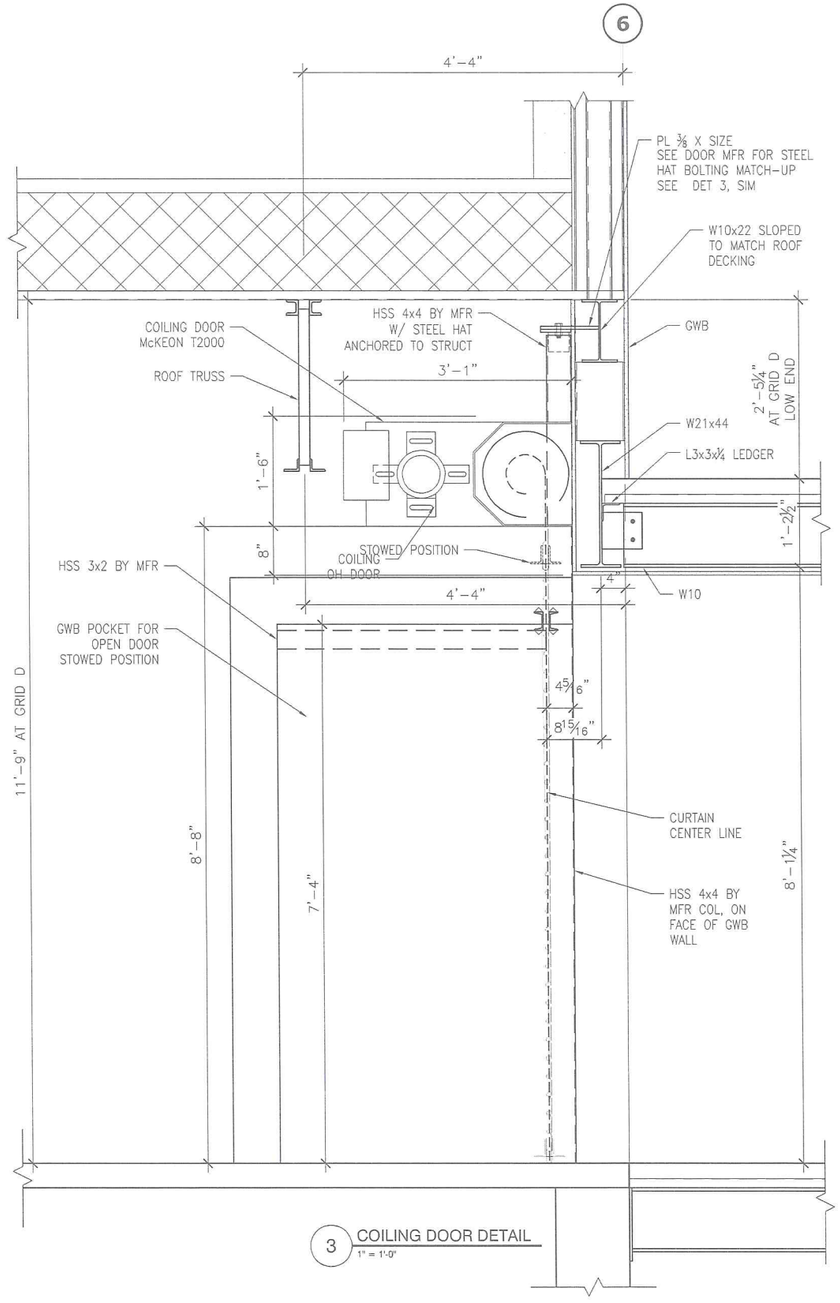
S4.1



1 COILING DOOR FRAMING PLAN
1" = 1'-0"



2 HAT BRACKET BOLT PLATE
3" = 1'-0"



3 COILING DOOR DETAIL
1" = 1'-0"

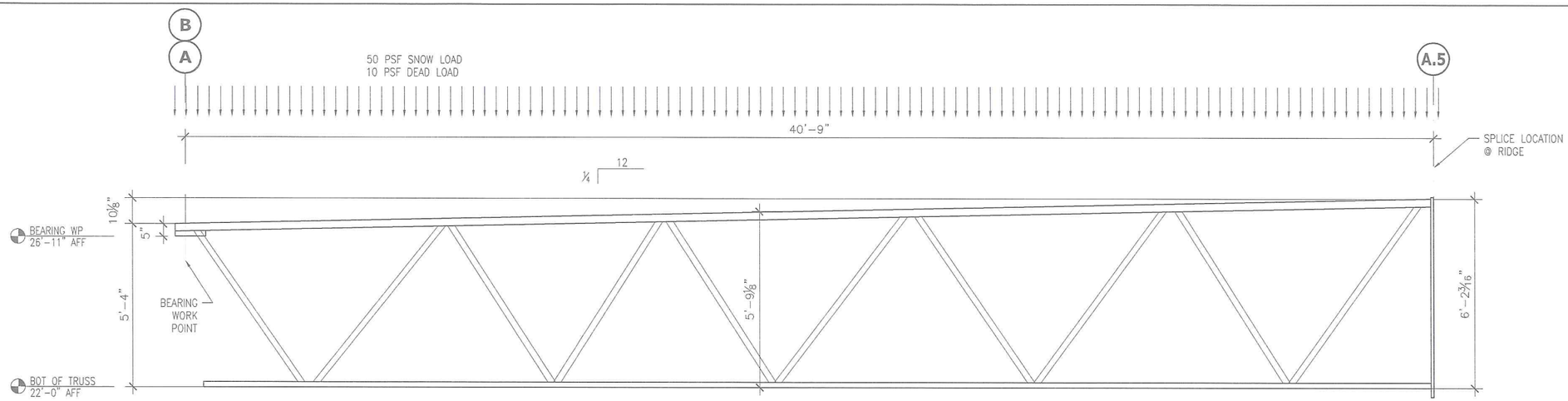
STATE OF ALASKA
49th
Daniel B. Holmgren
No. 13836
5/20/19
REGISTERED PROFESSIONAL ENGINEER
ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

REVISIONS

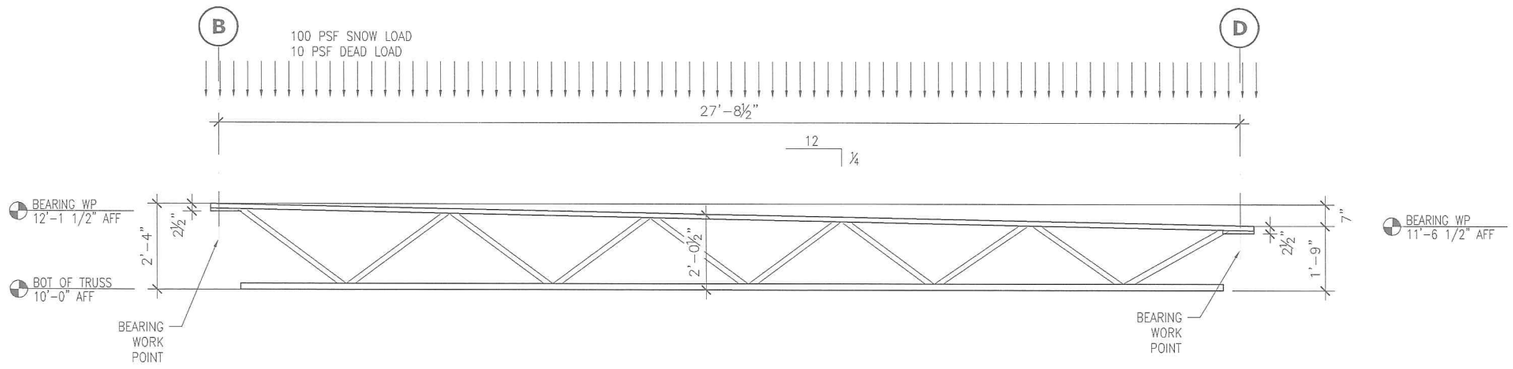
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL COILING DOOR DETAILS

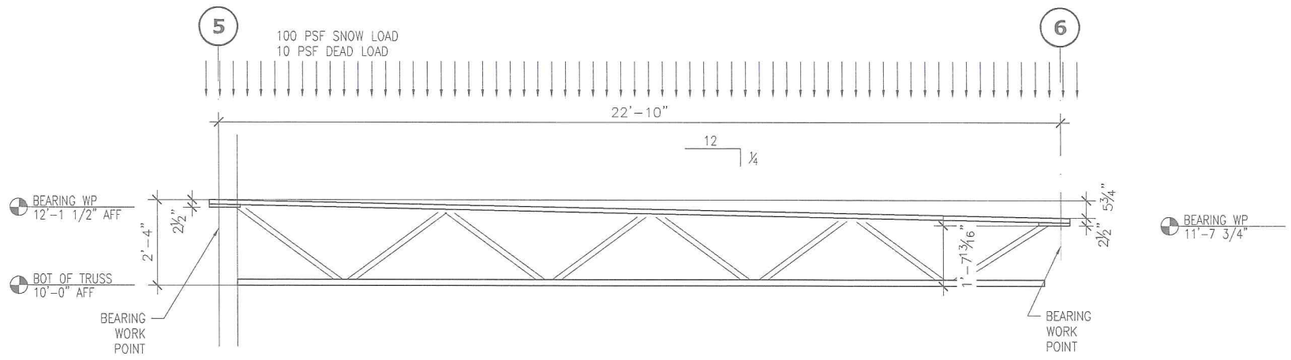
S4.2



1 TRUSS - AUDITORIUM
1 1/2" = 1'-0"



2 TRUSS - FOYER
1 1/2" = 1'-0"



3 TRUSS - FOYER
1 1/2" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

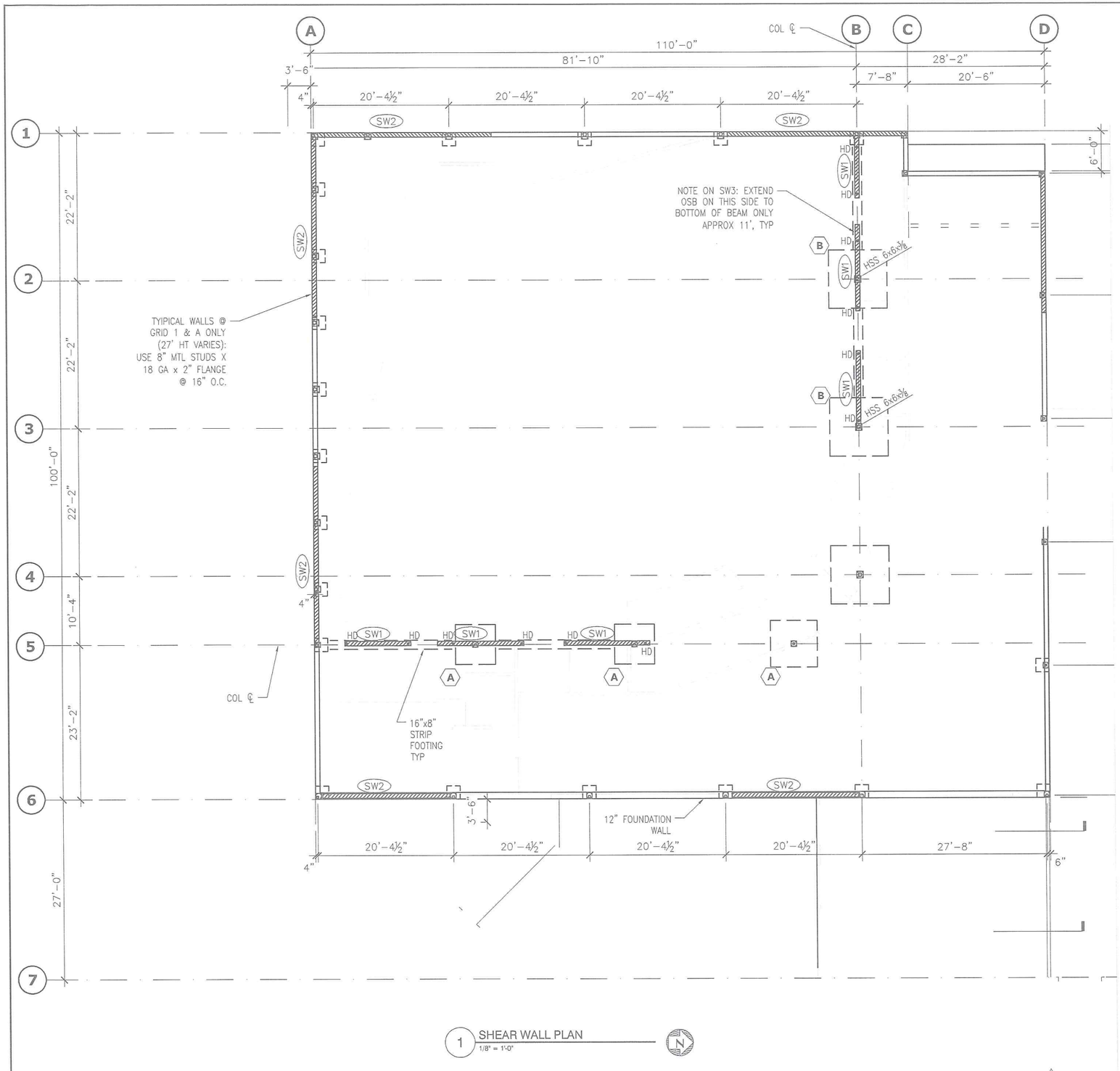
ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

REVISIONS

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
TRUSSES

S5.1



1 SHEAR WALL PLAN
1/8" = 1'-0"

LEGEND:

BEAM — SW# SHEAR WALL

SHEAR WALL

COLUMN

CONSTRUCTION NOTES:

1. SEE ARCHITECTURAL PLANS FOR WINDOW AND DOOR LOCATIONS. ARCHITECTURAL ITEMS SHOWN FOR CLARITY ONLY.
2. ALL WALL FRAMING SHALL BE MTL STUDS AS SHOWN. ALL STUDS ARE 22 GA SPACED AT 16" O.C. UNO
3. SEE S6.2 – S6.5 FOR TYPICAL MTL FRAMING DETAILS

SHEAR WALL SCHEDULE

WALL TYPE	SHEATHING	EDGE FASTENERS (#8 SCREWS)	ANCHORAGE	HOLD DOWN (SEE DETAIL)	PANEL EDGE BLOCKING
SW1	7/16 OSB BOTH SIDES	4" OC	½"ø THD @ 12" OC (D=4", E=2")	HDU5-SDS2.5 W/ SSTB20 & LBP⅝ PLATE	YES
SW2	7/16 OSB	6" OC	½"ø THD @ 24" OC (D=4", E=2")	NONE	YES
ALL OTHER WALLS	7/16 OSB	6" OC	½"ø THD @ 60" OC (D=4", E=2")	NONE	NO

SHEAR WALL NOTES:

1. FASTEN SHEAR PANELS AT EDGES AS SHOWN. FASTENERS AT INTERMED SUPPORTS SHALL BE SPACED AT 12" OC.
2. SEE PLAN FOR SHEAR PANEL LENGTH FOR EACH SHEAR WALL CALLOUT. BLOCK PANEL EDGES, UNO. BLOCKING ON THE FLAT IS PERMISSIBLE.
3. IF SHEATHING IS APPLIED TO BOTH SIDES, PANEL EDGES SHALL BE STAGGERED..
4. ABBREVIATIONS:
   - GWB = GYPSUM WALL BOARD (½" MIN.)
   - THD = GALV TITEN HD SCREW BOLT OR ½"ø x 10" GALV ANCHOR BOLT
   - D = EMBEDMENT
   - E = EDGE DISTANCE (TO CONC)
   - HD = HOLD DOWN
   - HF = HEM-FIR
   - TL = TIMBERLOK
   - NR = NOT REQUIRED
5. HOLD DOWN BOLTS SHALL BE HOT-DIPPED GALVANIZED .
6. INSTALL HOLD DOWNS AT BOTH ENDS OF EACH PANEL SEGMENT. SEE TYPICAL MTL FRAMING DETAILS.

PARTITION WALL NOTES:

1. FASTEN PARTION WALL BOTTOM TRACKS AT EACH STUD WITH MUSHROOM-HEAD HAMMER DRIVE PIN ANCHORS. USE ¼"ø X ¾" MIN.
2. SEE S6.2 THRU S6.5 FOR TYPICAL DETAILS

STATE OF ALASKA 49th
Daniel B. Holmgren
No. PE9368
12/20/19
PROFESSIONAL ENGINEER

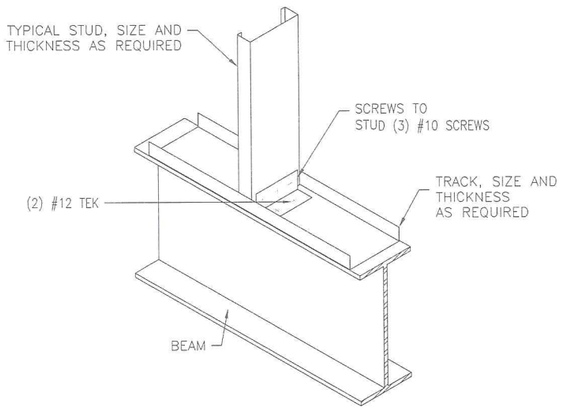
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

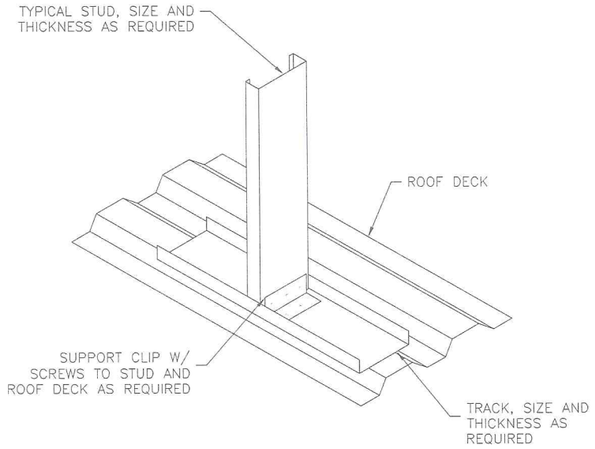
STRUCTURAL SHEAR WALL PLAN

S6.1

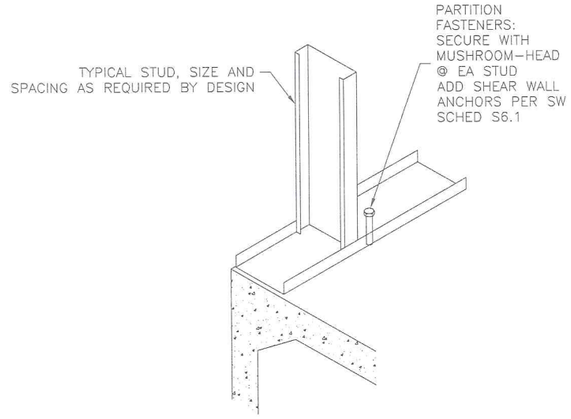


SECURE

1 PARAPET CONNECTION TO BEAM

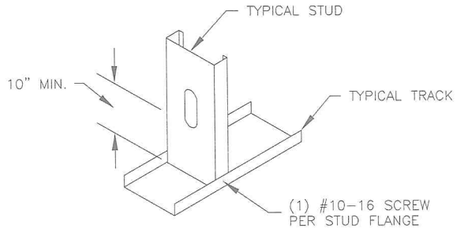


2 PARAPET CONNECTION TO ROOF DECK

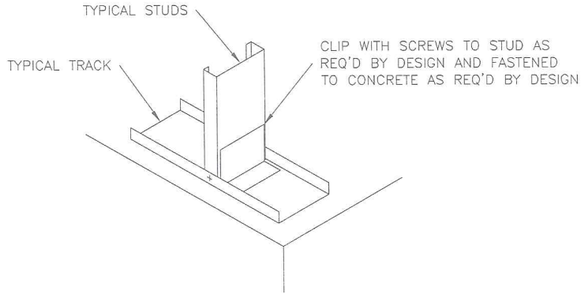


3 TYPICAL BASE CONNECTION TO SLAB

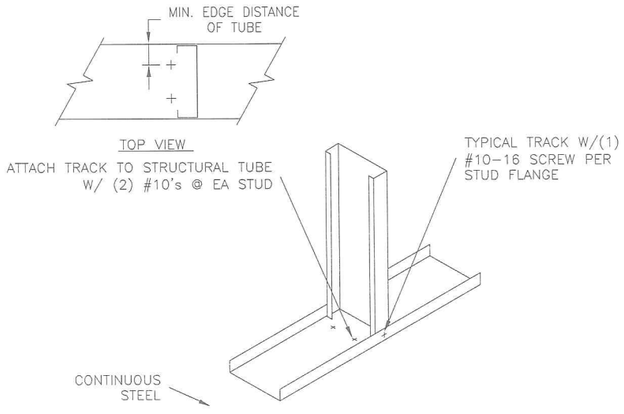
NOTE:
CDES RECOMMENDS INSTALLING STUDS WITH SAME FIRST KNOCKOUT DIMENSION FOR TYPICAL BRIDGING ALIGNMENT (IF REQUIRED).



4 STUD-TO-TRACK CONNECTION



5 BASE CONNECTION TO SLAB WITH CLIP



6 BASE CONNECTION TO TUBE STEEL OR BEAM

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

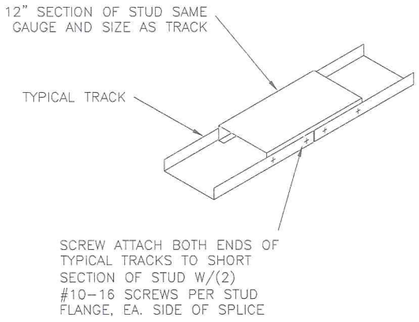
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

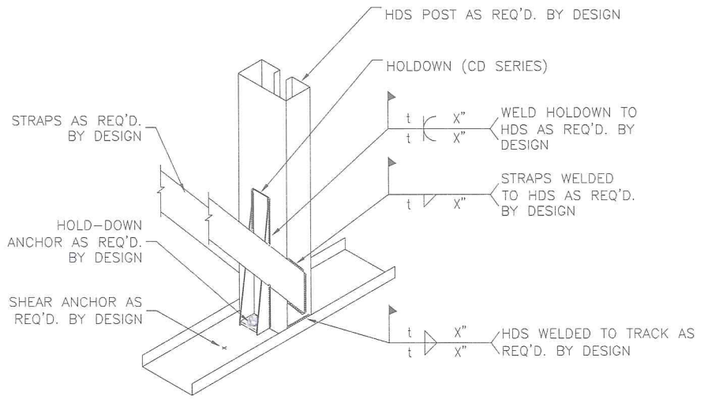
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
TYP METAL STUD DETAILS

S6.2

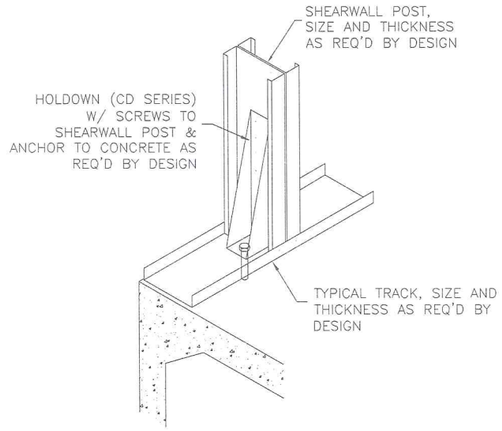


1 BOTTOM TRACK SPLICE



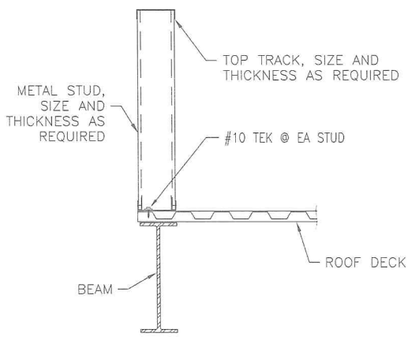
ALT SHEAR WALL CONFIG - MAY BE USED AS AN ALTERNATE TO DBL SIDED SHEAR WALLS, COORDINATE WITH ENGINEER

2 HDS-SHEAR WALL POST-1

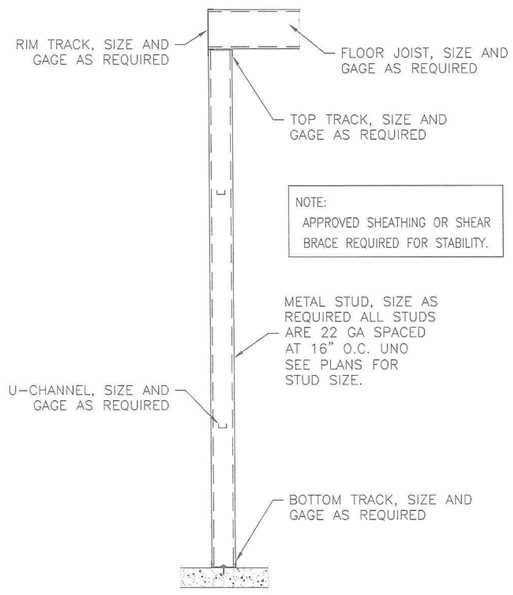


SEE SHEAR WALL SCHED S6.1 FOR HOLD DOWN SIZE AND LOCATIONS

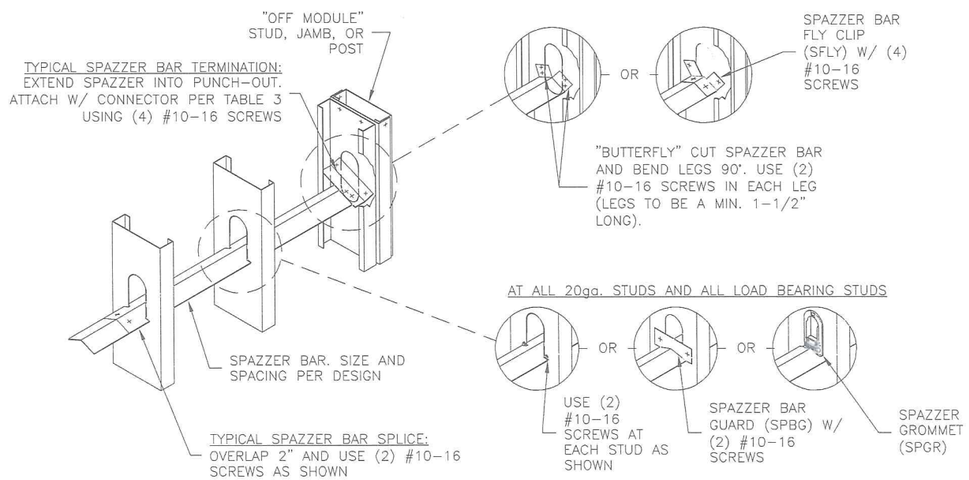
3 HOLD DOWN DETAIL 1



4 CANTILEVER PARAPET SECTION



5 LOAD BEARING MEZZANINE SECTION



SPAZZER BAR IS NOT SUITABLE FOR WALL STUDS DEEPER THAN 6"

EACH END OF LATERAL BRACING MUST BE RIGIDLY FIXED OR OTHERWISE PREVENTED FROM HORIZONTAL MOVEMENT.

6 SPAZZER LATERAL BRACING

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

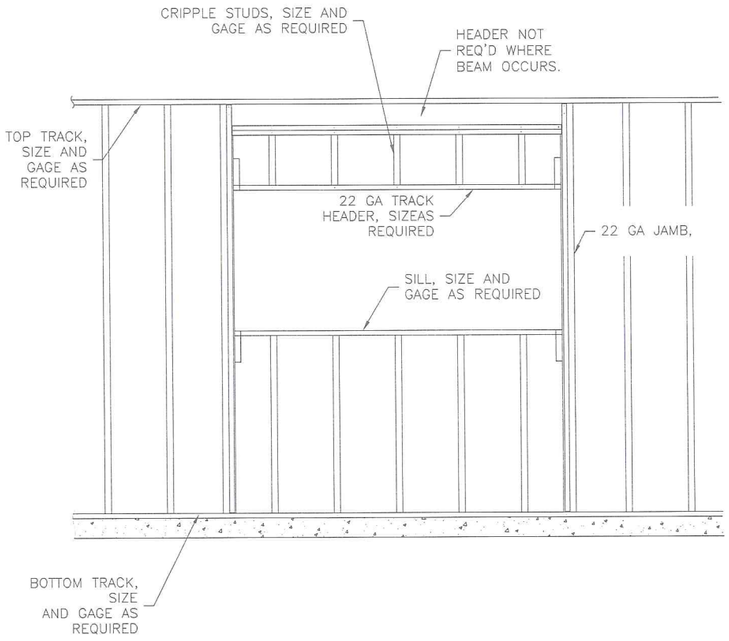
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

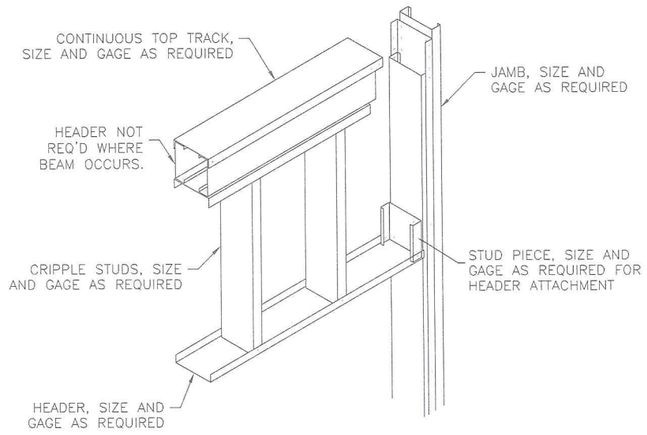
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
TYP METAL STUD DETAILS

S6.3

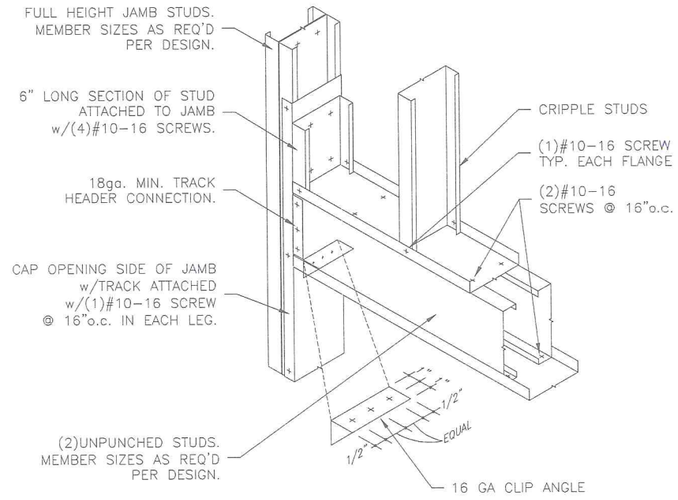


1 LOAD BEARING WINDOW OPENING ELEVATION



USE THIS HDR CONFIG AT GRID D

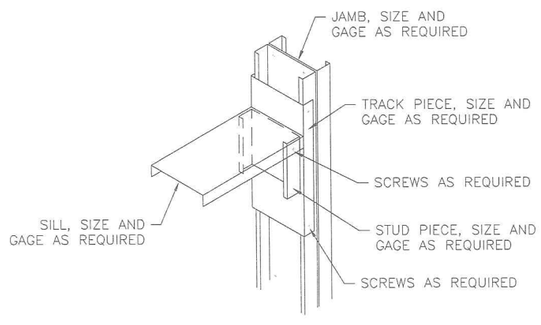
2 LOAD BEARING JAMB AND HEADER DETAIL



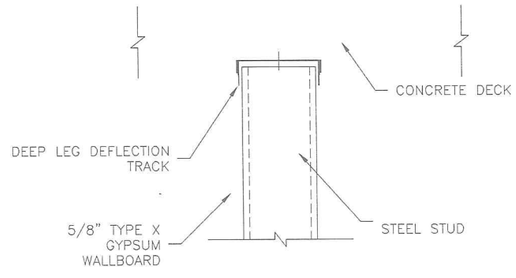
USE THIS HEADER CONFIGURATION AT ALL NON LOAD BEARING WINDOW AND DOOR OPENINGS EXCEPT AT GRID D.

3 BOXED HEADER CONNECTION

CURTAIN WALL HEADER TO BACK-TO-BACK JAMB



4 WINDOW SILL DETAIL



6 POST TENSION OR STRUCTURAL CONCRETE OVERHEAD

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9368
5/20/19
REGISTERED PROFESSIONAL ENGINEER
ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

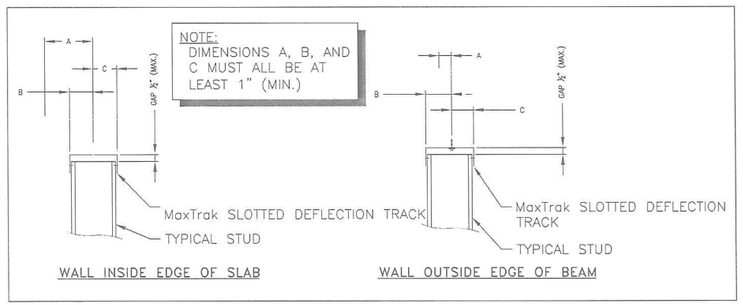
REVISIONS

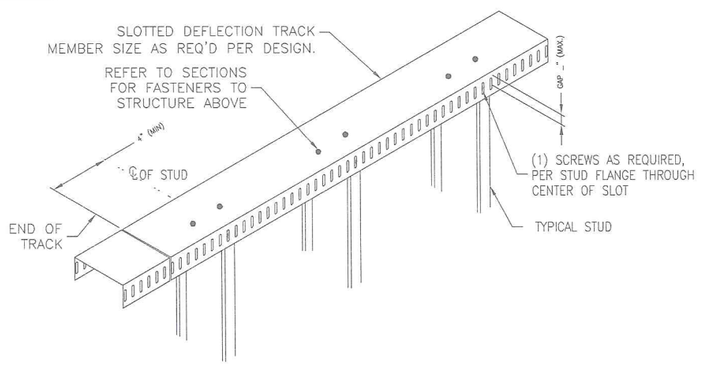
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION

FARMERS LOOP
FAIRBANKS, ALASKA

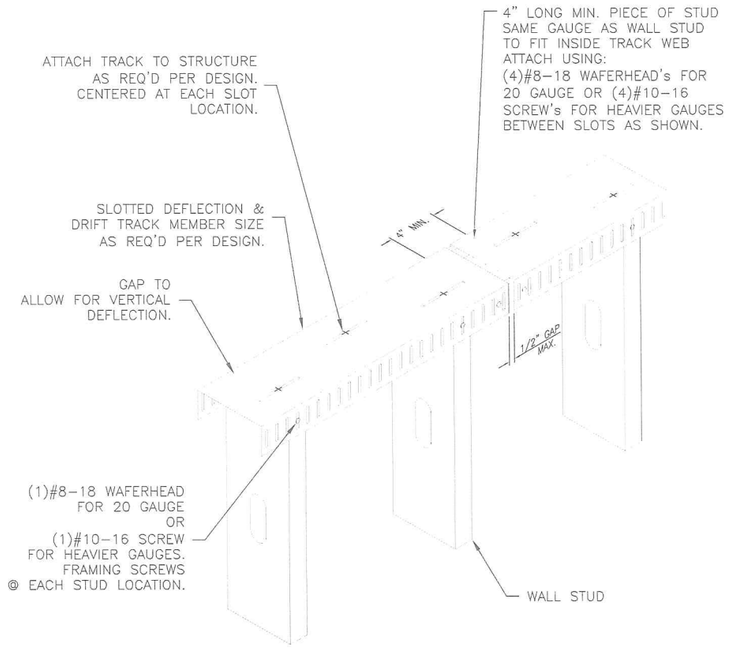
STRUCTURAL
TYP METAL STUD DETAILS

S6.4





1 SLOTTED DEFLECTION TRACK



2 SLOTTED DEFLECTION TRACK WITH SPLICE

NOTE: DETAILS SHOWN UTILIZE DIETRICK TYPICAL GAGE METAL CONSTRUCTION OR EQUAL.

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9368
5/20/19
REGISTERED PROFESSIONAL ENGINEER

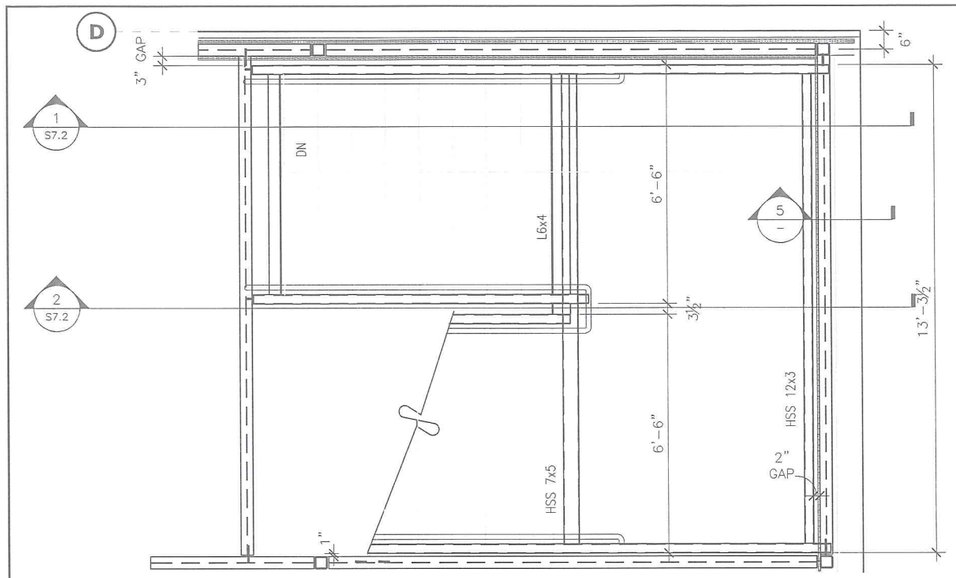
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

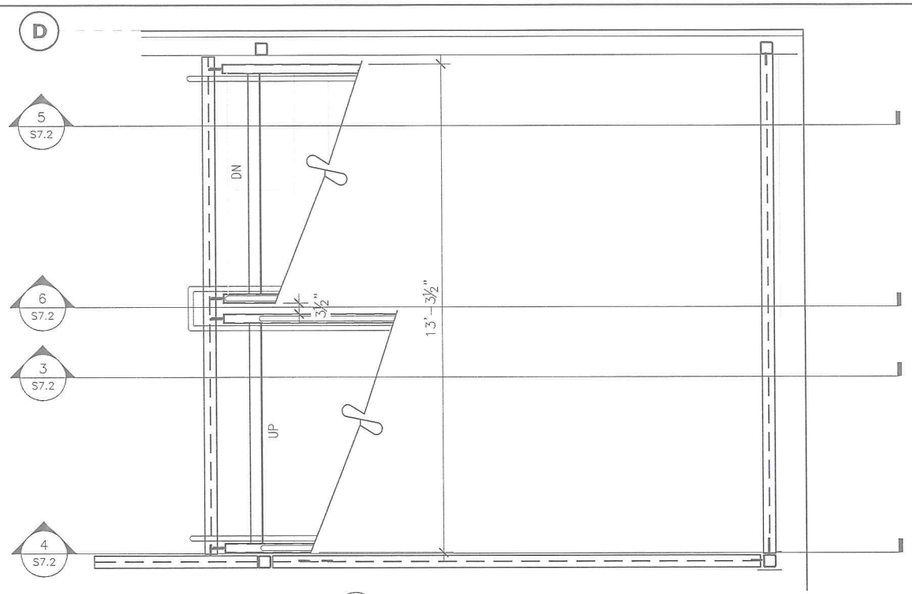
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
TYP METAL STUD DETAILS

S6.5

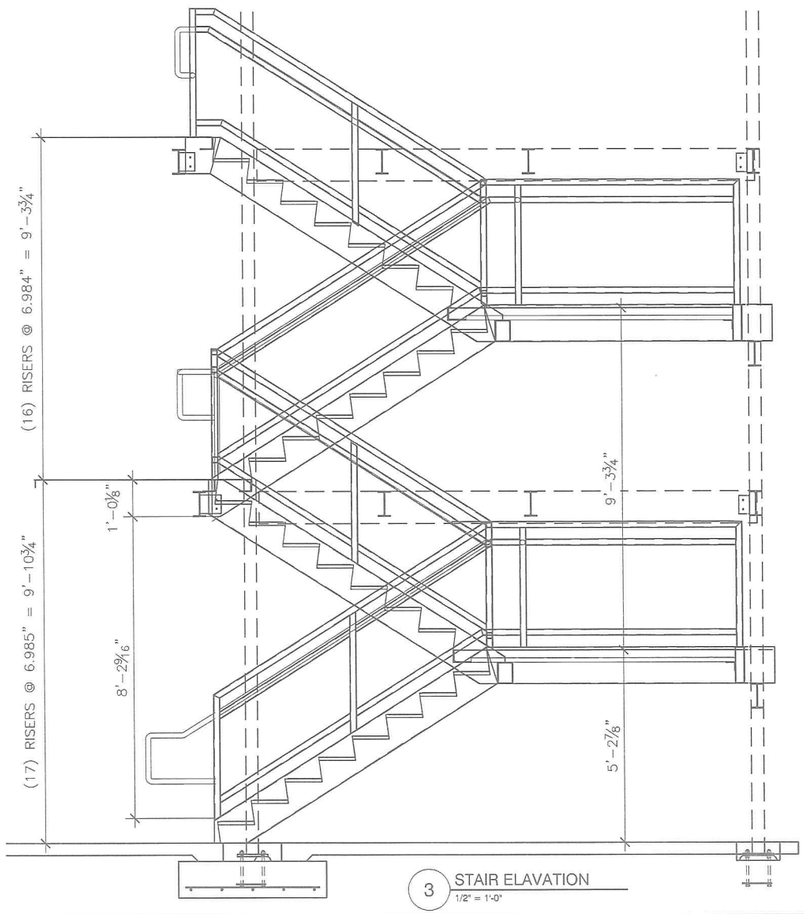


1 UPPER FLOOR & LANDING STAIR FRAMING PLAN
1/2" = 1'-0"

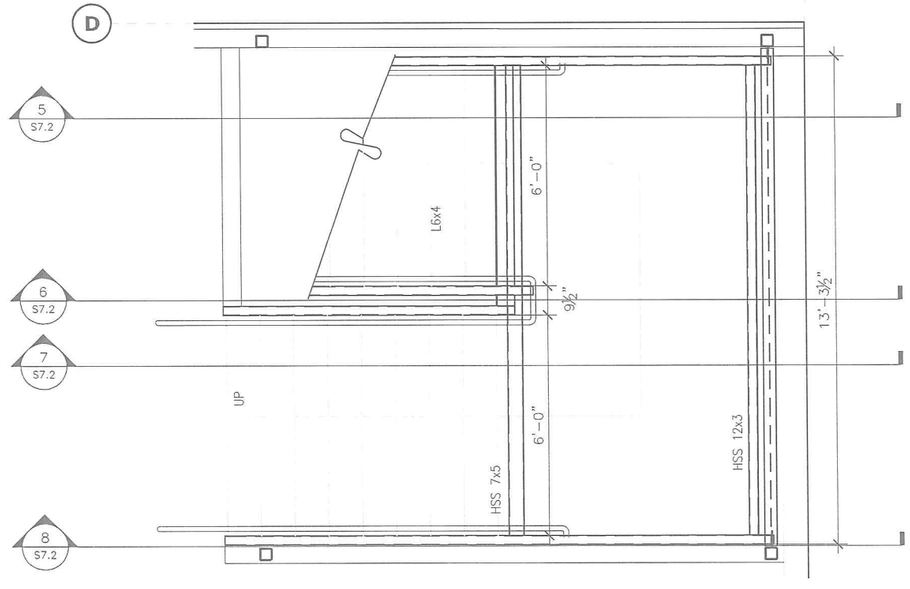


2 MAIN FLOOR STAIR FRAMING PLAN
1/2" = 1'-0"

7

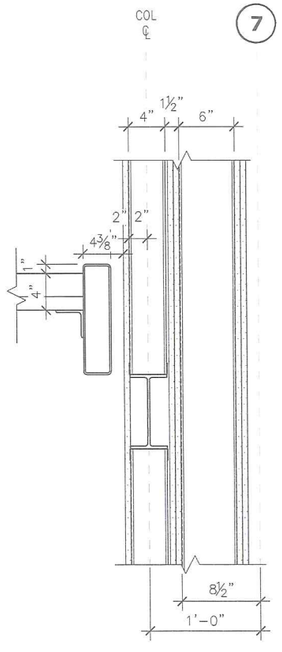


3 STAIR ELAVATION
1/2" = 1'-0"



4 BASEMENT STAIR FRAMING PLAN
1/2" = 1'-0"

7



5 SECTION
1 1/2" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

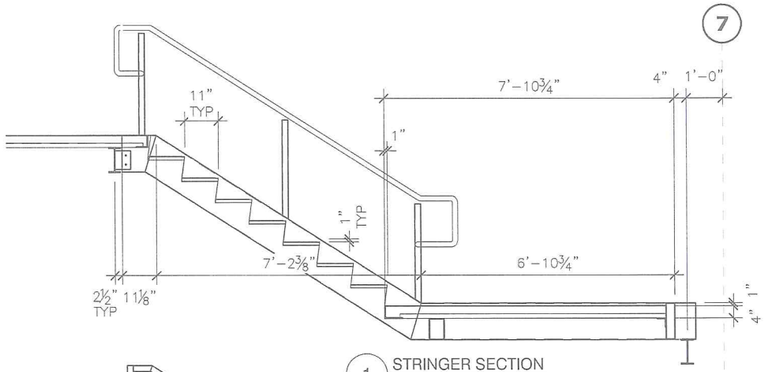
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

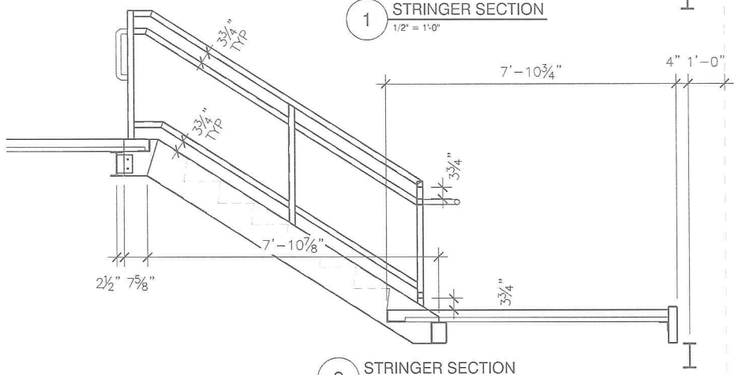
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
STAIR TOWER

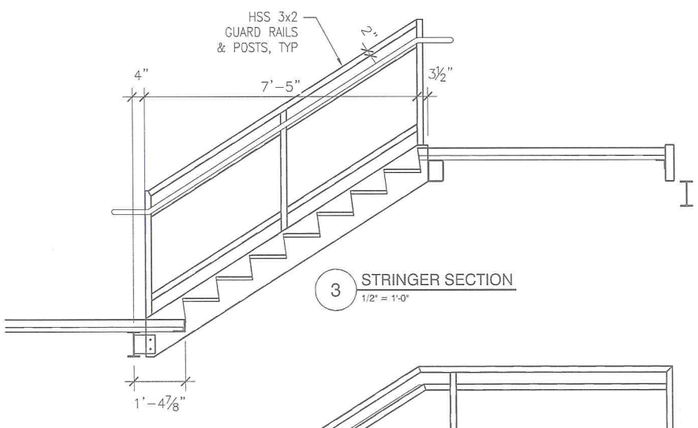
S7.1



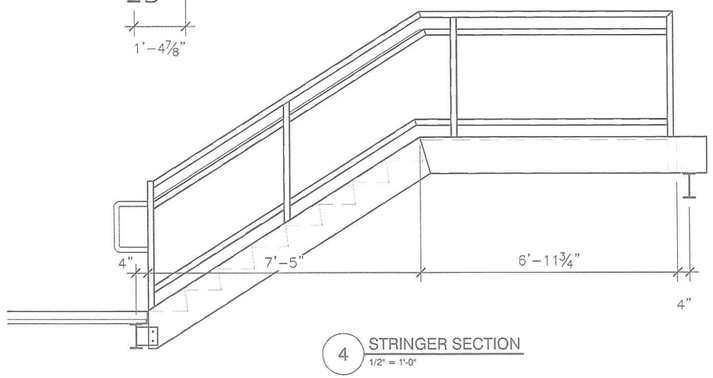
1 STRINGER SECTION
1/2" = 1'-0"



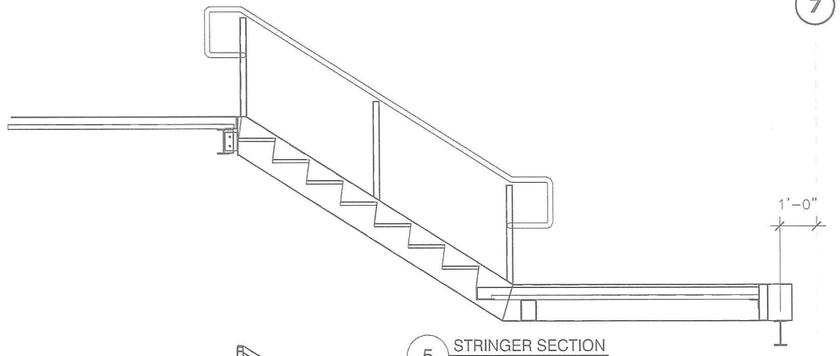
2 STRINGER SECTION
1/2" = 1'-0"



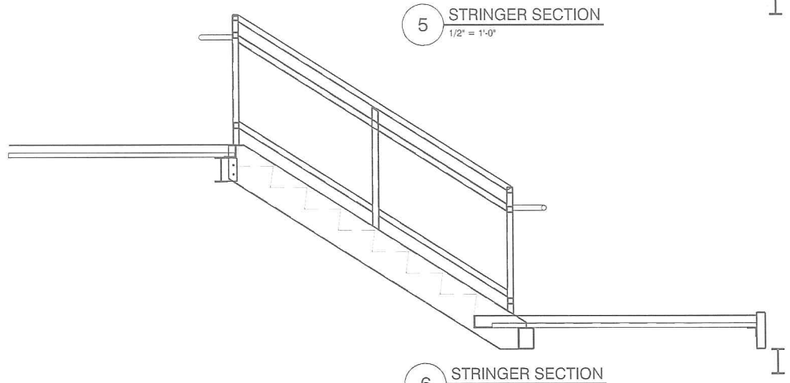
3 STRINGER SECTION
1/2" = 1'-0"



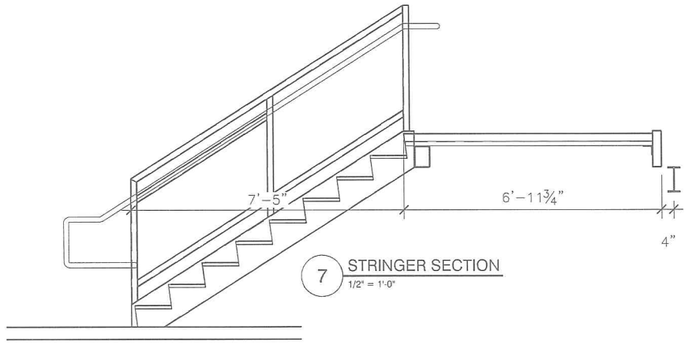
4 STRINGER SECTION
1/2" = 1'-0"



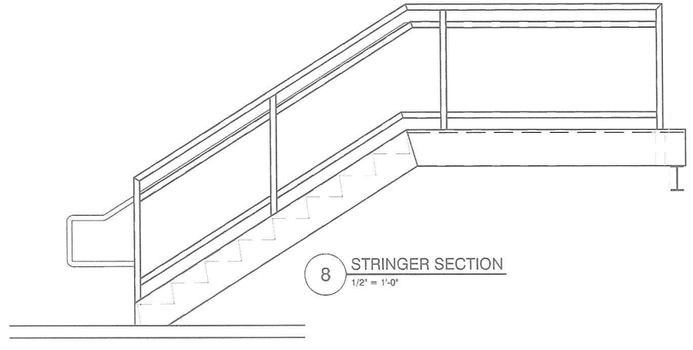
5 STRINGER SECTION
1/2" = 1'-0"



6 STRINGER SECTION
1/2" = 1'-0"



7 STRINGER SECTION
1/2" = 1'-0"



8 STRINGER SECTION
1/2" = 1'-0"

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9366
5/20/19
REGISTERED PROFESSIONAL ENGINEER

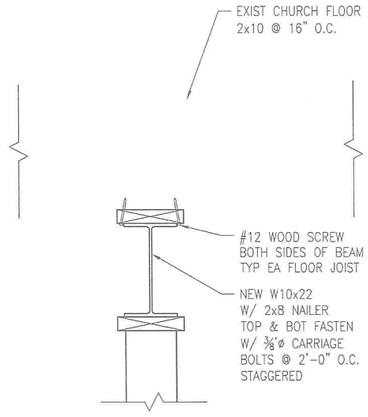
REVISIONS

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

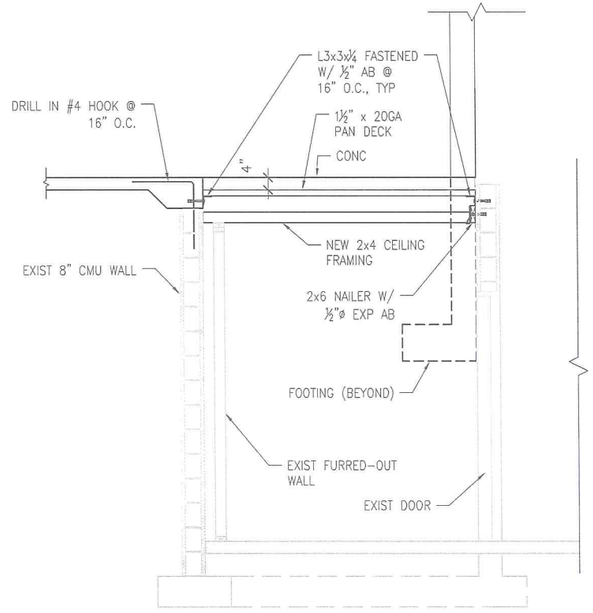
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
STAIR TOWER

S7.2



7 FLOOR BEAM DETAIL
1 1/2" = 1'-0"



9 SECTION
1/2" = 1'-0"

ThotPro
STRUCTURAL ENGINEERING
www.thotpro.com

STATE OF ALASKA
49th
Daniel B. Holmgren
No. CE9368
5/20/19
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
FARMERS LOOP
FAIRBANKS, ALASKA

STRUCTURAL
RENOVATION
DETAILS

S8.1

MISCELLANEOUS EQUIPMENT SCHEDULE

EQP TAG	EQUIPMENT	LOCATION	CAPACITY	ELECTRICAL A	ELECTRICAL VOLTS	ELECTRICAL PHASE	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	NOTES
GMT-1	GLYCOL MAKEUP TANK	BOILER ROOM	5 GAL	1 A	120 V	1	AXIOM	200MF	
AS-1	AIR SEPARATOR	BOILER ROOM	45 GPM				Caleffi North America, Inc.	546050A	
ET-1	HYDRONIC EXPANSION TNAK	BOILER ROOM	21.7/11.3 GAL				AMTROL	AX-40V	
PT-1	DCW PRESSURE TANK	BOILER ROOM	132/53 GAL				AMTROL	WX-500-L	

WATER HEATER SCHEDULE

EQP TAG	FUEL TYPE	INPUT (MBH)	ELECTRICAL VOLTS	HP	ELECTRICAL PHASE	CONNECTIONS (IN.) DCW	CONNECTIONS (IN.) DHW	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL
WH-1	-	126.3				1"	1"	BUDERUS	LT-300
WH-2	PROPANE	199.0	120 V	0.25	1	3/4"	3/4"	Rheem	RTGH-C95DVLP

PUMP SCHEDULE

EQP TAG	SERVICE	GPM	HEAD (FT)	FLUID	BODY	(F)	SUCT/DISC H SIZE (IN)	ELECTRICAL W	ELECTRICAL VOLTS	ELECTRICAL PHASE	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	NOTES
P-1	MAIN HEAT	45.00 GPM	15.0	50% PG	CI	180 °F	2	442 W	115 V	1	GRUNDFOS	MAGNA3 40-120	SET INITIALLY TO AUTOADAPT
P-2	DHW HEATING	14.00 GPM	15.0	50% PG	CI	180 °F	1	185 W	115 V	1	GRUNDFOS	UP 26-64F	
P-3	SLAB HEAT	15.00 GPM	7.0	50% PG	CI	130 °F	1.5	276 W	115 V	1	GRUNDFOS	MAGNA3 40-80	SET INITIALLY TO AUTOADAPT

HRV SCHEDULE

EQP TAG	LOCATION	SUPPLY AIRFLOW (CFM)	SUPPLY ESP (IN WC)	EXHAUST AIRFLOW (CFM)	EXHAUST ESP (IN WC)	RPM	SUPPLY FILTER TYPE	SUPPLY FILTER MERV	RETURN FILTER TYPE	RETURN FILTER MERV	ELECTRICAL FLA	ELECTRICAL VOLTS	ELECTRICAL PHASE	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	NOTES
HRV-1	BACKSTAGE MEZZ	2500	0.40 in-wg	2500	0.30 in-wg	1800	FLAT	8	FLAT	8	15	208 V	3	Aldes	PE30	VFD
HRV-2	VEST MEZZ	1200	0.40 in-wg	1200	0.30 in-wg	1800	FLAT	8	FLAT	8	10	208 V	3	Aldes	PE15	VFD
HRV-3	VEST MEZZ	1200	0.40 in-wg	1200	0.30 in-wg	1800	FLAT	8	FLAT	8	10	208 V	3	Aldes	PE15	VFD
HRV-4	VEST MEZZ	305	0.70 in-wg	305	0.70 in-wg		F	8	FLAT	8	5.5A	120 V	1	Aldes	E650-Ri	PACKAGED RECIRC DEFROST

BOILER SCHEDULE

EQP TAG	HEATING FLUID	FUEL TYPE	INPUT (MBH)	OUTPUT (MBH)	GPM	EGT (F)	LGT (F)	ELECTRICAL A	ELECTRICAL VOLTS	ELECTRICAL PHASE	CONNECTIONS (IN.) SUPPLY	CONNECTIONS (IN.) RETURN	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	NOTES
B-1	50% PG	NO. 2 FO	228	196	15	150 °F	180 °F	2.2	120 V	1	1 1/2"	1 1/2"	BUDERUS	G215-5	EXISTING WITH NEW RIELLO BF5 1.65 GPH
B-2	50% PG	NO. 2 FO	228	196	15	150 °F	180 °F	2.2	120 V	1	1 1/2"	1 1/2"	BUDERUS	G215-5	RIELLO BF5 BURNER 1.65 GPH
B-3	50% PG	NO. 2 FO	228	196	15	150 °F	180 °F	2.2	120 V	1	1 1/2"	1 1/2"	BUDERUS	G215-5	RIELLO BF5 BURNER 1.65 GPH

UNIT HEATER SCHEDULE

EQP TAG	HEATING FLUID	OUTPUT (MBH)	GPM	EGT (F)	LGT (F)	ELECTRICAL HP	ELECTRICAL VOLTS	ELECTRICAL PHASE	CONNECTIONS (IN.) SUPPLY	CONNECTIONS (IN.) RETURN	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL
CUH-1	50% PG	30	2.5	180	150	3.8A	115 V	1	1"	1"	MODINE	CW08
CUH-2	50% PG	20	1.5	180	150	2.1A	115 V	1	1"	1"	MODINE	CW04
CUH-3	50% PG	20	1.5	180	150	2.1A	115 V	1	1"	1"	MODINE	CW04

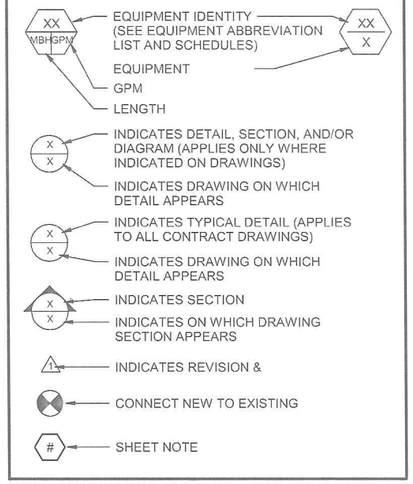
AIR OUTLET SCHEDULE

EQP TAG	USE	UNIT SIZE (IN)	NECK SIZE (IN)	THROW (FT)	CFM RANGE	SP (IN WG)	NC	FINISH	BASIS OF DESIGN MFR	BASIS OF DESIGN MODEL	NOTES
RG-1	AUDITORIUM RETURN	20X20	20X20		2500	0.10	34	PROVIDE SAMPLE	Titus HVAC	50R	
RG-2	SMALL ROOMS RETURN	6X6	6x6		10-50	0.01	0	PROVIDE SAMPLE	Titus HVAC	50R	
RG-3	FOYER RETURN	22X14	22x14		1200	0.10	34	PROVIDE SAMPLE	Titus HVAC	50R	
SD-1	AUDITORIUM SUPPLY	24X36	8	6' - 0"	225	0.05	16	PROVIDE SAMPLE	Titus	DVIR-23-24x36-26	
SD-2	FOYER SUPPLY	3 FEET	36x4	27' - 0"	200-300	0.15	35	PROVIDE SAMPLE	Titus	ML-38	
SD-3	GREEN ROOM SUPPLY	24X18	6	6' - 0"	155	0.07	23	PROVIDE SAMPLE	Titus	DVIR-16-24x18-26	
SD-4	STORAGE ROOMS SUPPLY	10x3	10x3	3' - 0"	10-30	0.01	0	PROVIDE SAMPLE	Titus HVAC	S300FL	

PLUMBING FIXTURE CONNECTION SCHEDULE

EQP TAG	DESCRIPTION	WASTE SIZE	VENT SIZE	WFU	CW SIZE	CWFU	HW SIZE	HWFU	BASIS OF DESIGN Manufacturer	BASIS OF DESIGN Model	NOTES
	Double lever handle service sink faucet with loose-key stops, rubber hose, wall hook and lever handles								KOHLER Co.	K-8928-CP	
LV-1	LAVATORY - COUNTER MOUNT	1 1/2"	1 1/4"	1	1/2"	0.5	1/2"	0.5	AMERICAN STANDARD		
MS-1	MOP SINK	2"	1 1/2"	2	1/2"	0	1/2"	0	Fiat		
RD-1	15 Diameter Roof Drain	3"							Zurn Industries, LLC	Z1715-3IP	
S-1	BAR SINK	1 1/2"	1 1/4"	2	1/2"	3	1/2"	3	JUST		
WB-1	1/4 Turn Valves Installed, 1/2" Sweat Connection, 2" Slipnut Drain Kit	2"				0		0	IPS Corporation	MWB16	
WC-1	WATER CLOSET FLOOR MOUNT FLUSH TANK	3"	2"	4	1/2"	2.2		0	AMERICAN STANDARD		

HVAC REFERENCE SYMBOLS



NOTE: SYMBOLS SHOWN IN LEGEND DO NOT NECESSARILY APPEAR ON DRAWINGS.

PIPE LINETYPES

- GLYCOL HEATING SUPPLY
- GLYCOL HEATING RETURN
- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER CIRC
- PLUMBING VENT
- PLUMBING WASTE

STATE OF ALASKA 49TH
HELENA BRETAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

MECHANICAL DESIGN AND CONSULTING
RUETER ENGINEERING
P.O. BOX 83585 FAIRBANKS AK
(907) 374-1988 FAX (907)
helena@rlcrueter.com

SYMB	DATE	REVISION	BY

PROJECT

BETHEL CHURCH ADDITION

Fairbanks, Ak

SHEET

LEGEND AND SCHEDULES

DRAWN	Author	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET

M0.1

HBR W.O. 1815

SPECIFICATIONS

I General

A. Contractor shall furnish and install all materials, equipment, and supervision necessary for a complete installation of the mechanical system as shown on the Drawings and as herein specified.

B. Contractor shall comply with local and state governing regulations and be responsible for obtaining and paying for all licenses and permits.

C. The mechanical work shall be in conformance with the State of Alaska Building and Mechanical Codes, and all local codes and regulations. Upon completion of the project, Contractor shall provide Owner with certificates of Department of Labor, State of Alaska, local office.

D. Contractor shall receive and store equipment upon delivery to ensure good working condition. If equipment is damaged due to shipment, Contractor shall immediately take appropriate action to correct the situation at no additional cost to Owner.

E. Contractor shall submit electronic copies of product data, certificates, and warranties to Owner within 30 days of notice to proceed. Provide submittals for equipment shown in the equipment schedules on the Drawings.

F. Contractor shall install equipment in accordance with manufacturer's instructions and recommendations, and shall notify Engineer immediately when there are conflicts with the Drawings.

G. Contractor shall provide a one-year warranty on all materials and workmanship.

II Electrical Wiring

A. Electrical wiring, including distribution panels, cabinets, supports, feeders, circuit wiring, motor disconnects, and related items; and electrical connections to equipment, fixtures, and devices shall be provided by the Electrical Contractor unless specifically called for by the Mechanical Contractor.

B. Electrical Contractor shall furnish and install all wiring and conduit to and from the equipment that is provided by the Mechanical Contractor.

C. All electrical wiring provided as part of the mechanical equipment shall meet

III the requirements of the current edition of the NEC.

Mechanical Work Close-out

A. Do not proceed with the transfer of the mechanical system to the Owner for operation until guarantees, warranties, performance certifications, maintenance agreements, and similar commitments to be signed by the Contractor and others have been executed and transmitted to the Owner.

B. After complete installation of equipment and before any test runs are carried out, Contractor shall lubricate equipment in accordance with the manufacturer's instructions and change all filters. Contractor shall provide one extra change of filters to the Owner.

C. After cleaning of the construction area is complete, the Contractor shall thoroughly clean all equipment to remove construction dust and dirt. Repair scratches or mars using paint from the manufacturer to match the equipment.

D. Contractor shall operate the entire installation for at least one week or for a period of time the Engineer deems necessary, to ensure correct operation. During this time, Contractor shall instruct Owner or his representative in the operation and maintenance of the mechanical systems.

E. Contractor shall provide operating instructions, repair parts list, equipment manuals and automatic control diagrams to the Owner.

F. During the first year of operation, make two complete inspections of the

IV mechanical system, making any adjustments required, and provide a report to Owner describing actions taken.

Equipment

A. Mechanical equipment shall be as scheduled on Drawings, or an accepted equal meeting the scheduled specifications.

B. Install equipment to allow maximum possible headroom unless specific mounting heights are indicated.

C. Install equipment level and plumb, parallel and perpendicular to other building systems and components, unless otherwise indicated.

D. Install mechanical equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Extend grease fittings to accessible locations.

E. Install equipment to allow right of way for piping installed at required slope.

V Insulation – General

A. Mastics, sealants, and adhesives shall be UL listed. Insulation shall have composite flame hazard classification not exceeding Flame Spread 25, Smoke Developed 50, and Fuel Contributed 50 when tested in accordance with procedures of UL Standard 723, and shall meet requirements of ASTM-84 and NFPA 255.

B. Insulation shall not be applied until all services are free of dirt, dust, grease, frost, moisture, and other imperfections.

C. Install insulation continuously through walls and partitions. Seal penetrations. Comply with architect's accepted through-penetration fire stop systems when walls or partitions are fire-rated.

D. For below-ambient service, install a continuous unbroken vapor barrier. Seal longitudinal seams, end joints, and protrusions with a water based vapor-barrier mastic and joint sealant, suitable for indoor and outdoor use on below ambient services.

VI Duct and Equipment Insulation

A. Outside air intake duct work from the intake to the air handling unit or to the first control damper, and the last 10 feet of exhaust air duct work before the air outlet, shall be insulated with 1-1/2-inch-thick mineral fiber board or mineral fiber pipe and tank insulation with factory-applied ASJ. Nominal density shall be 2.5 lb/cu. ft. or more. Thermal conductivity (k-value) at 100 deg F shall be 0.29 Btu x in./h x sq. ft. x deg F or less.

B. Insulation shall be applied to cover all exterior surfaces of ductwork and sealed tightly to prevent leakage. Secure with insulation pins and Mineral-Fiber Adhesive: Comply with MIL-A-3316C, Class 2, Grade A.

C. Insulation for rectangular ducts shall be Mineral-Fiber Board Insulation: Comply with ASTM C 612, Type IA or Type IB.

D. Insulation for round ducts shall be Mineral-Fiber, Pipe and Tank Insulation: Comply with ASTM C 1393, Type II or Type IIIA Category 2, or with properties similar to ASTM C 612, Type IB.

E. Equipment insulation shall be as in items C. or D. above depending on the shape of the equipment.

1. Insulate equipment if/as noted on the Drawings.

VII Pipe insulation

A. Pipe insulation for colder-than-ambient service shall be flexible elastomeric: Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Type I for tubular materials and Type II for sheet materials. Adhesive: Comply with MIL-A-24179A, Type II, Class I.

B. NPS 1 and smaller: insulation shall be ½ inch thick.

C. NPS 1-1/4 to 2: insulation shall be 1 inch thick.

D. NPS 2-1/2 and larger: insulation shall be 1-1/2 inches thick.

E. Pressure test piping before installing insulation.

VIII Pipe and Fittings – General

A. Install piping free of sags and bends.

B. Install fittings for changes in direction and branch connections.

C. Install sleeves for pipes passing through concrete and masonry walls, gypsum board partitions, and concrete floor and roof slabs.

D. Comply with architect's requirements for sealing pipe penetrations in fire-rated construction.

E. Install unions at final connection to each piece of equipment.

F. Install dielectric coupling and nipple fittings to connect piping materials of dissimilar metals in water piping.

G. Hanger and Pipe Attachments: Factory fabricated with galvanized coatings; nonmetallic coated for hangers in direct contact with copper tubing.

H. Powder-Actuated Fasteners: Threaded-steel stud, with pull-out and shear capacities appropriate for supported loads and building materials where used.

I. Mechanical-Expansion Anchors: Insert-wedge-type, stainless steel, with pull-out and shear capacities appropriate for supported loads and building materials where used.

J. Seismic Restraints:

1. Resilient Isolation Washers and Bushings: One-piece, molded, oil- and water-resistant neoprene, with a flat washer face.
2. Channel Support System: MFMA-4, shop- or field-fabricated support assembly made of slotted steel channels with accessories for attachment to braced component at one end and to building structure at the other end and other matching components and with corrosion-resistant coating; and rated in tension, compression, and torsion forces.
3. Restraining Cables: Stainless-steel cables with end connections made of steel assemblies that swivel to final installation angle and use two clamping bolts for cable engagement.

K. Comply with MSS SP-69 and MSS SP-89. Install building attachments within concrete or to structural steel.

L. Install hangers and supports to allow controlled thermal and seismic movement of piping systems.

M. Install powder-actuated fasteners and mechanical-expansion anchors in concrete after concrete is cured. Do not use in lightweight concrete or in slabs less than 4 inches thick.

N. Load Distribution: Install hangers and supports so piping live and dead loading and stresses from movement will not be transmitted to connected equipment.

O. Horizontal-Piping Hangers and Supports: Unless otherwise indicated and except as specified in piping system Specification Sections, install the following types:

1. Adjustable Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated or insulated stationary pipes, NPS 1/2 to NPS 30.
2. Pipe Hangers (MSS Type 5): For suspension of pipes, NPS 1/2 to NPS 4, to allow off-center closure for hanger installation before pipe erection.
3. Adjustable Steel Band Hangers (MSS Type 7): For suspension of noninsulated stationary pipes, NPS 1/2 to NPS 8.
4. Adjustable Band Hangers (MSS Type 9): For suspension of noninsulated stationary pipes, NPS 1/2 to NPS 8.
5. Adjustable Swivel-Ring Band Hangers (MSS Type 10): For suspension of noninsulated stationary pipes, NPS 1/2 to NPS 2.

P. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Specification Sections, install the following types:

1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers, NPS 3/4 to NPS 20.
2. Carbon- or Alloy-Steel Riser Clamps (MSS Type 42): For support of pipe risers, NPS 3/4 to NPS 20, if longer ends are required for riser clamps.

IX Domestic Water Piping Specialties

A. Pipe-Applied, Atmospheric Vacuum Breakers: ASSE 1001, with floating disc and atmospheric vent.

B. Hose Connection Vacuum Breakers: ASSE 1011, rough bronze, with nonremovable and manual drain features and garden-hose threaded connection.

C. Double-Check Assembly Backflow Preventers: ASSE 1013.

D. Water Regulators: ASSE 1003.

E. Balancing Valves: MSS SP-110 for two-piece, copper-alloy ball valves, with memory stop.

F. Thermostatic Mixing Valves: Manually adjustable, bronze body. Include check stop and union on hot- and cold-water-supply inlets.

G. Water Hammer Arrester: Bellows or piston type with pressurized cushioning chamber.

H. Strainers: Y-pattern, bronze body, 125-psig minimum steam working pressure.

I. Water Filters: Cartridge type, including housing, fittings, filter cartridges, and cartridge end caps

X Heating and Domestic Water, Condensate and Safety Relief Valve Piping 2 Inches and Smaller

A. Joining Materials: Use ASTM B 813, water-flushable, lead-free flux; ASTM B 32, lead-free-alloy solder.

B. Fittings: ASME B16.22 wrought-copper, solder-joint fittings.

C. Aboveground: Hard Copper Tubing: ASTM B 88, Type L, water tube, drawn temper, or PEX plastic as described below and NSF 61 approved (DCW, DHW only).

D. Copper Unions: Cast-copper-alloy, hexagonal-stock body, with ball-and-socket, metal-to-metal seating surfaces and solder-joint or threaded ends.

E. Underground: Soft Copper Tubing: ASTM B 88, Type K, water tube, annealed temper.

F. Underground: PE, ASTM Pipe: ASTM D 2239, SIDR No. 5.3, 7, or 9; with PE compound number required to give pressure rating not less than 160 psig. Molded PE Fittings: ASTM D 3350, PE resin, socket- or butt-fusion type, made to match PE pipe dimensions and class.

XI Radiant Heating Piping

A. Oxygen Barrier: Limit oxygen diffusion through tubes to maximum 0.10 mg per cu. m/day at 104 deg F according to DIN 4726.

B. PEX Plastic: ASTM F 876. For service at 100 psig and 180 deg F, with fittings: ASTM F 1807, metal insert and copper crimp rings.

C. Heat-Emission Plates: 1/16-inch- thick formed aluminum suitable for radiant heating piping, used on underside of wood floor, allowing even heat transfer and enhanced heat exchange.

D. Distribution Manifolds: Brass with 4-way mixing valve, main shutoff and balancing valves with thermometers, zone shutoff and balancing valves with flow meter, and identification plate.

1. Mixing Valves: Minimum 125 psig, 230 deg F operating pressure and temperature, brass or cast-bronze body, EPDM seals, and threaded connections.
2. Identification Plate: Valve plate shall identify room served and loop number.
3. If more than one loop serves a room, provide identification plates on manifolds to identify rooms served.

E. Install tubing downstream from manifolds without joints.

F. Secure tubing at 18 inches o.c., and at center of turns or bends.

G. Install a sleeve of foam-type insulation around tubing and extending 10 inches on each side of slab joints to protect the tubing passing through joints.

H. In concrete floors attach tubing to concrete reinforcement using nylon cable ties. Maintain 2-inch minimum and 3-inch maximum cover.

I. Secure piping in level fill concrete floors (not reinforced) by attaching pipes to subfloor using tracks, clamps, or staples. Maintain 3/4-inch minimum cover.

J. Install heat-emission plates on underside of wood subfloor with space between each plate for plate expansion.

K. Install manifolds in accessible locations.

XII Sanitary Waste and Vent Piping

A. Minimum Pressure Requirement for Soil, Waste, and Vent: 10-foot head of water.

B. Comply with NSF 14, "Plastic Piping Components and Related Materials," for plastic piping components.

C. PVC Plastic, DWV Pipe and Fittings: ASTM D 2665, Schedule 40, plain ends with PVC socket-type, DWV pipe fittings.

G. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if 2 fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.

H. Lay buried building drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.

I. Install soil and waste drainage and vent piping at the following minimum slopes, unless otherwise indicated:

1. Building Sanitary Drain: 2 percent downward in direction of flow for piping NPS 3 and smaller; 1 percent downward in direction of flow for piping NPS 4 and larger.
2. Horizontal Sanitary Drainage Piping: 2 percent downward in direction of flow.
3. Vent Piping: 1 percent down toward vertical fixture vent or toward vent stack.

I. Install PVC soil and waste drainage and vent piping according to ASTM D 2665.

J. Install underground PVC soil and waste drainage piping according to ASTM D 2321.

4. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

XIII Propane Piping

A. Performance Requirements

1. Minimum Operating-Pressure Ratings for Piping and Valves containing only vapor: 125 psig minimum unless otherwise indicated.
2. Minimum Operating-Pressure Ratings for Piping and Valves containing Liquid:
   a. Piping between shutoff valves: 350 psig minimum unless otherwise indicated.
   b. Piping and Valves other than above: 250 psig minimum unless otherwise indicated.
3. Gas System Pressure from the tank to the building: 10 psig.
4. Gas System Pressure within the building: One distribution pressure. 2 psig with appliance regulators as required for each appliance.

B. Pipes, Tubes, and Fittings

1. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
   a. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
   b. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
   c. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
   d. Protective Coating for Underground Piping: Factory-applied, three-layer coating of epoxy, adhesive, and polyethylene (PE).
2. PE Pipe: ASTM D 2513, SDR 11
   a. PE Fittings: ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe.
   b. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D2513, SDR 11 and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B

C. Specialties

1. Indoor, Fixed-Appliance Flexible Connectors: Corrugated stainless-steel tubing with polymer coating; comply with ANSI Z21.24.
2. Strainers: ASTM A 126, Class B, cast-iron body, Y-pattern, full size of connecting piping, CWP rating of 125 psig. Include 40-mesh startup strainer, and perforated stainless-steel basket.
3. Detectable Warning Tape: PE film warning tape 6 inches wide and 4 mils thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection; colored yellow.

D. Valves

1. General Requirements for Metallic Manual Gas Shutoff Valves: Comply with ASME B16.33.
2. CWP Rating: 125 psig.
3. Two-Piece, Full-Port, Bronze Ball Valves with Bronze Trim: MSS SP-110.
   a. Body: Bronze, complying with ASTM B 584.
   b. Ball: Chrome-plated bronze.
   c. Stem: Bronze; blowout proof.
   d. Seats: Reinforced TFE; blowout proof.
   e. Packing: Threaded body packnut design with adjustable stem packing.
   f. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
   g. Service: Suitable for LPG gas service with "WOG" indicated on valve body.
4. Earthquake Valves: Earthquake Valves: ASCE 25: Listed and labeled by an NRTL acceptable to authorities having jurisdiction.

E. Pressure Regulators

1. General Requirements: Single stage and suitable for LPG, steel jacketed, and corrosion resistant. Include elevation compensator.
2. Service-Pressure Regulators: ANSI Z21.80, 100 psig maximum inlet pressure. Factory- or field-installed, stainless-steel screen in vent opening if not connected to vent piping.
3. Line-Pressure Regulators: ANSI Z21.80, 10 psig maximum inlet pressure. Factory- or field-installed, stainless-steel screen in vent opening if not connected to vent piping.

F. Storage Containers

1. Description: Factory-fabricated tanks complying with NFPA 58 and ASME Boiler and Pressure Vessel Code, and bearing the ASME label; rated for 250-psig minimum working pressure.
2. Liquid outlet and vapor inlet and outlet connections shall have shutoff valves, with excess-flow safety shutoff valves and bypass, and back-pressure check valves with smaller than 0.039-inch- drill-size hole to equalize pressure. Liquid-fill connection shall have backflow check valve.
3. Level gage shall indicate the current level of liquid in the container. Gages shall also indicate storage container contents, e.g., "Propane."
4. Exposed metal surfaces shall be mechanically cleaned, primed, and painted.
5. Felt support pads and two concrete or painted-steel saddles per storage container. Corrosion protection required at container-to-felt contact. Provide tie straps for each saddle.

XIV Duct Work

A. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 hot-dip galvanized coating, except as described below for hazardous exhaust.

B. Joint and Seam Tape, and Sealant: Comply with UL 181A.

C. Rectangular Metal Duct Fabrication: Comply with SMACNA's "HVAC Duct Construction Standards – Metal and Flexible."

I. Seal ducts to the following seal classes according to SMACNA's "HVAC Duct Construction Standards – Metal and Flexible":

J Conditioned Space, Supply-Air Ducts in Pressure Classes 2-Inch wg and Lower: Seal Class C.

K. Conditioned Space, Exhaust Ducts: Seal Class B.

L. Conditioned Space, Return-Air Ducts: Seal Class C.

N. Avoid passing through electrical equipment spaces and enclosures.

O. Support ducts to comply with SMACNA's "HVAC Duct Construction Standards – Metal and Flexible," Ch. 4, "Hangers and Supports."

P. Install duct accessories according to applicable details in SMACNA's "HVAC Duct Construction Standards – Metal and Flexible" for metal ducts and in NAIMA AH116, "Fibrous Glass Duct Construction Standards," for fibrous-glass ducts.

Q. Clean new and existing duct system(s) before testing, adjusting, and balancing.

XV Duct Accessories

A. Flexible Connectors: Flame-retarded or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1.

XVI Controls

A. Line voltage wiring through starters and safety switches to equipment shall be provided by the Electrical Contractor. All remaining electrical work including low-voltage wiring and/or accessories required for the complete system shall be furnished by the Mechanical Contractor. Thermostats shall be mounted 5'-0" above finished floor and where shown on Drawings.

B. Controls shall perform according to their Sequence of Operations:

1. Boiler B-2, Water heater WH-1, associated pumps, and radiant slab heating system: See Heating Schematic Diagram.
2. HRV-1 User sets the occupancy schedule for the Auditorium HRV at a remote control panel located in the AV Room. When scheduled, HRV-1 turns on at the minimum stable airflow available, (800 cfm, adjustable) or as determined during commissioning. The HRV fan speed shall increase as necessary to satisfy the space CO2 set point (700 ppm, adjustable) as measured by the Auditorium space CO2 sensor.
3. HRV-2, -3: User sets the occupancy schedule for the Foyer HRV's at a remote control panel located in the AV Room. When scheduled, the HRV's turn on at the minimum stable airflow available, (400 cfm each, adjustable) or as determined during commissioning. The HRV fan speed shall increase as necessary to satisfy the space CO2 set point (700 ppm, adjustable) as measured by the Foyer space CO2 sensor.
4. HRV-4: User sets the occupancy schedule for the rooms around the Auditorium. When scheduled, the HRV is on. Packaged control turns on the recirculation defrost cycle as determined by the outdoor air temperature and an internal timer. During the defrost cycle the outdoor air damper is closed, the exhaust fan is off, and the recirculation air damper is open.

XVII Testing, Adjusting, and Balancing

A. Test and balance air volumes delivered through each air inlet and outlet. Testing shall be done with approved, properly calibrated testing devices. Balance and adjust the air distribution systems to provide air flows as shown on Drawings.

B. Ensure and record correct fluid flows at coil and manifold AFCV's.

C. Performance of this work shall be in accordance with the recommendations, procedures and standards as described in the Manual for Balancing and Adjustment of Air Distribution Systems, latest edition, published by SMACNA. Report shall be made on the recommended SMACNA forms. A copy of the testing and balancing report shall be submitted to the Owner for approval.

STATE OF ALASKA
49TH
HELENA BRETAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

RUETER ENGINEERING
MECHANICAL DESIGN AND CONSULTING SERVICES
(907)374-1688
helena@hbrueter.com
P.O. BOX 83585 FAIRBANKS AK 99708

SYMB	DATE	REVISION	BY

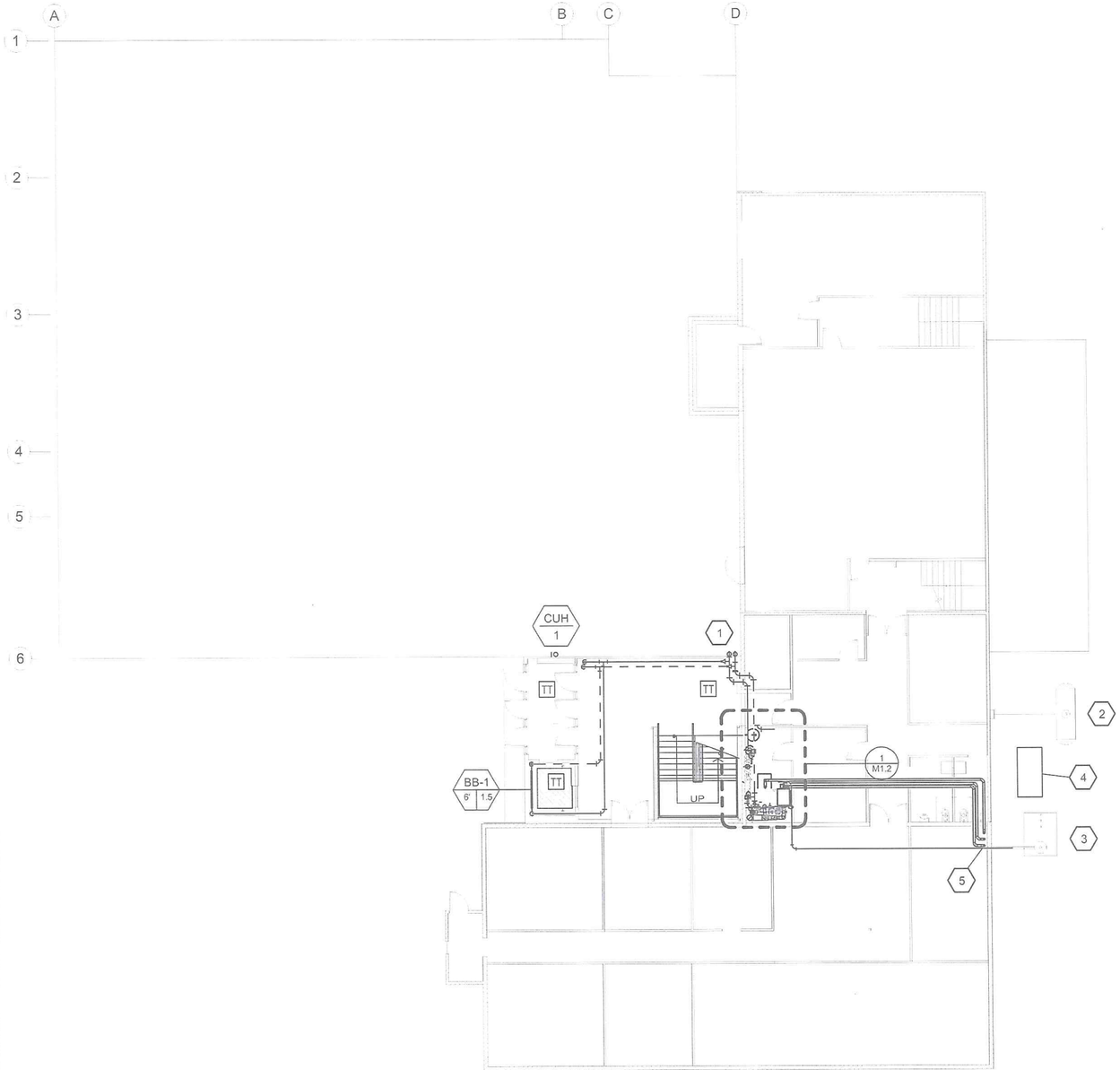
PROJECT:
BETHEL CHURCH ADDITION
Fairbanks, AK

SHEET CONTENTS:
MECHANICAL SPECIFICATIONS

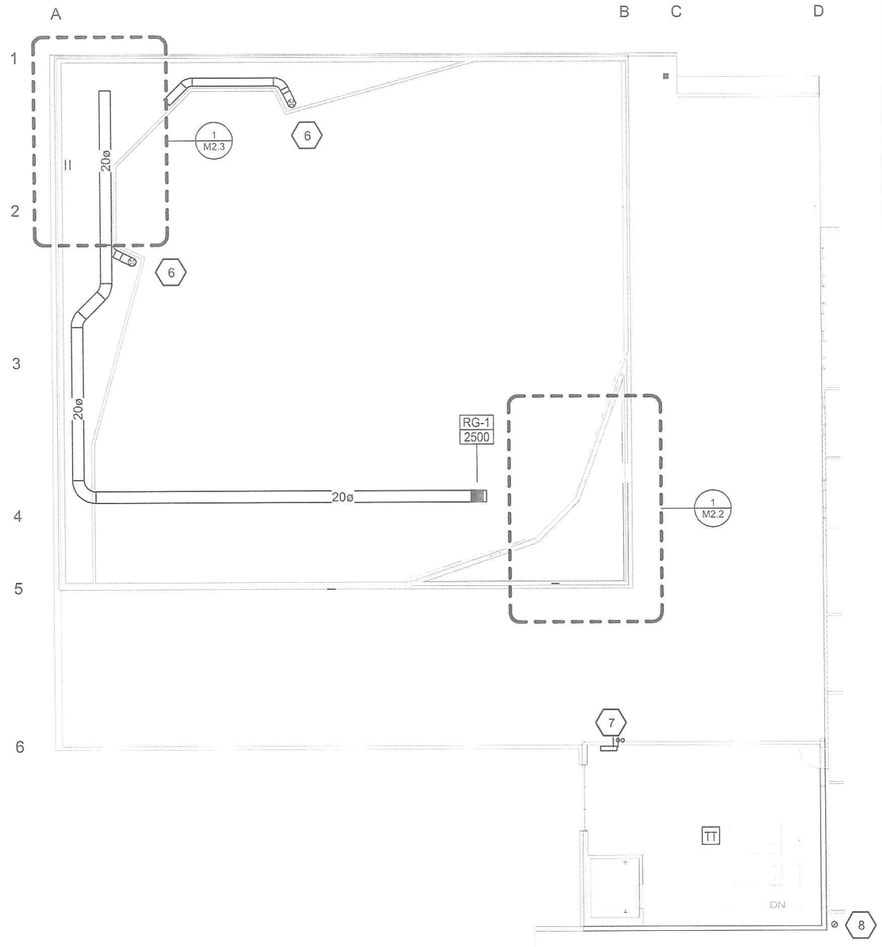
DRAWN		HBR
DRAWN		HBR
CHECKED		HBR
DATE		5/18/2019

SHEET NUMBER:
M0.2

HBR W.O. NUMBER: 1815



1 BASEMENT HVAC FLOOR PLAN
SCALE: 3/32" = 1'-0"



2 UPPER HVAC FLOOR PLAN
SCALE: 3/32" = 1'-0"

SHEET NOTES

1. 2" GHS/GHR UP, SEE M2.1 FOR CONTINUATION.
2. BURIED PROPANE TANK. FOR PROPANE PIPING TO WH-2 SEE P1.1.
3. BURIED FUEL OIL TANK. FOR FUEL OIL PIPING SEE P1.1 AND DETAILS ON M3.3.
4. COORDINATE WITH GEN SET LOCATION, SEE ELEC.
5. 3 EA. 4"Ø COMBUSTION AIR DUCTS UP, SEE M2.1 FOR CONTINUATION.
6. 14"Ø SUPPLY DUCT DOWN TO LEVEL OF SD-1 CONNECTIONS, SEE M2.1 FOR CONTINUATION.
7. 3/4" GHS/GHR TO MANIFOLD 7, SEE M2.1 FOR CONTINUATION.
8. ROUTE B-1, -2, -3 CHIMNEY UP ALONG EXTERIOR OF NEW TOWER WALL TO 3 FEET ABOVE TOP OF TOWER PARAPET, SEE M1.2 FOR CONTINUATION.

STATE OF ALASKA
49TH
HELENA BRETAS RUETER
REGISTERED PROFESSIONAL ENGINEER
ME-10190
5.18.2019

MECHANICAL DESIGN AND CONSULTING
RUETER ENGINEERING
P.O. BOX 83585 FAIRBANKS AK
(907) 374-1888 FAX (907) helens@rcrueter.com

SYMB	DATE	REVISION	BY

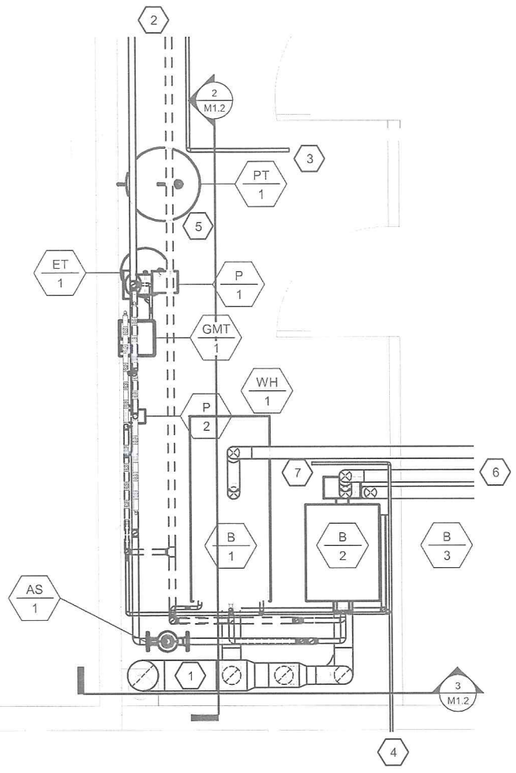
PROJECT
BETHEL CHURCH
ADDITION
Fairbanks, AK

SHEET
BASEMENT AND
UPPER HVAC
FLOOR PLANS

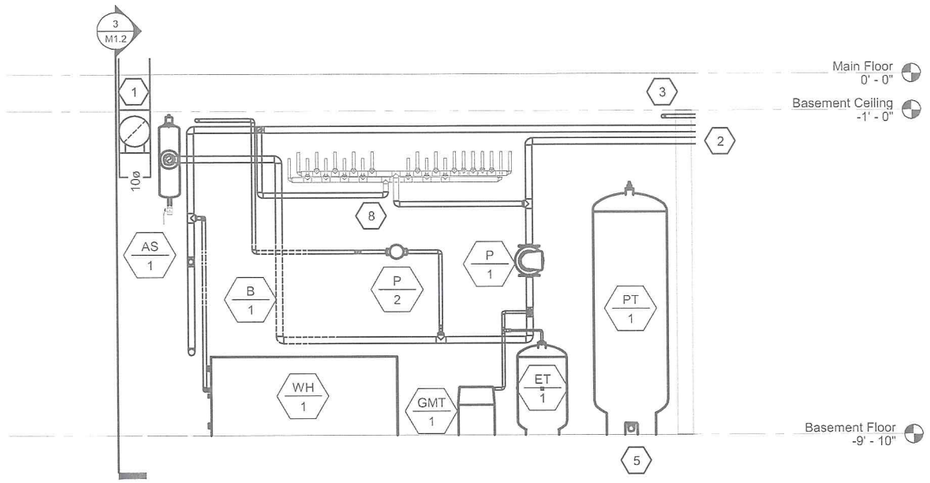
DRAWN	Author	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET
M1.1

HBR W.O. 1815



1 ENLARGED BOILER ROOM PLAN
SCALE: 1/2" = 1'-0"



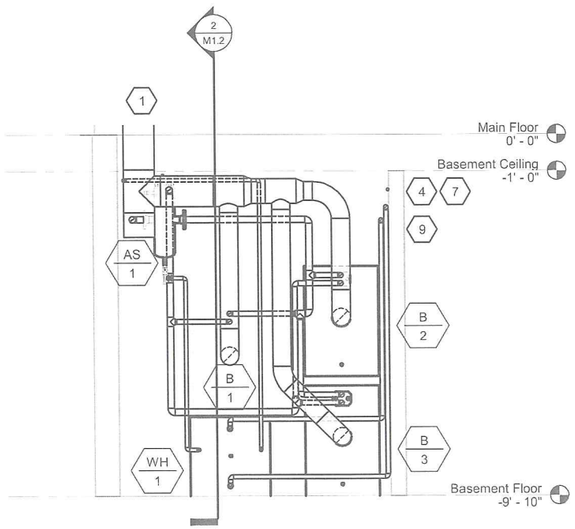
2 SECTION - BOILER ROOM - SOUTH
SCALE: 1/2" = 1'-0"

GENERAL NOTES

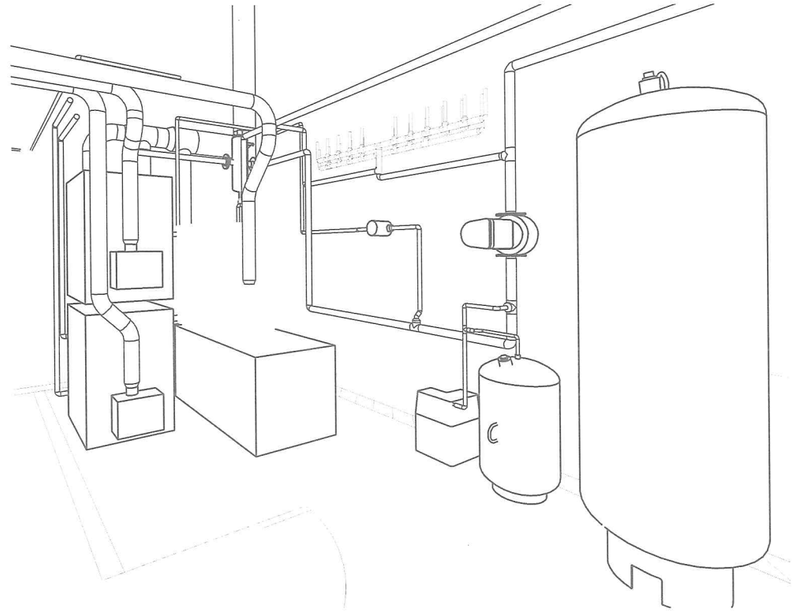
1. PIPE SIZES AND VALVES NOT SHOWN FOR CLARITY. SEE HEATING SCHEMATIC DIAGRAM, M3.2, FOR PIPE SIZES, VALVES AND CONTROLS.

SHEET NOTES

1. SUBMIT CHIMNEY AND CONNECTOR MANUFACTURER'S CALCS AND FINAL SIZE RECOMMENDATIONS, AND COMPLETE SHOP DRAWINGS FOR APPROVAL BY OWNER.
2. 2" GHS/GHR UP TO FOYER ROOF TRUSS SPACE.
3. 1" DCW - ROUTE UNDER SLAB TO NEW WATER HEATER WH-2 LOCATION, SEE P1.1 AND P4.1 FOR CONTINUATION.
4. 1/2" FOS - ROUTE TO BURIED FUEL OIL TANK. SEE P1.1 FOR CONTINUATION.
5. CONNECT EXISTING DCW FROM WELL PUMP TO NEW PRESSURE TANK. FIELD VERIFY.
6. 3 EA. 4"Ø COMBUSTION AIR INLETS UP, SEE M1.1 AND M2.1 FOR CONTINUATION.
7. 1/2" FOS - ROUTE TO B-1, B-2, B-3 DEAERATORS. SEE DETAILS M3.3.
8. RECONNECT GHS/GHR PIPE TO 11 EA. EXISTING ZONES. FIELD VERIFY.
9. CONNECT DCW/DHW TO WH-1 FROM EXISTING. FIELD VERIFY.



3 SECTION - BOILER ROOM - WEST
SCALE: 1/2" = 1'-0"



4 BOILER ROOM 3-D VIEW
SCALE:

SYMB	DATE	REVISION	BY

MECHANICAL ESIGN AND CONSULTING
RUETER ENGINEERING
P.O. BOX 83395 FAIRBANKS AK
(907) 374-1688 FAX (907) helena@ctcruetter.com

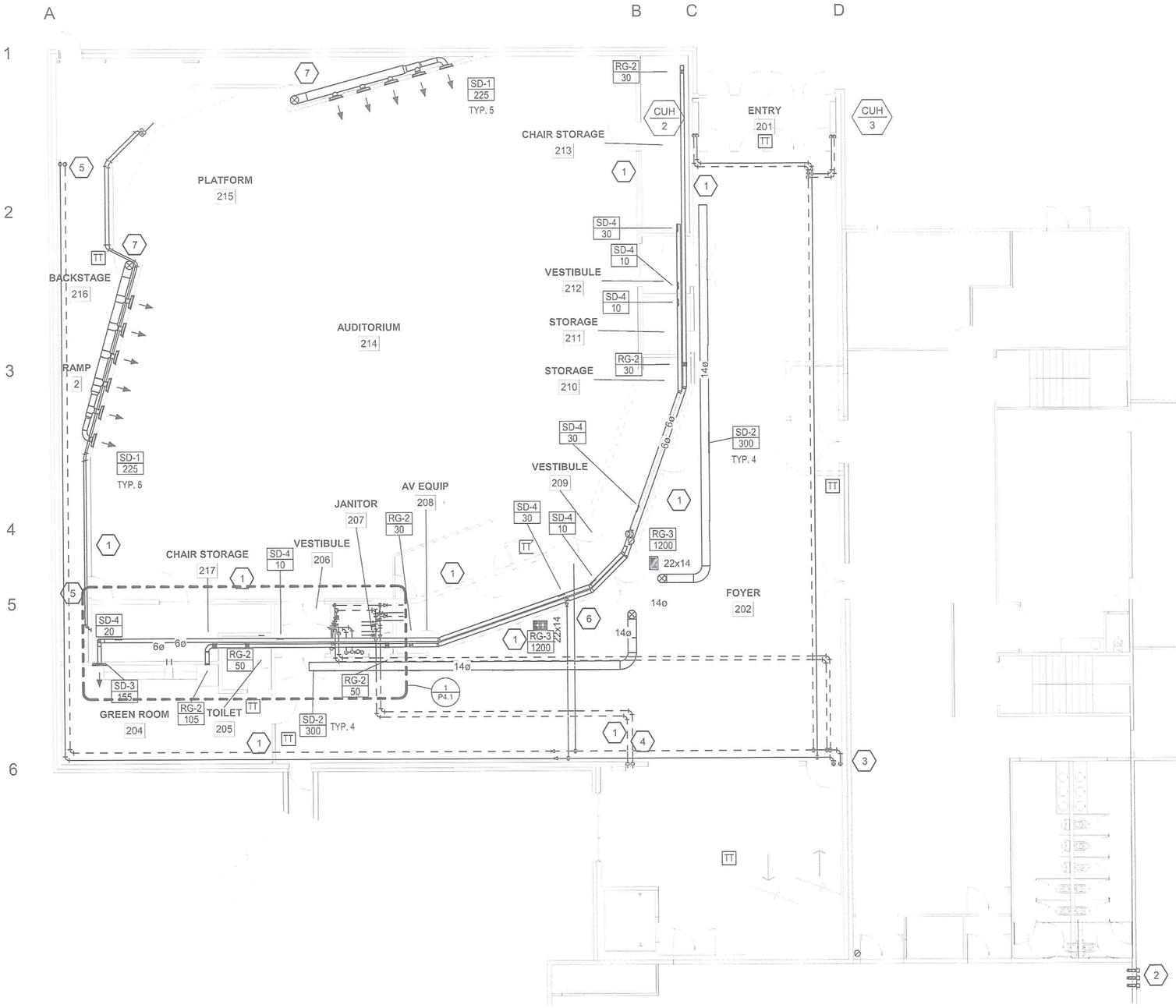
PROJECT
BETHEL CHURCH ADDITION
Fairbanks, AK

SHEET
ENLARGED BOILER ROOM PLAN, SECTIONS, AND 3-D VIEWS

DRAWN	Author	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET
M1.2

HBR W.O. 1815



1 MAIN HVAC FLOOR PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES

GHS/GHR PIPE SIZES ARE SHOWN ON HEATING SCHEMATIC DIAGRAM 1/M3.2.

SHEET NOTES

1. ¾" GHS/GHR DOWN TO RADIANT SLAB MANIFOLD, SEE M3.1 AND M3.2.
2. 3 EACH 4"Ø COMBUSTION AIR DUCTS DOWN. PROVIDE WALL VENTS, TYPICAL.
3. 2" GHS/GHR DOWN.
4. ¾" GHS/GHR UP AND DOWN TO MANIFOLDS AT BASEMENT AND UPPER LEVELS.
5. 1-1/4" GHS/GHR UP TO HRV-1 COILS.
6. 1-1/4" GHS/GHR UP TO HRV-2,-3 COILS.
7. 14"Ø UP.

STATE OF ALASKA
49TH
HELENA BRETAS RUETER
ME–10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

RUETER ENGINEERING
MECHANICAL DESIGN AND CONSULTING
P.O. BOX 53555 FAIRBANKS AK
(907) 374–1668 FAX (907) helena@hbrueter.com

SYMB	DATE	REVISION	BY

PROJECT

BETHEL CHURCH
ADDITION
Fairbanks, AK

SHEET

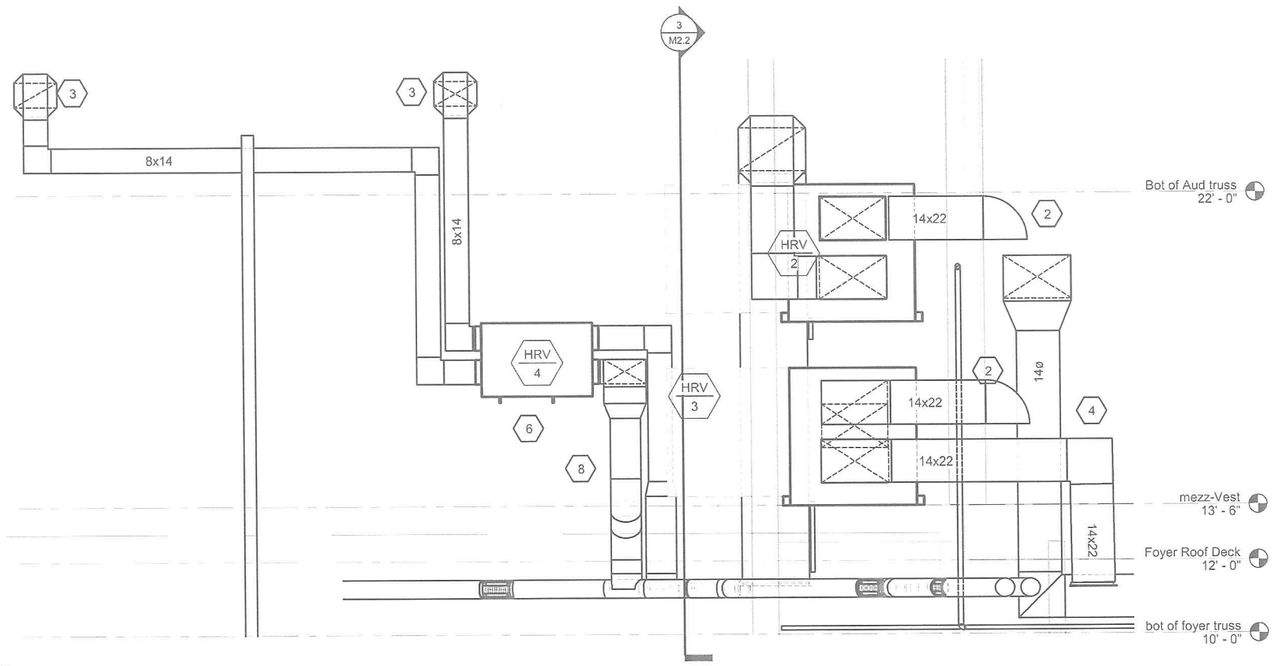
MAIN AND UPPER
FLOOR HVAC
PLANS

DRAWN	Author	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

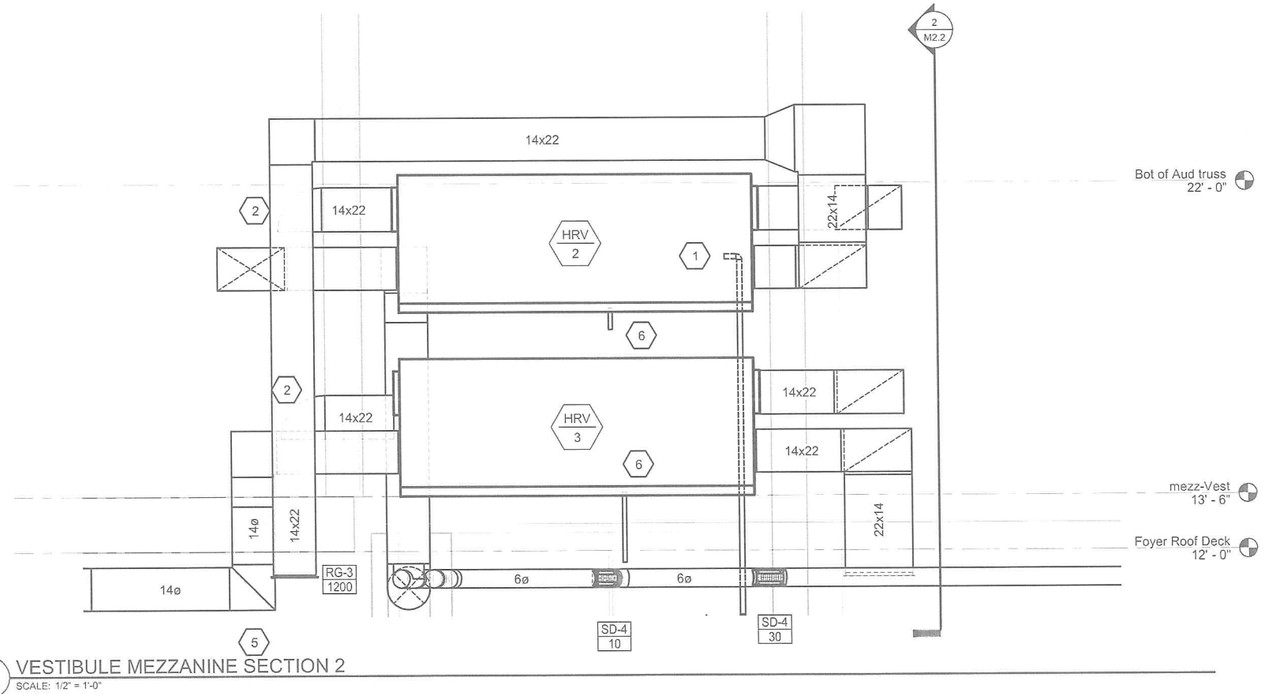
SHEET

M2.1

HBR W.O. 1815



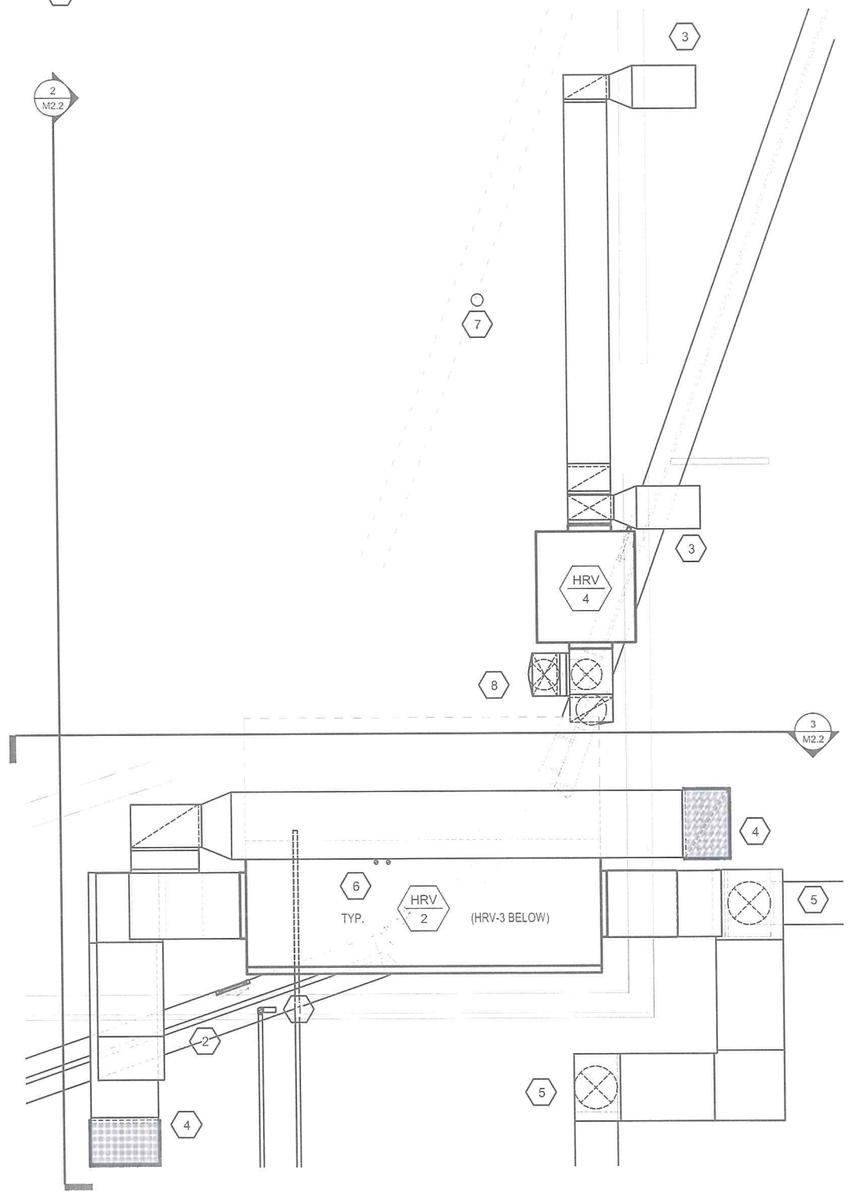
2 VESTIBULE MEZZANINE SECTION 1
SCALE: 1/2" = 1'-0"



3 VESTIBULE MEZZANINE SECTION 2
SCALE: 1/2" = 1'-0"

SHEET NOTES

1. 1-1/4" GHS/GHR UP FROM BELOW. CONNECT TO HRV-2, -3 COILS. SEE 1/M3.2 AND 3/M3.3 FOR COIL CONNECTION INFO. CONNECTIONS ARE LOCATED ON BACK OF HRV'S.
2. 22 X 14 WALL VENT, SEE 8/M3.3.
3. 14 X 8 WALL VENT, SEE 8/M3.3.
4. 22 X 14 RETURN DUCT DOWN TO RG-4 IN FOYER TRUSS SPACE.
5. 22 X 14 SUPPLY DUCT WITH TRANSITION TO 14"Ø DOWN TO FOYER CEILING SPACE.
6. ROUTE HRV CONDENSATE DRAIN TO NEAREST FIXTURE TAILPIECE, SEE 1/M3.3.
7. RAINLEADER, SEE P SHEETS.
8. 14 X 8 TRANSITION DOWN TO 10"Ø SUPPLY AND RETURN.



1 ENLARGED VESTIBULE MEZZANINE PLAN
SCALE: 1/2" = 1'-0"

STATE OF ALASKA
40TH
HELENA BRETAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

SYMB	DATE	REVISION	BY

RUETER ENGINEERING
MECHANICAL DESIGN AND CONSULTING
P.O. BOX 83585 FAIRBANKS AK
(907) 374-1688 FAX (907) helena@rlrueter.com

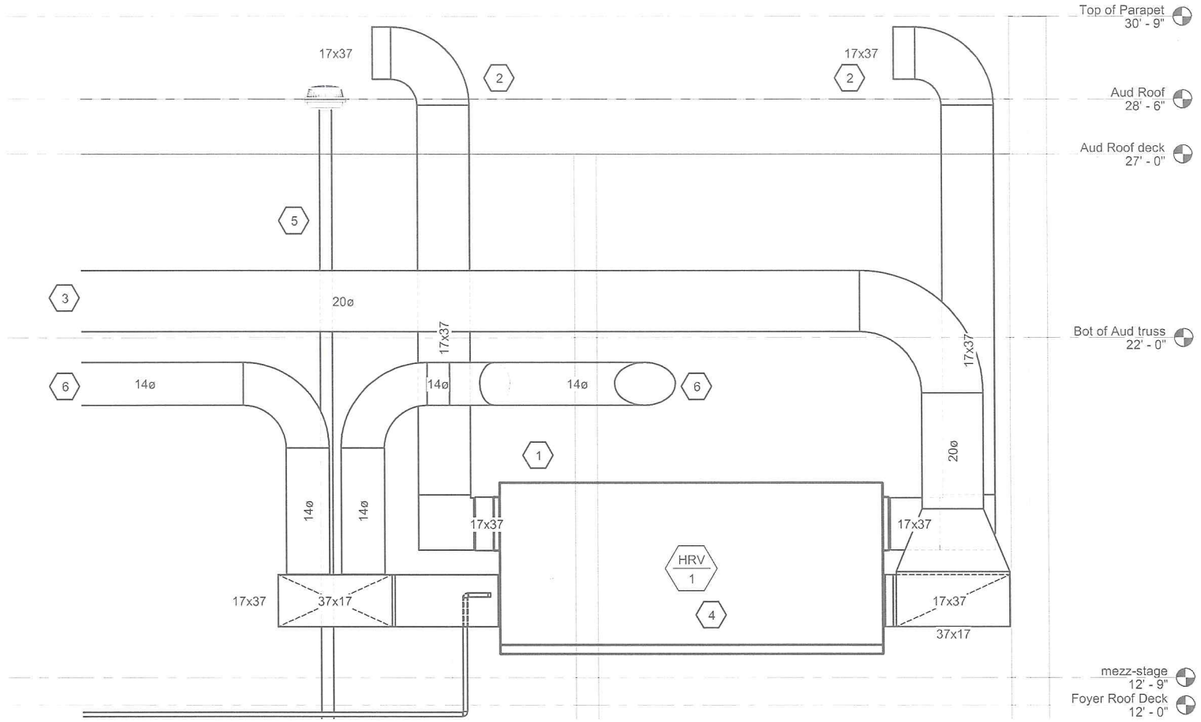
PROJECT
BETHEL CHURCH
ADDITION
Fairbanks, AK

SHEET
ENLARGED
MEZZANINE PLANS
AND SECTIONS

DRAWN	HBR	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET
M2.2

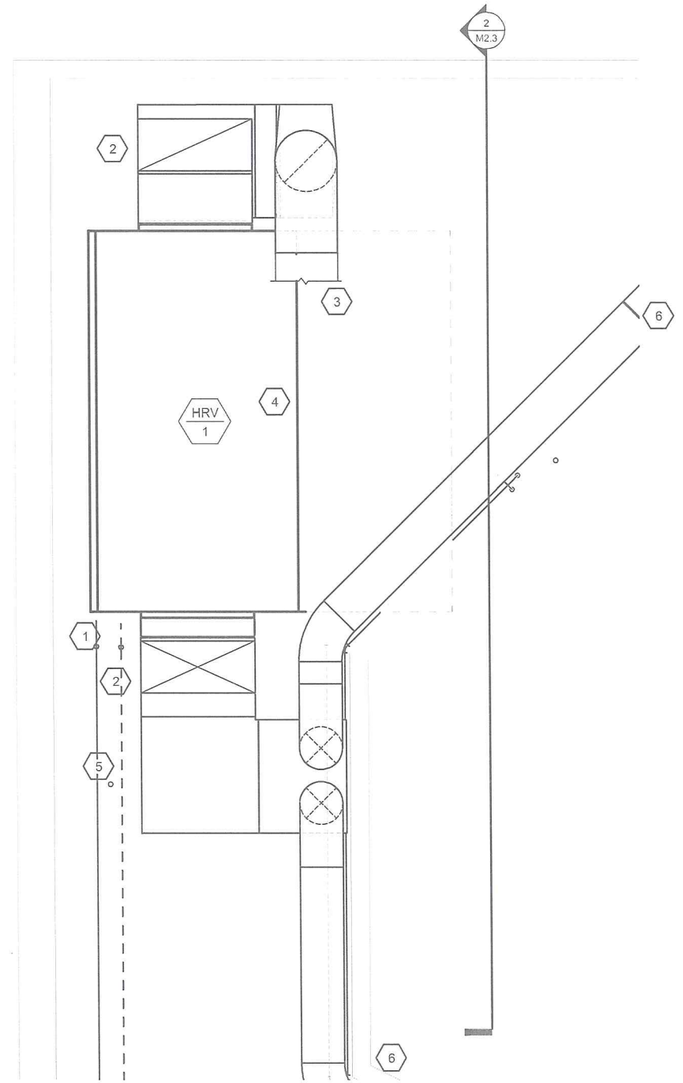
HBR W.O. 1815



2 BACKSTAGE MEZZANINE SECTION
SCALE: 1/2" = 1'-0"

SHEET NOTES

1. 1-1/4" GHS/GHR UP FROM BELOW. CONNECT TO HRV-1 COILS. SEE 1/M3.2 AND 3/M3.3 FOR COIL CONNECTION INFO. CONNECTIONS ARE LOCATED ON BACK OF HRV.
2. SEE 7/M3.3 FOR GOOSENECK DETAIL.
3. 20"Ø RETURN DUCT DOWN TO RG-1 IN AUDITORIUM TRUSS SPACE, SEE M1.1.
4. ROUTE HRV CONDENSATE DRAIN TO NEAREST FIXTURE TAILPIECE, SEE 1/M3.3.
5. RAINLEADER, SEE P SHEETS.
6. 14"Ø SUPPLY, SEE M2.1 FOR CONTINUATION.



1 ENLARGED BACKSTAGE MEZZANINE PLAN
SCALE: 1/2" = 1'-0"

STATE OF ALASKA
49TH
HELENA BRETAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

SYMB	DATE	REVISION	BY

MECHANICAL DESIGN AND CONSULTING
RUETER ENGINEERING
P.O. BOX 83365 FAIRBANKS AK
(907) 374-1688 FAX: (907)
hrueter@ahrueter.com

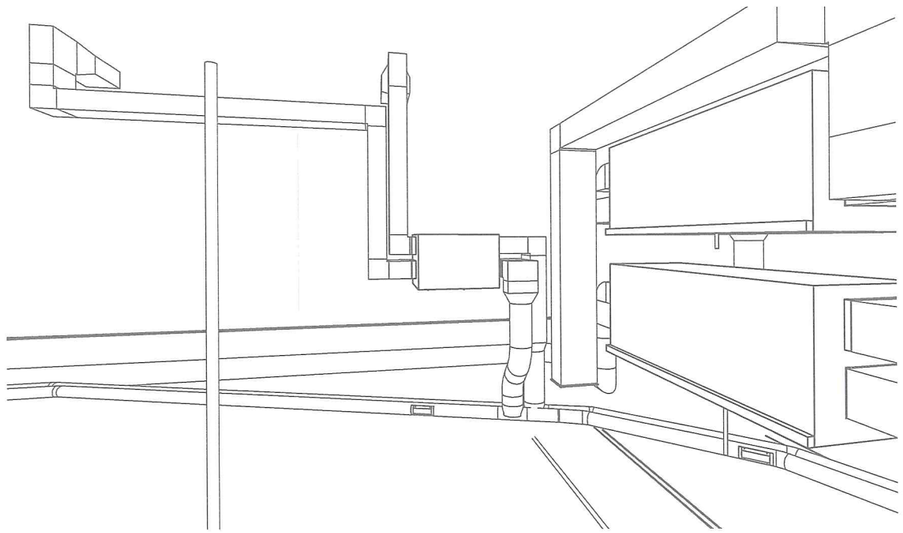
PROJECT
BETHEL CHURCH
ADDITION
Fairbanks, AK

SHEET
ENLARGED
MEZZANINE PLANS
AND SECTIONS

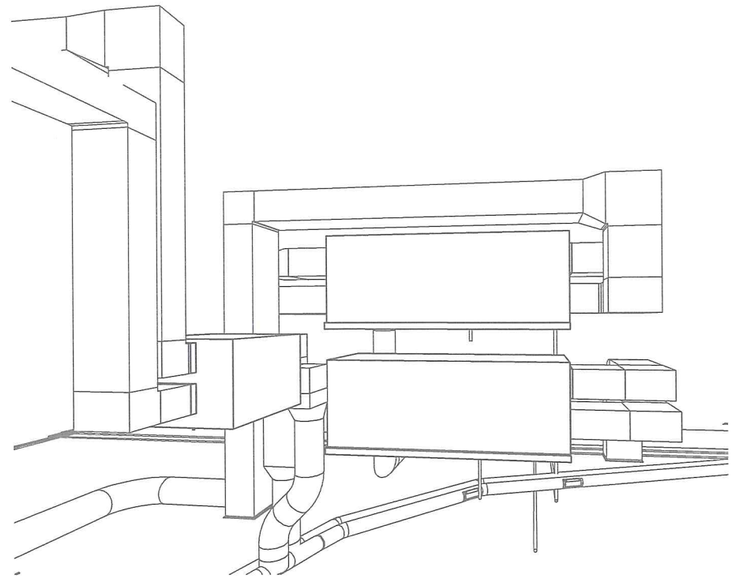
DRAWN	Author	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET
M2.3

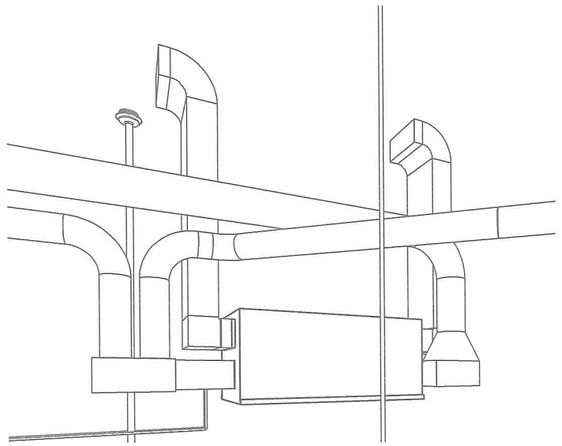
HBR W.O. 1815



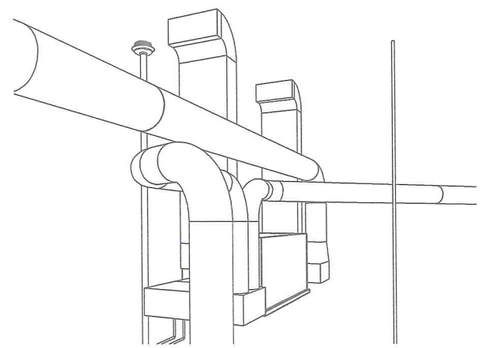
1 VESTIBULE MEZZANINE 3-D VIEW FROM SOUTH
SCALE:



2 VESTIBULE MEZZANINE 3-D VIEW FROM WEST
SCALE:



3 BACKSTAGE MEZZANINE 3-D VIEW FROM NORTH
SCALE:



4 BACKSTAGE MEZZANINE 3-D VIEW FROM EAST
SCALE:

STATE OF ALASKA
49TH
HELENA BRETAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

SYMB	DATE	REVISION	BY

MECHANICAL DESIGN AND CONSULTING
RUETER ENGINEERING
P.O. BOX 83585 FAIRBANKS AK
(907) 374-1888 FAX (907) helena@rbrueter.com

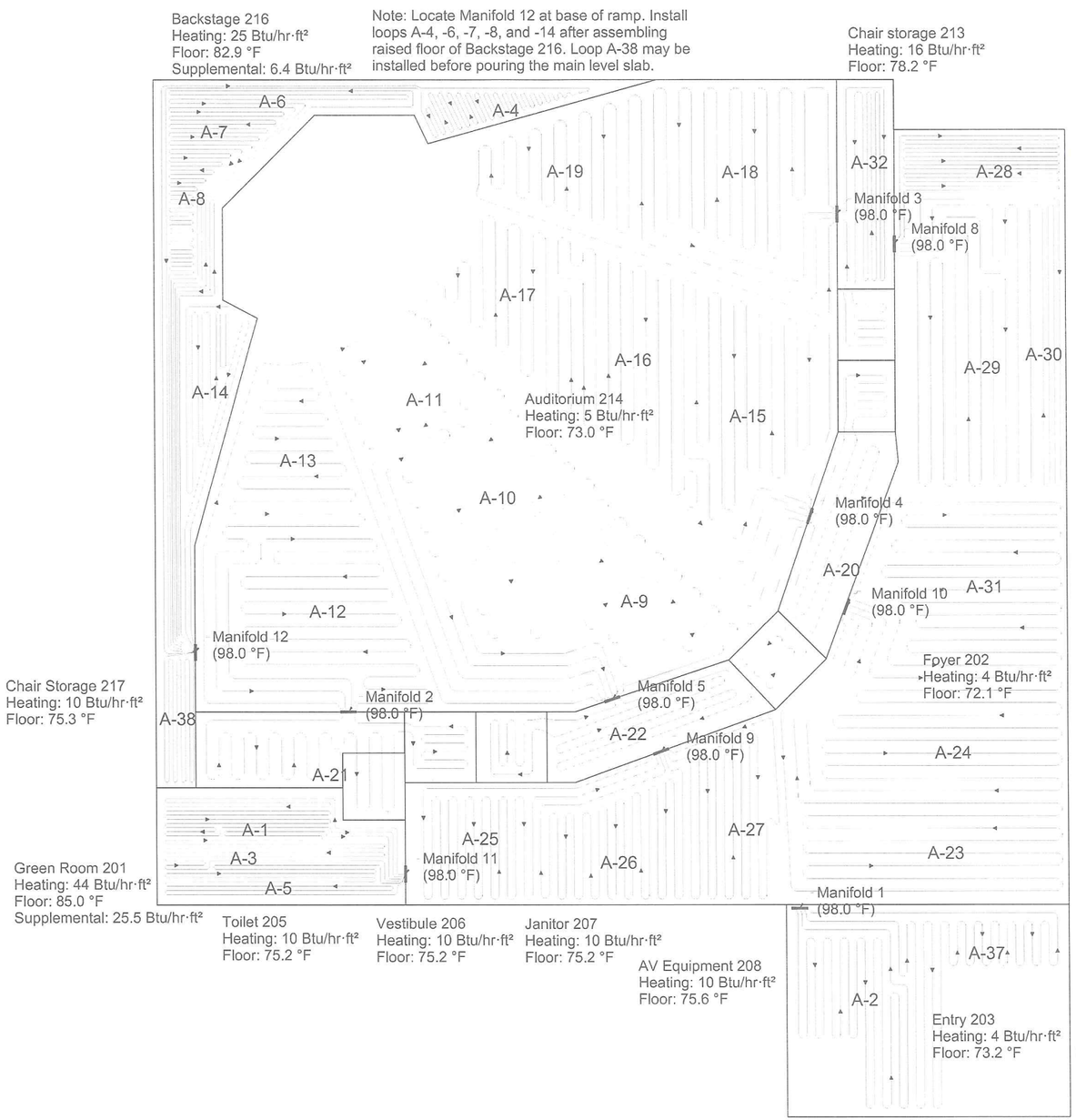
PROJECT
BETHEL CHURCH ADDITION
Fairbanks, AK

SHEET
3-D VIEWS

DRAWN	Author	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET
M2.4

HBR W.O. 1815



1 RADIANT SLAB TUBING LAYOUT
SCALE: 1/8" = 1'-0"

RADIANT FLOOR CIRCUIT SCHEDULE

MANIFOLD	CIRCUIT	ROOM	CIRCUIT GPM	MAN. GPM	DP (FT WC)	AREA COVERED (SF)	TUBE LENGTH (FT)	TUBE SPACE (IN)
1	A-2	203	0.18	0.37	1.1	247	238	12
	A-37		0.19		1.1	264	239	12
2	A-12	214	0.30	0.91	2.0	411	126	18
	A-13		0.29		2.0	407	102	18
	A-21	217, 206, 205	0.32		1.7	274	181	18
3	A-18	214	0.31	1.38	2.3	436	291	18
	A-19		0.28		1.8	393	262	18
	A-32	213, 212	0.79		3.7	183	233	12,6
4	A-15	214	0.31	1.45	2.2	428	288	18
	A-16		0.30		2.1	416	276	18
	A-17		0.30		2.1	418	279	18
	A-20	210, 209, 211	0.54		2.1	227	182	18
5	A-9	214	0.32	1.23	2.3	442	295	18
	A-10		0.32		2.4	447	299	18
	A-11		0.30		2.2	421	284	18
	A-22	207,208	0.29		1.3	212	197	12
6	A-33	103	0.18	0.37	1.1	247	238	12
	A-34		0.19		1.1	264	239	12
7	A-35	303	0.18	0.37	1.1	247	238	12
	A-36		0.19		1.1	264	239	12
8	A-28	202	0.25	0.71	1.8	334	290	6
	A-29		0.22		1.4	296	255	18,8
	A-30		0.23		1.6	309	267	18,8
9	A-25	202	0.20	0.64	1.2	270	233	12
	A-26		0.22		1.4	297	253	12
	A-27		0.21		1.2	292	219	12
10	A-23	202	0.28	0.85	2.3	376	326	18
	A-24		0.29		2.3	379	324	18
	A-31		0.28		2.3	371	317	18
11	A-1	201	1.27	3.72	5.2	116	212	6
	A-3		1.24		5.1	113	213	6
	A-5		1.22		5.1	110	214	6
12	A-4	216	0.5	3.0	5.0	180	361	6
	A-6		0.5		5.0	144	288	6
	A-7		0.5		5.0	144	289	6
	A-8		0.5		5.0	133	263	6
	A-14		0.5		5.0	113	226	6
	A-38		0.5		5.0	84	125	6
	TOTAL			15.0				
	NOTE: 5/8" TUBE DIAMETER. ADD 10' TAIL TO EACH LISTED TUBE LENGTH.							

STATE OF ALASKA
49TH
HELENA BRETAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

RUETER ENGINEERING
MECHANICAL DESIGN AND CONSULTING
P.O. BOX 83565 FAIRBANKS AK
(907) 374-1688 FAX: (907)
hbrueter@hbrueter.com

SYMB	DATE	REVISION	BY

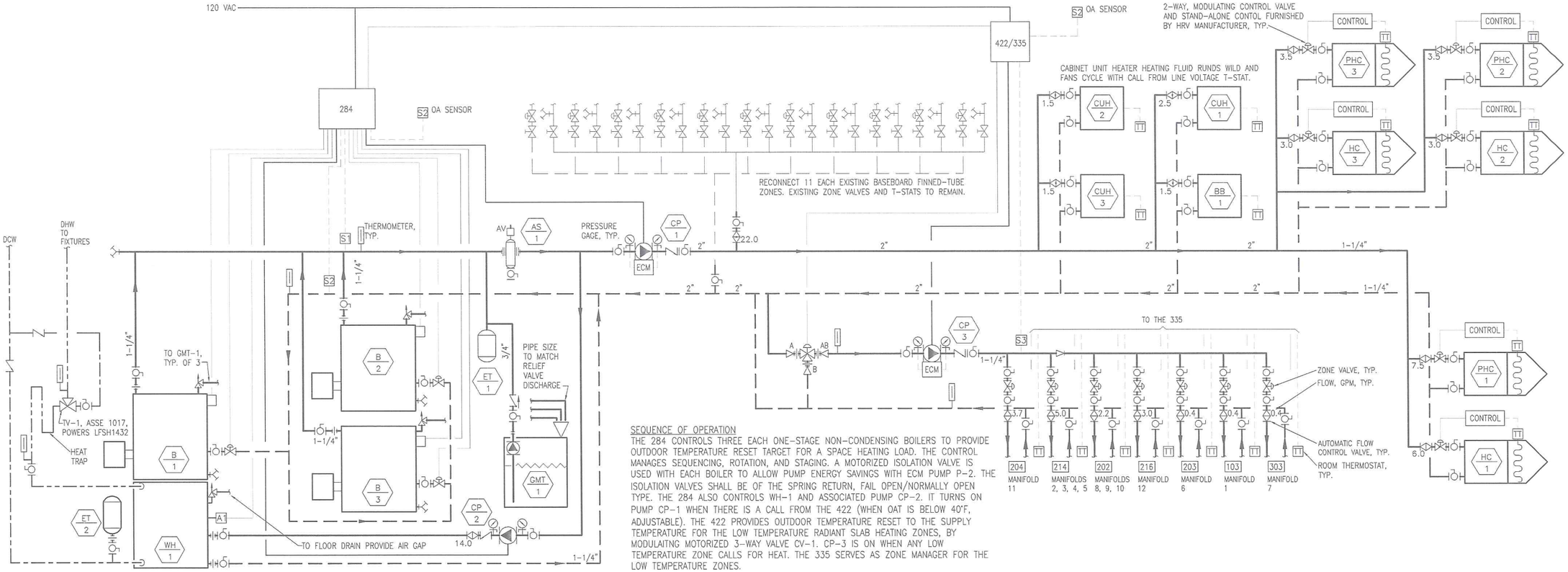
PROJECT
BETHEL COMMUNITY CHURCH
ADDITION
Fairbanks, AK

SHEET
HVAC DIAGRAMS AND DETAILS

DRAWN	HBR	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET
M3.1

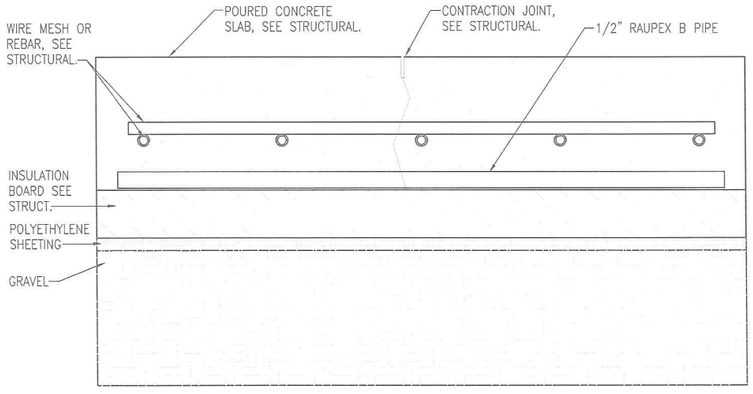
HBR W.O. 1815



SEQUENCE OF OPERATION

THE 284 CONTROLS THREE EACH ONE-STAGE NON-CONDENSING BOILERS TO PROVIDE OUTDOOR TEMPERATURE RESET TARGET FOR A SPACE HEATING LOAD. THE CONTROL MANAGES SEQUENCING, ROTATION, AND STAGING. A MOTORIZED ISOLATION VALVE IS USED WITH EACH BOILER TO ALLOW PUMP ENERGY SAVINGS WITH ECM PUMP P-2. THE ISOLATION VALVES SHALL BE OF THE SPRING RETURN, FAIL OPEN/NORMALLY OPEN TYPE. THE 284 ALSO CONTROLS WH-1 AND ASSOCIATED PUMP CP-2. IT TURNS ON PUMP CP-1 WHEN THERE IS A CALL FROM THE 422 (WHEN OAT IS BELOW 40'F, ADJUSTABLE). THE 422 PROVIDES OUTDOOR TEMPERATURE RESET TO THE SUPPLY TEMPERATURE FOR THE LOW TEMPERATURE RADIANT SLAB HEATING ZONES, BY MODULAITNG MOTORIZED 3-WAY VALVE CV-1. CP-3 IS ON WHEN ANY LOW TEMPERATURE ZONE CALLS FOR HEAT. THE 335 SERVES AS ZONE MANAGER FOR THE LOW TEMPERATURE ZONES.

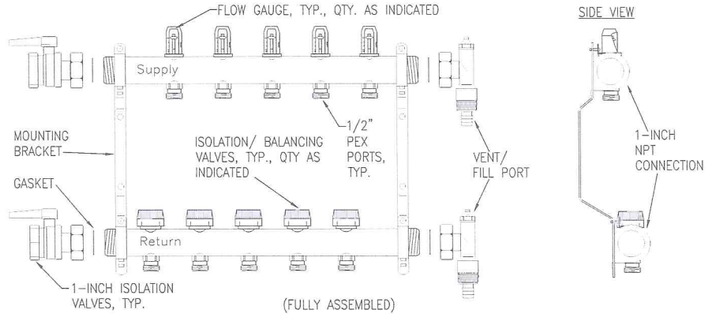
1 HEATING SCHEMATIC DIAGRAM
scale: NONE



NOTES

1. TUBING TO BE ATTACHED TO INSULATION WITH APPROPRIATE STAPLES.
2. RAUPEX SYSTEM SHALL BE PRESSURE TESTED TO A MINIMUM OF 60 PSI FOR A MINIMUM DURATION OF 2 HOURS.
3. THIS DRAWING SHALL ACT AS AN INSTALLATION GUIDE ONLY. DO NOT SCALE DRAWING.
4. THE INSTALLING CONTRACTOR SHALL RECORD ACTUAL INSTALLED CIRCUIT LENGTHS FOR BALANCING PURPOSES.

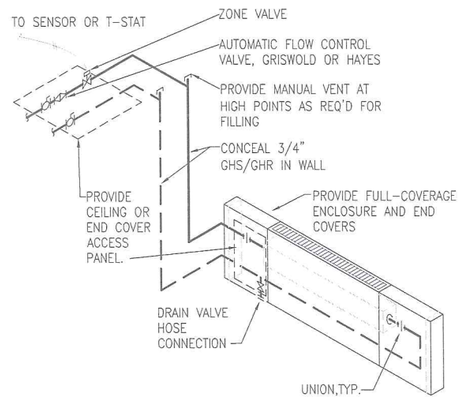
2 DETAIL: RADIANT SLAB TUBING
scale: NONE



NOTES:

1. BASIS OF DESIGN IS REHAU PRO-BALANCE MANIFOLD. CONTRACTOR OPTION IS TO PROVIDE PRODUCTS OF EQUAL FUNCTION WITH REGARD TO MOUNTING, ISOLATION, VENTING, AND BALANCING.
2. MOUNT MANIFOLDS IN MANIFOLD CABINETS SIZED FOR THE NUMBER OF CIRCUITS, REHAU PRO-BALANCE FLUSH MOUNT MANIFOLD CABINET OR ACCEPTED EQUAL.

3 DETAIL: RADIANT SLAB MANIFOLD
scale: NONE



4 DETAIL: BASEBOARD FINNED TUBE
scale: NONE

STATE OF ALASKA 49TH
HELENA BRÉTAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER
RUETER ENGINEERING
MECHANICAL DESIGN AND CONSULTING SERVICES
(907)374-1688
helena@hbrueter.com
P.O. BOX 83585 FAIRBANKS AK 99708

SYMB	DATE	REVISION	BY

PROJECT: BETHEL CHURCH ADDITION
Fairbanks, AK

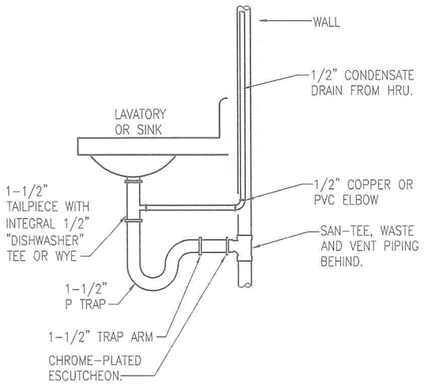
SHEET CONTENTS: HVAC DIAGRAMS AND DETAILS

DRAWN		HBR
DRAWN		HBR
CHECKED		HBR
DATE		5/18/2019

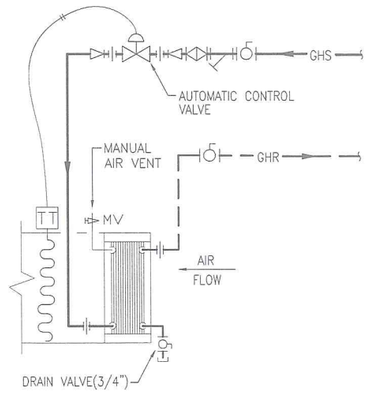
SHEET NUMBER:

M3.2

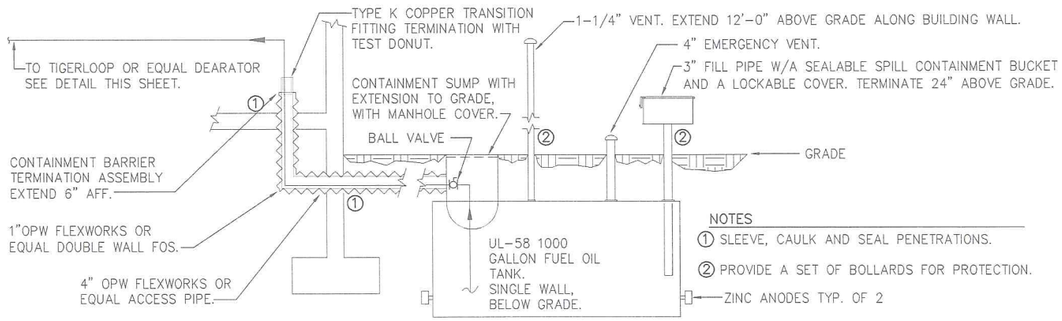
HBR W.O. NUMBER: 1815



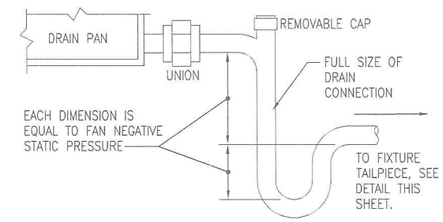
1 DETAIL: DRAIN TO LAV TAILPIECE
scale: NONE



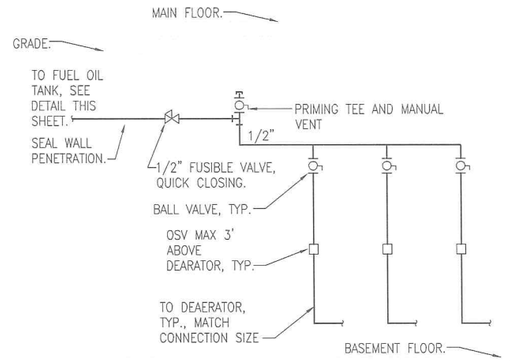
3 DETAIL: HEATING COIL CONNECTION
scale: NONE



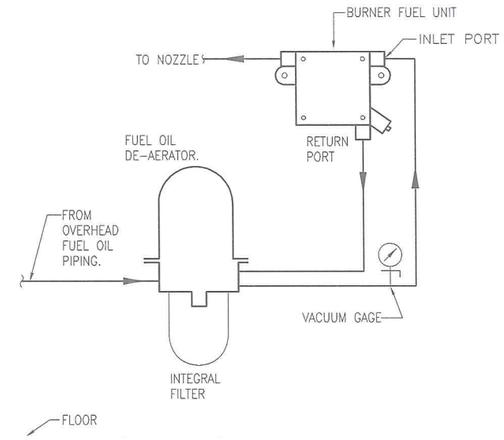
4 DETAIL: FUEL OIL UST
scale: NONE



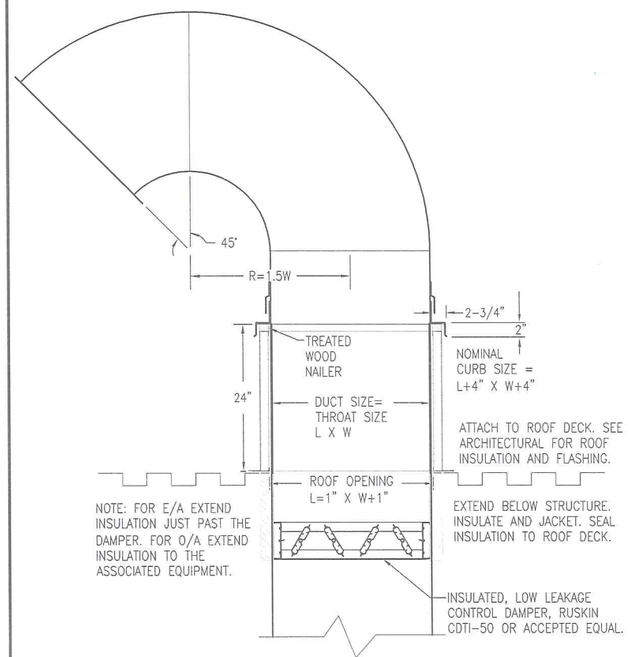
2 DETAIL: HRU CONDENSATE DRAIN
scale: NONE



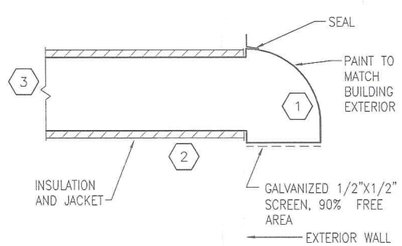
5 DETAIL: FUEL OIL PIPING SCHEMATIC DIAGRAM
scale: NONE



6 DETAIL: FUEL DE-AERATOR
scale: NONE

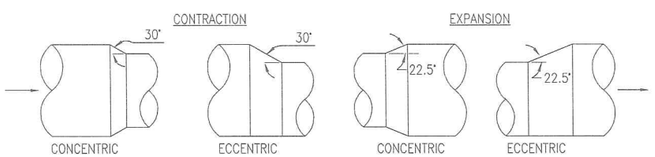


7 DETAIL: HRU INTAKE AND EXHAUST
scale: NONE



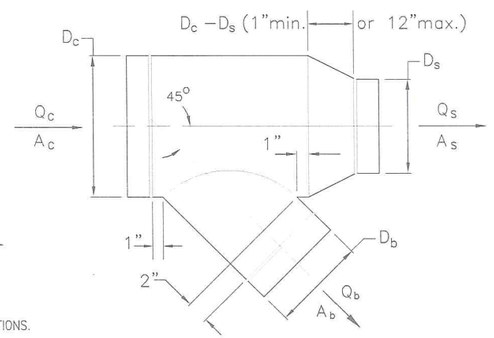
1. HRU MANUFACTURER'S STANDARD OR EQUIVALENT SHOP FABRICATED HOOD. MATCH DUCT DIMENSIONS.
2. INSULATE CONTINUOUSLY THROUGH WALL. SEAL PENETRATION.
3. ROUTE DUCT TO HRU. MOTORIZED DAMPER IS PROVIDED WITH HRU.

8 DETAIL: HRU INTAKE AND EXHAUST
scale: NONE



NOTE: PROVIDE SAME MAX ANGLES OF CONTRACTION AND EXPANSION FOR ROUND-TO-RECTANGULAR TRANSITIONS.

9 DETAIL: DUCT TRANSITIONS
scale: NONE



10 DETAIL: BRANCH DUCT TAKEOFF
scale: NONE

HELENA BRETAS RUETER
ME-10190
5.18.2019
RUETER ENGINEERING
MECHANICAL DESIGN AND CONSULTING SERVICES
(907)374-1688
helena@hbrueter.com
P.O. BOX 83585 FAIRBANKS AK 99708

SYMB	DATE	REVISION	BY

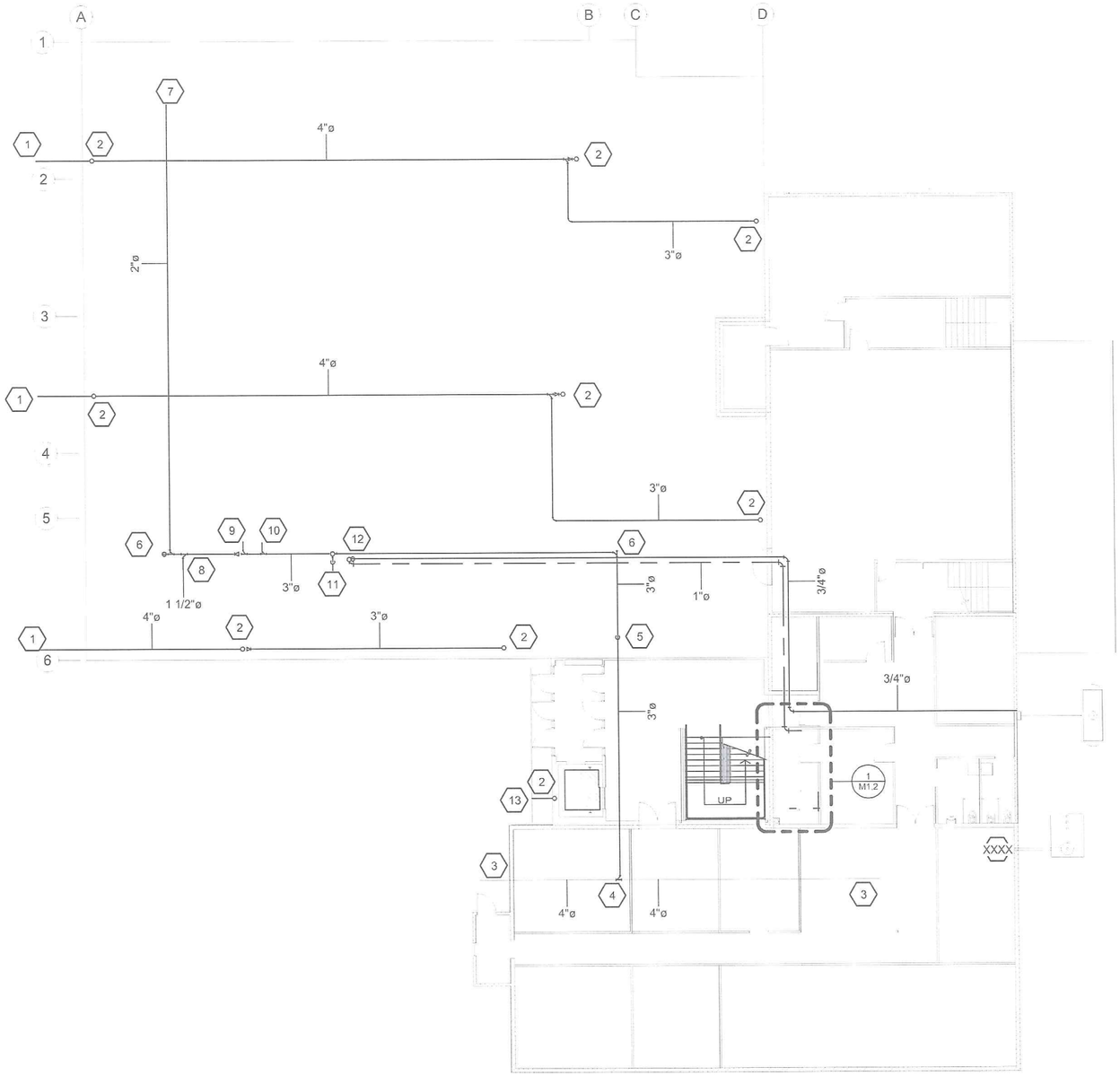
PROJECT:
BETHEL CHURCH ADDITION
Fairbanks, AK

SHEET CONTENTS:
HVAC DIAGRAMS AND DETAILS

DRAWN		HBR
DRAWN		HBR
CHECKED		HBR
DATE		5/18/2019

SHEET NUMBER:
M3.3

HBR W.O. NUMBER: 1815



1 BASEMENT PLUMBING PLAN
SCALE: 3/32" = 1'-0"

SHEET NOTES

1. 4"RL TO OUTFALL, SEE P4.2.
2. 3" RL UP TO RD-1.
3. EXISTING WASTE, FIELD VERIFY.
4. CONNECT NEW 3" WASTE TO EXISTING, FIELD VERIFY.
5. TRANSITION DOWN. PROVIDE CLEANOUT.
6. UP TO FLOOR CLEANOUT.
7. UP TO WB-1.
8. UP TO S-1.
9. UP TO LV-1.
10. UP TO WC-1.
11. UP TO MS-1.
12. 1"DCW AND 3/4" PROPANE UP TO WH-2.
13. 3" RL TO TRENCH DRAIN, SEE STRUCTURAL.
14. 1/2" FOS TO MECH ROOM, SEE M1.2 FOR CONTINUATION.

STATE OF ALASKA
49TH
HELENA BRETAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

SYMB	DATE	REVISION	BY

RUETER ENGINEERING
MECHANICAL DESIGN AND CONSULTING
P.O. BOX 83585 FAIRBANKS AK
(907) 374-1688 FAX (907) helena@rlrueter.com

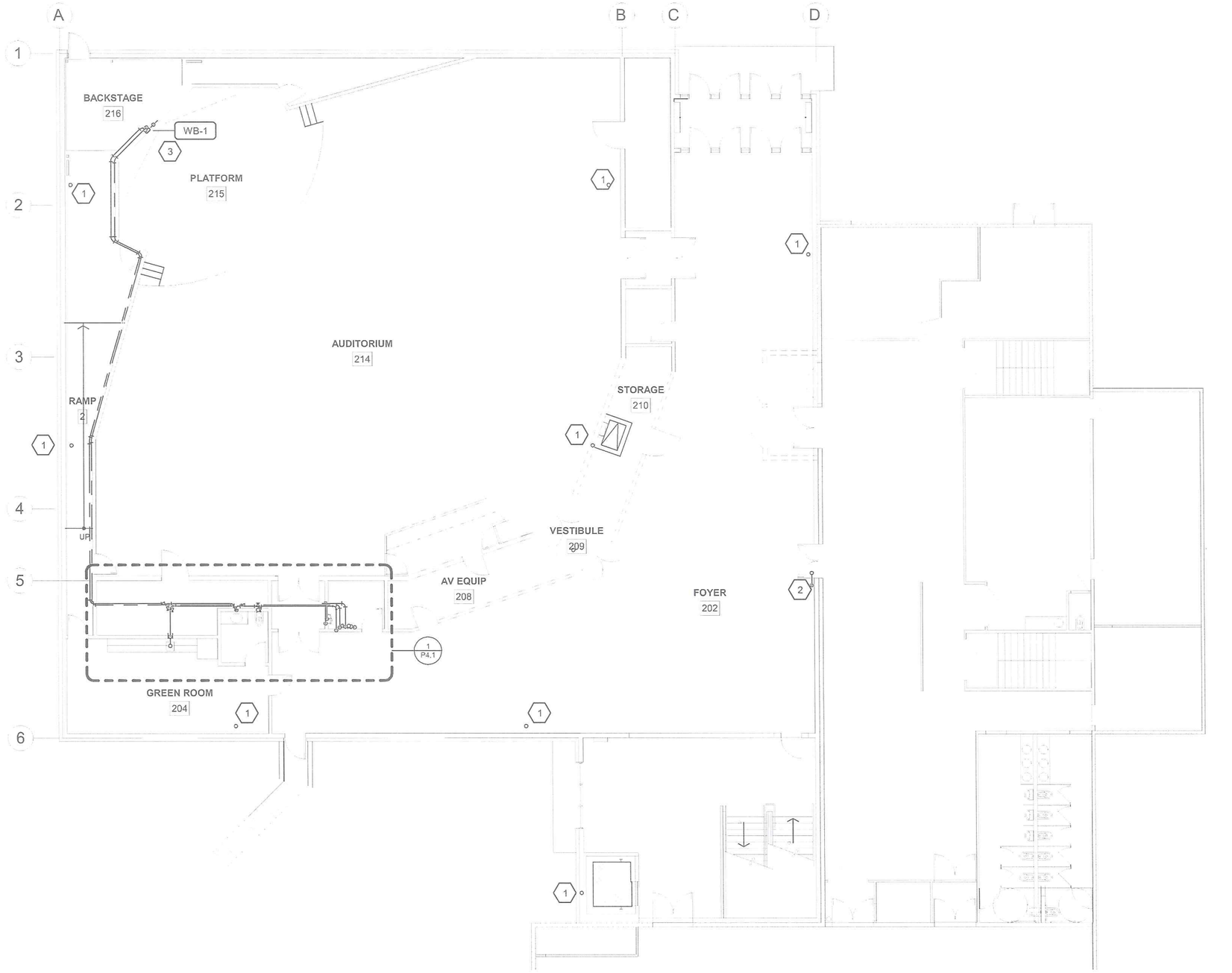
PROJECT
BETHEL CHURCH
ADDITION
Fairbanks, AK

SHEET
BASEMENT
PLUMBING FLOOR
PLAN

DRAWN	Author	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET
P1.1

HBR W.O. 1815



1. 3" RL UP TO RD-1.
2. 3" RL - OFFSET TO AVOID DOORWAY.
3. 1/2" DCW/DHW DOWN TO WB-1.

1 MAIN FLOOR PLUMBING PLAN
SCALE: 1/8" = 1'-0"

STATE OF ALASKA
40TH
HELENA BRETAS RUETER
MC-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

SYMB	DATE	REVISION	BY

MECHANICAL DESIGN AND CONSULTING
RUETER ENGINEERING
P.O. BOX 83905 FAIRBANKS AK
(907) 374-1088 FAX: (907)
helena@hbrueter.com

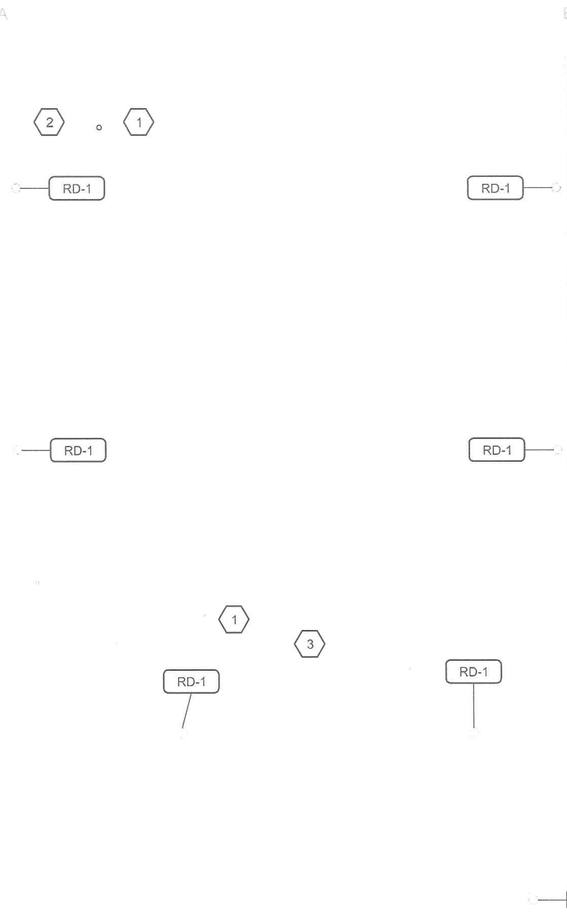
PROJECT
BETHEL CHURCH
ADDITION
Fairbanks, AK

SHEET
MAIN FLOOR
PLUMBING PLAN

DRAWN	Author	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET
P2.1

HBR W.O. 1815



SHEET NOTES

1. 4" VENT THRU ROOF.
2. HRV-1 GOOSENECK DUCT INLET AND EXHAUST THIS AREA.
3. WH-1 FLUE AND COMBUSTION AIR DUCTS THIS AREA.

1 ROOF PLUMBING PLAN
SCALE: 3/32" = 1'-0"

STATE OF ALASKA
49TH
HELENA BRETAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

SYMB	DATE	REVISION	BY

MECHANICAL DESIGN AND CONSULTING
RUETER ENGINEERING
P.O. BOX 83395 FAIRBANKS AK
(907) 374-1688 FAX (907)
helena@hbrueter.com

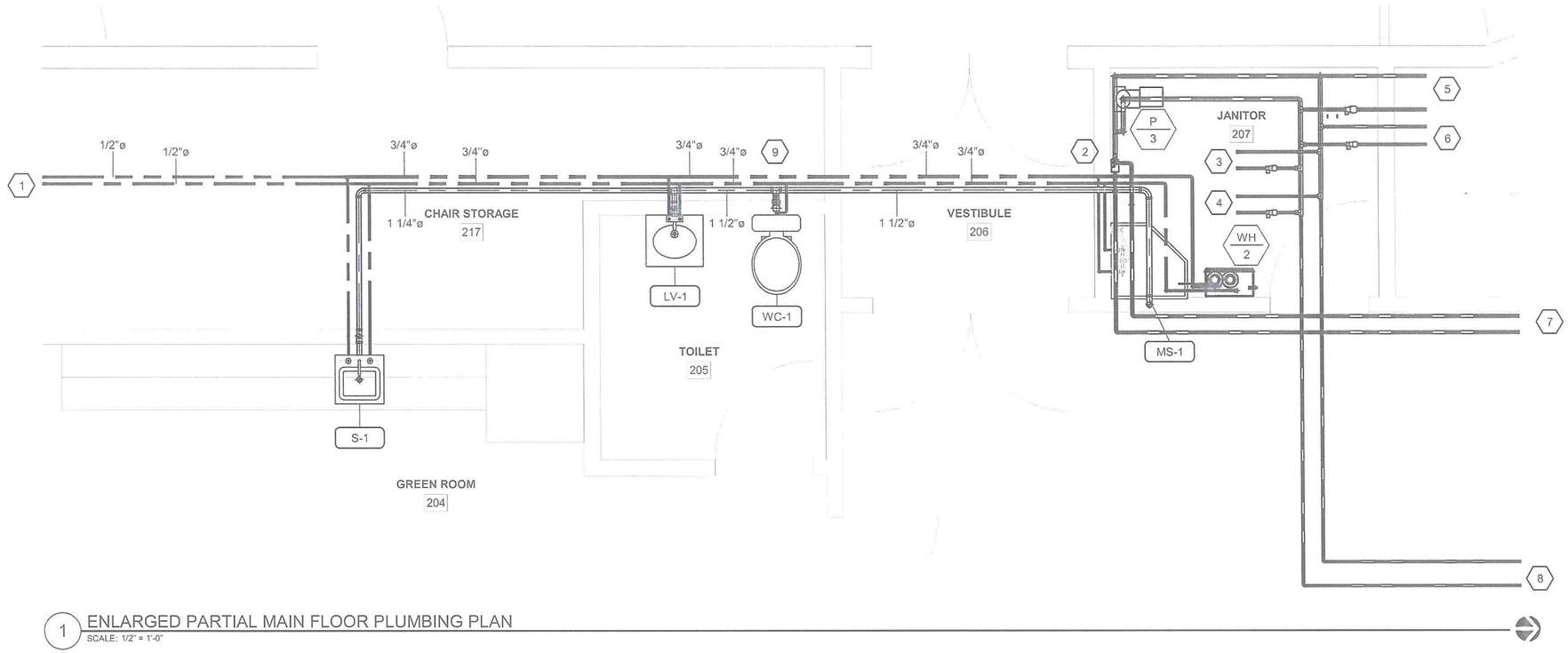
PROJECT
BETHEL CHURCH ADDITION
Fairbanks, AK

SHEET
ROOF PLUMBING PLAN

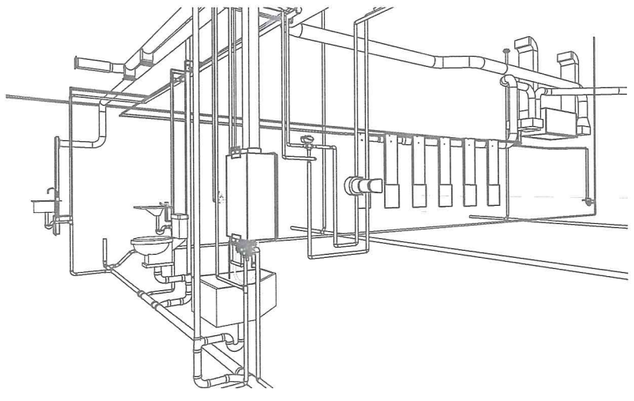
DRAWN	Author	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET
P3.1

HBR W.O. 1815



1 ENLARGED PARTIAL MAIN FLOOR PLUMBING PLAN
SCALE: 1/2" = 1'-0"



2 3-D VIEW - MECHANICAL
SCALE:

SHEET NOTES

1. 1/2" DCW, DHW TO WB-1.
2. 3-WAY VALVE GHS/GHR TO LOW TEMP RAD SLAB SYSTEM, SEE M3.2.
3. 3/4" GHS/GHR LOW TEMP TO BACKSTAGE MANIFOLD 12, SEE M3.1 FOR LOCATION.
4. 3/4" GHS/GHR LOW TEMP TO GREEN ROOM MANIFOLD 11, SEE M3.1 FOR LOCATION.
5. 1" GHS/GHR LOW TEMP TO AUDITORIUM MANIFOLDS 2,3,4,5. SEE M3.1 FOR LOCATIONS. THESE MANIFOLDS ARE SERVED BY ONE ZONE VALVE AND T-STAT.
6. 3/4" GHS/GHR LOW TEMP TO FOYER MANIFOLDS 8,9,10. SEE M3.1 FOR LOCATIONS. THESE MANIFOLDS ARE SERVED BY ONE ZONE VALVE AND T-STAT.
7. 1" GHR PIPED FROM THE MAIN GHR PIPE VIA CLOSELY SPACED TEES WITH SEPARATION LESS THAN 4 PIPE DIAMETERS OR 4 INCHES. SEE M2.1 FOR CONTINUATION.
8. 3/4" GHS/GHR LOW TEMP TO ENTRY TOWER MANIFOLDS 1, 6, 7. LOCATE ZONE VALVE FOR EACH OF THESE MANIFOLDS ADJACENT TO THE MANIFOLD, INSIDE A CONCEALED MANIFOLD CABINET.
9. 2" VENT UP TO 4" VTR.

STATE OF ALASKA
49TH
HELENA BRETAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

SYMB	DATE	REVISION	BY

MECHANICAL DESIGN AND CONSULTING
RUETER ENGINEERING
P.O. BOX 83585 FAIRBANKS AK
(907) 374-1688 FAX (907)
helenab@hbrueter.com

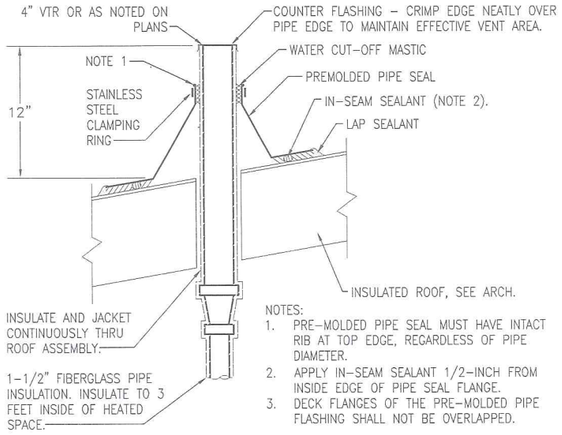
PROJECT
BETHEL CHURCH ADDITION
Fairbanks, AK

SHEET
ENLARGED PARTIAL PLUMBING PLAN, SECTIONS, AND 3-D VIEW

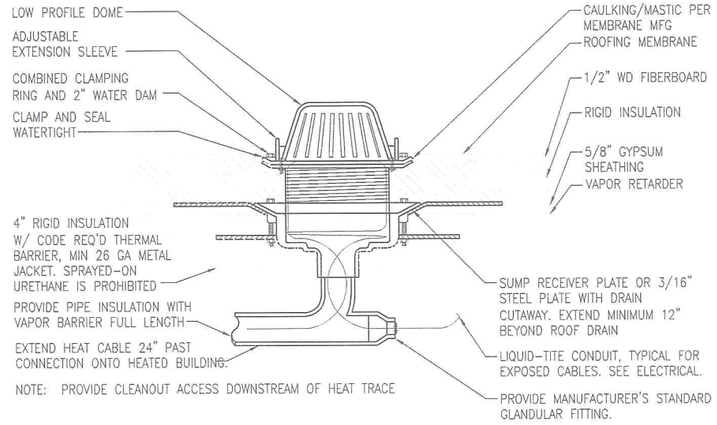
DRAWN	Author	
DRAWN		
CHECKED	Checker	
DATE	5/18/2019	

SHEET
P4.1

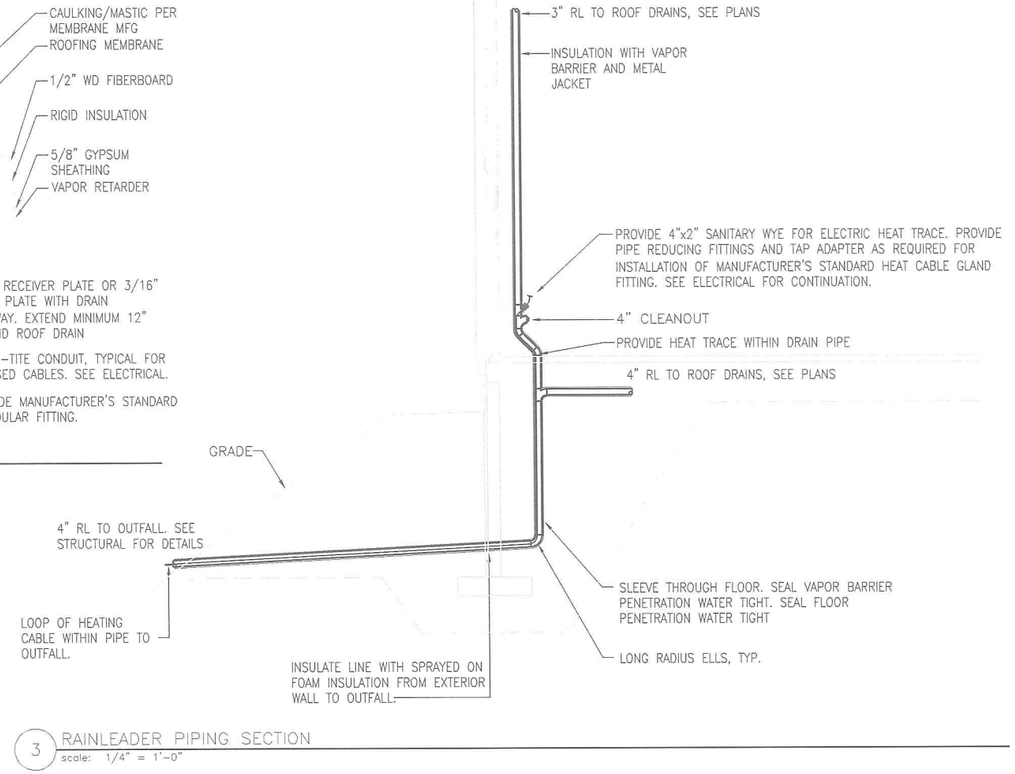
HBR W.O. 1815



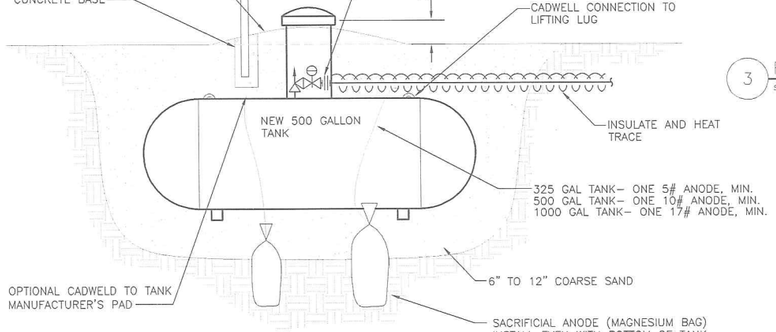
1 DETAIL: VENT THRU ROOF
scale: NONE



2 DETAIL: ROOF DRAIN
scale: NONE



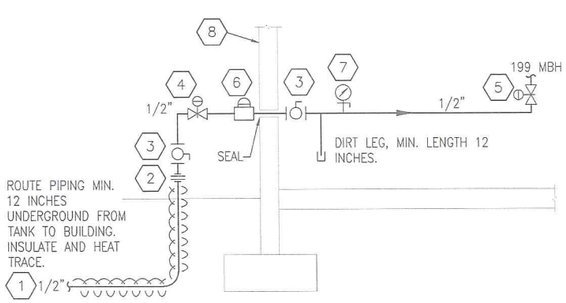
3 RAINLEADER PIPING SECTION
scale: 1/4" = 1'-0"



4 DETAIL: GAS APPLIANCE CONNECTION
scale: NONE

NOTE: PROVIDE SHUTOFF VALVE, RELIEF VALVE AND FIRST-STAGE REGULATOR SET TO 10 PSI, AS NECESSARY TO COMPLY WITH CURRENT NFPA 58 AND LOCAL CODES. PIPE SIZE TO MATCH PROPANE SCHEMATIC PIPING DIAGRAM SHEET M2.1.

5 DETAIL: BURIED PROPANE TANK
scale: NONE



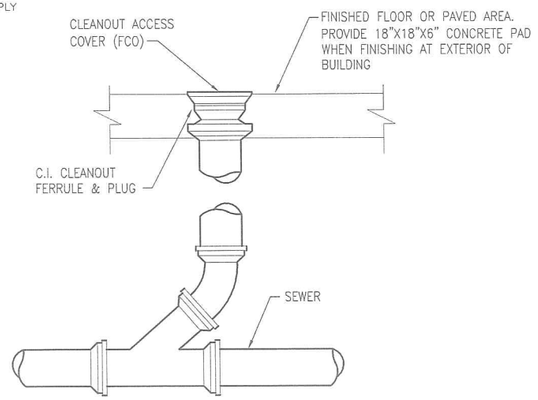
GENERAL NOTES:

1. SYSTEM SHALL PROVIDE 199 MBH PEAK PROPANE USE.
2. THE INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 58 AND ALL LOCAL, STATE AND FEDERAL REGULATIONS.
3. SEISMIC BRACING AND ANCHORING OF EQUIPMENT AND PIPEWORK SHALL BE BASED ON SEISMIC ZONE 2B OF THE INTERNATIONAL BUILDING CODE.

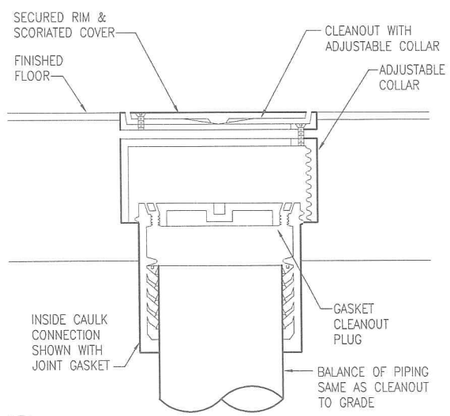
DETAIL NOTES:

1. LPG GAS SUPPLY FROM TANK.
2. TRANSITION FROM HDPE TO STEEL.
3. ISOLATION VALVE.
4. SECOND STAGE REGULATOR SET TO 2 PSIG.
5. APPLIANCE REGULATOR.
6. EARTHQUAKE VALVE.
7. PRESSURE GAUGE.
8. BUILDING WALL.

6 PROPANE PIPING SCHEMATIC DIAGRAM
scale: NONE



7 DETAIL: CLEANOUT TO GRADE
scale: NONE



8 DETAIL: CLEANOUT
scale: NONE

STATE OF ALASKA
49TH
HELENA BRETAS RUETER
ME-10190
5.18.2019
REGISTERED PROFESSIONAL ENGINEER

MECHANICAL DESIGN AND CONSULTING SERVICES
(907)374-1688
RUETER ENGINEERING
helena@hbrueter.com
P.O. BOX 83585 FAIRBANKS AK 99708

SYMB	DATE	REVISION	BY

PROJECT:
BETHEL CHURCH ADDITION
Fairbanks, AK

SHEET CONTENTS:
PLUMBING DIAGRAMS AND DETAILS

DRAWN		HBR
DRAWN		HBR
CHECKED		HBR
DATE		5/18/2019

SHEET NUMBER:
P4.2

HBR W.O. NUMBER: 1815

SPECIFICATIONS

1. GENERAL
   - 1.1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH LOCAL AND STATE BUILDING CODES AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION AND CONFORM TO NFPA NO. 70, NATIONAL ELECTRICAL CODE, 2017 EDITION.
   - 1.2. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND FEATURE SALIENT POINTS FOR PROJECT CONSTRUCTION. CHECK AND VERIFY DIMENSIONS AND EXISTING CONDITIONS AND REPORT DISCREPANCIES TO THE OWNER BEFORE PROCEEDING WITH WORK.
   - 1.3. SCALE THE PLACEMENT OF EQUIPMENT FROM THE DRAWINGS, MAKING MINOR RELOCATIONS AS NECESSARY FOR FITTING WITH SITE CONDITIONS.
   - 1.4. INSTALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS. NOTIFY ENGINEER IMMEDIATELY WHERE THERE ARE CONFLICTS WITH THE DRAWINGS.
   - 1.5. ENSURE EQUIPMENT AIC RATINGS EQUAL OR EXCEED CALCULATED VALUES SHOWN ON THE POWER ONE LINE DIAGRAM.
   - 1.6. CONTRACTOR SHALL OBTAIN AND PAY FOR APPLICABLE PERMITS.
2. CONDUCTORS AND CABLES
   - 2.1. CONDUCTORS SHALL BE COPPER ONLY.
   - 2.2. NO. 10 AND SMALLER: SOLID OR STRANDED; NO. 8 AND LARGER: STRANDED.
   - 2.3. MINIMUM SIZE: NO. 12 AWG.
   - 2.4. INSULATION, BRANCH CIRCUITS:
     - 2.4.1. HEATED INTERIOR SPACES, EXPOSED (INCLUDING ABOVE DROPPED OR SUSPENDED CEILINGS): INDIVIDUAL CONDUCTORS, TYPE THHN / THHW.
     - 2.4.2. OUTDOORS OR UNINSULATED SPACES – INDIVIDUAL CONDUCTORS, TYPE XHHW.
   - 2.5. INSULATION, FEEDERS: INDIVIDUAL CONDUCTORS, TYPE XHHW.
   - 2.6. CABLES: GALVANIZED INTERLOCKING STEEL STRIP, COLORED POLYPROPYLENE TAPE, RATED FOR VOLTAGE USED, TYPE MC.
   - 2.7. APPLICATION, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS:
     - 2.7.1. FEEDERS: INDIVIDUAL CONDUCTORS IN CONDUIT.
     - 2.7.2. BRANCH CIRCUITS: TYPE MC CABLE, OR INDIVIDUAL CONDUCTORS IN CONDUIT.
3. CONDUIT
   - 3.1. ABOVE GRADE:
     - 3.1.2. SERVICE ENTRANCE: IMC OR RSC.
     - 3.1.3. FEEDERS: EMT, IMC, OR RSC.
     - 3.1.4. BRANCH CIRCUITS: EMT.
   - 3.2. BELOW GRADE:
     - 3.3.2. HORIZONTAL RUNS: HDPE, SCHEDULE 40 PVC, IMC, OR RSC.
     - 3.3.3. SWEEPS AND RISERS TO ABOVE GRADE: STEEL CONDUIT TO MATCH ABOVE GRADE CONDUIT TYPE.
   - 3.4. USE ABOVE PRESCRIBED CONDUITS EXCEPT WHERE SPECIFIC NOTED APPLICATIONS ARE INDICATED ON THE DRAWINGS.
   - 3.4. SIZE AS REQUIRED TO MEET NEC CONDUCTOR FILL, 1/2–INCH DIAMETER MINIMUM SIZE.
   - 3.5. MOTOR CONNECTIONS: A SLACK SECTION OF FLEXIBLE METAL CONDUIT 18 INCHES TO 36 INCHES LONG.
   - 3.6. USE DUCT SEAL AROUND CONDUCTORS WHERE CONDUITS ENTER AND LEAVE THE BUILDING.
   - 3.7. PENETRATIONS OF CONDUITS THROUGH FIRE–RATED WALLS OR CEILINGS MUST BE SEALED AROUND CONDUIT SO AS TO RESTORE ORIGINAL FIRE–RATING OF WALLS OR CEILINGS. APPROVED FIRE–RATED FITTINGS SHALL BE USED. SEE ARCH DWG FOR EXACT LOCATIONS AND RATINGS OF FIRE–RATED WALLS AND CEILINGS.
4. BOXES
   - 4.1. BOXES SHALL BE PROVIDED IN THE WIRING OR RACEWAYS SYSTEMS WHEREVER REQUIRED FOR PULLING OF WIRES, MAKING CONNECTIONS, AND MOUNTING OF DEVICES OR FIXTURES.
   - 4.2. BOXES FOR METALLIC RACEWAYS SHALL BE 4–INCH SQUARE NOMINAL SIZE U.O.N., MINIMUM 1–1/2 INCHES DEEP FOR SURFACE, 2–1/8 INCHES DEEP FOR CONCEALED.
   - 4.3. BOXES FOR FIXTURE SUPPORT SHALL BE AS RECOMMENDED BY THE FIXTURE MANUFACTURER.
   - 4.4. BOXES FOR TELE/DATA SHALL BE 4–11/16–INCH SQUARE BY 2–1/8–INCH DEEP, STEEL.
   - 4.5. JUNCTION AND OUTLET BOXES INSTALLED OUTDOORS SHALL BE OF THE CAST THREADED HUB TYPE.
   - 4.6. FLOOR BOXES SHALL BE PVC CONSTRUCTION, BRASS COVER PLATE, ONE DUPLEX RECEPTACLE, SUITABLE FOR INSTALLING IN CONCRETE SLAB. INSTALL SO COVER PLATE IS EVEN WITH FINISHED FLOOR.
   - 4.7. COVERS FOR OUTDOOR OUTLET BOXES, INCLUDING HEADBOLT HEATER OUTLETS, SHALL FULLY COVER OUTLET WHEN IN USE, RED DOT 'CODE KEEPER', OR EQUAL.
5. GROUNDING
   - 5.1. GROUND RODS SHALL BE COPPER, 10 FEET LONG, AND 3/4" DIAMETER MINIMUM, WITH MINIMUM 10 FOOT SPACING.
   - 5.2. BURIED CONNECTORS SHALL BE CADWELD OR IRREVERSIBLE COMPRESSION TYPE, ERICO, BURNDY, OR EQUAL.
   - 5.3. PROVIDE A GREEN INSULATED GROUNDING CONDUCTOR, NO. 12 AWG MINIMUM SIZE, IN EACH ELECTRICAL CABLE AND CONDUIT.
6. WIRING DEVICES
   - 6.1. DUPLEX RECEPTACLES SHALL BE TAMPER RESISTANT, SINGLE PHASE, 20 AMPERE, 120 VOLTS, 2 POLE, GROUNDED 3 WIRE, NEMA 5 20R.
   - 6.2. SINGLE RECEPTACLES SHALL MEET THE SAME SPECIFICATIONS AS DUPLEX RECEPTACLES.
   - 6.3. GFI RECEPTACLES SHALL BE SIMILAR TO DUPLEX RECEPTACLES, AND IN ADDITION SHALL INTERRUPT THE CURRENT SUPPLY FOR ANY VALUE OF GROUND LEAKAGE CURRENT ABOVE FIVE MILLIAMPERES. EXTERIOR GFI RECEPTACLES, INCLUDING HEADBOLT HEATER OUTLETS, SHALL BE WEATHER–RESISTANT RATED.
   - 6.4. LIGHT SWITCHES SHALL BE SINGLE POLE OR 3–WAY, 20 AMPERE, 120 VOLTS, TOGGLE HANDLE TYPE.
   - 6.5. DIMMER SWITCHES:
     - 6.5.1. TYPE 'A' 120VAC DIMMER SWITCHES SHALL BE CAPABLE OF SINGLE POLE OR 3–WAY SWITCHING, A STANDARD 3–WAY TOGGLE SWITCH SHALL BE CAPABLE OF REMOTE SWITCHING, 150W LED/CFL, LUTRON SKYLARK CONTOUR NO. CTCL–153P, OR EQUAL.
     - 6.5.2. TYPE 'D' 0–10VDC DIMMER SWITCHES SHALL HAVE SLIDE HANDLE AND ON/OFF SWITCH, CAPABLE OF SINGLE POLE OR 3–WAY SWITCHING, A STANDARD 3–WAY TOGGLE SWITCH SHALL BE CAPABLE OF REMOTE SWITCHING, LEVITON IP710–LFZ, OR EQUAL.
   - 6.6. OCCUPANCY SENSORS SHALL BE WALL MOUNT, DUAL INFRARED / ULTRASONIC, 2400 SQ FT COVERAGE, DUAL RELAY, 30 SEC. – 30 MIN. OFF DELAY, LEVITON NO. OSSMT–MD, OR EQUAL.
   - 6.7. DEVICE PLATES SHALL BE 430 STAINLESS STEEL.
   - 6.8. MANUFACTURER SHALL BE HEAVY–DUTY COMMERCIAL GRADE, LEVITON, PASS & SEYMOUR, COOPER, OR EQUAL.
   - 6.9. DEVICE BODY AND FACEPLATE COLOR: MATCH EXISTING.
7. DISCONNECT SWITCHES AND STARTERS
   - 7.1. DISCONNECT SWITCHES (SAFETY SWITCHES) SHALL BE UL LISTED, HEAVY DUTY TYPE WITH RATINGS AND FEATURES AS REQUIRED BY THE LOAD SERVED, WITH ISOLATED NEUTRAL BUS FOR CIRCUITS WITH A NEUTRAL. PROVIDE ATTACHED GROUND LUGS TO THE ENCLOSURE FOR TERMINATING EQUIPMENT GROUNDING CONDUCTORS. SWITCHES SHALL HAVE VISIBLE BLADES, BE PADLOCKABLE IN THE OFF (DOWN) POSITION, USE POSITIVE QUICK MADE, QUICK BREAK OPERATING MECHANISMS.
   - 7.2. FUSED DISCONNECT SWITCHES SHALL BE FUSED WITH DUAL ELEMENT FUSES, CLASS J OR RK1 (FOR FEEDERS), OR RK5 (FOR MOTORS).
   - 7.3. MAGNETIC STARTERS SHALL BE FULL–VOLTAGE, NON–REVERSING, NEMA CLASS, SIZE AS SCHEDULED.
     - 7.3.1. OVERLOAD RELAYS SHALL BE SOLID–STATE, CURRENT SENSING, FIELD SELECTABLE AS MANUAL OR AUTOMATIC RESETTING TYPE.
     - 7.3.2. PROVIDE WITH HAND–OFF–AUTOMATIC SWITCH, RED AND GREEN PILOT LIGHTS, AND OVERLOAD RESET BUTTON IN FRONT COVER.
   - 7.4. COMBINATION MAGNETIC STARTER DISCONNECTS (COMBINATION MAGS) SHALL HAVE SWITCHES HORSEPOWER RATED FOR THE MOTOR SERVED.
   - 7.5. MOTOR START SWITCHES SHALL BE TOGGLE HANDLE TYPE, WITH RED PILOT LIGHT, RESETTABLE OVERLOAD PROTECTION, AND WITH GUARD/LOCKOFF HASP, SQUARE D CLASS 2510 OR EQUAL.
   - 7.6. ENCLOSURES SHALL BE NEMA 1 FOR DRY INDOOR LOCATIONS AND NEMA 3R FOR OUTDOOR OR WET LOCATIONS.
8. METERING EQUIPMENT (CT CABINET)
   - 8.1. ELECTRIC SERVICE TO THE BUILDING SHALL HAVE METER SOCKET AND CT CABINET
     - 8.1.2. 400A, 208Y/120V, 3 PHASE, 4 WIRE,
     - 8.1.3. METERING EQUIPMENT SHALL BE WEATHER TIGHT, NEMA 3R RATED.
   - 8.2. METER SOCKET SHALL BE S–BASE, 13–TERMINAL, 4–WIRE WYE CONFIGURATION, WITH PROVISIONS FOR GVEA PROVIDED TEST SWITCH.
   - 8.3. CT CABINET SHALL BE EQUIPPED WITH TWO HANDLES FOR LIFTING THE COVER(1200A and below) 24"W x 32"H x 9"D (1ϕ) or 36"W x 36"H x 11"D (3ϕ).
   - 8.4. BY GVEA:
     - 8.4.1. FURNISH THE CT'S FOR THE CONTRACTOR TO MOUNT.
     - 8.4.2. GVEA SHALL FURNISH AND INSTALL THE TEST SWITCH.
     - 8.4.3. WIRE THE CT'S, TEST SWITCH, AND METER BASE.
   - 8.5. METERING EQUIPMENT SHALL COMPLY WITH SERVING UTILITY REQUIREMENTS. MAKE ARRANGEMENTS WITH GVEA TO OBTAIN PERMANENT ELECTRIC SERVICE TO THE PROJECT.
8. PANELS
   - 8.2. PANELS SHALL BE FLUSH OR SURFACE MOUNTED, SINGLE OR THREE PHASE, WITH MAIN TYPE (MAIN BREAKER OR MAIN LUGS), BUS SIZE, VOLTAGE, A.I.C. RATING, CIRCUIT CAPACITY INCLUDING NUMBER OF BREAKERS AND SPACES, AND NEMA RATING, AS INDICATED IN THE SCHEDULES.
   - 8.3. PANELBOARDS SHALL BE CAPABLE OF PLUG–IN OR BOLT–IN CIRCUIT BREAKERS, NOMINAL DIMENSIONS 20–INCH WIDE BY 5.5–INCH DEEP, COMMERCIAL GRADE, SQUARE D TYPE NQ, OR EQUAL.
9. LIGHTING
   - 9.1. FIXTURES SHALL BE AS SCHEDULED ON THE DRAWINGS.
   - 9.2. DRIVERS FOR LED FIXTURES SHALL ALLOW FOR DIMMABLE CONTROL.
   - 9.3. VERIFY CEILING TYPES THROUGHOUT.
   - 9.4. ALIGN, MOUNT AND LEVEL THE LIGHTING FIXTURES UNIFORMLY.
   - 9.5. PROVIDE ALL MOUNTING ACCESSORIES, END PLATES, TRIM FLANGES, OUTLET BOXES, ETC. FOR COMPLETE INSTALLATION.
   - 9.6. LAY–IN FIXTURES: SUPPORT WITH GRID CLIPS AT EACH CORNER, AND MINIMUM OF TWO INDEPENDENT SEISMIC WIRES NEAR OPPOSITE CORNERS OF THE FIXTURE TO STRUCTURE.
10. OUTSIDE LIGHTING CONTROLS
    - 10.1. PHOTOCELL SHALL BE PLUG–IN LOCKING TYPE, THERMAL, EQUIPPED WITH STANDARD 3–PRONG NEMA LOCKING–TYPE PLUG CONNECTION, 120V, 15A, INTERMATIC NO K4521 OR EQUAL, WITH MATCHING BASE.
    - 10.2. TIMER SHALL BE DIGITAL/ELECTRONIC, 24–HOUR, 7–DAY, 120V, 30A CONTACTS, INTERMATIC NO. ET1105C, OR EQUAL.
    - 10.3. THERMOSTAT SHALL BE RATED –40°F TO 80°F, 20A SPST CONTACTS, HONEYWELL FARMOSTAT, OR EQUAL.
    - 10.4. HAND–OFF–AUTO SWITCH SHALL BE ROTARY SWITCH, 3–POSITION, 20A RATED CONTACTS, SQ D NO. KS43BH13 WITH NO. KN260 LEGEND PLATE, OR EQUAL.
    - 10.5. CONTACTOR SHALL BE ELECTRONICALLY HELD, 20A RATED CONTACTS, 120V COIL, NUMBER OF POLES AS SHOWN ON THE PLANS, SQ D CLASS 8903, OR EQUAL.
    - 10.3. RIB RELAY SHALL BE 20A, SPDT CONTACTS, 120V COIL, RIB RELAY NO. RIB 2401B, OR EQUAL.
11. GENERATOR
    - 11.1. GENERATOR SHALL BE SNUG FIT WITH INSULATED PANELS, FACTORY EQUIPPED WITH BLANKET WARMERS, CIRCULATION HEATERS, BATTERY CHARGER, AND THE LIKE, FOR THE GENERATOR TO BE FULLY OPERATIONAL AND READY TO START DURING –40 DEGREE WEATHER CONDITIONS.
12. HEAT TRACE
    - 12.1. HEAT TRACE SHALL BE
      - 12.1.1. FOR ROOF DRAIN APPLICATIONS, 3–5 W/LF RAYCHEM WINTERGARD WET, OR EQUAL.
      - 12.1.2. FOR PIPE FREEZE PROTECTION APPLICATIONS, SELF REGULATING, (3) (5) (8) (10) W/FT, (120 BTV1) (200–277 BTV2) V, FLUOROPOLYMER OUTER JACKET, 185 DEG F MAXIMUM INTERMITTENT TEMPERATURE RATING, RAYCHEM 5BTV2–CT, OR EQUAL.
    - 12.2. PROVIDE COMPLETE WITH MANUFACTURER'S CONNECTION KITS, SPLICES, AND END SEALS.
    - 12.3. PROVIDE WITH 30MA EQUIPMENT GROUND FAULT PROTECTION IN THE HEATING CABLE BRANCH CIRCUIT.
13. FIRE ALARM SYSTEM
    - 13.1. PROVIDE FIRE ALARM CONTROL PANEL TO ACCOMPLISH FUNCTIONS AS INDICATED ON THE FIRE ALARM ONE LINE DIAGRAM. CONTROL PANEL SHALL HAVE AUDIBLE ALARM AND ALARM/TROUBLE INDICATOR LIGHTS IN PANEL.
    - 13.2. FIRE ALARM CONTROL PANEL SHALL HAVE BATTERY BACKUP.
    - 13.3. HEAT DETECTORS SHALL BE NOMINAL 15–DEGREES LESS THAN SPRINKER HEADS, 135–DEGREE.
    - 13.4. SMOKE DETECTORS SHALL BE PHOTOELECTRIC TYPE. DUCT SMOKE DETECTORS SHALL BE COMPLETE WITH SAMPLING TUBE AND HOUSING.
    - 13.5. HORN/STROBE DEVICES SHALL BE 90 DBA / 75 CANDELA.
    - 13.6. MANUAL PULL STATIONS SHALL BE DOUBLE ACTION.
    - 13.7. MAGNETIC DOOR HOLDERS SHALL RELEASE ON FIRE ALARM. HOLDERS MAY BE FLOOR OR WALL MOUNTED, EXCEPT AT STAIR RAILINGS AND WHERE WALL MOUNT IS NOT POSSIBLE HOLDERS SHALL BE FLOOR MOUNT.
    - 13.8. WIRE AND CABLE, SIGNALING LINE CIRCUITS: TWISTED, SHIELDED PAIR, TYPE MC, NOT LESS THAN 16 AWG, COPPER DRAIN WIRE, GALVANIZED STEEL ARMOR WITH RED IDENTIFIER STRIPE, FOR POWER–LIMITED FIRE ALARM SIGNAL SERVICE TYPE FPLP, NRTL LISTED AND LABELED AS COMPLYING WITH UL 1424 AND UL 2196 2–HOUR FIRE RATING.
    - 13.9. WIRE AND CABLE, NON–POWER LIMITED CIRCUITS: : MULTI–CONDUCTOR ARMORED CABLE, NOT LESS THAN 14 AWG, GALVANIZED STEEL ARMOR WITH RED IDENTIFIER STRIPE, PLENUM RATED, NRTL LISTED AND LABELED AS COMPLYING WITH UL 2196 2–HOUR FIRE RATING.
    - 13.10. OBTAIN FIRE ALARM SYSTEM FROM SINGLE SOURCE FROM SINGLE MANUFACTURER.
    - 13.11. SHOP DRAWINGS AND O&M MANUALS:
      - 13.11.1. INCLUDE FLOOR PLANS, SCHEMATICS, DETAILS, AND ATTACHMENTS TO OTHER WORK.
      - 13.11.2. COMPLY WITH RECOMMENDATIONS IN THE "DOCUMENTATION" SECTION OF THE "FUNDAMENTALS OF FIRE ALARM SYSTEMS" CHAPTER IN NFPA 72.
      - 13.11.3. OPERATION AND MAINTENANCE DATA: COMPLY WITH THE "RECORDS" SECTION OF THE "INSPECTION, TESTING AND MAINTENANCE" CHAPTER IN NFPA 72.
    - 13.12. TESTING: TEST ALL NEW DETECTORS AND APPLIANCES, AND 10 PERCENT OF EXISTING DEVICES, PER NFPA 72 TESTING REQUIREMENTS. INCLUDE TEST RESULTS WITH O&M MANUAL.
    - 13.13. INSTALLER QUALIFICATIONS: NICET–CERTIFIED, LEVEL III, PERSONNEL SHALL BE TRAINED AND CERTIFIED BY MANUFACTURER FOR INSTALLATION OF UNITS REQUIRED FOR THIS PROJECT.
14. IDENTIFICATION
    - 14.1. CLEAR OR WHITE PRINTED PLASTIC ADHESIVE TAPE WITH MINIMUM 3/16" HIGH BLACK LETTERS AS FOLLOWS:
      - 14.1.1. CLEAR TAPE AT THE BASE OF SWITCH AND OUTLET FACEPLATES TO IDENTIFY THE SERVING BRANCH CIRCUIT.
      - 14.1.2. CLEAR OR WHITE TAPE ON JUNCTION BOX COVERS TO IDENTIFY THE PANEL AND CIRCUIT NUMBERS OF CONDUCTORS.
    - 14.2. WHITE PRINTED PLASTIC ADHESIVE TAPE WITH MINIMUM 3/8" HIGH BLACK LETTERS AS FOLLOWS:
      - 14.2.1. PANELBOARD DESIGNATIONS.
      - 14.2.2. PANELBOARD SOURCE OF SUPPLY (LOCATION OF WHERE FEEDERS ORIGINATES), TYPICAL FOR EACH PANELBOARD.
      - 14.2.3. FUNCTION OF MOTOR CONTROLLERS, HEAT TRACE, AND OUTDOOR LIGHTING SWITCHES.
      - 14.2.4. CALCULATED AVAILABLE SHORT CIRCUIT CURRENT RATING (SHOWN ON THE POWER ONE LINE DIAGRAM) AND DRAWING DATE PER NEC 110.24 FOR MAJOR PIECES OF DISTRIBUTION EQUIPMENT SUCH AS PANELBOARDS AND MAIN DISCONNECT SWITCHES.
15. PROJECT CLOSEOUT
    - 15.1. DEMONSTRATE OPERATION OF ELECTRICAL SYSTEMS TO THE SATISFACTION OF THE OWNER AND ENGINEER.

ABBREVIATIONS

A	AMPERE
AC	ABOVE COUNTER (OUTLETS)
AFCI	ARC–FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AG	ABOVE GRADE
AIC	AMPERES INTERRUPTING CAPACITY
ASCA	AVAILABLE SHORT CIRCUIT AMPERES
AUTO	AUTOMATIC
BKR	BREAKER (CIRCUIT BREAKER)
CALC	CALCULATED
CKT	CIRCUIT
CLG	CEILING
CONN	CONNECTED
DISC SW	DISCONNECT SWITCH
EXIST	EXISTING
GFI	GROUND FAULT INTERRUPT
HOA	HAND–OFF–AUTOMATIC
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
N/A	NOT APPLICABLE
OC	ON CENTER
OH	OVERHEAD
PNL	PANEL
RD	ROOF DRAIN (HEAT TRACE)
RECPT	RECEPTACLE
S/N	SOLID NEUTRAL
TBB	TELEPHONE BACKBOARD
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT–AMPERES
W	WATTS
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER

NOTE: NOT ALL ABBREVIATIONS MAY APPEAR ON THE DRAWINGS.

SYMBOLS

	2X4 LIGHT FIXTURE
	WALL MOUNTED FIXTURE
	DOWNLIGHT
	BATTERY UNIT EMERGENCY FIXTURE
	LED EXIT SIGN
$	LIGHT SWITCH, SINGLE POLE
$3	LIGHT SWITCH, THREE WAY
$A	DIMMER SWITCH, 120V AC
$D	DIMMER SWITCH, 1–10V DC
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE
	5mA GFI RECEPTACLE
	FLOOR RECEPTACLE
	PANELBOARD, SURFACE MOUNTED
	PANELBOARD, FLUSH MOUNTED
J	J–BOX
M	MOTOR
	DISCONNECT SWITCH (SAFETY SWITCH), FUSED AS NOTED
	COMBINATION MOTOR STARTER DISCONNECT SWITCH
$T	MOTOR STARTER SWITCH WITH THERMAL OVERLOAD
	TELEPHONE/DATA OUTLET, (1) RJ–11, (2) RJ–45
	F/A SMOKE DETECTOR
	F/A MANUAL PULL STATION
	F/A HORN/STROBE
FACP	FIRE ALARM CONTROL PANEL
MAG	F/A MAGNETIC DOOR HOLDERS
OS	OCCUPANCY SENSOR
RD	ROOF DRAIN HEAT TRACE
	BRANCH CIRCUIT WIRING, 2 NO. 12 AND 1 NO. 12 GND IN 1/2 INCH EMT, UNLESS OTHERWISE NOTED
	UNSWITCHED LIGHTING BRANCH CIRCUIT WIRING
	BRANCH CIRCUIT WIRING, HOT = SHORT TICS, NEUTRAL = LONG TIC, GND = LONG TIC WITH CIRCLE
	HOME RUN TO INDICATED PANEL AND CIRCUIT
1	TAGGED NOTE, N=NUMBER
N	FEEDER NUMBER, N=NUMBER
a	CIRCUIT CONTINUATION, MATCH LETTERS

MOUNTING HEIGHT SCHEDULE

RECEPTACLE OUTLETS	1'–6"
RECEPTACLE OUTLETS (OUTSIDE)	2'–0"
TELEPHONE/DATA OUTLETS	1'–6"
ABOVE COUNTER OUTLETS	+3" ABOVE BACKSPLASH
TOGGLE SWITCHES	4'–0"
DISCONNECT SWITCHES	5'–6"
PANELBOARDS	6'–6" TO TOP

NOTES:

1. MOUNTING HEIGHTS ARE FROM ABOVE FINISHED FLOOR (INTERIOR)OR ABOVE FINISHED GRADE (EXTERIOR), UON.
2. MOUNTING HEIGHTS ARE TO CENTER OF DEVICE, UON.
3. MOUNT ABOVE COUNTER OUTLETS HORIZONTALLY.

STATE OF ALASKA 49TH
EVAN D ROBERTS
5/9/19
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.:	1841
DATE SIGNED:	5/9/19
REVISION:	
DESIGNED BY:	EDR
CHECKED BY:	EDR
FULL SCALE:	1 INCH

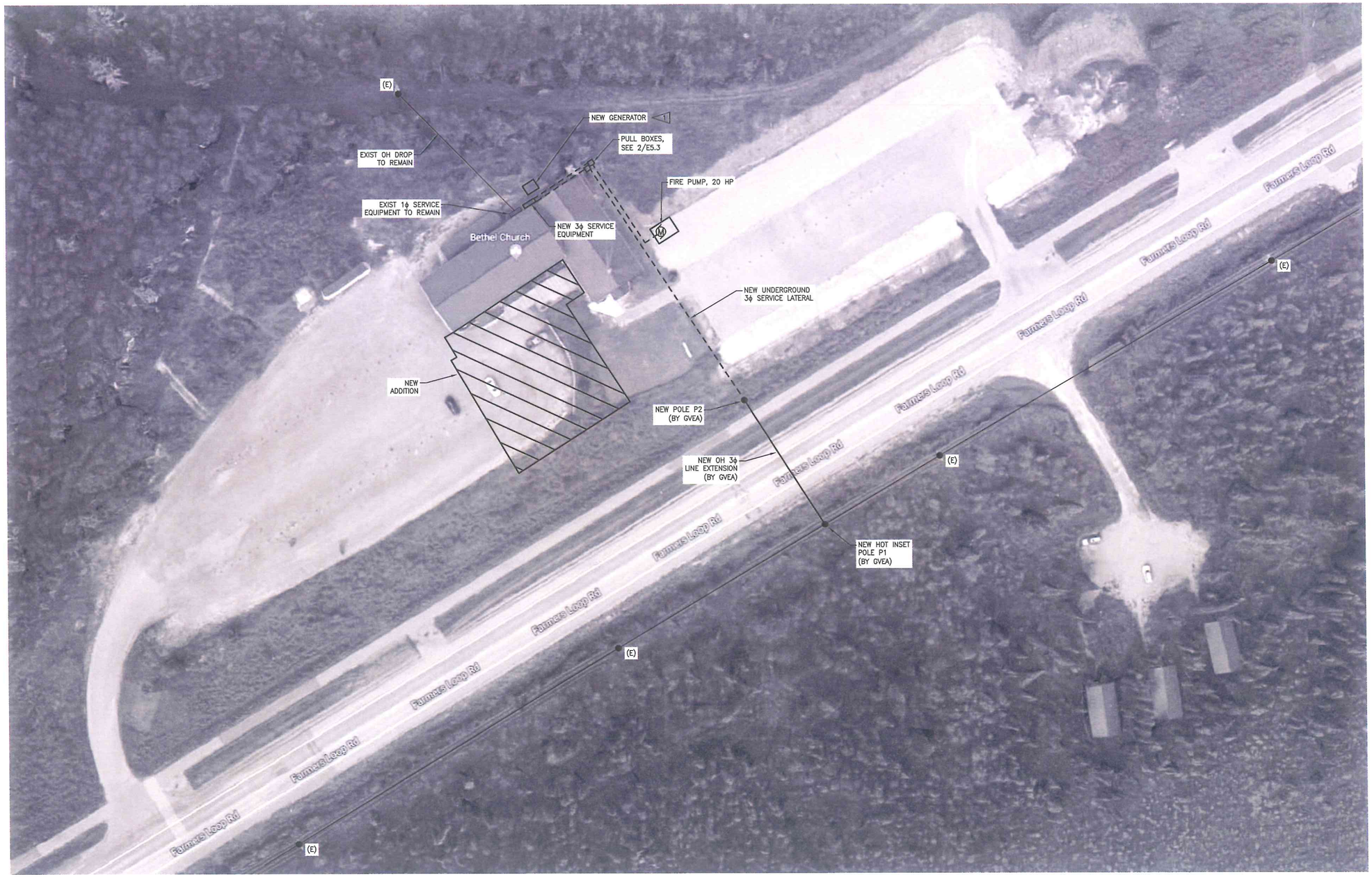
PROJECT:
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

PREPARED FOR:
DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

BY:
ROBERTS–KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS–KANEKO.COM

SHEET TITLE:
SYMBOLS & SPECIFICATIONS

SHEET NO.:
E1.1



1 E1.2 SITE PLAN
SCALE: 1" = 40'

TAG NOTES

1 COORDINATE EXACT LOCATION OF NEW GENERATOR WITH NEW BURIED 1,000 GALLON FUEL TANK. SEE SHEET E5.3, DETAILS 1 AND 3, FOR GENERATOR DETAILS

0 20' 40' 80'

PLAN NORTH

TRUE NORTH

STATE OF ALASKA 49TH
EVAN D. ROBERTS
5/9/19
SEE BASIS
PROFESSIONAL ENGINEER

PROJECT NO.: 1841
DATE SIGNED: 5/9/19
REVISION:
DESIGNED BY: EDR
CHECKED BY: EDR
FULL SCALE: 1 INCH

ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

PROJECT:
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

PREPARED FOR:
DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

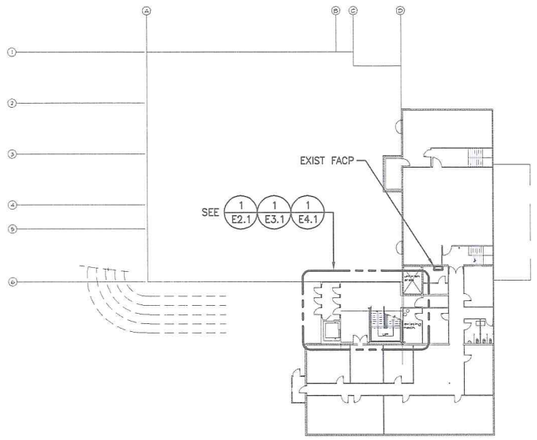
BY:

SHEET TITLE:
SITE PLAN

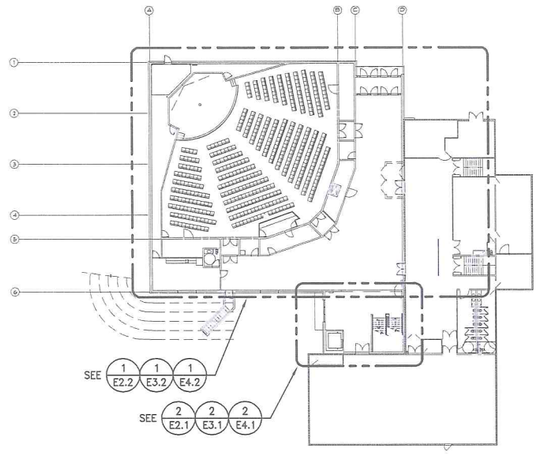
SHEET NO.:
E1.2

OF 16

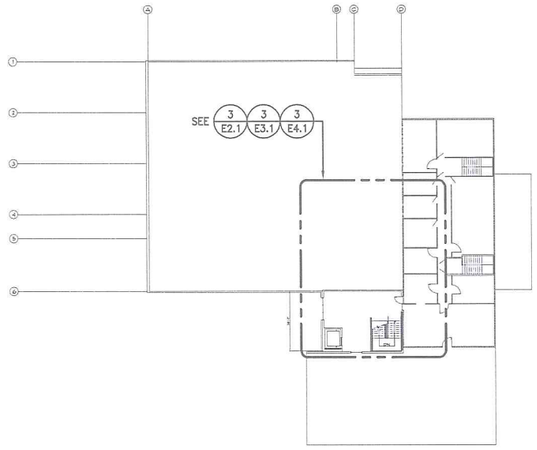
5/10/2019 10:26 AM : D:\2018\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG



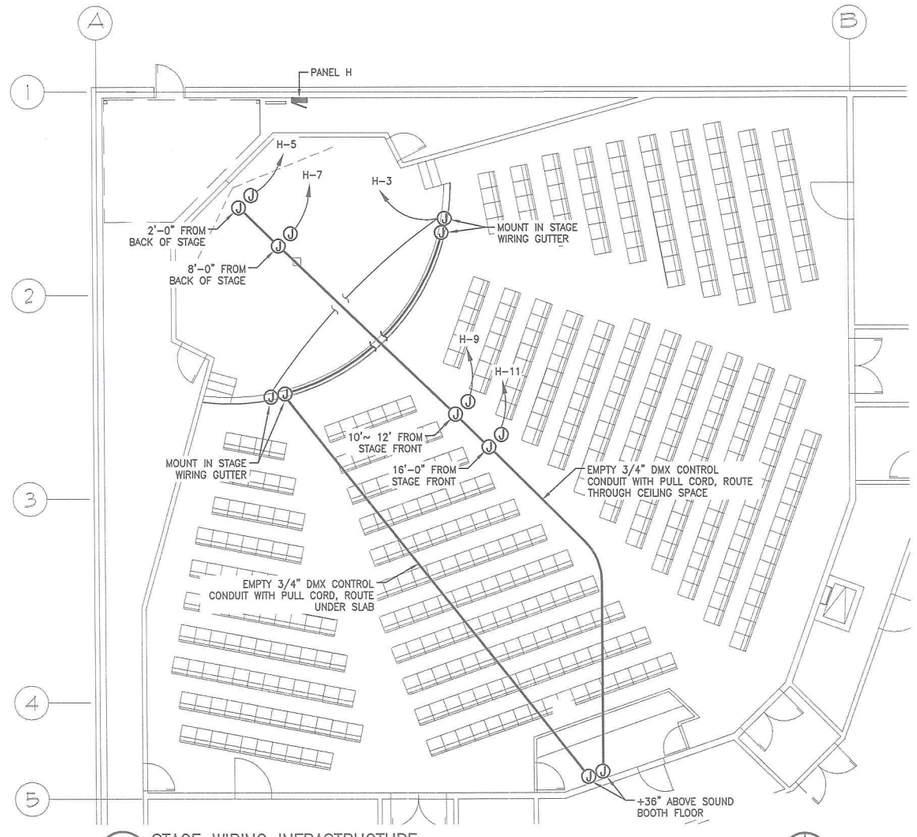
1 E1.3 KEY PLAN – BASEMENT LEVEL
SCALE: 1/32" = 1'–0"
0 16' 32' 64' PLAN NORTH



2 E1.3 KEY PLAN – MAIN LEVEL
SCALE: 1/32" = 1'–0"
0 16' 32' 64' PLAN NORTH



3 E1.3 KEY PLAN – UPPER LEVEL
SCALE: 1/32" = 1'–0"
0 16' 32' 64' PLAN NORTH



4 E1.3 STAGE WIRING INFRASTRUCTURE
SCALE: 1/8" = 1'–0"
0 4' 8' 16' PLAN NORTH

STATE OF ALASKA
49TH
EVAN O. ROBERTS
5/9/19
EE 9824
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.: 1841
DATE SIGNED: 5/9/19
REVISION:
DESIGNED BY: EDR
CHECKED BY: EDR
FULL SCALE: 1 INCH

ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

PROJECT:

PREPARED FOR:
DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

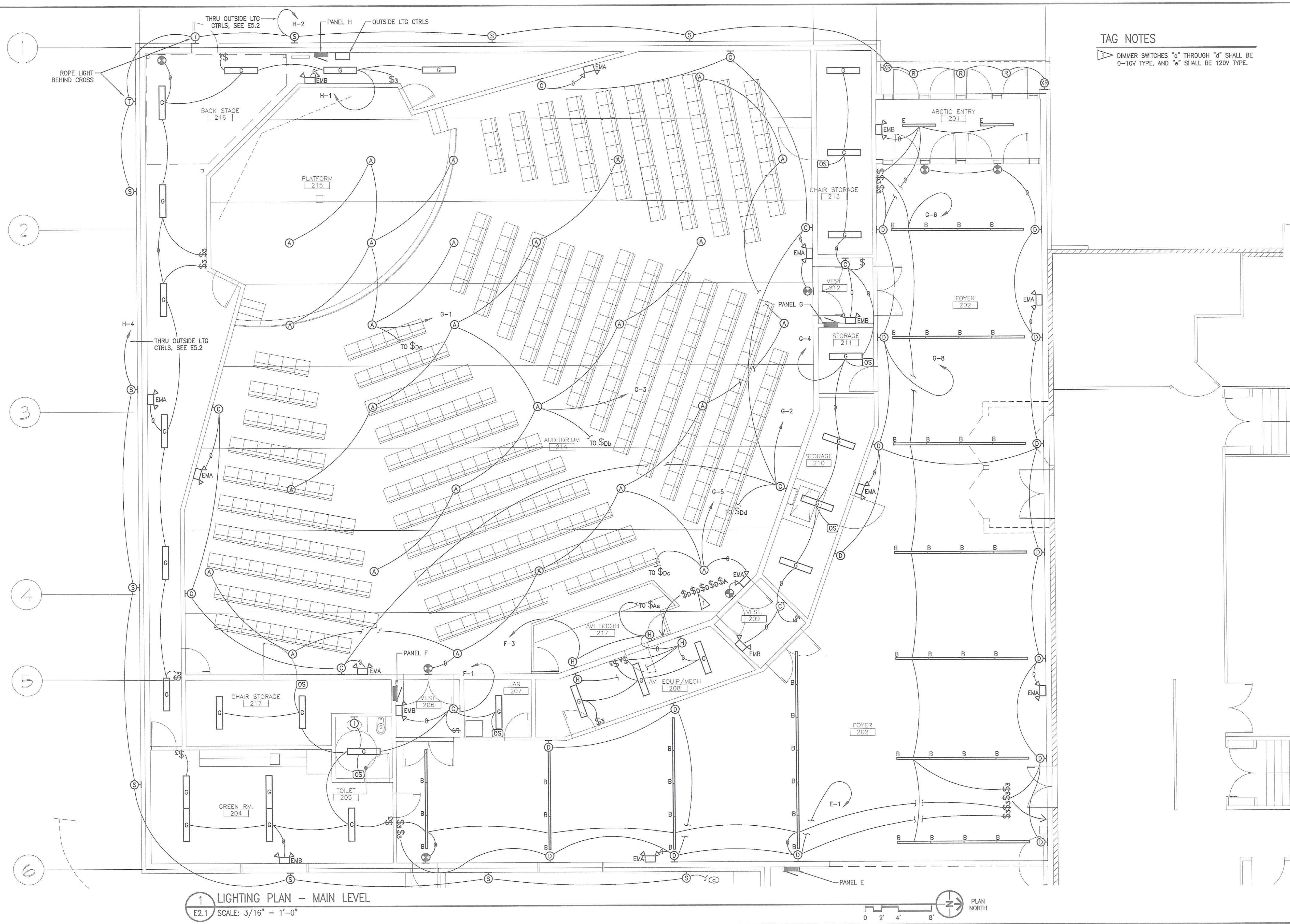
BY:
ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709

SHEET TITLE:
KEY PLANS,
STAGE WIRING
INFRASTRUCTURE

SHEET NO.:
E1.3

OF 16

5/10/2019 10:26 AM - D:\2016\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG



1 LIGHTING PLAN – MAIN LEVEL
E2.1 SCALE: 3/16" = 1'-0"

TAG NOTES

1. DIMMER SWITCHES "a" THROUGH "d" SHALL BE 0–10V TYPE, AND "e" SHALL BE 120V TYPE.

STATE OF ALASKA
49TH
EVAN D. ROBERTS
EE 9834
5/9/19
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.:	1841
DATE SIGNED:	5/9/19
REVISION:	
DESIGNED BY:	EDR
CHECKED BY:	EDR
FULL SCALE:	1 INCH

PROJECT:
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD, FAIRBANKS, ALASKA

BY: ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

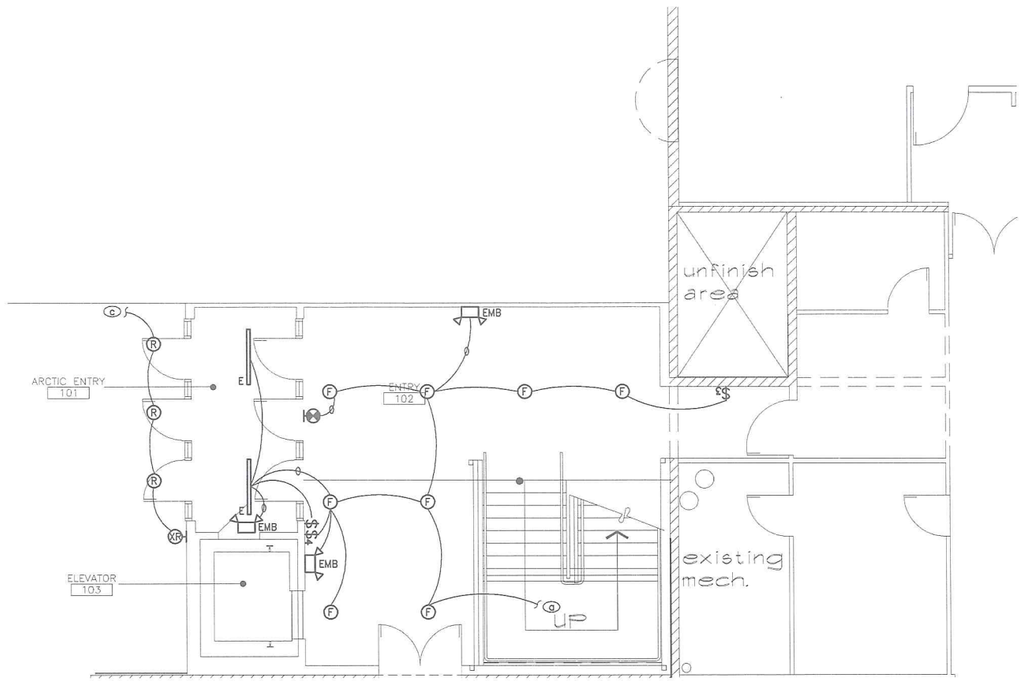
PREPARED FOR: DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

SHEET TITLE: LIGHTING PLAN MAIN LEVEL

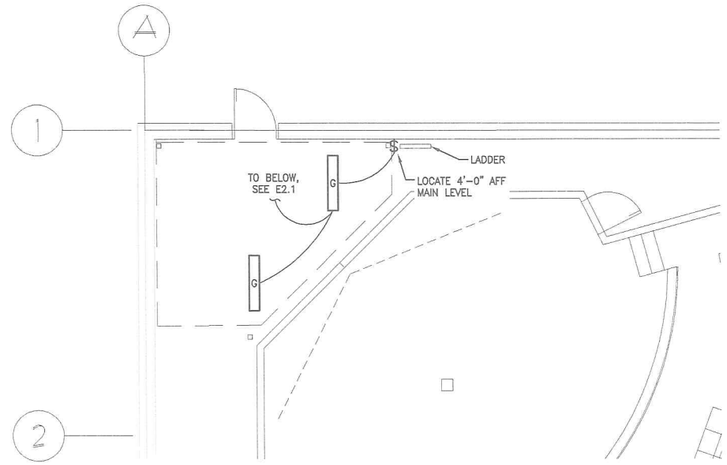
SHEET NO.: E2.1

OF 16

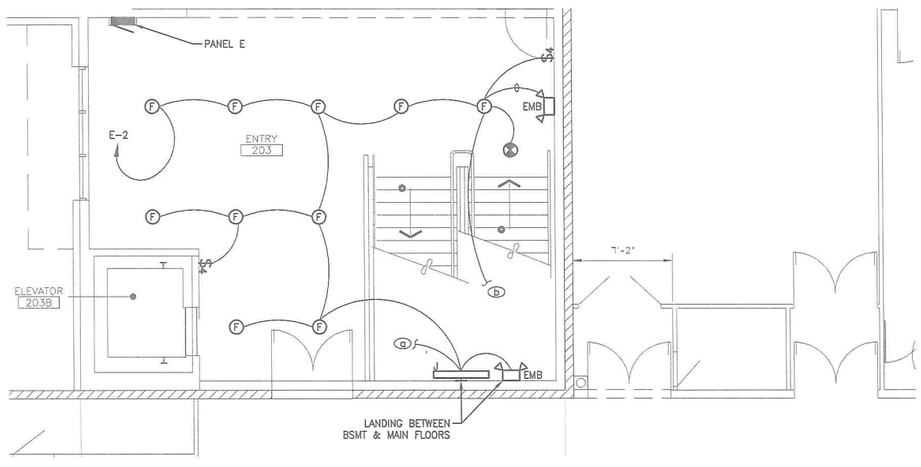
5/10/2019 10:26 AM : D:\2018\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG



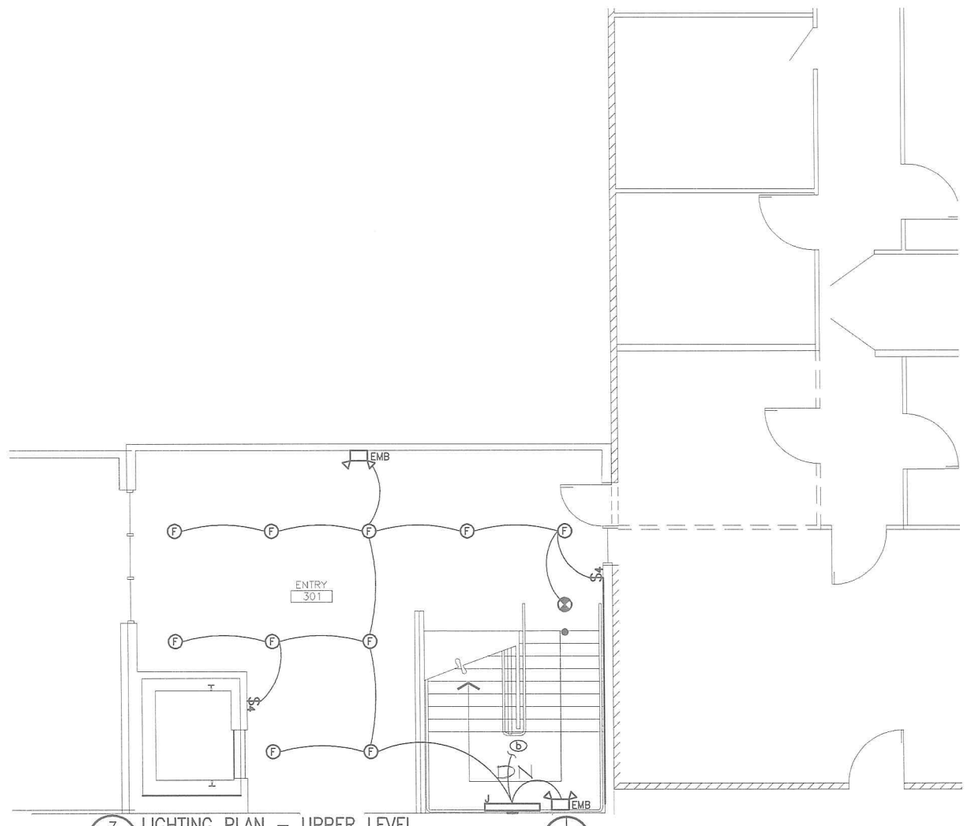
1 E2.2 LIGHTING PLAN – BASEMENT LEVEL
SCALE: 3/16" = 1'-0"
0 2' 4' 8' PLAN NORTH



1 E2.2 LIGHTING PLAN – MEZZANINE
SCALE: 3/16" = 1'-0"
0 2' 4' 8' PLAN NORTH



2 E2.2 LIGHTING PLAN – MAIN LEVEL
SCALE: 1/8" = 1'-0"
0 2' 4' 8' PLAN NORTH



3 E2.2 LIGHTING PLAN – UPPER LEVEL
SCALE: 3/16" = 1'-0"
0 2' 4' 8' PLAN NORTH

STATE OF ALASKA 49TH
EVAN D. ROBERTS
5/9/19
EE 8534
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.: 1841
DATE SIGNED: 5/9/19
REVISION:
DESIGNED BY: EDR
CHECKED BY: EDR
FULL SCALE: 1 INCH

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

PREPARED FOR:
DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

BY:
ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

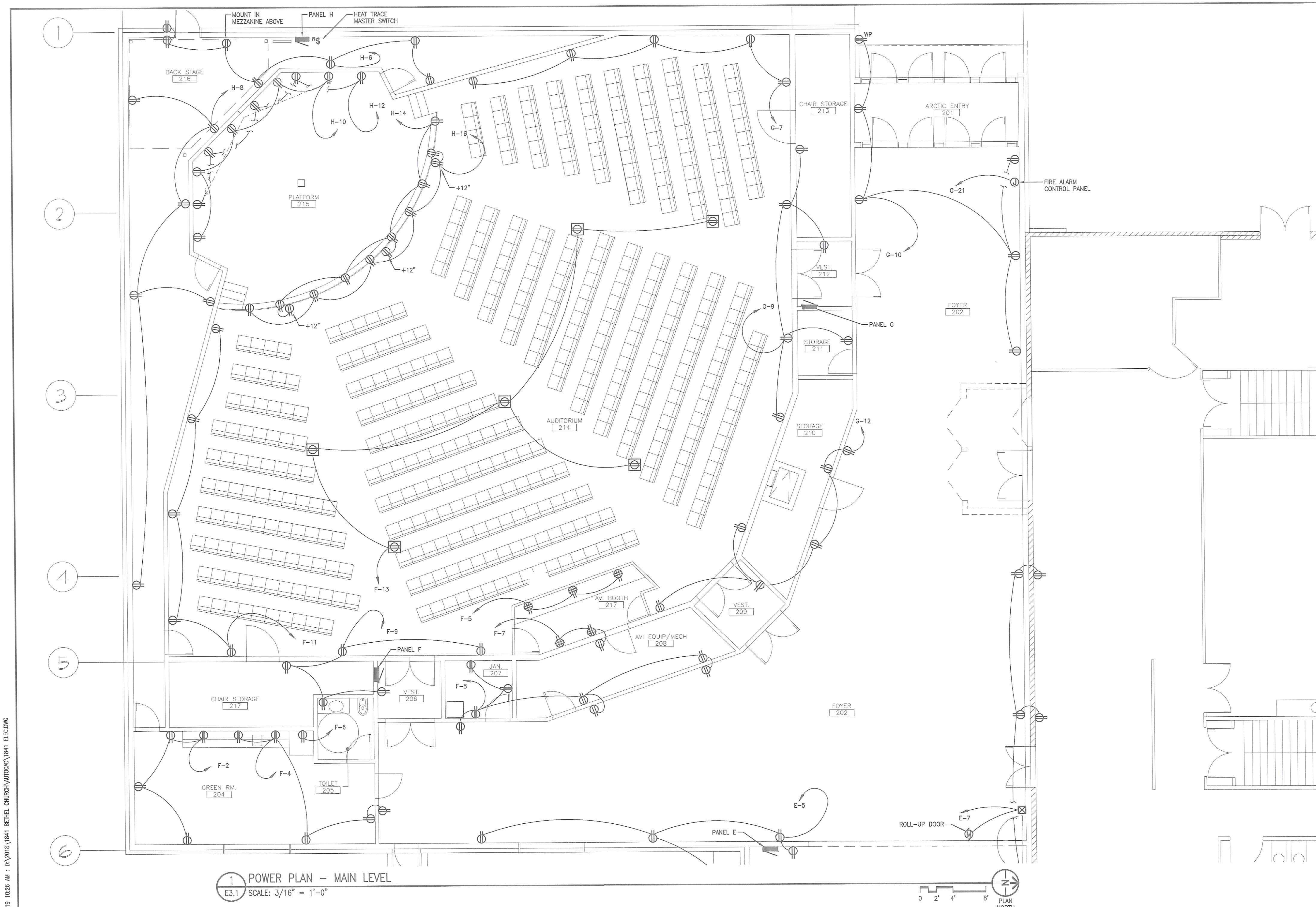
PROJECT:

SHEET TITLE:
LIGHTING PLAN
PARTIAL LEVELS

SHEET NO.:
E2.2

OF 16

5/10/2019 10:26 AM : D:\2016\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG



1 POWER PLAN – MAIN LEVEL
E3.1 SCALE: 3/16" = 1'-0"

EVAN D. ROBERTS 5/9/19 EE 8834 STATE OF ALASKA 49TH REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.: 1841
DATE SIGNED: 5/9/19
REVISION:
DESIGNED BY: EDR
CHECKED BY: EDR
FULL SCALE: 1 INCH

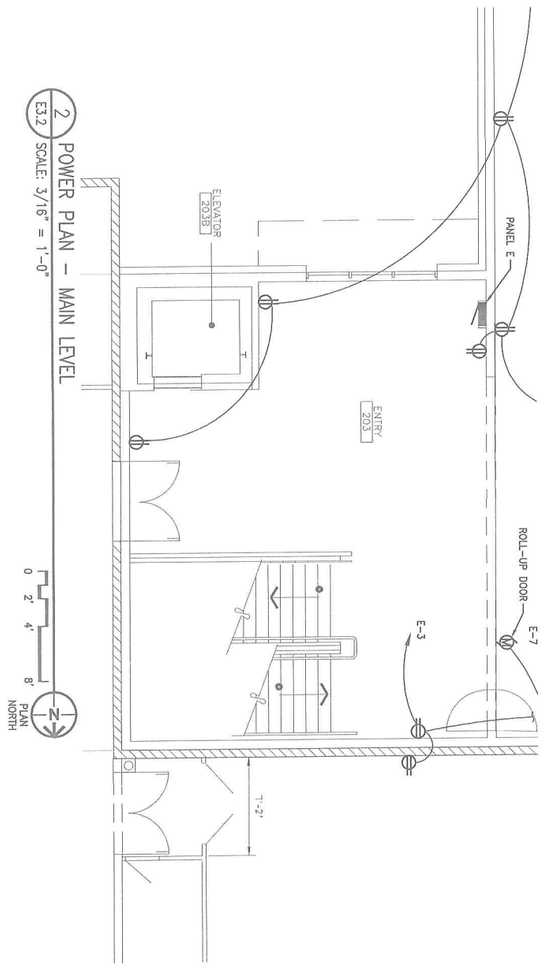
PROJECT:
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

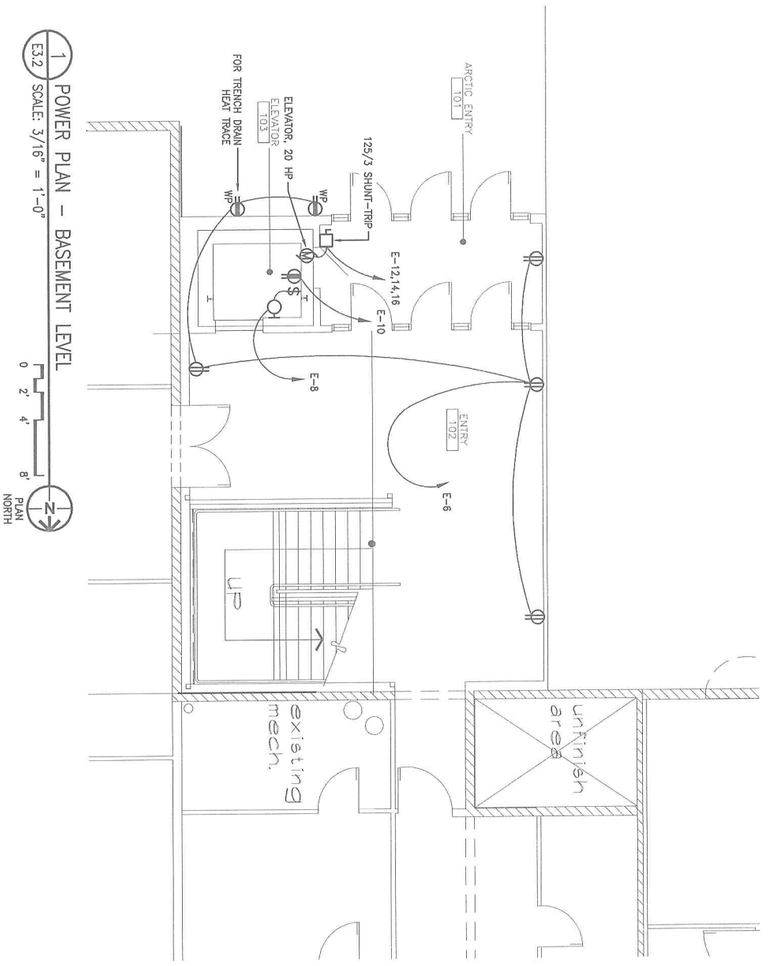
PREPARED FOR:
DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

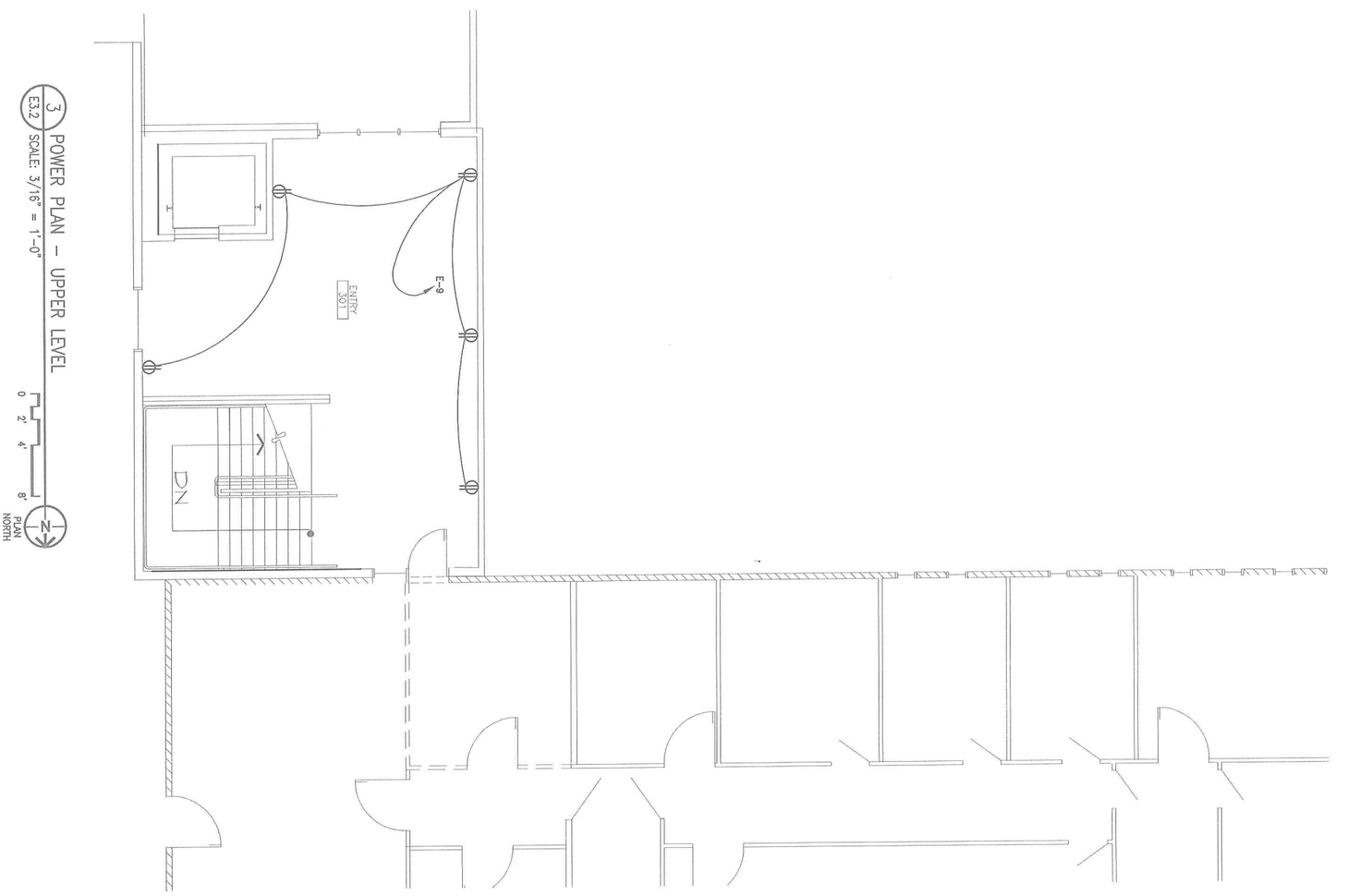
BY:
ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

SHEET TITLE:
POWER PLAN
MAIN LEVEL

SHEET NO.:
E3.1
OF 16





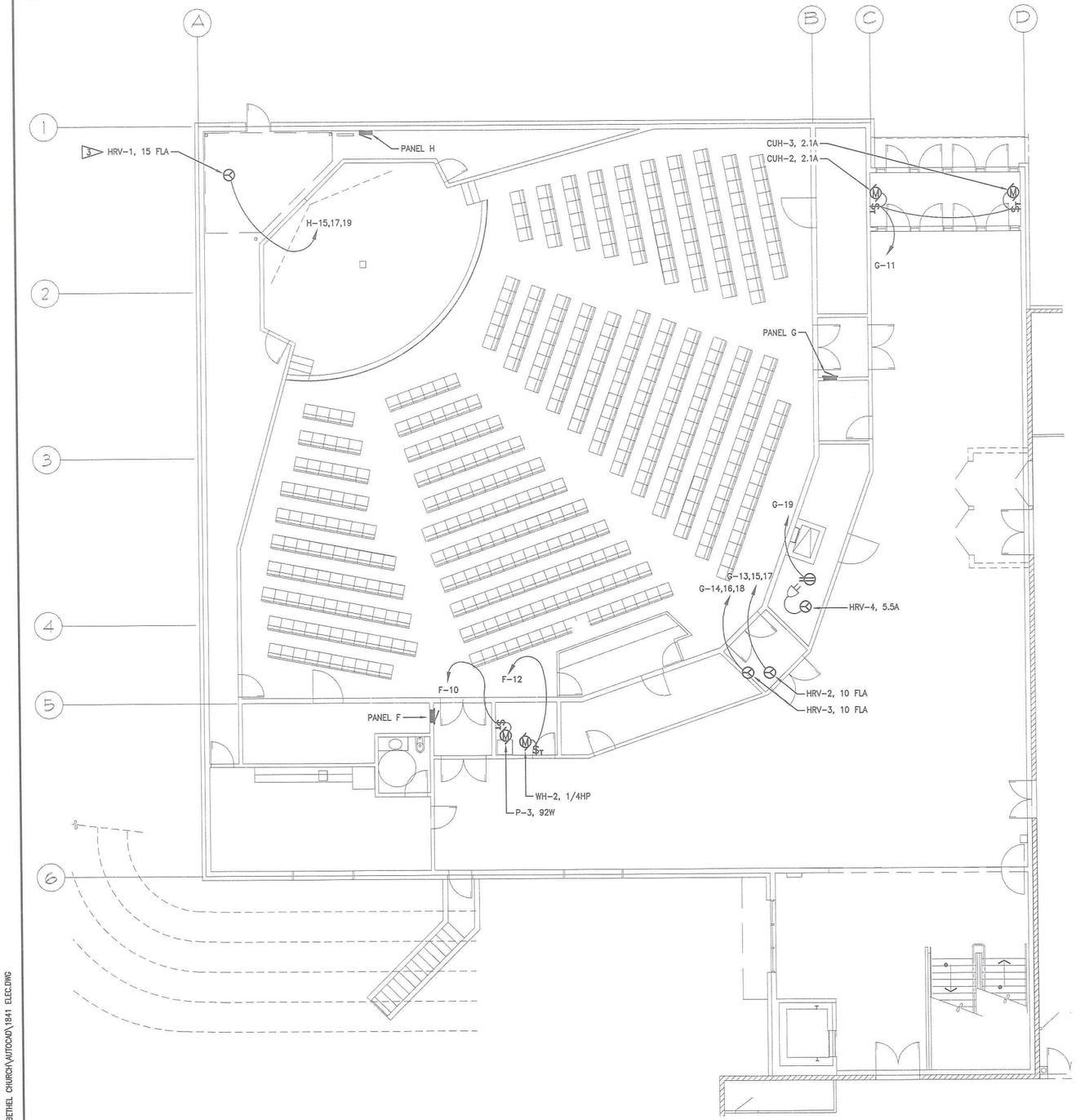


SHEET NO.: E3.2	SHEET TITLE: POWER PLAN PARTIAL LEVELS	PROJECT: *BETHEL BAPTIST CHURCH* **NEW AUDITORIUM ADDITION** *1310 FARMERS LOOP RD., FAIRBANKS, ALASKA*	PROJECT NO.: 1841 DATE SIGNED: 5/9/19 REVISION:
		PREPARED FOR: DAVID A WHITMORE ARCHITECT 535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701	BY: ROBERTS-KANEKO ENGINEERING, INC. 2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM
			DESIGNED BY: EDR CHECKED BY: EDR FULL SCALE: 1 INCH

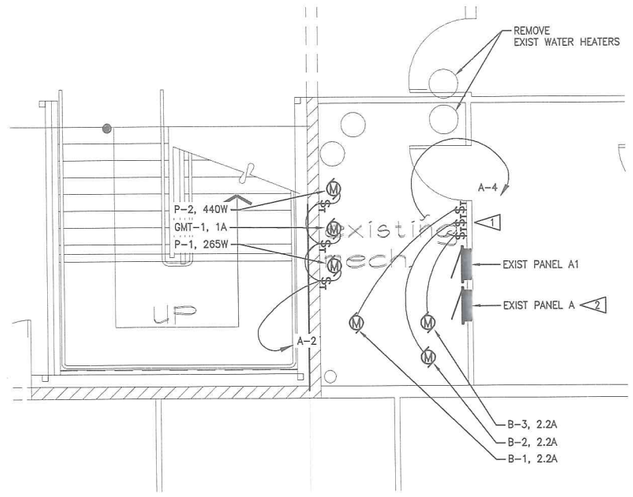
STATE OF ALASKA 49TH

TAG NOTES

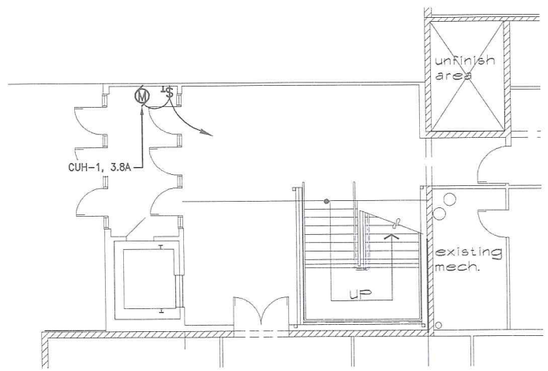
1. PROVIDE NEW BOILER MAINTENANCE SWITCHES ADJACENT TO DOOR. LABEL "BOILER B-1 EMER SHUTOFF SWITCH", AND SAME FOR B-2 AND B-3. RECIRCUIT BOILERS B-1 AND B-2 TO EXISTING 20A-1P CIRCUITS A-13 AND A-3 RESPECTIVELY.
2. REMOVE EXIST 30A-2P CIRCUIT BREAKER AT SPACE A-2,4 FOR DEMOLITION OF WATER HEATER, AND REPLACE WITH TWO NEW 20A-1P CIRCUIT BREAKERS, BRYANT TYPE BR120. UTILIZE NEW 20A-1P AT CIRCUIT A-4 FOR NEW BOILER B-3, AND A-2 FOR CIRC PUMPS.
3. HRV IS EQUIPPED WITH MANUFACTURE'S DISCONNECT SWITCH FOR SINGLE-POINT CONNECTION.



1 E3.3 POWER PLAN – MAIN FLOOR MECHANICAL
SCALE: 1/8" = 1'-0"
0 4' 8' 16' PLAN NORTH



1 E3.3 POWER PLAN – MECH RM MECHANICAL
SCALE: 1/4" = 1'-0"
0 2' 4' 8' PLAN NORTH



1 E3.3 POWER PLAN – BASEMENT MECHANICAL
SCALE: 1/8" = 1'-0"
0 4' 8' 16' PLAN NORTH

STATE OF ALASKA
49 TH
EVAN D. ROBERTS
5/9/19
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.:	1841
DATE SIGNED:	5/9/19
REVISION:	
DESIGNED BY:	EDR
CHECKED BY:	EDR
FULL SCALE:	1 INCH

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

BY:
ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

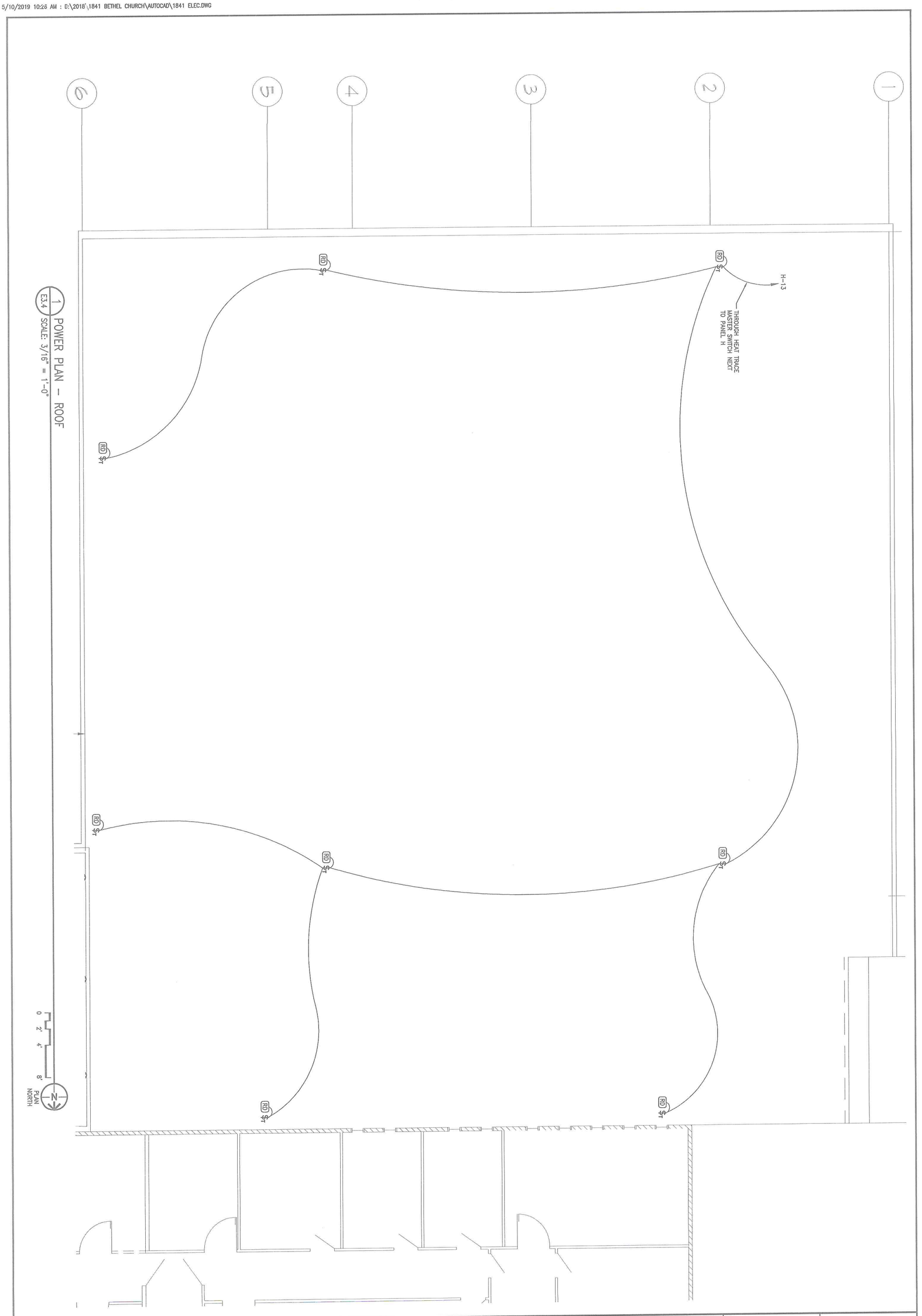
PREPARED FOR:
DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

PROJECT:

SHEET TITLE:
POWER PLAN
MECHANICAL AREAS

SHEET NO.:
E3.3
OF 16

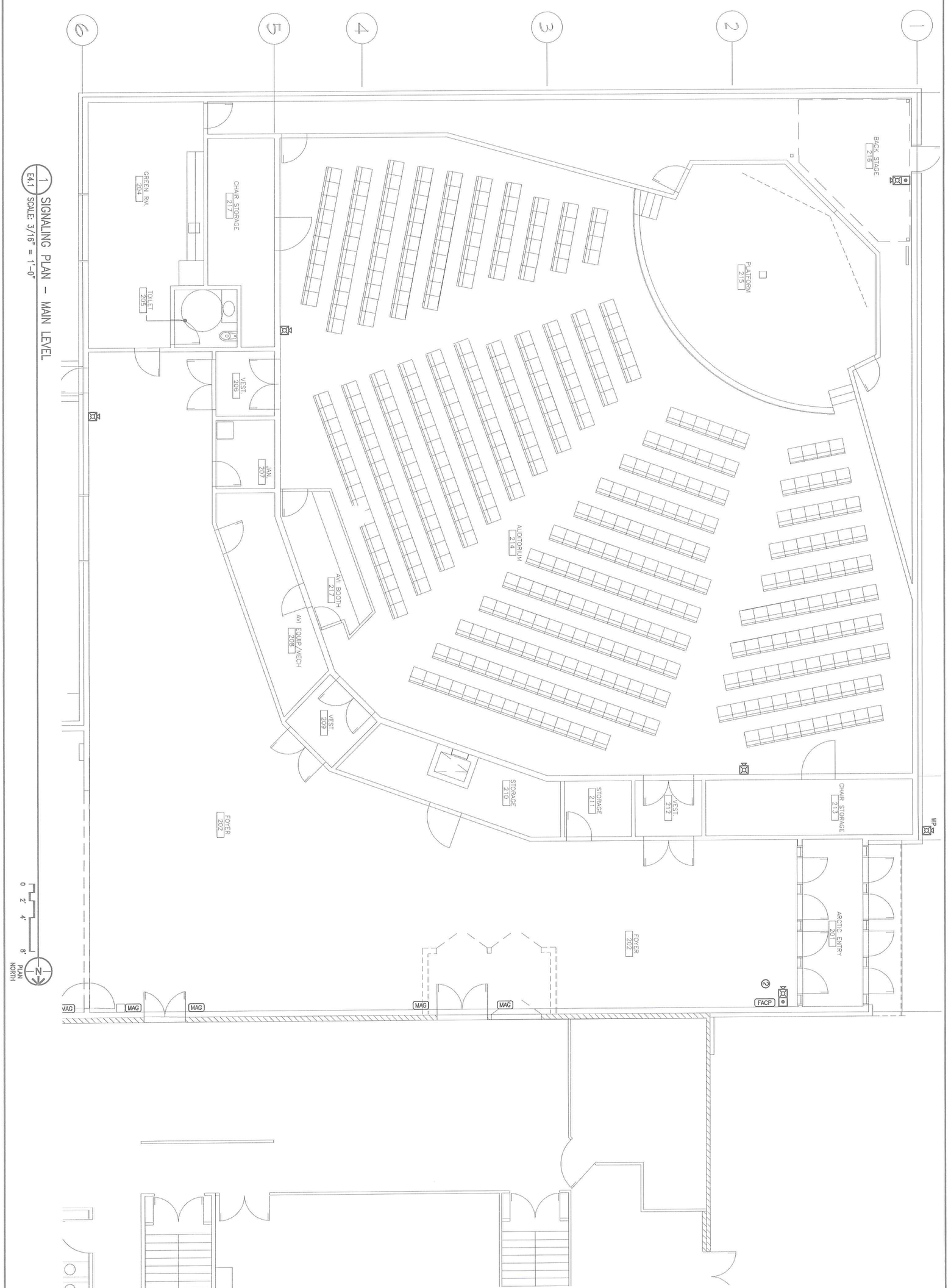
5/10/2019 10:26 AM : G:\2018\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG



SHEET NO.: E3.4	SHEET TITLE: POWER PLAN ROOF	PROJECT: BETHEL BAPTIST CHURCH NEW AUDITORIUM ADDITION 1310 FARMERS LOOP RD., FAIRBANKS, ALASKA	PROJECT NO.: 1841 DATE SIGNED: 5/9/19 REVISION: DESIGNED BY: EDR CHECKED BY: EDR FULL SCALE: 1 INCH
		PREPARED FOR: DAVID A WHITMORE ARCHITECT 535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701	BY: ROBERTS-KANEKO ENGINEERING, INC. 2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

STATE OF ALASKA 49TH

5/10/2019 10:26 AM : G:\2018\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG



SHEET NO.: E4.1

SHEET TITLE: SIGNALING PLAN MAIN LEVEL

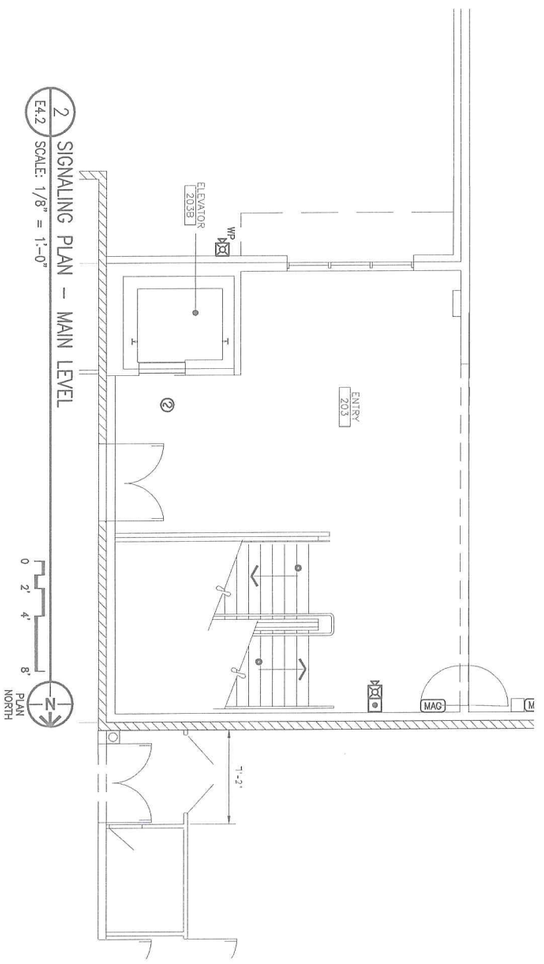
PROJECT: *BETHEL BAPTIST CHURCH*
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

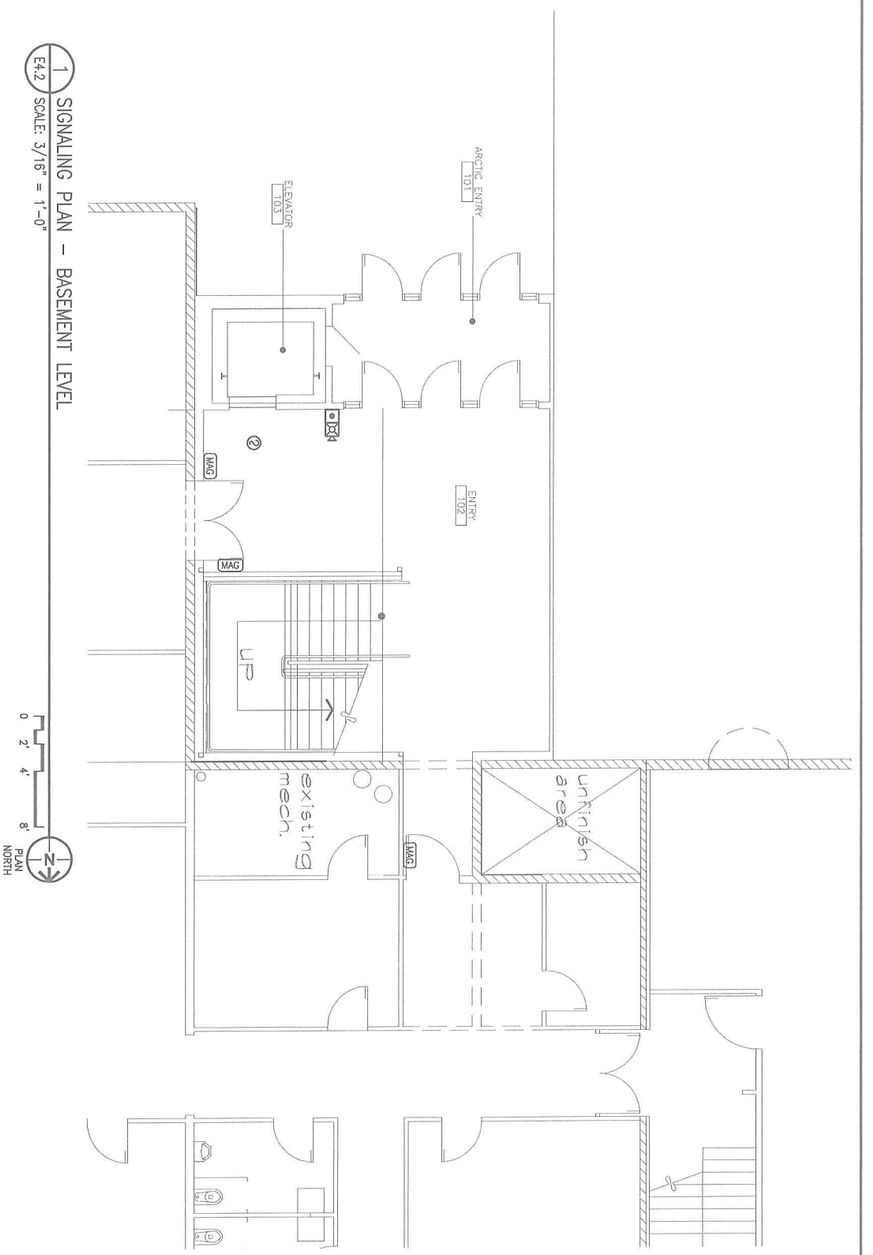
PREPARED FOR: DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

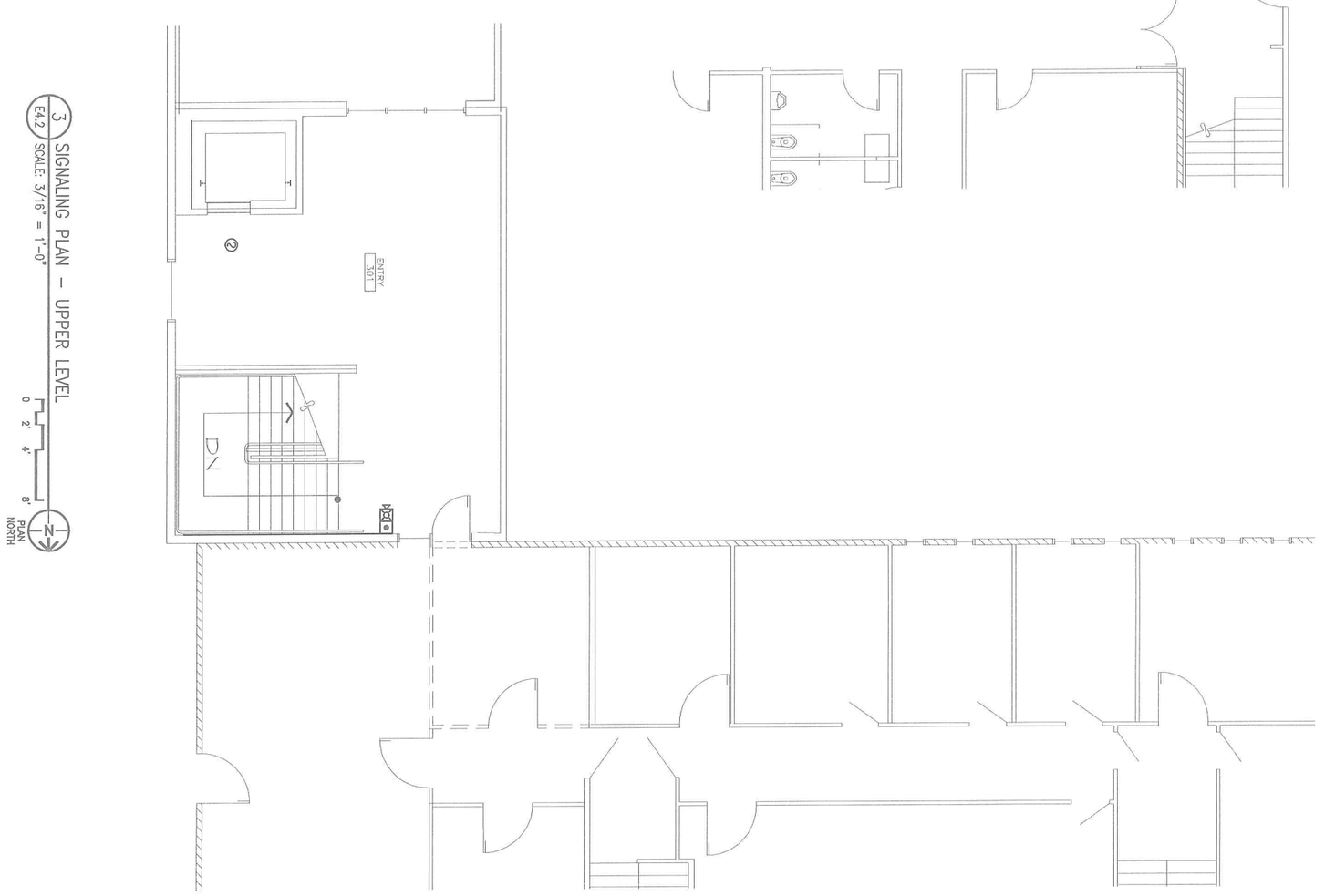
BY: ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

PROJECT NO.:	1841
DATE SIGNED:	5/9/19
REVISION:	
DESIGNED BY:	EDR
CHECKED BY:	EDR
FULL SCALE:	1 INCH

STATE OF ALASKA 49TH

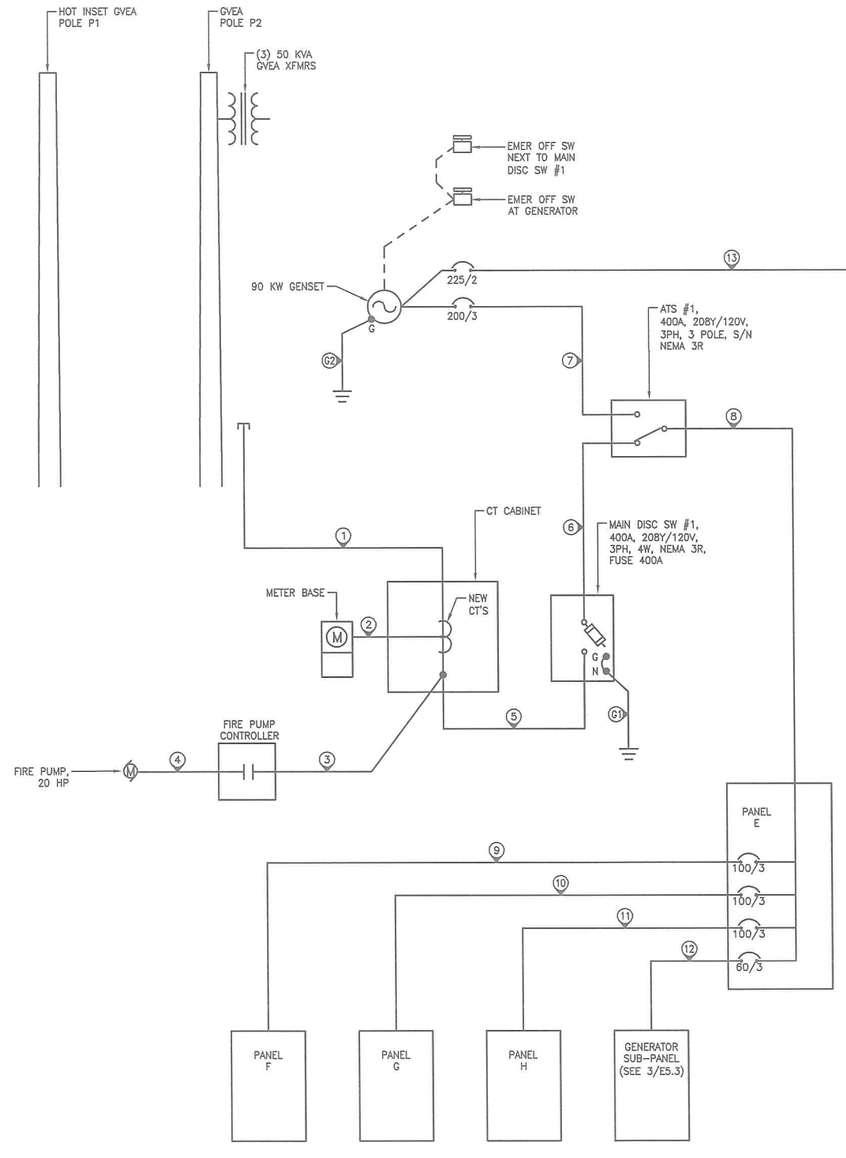


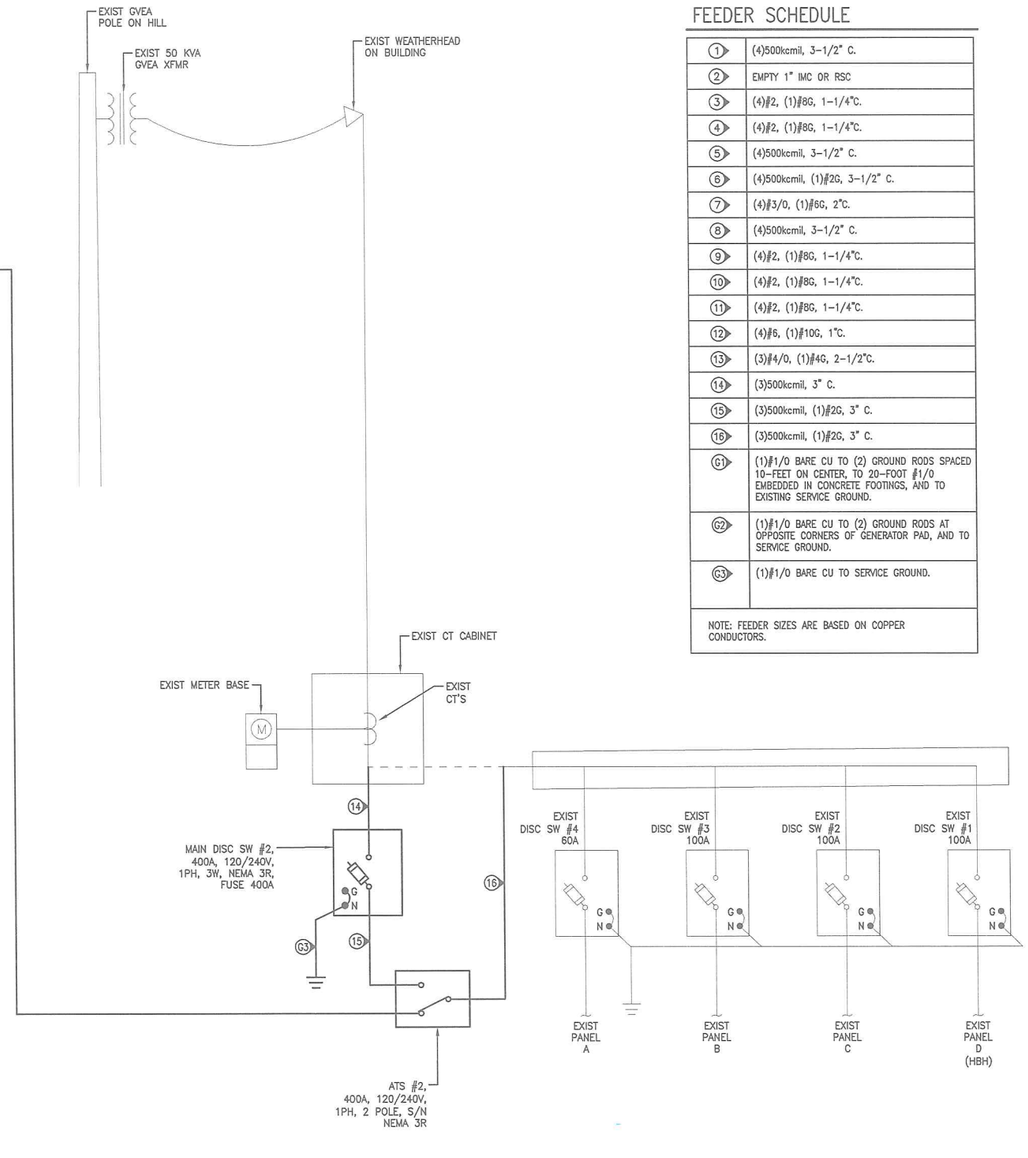




SHEET NO.: E4.2	SHEET TITLE: SIGNALING PLAN PARTIAL LEVELS	PROJECT: *BETHEL BAPTIST CHURCH* **NEW AUDITORIUM ADDITION** *1310 FARMERS LOOP RD., FAIRBANKS, ALASKA*	PROJECT NO.: 1841 DATE SIGNED: 5/9/19 REVISION: DESIGNED BY: EDR CHECKED BY: EDR FULL SCALE: 1 INCH
		PREPARED FOR: DAVID A WHITMORE ARCHITECT 535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701	BY: ROBERTS-KANEKO ENGINEERING, INC. 2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

STATE OF ALASKA 49TH EDWARD D. ROBERTS 12544 REGISTERED PROFESSIONAL ENGINEER





GENERAL NOTES

A. HEAVY LINES INDICATE NEW EQUIPMENT, AND LIGHT LINES INDICATE EXISTING. EQUIPMENT IS NEW UNLESS NOTED AS EXISTING.

FEEDER SCHEDULE

1	(4)500kcmil, 3-1/2" C.
2	EMPTY 1" IMC OR RSC
3	(4)#2, (1)#8G, 1-1/4"C.
4	(4)#2, (1)#8G, 1-1/4"C.
5	(4)500kcmil, 3-1/2" C.
6	(4)500kcmil, (1)#2G, 3-1/2" C.
7	(4)#3/0, (1)#6G, 2"C.
8	(4)500kcmil, 3-1/2" C.
9	(4)#2, (1)#8G, 1-1/4"C.
10	(4)#2, (1)#8G, 1-1/4"C.
11	(4)#2, (1)#8G, 1-1/4"C.
12	(4)#6, (1)#10G, 1"C.
13	(3)#4/0, (1)#4G, 2-1/2"C.
14	(3)500kcmil, 3" C.
15	(3)500kcmil, (1)#2G, 3" C.
16	(3)500kcmil, (1)#2G, 3" C.
G1	(1)#1/0 BARE CU TO (2) GROUND RODS SPACED 10-FEET ON CENTER, TO 20-FOOT #1/0 EMBEDDED IN CONCRETE FOOTINGS, AND TO EXISTING SERVICE GROUND.
G2	(1)#1/0 BARE CU TO (2) GROUND RODS AT OPPOSITE CORNERS OF GENERATOR PAD, AND TO SERVICE GROUND.
G3	(1)#1/0 BARE CU TO SERVICE GROUND.

NOTE: FEEDER SIZES ARE BASED ON COPPER CONDUCTORS.

1 E5.1 POWER ONE LINE DIAGRAM
NO SCALE

STATE OF ALASKA 49 TH
EVAN D. ROBERTS
5/9/19
SEE BASIL | GRAVES
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.: 1841
DATE SIGNED: 5/9/19
REVISION:
DESIGNED BY: EDR
CHECKED BY: EDR
FULL SCALE: 1 — 1 INCH

BY: ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

PROJECT:
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

PREPARED FOR:
DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

SHEET TITLE:
POWER ONE LINE DIAGRAM

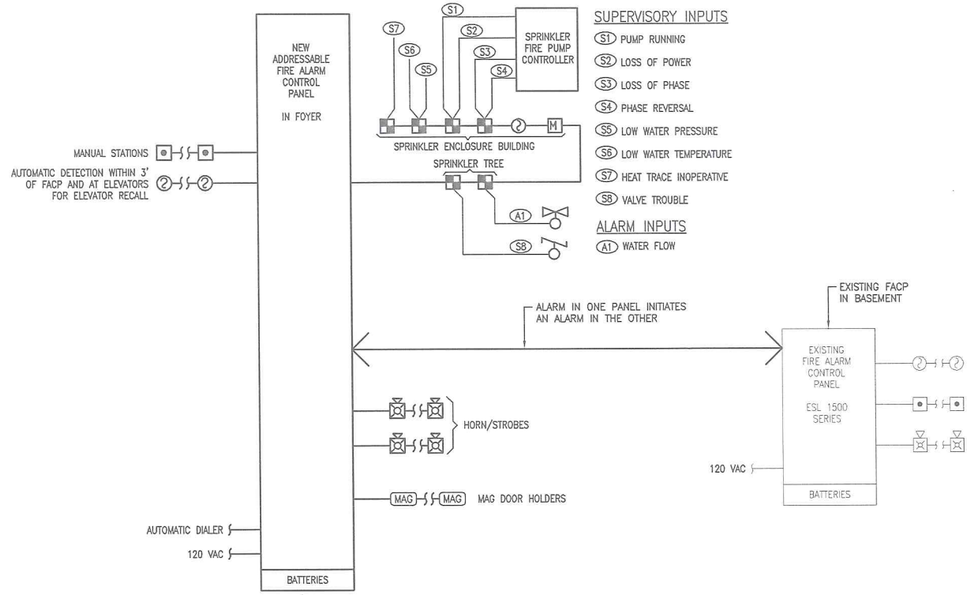
SHEET NO.:
E5.1
OF 16

5/10/2019 10:26 AM : F:\2016\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG

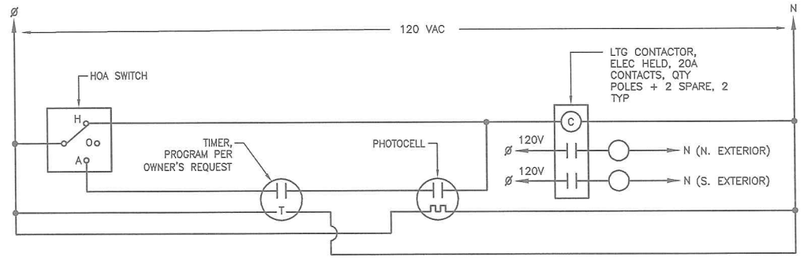
FIRE ALARM SYSTEM INPUT/OUTPUT MATRIX			
	OUTPUT ACTION		
INPUT DEVICE	1	2	3
DUCT SMOKE DETECTOR		X	X
AREA SMOKE DETECTOR	X	X	X
MANUAL PULL STATION	X	X	X
SPRINKLER WATERFLOW	X	X	X
WATER CONTROL VALVE TAMPER		X	
MECH RM LOW TEMPERATURE		X	
OUTPUT ACTION NUMBER: 1. SOUND GENERAL BUILDING ALARM. 2. NOTIFY FIRE DEPARTMENT. 3. SHUT DOWN AIR HANDLER.			

FIRE ALARM NOTES

1. LOCATION OF SPRINKLER TREE IS IN THE FIRE PUMP ENCLOSURE.
2. PROVIDE LOW TEMPERATURE ALARM IN THE FIRE PUMP ENCLOSURE NEAR SPRINKLER RISER SET AT 42 DEGREES F. ACTIVATION OF THE LOW TEMPERATURE ALARM SHALL RESULT IN A SUPERVISORY SIGNAL AT THE PANEL. SIGNAL SHALL BE TRANSMITTED TO THE MONITORING FACILITY INDEPENDENTLY OF OTHER SUPERVISORY SIGNALS.
3. EITHER EXIT SIGNS WILL FLASH WHEN THE FIRE ALARM SYSTEM IS ACTIVATED, OR A FIRE ALARM STROBE SHALL BE MOUNTED WITHIN 5 FEET OF THE EXIT SIGN.
4. COORDINATE WITH THE SPRINKLER CONTRACTOR TO VERIFY THE NUMBER OF FLOW SWITCHES AND TAMPER SWITCHES REQUIRED. EACH SWITCH/VALVE SHALL REPORT TO THE FIRE ALARM PANEL INDEPENDENTLY.



1 / E5.2 FIRE ALARM SYSTEM ONE LINE DIAGRAM
NO SCALE



2 / E5.2 OUTSIDE LIGHTING CONTROL WIRING DIAGRAM
NO SCALE

STATE OF ALASKA 49TH EVAN D. ROBERTS 5/9/19 REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.: 1841
DATE SIGNED: 5/9/19
REVISION:
DESIGNED BY: EDR
CHECKED BY: EDR
FULL SCALE: 1 INCH

BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

PROJECT:

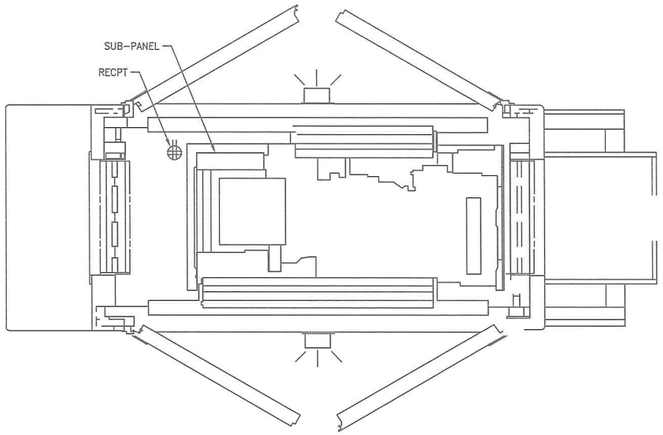
PREPARED FOR:
DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

BY:
ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

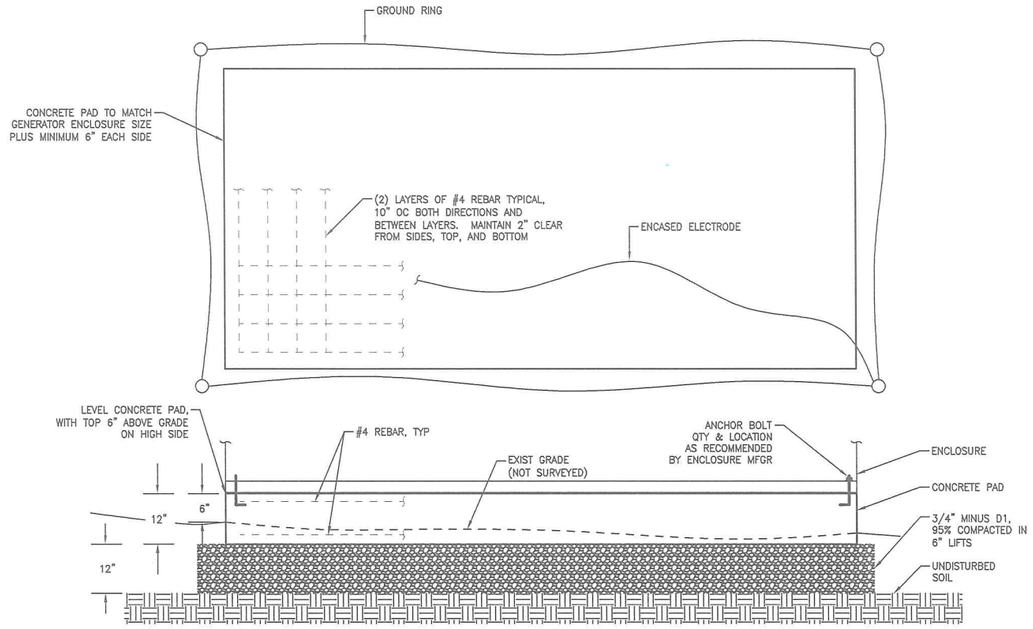
SHEET TITLE: DIAGRAMS & DETAILS

SHEET NO.:
E5.2
OF 16

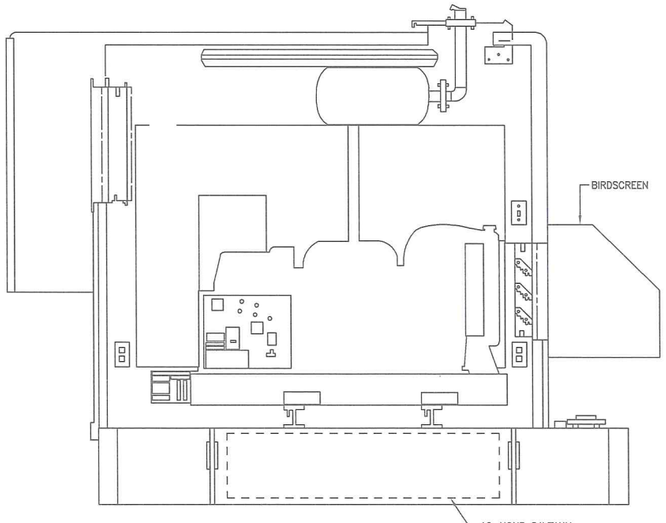
5/10/2019 10:26 AM : I:\2018\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG



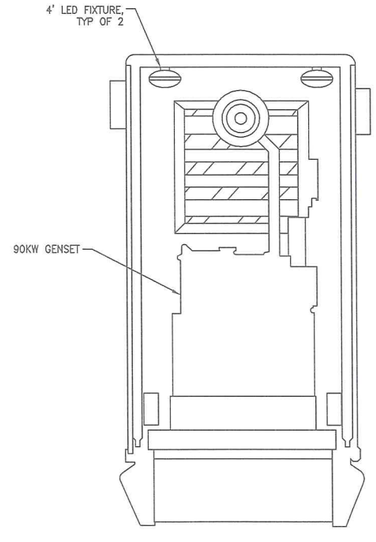
PLAN VIEW



1 E5.3 GENERATOR ENCLOSURE CONCRETE PAD DETAIL
NO SCALE

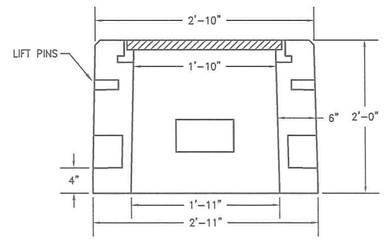


SIDE VIEW

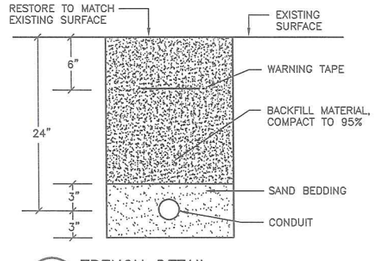


END VIEW

3 E5.3 ARCTIC (SNUG-FIT) GENERATOR ENCLOSURE
NO SCALE



2 E5.3 PULL BOX DETAIL
NO SCALE



4 E5.3 TRENCH DETAIL
NO SCALE

STATE OF ALASKA
49 TH
EVAN D ROBERTS
5/9/19
EE 8854
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.: 1841
DATE SIGNED: 5/9/19
REVISION:
DESIGNED BY: EDR
CHECKED BY: EDR
FULL SCALE: 1" — 1 INCH

PROJECT:
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

PREPARED FOR:
DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

BY:
ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

SHEET TITLE:
GENERATOR DETAILS

SHEET NO.:
E5.3
OF 16

5/10/2019 10:26 AM : E:\2019\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG

PANEL E

BUS RATING: 400A | A.I.C. RATING: 10 kAIC
MAIN TYPE: MLO | ENCLOSURE: NEMA 1
VOLTAGE: 208Y/120V, 3Ø, 4W | MOUNTING: SURFACE

DESCRIPTION	CKT BKR	WIRE G	WIRE Ø	LT	LOAD	CKT #	CONNECTED VA ØA	ØB	ØC	CKT #	DESCRIPTION	CKT BKR	WIRE G	WIRE Ø	LT	LOAD
LTG – FOYER SOUTH	20/1	12	12	A	336	1	1068			2	LTG – STAIRS, BSMT ENTRY	20/1	12	12	A	732
RECPT – FOYER	20/1	12	12	B	1080	3		1080		4	SPARE	20/1				
RECPT – ENTRY, FOYER	20/1	12	12	B	1080	5			2160	6	RECPT – BSMT ENTRY	20/1	12	12	B	1080
ROLL–UP DOOR	20/1	12	12	C	600	7	700			8	ELEVATOR PIT LIGHT	20/1	12	12	A	100
RECPT – 2ND FLOOR ENTRY	20/1	12	12	B	900	9		1080		10	ELEVATOR PIT RECPT	20/1	12	12	B	180
SPARE	20/1					11			7128	12				4	D	7128
SPARE	20/1					13	7128			14	ELEVATOR, 20 HP	125/3	B	4	D	7128
SPARE	20/1					15		7128		16				4	D	7128
						17				18						
						19				20						
						21				22						
						23				24						
						25				26						
						27				28						
						29				30						
						31				32				2		
						33				34	PANEL F	100/3	B	2		
						35				36				2		
			2			37				38				2		
PANEL G	100/3	B	2			39				40	PANEL H	100/3	B	2		
			2			41				42				2		

PANEL NOTES:

	ØA	ØB	ØC
CONNECTED KVA:	8896	9288	9288
CONNECTED AMPS:	74.1	77.4	77.4
CALCULATED KVA:	33.1 KVA		
CALCULATED AMPS:	92.0 A		

LT	LOAD TYPE	CONN	FACTOR	CALC
A	LIGHTING	1.2	125%	1.5
B	RECEPTACLES	4.3	50%>10k	4.3
C	MOTORS	0.6	100%	0.6
D	LARGEST MOTOR	21.4	125%	26.7
E	GENERAL LOADS		100%	

PANEL G

BUS RATING: 100A | A.I.C. RATING: 10 kAIC
MAIN TYPE: MLO | ENCLOSURE: NEMA 1
VOLTAGE: 208Y/120V, 3Ø, 4W | MOUNTING: FLUSH

DESCRIPTION	CKT BKR	WIRE G	WIRE Ø	LT	LOAD	CKT #	CONNECTED VA ØA	ØB	ØC	CKT #	DESCRIPTION	CKT BKR	WIRE G	WIRE Ø	LT	LOAD
LTG – AUDITORIUM STAGE	20/1	12	12	A	616	1	882			2	LTG – AUDITORIUM WALL	20/1	12	12	A	266
LTG – AUDITORIUM CENTER	20/1	12	12	A	880	3		1285		4	LTG – STORAGE	20/1	12	12	A	405
LTG – AUDITORIUM BACK	20/1	12	12	A	880	5			1468	6	LTG – MAIN FOYER	20/1	12	12	A	588
RECPT – AUDITORIUM	20/1	12	12	B	900	7	1250			8	LTG – FOYER WALL, ENTRY	20/1	12	12	A	350
RECPT – AUDITORIUM	20/1	12	12	B	1080	9		2160		10	RECPT – FOYER	20/1	12	12	B	1080
CUH–2, 3 (2.1A EACH)	20/1	12	12	C	504	11			1584	12	RECPT – FOYER, AUDITORIUM	20/1	12	12	B	1080
			12	C	1200	13	2400			14				12	C	1200
HRV–2, 10 FLA	15/3	12	12	C	1200	15		2400		16	HRV–3, 10 FLA	15/3	12	12	C	1200
			12	C	1200	17			2400	18				12	C	1200
HRV–4, 5.5A	20/1	12	12	C	660	19	660			20	SPARE	20/1				
FIRE ALARM CONTROL PANEL	20/1	12	12	E	200	21		200		22	SPARE	20/1				
						23				24	SPARE	20/1				
						25				26						
						27				28						
						29				30						
						31				32						
						33				34						
						35				36						
						37				38						
						39				40						
						41				42						

PANEL NOTES:

	ØA	ØB	ØC
CONNECTED KVA:	5192	6045	5452
CONNECTED AMPS:	43.3	50.4	45.4
CALCULATED KVA:	17.7 KVA		
CALCULATED AMPS:	49.1 A		

LT	LOAD TYPE	CONN	FACTOR	CALC
A	LIGHTING	4.0	125%	5.0
B	RECEPTACLES	4.1	50%>10k	4.1
C	MOTORS	8.4	100%	8.4
D	LARGEST MOTOR		125%	
E	GENERAL LOADS	0.2	100%	0.2

PANEL F

BUS RATING: 100A | A.I.C. RATING: 10 kAIC
MAIN TYPE: MLO | ENCLOSURE: NEMA 1
VOLTAGE: 208Y/120V, 3Ø, 4W | MOUNTING: FLUSH

DESCRIPTION	CKT BKR	WIRE G	WIRE Ø	LT	LOAD	CKT #	CONNECTED VA ØA	ØB	ØC	CKT #	DESCRIPTION	CKT BKR	WIRE G	WIRE Ø	LT	LOAD
LTG – STORAGE, GREEN RM	20/1	12	12	A	461	1	1181			2	RECPT – GREEN RM	20/1	12	12	B	720
LTG – AVI BOOTH	20/1	12	12	A	197	3		917		4	RECPT – GREEN RM	20/1	12	12	B	720
RECPT – AVI BOOTH	20/1	12	12	B	1080	5			1760	6	REFRIGERATOR (NOTE 1)	* 20/1	12	12	B	680
RECPT – AVI BOOTH	20/1	12	12	B	900	7	1980			8	RECPT – FOYER, AVI STORAGE	20/1	12	12	B	1080
RECPT – AUDITORIUM	20/1	12	12	B	900	9		992		10	P–3 (92W)	20/1	12	12	C	92
RECPT – AUDITORIUM	20/1	12	12	B	900	11			1584	12	WH–2, 1/4 HP	20/1	12	12	C	684
RECPT – FLOOR	20/1	12	12	B	1080	13	1080			14						
SPARE	20/1					15				16						
SPARE	20/1					17				18						
SPARE	20/1					19				20						
						21				22						
						23				24						
						25				26						
						27				28						
						29				30						

PANEL NOTES:
1. '*' INDICATES 5mA GFI BREAKER.

	ØA	ØB	ØC
CONNECTED KVA:	4241	1909	3344
CONNECTED AMPS:	35.3	15.9	27.9
CALCULATED KVA:	9.7 KVA		
CALCULATED AMPS:	26.8 A		

LT	LOAD TYPE	CONN	FACTOR	CALC
A	LIGHTING	0.7	125%	0.8
B	RECEPTACLES	8.1	50%>10k	8.1
C	MOTORS	0.8	100%	0.8
D	LARGEST MOTOR		125%	
E	GENERAL LOADS		100%	

PANEL H

BUS RATING: 100A | A.I.C. RATING: 10 kAIC
MAIN TYPE: MLO | ENCLOSURE: NEMA 1
VOLTAGE: 208Y/120V, 3Ø, 4W | MOUNTING: SURFACE

DESCRIPTION	CKT BKR	WIRE G	WIRE Ø	LT	LOAD	CKT #	CONNECTED VA ØA	ØB	ØC	CKT #	DESCRIPTION	CKT BKR	WIRE G	WIRE Ø	LT	LOAD
LTG – BACK STAGE	20/1	12	12	A	423	1	686			2	LTG – EXTERIOR WEST	20/1	12	12	A	263
STAGE LTG – GUTTER	20/1	12	12	A	600	3		867		4	LTG – EXTERIOR EAST	20/1	12	12	A	267
STAGE LTG – CEILING	20/1	12	12	A	600	5			1860	6	RECPT – BACK STAGE	20/1	12	12	B	1260
STAGE LTG – CEILING	20/1	12	12	A	600	7	1680			8	RECPT – BACK STAGE	20/1	12	12	B	1080
STAGE LTG – CEILING	20/1	12	12	A	600	9		1500		10	RECPT – REAR PLATFORM	20/1	12	12	B	900
STAGE LTG – CEILING	20/1	12	12	A	600	11			1500	12	RECPT – REAR PLATFORM	20/1	12	12	B	900
HEAT TRACE – ROOF (NOTE 1)	** 20/1	12	12	E	500	13	1580			14	RECPT – FRONT PLATFORM	20/1	12	12	B	1080
			10	D	1200	15		2280		16	RECPT – REAR PLATFORM	20/1	12	12	B	1080
HRV–1, 15 FLA	25/3	10	10	D	1200	17			1200	18	SPARE	20/1				
			10	D	1200	19	1200			20	SPARE	20/1				
						21				22	SPARE	20/1				
						23				24						
						25				26						
						27				28						
						29				30						
						31				32						
						33				34						
						35				36						
						37				38						
						39				40						
						41				42						

PANEL NOTES:
1. '**' INDICATES 30 mA EQUIPMENT GFI CIRCUIT BREAKER.

	ØA	ØB	ØC
CONNECTED KVA:	5146	4647	4560
CONNECTED AMPS:	42.9	38.7	38.0
CALCULATED KVA:	16.2 KVA		
CALCULATED AMPS:	45.1 A		

LT	LOAD TYPE	CONN	FACTOR	CALC
A	LIGHTING	4.0	125%	4.9
B	RECEPTACLES	6.3	50%>10k	6.3
C	MOTORS		100%	
D	LARGEST MOTOR	3.6	125%	4.5
E	GENERAL LOADS	0.5	100%	0.5

GENERATOR SUB–PANEL

BUS RATING: 60A | A.I.C. RATING: 10 kAIC
MAIN TYPE: 60/3 MCB | ENCLOSURE: NEMA 3R
VOLTAGE: 208Y/120V, 3Ø, 4W | MOUNTING: SURFACE

DESCRIPTION	CKT BKR	WIRE G	WIRE Ø	LT	LOAD	CKT #	CONNECTED VA ØA	ØB	ØC	CKT #	DESCRIPTION	CKT BKR	WIRE G	WIRE Ø	LT	LOAD
DOUBLE DUPLEX RECPT	20/1	12	12	B	360	1	1360			2	CIRCULATING HEATER	20/2	12	2	E	1000
BATTERY CHARGER	20/1	12	12	E	600	3		1600		4				12	E	1000
BATTERY BLANKET	20/1	12	12	E	600	5			600	6	SPARE	20/1				
						7				8	SPARE	20/1				
						9				10	SPARE	20/1				
						11				12						
						13				14						
						15				16						
						17				18						

PANEL NOTES:
1. VERIFY WITH GENERATOR SUPPLIER EXACT LOADS.

	ØA	ØB	ØC
CONNECTED KVA:	1360	1600	600
CONNECTED AMPS:	11.3	13.3	5.0
CALCULATED KVA:	3.6 KVA		
CALCULATED AMPS:	9.9 A		

LT	LOAD TYPE	CONN	FACTOR	CALC
A	LIGHTING		125%	
B	RECEPTACLES	0.4	50%>10k	0.4
C	MOTORS		100%	
D	LARGEST MOTOR		125%	
E	GENERAL LOADS	3.2	100%	3.2

STATE OF ALASKA
49 TH
EVAN D. ROBERTS
5/9/19
AK EE 8834
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.: 1841
DATE SIGNED: 5/9/19
REVISION:
DESIGNED BY: EDR
CHECKED BY: EDR
FULL SCALE: 1 INCH

PROJECT:
BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

PREPARED FOR:
DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

BY:
ROBERTS-KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS-KANEKO.COM

SHEET TITLE:
PANEL SCHEDULES

SHEET NO.:
E6.1
OF 16

5/10/2019 10:26 AM - D:\2016\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG

LOAD STUDY	QTY	UNIT VA	FACTOR	TOTAL VA
EXISTING SERVICE, 120/240V, 1PH, 3W:				
EXISTING DEMAND LOAD	1 LUMP			34,860 VA
NEC MULTIPLIER			125%	43,575 VA
(NOTE: NEC 220.87 REQUIRES 125% EXISTING LOAD)				
SUMMARY – EXISTING SERVICE				
EXISTING BUILDING LOAD:				43,575 VA
SERVICE VOLTAGE (1PH, 3W):				120/240 V
MIMINUM CAPACITY AMPS:				182 A
NEW SERVICE, 208Y/120V, 3PH, 4W:				
LIGHTING (NEC TABLE 220.12)	13508 SF	1 VA		13,508 VA
RECEPTACLES (NEC 220.44)	103 EA	180 VA		14,270 VA
MECHANICAL LOADS				
GMT–1, 1A, 120V	1 EA	120 VA	100%	120 VA
WH–2, 1/4HP	1 EA	684 VA	100%	684 VA
P–1, 265W	1 EA	265 VA	100%	265 VA
P–2, 440W	1 EA	440 VA	100%	440 VA
P–3, 92W	1 EA	92 VA	100%	92 VA
HRV–1, 1.5HP/2HP, 15 FLA	1 EA	5400 VA	100%	5,400 VA
HRV–2, 3; 1HP/1HP, 10 FLA	2 EA	3600 VA	100%	7,200 VA
HRV–4, 5.5A, 120	1 EA	660 VA	100%	660 VA
B–1, 2, 3; 2.2A, 120V EACH	3 EA	264 VA	100%	792 VA
CUH–1, 3.8A, 120V	1 EA	456 VA	100%	456 VA
CUH–2, 3; 2.1A, 120V	2 EA	252 VA	100%	504 VA
HEAT TRACE	1 LUMP	2000 VA	100%	2,000 VA
OTHER BUILDING LOADS				
ROLLUP DOOR	1 EA	1500 VA	100%	1,500 VA
ELEVATOR, 20HP	1 EA	21384 VA	125%	26,730 VA
FIRE PUMP, 20HP	1 EA	4000 VA	0%	0 VA
(NOTE: FIRE PUMP NON–COINCIDENTAL W/ ELEVATOR)				
SUMMARY – NEW SERVICE				
NEW BUILDING LOAD:				74,621 VA
SERVICE VOLTAGE (3PH, 4W):				208Y/120 V
NEW SERVICE AMPS:				207 A
SUMMARY – NEW GENERATOR				
EXISTING 1PH DEMAND LOAD:				34,860 VA
BALANCE EXISTING LOAD FOR 3PH:				17,430 VA
NEW BUILDING LOAD:				74,621 VA
EXPECTED NEW LOAD MAXIMUM DEMAND:				37,311 VA
TOTAL EXPECTED MAXIMUM GENERATOR LOAD:				89,601 VA
SERVICE VOLTAGE (3PH, 4W):				208Y/120 V
1PH AMPS (120/208V):				168 A
3PH AMPS:				104 A

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	BASIS OF DESIGN	INPUT WATTS	DRIVER	LAMP	MOUNTING	NOTES
INTERIOR LIGHTING							
A	SUSPENDED, DECORATIVE ALUMINUM HOUSING, MEDIUM DISTRIBUTION, 1–100% DIMMING, 3000K LAMP CCT, 8,000 LUMEN OUTPUT, AIRCRAFT CABLE MOUNT, MATTE BLACK FINISH.	EATON PORTFOLIO LSMAC120 80 M 90 30 DE010 MB	88	120–277 MVOLT 0–10V DIMMABLE	90 CRI, 3000K INTEGRAL LED	CABLE +22'–0" AFF	1
B	LOW BAY LINEAR SUSPENDED, CRS HOUSING, 4–INCH VERTICAL WAVESTREAM ACRYLIC LENS, WIDE DISTRIBUTION, 3500K LAMP CCT, 3,000 LUMEN OUTPUT, CABLE MOUNT. .	METALUX SKYBAR 4SKB1 R LD5 3 W UNV L835 CD1–U	21	120–277 MVOLT	85 CRI, 3500K INTEGRAL LED	CABLE +10'–0" AFF	1
C	WALL SCONCE, HALF CYLINDER, 50% UP / 50% DOWN LIGHT, TOP GLASS LENS, METAL HOUSING WITH ACCENT BARS, 3000K LAMP CCT, 3,900 OUTPUT LUMENS, NOMINAL 16"W X 8"H X 9"D, COLOR BY ARCHITECT.	VISA LIGHTING CB3512 L30K H MVOLT	38	120–277 MVOLT 0–10V DIMMABLE	83 CRI, 3000K INTEGRAL LED	SURFACE +7'–6" AFF	
D	SAME AS TYPE C, EXCEPT 3500K LAMP CCT, 2,300 OUTPUT LUMENS, NOMINAL 12"W X 7"H X 4"D, COLOR BY ARCHITECT.	VISA LIGHTING CB3500 L35K H MVOLT	26	120–277 MVOLT 0–10V DIMMABLE	83 CRI, 3500K INTEGRAL LED	SURFACE +7'–6" AFF	
E	RECESSED LINEAR, CRS HOUSING, 4–INCH VERTICAL WAVESTREAM ACRYLIC LENS (SIMILAR TO TYPE B), NOMINAL 48–INCH LENGTH, 3500K LAMP CCT, 4,800 LUMEN OUTPUT, DRYWALL MOUNTING.	METALUX SKYRIDGE 4SRS D 48 W UNV L835	32	120–277 MVOLT	80 CRI, 3500K INTEGRAL LED	GYPSUM BD RECESSED	2
F	DOWNLIGHT, 4–INCH DIAMETER APERATURE, SEMI–SPECULAR CLEAR FINISH, 3500 LAMP CCT, 2,000 LUMEN OUTPUT, DRYWALL MOUNTING.	HALO HC420D010 – HM412835 – 41MDH	21	120–277 MVOLT	80 CRI, 3500K INTEGRAL LED	GYPSUM BD RECESSED	2
G	UTILITY WRAPAROUND, ACRYLIC PRISMATIC LENS, NOMINAL 8"W X 3"D X 48"L, 3500 LAMP CCT, 5,000 LUMEN OUTPUT, CHAIN/SURFACE MOUNT.	METALUX 4WNLED LD4 50SL F UNV L835 CD1 U	47	120–277 MVOLT	80 CRI, 3500K INTEGRAL LED	CHAIN / SURFACE +10'–0" AFF	1
H	UTILITY TASK LIGHT, WALL MOUNT, 3000K LAMP CCT, 1,000 LUMEN OUTPUT, WARMS IN COLOR WHEN DIMMED (3000K – 2200K), AUTUMN BRONZE FINISH.	SEAGULL LIGHTING 4108593S–715	14	120V DIMMABLE	90 CRI, 3000K INTEGRAL LED	SURFACE +7'–6" AFF	
I	VANITY FIXTURE, "HETTINGER" COLLECTION, THREE CYLINDRICAL FROSTED GLASS SHADES, A19 LAMPS, BRUSHED NICKEL FINISH.	SEAGULL LIGHTING 4439103EN3–962	30	120V	90 CRI, 3000K A–19 BASE	SURFACE +6" ABOVE MIRROR	
J	STAIRWELL WALL FIXURE, EXTRUDED ALUMINUM HOUSING, SATIN WHITE DIFFUSERS 40% UP / 60% DOWN LIGHT, NOMINAL 3"W X 6"H X 48"L, 3500K LAMP CCT, 4,461 LUMEN OUTPUT, WHITE FINISH.	NEO–RAY W123 DIW ULO 1 35 0048 1 C U ED 1 5 W	40	120–277 MVOLT	80 CRI, 3500K INTEGRAL LED	SURFACE +7'–6" AFF	
EXTERIOR LIGHTING							
R	EXTERIOR CANOPY DOWNLIGHT, 8" DIAMETER APERATURE, LENSED, SPECULAR CLEAR FINISH, 4000K LAMP CCT, 2,000 LUMEN OUTPUT, LISTED FOR WET LOCATIONS.	HALO PD6 20 ED010 PDM6A 840 – 61V C	21	120–277 MVOLT	80 CRI, 4000K INTEGRAL LED	CANOPY RECESSED	
S	EXTERIOR WALL SCONCE, HALF CYLINDER CRESCENT, 50% UP / 50% DOWN LIGHT, ALUMINUM HOUSING, 4000K LAMP CCT, 2,500 OUTPUT LUMENS, NOMINAL 16"W X 8"H X 8"D, LISTED FOR OUTDOOR WET LOCATIONS, COLOR BY ARCHITECT.	VISA LIGHTING OW1464 L40K H MVOLT	32	120–277 MVOLT	82 CRI, 4000K INTEGRAL LED	SURFACE +10'–0" AFF NOMINAL	3
T	WATERPROOF LED STRIP LIGHT, 16–FOOT LENGTH, 24 WATTS, CUT POINTS EVERY 4–INCHES, 4000K LAMP CCT, PROVIDE COMPLETE WITH 120V X 24V TRANSFORMER AND CONNECTORS.	SOLID APOLLO LED SA LS DLW 3528 300 IP67 24V	24	120V	82 CRI, 4000K INTEGRAL LED	LENGTH + WIDTH OF CROSS	4
EMERGENCY LIGHTING							
XE	LED–LIT EXIT SIGN, THERMOPLASTIC HOUSING, NICKEL–CADMIUM BATTERY, WHITE HOUSING WITH GREEN LETTERS.	EMERGI–LITE WPREM SNX G	4	120V INPUT	LED BY MFGR	SURFACE +6" ABOVE DOOR	
XMA	LED THERMOPLASTIC EMERGENCY LIGHT, LEAD–CALCIUM BATTERY, 6'–0" WIDE PATH OF EGRESS WITH 89'–0" ON CENTER SPACING, WHITE HOUSING.	EMERGI–LITE 12MPR12M 2 LJ	24	120V INPUT	2 X 12V–6W MR16 LED	WALL +7'–6" AFF	5
XMB	LED THERMOPLASTIC EMERGENCY LIGHT, LEAD–CALCIUM BATTERY, 6'–0" WIDE PATH OF EGRESS WITH 39'–0" ON CENTER SPACING, WHITE HOUSING.	EMERGI–LITE PRO 2N LA	1	120V INPUT	LED BY MFGR	WALL +7'–6" AFF	
XR	SELF–CONTAINED EXTERIOR EMERGENCY LIGHT, 400 – 640 LUMENTS, 90 MINUTE BATTERY, DUAL MODE NORMAL AND EMERGENCY AC INPUTS, RATED TO –40 DEG F, DARK BRONZE.	EMERGI–LITE BZ LUX ACSD CW	12	120V INPUT	LED BY MFGR	WALL +7'–6" AFF	

LUMINAIRE NOTES:
1. MOUNT BOTTOM OF FIXTURES EVEN WITH BOTTOM OF TRUSSES.
2. VERIFY CEILING TYPE PRIOR TO ORDERING.
3. CENTER FIXTURE BETWEEN WALL PANELS. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING HEIGHT.
4. SECURE TO BEHIND CROSS FOR THE FULL LENGTH AND WIDTH FOR BACKLIGHT EFFECT.
5. MOUNT TYPE XMA IN AUDITORIUM AT 15'–0" AFF.

STATE OF ALASKA 49TH
EVAN D. ROBERTS
5/9/19
EE 8634
REGISTERED PROFESSIONAL ENGINEER

PROJECT NO.: 1841
DATE SIGNED: 5/9/19
REVISION:
DESIGNED BY: EDR
CHECKED BY: EDR
FULL SCALE: 1 INCH

BY: ROBERTS–KANEKO ENGINEERING, INC.
2790 MONTEVERDE RD, FAIRBANKS AK 99709 | TEL 907.458.8484 | WWW.ROBERTS–KANEKO.COM

PREPARED FOR: DAVID A WHITMORE ARCHITECT
535 THIRD AVE., SUITE A | FAIRBANKS, AK 99701

PROJECT: BETHEL BAPTIST CHURCH
NEW AUDITORIUM ADDITION
1310 FARMERS LOOP RD., FAIRBANKS, ALASKA

SHEET TITLE: FIXTURE SCHEDULE

SHEET NO.: E6.2

OF 16

5/10/2019 10:26 AM : D:\2018\1841 BETHEL CHURCH\AUTOCAD\1841 ELEC.DWG