DEPARTMENT OF TRANSPORTATION

Planning & Engineering
Office of Project Development
700 E. Broadway Avenue
Pierre, SD 57501
O: 605.773.3275
dot.sd.gov

April 14, 2022

Re: Project's IM-FP-PP-B 0901(195)35, HR-IM X101(01), IM 0901(204)34 – PCN's 021G, 07VR, 08QQ – I90 EBL - Fm W of Exit 37 (Pleasant Valley) to Exit 40 (Tilford) Grading, PCC Surfacing, Replace Str (278' Steel Girder, 2-7x6 CIP, 20x10 CIP, LongSpan Arch Extension, 3-8x4 CIP, 9x8 Precast), Tilford POE Building, Commercial Vehicle Electronic Screening System, Snow Fence.

To Whom It May Concern,

A pre-bid meeting for the Exit 37 Interchange Reconstruction & Tilford POE Reconstruction projects is being held on April 27th, 2022 at 1:30 PM MST in Rapid City, SD. Interested contracting parties are invited to attend the meeting in-person at the Rapid City Area Office however, the meeting will be available via Microsoft Teams.

Rapid City Area Office, Large Conference Room
2300 Englin Street
Rapid City, SD 57709

This meeting will include a presentation of the project covering topics such as the overall scope of work, design aspects, construction sequencing, traffic control, utility coordination, and contract time. There will be an opportunity for Contractors to present questions to Department staff, consultants, and project stakeholders.

Attendance is not a requirement, but all interested contracting parties are strongly encouraged to attend.

If attending the meeting virtually you must join the meeting via the link provided. In order to reduce sound feedback please mute the microphone on your computer. When joining virtually we are requesting that you please enter the name of your company followed by the individuals from your company attending the meeting into the chat feature of Microsoft Teams.

Join Pre-Bid Meeting

Date: April 27, 2022
Time: 1:30-2:30 (MDT)

Additional instructions regarding the meeting format will be provided at the beginning of the meeting.

We look forward to seeing you there!

Sincerely,
SD DOT

SD DOT
TILFORD PORT OF ENTRY BUILDING AND SCALE

TILFORD, SOUTH DAKOTA
CONSTRUCTION DOCUMENTS
12/01/2021

REGISTERED PROFESSIONAL ARCHITECT
REG. NO.
13485
MARK D. AVERETT
SOUTH DAKOTA
DATE: 03/18/2022

INDEX TO DRAWINGS

SHEET INDEX - GENERAL

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Section G - Tilford POE Building & Scale

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
900E2015	Building, General	Lump Sum	LS
900E5835	Static Scale	1	Each

PAYMENT FOR SECTION G "BUILDING, GENERAL" WILL BE FULL COMPENSATION FOR ALL WORK TO BE DONE INCLUDING DEMOLITION.

STATIC SCALE

THE STATIC SCALE MUST INTERFACE WITH AND PROVIDE STATIC SCALE WEIGH INFORMATION TO THE COMMERCIAL VEHICLE ELECTRONIC SCREENING SYSTEM. THE STATIC SCALE CONTROL WILL PROVIDE A COMMUNICATIONS STREAM TO THE ELECTRONIC SCREENING SYSTEM THAT MATCHES ONE OF THE FOLLOWING SUPPORTED INTERFACE PROTOCOLS:

- FAIRBANKS 2500 F2 (Y5 ADDED MULTIPLE PLATFORMS)
- CARDINAL 7XX
- CARDINAL 738 (NOT CURRENTLY SUPPORTED)
- RICE LAKE 810
- RICE LAKE 920i
- DF1500
- JAGXTREME
- WEIGHTRONIX
- BASIC
- SSWIM

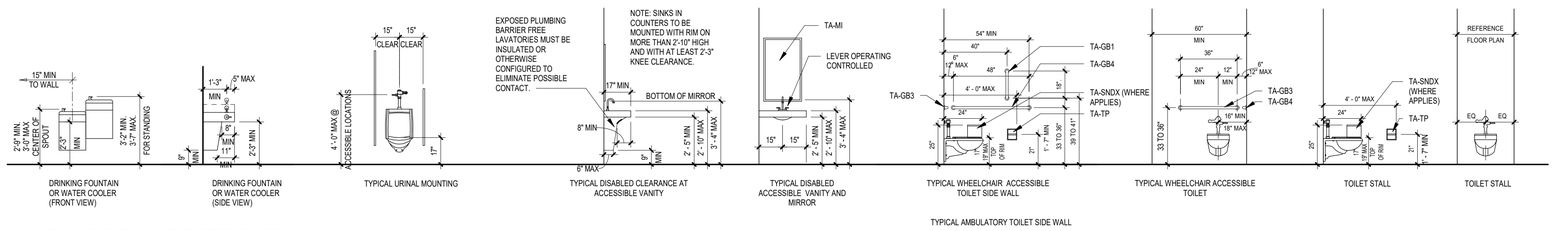
VICINITY MAP

DESIGN TEAM

TITLE/DISCIPLINE	NAME/CONTACT	COMPANY	PHONE
PROJECT MANAGER	MARK AVERETT	TSP, Inc.	605.343.6102
PROJECT ARCHITECT	MARK AVERETT	TSP, Inc.	605.343.6102
CIVIL ENGINEER	TODD SCHULTZ	BANNER ASSOCIATES	855.323.6342
STRUCTURAL ENGINEER	ALEX WEIERS	TSP, Inc.	605.343.6102
MECHANICAL ENGINEER	CHRIS MAKS	TSP, Inc.	605.343.6102
ELECTRICAL ENGINEER	KELLI OSTERLOO	TSP, Inc.	605.343.6102

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G2	G47

G-002 ABBREVIATIONS, LEGENDS, NOTES, & ACCESSORY DIAGRAMS

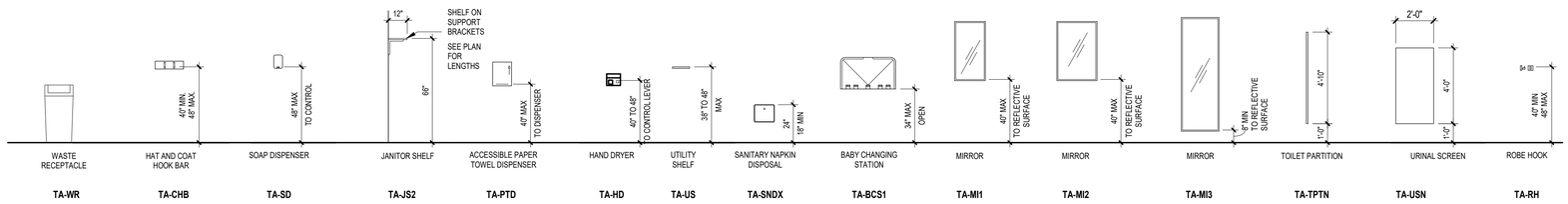


TYPICAL AMBULATORY TOILET SIDE WALL

ACCESSORY TYPICAL FIXTURE ELEVATIONS

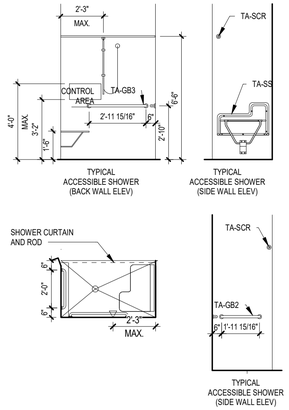
SCALE: 1/4" = 1'-0"

FOR BIDDING PURPOSES ONLY



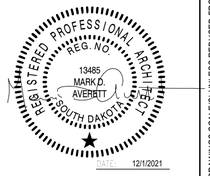
ACCESSORY MOUNTING DIAGRAM

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



ACCESSORY TYPICAL SHOWER EQUIPMENT ELEVATIONS

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



MOST COMMONLY USED ABBREVIATIONS

ABBREVIATIONS:

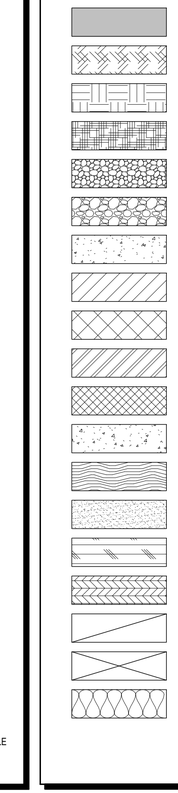
AB	ANCHOR BOLT/ROD
ABV	ABOVE
AC	ASPHALTIC CONCRETE/AIR CONDITIONER
ACC	ACCESSIBLE
ACM	ALUMINUM COMPOSITE MATERIAL
ACOUS	ACOUSTICAL
ADD	ADDENDUM
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT, ADJOINING
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
ALT	ALTERNATE
ALUM	ALUMINUM
APC	ACOUSTICAL PANEL CEILING
ARCH	ARCHITECT (URAL)
ASI	ARCHITECTURAL SUPPLEMENTAL INFORMATION
BD	BOARD
BEV	BEVELED
BFF	BELOW FINISH FLOOR
BL	BRICK LEDGE
BLDG	BUILDING
BLKG	BLOCK (ING)
BM	BEAM
BOT	BOTTOM
BO	EMER BOTTOM OF
BOC	BOTTOM OF CONCRETE
BOF	BOTTOM OF FOOTING
BRG	BEARING
BRK	BRICK
BSMT	BASEMENT
BTWN	BETWEEN
BUR	BUILT-UP ROOFING
C	CHANNEL/CELSIUS
CAB	CABINET
CB	CERAMIC BASE
CD	CONSTRUCTION DOCUMENTS
CEM	CEMENT
CF	CUBIC FEET OR FOOT
CG	CORNER GUARD
CIPC	CAST-IN-PLACE CONCRETE
CJ	CONTROL/CONSTRUCTION JOINT
CL	CENTER LINE
CLG	CEILING
CLKG	CAULKING
CLR	CLEAR, CLEARANCE
CMU	CONCRETE MASONRY UNIT
CO	CHANGE ORDER/CLEAN OUT
COL	COLUMN
COMB	COMBIMATION
COMP	COMPOSITE/COMPOSITION
CONC	CONCRETE
CONN	CONNECT (ION)
CONST	CONSTRUCTION
CONT	CONTINUOUS, CONTINUE
CONTR	CONTRACT (OR)
COORD	COORDINATE
CORR	CORRUGATED/CORRIDOR
CPT	CARPET
CSMT	CASEMENT
CT	CERAMIC TILE
CTB	CARPET TILE BASE
CTR	CENTER
D	DEPTH
DBL	DOUBLE
DEMO	DEMOLITION, DEMOLISH
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DFPT	DRYFALL PAINT
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIV	DIVIDE, DIVISION
DISP	DISPENSER
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING (S)
DWR	DRAWER
DWTR	DUMBWAITER
(E)	EXISTING
E	EAST
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
ENL	ENLARGED
EMER	EMERGENCY
ENGR	ENGINEER
EOP	EDGE OF PAVEMENT
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EPS	EXPANDED POLYSTYRENE BOARD
EPT	EPOXY PAINT
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EST	ESTIMATE
ETC	ETCETERA
ETR	EXISTING TO REMAIN
EW	EACH WAY
EXIST	EXISTING
EXC	EXCAVATE/EXCAVATION
EXH	EXHAUST
EXP	EXPANSION/EXPOSED
EXT	EXTERIOR
EWC	ELECTRIC WATER COOLER
EWS	EYE WASH AND SHOWER
FA	FIRE ALARM
FAB	FABRICATE/FABRICATION
FD	FLOOR DRAIN
FDC	FIRE DEPRATMENT CONNECTION
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FFE	FINISH FLOOR ELEVATION
FIN	FINISH (ED)
FLOUR	FLOURESCENT
FLR	FLOOR (ING)
FO	FACE OF
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOF	FACE OF FINISH
FR	FIRE RESISTANT/FRAME
FRP	FIBERGLASS REINFORCED PANEL
FS	FLOOR SINK
FT	FOOT, FEET/FIRE TREATED
FTG	FOOTING
FURR	FURRING
FUT	FUTURE
GA	GAGE, GAUGE
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GALV	GALVANIZED
GI	GALVANIZED IRON
GL	GLASS
GLU LAM	GLUE LAMINATED (BEAM)
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
HB	HOSE BIB
HC	HANDICAP / HOLLOW CORE
HD	HEAVY DUTY
HDBD	HARDBOARD
HDR	HEADER
HDWD	HARDWOOD
HDWR	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HSS	HOLLOW STRUCTURAL STEEL
HVAC	HEATING, VENTILATION, AIR-CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER/DIMENISON
IN	INCH(ES)
INCL	INCLUDE (D), INCLUDING
INFO	INFORMATION
INSP	INSPECTION
INSTR	INSTRUCTION(S)
INSUL	INSULATE (D), INSULATION
INT	INTERIOR
JAN	JANITOR
JST	JOIST
JT	JOINT
KCJ	KEYED CONSTRUCTION JOINT
KO	KNOCK OUT
L	LENGTH / ANGLE
LAB	LABORATORY
LAM	LAMINATE (ED)
LAV	LAVATORY
LB	POUND
LF	LINEAR FEET
LH	LEFT HAND
LKR	LOCKER
LOC	LOCATION
LONG	LONGITUDINAL
LT	LIGHT
LVR	LOUVER
LVT	LUXURY VINYL TILE
MBC	MINNESOTA BUILDING CODE
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MC	MEDICINE CABINET
MECH	MECHANICAL
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURE (R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MR	MIRROR
MTL	METAL
(N)	NEW
N	NORTH
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED / CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED / OWNER INSTALLED
OH	OVERHEAD
OPP	OPPOSITE
OPG	OPENING
ORIG	ORIGINAL
ORD	OVERFLOW ROOF DRAIN
OZ	OUNCE.
PAR	PARALLEL
PCF	POUNDS PER CUBIC FOOT
PED	PEDESTAL
PERF	PERFORATED
PERP	PERPENDICULAR
PL	PLATE
PLAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PNL	PANEL
PR	PAIR/PROPOSAL REQUEST
PRCST	PRECAST CONCRETE
PREFAB	PREFABRICATE
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
PT	PAINT / PRESSURE TREATED
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PTR	PAPER TOWEL RECEPTACLE
PVC	POLYVINYL CHLORIDE
QT	QUARRY TILE
R	RADIUS/RISER
RB	RUBBER BASE
RBR	RUBBER
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REBAR	REINFORCING BAR
REC	RECESSED
REF	REFERENCE/REFRIGERATOR
REINF	REINFORCE (D), (ING), (MENT)
REQ	REQUIRE
REQD	REQUIRED
RES	RESILIANT FLOORING
RET	RETURN
REV	REVISION (S), REVISED
RFI	REQUEST FOR INFORMATION
RFP	REQUEST FOR PROPOSAL
RH	RIGHT HAND
RL	RIDGE LINE
RM	ROOM
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RVS	REVERSE (SIDE)
RWL	RAIN WATER LEADERSSOUTH
SB	SPLASH BLOCK
SC	SOLID CORE
SCHED	SCHEDULE
SCR	SHOWER CURTAIN ROD
SCT	SECTION
SD	SOAP DISPENSER
SF	SQUARE FOOT
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SLDG	SLIDING
SLNT	SEALANT
SND	SANITARY NAPKIN DISPENSER
SNDU	SANITARY NAPKIN DISPOSAL UNIT
SOG	SLAB ON GRADE
SPEC	SPECIFICATION (S)
SQ	SQUARE
SSM	SOLID SURFACE MATERIAL
SST	STAINLESS STEEL
ST	STREET
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SV	SHEET VINYL
SW	SHEARWALL
SYM	SYMMETRICAL
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TB	TOWEL BAR
TBD	TO BE DETERMINED
TEMP	TEMPORARY/TEMPERED
TER	TERRAZZO
THD	THREAD (ED) (S)
THK	THICKNESS
THRU	THROUGH
TKBD	TACKBOARD
TL	TILE
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE/CURB
TOD	TOP OF DECK
TOF	TOP OF FOOTING (FOUNDATION)
TOP	TOP OF PIER
TOJ	TOP OF JOIST
TOS	TOP OF SLAB/STEEL
TOW	TOP OF WALL
TPD	TOILET PAPER DISPENSER
TPO	THERMOPLATIC POLYOLEFIN
TPTN	TOILET PARTITION
TRANS	TRANSVERSE
TS	TUBE STEEL
TYP	TYPICAL
UG	UNDERGROUND
UH	UNIT HEATER
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
V	SHEAR
VAR	VARIES
VB	VAPOR BARRIER / VINYL BASE
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VARIFY IN FIELD
VR	VAPOR RETARDER
VWB	VINYL WALL BASE
VWC	VINYL WALL COVERING
W	WEST/WIDTH
W/	WITH
W/O	WITHOUT
WA	WEDGE ANCHOR
WB	WOOD BASE
WC	WATER CLOSET
WD	WOOD/WOODWORK
WDW	WINDOW
WF (W)	WIDE FLANGE
WG	WALL GUARD
WH	WATER HEATER
WI	WROUGHT IRON
WL	WIND LOAD
WP	WATERPROOF (ING)
WR	WATER RESISTANT
WSCT	WAINSCOT
WT	WEIGHT/WINDOW TREATMENT
WWF	WELDED WIRE FABRIC

SYMBOLS USED AS ABBREVIATIONS:

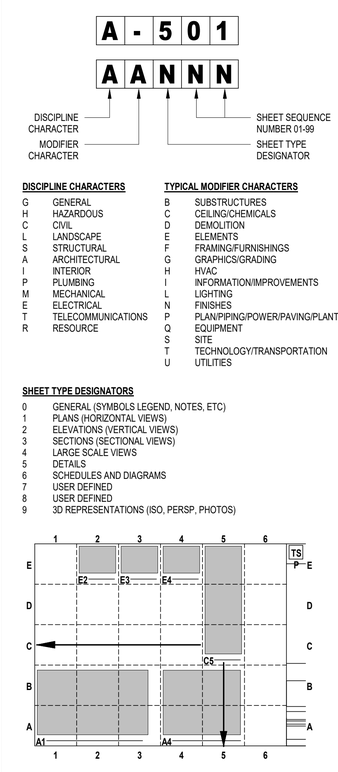
&	AND
L	ANGLE
LL	DOUBLE ANGLE
@	AT
d	PENNEY
#	POUND OR NUMBER
Ø	ROUND OR DIAMETER

SYMBOLS LEGEND

MATERIAL LEGEND



SHEET IDENTIFICATION



DISCIPLINE CHARACTERS		TYPICAL MODIFIER CHARACTERS	
G	GENERAL	B	SUBSTRUCTURES
H	HAZARDOUS	C	CEILING/CHEMICALS
C	CIVIL	D	DEMOLITION
L	LANDSCAPE	E	ELEMENTS
S	STRUCTURAL	F	FRAMING/FURNISHINGS
A	ARCHITECTURAL	G	GRAPHICS/GRADING
I	INTERIOR	H	HVAC
P	PLUMBING	I	INFORMATION/IMPROVEMENTS
M	MECHANICAL	L	LIGHTING
E	ELECTRICAL	N	FINISHES
T	TELECOMMUNICATIONS	P	PLAN/PIPING/POWER/PAVING/PLANTING
R	RESOURCE	Q	EQUIPMENT
		S	SITE
		T	TECHNOLOGY/TRANSPORTATION
		U	UTILITIES

SHEET TYPE DESIGNATORS

0	GENERAL (SYMBOLS LEGEND, NOTES, ETC)
1	PLANS (HORIZONTAL VIEWS)
2	ELEVATIONS (VERTICAL VIEWS)
3	SECTIONS (SECTIONAL VIEWS)
4	LARGE SCALE VIEWS
5	DETAILS
6	SCHEDULES AND DIAGRAMS
7	USER DEFINED
8	USER DEFINED
9	3D REPRESENTATIONS (ISO, PERSP, PHOTOS)

G-101 LIFE SAFETY PLAN

FOR BIDDING PURPOSES ONLY

LIFE SAFETY LEGEND

ROOM TAGS — ROOM NAME / ROOM # / ROOM AREA

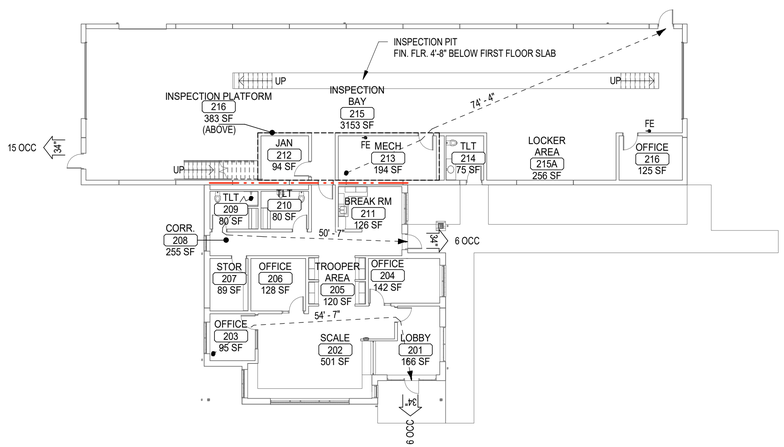
FIRE EXTINGUISHER — FE

FIRE EXTINGUISHER CABINET — FEC

EGRESS WIDTH/OCCUPANT LOAD SERVED — 34" 160 OCC

2-HR FIRE BARRIER

B1 INSPECTION PLATFORM CODE PLAN - POE
SCALE: 1/16" = 1'-0"



A1 FIRST LEVEL CODE PLAN - POE
SCALE: 1/16" = 1'-0"

PLAN NORTH

BUILDING CODE ANALYSIS

A. Summary:
1. The project includes new construction for one story Port of Entry building adjacent to a 2 story Inspection bay and mechanical mezzanine space.

B. Adopted Codes:

Building Code	IBC 2018
	South Dakota State Glazing Law SDCL 34-28-5
Structural Code	IBC 2018
Plumbing Code	UPC 2015
Mechanical Code	IMC 2015
	ASHRAE Standard 90.1-2010
	ASHRAE Standard 62.1-2016
	NFPA-13
Electrical Code	NEC 2020
Fire Code	IFC 2015
Accessibility Code	2010 ADA Standards for Accessible Design
	ANSI A117.1-2009 (by reference from IBC)

A. Building Classification:
1. BUILDING 1 Port of Entry (POE)
   a. IBC Sec. 304 B
      i. Office
   b. IBC Sec. 311.3 S-2
      i. Inspection bay. No repair

B. Construction Type
1. BUILDING 1
   a. Table 601 Type VB

C. Allowable Areas and Number of Stories:
1. BUILDING 1
   a. IBC Table 504.3 B/NS B
   (NS) non-sprinklered
      i. Allowable height VB 40 FT
      ii. Actual 25'-10 1/2"
   b. IBC Table 504.4
      i. Allowable stories VB 2
      ii. Actual 1
   c. IBC Table 506.2
      i. Allowable area VB 9,000 SF
      ii. Actual 5,875 SF (INCL. MEZZANINE)
   d. IBC 506.3 Frontage increase Total Allowable
      i. Three sides (75%) 6,750 SF 15,750 SF
   e. Actual area is less than allowable area with increases.

D. Location on the Property:
1. BUILDING 1 Refer to site plan
   a. North Open to public way
   b. East Open to public way
   c. South Open to public way
   d. West Open to public way

E. Mixed Use and Occupancy:
1. BUILDING 1
   a. Accessory Occupancy IBC Sec. 508.2
      i. N/A
   b. Non-separated Occupancies IBC Sec 508.3
      i. N/A
   c. Separated Occupancies IBC Sec 508.4
      i. Garage S-2 2 Hour fire resistive construction
   d. Incidental Uses IBC Table 509
      i. N/A

F. Building Elements:
1. BUILDING 1
   a. Type VB
2. IBC Table 601 VB
   Fire-resistance rating
   a. Structural frame 0
   b. Bearing walls – Exterior 0
   c. Bearing walls – Interior 0
   d. Non-bearing walls – Exterior 0
   e. Non-bearing walls – Interior 0
   f. Floor 0
   g. Roof 0

G. Fire Resistance Rated Construction:
1. BUILDING 1
   a. Fire walls. IBC Sec. 706
      i. N/A
   b. Fire Barriers. IBC Sec. 707
      i. 2 hour fire resistive construction
   c. Fire Partition IBC Sec. 708
      i. N/A
   d. Smoke Barrier IBC Sec. 709
      i. N/A
   e. Smoke Partition IBC Sec. 710
      i. N/A
   f. Horizontal assemblies IBC Sec 711
      i. N/A
   g. Vertical Openings IBC 712
      i. N/A
   h. Shaft Enclosures IBC 713
      i. N/A
   i. Opening Protectives As required by Table 716.3 type of assemblies
   j. Penetration protection As required for rating of assembly penetrated

H. Sprinkler System & Alarms:
1. BUILDING 1
   a. Fire Sprinkler IBC 903.2.1.3
      i. Non-Sprinkled
   b. Fire Alarm IBC 907.2.2 GROUP B
      i. N/A

I. Means of Egress:
1. BUILDING 1
   a. Occupant load. IBC Sec. 1004
      i. Lobby N/A
      ii. Toilets N/A
      iii. Mechanical 194 SF @300 1
      iv. Circulation N/A
      v. Inspection Bay 3150 SF@200 16
      vi. Office 2108 SF@150 14
      vii. Storage 194 SF @300 1
      viii. Inspection Platform 502 SF @300 2
      a. TOTAL OCCUPANT LOAD 34 persons
   b. Egress Width. IBC Sec. 1005
      i. Minimum
      a. Other OL x .3 10.2 inches
   c. Exit access. IBC Sec. 1016
      ii. Common path of travel. IBC Sec. 1006.2
      a. B and S Occupancy 100 FT
   d. Exit and Exit access doorways. IBC Sec 1015
      i. Two exits in spaces over 49 persons
      ii. Arrangement. IBC 1015.2.1.2 1/3 diagonal
   e. Exit access travel distance. IBC Sec. 1017
      i. Table 1016.1 B/S-2 200' B /300 S-2 (NS)
   f. Corridors. IBC Sec. 1020
      i. Rating
      a. IBC Table 1020.1
      ii. Width: 44 inches minimum.
      iii. Dead end
      a. IBC Sec. 1020.4, 20 FT

J. Plumbing Fixtures
1. BUILDING 1

a. Occupancy Classification	B		Office/Garage	
b. Occupant Load				
i. 34 male	1/125	1 required	2 provided (1 toilet + 1 urinal)	
ii. 34 female	1/65	1 required	1 provided	
iii. Lavatory				
a. Male	1/200	1 required	1 provided	
b. Female	1/200	1 required	1 provided	
iv. Drinking fountain	1/500	1 required	1 water for staff from break room	
v. Service sink		1 required	1 provided	

K. Accessibility:
1. Accessible parking provided.
2. Accessible routes from parking to building entry provided.

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

As indicated

L:_TSP Revit Local\03191315 SDDOT_Tilford POE_A20_mitzelfeltbr.rvt
3/1/2022 8:52:27 AM

SECTION G: TILFORD PORT-OF-ENTRY BUILDING

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G4	G47

Plotting Date: 12-01-2021

GENERAL NOTES:
1. REF TO G5 & G6 FOR POE SITE/UTILITY LAYOUT.
2. REFER TO PARKING LOT DRAWINGS FOR DEMOLITION BEYOND POE/INSPECTION BAY BUILDING.

C-101 POE BUILDING REMOVALS

ABANDON EXISTING DRAIN FIELD PER SD DANR REQUIREMENTS

REMOVE EXISTING 4" SANITARY SEWER PIPE

PUMP AND REMOVE EXISTING SEPTIC TANK PER SD DANR REQUIREMENTS

REMOVE EXISTING TRANSFORMER – COORDINATE W/BHE

REMOVE EXISTING WATER LINE FROM WELL

ABANDON EXISTING WATER WELL PER WELL CONSTRUCTION STANDARDS, STATE OF SOUTH DAKOTA, CHAPTER 74:02:04

LIMITS OF POE/INSPECTION BUILDING REMOVALS – REFER GENERAL NOTE 2

REMOVE EXISTING 4" SANITARY SEWER PIPE

REMOVE EXISTING CONCRETE WALK AROUND EXISTING BUILDING

REMOVE EXISTING BUILDING – DISCONNECT EXISTING UTILITIES @ BUILDING – REFER TO ARCHITECTURAL DRAWINGS FOR BUILDING DEMO

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 5859
TODD M. SCHULTZ
SOUTH DAKOTA
12-1-21

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

Plot Scale - 1"=20'

SchultzTM

Plotted From -

File - G5

SECTION G: PORT-OF-ENTRY BUILDING PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G5	G47

Plotting Date: 12-01-2021

C-102 POE SITE & UTILITY LAYOUT - NORTH

GENERAL NOTES:
1. REFER TO PARKING LOT DRAWINGS FOR CONSTRUCTION BEYOND POE/INSPECTION BAY BUILDING CONSTRUCTION LIMITS INCLUDING GRADING AND DRAINAGE.
2. REFER TO SECTION B FOR SITE GRADING.

KEY NOTES: (X)
1. CONNECT TO BUILDING 2" WATER PIPE. FIELD VERIFY LOCATION AND DEPTH.
2. REF TO PARKING LOT DRAWINGS FOR CONTINUATION OF CONCRETE WALKS.
3. CONCRETE WALK (TYP) – REF G9 FOR DETAIL
4. CONCRETE DUMPSTER PAD W/ 6' HIGH CHAIN LINK FENCE AND 2–8' WIDE/2–LEAF GATES – REFER G9 & G10 FOR DETAILS.
5. CONCRETE WALK EXPANSION JOINT.

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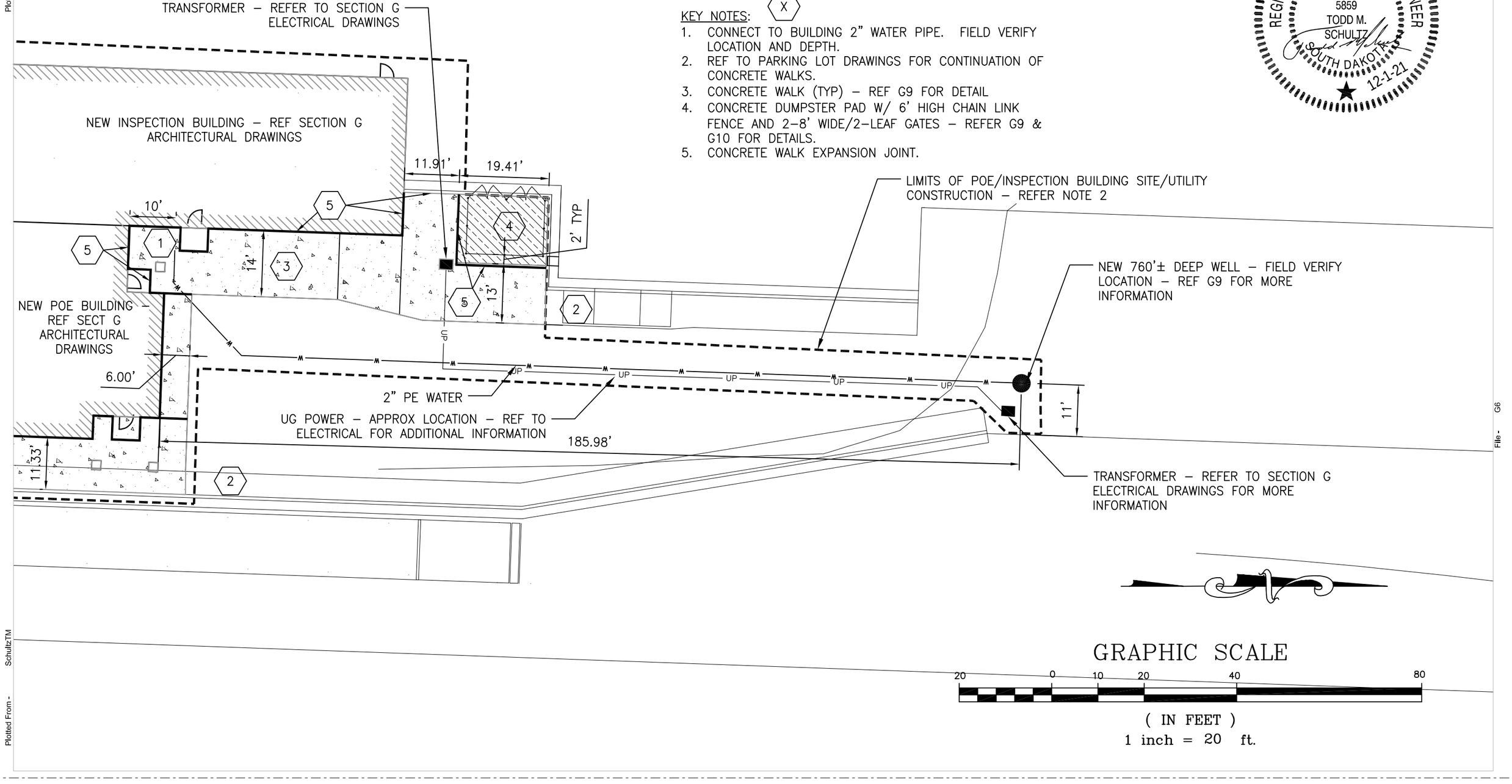


GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

Plot Scale - 1"=20'

Plotted From - SchultzTM

File - G6

SECTION G: PORT-OF-ENTRY BUILDING PLANS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G6	G47

Plotting Date: 12-01-2021

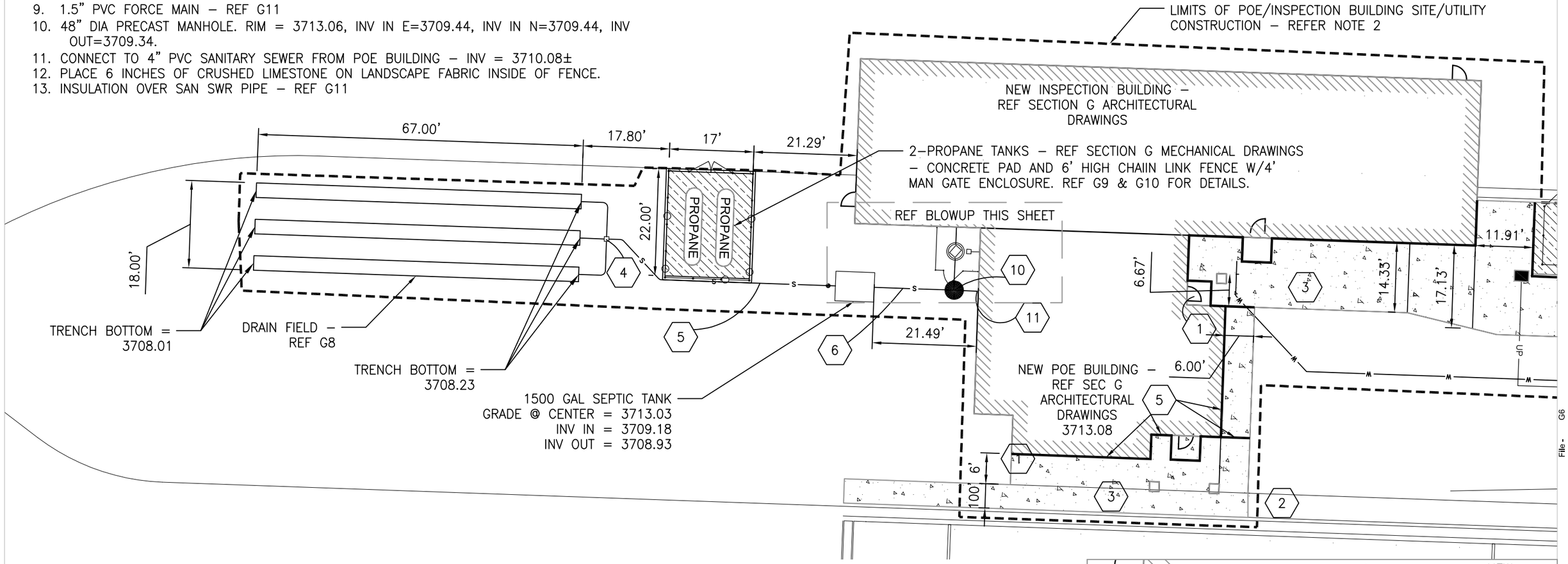
C-103 POE SITE & UTILITY LAYOUT - SOUTH

KEY NOTES: (X)

1. CONCRETE FROST STOOP – REF TO STRUCTURAL DRAWINGS FOR DETAIL
2. REF TO PARKING LOT DRAWINGS FOR CONTINUATION OF CONCRETE WALKS.
3. CONCRETE WALK – REF G9 FOR DETAIL.
4. DISTRIBUTION BOX – INV IN = 3708.43/INV OUT = 3708.35
5. 50 LF – 6" PVC SANITARY SEWER @ 1%
6. 16 LF – 6" PVC SANITARY SEWER @ 1%
7. CONNECT TO INSPECTION BUILDING SANITARY SEWER – INV = 3706.33
8. PACKAGE SUMP PUMP – REF G11
9. 1.5" PVC FORCE MAIN – REF G11
10. 48" DIA PRECAST MANHOLE. RIM = 3713.06, INV IN E=3709.44, INV IN N=3709.44, INV OUT=3709.34.
11. CONNECT TO 4" PVC SANITARY SEWER FROM POE BUILDING – INV = 3710.08±
12. PLACE 6 INCHES OF CRUSHED LIMESTONE ON LANDSCAPE FABRIC INSIDE OF FENCE.
13. INSULATION OVER SAN SWR PIPE – REF G11

GENERAL NOTES:

1. REF TO G5 FOR WATER WELL/LINE LAYOUT.
2. REFER TO PARKING LOT DRAWINGS FOR CONSTRUCTION BEYOND POE/INSPECTION BAY BUILDING CONSTRUCTION LIMITS INCLUDING GRADING AND DRAINAGE.
3. REFER TO SECTION B FOR SITE GRADING.
4. ON-SITE SEPTIC SYSTEM SHALL BE INSTALLED PER CHAPTER 74:53:01, INDIVIDUAL AND SMALL ON-SITE WASTEWATER SYSTEMS AND ANY OTHER RELATED SD DANR REQUIREMENTS.



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

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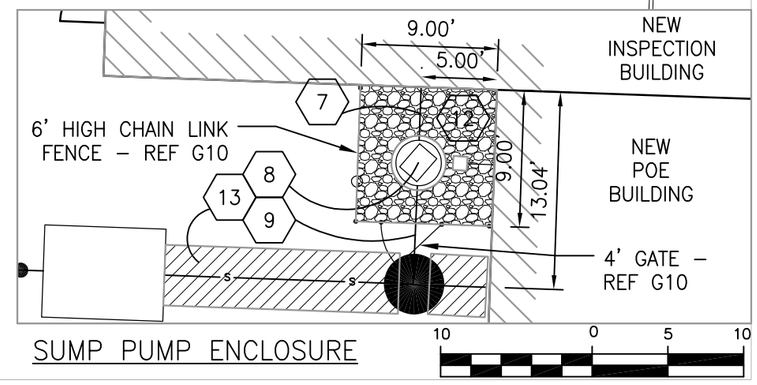


SUMP PUMP ENCLOSURE

10 0 5 10

Plot Scale - 1"=20'

Plotted From - SchultzTM

File - G6

SECTION G: PORT-OF-ENTRY BUILDING PLANS

FOR BIDDING PURPOSES ONLY

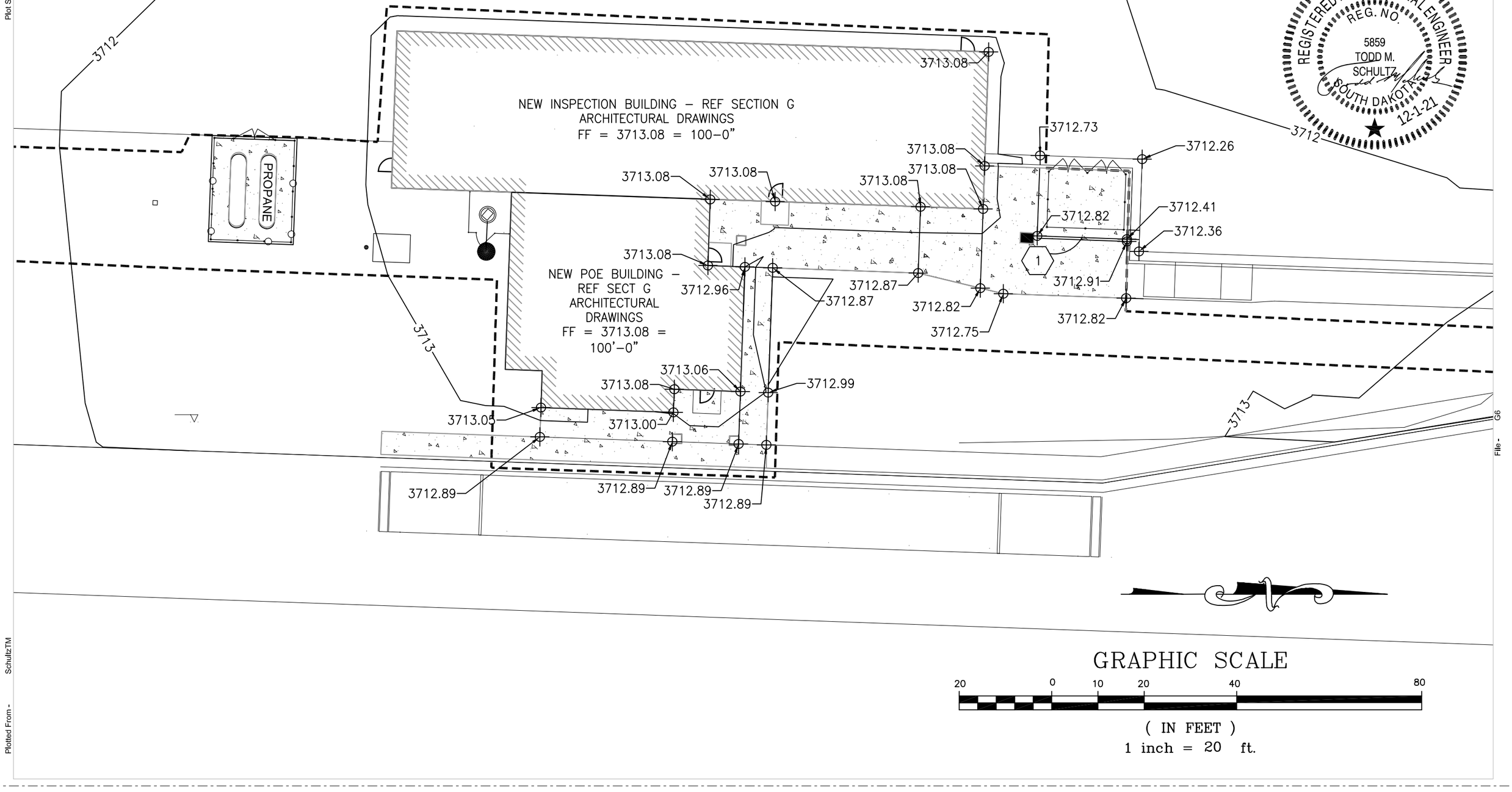
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G7	G47

Plotting Date: 12-01-2021

C-104 POE SITE GRADING

GENERAL NOTES:
1. REF TO G5 & G6 FOR SITE & UTILITY LAYOUT.
2. REFER TO PARKING LOT DRAWINGS FOR CONSTRUCTION BEYOND POE/INSPECTION BAY BUILDING CONSTRUCTION LIMITS INCLUDING GRADING AND DRAINAGE.
3. REFER TO SECTION B FOR SITE GRADING.

KEY NOTES:
1. INSTALL CURB ALONG EAST SIDE OF DUMPSTER PAD. CURB TAPERS FROM 6" HIGH ON THE NORTH END TO 0" HIGH ON THE SOUTH END.



REGISTERED PROFESSIONAL ENGINEER
REG. NO. 5859
TODD M. SCHULTZ
SOUTH DAKOTA
12-1-21

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

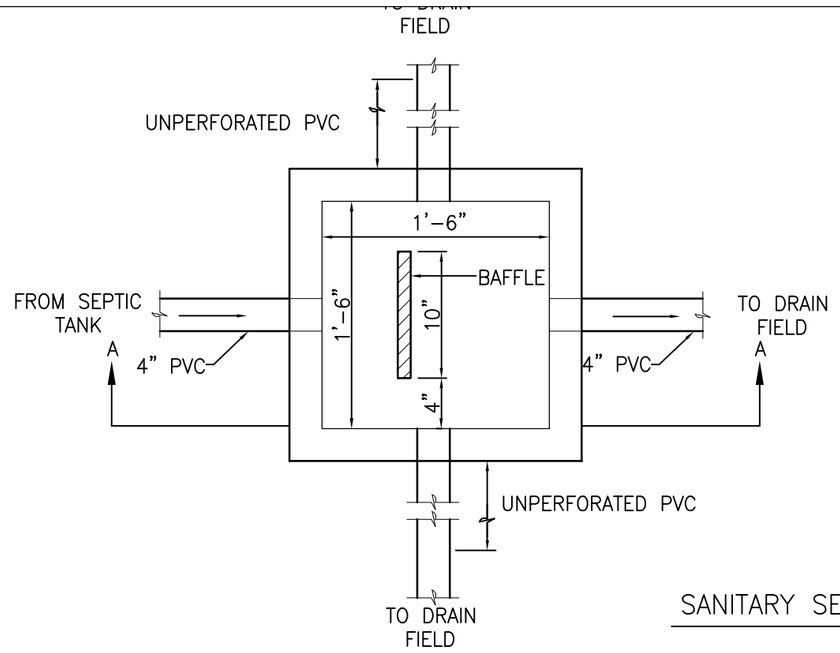
Plot Scale - 1"=20'

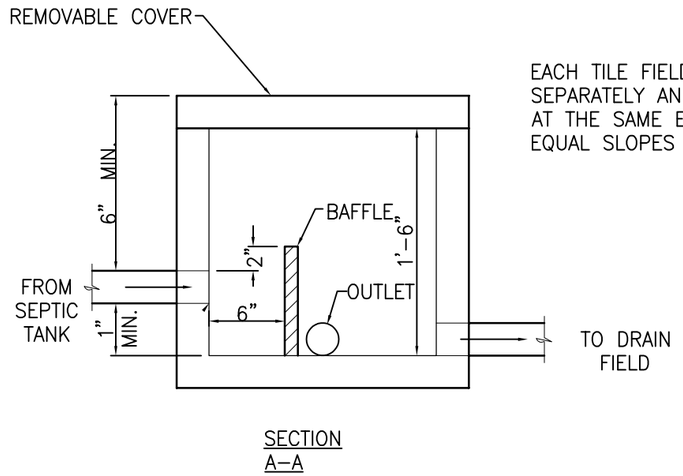
Plotted From - SchultzTM

File - G6

C-501 POE UTILITY DETAILS

NOTE: DISTRIBUTION BOX SHALL BE CONSTRUCTED OF CONCRETE OR OTHER APPROVED MATERIAL. BAFFLES SHALL BE INSTALLED AS REQUIRED IN DISTRIBUTION BOX WHERE UNEVEN DISTRIBUTION OF EFFLUENT COULD OCCUR.





SECTION A–A

EACH TILE FIELD LATERAL SHALL BE CONNECTED SEPARATELY AND NOT SUBDIVIDED. INVERTS SHALL BE AT THE SAME ELEVATION. OUTLET PIPES SHOULD HAVE EQUAL SLOPES FOR 6 FEET AFTER LEAVING BOX.

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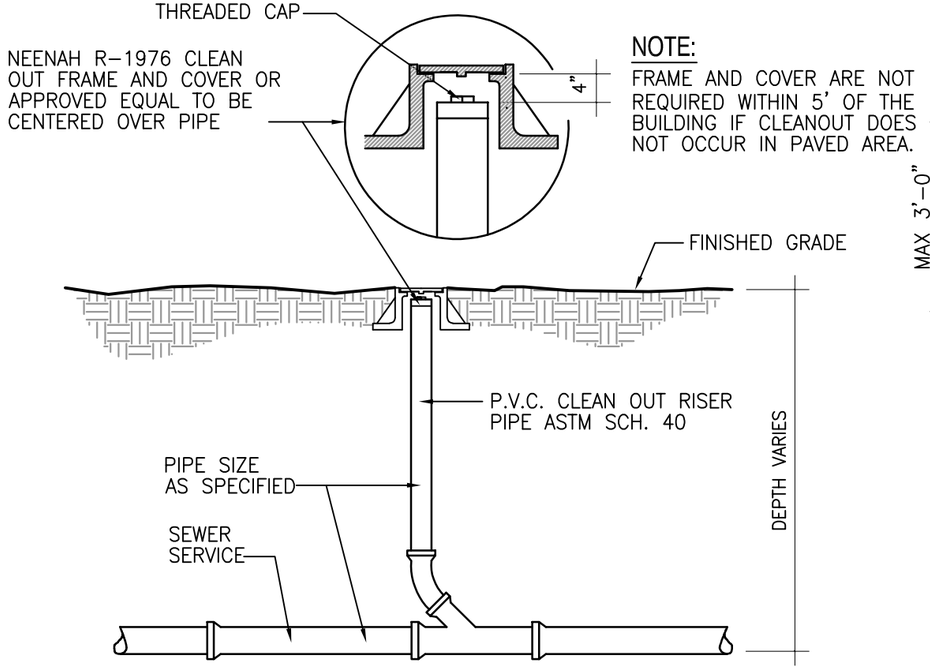
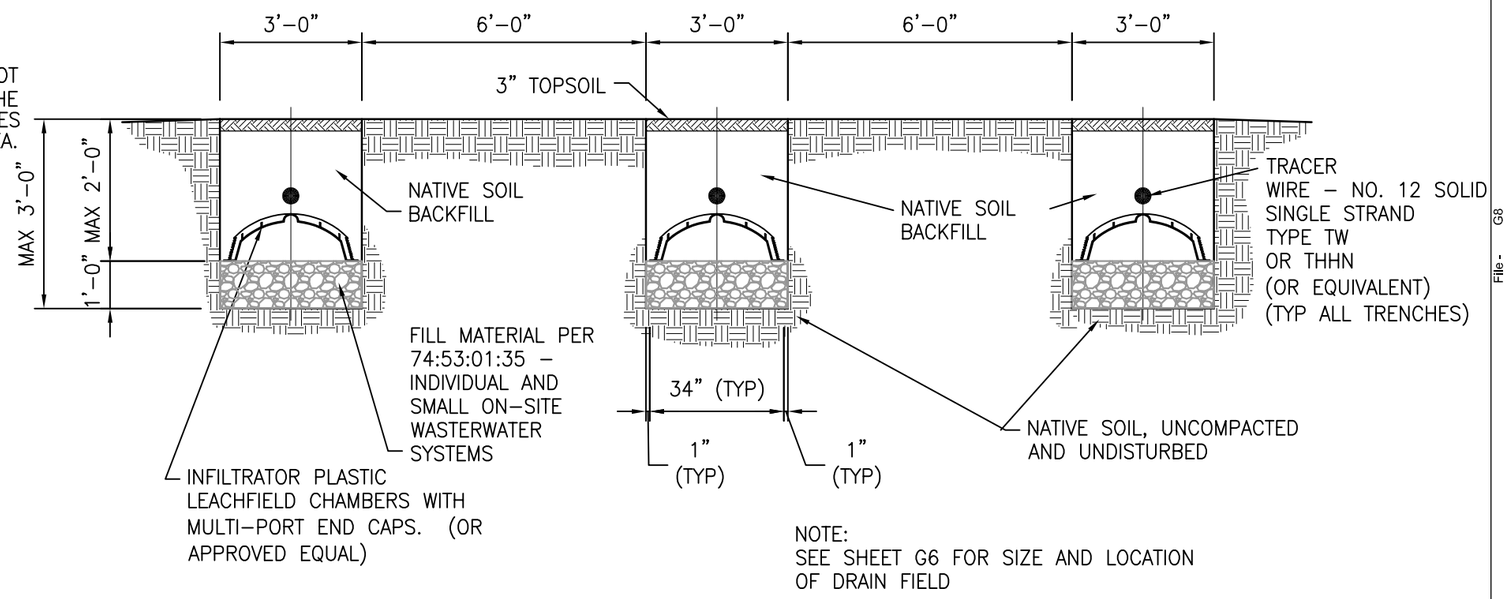
12-1-21

SANITARY SEWER DISTRIBUTION BOX



NOTE:
FRAME AND COVER ARE NOT REQUIRED WITHIN 5' OF THE BUILDING IF CLEANOUT DOES NOT OCCUR IN PAVED AREA.

SANITARY SEWER CLEANOUT



NOTE:
SEE SHEET G6 FOR SIZE AND LOCATION OF DRAIN FIELD

SANITARY SEWER SEPTIC DRAIN FIELD

C-502 WATER WELL/SITE DETAILS

PLEASE COMPLETE ENTIRE FORM

WELL DRILLERS REPORT
Division of Water Rights
Department of Water & Natural Resources
6/60

Well Owner: Name State of So Dak.
Address I-90 Weight station

Well Location:

Mark location with an "X"

North / W / E

1 mile

County Mead
SE ¼ NW ¼ ¼ Sec. 7 Twp. 4N Rg. 6E

Proposed Use:
☐ Domestic ☐ Municipal ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Stock

Method of Drilling:
☒ Forward Rotary ☐ Bored ☐ Jetted
☐ Reverse Rotary ☐ Cable ☐ Other

Well Construction:
Diameter of Hole 7"
Depth 760
Casing ☒ Steel ☐ Concrete
☐ Plastic ☐ Other
If other, specify
Was casing end left open X
Was a well screen installed
Describe Well Screen
Diameter Material
Slot size
Was well gravel packed
Was well grouted
Was water sample taken

Remarks:

JAN 1 1983
DIVISION OF WATER RIGHTS
Pierre, SD

Water Level Information:
Static water level 236 below land surface
If flowing: closed in pressure ____ PSI
rate of flow ____ GPM
Controlled by:
☐ Valve ☐ Reducers ☐ Other
If other; specify

Well Test Data:
☒ Pumped air at 75 GPM
☐ Bailed Describe:
☐ Other
Pumping Level Below Land Surface
240 ft. After 24 Hrs. pumped 35 GPM

Well Log:

Formation	Depth From	Depth To
Gravel	0	32
Red shale	32	190
Limestone	190	530
Red shale	530	660
White sandy shale	660	680
Brown sandstone	680	700
Red sandstone & shale	700	720
Yellow sandstone	720	740
White clay	740	760

(Use Back if Necessary)

Date Completed: 7-1-82

Driller: Brown Drilling 38
Driller's or Firm's Name License NO.
814 Bo 107
Rapid City S Dak
Address

1-7-83
Signed By Date

EXISTING WATER WELL DRILLER'S REPORT

WELL NOTES

1. WELLS SHALL BE INSTALLED PER "WELL CONSTRUCTION STANDARDS" STATE OF SOUTH DAKOTA CHAPTER 74:02:04 (STATE STANDARDS).
2. REFER TO SPECIFICATION SECTION 332100 – (WATER SUPPLY WELLS) FOR MORE INFORMATION.
3. DEPTH OF PUMP SHALL BE FIELD VERIFIED BASED ON CURRENT GROUND WATER DEPTH – ASSUME DEPTH OF PUMP OF AT LEAST 600 FEET BELOW SURFACE.
4. PUMP BASIS OF DESIGN IS A GRUNDFOS 3SS75–22, FLOW = 41GPM, HEAD = 183 PSI, SPEED = 3450 RPM, 22 STAGE, 3 PHASE, 208 V, 60 Hz, 4" MOTOR DIAMETER AND 1.5" NPT DISCHARGE. PRESSURE AT NEW POE BUILDING MUST BE A MINIMUM OF 52 PSI. OTHER PUMPS OR PUMP MANUFACTURERS MAY BE PROPOSED BY CONTRACTOR FOR APPROVAL OF ENGINEER.
5. CASING SHALL BE 5" NOMINAL STEEL PER STATE STANDARDS.
6. PITLESS ADAPTER PER STATE STANDARDS SHALL BE USED. DEPTH OF PIPE TO BUILDING SHALL HAVE A MINIMUM OF 6 FEET OF COVER.
7. REFER TO PLUMBING DRAWINGS FOR PRESSURE TANK AND OTHER WATER COMPONENTS.

REGISTERED PROFESSIONAL ENGINEER
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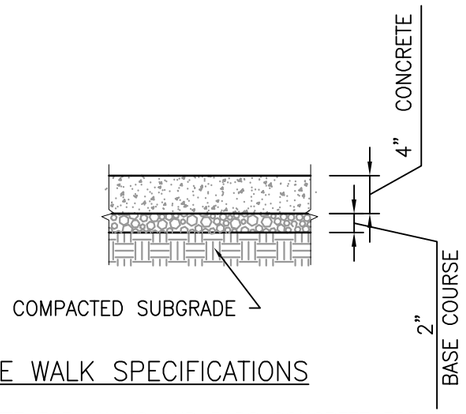
12-1-21

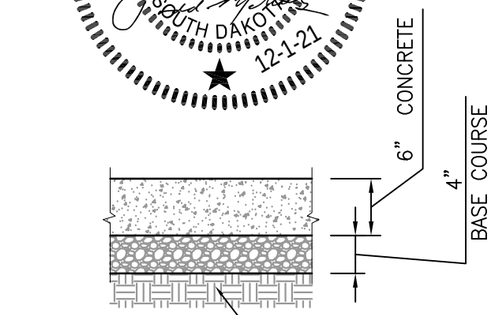
WELL NOTES



CONCRETE WALK SPECIFICATIONS

1. CONCRETE FOR WALKS AND PADS CONCRETE FOR WALKS AND PADS SHALL BE CLASS M6 CONCRETE PER SDDOT SPECIFICATION 462 OF THE "STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES," 2015 EDITION, AND PER ANY SECTIONS REFERENCED IN THAT SPECIFICATION.
2. CONCRETE WALK JOINT SEALANT SHALL BE LOW MODULUS SILICONE SEALANT PER SECTION 870 OF THE "STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES," 2015 EDITION AND ANY REFERENCED SECTIONS. JOINTS SHALL BE PER SPECIFICATION 651 OF THE "STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, 2015 EDITION AND PER SECTIONS REFERENCED IN THAT SPECIFICATION.

CONCRETE WALK SECTION



LOCATION

1. CONCRETE PAD SECTION WILL BE USED IN THE DUMPSTER AREA AND THE PROPANE TANK AREA.

CONCRETE SPECIFICATIONS

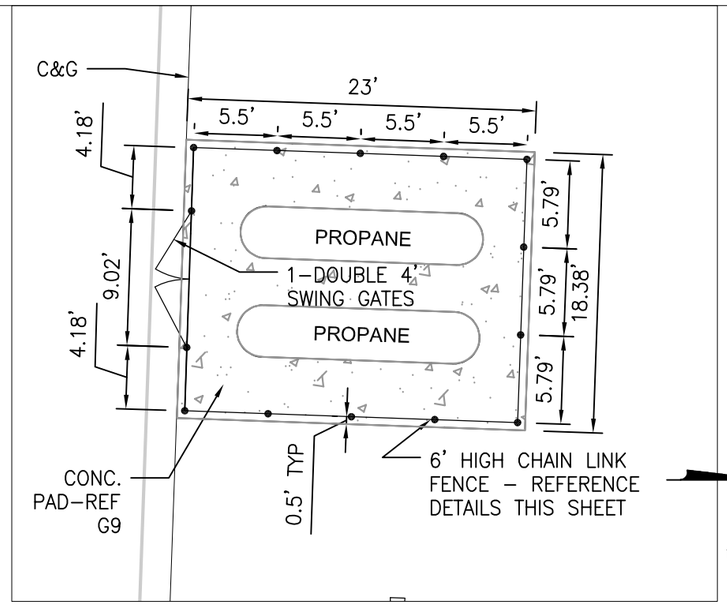
1. REF SIDEWALK DETAIL THIS SHEET.

CONCRETE PAD SECTION

SECTION G: PORT-OF-ENTRY BUILDING PLANS

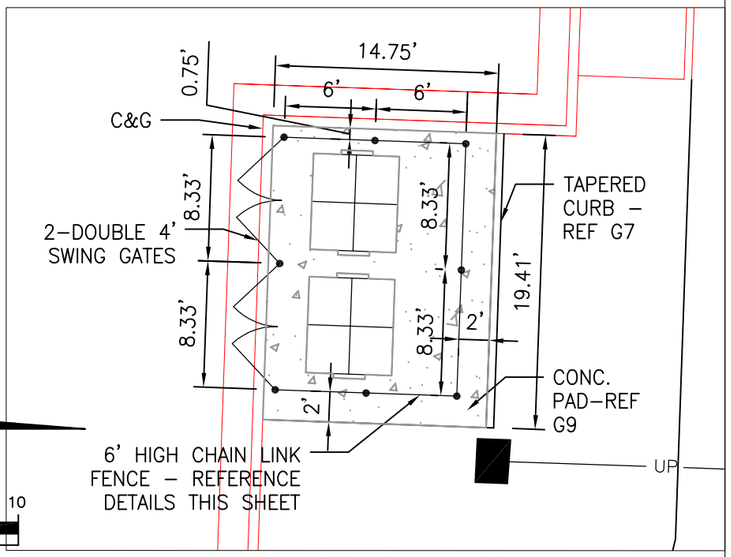
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G10	G47

Plotting Date: 12-01-2021



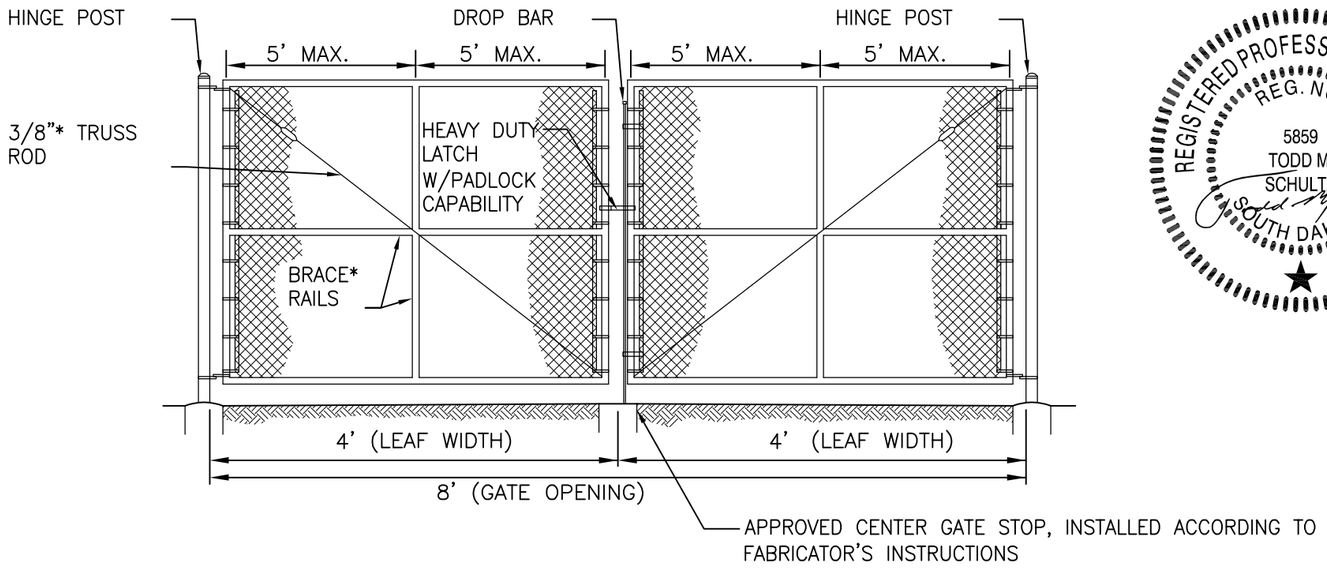
PROPANE TANK ENCLOSURE

C-503 POE FENCE DETAILS



DUMPSTER ENCLOSURE

10 0 5 10



DOUBLE VEHICULAR GATE

REGISTERED PROFESSIONAL ENGINEER
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12-1-21

GATE OPENING		FRAME PIPE NOMINAL	BRACE RAIL–PIPE NOMINAL
WIDTH [1]	HEIGHT [2]		
3'THRU 8'	3'THRU 6'	1.50"	1.50"

NOTE: GATE FRAMES MAY BE CONSTRUCTED OF BENT OR WELDED STEEL TUBING INSTALLED ACCORDING TO FABRICATOR'S INSTRUCTIONS AND SUBJECT TO THE ENGINEER'S APPROVAL.

GATE OPENING WIDTH [1]	HINGE POST	CONCRETE FOOTING	
	ROUND PIPE NOMINAL	DEPTH	DIAMETER
3' THRU 6'	4.00"	42"	12"
> 6' THRU 13'	4.00"	42"	12"

* ARE NOT REQUIRED FOR GATES 3' THRU 5' HEIGHT OR 5' OR LESS IN WIDTH.

** TENSION BANDS SHALL BE SPACED 12" C–C.

⬭ TIGHTENING DEVICE

1 LEAF WIDTH FOR DOUBLE GATE

2 SHALL COINCIDE WITH FENCE HEIGHT

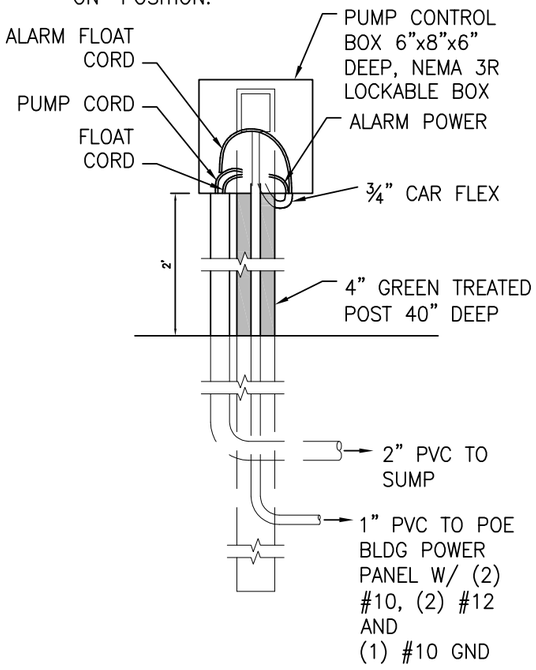
CHAIN LINK FENCE DETAILS

SECTION G: PORT-OF-ENTRY BUILDING PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G11	G47
Plotting Date:	12-01-2021		

ELECTRICAL GENERAL NOTES:

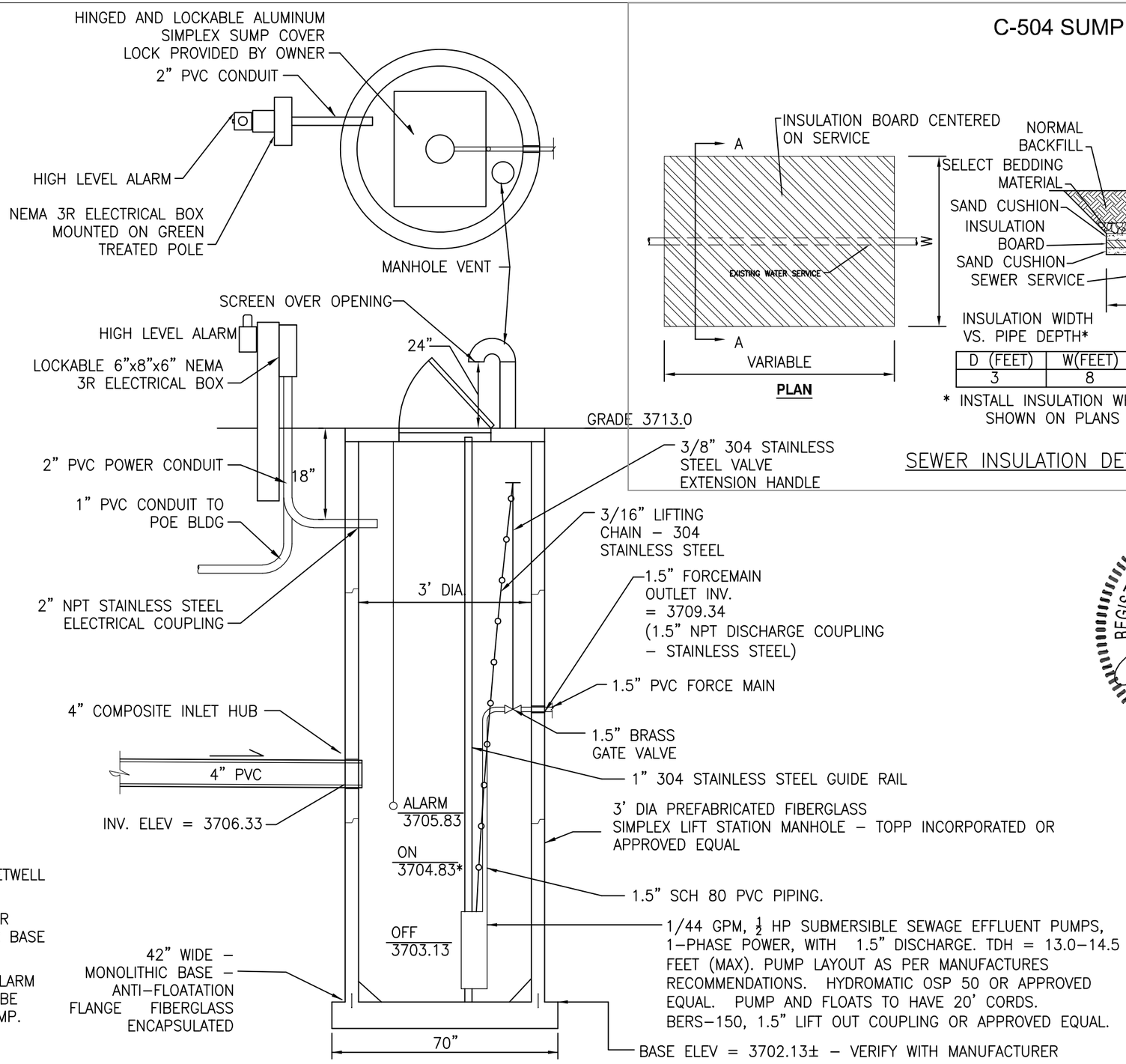
A. ELECTRICAL CONTRACTOR TO INSTALL TWO 1P20 BREAKERS IN NEW PANEL IN POE BUILDING. ROUTE (2) 20A FEEDERS IN (1) 1" PVC CONDUIT FROM NEW PANEL TO PUMP CONTROL BOX. PUMP CIRCUIT TO HAVE #10 CONDUCTORS. ALARM CIRCUIT TO BE HARD WIRED TO ALARM. ALARM CIRCUIT TO HAVE LOCKING DEVICE TO LOCK ALARM CIRCUIT BREAKER IN THE "ON" POSITION.



CONTROL PANEL/ALARM POST

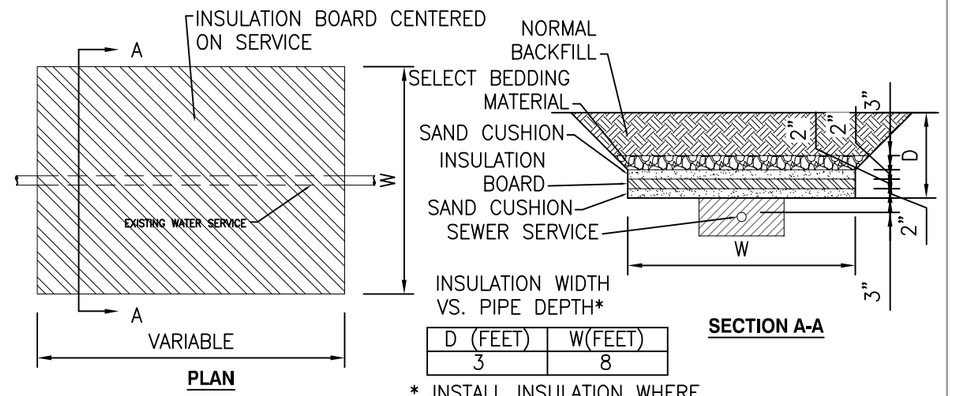
NOTES –

1. PACKAGED SYSTEM USING FIBERGLASS WETWELL SHALL BE USED.
2. CONTRACTOR SHALL INSTALL WETWELL PER MANUFACTURER'S RECOMMENDATIONS FOR BASE AND BACKFILL.
3. * CONTRACTOR SHALL USE A 1–FLOAT ALARM CONTROL SYSTEM. ON AND OFF SHALL BE CONTROLLED BY FLOAT ATTACHED TO PUMP.



SUMP PUMP DETAIL

C-504 SUMP PUMP DETAILS



INSULATION WIDTH VS. PIPE DEPTH*

D (FEET)	W(FEET)
3	8

* INSTALL INSULATION WHERE SHOWN ON PLANS

SEWER INSULATION DETAIL

REGISTERED PROFESSIONAL ENGINEER
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SOUTH DAKOTA
12-1-21

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G12	G47

S-001 STRUCTURAL GENERAL TITLE SHEET

GENERAL STRUCTURAL NOTES

DESIGN CODE

1. INTERNATIONAL BUILDING CODE, 2018

DESIGN LOADS

1. FLOOR LOADS
   FLOOR LIVE LOAD - 100 PSF
   MEZZANINE STORAGE FLOOR LIVE LOAD - 125 PSF
2. ROOF LIVE LOAD
   GROUND SNOW LOAD P_g = 40 PSF
   FLAT ROOF SNOW LOAD P_f = 28 PSF
   SNOW EXPOSURE FACTOR C_e = 1.0
   SNOW LOAD IMPORTANCE FACTOR I = 1.0
   THERMAL FACTOR C_t = 1.0
   PLUS APPLICABLE SLIDING, DRIFTING AND UNBALANCED SNOW LOAD INCREASES
3. CONCENTRATED LOADS AS SHOWN IN IBC TABLE 1607.1 SHALL BE ADDED TO THE UNIFORM LOADS SHOWN ABOVE.
4. WIND LOADS
   ULTIMATE WIND SPEED = 112 MPH
   RISK CATEGORY II (ASCE 7-16)
   WIND EXPOSURE = C
5. SEISMIC LATERAL LOADS
   RISK CATEGORY II (ASCE 7-16)
   SPECTRAL RESPONSE COEFFICIENTS
   S_S (0.2 SEC)= 0.127g
   S_1 (1.0 SEC)= 0.04g
   SEISMIC IMPORTANCE FACTOR = 1.00
   SITE CLASS D (ASSUMED)
   SEISMIC DESIGN CATEGORY A

MATERIALS GRADES AND STRENGTHS

1. CAST-IN-PLACE CONCRETE
   FOOTINGS AND FOUNDATIONS - 4000 PSI
   INTERIOR SLAB ON GRADE - 4000 PSI
   NON-STRUCTURAL TOPPING SLAB - F'c = 4000 PSI AT 28 DAYS
2. MASONRY
   CONCRETE MASONRY UNITS - ASTM C90
   MASONRY CORE FILL AND BOND BEAMS - 3000 PSI
3. REINFORCING STEEL
   BARS - ASTM A615 (GRADE 60)
   BARS – ASTM A706 (WELDABLE REBAR) USE WHERE INDICATED
4. STRUCTURAL STEEL
   WIDE FLANGE SHAPES - ASTM A992 (Fy=50 KSI)
   PLATES AND OTHER SHAPES - ASTM A36 (Fy=36 KSI)
   HOLLOW STRUCTURAL SECTION (RECTANGULAR)- ASTM A500, GRADE C (Fy=50 KSI)
   HIGH STRENGTH BOLTS, UNO - A325N
   ANCHOR BOLTS/RODS - ASTM F1554, GRADE 36
   EXPANSION BOLTS - HILTI KWIK BOLT III
   HEADED STUDS - ASTM A108
6. WOOD FRAMING
   DIMENSION LUMBER - HEM-FIR #2 OR BETTER
   STUDS - HEM-FIR #2 OR BETTER
   MICROLAMS (LVL) – Fb=2600 psi, E= 1,900,000 psi, Fv =285 psi
   GLUED-LAMINATED TIMBER - 24FV8 DF/DF Fb = 2,400 psi
   SHEATHING (SUBFLOOR, ROOF, WALL) - APA RATED, THICKNESS, GRADE & EXPOSURE AS NOTED ON THE DRAWINGS
   BOTTOM PLATES – TREATED HEM-FIR STUD GRADE

GENERAL

1. THE INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS IS NOT TO BE SCALED, AS THE ITEMS SHOWN MAY NOT BE TO SCALE FOR THE SPECIFIC LOCATION.
2. NO OPENINGS OR SLEEVES SHALL BE CUT OR PROVIDED IN WALLS OR FLOOR CONSTRUCTION WITHOUT APPROVAL BY THE ARCHITECT/ENGINEER.
3. EXAMINE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS TO DETERMINE LOCATION AND DIMENSIONS OF CHASES, INSERTS, OPENINGS, SLEEVES, REVEALS, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.
4. BEFORE FABRICATION AND ERECTION OF ANY MATERIALS, FIELD VERIFY ALL EXISTING ELEVATIONS, DIMENSIONS AND CONDITIONS AS SHOWN ON THE DRAWINGS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT/ENGINEER AT ONCE FOR RESOLUTION.
5. STRUCTURAL MEMBERS INCLUDING JOISTS, SLABS, BEAMS, TRUSSES, COLUMNS AND WALLS ARE DESIGNED FOR "IN PLACE" LOADS. CONTRACTOR IS RESPONSIBLE FOR BRACING, WITHOUT OVERSTRESSING, ALL STRUCTURAL ELEMENTS (AS REQUIRED AT ANY STAGE OF CONSTRUCTION) UNTIL COMPLETION OF THIS PROJECT.

FOUNDATIONS

1. FOOTINGS HAVE BEEN DESIGNED FOR A MAXIMUM SOIL BEARING PRESSURE OF 2000 PSF. REFERENCE SDDOT "REPORT OF FOUNDATION INVESTIGATION" PROJECT IM-FP 0901(195)32 MEADE COUNTY PCN 021G DATED 08-04-2020. IF THE SOIL AT THE FOOTING ELEVATIONS SHOWN IS OF QUESTIONABLE BEARING VALUE, NOTIFY THE ARCHITECT/ ENGINEER AT ONCE FOR RESOLUTION.
2. TESTING SERVICE MUST INSPECT AND APPROVE SUBGRADES AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS PERFORMED THEREON. NOTIFY TESTING SERVICE PRIOR TO PROCEEDING WITH PLACEMENT OF FOOTINGS, FILL, OR OTHER CONSTRUCTION OVER SUBGRADES AND FILL.
3. WATER SHALL NOT BE PERMITTED TO POND IN FOOTING EXCAVATION. KEEP EXCAVATION DRY. FAILURE TO DO SO WILL BE CAUSE FOR REQUIRING CONTRACTOR TO REMOVE WATER DAMAGED SOILS AND REPLACE WITH CONTROLLED FILL AS DIRECTED AT NO ADDITIONAL COST TO THE OWNER.
4. SHOULD ANY QUESTIONABLE CONDITIONS BE ENCOUNTERED DURING EXCAVATION, NOTIFY ARCHITECT/ENGINEER IMMEDIATELY. FOOTING ELEVATIONS ARE SUBJECT TO CHANGE DEPENDING ON SOIL CONDITIONS ENCOUNTERED.
5. REMOVE ANY ABANDONED SEWER OR SERVICE LINE ENCOUNTERED DURING EXCAVATION WITHIN THE BUILDING LINES. SHOULD SUCH LINES BE FOUND BELOW OR ADJACENT TO FOOTING LOCATIONS, NOTIFY THE ARCHITECT/ENGINEER.
6. ALL FOOTINGS SHALL BE CENTERED UNDER WALLS. NO OFFSETS SHALL BE PERMITTED.
7. WHERE FILL MATERIAL IS PLACED ON BOTH SIDES OF GRADE BEAMS OR WALLS, IT SHALL BE PLACED IN LAYERS ALTERNATELY ON OPPOSITE SIDES TO MAINTAIN LEVELS THAT WILL AVOID DISPLACEMENT OF, OR DAMAGE TO, THE WALLS OR BEAMS.
8. WHERE FILL MATERIAL IS PLACED ON ONE SIDE OF A WALL, THE WALL SHALL BE ADEQUATELY SHORED AND BRACED OR THE MATERIAL SHALL NOT BE PLACED UNTIL SUPPORTING FLOOR SLABS HAVE BEEN POURED AND SET.
10. NO FILL OR BACKFILL SHALL BE "SETTLED" BY THE USE OF WATER.
11. PROVIDE DRAINAGE COURSE BELOW ALL INTERIOR, EARTH SUPPORTED, CONCRETE SLABS UNLESS NOTED OTHERWISE. REFERENCE PLANS AND SPECIFICATIONS.
12. CONTINUOUS FOOTINGS SHALL BE STEPPED AT A SLOPE OF ONE VERTICAL TO ONE HORIZONTAL AT LOCATIONS NOTED ON THE PLANS. (REF DETAIL B4/S-002)
13. PROTECT IN-PLACE FOUNDATIONS AND SLABS ON GRADE FROM FROST PENETRATION UNTIL PROJECT COMPLETION.
14. SLOPE BETWEEN ADJACENT FOOTINGS OR EXCAVATIONS SHALL NOT EXCEED ONE VERTICAL TO TWO HORIZONTAL. STEP FOOTINGS DOWN AS NECESSARY TO MAINTAIN THIS SLOPE.
15. ALL EXTERIOR DOORS SHALL HAVE A FROST-FREE STOOP.
16. AT LOCATIONS IN WHICH UTILITIES PENETRATE THE FOUNDATION WALL, PROVIDE A SLEEVE IN THE CONCRETE FOUNDATION WALL. (REF DETAIL B5/S-002)

CONCRETE

1. CODE FOR REINFORCED CONCRETE DESIGN AND CONSTRUCTION IS ACI 318, LATEST EDITION.
2. ARRANGEMENT AND BENDING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI DETAILING MANUAL, LATEST EDITION
3. THICKEN SLABS ON GRADE BELOW NON-BEARING INTERIOR MASONRY WALLS. (REF DETAIL C3/S-002)
4. IN ADDITION TO OTHER REINFORCING NOTED, PROVIDE 2 - #5 ON EVERY SIDE OF EACH OPENING IN CONCRETE WALLS. EXTEND #5 BARS 24" BEYOND EACH EDGE OF OPENING.
5. POLYPROPYLENE FIBER REINFORCING, FIBRILLATED, (BY FIBERMESH OR APPROVED EQUAL) IS TO BE USED FOR ALL INTERIOR AND EXTERIOR SLAB-ON-GRADE LOCATIONS SHOWN ON THESE STRUCTURAL SHEETS AS TEMPERATURE AND SHRINKAGE REINFORCING, UNLESS NOTED OTHERWISE. APPLY REINFORCING AT THE MANUFACTURER'S RECOMMENDED RATE OR 1.5 LB/CY, WHICHEVER IS GREATER.
6. PROVIDE FLOOR DRAINS AS SHOWN ON ARCHITECTURAL AND/OR MECHANICAL DRAWINGS. REFERENCE ARCHITECTURAL AND/OR MECHANICAL FOR DRAIN TYPES, QUANTITIES, LOCATIONS, AND FLOOR SLOPES.
7. ALL REINFORCING BARS, WHERE AT LEAST 2 BAR DIAMETERS OF SPACING OR 1 BAR DIAMETER OF CLEAR COVER IS PROVIDED AROUND THE BARS, SHALL BE LAP SPLICED 50 BAR DIAMETERS (FOR #6 BARS & SMALLER) OR 62 BAR DIAMETERS (FOR #7 & GREATER). IF 2 BAR DIAMETERS OF SPACING OR 1 BAR DIAMETER OF CLEAR COVER IS NOT PROVIDED THEN REINFORCING BARS SHALL BE LAP SPLICED 74 BAR DIAMETERS (FOR #6 BARS & SMALLER) OR 93 BAR DIAMETERS (FOR #7 & GREATER). STAGGER LAPS IN SLABS AND WALLS. SPLICE BARS IN GRADE BEAMS, STRUCTURAL SLABS, JOISTS, BEAMS, PILASTERS OR COLUMNS ONLY WHERE SHOWN ON DRAWINGS OR SCHEDULES APPROVED BY A/E.
8. MINIMUM CONCRETE COVER TO REINFORCING STEEL, UNO, SHALL BE AS FOLLOWS:

   SURFACES CAST AGAINST EARTH - 3"

   FORMED SURFACES IN CONTACT WITH EARTH OR EXPOSED TO WEATHER:
   #6 BAR OR LARGER - 2"
   #5 BAR OR SMALLER - 1-1/2"

   FORMED SURFACES NOT IN CONTACT WITH EARTH OR EXPOSED TO WEATHER:
   WALLS, SLABS, JOISTS
   #14 AND #18 BARS - 1-1/2"
   #11 BAR OR SMALLER – 3/4"
   BEAMS, COLUMNS - 1-1/2"
9. DETAIL AND PROVIDE SUITABLE WIRE SPACERS, CHAIRS, TIES, ETC., FOR SUPPORTING REINFORCING STEEL IN THE PROPER POSITION WHILE PLACING CONCRETE.
10. ALL CHAIRS SUPPORTED BY GRADE SHALL INCLUDE SAND PLATES.
11. BAR SUPPORTS, WHICH COME IN CONTACT WITH EXPOSED SURFACES, SHALL HAVE PLASTIC OR RUBBER TIPS OR BE STAINLESS STEEL.
12. PROVIDE HOOKED DOWELS OF SAME SIZE AND SPACING AS VERTICAL OR COLUMN REINFORCING AT THE FOUNDATION, UNLESS NOTED OTHERWISE. ALL HOOKED DOWELS SHALL BE TIED IN PLACE PRIOR TO CONCRETE PLACEMENT.
13. PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF WALLS, BOND BEAMS, AND FOOTINGS. (REF DETAIL D3/S-002)
14. CONTINUOUS TOP BARS IN BEAMS SHALL BE SPLICED AT MIDSPAN AND BOTTOM BARS OVER SUPPORTS, UNO.
15. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, OR WHEN ALTERNATE LOCATIONS ARE PROPOSED, DRAWINGS SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS AND PLACING SEQUENCE SHALL BE SUBMITTED FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCING STEEL SHOP DRAWINGS.
16. HORIZONTAL CONSTRUCTION JOINTS ARE NOT PERMITTED IN CONCRETE MEMBERS UNLESS SHOWN ON THE DRAWINGS OR APPROVED IN ADVANCE. VERTICAL CONSTRUCTION JOINTS OR BULKHEADS SHALL BE MADE AT MIDSPAN OR POINTS OF MINIMUM SHEAR.
17. PROVIDE KEYED CONSTRUCTION JOINTS (KCJ) IN EARTH OR FILL SUPPORTED SLABS AT LOCATIONS NOTED.
18. SIZE OF CONCRETE POURS BETWEEN CONSTRUCTION JOINTS SHALL BE LIMITED TO:

    FOUNDATION WALLS – UNLIMITED (FROST DEPTH - NON-EXPOSED)

    WALLS - MAXIMUM LENGTH 60 FT WITH INTERMEDIATE CONTROL JOINTS AT APPROXIMATELY 8 FT OR TWO TIMES THE WALL HEIGHT, WHICHEVER IS LESS. DO NOT LOCATE WITHIN 5 FT OF A CORNER OR COLUMN.

    RETAINING WALLS - MAXIMUM LENGTH 60 FT. WITH INTERMEDIATE CONTROL JOINTS AT APPROXIMATELY 8 FT. OR TWO TIMES THE WALL HEIGHT, WHICHEVER IS LESS. DO NOT LOCATE WITHIN 5 FT OF A CORNER OR COLUMN.

    SLABS ON GRADE - 3600 SQFT WITH MAXIMUM DIMENSION OF 60 FT PLACE IN LANE OR STRIP. FASHION WITH INTERMEDIATE CONTROL JOINTS AT APPROXIMATELY 15 FT.
19. VERIFY LOCATION OF OPENINGS SHOWN THROUGH CONCRETE SLABS OR WALLS AND COORDINATE ANY ADDITIONAL REQUIRED OPENINGS WITH OTHER TRADES AND THE ARCHITECT/ENGINEER.
20. CONCRETE EXPOSED TO FREEZING AND THAWING SHALL CONTAIN 5-7% ENTRAINED AIR.
21. ALUMINUM CONDUIT OR PIPING MAY NOT BE EMBEDDED IN ANY CONCRETE.
22. CALCIUM CHLORIDE IS NOT PERMITTED IN ANY CONCRETE ADMIXTURES.
23. SUBMIT MIX DESIGN TO ENGINEER/ARCHITECT FOR APPROVAL PRIOR TO PLACING ANY CONCRETE.
24. CURE CONCRETE ACCORDING TO ACI 308.1 OR A COMBINATION OF MOISTURE CURING, COVER CURING, CURING COMPOUNDS, OR CURING & SEALING COMPOUNDS.

MASONRY

1. PROVIDE VERTICAL REINFORCEMENT IN MASONRY WALLS THUS, UNO:
   EXTERIOR WALLS #5 @ 32" OC
   INTERIOR WALLS #5 @ 32" OC
2. DOWEL VERTICAL WALL REINFORCING TO FOUNDATION, FOOTING, OR THICKENED SLAB WITH 2'-0" BARS OF SAME SIZE, UNO.
3. REINFORCE EACH SIDE OF ALL OPENINGS AND AT CORNERS IN MASONRY WALLS WITH (2) #5 VERTICAL FULL HEIGHT.
4. REINFORCE ALL BOND BEAMS WITH (2) #5 BOTTOM CONTINUOUS. REINFORCING TO BEND 1'-6" AROUND ALL CORNERS OR USE 3'-0" CORNER BARS.
5. SHOP WELD ALL LINTEL UNITS.
6. PROVIDE 1/2 TON OF FURNISHED AND INSTALLED LINTELS AND BRACING IN ADDITION TO THOSE REQUIRED BY DRAWINGS, NOTES AND SCHEDULES. ADDITIONAL STEEL SHALL BE INSTALLED AS DIRECTED BY A/E.
7. PROVIDE 1/4-INCH PLATE LINTELS AT RECESSED TOWEL DISPENSERS AND FIRE EXTINGUISHER CABINETS.
8. AT ALL UNFRAMED OPENINGS 3'-0" WIDE OR NARROWER, WHERE NO STEEL LINTEL IS INDICATED, PROVIDE REINFORCED CONCRETE BLOCK LINTELS. REINFORCE WITH 1-#5 PER 4" WALL THICKNESS. END BEARINGS 8" MINIMUM. NOTIFY A/E IF BEAM, JOIST OR COLUMN BEARING OCCURS ABOVE OPENING.
9. PROVIDE WELDED WIRE JOINT REINFORCING IN ALL MASONRY WALLS AT 16" O.C. MAXIMUM.
10. PROVIDE REINFORCING BARS AT LOCATIONS INDICATED ON THE DRAWINGS. LAP 48 BAR DIAMETERS AT SPLICES IN VERTICAL WALL REINFORCING AND 48 BAR DIAMETERS ELSEWHERE UNLESS NOTED OTHERWISE.
11. GROUT CORES IN 5'-0" MAXIMUM LIFTS.
12. TIE VERTICAL REINFORCING TO JOINT REINFORCING AT 32" ON CENTER VERTICALLY TO MAINTAIN POSITIONING WHILE GROUTING.
13. PROVIDE 1-#5 VERTICAL BELOW BEAM AND LINTEL BEARINGS AND GROUT CORE FULL HEIGHT. BEARING DISTANCE SHALL BE A MINIMUM OF 8". BEAM OR LINTEL SHALL BE SET IN GROUT, 1/2" MINIMUM DEPTH. PROVIDE 1-#5 VERTICAL, FROM TOP OF FOUNDATION TO TOP OF WALL, IN CORES ADJACENT TO BEAM AND LINTEL BEARINGS AND GROUT CORE FULL HEIGHT.
14. ALL LINTELS AND LOOSE BRICK ANGLES TO BE TEMPORARILY SHORED UNTIL MASONRY HAS HARDENED.
15. CMU CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID WITH CORE FILL CONCRETE. FILLING CORES WITH MORTAR IS NOT ACCEPTABLE.
16. STEEL COLUMNS EMBEDDED WITHIN CMU WALLS SHALL BE WRAPPED WITH TWO LAYERS OF 15# BUILDING PAPER TO BREAK THE BOND BETWEEN THE STEEL COLUMN AND THE CMU AND MORTAR. CARE IS TO BE TAKEN TO ALLOW FOR DIFFERENTIAL MOVEMENT OF THE STEEL AND CMU.
17. PLACE CONTROL JOINTS IN MASONRY WALLS SUCH THAT NO STRAIGHT RUN OF MASONRY EXCEEDS 25'-0" OR 1-1/2 TIMES THE WALL HEIGHT, WHICHEVER IS LESS, UNO. CONTROL JOINTS SHALL BE PROVIDED AT CHANGES IN WALL HEIGHT, CHANGES IN WALL THICKNESS AND WITHIN A DISTANCE OF 12'-0" OF CORNERS AND INTERSECTIONS. CONTROL JOINTS MAY NOT BE LOCATED ALONG THE EDGES OF WALL OPENINGS OR BETWEEN THE OPENINGS AND THE ADJACENT GROUTED JAMBS.
18. UNLESS DETAILED OTHERWISE, CONSTRUCT NON-LOAD-BEARING MASONRY WALLS SUCH THAT THEY ARE BRACED AGAINST LATERAL MOVEMENT BY 14 GA. STEEL ANGLE, CONTINUOUS, EACH SIDE AT TOP OF WALL. CONNECT ANGLE TO ROOF OR FLOOR STRUCTURE. SNUG FIT CONNECTION TO MASONRY TO ALLOW FOR VERTICAL DEFLECTION OF ROOF OR FLOOR STRUCTURE WHILE INHIBITING LATERAL DEFLECTION OF MASONRY WALL.
19. CONSTRUCT ALL MASONRY WALLS, WHETHER LOAD BEARING OR NON-LOAD-BEARING, WHETHER PARTIAL HEIGHT OR FULL HEIGHT, WITH A BOND BEAM AT THE TOP COURSE AND AT ROOF/FLOOR MEMBER BEARING LOCATIONS. THIS BOND BEAM IS TO BE REINFORCED WITH 2-#5 BARS, CONTINUOUS. PROVIDE ADDITIONAL BOND BEAMS SPACED AT A MAXIMUM OF 8'-0" OC VERTICALLY THROUGHOUT THE HEIGHT OF THE WALL. ANY VERTICAL REINFORCING IN THE WALL IS TO EXTEND FULLY INTO (OR THROUGH) BOND BEAMS.
20. MASONRY STRENGTH NOTES:

    F'm = 1500 PSI, EXCEPT WHERE NOTED OTHERWISE ON DRAWINGS. CONTRACTOR SHALL SUBMIT CERTIFICATION AND TESTING RESULTS AS REQUIRED TO ESTABLISH F'm BASED ON THE UNIT STRENGTH METHOD. MINIMUM COMPRESSIVE STRENGTH OF MASONRY UNITS IS 1900 PSI PER IBC TABLE 2105.2.2.1.2 FOR TYPE M OR S MORTAR. SUBMITTALS SHALL BE REVIEWED AND APPROVED PRIOR TO MASONRY CONSTRUCTION STARTING.
21. SUBMIT MIX DESIGN OF CORE FILL CONCRETE AND BOND BEAM FILL CONCRETE TO ENGINEER/ARCHITECT FOR APPROVAL PRIOR TO PLACING ANY CONCRETE.
22. FOR ALL OPENINGS THROUGH MASONRY WALLS INCLUDING MECHANICAL AND ELECTRICAL OPENINGS, PROVIDE ONE OF THE FOLLOWING (UNLESS NOTED OTHERWISE)

    CMU LINTELS (MINIMUM BEARING OF 6" ON SOLID MASONRY)

12" CMU	8" CMU	6" CMU	WALL TYPE
2-#4 BOT.	2-#4 BOT.	1-#4 BOT.	NON BRG. WALL UP TO 3'-4" SPAN
2-#5 BOT.	2-#5 BOT.	1-#5 BOT.	NON BRG. WALL 3'-5" TO 6'-4" SPAN
2-#5 BOT.	2-#5 BOT.	---------	BRG. WALL UP TO 4'-6" SPAN
2-#5 T&B	2-#6 T&B	---------	BRG. WALL 4'-7" TO 6'-4" SPAN (2 COURSES)(2 COURSES)
23. FILL CMU LINTELS SOLID WITH 3,000 PSI CONCRETE (3/8" MAXIMUM AGGREGATE).

SYMBOLS LEGEND

100'-0"	99'-4"	STP FTG	STP WALL	CONT	C1
TOP OF FOUNDATION WALL ELEVATION	TOP OF FOOTING ELEVATION	FOOTING STEP	FOUNDATION WALL STEP	CONTINUOUS BEAM INDICATOR	CORNER REINF INDICATOR
P1	R1	A / A	234	1	GRID
MASONRY PIER INDICATOR	WALL REINFORCING INDICATOR	DETAIL SECTION INDICATOR	EQUIPMENT INDICATOR	REVISION SYMBOL	COLUMN/FND GRID INDICATOR
SPAN	ELEVATION TAG	12 / 4	XX" Ø X / XX-X" / XX-X"		KEYNOTE IDENTIFIER
PC SPAN IDENTIFIER		ROOF SLOPE INDICATOR	PIER TAG INDICATOR		
A1 / A-101	A1 / A-101 / A1 / A-101	A1 / A-101	A1 / A-101		PLAN NORTH / NORTH ORIENTED 90° TO THE SHEET
DETAIL INDICATOR	BUILDING SECTION INDICATOR	WALL SECTION INDICATOR	EXTERIOR ELEVATION SYMBOL	DETAIL BUBBLE INDICATORS	PLAN NORTH
MATCH LINE / SEE - - - -	A1 PLAN OR DETAIL SCALE: 1'-0" = 1'-0"				OPTIONAL SYMBOLS ADDED TO PLAN NORTH / TRUE NORTH MAGNETIC NORTH
MATCH LINE INDICATOR	DETAIL/SECTION/PLAN INDICATOR				

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MOST COMMONLY USED STRUCTURAL ABBREVIATIONS

SYMBOLS USED AS ABBREVIATIONS:

&	AND
L	ANGLE
LL	DOUBLE ANGLE
@	AT
℄	CENTER LINE
/ /	PARALLEL
d	PENNIEY
⊥	PERPENDICULAR
₧	PLATE
#	POUND OR NUMBER
Ø	ROUND OR DIAMETER

ABBREVIATIONS:

A&E	ARCHITECTURAL AND ENGINEERING
AB	ANCHOR BOLT/ROD
ABV	ABOVE
ADDM	ADDENDUM
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT, ADJOINING
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
AHR	ANCHOR, ANCHORAGE
ALT	ALTERNATE
APPROX	APPROXIMATE
ARCH	ARCHITECT (URAL)
BEV	BEVELED
BFF	BELOW FINISH FLOOR
BL	BRICK LEDGE
BLK	BLOCK (ING)
BM	BEAM
BOT	BOTTOM
BO	BOTTOM OF
BOC	BOTTOM OF CONCRETE
BOF	BOTTOM OF FOOTING
BRG	BEARING
BRK	BRICK
BSMT	BASEMENT
BTWN	BETWEEN
C	CHANNEL
CF	CUBIC FEET OR FOOT
CHFR	CHAMFER
CIPC	CAST-IN-PLACE CONCRETE
CJ	CONTROL JOINT
CL	CENTER LINE
CL	CONCENTRATED LOAD
CLG	CEILING
CLR	CLEAR,CLEARANCE
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT (ION)
CONSTR	CONSTRUCTION
CONT	CONTINUOUS, CONTINUE
CONTR	CONTRACT (OR)
COORD	COORDINATE
CORR	CORRUGATED
CTR	CENTER
CY	CUBIC YARD
DBL	DOUBLE
DEMO	DEMOLITION, DEMOLISH
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIV	DIVIDE, DIVISION
DL	DEAD LOAD
DR	DRAIN
DT	DRAIN TILE
DWG	DRAWING (S)
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
EMB	EMBED (ED)
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXP	EXPOSED
EXP BT	EXPANSION BOLT
EXT	EXTERIOR
FD	FLOOR DRAIN
FFE	FINISH FLOOR ELEVATION
FIN	FINISH (ED)
FLG	FLANGE
FLR	FLOOR (ING)
FND	FOUNDATION
FO	FACE OF
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FT	FOOT, FEET
FTG	FOOTING
FS	FAR SIDE
FUT	FUTURE
GA	GAGE, GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLU-LAM	GLU LAMINATED (BEAM)
GR BM	GRADE BEAM
GRTG	GRATING
GYP	GYPSUM
H	HEIGHT
HAB	HEADED ANCHOR BOLT
HAS	HEADED ANCHOR STUD
HC	HOLLOW CORE
HDR	HEADER
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SHAPE
HT	HEIGHT
ID	INSIDE DIAMETER
INCL	INCLUDE (D), INCLUDING
INSUL	INSULATE (D), INSULATION
INT	INTERIOR
INV EL	INVERT ELEVATION
JST	JOIST
JT	JOINT
K	THOUSAND POUND (KIP)
KCJ	KEYED CONSTRUCTION JOINT
KIP	THOUSAND POUND
KLF	THOUSAND POUND PER LINEAR FOOT
KSF	THOUSAND POUND PER SQUARE FOOT
KSI	THOUSAND POUND PER SQUARE INCH
L	LENGTH
LAM	LAMINATE (ED)
LB	POUND
LF	LINEAR FEET
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDINAL
LTL	LINTEL
LT WT	LIGHTWEIGHT
LVR	LOUVER
MACH	MACHINE
MATL	MATERIAL
MAX	MAXIMUM
MBR	MEMBER
MC	MISCELLANEOUS CHANNEL
MECH	MECHANICAL
MFR	MANUFACTURE (R)
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NS	NEAR SIDE
NSNM	NON-SHRINK, NON-METALLIC
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OPP	OPPOSITE
PAR	PARALLEL
PCF	POUNDS PER CUBIC FOOT
PED	PEDESTAL
PERF	PERFORATED
PERP	PERPENDICULAR
PC	PRECAST
PREFAB	PREFABRICATE
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLYWD	PLYWOOD
PNL	PANEL
PR	PAIR
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
PT	POST TENSION (ED)
PT	POINT
PVC	POLYVINYL CHLORIDE
R	RADIUS/RISE (R)
RCP	REINFORCED CONCRETE PIPE
REF	REFERENCE
REINF	REINFORCE (D), (ING)
REQ	REQUIRE
REQD	REQUIRED
REV	REVISION (S), REVISED
RO	ROUGH OPENING
R/S	REVERSE (SIDE)
SECT	SECTION
SHT	SHEET
SHTHG	SHEATHING
SIM	SIMILAR
SLV	SLEEVE
SLNT	SEALANT
SOG	SLAB-ON-GRADE
SPEC	SPECIFICATION (S)
SQ	SQUARE
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SUSP	SUSPENDED
SYMM	SYMMETRY, SYMMETRICAL
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TBD	TO BE DETERMINED
THD	THREAD (ED) (S)
THK	THICKNESS
THRU	THROUGH
TL	TOTAL LOAD
TO	TOP OF
TO BM	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOP	TOP OF PIER
TOS	TOP OF SLAB
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRANS	TRANSVERSE
TS	TUBE STEEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V	SHEAR
VERT	VERTICAL
VR	VAPOR RETARDER
W	WIDTH
W/	WITH
W/O	WITHOUT
WA	WEDGE ANCHOR
WD	WOOD
WF (W)	WIDE FLANGE
WL	WIND LOAD
WP	WORKING POINT
WT	WEIGHT
WWF	WELDED WIRE FABRIC

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G13	G47

S-002 STRUCTURAL GENERAL NOTES & DETAILS

GENERAL STRUCTURAL NOTES

PRECAST PRESTRESSED CONCRETE

1. THE DESIGN AND MANUFACTURE OF ALL PRESTRESSED CONCRETE UNITS SHALL CONFORM TO ACI 318.
2. PRECAST, PRESTRESSED PLANK SHALL BE DESIGNED FOR THE SUPERIMPOSED LOADS LISTED:
   125 POUNDS PER SQUARE FOOT SUPERIMPOSED LIVE LOAD
   25 POUNDS PER SQUARE FOOT SUPERIMPOSED DEAD LOAD
3. PRECAST, PRESTRESSED MEMBERS ARE DESIGNED FOR "IN PLACE" LOADS. IT SHALL BE THE RESPONSIBILITY OF THE PRECAST MANUFACTURER TO TRANSPORT AND ERECT THE PRECAST MEMBERS WITHOUT OVER-STRESSING OR OTHERWISE DISTRESSING THEM IN ANY MANNER.
4. DESIGN MUST INCLUDE VERIFICATION OF ALL OPENINGS AND MECHANICAL LOADS. ADDITIONAL OPENINGS OF GREATER THAN 12" DIMENSION SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE PRECAST MANUFACTURER.
5. PRECAST MANUFACTURER SHALL PROVIDE WELD PLATES AND OTHER EMBEDDED ITEMS NOTED ON THE DRAWINGS.
6. PROVIDE 1/8" THICK CONTINUOUS KOROLATH BEARING STRIPS BETWEEN HOLLOW CORE SLABS AND MASONRY OR CONCRETE SUPPORTS.
7. PRESTRESSED PRECAST CONCRETE MANUFACTURER SHALL SUBMIT A COMPLETE ERECTION DRAWING AND ENGINEERING CALCULATIONS FOR ALL PRESTRESSED PRECAST CONCRETE. AN ENGINEER REGISTERED IN THE STATE OF SOUTH DAKOTA SHALL CERTIFY CALCULATIONS.
8. ALL HEADERS AT OPENINGS THROUGH PRECAST UNITS SHALL BE DESIGNED AND PROVIDED BY PRECAST SUPPLIER. PRECAST UNITS ADJACENT TO OPENINGS SHALL BE DESIGNED FOR THE ADDITIONAL LOAD AT EACH HEADER LOCATION.
9. PRECAST MANUFACTURER SHALL SHOW ALL FIELD WELDING REQUIREMENTS ON THE SHOP DRAWINGS.
10. PRECAST UNITS SHALL BE ERECTED SIMULTANEOUSLY ON EACH SIDE OF ALL SUPPORTING BEAMS OR WALL. BEAMS SHALL BE SHORED TO PREVENT ROTATION UNTIL THE PRECAST UNITS ARE TOTALLY ERECTED.
11. INSTALL GROUTED KEYWAY JOINTS BETWEEN ADJACENT PLANK. (REF DETAIL D4/S-102)

STEEL FRAMING

1. TO AVOID UNDESIRABLE STRESSES IN PLATES OR THEIR ANCHORS, ALL WELDS SHALL BE MADE IN SINGLE PASSES IF APPLICABLE, SYMMETRICALLY AROUND THE PLATE. WHEN MULTIPLE PASSES ARE REQUIRED SUFFICIENT TIME SHALL BE ALLOWED BETWEEN PASSES FOR THE HEAT TO DISSIPATE.
2. LATEST AISC MANUAL AND SPECIFICATIONS APPLY.
3. WELDING ELECTRODES SHALL BE 70XX, UNO.
4. ALL WELDING AND TESTING OF WELDS SHALL BE IN ACCORDANCE WITH AMERICAN WELDING SOCIETY CODES AND RECOMMENDATIONS.
5. ALL WELDING SHALL BE BY WELDERS WITH VALID CERTIFICATES IN REQUIRED WELD.
6. ALL FULL PENETRATION WELDS SHALL BE ULTRASONICALLY TESTED BY AN INDEPENDENT TESTING LABORATORY.
7. ALL HIGH STRENGTH BOLTED CONNECTIONS SHALL BE TIGHTENED TO THE TENSIONS SPECIFIED IN TABLE 4 OF AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. TENSION MEASURING DEVICES SHALL BE USED TO CONFIRM BOLTS MEET THE REQUIREMENTS OF TABLE 4. MEASURING DEVICES SHALL INCLUDE LOAD INDICATING WASHERS OR ALTERNATE DESIGN BOLTS (TWIST-OFF BOLTS).
8. ALL HIGH STRENGTH BOLTED CONNECTIONS (NOT WITHIN THE SLIP-CRITICAL CATEGORY NOR SUBJECT TO TENSION LOADS NOR REQUIRED TO BE FULLY TENSIONED BEARING-TYPE CONNECTIONS) SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION SPECIFIED IN THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, ARTICLE 8(c).
9. NOT ALL CONNECTIONS ARE DETAILED; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS, UNO. CONTACT THE ENGINEER OR ARCHITECT PROMPTLY TO VERIFY THE DETAILS OF MEMBERS OR CONNECTIONS IN ANY SITUATION WHERE REQUIREMENTS ARE UNCLEAR. CONTRACTOR SHALL PROVIDE THE NECESSARY BRACING DURING ERECTION AND UNTIL ALL STEEL IS PLUMB AND SECURED.
10. FIELD CUTTING OR OTHER FIELD MODIFICATIONS TO STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT SPECIFIC PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
11. ALL BEAM COPES MUST BE MADE TO A RADIUS (3/4" MINIMUM).
12. STRUCTURAL STEEL FRAMING SHALL BE TRUE AND PLUMB BEFORE CONNECTIONS ARE FINAL BOLTED OR WELDED.
13. INSTALL EXPANSION BOLTS IN ACCORDANCE WITH ICC REPORT RECOMMENDATIONS.
14. INSTALL DECK SUPPORT FRAMING AROUND ALL PENETRATIONS THROUGH STEEL ROOF DECK, INCLUDING MECHANICAL OPENINGS AND ROOF DRAINS. CONTRACTOR TO VERIFY AND COORDINATE LOCATIONS AND QUANTITIES. (REF DETAIL D3/S-103)
15. PROVIDE 2 TONS OF FURNISHED AND INSTALLED MISC STEEL FRAMING IN ADDITION TO THAT INDICATED ON THE DRAWINGS, GENERAL NOTES AND SCHEDULES. ADDITIONAL STEEL SHALL BE INSTALLED AS DIRECTED BY A/E.

OPEN WEB STEEL JOISTS

1. DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STEEL JOIST INSTITUTE SPECIFICATIONS.
2. MANUFACTURER SHALL BE SJI APPROVED FOR THE TYPE OF JOIST BEING USED.
3. NO DRILLED HOLES OR CUTS ARE PERMITTED IN JOIST MEMBERS.
4. ALL CONCENTRATED LOADS SHALL BE APPLIED AT A JOIST PANEL POINT UNLESS THE JOIST CHORDS ARE SPECIFICALLY DESIGNED FOR CONCENTRATED LOADS. (REF DETAIL D4/S-103)
5. BRIDGING SHALL BE HORIZONTAL OR DIAGONAL PER SJI SPECIFICATIONS.
6. DESIGN ROOF JOISTS FOR NET UPLIFT OF 15 PSF.

STEEL ROOF DECK

1. STEEL DECK INSTITUTE SPECIFICATIONS AND RECOMMENDATIONS APPLY.
2. ROOF DECK SHALL BE 1-1/2", 22 GA PAINTED WIDE RIB DECK, UNO.
3. ALL DECK EDGES AT PRECAST WALLS SHALL BE SUPPORTED BY L4"x3 1/2"x5/16" CONTINUOUS DECK BEARING ANGLES ATTACHED TO THE PRECAST WALLS. ATTACH ANGLE TO WALL WITH WELD TO PECAST SUPPLIER'S EMBED PLATE. (REF DETAIL C1/S-103)
4. PENETRATIONS THROUGH STEEL ROOF DECK THAT DO NOT EXCEED 0-6" IN DIAMETER AND DO NOT REMOVE MORE THAN (2) WEBS ARE ACCEPTABLE WITHOUT ADDITIONAL REINFORCING. ONLY ONE UNREINFORCED PENETRATION IS ALLOWED PER SHEET, FOR EACH SPAN. FOR ALL OTHER DECK PENETRATIONS REFERENCE DETAIL D3/S-103.

STEEL ROOF DECK (CONTINUED)

5. DECK SHALL BE ERECTED AND WELDED TO SUPPORTING STEEL WITH 5/8" DIAMETER PUDDLE WELD WITH 36/5 WELD PATTERN (UNO) AND HAVE SIDE LAPS CONNECTED WITH (2) NO. 10 TEK SCREWS AT EACH SPAN, UNO.
6. LAP ENDS A MINIMUM OF 2" WITH THE CENTERS OF THE LAPS LOCATED AT THE CENTERS OF THE SUPPORTS.
7. DECKING MUST BE CONTINUOUS OVER THREE SUPPORTS.

METAL PLATE CONNECTED WOOD TRUSSES

1. METAL PLATE CONNECTED WOOD TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH IBC 2303.4 AND THE TRUSS PLATE INSTITUTE DESIGN SPECIFICATION. DESIGN ROOF TRUSSES FOR THE FOLLOWING LOADS:
   10 PSF TOP CHORD DEAD LOAD
   28 PSF TOP CHORD SNOW LOAD
   10 PSF BOTTOM CHORD DEAD LOAD
   ONE 200 LB BOTTOM CHORD LL AT ANY LOCATION
   PLUS APPLICABLE DRIFTING, SLIDING AND UNBALANCED SNOW
2. TRUSS LAYOUT & GEOMETRY SHOWN MAY BE ALTERED BY THE TRUSS MANUFACTURER, SUBJECT TO APPROVAL BY THE STRUCTURAL ENGINEER. SUBMIT ANY PROPOSED CHANGES ON THE SHOP DRAWINGS.
3. TRUSS MANUFACTURER SHALL SUBMIT A COMPLETE ERECTION DRAWING AND ENGINEERING CALCULATIONS FOR ALL TRUSSES. CALCULATIONS SHALL BE CERTIFIED BY AN ENGINEER REGISTERED IN THE STATE OF SOUTH DAKOTA. ERECTION DRAWINGS SHALL INCLUDE A LAYOUT OF ALL TRUSSES, WITH THE TRUSSES LABELED USING THE SAME DESIGNATIONS AS THE CALCULATIONS. THE TRUSS LAYOUT SHALL DESIGNATE TRUSS SPACINGS, REQUIRED BRIDGING AND ERECTION BRACING AND THE LOCATION OF ANY CONCENTRATED LOADS AND REQUIRED HANGERS.
4. ROOF TRUSSES SHALL BE ANCHORED TO TOP PLATES WITH ONE SIMPSON H3 TIE AT EACH BEARING POINT OF TRUSS. ROOF GIRDER TRUSSES SHALL BE ANCHORED TO TOP PLATES WITH ONE SIMPSON H15 TIE (OR SIMILAR FOR MULTIPLY) AT EXTERIOR BEARING POINTS AND SIMPSON H6 TIE AT INTERIOR BEARING POINTS.
5. ALL TRUSS-TO-TRUSS CONNECTIONS SHALL BE BY AN APPROPRIATE SIMPSON HANGER (OR SIMILAR MANUFACTURER) SPECIFIED AND SUPPLIED BY TRUSS MANUFACTURER. SPECIAL HANGERS, OR OTHER SPECIAL HARDWARE, SHALL BE DESIGNED, DETAILED, AND CERTIFIED BY THE TRUSS MANUFACTURER'S ENGINEER
6. TRUSS ENGINEER SHALL DESIGN THE TRUSSES TO IMPART A MAXIMUM 400PSI STRESS TO THE TOP PLATE OF SUPPORTING WOOD WALLS. TRUSS MANUFACTURER SHALL PROVIDE MULTIPLE PLIES OR BEARING ENHANCERS AS REQUIRED TO MEET THIS CONSTRAINT. ANY METHODS TO MEET THIS CONSTRAINT SHALL BE SHOWN ON THE ERECTION DRAWINGS AND TRUSS CALCULATIONS.
7. TRUSS HANDLING AND ERECTION BRACING IS THE RESPONSIBILITY OF THE CONTRACTOR.
8. THE TRUSS MANUFACTURER SHALL PROVIDE THE GENERAL CONTRACTOR AND THE INSTALLER WITH THE PUBLICATION "BRACING WOOD TRUSSES: COMMENTARY AND RECOMMENDATIONS". BTW 76 BY THE TRUSS PLATE INSTITUTE.

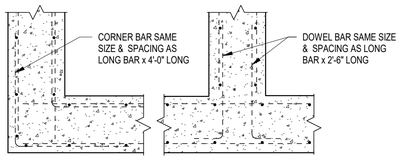
WOOD

1. PLACE 5/8" DIAMETER ANCHOR BOLTS AT 32" OC IN TOP OF FOUNDATION WALL FOR ANCHORAGE OF WOOD PLATE.
2. NO OPENINGS OR SLEEVES SHALL BE CUT OR PROVIDED IN WALLS OR FLOOR CONSTRUCTION WITHOUT APPROVAL BY THE A/E.
3. PROVIDE WOOD FRAMING MEMBERS OF SIZE AND SPACING INDICATED; DO NOT SPLICE STRUCTURAL MEMBERS BETWEEN SUPPORTS.
4. FASTEN 2-PLY AND 3-PLY DIMENSION LUMBER BEAMS TOGETHER USING 2 ROWS OF 10D NAILS STAGGERED AT 6" OC, UNO.
5. ROOF SHEATHING PANELS SHALL BE ORIENTED WITH FACE GRAIN PERPENDICULAR TO TRUSS SUPPORTS AND PANEL JOINTS SHALL BE STAGGERED.
6. ALL CONSTRUCTION SHALL COMPLY WITH THE "CONVENTIONAL LIGHT-FRAME CONSTRUCTION PROVISIONS" OF THE INTERNATIONAL BUILDING CODE (SECTION 2308), UNO.
7. ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED LUMBER GRADING AGENCY.
8. GLUE LAMINATED MEMBERS TO BEAR THE AITC STAMP & CERTIFICATE AND GRADE STAMP.
9. ALL METAL CONNECTORS SHALL BE IBC APPROVED.
10. ALL NAILS SHALL BE COMMON NAILS, UNO. REFER TO THE NAILING SCHEDULE IN THE INTERNATIONAL BUILDING CODE TABLE NO. 2304.9.1 FOR CONNECTIONS NOT DETAILED.
11. ALL BOLTED SILL PLATES, TOP PLATES, LEDGERS, ETC., SHALL HAVE BOLTS WITHIN 6" OF END OF ALL SPLICES AND SHALL HAVE A MINIMUM OF TWO BOLTS PER SECTION OR AS INDICATED ON DRAWINGS.
12. PROVIDE BRIDGING OR BLOCKING AT 8'-0" MAXIMUM CENTERS FOR JOISTS AND RAFTERS.
13. DO NOT NOTCH OR DRILL JOISTS OR LOAD BEARING STUDS WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.
14. AT ALL GIRDER TRUSSES (ANY TRUSS WHICH SUPPORTS OTHER TRUSSES) PROVIDE POSTS DIRECTLY BENEATH THE TRUSS BEARING. MINIMUM NUMBER OF POSTS TO BE EQUAL TO THE NUMBER OF PLIES OF THE TRUSS. CONTINUE POSTS TO FOUNDATION.
15. PROVIDE (2) SIMPSON ST6224 STRAPS AT ALL LOCATIONS WHERE BOTH TOP PLATES ARE THROUGH CUT.
16. ROOF JOISTS SHALL BE ANCHORED TO TOP PLATES WITH ONE SIMPSON H3 HANGER AT EACH BEARING POINT.
17. ALL INTERIOR NON-BEARING WALLS SHALL HAVE A 3/4" GAP BETWEEN TOP OF WALL AND BOTTOM OF ROOF TRUSSES. ATTACH TOP OF WALL TO ROOF STRUCTURE WITH SIMPSON STC ROOF TRUSS CLIPS. WHERE WALLS ARE PARALLEL WITH STRUCTURE, PROVIDE 2X BLOCKING BETWEEN TRUSSES IF NECESSARY, AND SPACE CLIPS AT 24" OC.
18. ALL EXTERIOR WALLS AND INTERIOR BEARING WALLS SHALL HAVE SHEATHING ON EACH FACE FASTENED @ 6" OC ALONG ALL PANEL EDGES (FULLY BLOCKED). AT GYPSUM WALL BOARD USE 6d COOLER NAILS AND AT WOOD SHEATHING USED 8d NAILS MINIMUM.

SPECIAL INSPECTION - IBC REQUIREMENTS

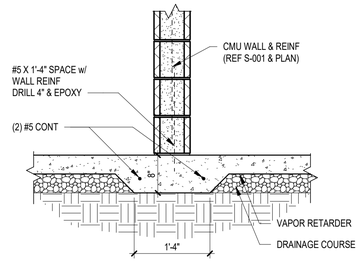
THE FOLLOWING WORK ITEMS REQUIRE SPECIAL INSPECTION PER IBC SECTION 1701 AND 1704. THE SPECIAL INSPECTION AND THE COST ASSOCIATED THEREWITH WILL BE PAID BY THE OWNER. THE ITEMS THAT REQUIRE SPECIAL INSPECTIONS ARE:

A. 1705.2 STEEL CONSTRUCTION - REF AISC 360 FOR REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION
B. 1705.3 CONCRETE CONSTRUCTION - REF TABLE 1705.3 FOR REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION
C. 1705.4 MASONRY CONSTRUCTION - REF ACI 530 AND ACI 530.1 FOR REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION.
D. 1705.5 WOOD CONSTRUCTION – REF SECTION 1704.2.5 FOR PREFABRICATED WOOD ELEMENTS AND ASSEMBLIES. REF SECTION 1705.5 FOR SITE-BUILT ASSEMBLIES.
E. 1705.6 SOILS – REF SECTION 1705.6 AND TABLE 1705.6 FOR REQUIRED VERIFICATION AND INSPECTION OF SOILS.

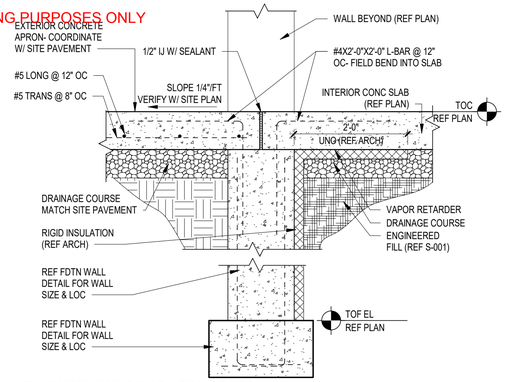


D3 TYP WALL CORNER DETAILS
SCALE: 3/4" = 1'-0"

FOR BIDDING PURPOSES ONLY

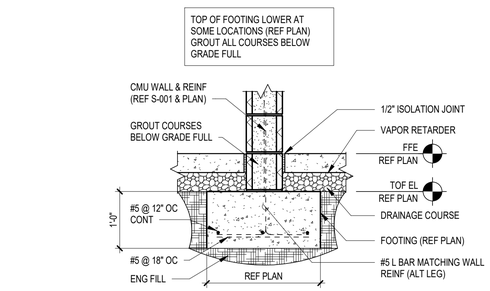


C3 THICKENED SLAB DETAIL MAS WALL
SCALE: 3/4" = 1'-0"

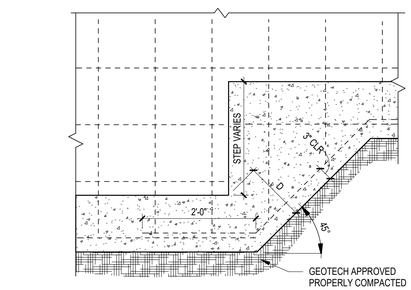


C4 OVERHEAD DOOR APRON DETAIL
SCALE: 3/4" = 1'-0"

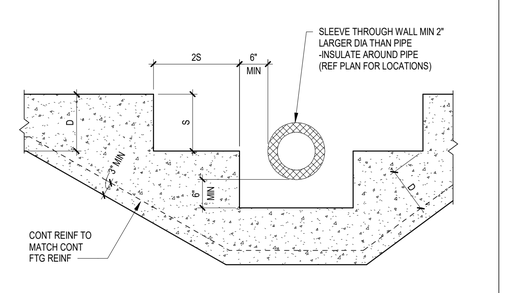
C5 TYP CONTROL/CONSTRUCTION JOINT
SCALE: 3/4" = 1'-0"



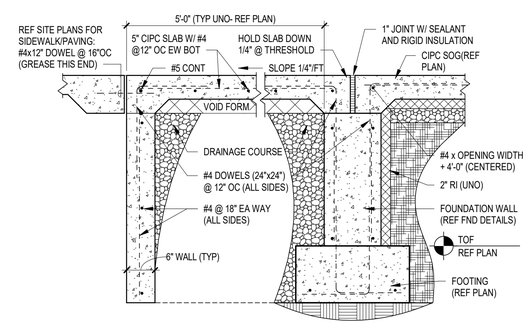
B3 INTERIOR FOOTING DETAIL
SCALE: 3/4" = 1'-0"



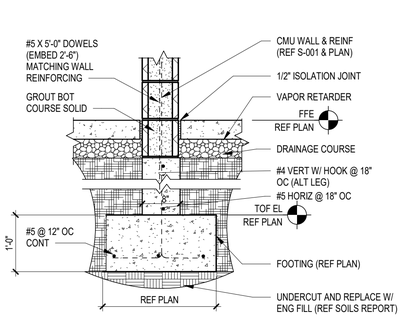
B4 TYP FOOTING STEP - CONC WALL
SCALE: 3/4" = 1'-0"



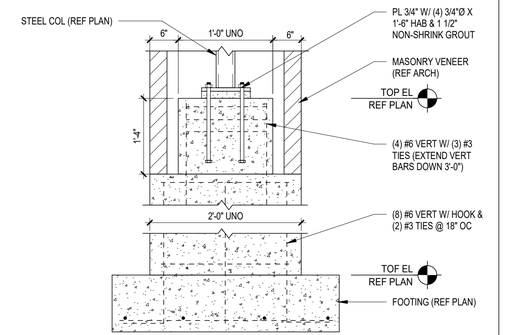
B5 TYP UTILITY THRU WALL
SCALE: 3/4" = 1'-0"



A3 TYP STOOP DETAIL
SCALE: 3/4" = 1'-0"



A4 INTERIOR FOOTING DETAIL
SCALE: 3/4" = 1'-0"



A5 PIER DETAIL
SCALE: 3/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
11332
ALEX R. WEIERS
SOUTH DAKOTA
DATE: 12/01/2021

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

As indicated

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A B C D

S-101 FOUNDATION PLAN

REVISED 03/21/2022 ARW

KEY NOTES: FOUNDATION PLAN

1. PROVIDE REBAR-TYPE CONCRETE-ENCASED ELECTRODE PER ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE. STUB-OUT INTO MECHANICAL ROOM. COORDINATE WITH ELECTRICAL CONTRACTOR.

NOTE: NOT ALL KEYNOTES MAY BE USED ON EACH PLAN

SHEET GENERAL NOTES: FOUNDATION PLAN

A. TOP OF INTERIOR FOOTINGS TO BE 4'-0" BELOW FFE, UNO.

B. TOP OF EXTERIOR FOOTINGS TO BE 4'-0" BELOW FFE, UNO.

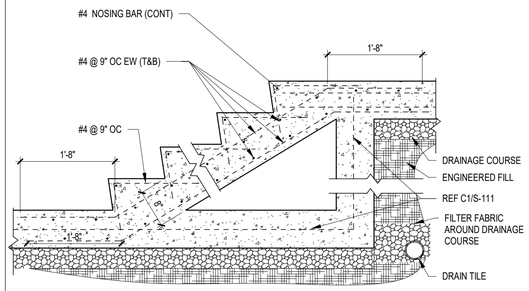
C. AT POE BUILDING SLAB: PROVIDE A 4" CONCRETE SLAB ON GRADE ATOP VAPOR RETARDER ATOP 4" DRAINAGE COURSE ATOP ENGINEERED FILL UNO. REINFORCE SLAB W/ POLYFIBER REINFORCEMENT(REF SPECS), UNO. COORDINATE SLAB ELEVATIONS AND SLOPES W/ ARCH. AT POE INSPECTION BAY BUILDING SLAB: REF PLAN NOTE FOR SLAB CONSTRUCTION.

D. PROVIDE FLOOR DRAINS AS SHOWN ON ARCH AND MECH DRAWINGS. REFERENCE ARCH AND MECH FOR DRAIN QUANTITIES, LOCATIONS AND FLOOR SLOPE.

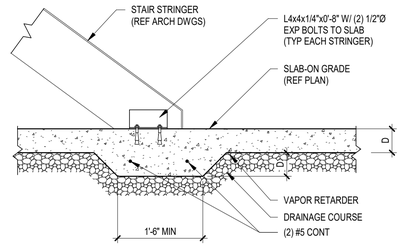
E. MAXIMUM SPACING FOR CONTROL JOINTS IN THE CONCRETE SLAB ON GRADE TO BE 16'-0". MAXIMUM RATIO OF UNJOINTED SLAB PANELS BETWEEN JOINTS SHALL NOT EXCEED 1:1.5 (12'-0" 16'-0"). NO REENTRANT CORNERS ALLOWED WITHIN A PANEL. REFERENCE DETAIL C5/S-002 FOR JOINT INFORMATION.

F. COORDINATE WITH OTHER DISCIPLINES FOR UTILITY SLEEVES THRU FOUNDATION WALLS. REFERENCE TYPICAL SLEEVE DETAIL B5/S-002

G. HOUSEKEEPING PADS REQUIRED FOR MECHANICAL OR ELECTRICAL EQUIPMENT ARE NOT SHOWN ON THIS PLAN. COORDINATE QUANTITY, SIZE AND LOCATION WITH MECH AND ELEC.



D3 CONC STAIR ON GRADE DETAIL
SCALE: 3/4" = 1'-0"



D4 THICKENED SLAB @ STRINGER
SCALE: 3/4" = 1'-0"

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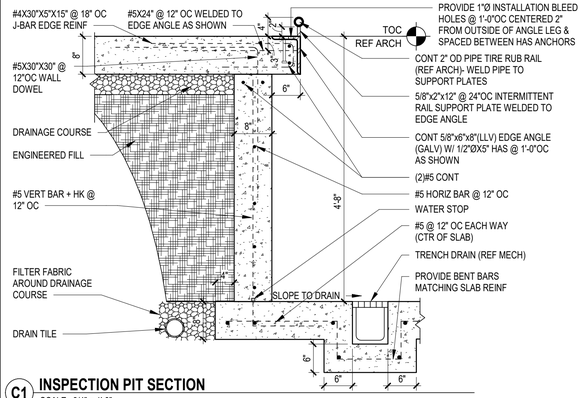
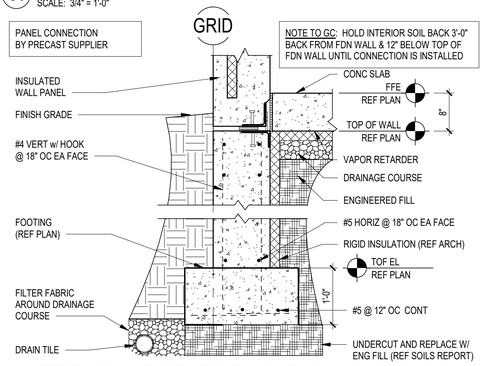
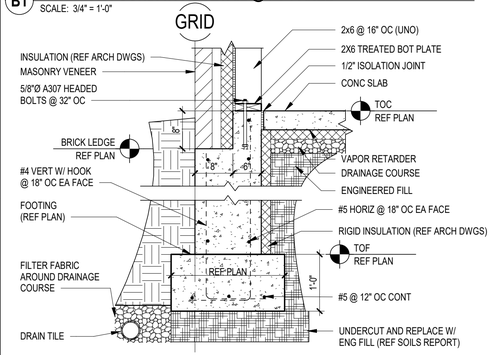
STATE OF SOUTH DAKOTA
DATE: 03/21/2022



C1 INSPECTION PIT SECTION
SCALE: 3/4" = 1'-0"

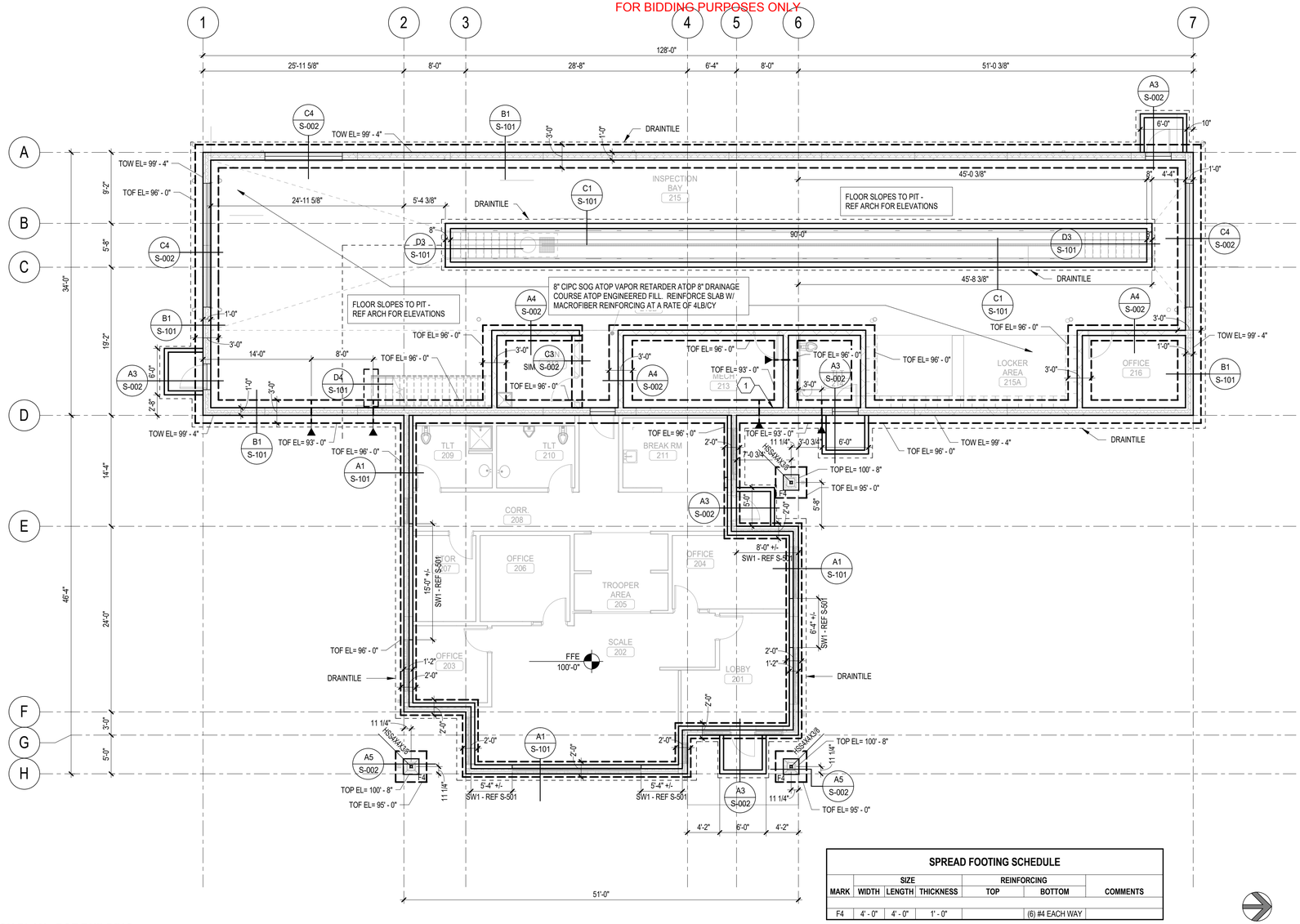


B1 EXTERIOR FOUNDATION DETAIL @ PC PANEL
SCALE: 3/4" = 1'-0"



A1 EXTERIOR FOUNDATION DETAIL @ STUD
SCALE: 3/4" = 1'-0"

FOR BIDDING PURPOSES ONLY



SPREAD FOOTING SCHEDULE

MARK	SIZE WIDTH	SIZE LENGTH	SIZE THICKNESS	REINFORCING TOP	REINFORCING BOTTOM	COMMENTS
F4	4' - 0"	4' - 0"	1' - 0"		(6) #4 EACH WAY	

PLAN NORTH

A2 FOUNDATION PLAN - POE BUILDING
SCALE: 1/8" = 1'-0"

CONSTRUCTION DOCUMENTS

S-102 LOW ROOF & MEZZANINE FRAMING PLAN

KEY NOTES: ROOF FRAMING PLAN

1. PRECAST SUPPLIER TO DESIGN PANELS TO SUPPORT OVERHEAD DOOR, SUPPORT SELF WEIGHT AND ROOF LOAD OVER DOOR OPENING.
2. MECH OPENING(S) IN PRECAST WALL. REF MECH DRAWINGS. CONTRACTOR TO COORDINATE FINAL SIZE(S) AND LOCATION(S) WITH PRECAST SUPPLIER.
3. MECH OPENING(S) IN PRECAST PLANK. - REF MECH DRAWINGS. CONTRACTOR TO COORDINATE FINAL SIZE(S) AND LOCATION(S) WITH PRECAST SUPPLIER.
4. ROOF PENETRATION TO BE FRAMED AROUND FOR ROOF HATCH. REF DETAIL D3/S-103. COORDINATE OPENING WITH HATCH AND LADDER REQUIREMENTS.
5. SIMPSON COLUMN CAP FOR COLUMN/BEAM CONNECTION. FIELD WELD TO TOP OF COLUMN.
6. SIMPSON FACE MOUNT BEAM HANGER FOR BEAM/PRECAST CONNECTION. COORDINATE CONNECTION WITH PRECAST SUPPLIER TO SUPPORT 4 KIP REACTION FROM BEAM BY CONNECTING FACE MOUNT HANGER TO PRECAST WITH CONCRETE SCREWS OR WELDED TO PRECAST SUPPLIER EMBED PLATE.

NOTE: NOT ALL KEYNOTES MAY BE USED ON EACH PLAN

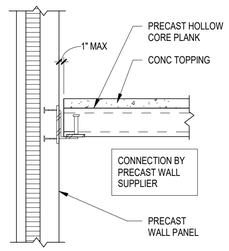
SHEET GENERAL NOTES: ROOF FRAMING PLAN

A. REF PLAN & DETAILS FOR FOR TOP OF BEAM & BEARING ELEVATIONS.

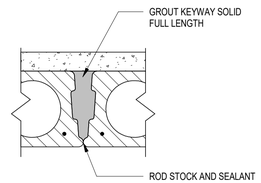
B. REFERENCE SHEET S-501 FOR THE MASONRY LINTEL SCHEDULE, THE EXTERIOR NON-BRG BRICK/CMU ANGLE SCHEDULE, AND THE WOOD HEADER & SILL SCHEDULE.

C. REFERENCE GENERAL NOTES FOR MASONRY WALL REINFORCEMENT.

D. FINAL STAIR DESIGN BY STEEL FABRICATOR. REF ARCH DRAWINGS AND SPECIFICATIONS FOR STAIR INFORMATION AND DESIGN REQUIREMENTS.



D3 PRECAST WALL/CORED SLAB CONN
SCALE: 3/4" = 1'-0"



D4 CORE PLANK KEYWAY JOINT
SCALE: 1 1/2" = 1'-0"

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SOUTH DAKOTA
DATE: 12/01/2021

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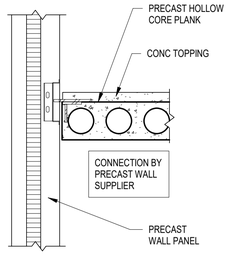
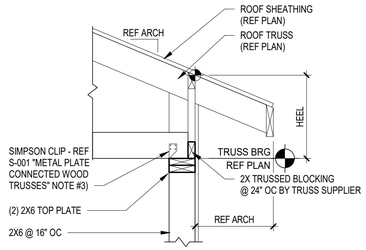
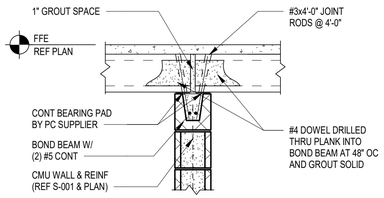


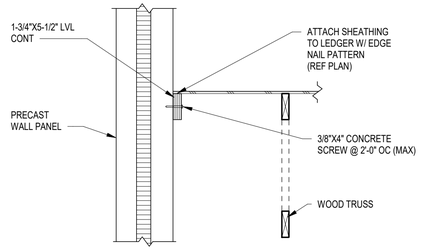
C4 PRECAST WALL/CORED SLAB CONN
SCALE: 3/4" = 1'-0"



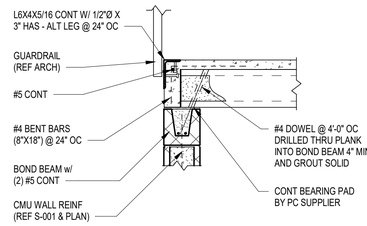
C2 ROOF TRUSS/BRG WALL CONN
SCALE: 3/4" = 1'-0"



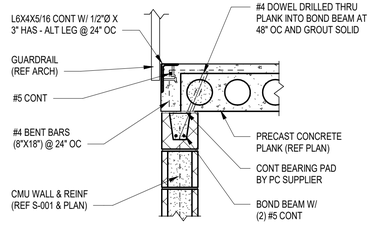
C1 PRECAST WALL/CORED SLAB CONN
SCALE: 3/4" = 1'-0"



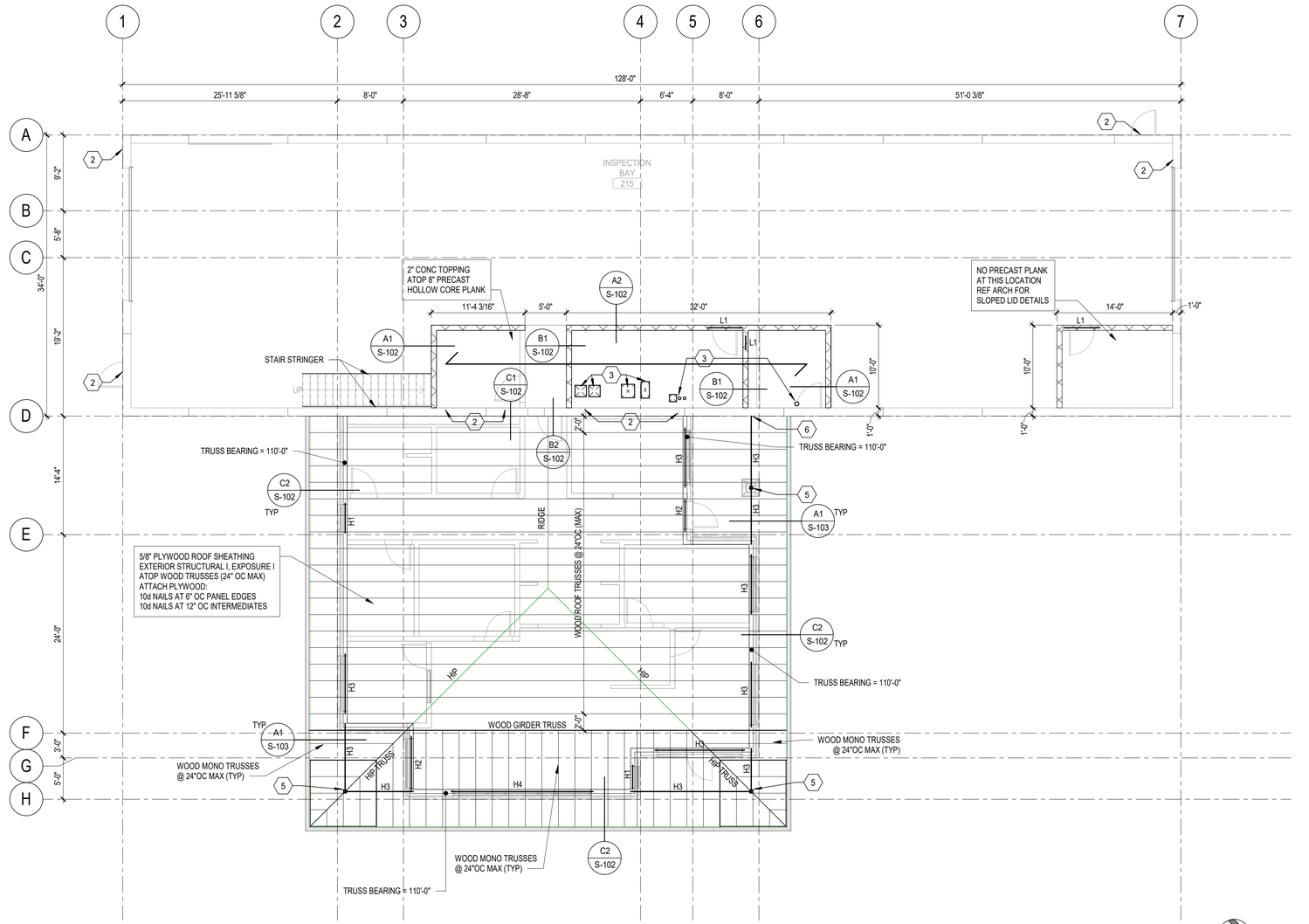
C2 ROOF TRUSS/BRG WALL CONN
SCALE: 3/4" = 1'-0"



B1 CORED SLAB BEARING DETAIL
SCALE: 3/4" = 1'-0"



B2 PRECAST WALL/SHEATHING CONNECTION
SCALE: 3/4" = 1'-0"



A1 CORED SLAB BEARING DETAIL
SCALE: 3/4" = 1'-0"

A2 TYPICAL CORED SLAB LAP
SCALE: 3/4" = 1'-0"

A3 LOW ROOF FRAMING PLAN - POE BUILDING
SCALE: 1/8" = 1'-0"

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

As indicated

L:_TSP Revit Local\03191315 SDDOT_Tilford POE_S20_weiersar@teamtsp.com.rvt
3/17/2022 8:43:19 AM

1 2 3 4 5

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G16	G47

S-103 HIGH ROOF FRAMING PLAN

KEY NOTES: ROOF FRAMING PLAN

1. PRECAST SUPPLIER TO DESIGN PANELS TO SUPPORT OVERHEAD DOOR, SUPPORT SELF WEIGHT AND ROOF LOAD OVER DOOR OPENING.
2. MECH OPENING(S) IN PRECAST WALL. REF MECH DRAWINGS. CONTRACTOR TO COORDINATE FINAL SIZE(S) AND LOCATION(S) WITH PRECAST SUPPLIER.
3. MECH OPENING(S) IN PRECAST PLANK. - REF MECH DRAWINGS. CONTRACTOR TO COORDINATE FINAL SIZE(S) AND LOCATION(S) WITH PRECAST SUPPLIER.
4. ROOF PENETRATION TO BE FRAMED AROUND FOR ROOF HATCH. REF DETAIL D3/S-103. COORDINATE OPENING WITH HATCH AND LADDER REQUIREMENTS.
5. SIMPSON COLUMN CAP FOR COLUMN/BEAM CONNECTION. FIELD WELD TO TOP OF COLUMN.
6. SIMPSON FACE MOUNT BEAM HANGER FOR BEAM/PRECAST CONNECTION. COORDINATE CONNECTION WITH PRECAST SUPPLIER TO SUPPORT 4 KIP REACTION FROM BEAM BY CONNECTING FACE MOUNT HANGER TO PRECAST WITH CONCRETE SCREWS OR WELDED TO PRECAST SUPPLIER EMBED PLATE.

NOTE: NOT ALL KEYNOTES MAY BE USED ON EACH PLAN

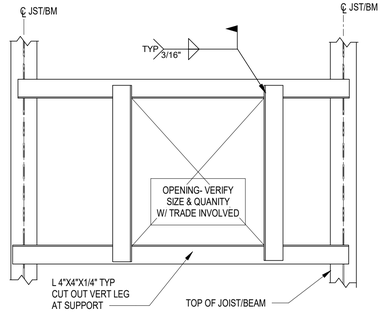
SHEET GENERAL NOTES: ROOF FRAMING PLAN

A. REF PLAN & DETAILS FOR FOR TOP OF BEAM & BEARING ELEVATIONS.

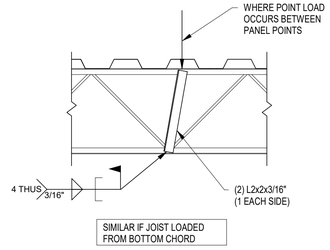
B. REFERENCE SHEET S-501 FOR THE MASONRY LINTEL SCHEDULE, THE EXTERIOR NON-BRG BRICK/CMU ANGLE SCHEDULE, AND THE WOOD HEADER & SILL SCHEDULE.

C. REFERENCE GENERAL NOTES FOR MASONRY WALL REINFORCEMENT.

D. FINAL STAIR DESIGN BY STEEL FABRICATOR. REF ARCH DRAWINGS AND SPECIFICATIONS FOR STAIR INFORMATION AND DESIGN REQUIREMENTS.

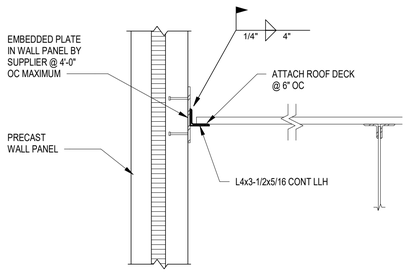


D3 ROOF OPENING DETAIL
SCALE: 3/4" = 1'-0"

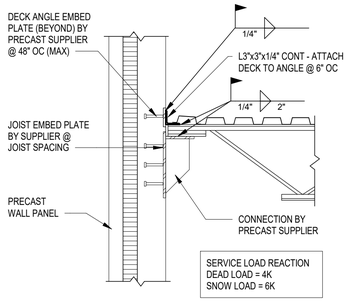


D4 TYP JOIST REINFORCEMENT
SCALE: 3/4" = 1'-0"

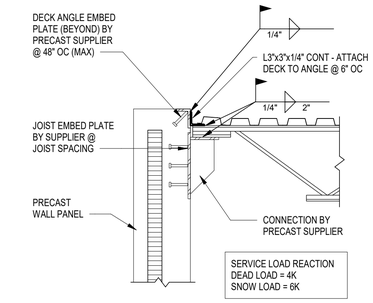
FOR BIDDING PURPOSES ONLY



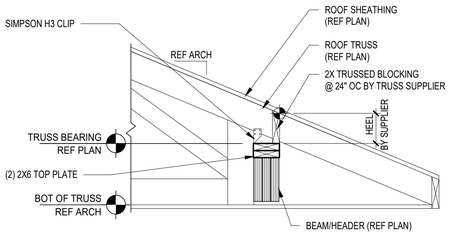
C1 PRECAST WALL/DECK CONNECTION
SCALE: 3/4" = 1'-0"



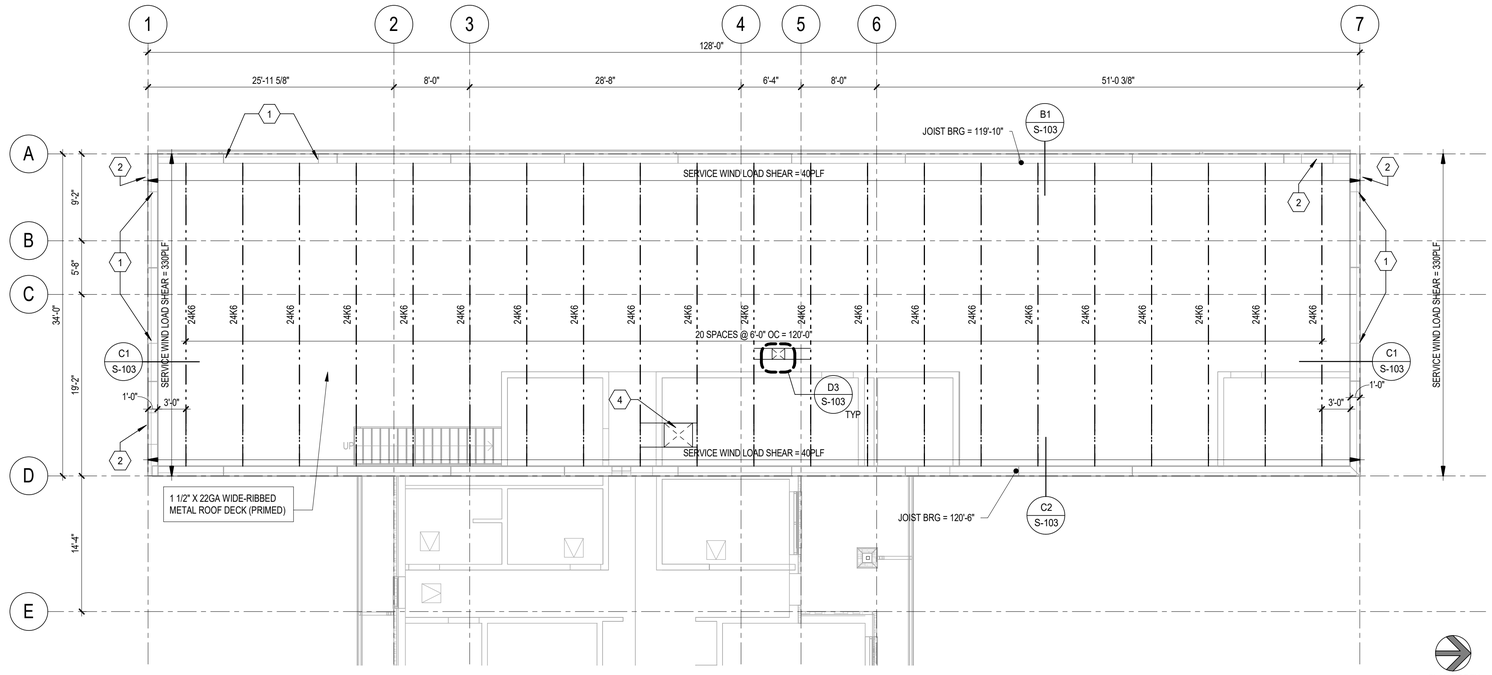
C2 PRECAST WALL/JOIST CONNECTION
SCALE: 3/4" = 1'-0"



B1 PRECAST WALL/JOIST CONNECTION
SCALE: 3/4" = 1'-0"



A1 ROOF TRUSS/BEAM CONNECTION
SCALE: 3/4" = 1'-0"



A2 HIGH ROOF FRAMING PLAN - POE BUILDING
SCALE: 1/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
11332
ALEX R. WEIERS
SOUTH DAKOTA
DATE: 12/01/2021

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

As indicated

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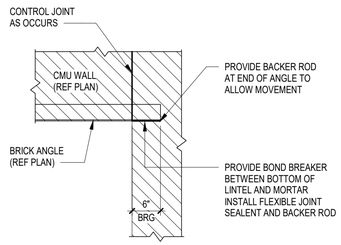
3/1/2022 8:43:20 AM

EXT NON-BRG BRICK/CMU ANGLE SCHEDULE

SPAN	STEEL ANGLE	REMARKS
6'-0" AND SMALLER	L4x4x1/4	
6'-1" TO 12'-0"	L6x4x3/8	

ADDITIONAL REMARKS:

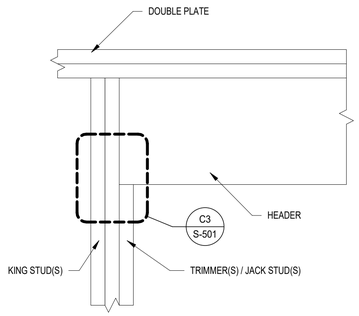
1. ALL LINTELS TO BEARING A MINIMUM OF 6" ON SOLID MASONRY.
2. REFERENCE DETAIL D2/S-501 FOR BEARING CONDITIONS AT CONTROL JOINTS. REFERENCE ARCH FOR CONTROL JOINT LOCATIONS.
3. GALVANIZE ALL EXTERIOR LINTELS.



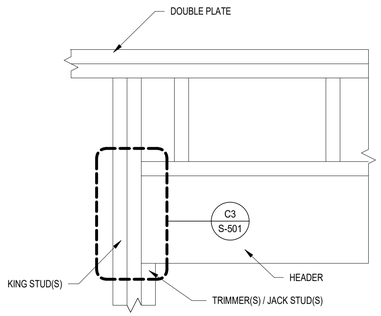
D1 SCHEDULE - EXT NON-BRG BRICK/CMU ANGLE
SCALE: 3/4" = 1'-0"

D2 TYP BRICK ANGLE BEARING @CONTROL POINT
SCALE: 3/4" = 1'-0"

(DIAGRAM 1)



(DIAGRAM 2)



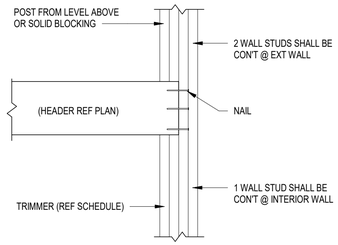
WOOD HEADER SCHEDULE

MARK	SECTION	KING STUD(S)	TRIMMER(S)	REMARKS
H1	2 - 2X8	1	1	SEE DIAGRAM 2
H2	3 - 2X8	1	2	SEE DIAGRAM 2
H3	3 - 1 3/4" X 9 1/4" LVL	2	2	SEE DIAGRAM 2
H4	3 - 1 3/4" X 11 1/4" LVL	2	2	SEE DIAGRAM 2

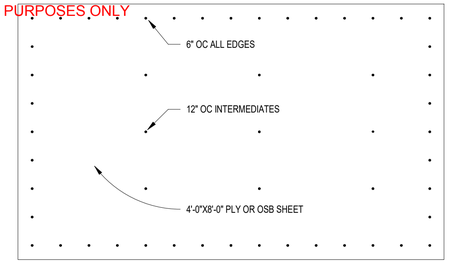
ADDITIONAL REMARKS:

1. CONT - INDICATES THAT BEAM IS CONTINUOUS OVER SUPPORT
2. * - INDICATES HEADER/BEAM UPSET IN TRUSS SPACE
3. ALL NORMAL LUMBER HEADERS TO BE HEM-FIR #1 OR BETTER
4. OMIT TRIMMERS WHERE A STEEL COLUMN IS PROVIDED

B1 SCHEDULE - WOOD HEADER
SCALE: 1 1/2" = 1'-0"



C3 HEADER-TRIMMER CONNECTION
SCALE: 3/4" = 1'-0"



NAILING PATTERN IS FOR 10d COMMON NAILS

PLYWOOD LAYUP : IBC (CASE 1) STAGGER SHEETS

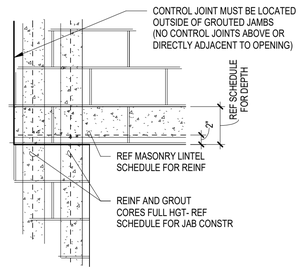
C4 TYP PLYWOOD NAILING PATTERN
SCALE: 3/4" = 1'-0"

MASONRY LINTEL SCHEDULE

MARK	DESCRIPTION	DETAIL	REMARKS
L1	8" DEEP LINTEL REINF W/ (2) #5	2"	PROVIDE FULL HGT JAMBS EA SIDE W/ (2) FULLY GROUTED CORES W/ (1) #5 PER CORE
L2	16" DEEP LINTEL REINF W/ (2) #5	2" 16"	PROVIDE JAMBS EA SIDE W/ (2) FULLY GROUTED CORES W/ (2) #5 (1 EA FACE) PER CORE
		--	
		--	

ADDITIONAL REMARKS:

1. PROVIDE MIN. 8" BEARING AT ALL STEEL LINTELS, UNO
2. EXTEND CMU LINTEL REINF PAST OPNG THROUGH ALL GROUT FILLED CORES OF JAMBS (REF DETAIL B3/S-501)
3. REFERENCE GENERAL STRUCTURAL NOTES ON SHEET S-001 FOR TYPICAL LINTELS FOR MECH, ELEC, AND OTHER OPENINGS NOT SHOWN. COORD OPENING SIZES AND LOCATIONS WITH MECH, ELEC AND ARCH.
4. GROUT MASONRY LINTELS FULL.
5. DO NOT PLACE CONDUIT WITHIN MASONRY LINTELS.
6. GALVANIZE ALL EXTERIOR STEEL LINTELS.



B3 TYPICAL LINTEL BEARING DETAIL
SCALE: 3/4" = 1'-0"

B4 SCHEDULE - MASONRY LINTEL
SCALE: 3/4" = 1'-0"

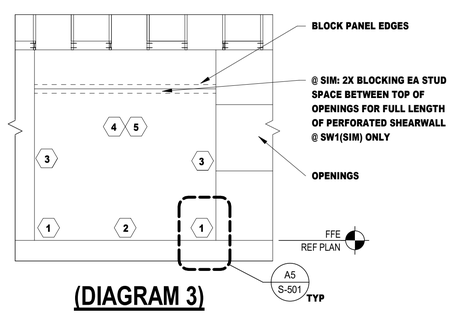
WOOD SHEAR WALL SCHEDULE

MARK	SHEATHING	NAILING		ANCHOR BOLTS FOR SILL	SIMPSON LTP4 LATERAL TIE PL	ENDPOST	SIMPSON HOLDDOWN	REMARKS
		PANEL EDGE	INTERMEDIATE					
	4	5	5	2	6	3	1	
SW1	15/32" STRUCTURAL I WSP OR 19/32" SHEATHING WSP (SEE REMARK 2)	10d @ 6" OC	10d @ 12" OC	5/8"Ø HAB (7" EMBED) @ 16" OC	NOT USED	2- 2X6	HUD5 W/ (14) SDS 1/4"DIAX2 1/2" WD SCREWS & 5/8" DIA HAB (12" EMBED)	SEE DIAGRAM 3 (@ SIM - SEE PERFORATED SHEAR WALL BLOCKING NOTE)

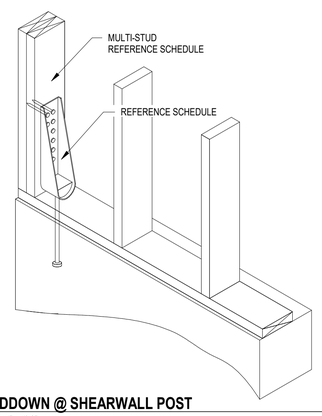
ADDITIONAL REMARKS:

1. ALTERNATE: 5/8" DIAMETER KWIK BOLT EXPANSION ANCHORS W/MIN 4" EMBEDMENT MAY BE USED IN LIEU OF CAST-IN-PLACE ANCHORS FOR 2 ONLY
2. WOOD PANEL SHALL CONSIST OF APA-RATED OSB OR PLYWOOD. PANELS MAY BE ORIENTED HORIZONTALLY OR VERTICALLY
3. ATTACH WOOD STRUCTURAL PANELS DIRECTLY TO FRAMING. WHERE PANELS OCCUR BOTH SIDES OF WALL. JOINTS SHALL BE STAGGERED OR OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS
4. PROVIDE 2X BLOCKING @ UNSUPPORTED PANEL EDGES
5. ANCHOR BOLTS FOR HOLDDOWN SYSTEM TO BE CAST-IN-PLACE OR HILTI HIT HY-200 ADHESIVE SYSTEM WITH HAS STD ROD

A1 SCHEDULE - SHEARWALL SCHEDULE
SCALE: 1/4" = 1'-0"



(DIAGRAM 3)



A5 HOLDDOWN @ SHEARWALL POST
SCALE: 1" = 1'-0"

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G18	G47

AD101 DEMO FLOOR PLAN

REVISED 03/18/2022 BRM

A1 SITE PLAN
SCALE: 1" = 20'-0"

0' 10' 20' 40' TRUE NORTH

REGISTERED PROFESSIONAL ARCHITECT
REG. NO.
13485
MARK D. AVERETT
SOUTH DAKOTA
DATE: 03/18/2022

SHEET GENERAL NOTES: DEMOLITION PLAN

A. GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION NECESSARY TO ALLOW FOR COMPLETION OF WORK AS DESCRIBED IN THE CONSTRUCTION DOCUMENTS - DEMOLITION OPERATIONS SHALL INCLUDE, BUT ARE NOT LIMITED TO THE ITEMS DESCRIBED BY KEYNOTES HEREIN.

B. ALL SURFACES DAMAGED DURING DEMOLITION SHALL BE REPAIRED FOR APPLICATION OF NEW FINISHES OR PATCHED TO MATCH EXISTING. INDEPENDENT TRADES ARE RESPONSIBLE FOR THEIR RESPECTIVE CUT AND PATCH. REFER TO SPECIFICATIONS.

C. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS WHICH ARE TO MATCH EXISTING CONSTRUCTION. CONTACT A/E WITH DISCREPANCIES.

D. COORDINATE DEMOLITION WITH PHASE PLAN AND OWNER'S SCHEDULE FOR OCCUPANCY.

E. TEMPORARY PARTITIONS SHOULD BE SECURE AND WATERTIGHT.

KEY NOTES: DEMOLITION PLAN

1. REMOVE EXISTING PORT OF ENTRY BUILDING IN ITS ENTIRETY. THIS INCLUDES WALLS, ROOF, FOUNDATION, SLAB ON GRADE, DOORS, WINDOWS, AND OTHER BUILDING ELEMENTS. COORDINATE WITH OWNER FOR ANY ELEMENTS TO SALVAGE.
2. REMOVE EXISTING MECHANICAL AND ELECTRICAL SYSTEMS WITHIN THE BUILDING.
3. SEE CIVIL FOR SITE DEMO NOTES.
4. OUTLINE OF NEW PORT OF ENTRY BUILDING
5. REMOVE EXISTING FLAG POLE. SALVAGE TO OWNER FOR REINSTALLATION.
6. REMOVE EXISTING SCALE.

NOTE: NOT ALL KEYNOTES MAY BE USED ON EACH PLAN

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

As indicated

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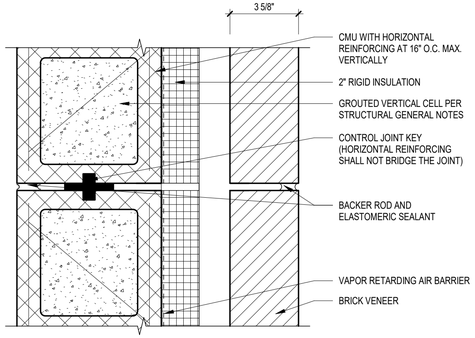
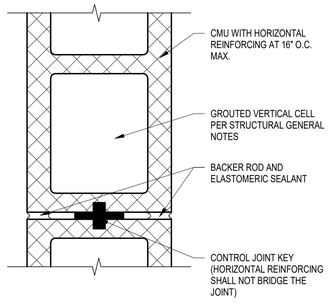
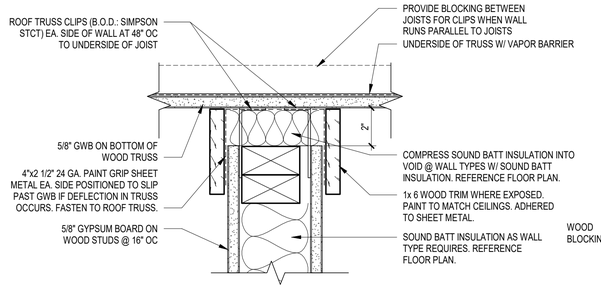
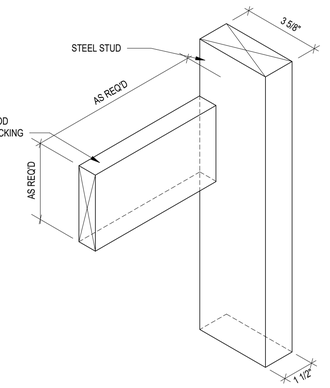
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G19	G47

A-001 CONSTRUCTION TYPES, PARTITION TYPES, & STANDARD DETAILS









NOTES:

1. THESE ANCHORING DETAILS ARE SHOWN AS TYPICAL AND ARE NOT INTENDED TO BE ALL INCLUSIVE. PROVIDE WOOD OR STEEL BACKING IN PARTITIONS FOR WALL HUNG ITEMS, SUCH AS WALL CABINETS,BLDG ACCESS, BATHROOM ACCESS, SHELVING, DOOR HOLD-OPENS, & STOPS, ETC, INCLUDING NIC, BO, BOF & RE ITEMS.

2. USE THE FOLLOWING ASSUMED LOADS TO DETERMINE BLKG & FASTENER REQUIREMENTS UNLESS GREATER LOADS ARE KNOWN.

A. DISP, PTC, TPH, MIRRORS, COAT HOOKS, BPG, TOWEL BAR & RING, MOP HOLDER, ASH URN, ETC - USE 100 LB.

B. HANDRAIL, BUMPER RAILS, - USE 200 LB CONCENTRATED LOAD.

C. GRAB BARS - USE 250 LB CONCENTRATED LOAD.

D. WALL CABINETS - USE WEIGHT OF CABINET PLUS 100 LB PER FOOT OF SHELF.

E. COUNTERTOPS - USE WEIGHT OF COUNTERTOP PLUS 55 LB PER FOOT OF COUNTER.

F. 12" ADJ SHELVES - USE 83 LB PER BRKT.

G. 18" ADJ SHELVES - USE 55 LB PER BRKT.

H. 24" ADJ SHELVES - USE 40 LB PER BRKT.

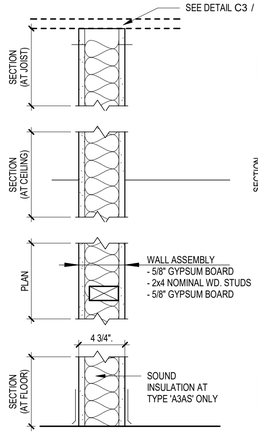
J. TV - COORDINATE WITH OWNER.

REGISTERED PROFESSIONAL ARCHITECT
REG. NO.
13485
MARK D. AVERETT
SOUTH DAKOTA
DATE: 12/1/2021

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

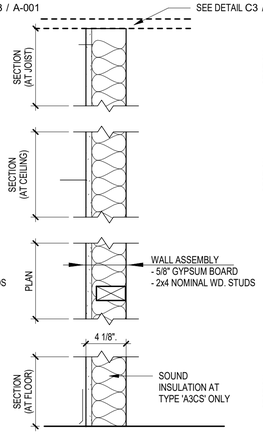
FOR BIDDING PURPOSES ONLY

C1 WALL - MASONRY CONTROL JOINT
SCALE: 3" = 1'-0"



A3A 5" PARTITION

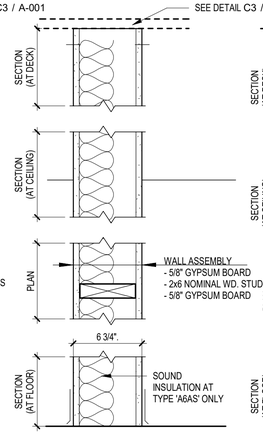
A3AS = PROVIDE SOUND INSULATION



A3C 4" PARTITION - CHASE

A3CS = PROVIDE SOUND INSULATION

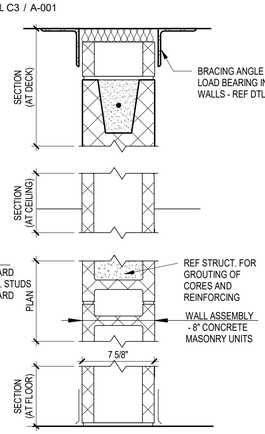
C2 PARTITION - MASONRY CONTROL JOINT (MCJ)
SCALE: 3" = 1'-0"



A6A 7" PARTITION

A6AS = PROVIDE SOUND INSULATION

C3 DEFLECTION DETAIL - NON RATED
SCALE: 3" = 1'-0"

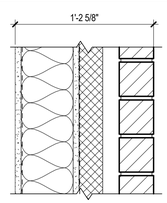


M8A 8" CMU - 1HR or 2HR

C4 BLOCKING DETAIL
SCALE: 3" = 1'-0"

LEGEND - PARTITION TYPES
SCALE: 1 1/2" = 1'-0"

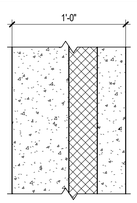
WALL TYPES



WALL ASSEMBLY
- 5/8" GYPSUM BOARD
- VAPOR BARRIER
- 2x6 NOMINAL WD. STUDS @ 16" O.C. W/ BATT INSULATION
- 5/8" EXTERIOR GYPSUM SHEATHING
- AIR BARRIER - VAPOR PERMEABLE
- 2 1/2" RIGID INSULATION - TAPED JOINTS
- AIR SPACE
- 4" MASONRY (REF ELEVATIONS)

MIN R13.5+12.5ci

SB1 EXTERIOR WALL WOOD STUD WITH MASONRY

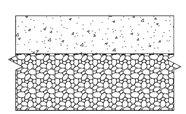


WALL ASSEMBLY
- 6" PRECAST PANEL
- 3" RIGID INSULATION
- 3" PRECAST PANEL

P1 EXTERIOR WALL PRECAST PANEL

LEGEND - WALL TYPES
SCALE: 1 1/2" = 1'-0"

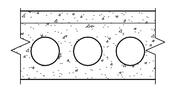
LEGEND - CONSTRUCTION TYPES
SCALE: 1 1/2" = 1'-0"



F1 FLOOR CONSTRUCTION

FLOOR ASSEMBLY:
- REINFORCED CONCRETE SLAB *
- CLASS 1 VAPOR BARRIER
- DRAINAGE FILL

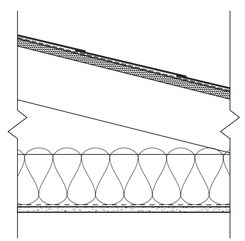
* REF STRUCTURAL FOR ADDITIONAL INFORMATION



F2 FLOOR CONSTRUCTION

FLOOR ASSEMBLY:
- PRECAST HOLLOWCORE CONCRETE PLANK *
- CONCRETE TOPPING *

* REF STRUCTURAL FOR ADDITIONAL INFORMATION

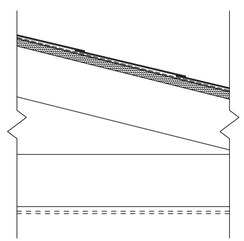


MINIMUM R-49

R2 ROOF CONSTRUCTION

ROOF ASSEMBLY:
- ASPHALT SHINGLES
- UNDERLAYMENT
- 5/8" PLYWOOD
- WOOD TRUSS *
- BATT INSULATION @ BOTTOM CHORD OF TRUSS
- VAPOR RETARDER
- 5/8" GYPSUM BOARD

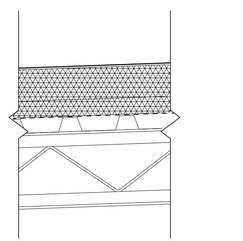
* REF STRUCTURAL FOR ADDITIONAL INFORMATION



R3 ROOF CONSTRUCTION

ROOF ASSEMBLY:
- ASPHALT SHINGLES
- UNDERLAYMENT
- 5/8" PLYWOOD
- WOOD TRUSS *
- METAL SOFFIT (WHERE OCCURS - REFERENCE DETAILS)

* REF STRUCTURAL FOR ADDITIONAL INFORMATION



MINIMUM R-30

R4 ROOF CONSTRUCTION

ROOF ASSEMBLY:
- ADHERED ROOFING MEMBRANE
- 2" BASE LAYER RIGID ROOF INSULATION
- 4" TOP LAYER RIGID ROOF INSULATION
- CLASS 1 VAPOR RETARDER
- 1 1/2" METAL DECK *
- STEEL JOIST *

* REF STRUCTURAL FOR ADDITIONAL INFORMATION

CONSTRUCTION DOCUMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G20	G47

A-111 FLOOR PLAN
FLOOR PLAN LEGEND

NAME 101	ROOM TAG
101B	DOOR TAG
W1	WINDOW TAG
A1-A	WALL TAG
XXX	EQUIPMENT TAG
1	KEYNOTE TAG
REV	REVISION TAG
CJ	MASONRY CONTROL JOINT
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
CR	CARD READER
PP	DOOR ACTUATOR PUSH PLATE

REGISTERED PROFESSIONAL ARCHITECT
REG. NO. 13485
MARK D. AVERETT
SOUTH DAKOTA
DATE: 12/1/2021

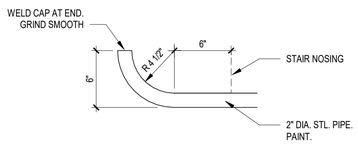
SHEET GENERAL NOTES: FLOOR PLAN

A. PROVIDE BLOCKING AT PARTITIONS AS REQUIRED FOR MOUNTING OF FURNISHED AND NON-FURNISHED WALL MOUNTED ITEMS.
B. ALIGN FINISHED FACE OF CONTINUOUS PARTITIONS THAT CHANGE PARTITION TYPES ALONG A STRAIGHT RUN.
C. EDGE OF INTERIOR DOOR FRAMES TO BE 4" FROM ADJACENT WALL, UNLESS NOTED OTHERWISE.
D. REFER TO SHEET A-801 FOR DOOR SCHEDULE AND TYPES.
E. ALL WALL DIMENSIONS ARE TO FACE OF GYPSUM WALL, CMU, BRICK, OR CONCRETE; UNLESS NOTED OTHERWISE.
F. REFERENCE SHEET G-002 FOR TYPICAL ACCESSORIES SCHEDULE, MOUNTING HEIGHTS AND LOCATIONS.
G. INTERIOR PARTITIONS ARE TO BE THE TYPES LISTED BELOW UNLESS NOTED OTHERWISE ON PLANS;
   1. TYPE A6AS AT THE PORT OF ENTRY.

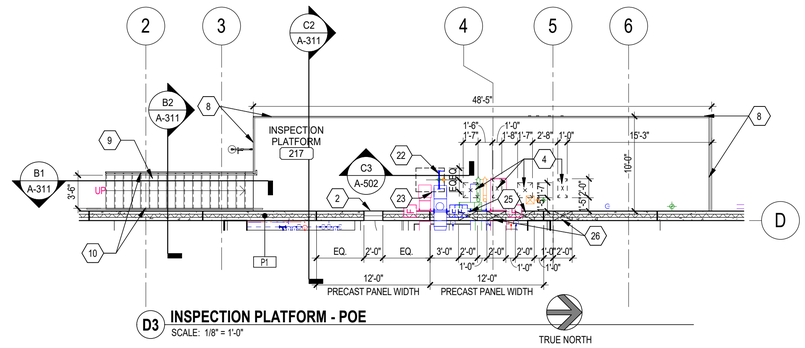
KEY NOTES: FLOOR PLAN

1. CONCRETE STOOP, REF. STRUCT. SHEET S-101
2. ACCESS PANEL, 24" W. x36" T. INSTALL B.O. OPENING 2'-0" AFF OF INSPECTION PLATFORM.
3. 3" X 4" DOWNSPOUT. PROVIDE PAINTED STEEL GUARD AROUND BOOT AT NORTH SIDE POE.
4. OPENING IN FLOOR FOR MECHANICAL DUCT. REFERENCE DRAWING MH111 FOR VERIFICATION OF SIZE.
5. NOT USED.
6. CONTINUOUS STEEL PIPE RAIL PAINT SAFETY YELLOW.
7. GEAR LOCKERS. O.F.C.I.
8. TYPICAL 1 1/2" O.D. STEEL PIPE GUARDRAIL @ STAIR AND EDGE OF INSPECTION PLATFORM. 42" HIGH W/ SUPPORTS NO GREATER THAN 4' O.C. HORIZONTALS SPACED 5" O.C. GUARD RAILS AT WALL TO TERMINATE AT POST LOCATED MAX. 4 1/2" OC FROM FACE OF WALL.
9. METAL GRATE STAIR W/ CHANNEL STRINGERS
10. 1 1/4" O.D. STEEL PIPE HANDRAIL. PAINT
11. SLOPE SLAB AT 1/8" PER 12" MINIMUM TO PIT.
12. PIPE BOLLARD. REF DETAIL B1 / A-501
13. TRENCH DRAIN. REFERENCE MECHANICAL SHEET PL110.
14. SAND AND OIL SEPERATOR. REFERENCE MECHANICAL SHEET PL110.
15. ALIGN FACE OF BOLLARD WITH FACE OF OPENING, TYPICAL.
16. CAST IN PLACE CONCRETE STAIR. REF STRUCTURAL SHEET S-111
17. MANUAL ROLLER WINDOW SHADE: ALTERNATE
18. LOCATE THESE WALLS TO PROVIDE MINIMUM CLEARANCE AS NOTED IN DIMENSIONS AND TO PROVIDE REQUIRED ADA CLEARANCE NOTED AT DOOR.
19. PROVIDE 1" PREFORMED EXPANSION JOINT AT EACH SIDE, BETWEEN BRICK VENEER AND PRECAST
20. PRECAST CONCRETE PANEL JOINT. REFERENCE SHEET A-211 FOR DIMENSIONS.
21. REFERENCE EXTERIOR ELEVATION FOR CHANGE IN EXTERIOR MATERIAL.
22. ROOF ACCESS LADDER.
23. ROOF HATCH ABOVE. CENTER LADDER IN OPENING.
24. CENTER DOOR OPENING BETWEEN WALLS.
25. 24" W. x 12" T. OPENING IN PRECAST CONCRETE PANEL FOR MECHANICAL DUCT. B.O. OPENING 24" ABOVE INSPECTION PLATFORM FLOOR. REFERENCE DRAWING MH111 FOR VERIFICATION OF SIZE.
26. 24" W. x 12" T. OPENING IN PRECAST CONCRETE PANEL FOR MECHANICAL DUCT. B.O. OPENING 12" ABOVE INSPECTION PLATFORM FLOOR. REFERENCE DRAWING MH111 FOR VERIFICATION OF SIZE.
27. PANEL SIGNAGE
28. MECHANICAL CONCRETE HOUSEKEEPING PAD. REFERENCE MECHANICAL FOR SIZE AND LOCATION.
29. AT THIS COLUMN, HEIGHT OF WRAP TO MATCH HEIGHT OF THE WINDOW SILL AT THE NEARBY DOOR

NOTE: NOT ALL KEYNOTES MAY BE USED ON EACH PLAN

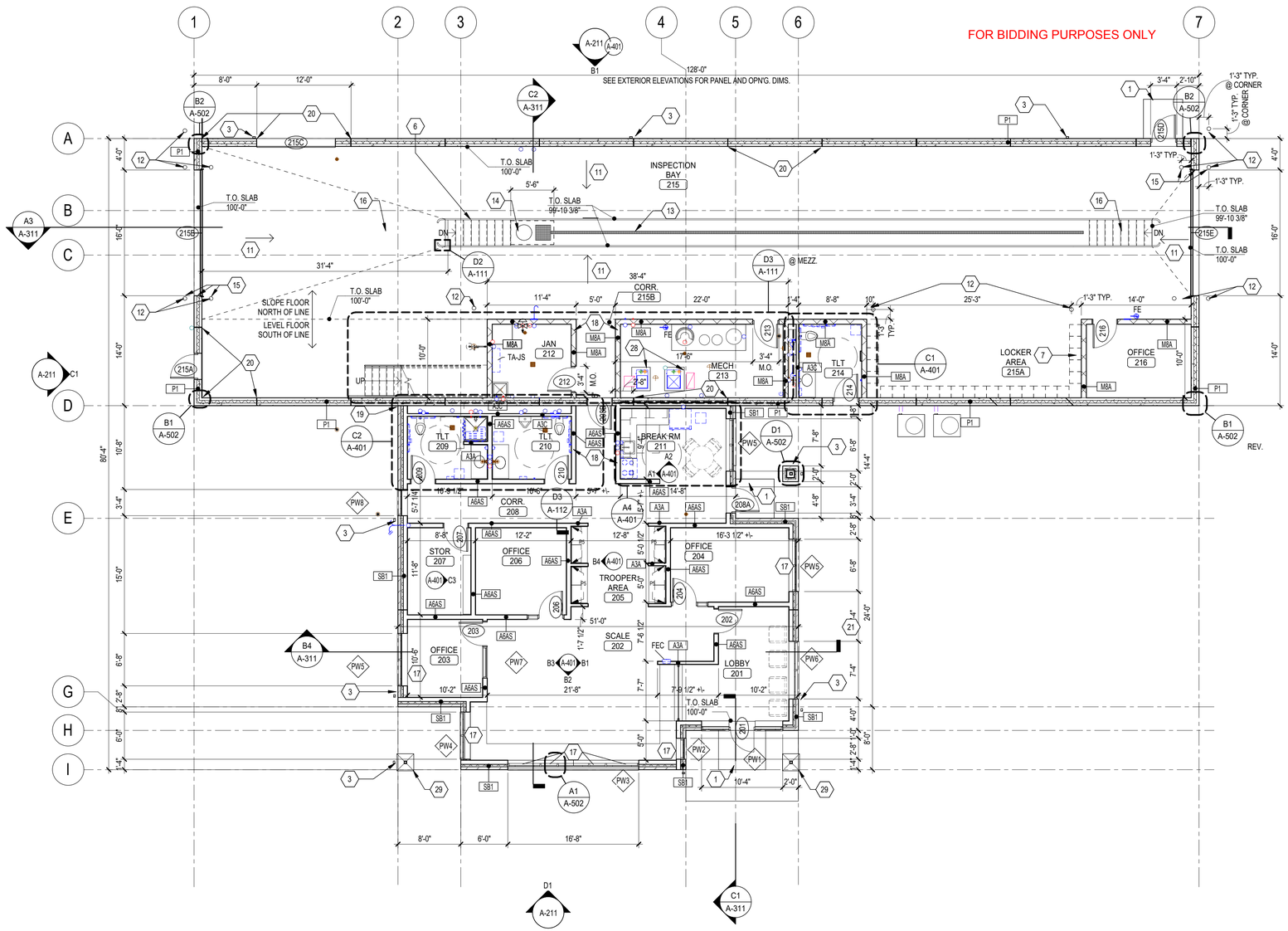


D2 TYP. PIT GUARDRAIL END
SCALE: 1 1/2" = 1'-0"



D3 INSPECTION PLATFORM - POE
SCALE: 1/8" = 1'-0"

FOR BIDDING PURPOSES ONLY



FIRST LEVEL FLOOR PLAN
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'

TRUE NORTH

CONSTRUCTION DOCUMENTS

As indicated

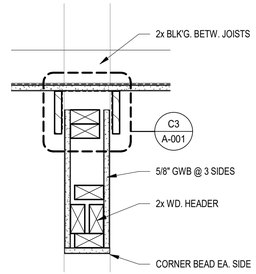
L:_TSP Revit Local\l0319\315 SDDOT_Tilford POE_A20_mitzelfeltbr.rvt
3/1/2022 8:52:14 AM

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G21	G47

A-112 REFLECTED CEILING PLAN - POE

CEILING PLAN LEGEND

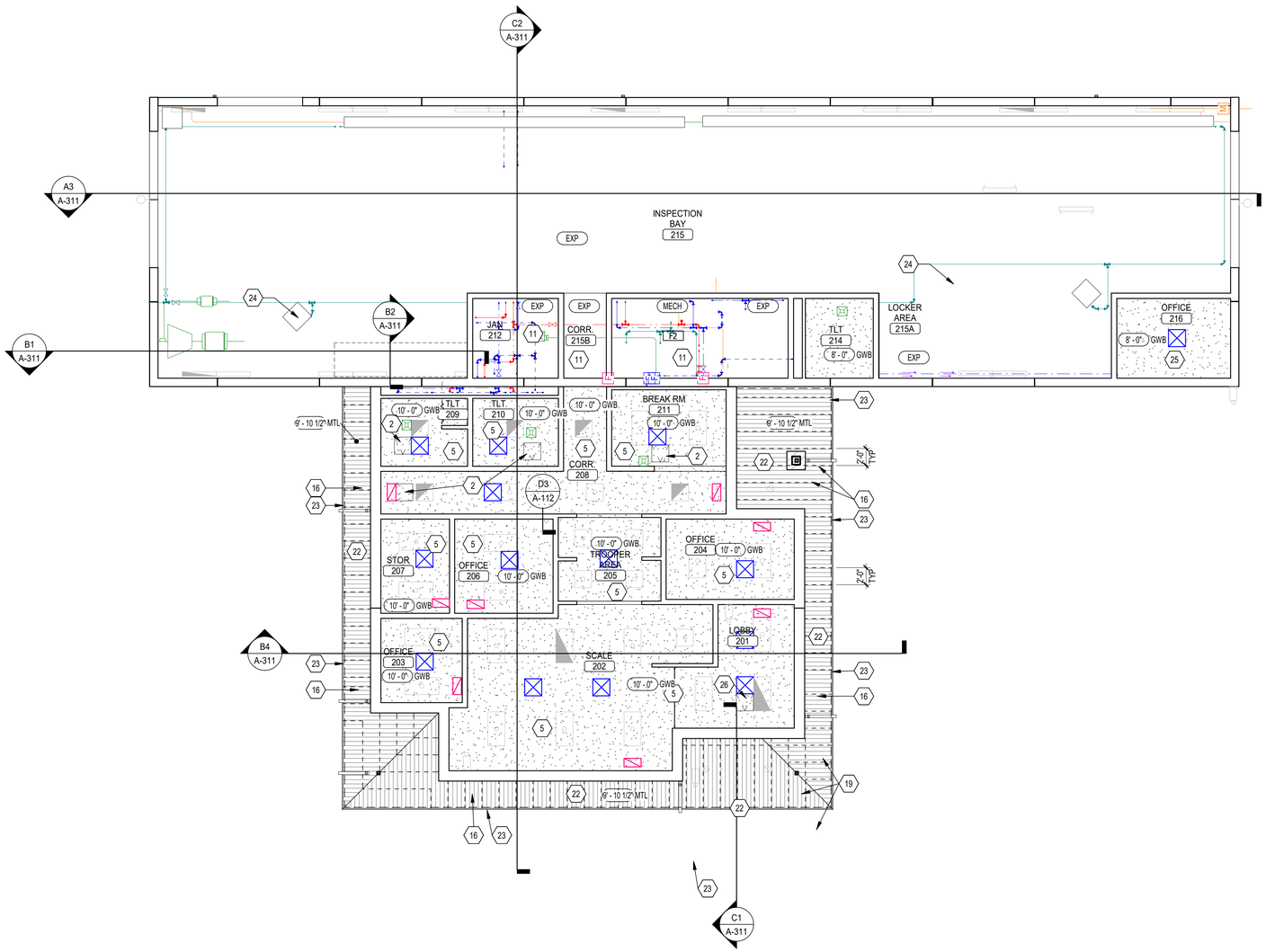
- RECESSED OR SEMI-RECESSED LIGHT FIXTURE
- SURFACE MOUNT LIGHT FIXTURE
- PENDANT MOUNT LIGHT FIXTURE
- CEILING EXIT SIGN, SINGLE OR DOUBLE FACE. REF ELECTRICAL
- SUPPLY REGISTER OR DIFFUSER
- EXHAUST OR RETURN REGISTER
- RADIANT HEATING PANEL
- GYPSUM BOARD CEILING
- METAL PANEL SOFFIT
- EXPOSED WOOD DECK
- 10'-11" CEILING HEIGHT ELEVATION TAG
- 8'-0" SPOT ELEVATION TAG
- EXP EXPOSED STRUCTURE



D3 DETAIL - POE @ GWB SOFFIT
SCALE: 1 1/2" = 1'-0"

REGISTERED PROFESSIONAL ARCHITECT
REG. NO. 13485
MARK D. AVERITT
SOUTH DAKOTA
DATE: 12/1/2021

FOR BIDDING PURPOSES ONLY



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

0' 4' 8' 16' TRUE NORTH

SHEET GENERAL NOTES: CEILING PLAN

A. GENERAL CONTRACTOR TO COORDINATE ALL CEILING MOUNTED EQUIPMENT SUPPORT REQUIREMENTS, LOCATIONS, DIMENSIONS, ETC, WITH EQUIPMENT SUPPLIER AND OWNER, PRIOR TO INSTALLATION.

B. ALL CEILING MOUNTED ITEMS SUCH AS LIGHT FIXTURES, GRILLES, DIFFUSERS, SPEAKERS, EXIT LIGHTS ETC, SHALL BE LOCATED IN THE CENTER OF ACT/ACB PANELS, GYP BD SOFFITS AND/OR PLASTER SOFFIT BAYS, UNLESS NOTED OTHERWISE. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS.

C. CEILINGS ARE ATTACHED TO UNDERSIDE OF STRUCTURAL TRUSSES UNLESS NOTED OTHERWISE. UNDERSIDE OF GWB APPROXIMATELY 10'-0" AFF.

KEY NOTES: CEILING PLAN

1. EXTERIOR AND INTERIOR GLULAM STRUCTURE, WOOD JOISTS & WOOD DECK PREFINISHED.
2. 20"x24" ACCESS PANEL LOCATED BETWEEN TRUSSES. PAINT TO MATCH ADJACENT CEILING. REFERENCE MECHANICAL FOR LOCATION. PROVIDE 24" X 48" PLYWOOD PANEL NEXT TO ACCESS PANEL ON TOP OF BOTTOM CHORD OF TRUSS FOR WALK SURFACE.
3. 3" X 4" PREFINISHED METAL DOWNSPOUT.
4. 20"x30" ACCESS PANEL. LOCATED BETWEEN TRUSSES. PAINT TO MATCH ADJACENT CEILING. REFERENCE MECHANICAL FOR LOCATION. PROVIDE 24" x 48" PLYWOOD PANEL NEXT TO ACCESS PANEL ON TOP OF BOTTOM CHORD OF TRUSS FOR WALK SURFACE.
5. 1 x 6 WOOD TRIM AROUND STRUCTURE/CEILING AROUND ENTIRE PERIMETER OF ROOM. PAINT TO MATCH CEILING. REF. INTERIOR ELEVATIONS AND DETAIL C3/A-001
6. MECHANICAL DUCT. REFERENCE SHEET MH101.
7. NEW STEEL PLATE, PAINT P5. REF. STRUCT.
8. NOT USED
9. SLOPED GYPSUM SOFFIT. (SAME SLOPE AS WOOD RAFTER)
10. GYPSUM SOFFIT, CURVED TO ALIGN W/ CW MULLIONS.REF DETAILS FOR MORE INFORMATION.
11. CEILING EXPOSED TO STRUCTURAL SLAB ABOVE (INSPECTION PLATFORM FLOOR).
12. GLU-LAM BEAMS AND WOOD DECK DO NOT REQUIRE FINISH IN AREA ABOVE CEILING.
13. PAINT HORIZONTAL AND VERTICAL SURFACES OF SOFFIT P2
14. GLULAM TRUSS. PREFINISHED. REFERENCE STRUCTURAL DRAWINGS & DETAIL
15. GWB CEILING ATTACHED TO UNDERSIDE OF TRUSS. HEIGHT ABOVE FINISHED FLOOR IS APPROXIMATE.
16. NOT USED
17. CEILING FAN. REFERENCE SHEET MH101.
18. FINISH GWB CEILING TO EITHER SIDE OF EXPOSED STEEL BEAM. PAINT BEAM TO MATCH CEILING.
19. ALTERNATE #6 - PROVIDE 2 1/2" VENT SOFFIT AS INDICATED AT THIS SOFFIT AREA.
20. ALTERNATE #6 - PROVIDE ONE (1) 2 1/2" VENT SOFFIT AT EACH COLUMN AS INDICATED
21. GWB CEILING ATTACHED TO UNDERSIDE OF TRUSS.
22. BASE BID - PLYWOOD - STAINED. ALTERNATE - METAL SOFFIT PANEL (LONGBOARD)
23. CONTINOUS SOFFIT VENT AT METAL SOFFIT.
24. UNIT HEATER
25. CEILING EXPOSED TO SLOPED CEILING ABOVE.
26. PROVIDE ACCESS PANEL TO DOOR POWER SUPPLY

NOTE: NOT ALL KEYNOTES MAY BE USED ON EACH PLAN

CONSTRUCTION DOCUMENTS

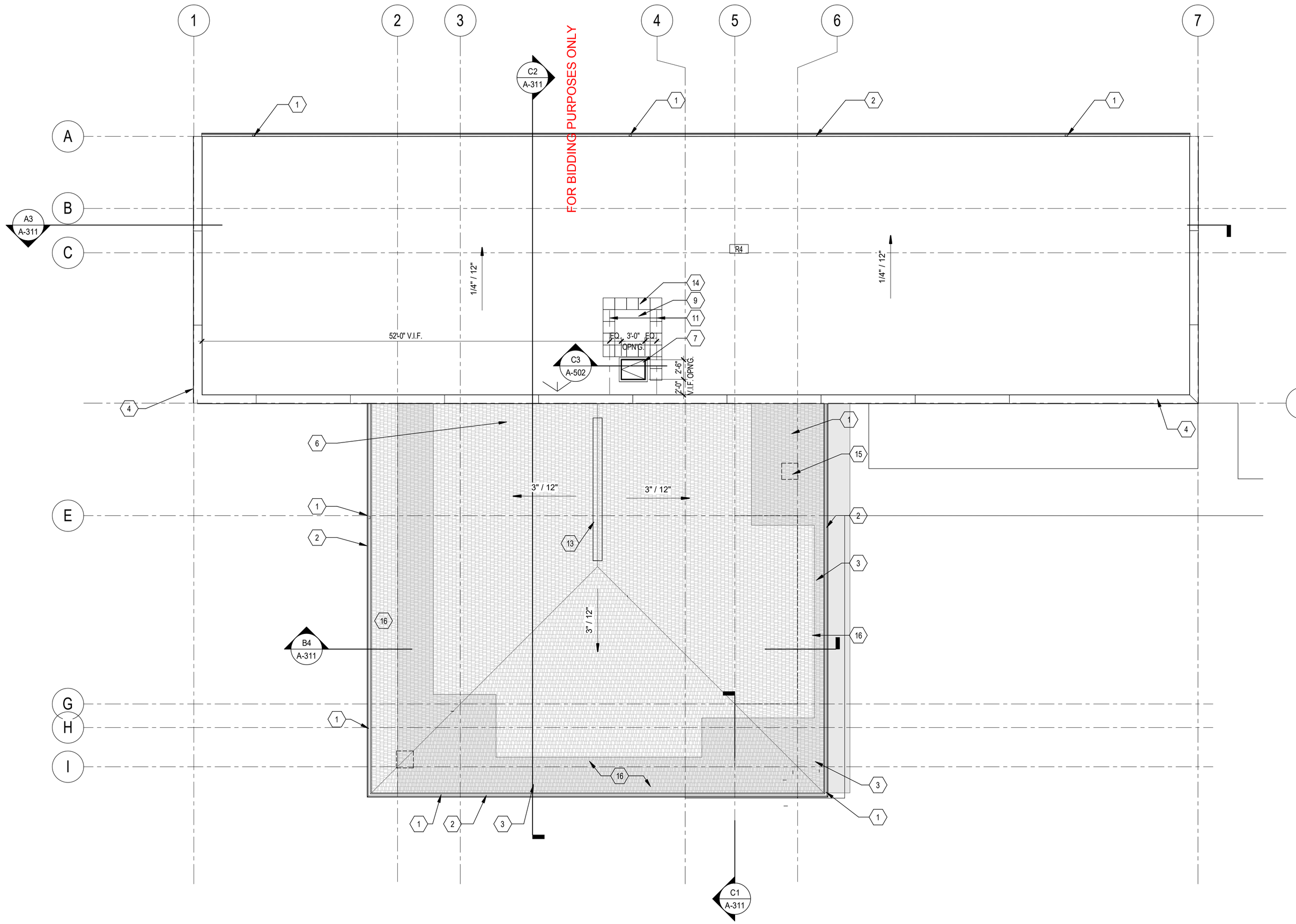
LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

As indicated

L:_TSP Revit Local\03191315 SDDOT_Tilford POE_A20_mitzelfeltbr.rvt
3/1/2022 8:52:16 AM

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G22	G47

A-113 ROOF PLAN - POE



ROOF PLAN - POE

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

0' 4' 8' 16'

TRUE NORTH

ATTIC VENTING

LENGTH X WIDTH = AREA

ROOF AREA : 3083 SF/300 = 10.27 SF SF OR 1479 SQ. IN. NET FREE AIR SPACE REQUIRED

KEY NOTES: ROOF PLAN

1. 3" X 4" DOWNSPOUT, COLOR TO MATCH ROOF.
2. 8" X 6" GUTTER, COLOR TO MATCH ROOF
3. ROOF OVERHANG
4. PREFINISHED METAL COPING
5. EXTERIOR WALL FACE SHOWN BELOW
6. PLUMBING VENT ROOF PENETRATION
7. ROOF ACCESS HATCH WITH SAFETY RAILING SYSTEM.
8. EXHAUST FAN ROOF PENETRATION REFERENCE MECHANICAL DRAWINGS
9. AIR DUCT ROOF PENETRATION. REFERENCE MECHANICAL DRAWINGS
10. LOW PROFILE ROOF VENT. LOCATE A MAX. DISTANCE OF 3'-0" BELOW TOP OF ROOF.
11. APPROXIMATE LOCATION OF ROOF JOISTS BELOW ROOF. VERIFY LOCATION PER STRUCTURAL DRAWINGS.
12. ROOF TO WALL VENT
13. RIDGE VENT
14. WALK PADS
15. OUTLINE OF COLUMN SHOWN BELOW
16. ICE AND WATER SHIELD AS SHOWN IN SHADED AREA

NOTE: NOT ALL KEYNOTES MAY BE USED ON EACH PLAN

REGISTERED PROFESSIONAL ARCHITECT
REG. NO.
13485
MARK D. AVERETT
SOUTH DAKOTA
DATE: 12/1/2021

FOR BIDDING PURPOSES ONLY

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

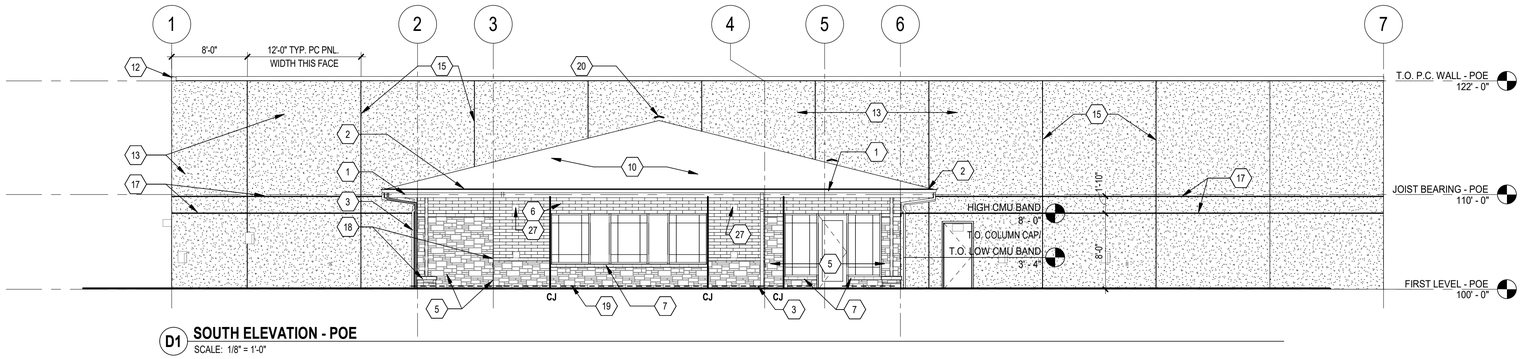
As indicated

L:_TSP Revit Local\03191315 SDDOT_Tilford POE_A20_mitzelfeltbr.rvt
3/1/2022 8:52:17 AM

SECTION G: TILFORD PORT OF ENTRY BUILDING

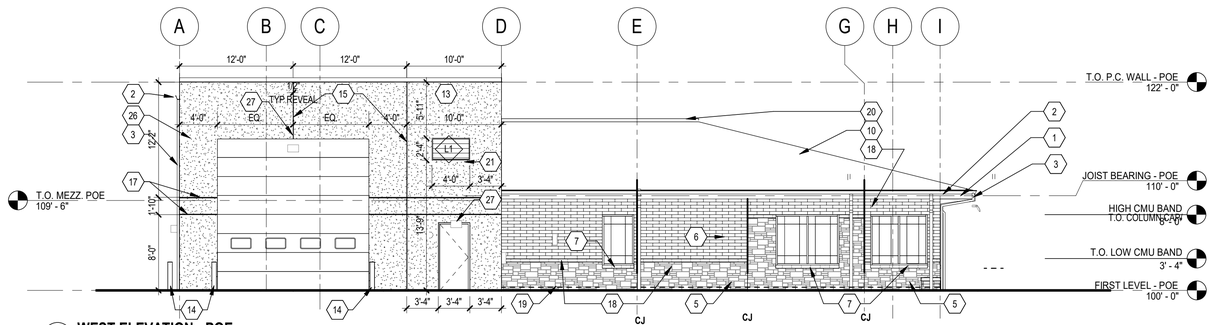
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G23	G47

A-211 EXTERIOR ELEVATIONS - POE

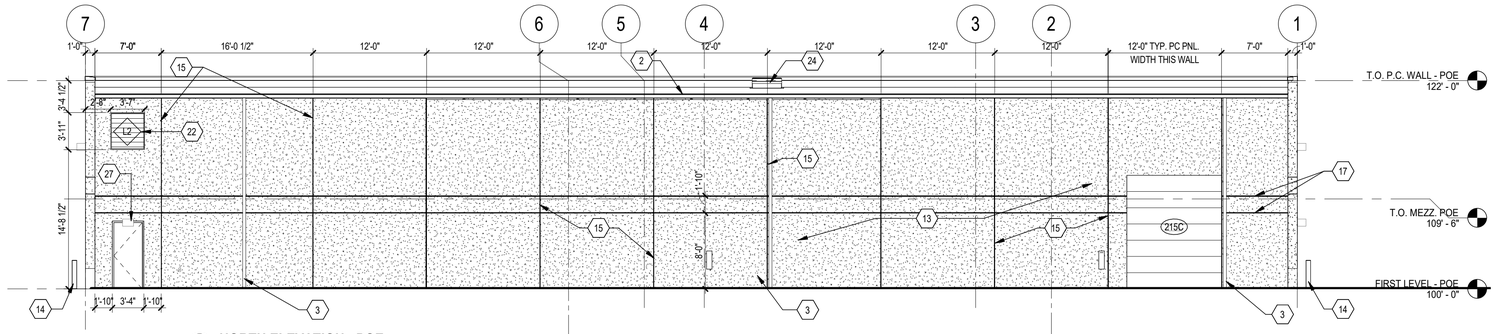


D1 **SOUTH ELEVATION - POE**
SCALE: 1/8" = 1'-0"

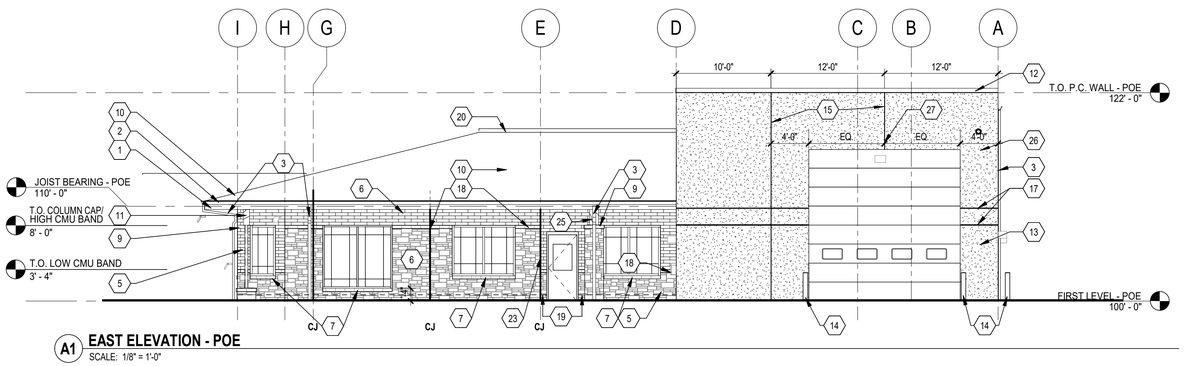
FOR BIDDING PURPOSES ONLY



C1 **WEST ELEVATION - POE**
SCALE: 1/8" = 1'-0"



B1 **NORTH ELEVATION - POE**
SCALE: 1/8" = 1'-0"



A1 **EAST ELEVATION - POE**
SCALE: 1/8" = 1'-0"

SHEET GENERAL NOTES: EXTERIOR ELEVATIONS

A. APPLY SEALANT AND BACKER ROD TO ALL JOINTS BETWEEN DISSIMILAR MATERIALS.

KEY NOTES: EXTERIOR ELEVATIONS

1. PREFINISHED METAL FASCIA.
2. 8" X 6" GUTTER.
3. 3" X 4" DOWNSPOUT, TYP.
4. GLULAM TRUSS WITH BOTTOM CHORD TENSION ROD. REFERENCE STRUCT
5. ASHLAR PATTERN CONCRETE BLOCK
6. FACE BRICK, CFB1.
7. CAST STONE SILL.
8. WOOD FINISH METAL PANEL
9. CAST STONE CAP AT COLUMN, TYP.
10. ASPHALT SHINGLES
11. WOOD COLUMN WRAP AT ALL EXTERIOR COLUMNS, TYP.
12. PREFINISHED METAL COPING
13. INSULATED PRECAST PANELS
14. STEEL PIPE BOLLARD. REF. DETAIL A1/A-503
15. PRECAST PANEL JOINTS
16. PRECAST PANEL JOINT BEYOND
17. 3/4" HIGH x 3/4" DEEP REVEAL IN PRECAST PANEL
18. 4" COURSE, DCMU4.
19. THRU-WALL FLASHING. 4" ABOVE FLOOR, TYPICAL.
20. CONT. RIDGE VENT.
21. MECHANICAL LOUVER. REFERENCE SHEET A-601 AND MECHANICAL DRAWINGS.
22. MECHANICAL EXHAUST FAN. REFERENCE MECHANICAL DRAWINGS.
23. RETURN CONCRETE BLOCK (DCMU3) UP TO 4" COURSE (DCMU4-T.O. BLOCK @ 8'-0" AFF) AND 4" COURSE ON WALL PERPENDICULAR TO ELEVATION TO FAR WALL.
24. ROOF HATCH.
25. GLULAM BEAM. PREFINISHED.
26. INTAKE AIR DUCT. REFERENCE MECHANICAL DRAWINGS.
27. LIGHT/ELECTRICAL MOUNTED SURFACE FIXTURES ON WALL. REFERENCE ELECTRICAL FOR HEIGHTS AND LOCATIONS

NOTE: NOT ALL KEYNOTES MAY BE USED ON EACH PLAN

REGISTERED PROFESSIONAL ARCHITECT
REG. NO.
13485
MARK D. AVERETT
SOUTH DAKOTA
DATE: 12/1/2021

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CONSTRUCTION DOCUMENTS

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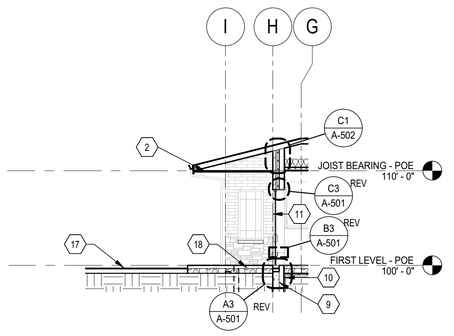
3/17/2022 8:52:19 AM

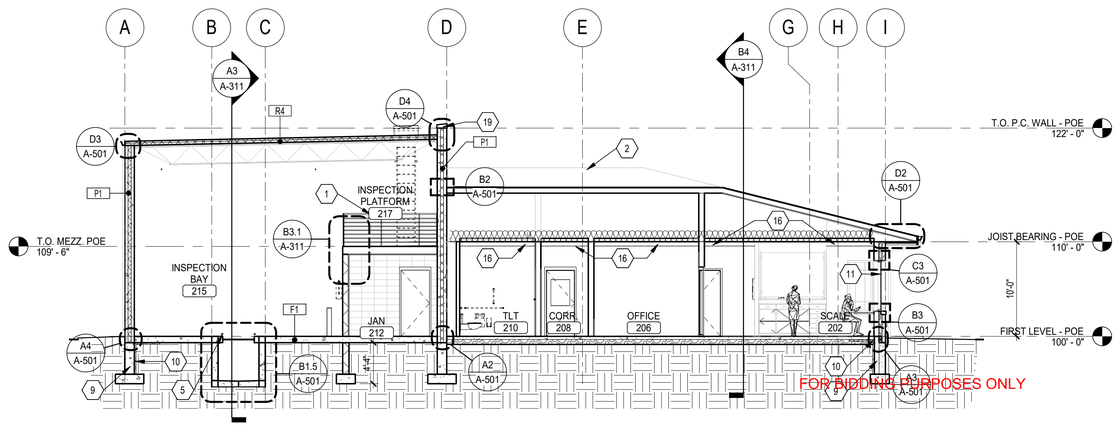
SECTION G: TILFORD PORT OF ENTRY BUILDING

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G24	G47

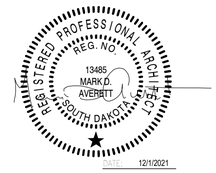
A-311 BUILDING SECTIONS - POE



C1 BUILDING SECTION - POE @ ENTRY CANOPY
SCALE: 1/8" = 1'-0"



C2 BUILDING SECTION - POE - N-S
SCALE: 1/8" = 1'-0"

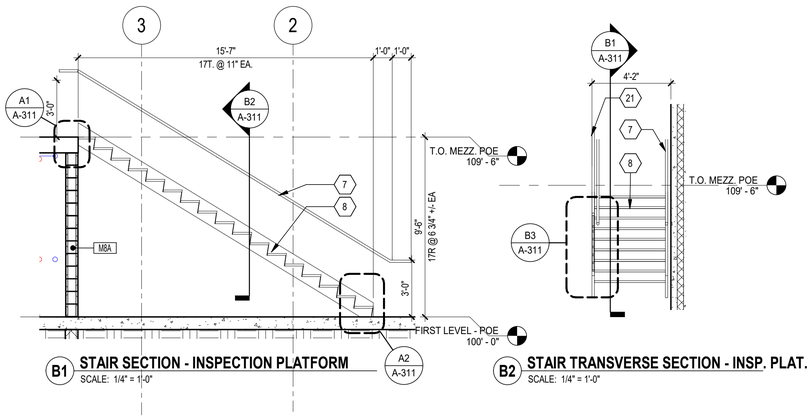


DATE: 12/1/2021

KEY NOTES: BUILDING & WALL SECTIONS

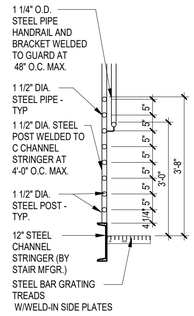
1. STEEL PIPE GUARDRAIL. TYPICAL AT PERIMETER OF INSPECTION PLATFORM & OPEN SIDE OF STAIR. PAINT.
2. CONTINUOUS RIDGE VENT.
3. STEEL PIPE BOLLARD. PAINT. REFERENCE DETAIL B1/A-503
4. CONCRETE STAIR. REFERENCE STRUCTURAL DRAWINGS D1/S-111.
5. CONTINUOUS STEEL PIPE EDGE PROTECTION. SUPPORT PLATES SPACED @ 48" O.C. - PAINT SAFETY YELLOW
6. SLOPING LID ASSEMBLY AT OFFICE 214
7. 1 1/4" O.D. STEEL PIPE HANDRAIL. MOUNT TO PRECAST WALL WITH WALL BRACKETS SPACED NO MORE THAN 48" O.C.
8. METAL STAIR. STEEL BAR GRATE TREADS W/ ENCLOSED NOSING AND RISERS. STEEL CHANNEL STRINGERS.
9. CONCRETE FOOTING AND FOUNDATION WALL, REF. STRUCT.
10. 2" RIGID PERIMETER INSULATION. RUN HORIZONTAL FOR 24" UNDER SLAB
11. STOREFRONT ASSEMBLY, REF. FLOOR PLAN
12. ELECTRIC WATER COOLER
13. VENDING MACHINES BY OWNER
14. TELESCOPING DOOR, REF. DOOR SCHEDULE
15. CAST STONE SILL
16. 1X6 WOOD TRIM AT CEILING LINE. PAINT TO MATCH CEILING
17. CONCRETE SIDEWALK, REF. CIVIL
18. STOOP, REF. STRUCT.
19. PREFINISHED METAL COPING
20. CONTINUE RIGID INSULATION OVER CMU
21. STEEL GUARDRAIL POST AND HORIZONTALS
22. ACCESS PANEL

NOTE: NOT ALL KEYNOTES MAY BE USED ON EACH PLAN

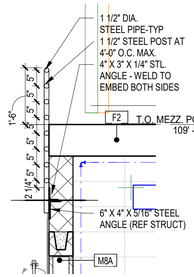


B1 STAIR SECTION - INSPECTION PLATFORM
SCALE: 1/4" = 1'-0"

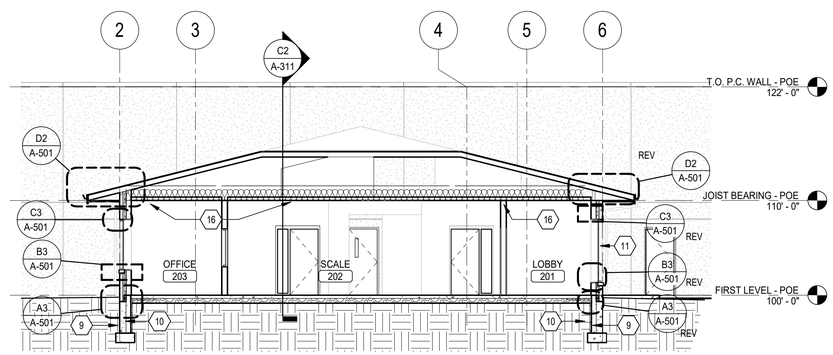
B2 STAIR TRANSVERSE SECTION - INSP. PLAT.
SCALE: 1/4" = 1'-0"



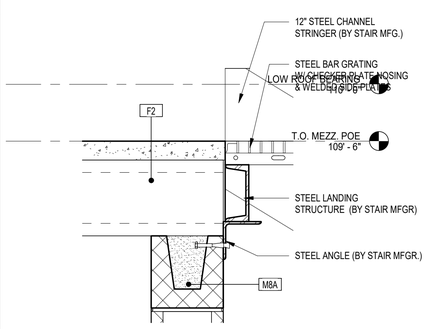
B3 STAIR GUARD RAIL SECTION
SCALE: 1/2" = 1'-0"



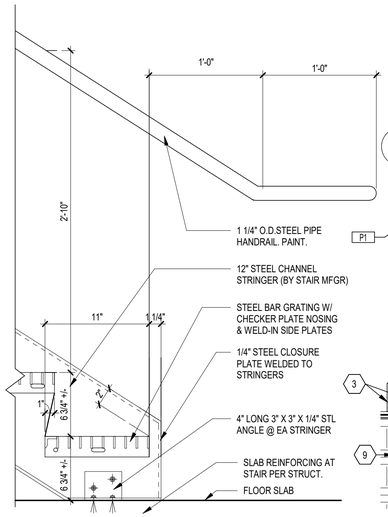
B3.1 GUARD RAIL AT INSPECTION PLATFORM
SCALE: 1/2" = 1'-0"



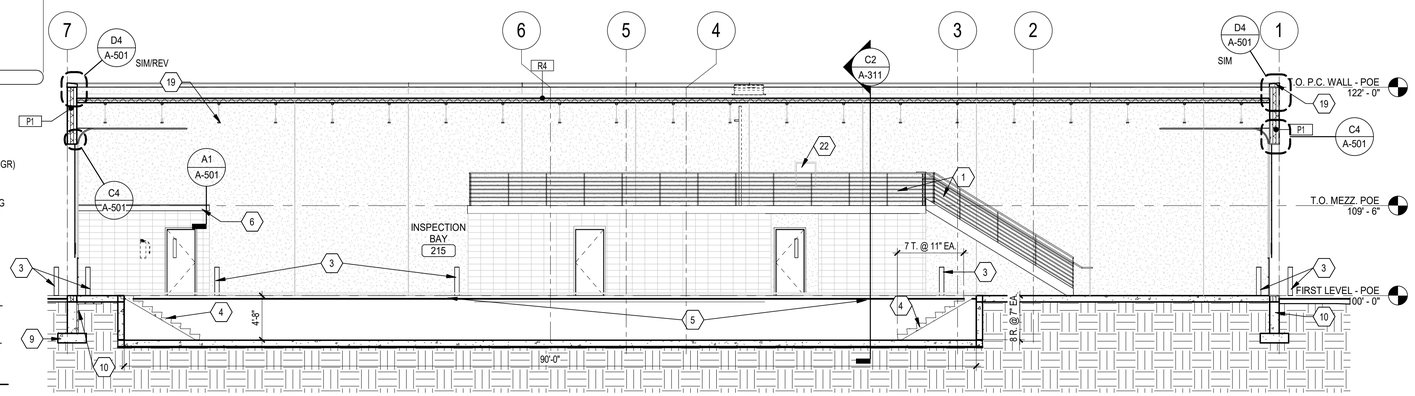
B4 BUILDING SECTION - POE - W-E_OFFICE BLDG
SCALE: 1/8" = 1'-0"



A1 DETAIL - POE @ TOP OF INSP. PLAT. STAIR
SCALE: 1 1/2" = 1'-0"



A2 STAIR - WALL STRINGER AT FLOOR SLAB
SCALE: 1 1/2" = 1'-0"



A3 BUILDING SECTION - POE - W-E_INSPECTION BAY
SCALE: 1/8" = 1'-0"

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

As indicated

L:_TSP Revit Local\03191315 SDDOT_ Tilford POE_A20_mitzelfeltbr.rvt
3/1/2022 8:52:20 AM

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G25	G47

A-401 ENLARGED PLANS & INTERIOR ELEVATIONS

TOILET ACCESSORY SCHEDULE

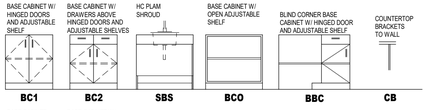
ACC #	DECSRIPTION	FURNISH/INSTALL
TA-GB1	GRAB BAR 18"	CFCI
TA-GB3	GRAB BAR 36"	CFCI
TA-GB4	GRAB BAR 42"	CFCI
TA-HD	HAND DRYER	CFCI
TA-JS	JANITOR SHELF 36"	CFCI
TA-MI2	MIRROR	CFCI
TA-PTD	PAPER TOWEL DISPENSER	CFCI
TA-RH	ROBE HOOK	CFCI
TA-SD	SOAP DISPENSER	CFCI
TA-SNDX	SANITARY NAPKIN DISPOSAL	CFCI
TA-SS1	Reversible Phenolic Shower Seat	
TA-TP	TOILET PAPER DISPENSER	CFCI
TA-WR	WASTE RECEPTICLE	CFCI

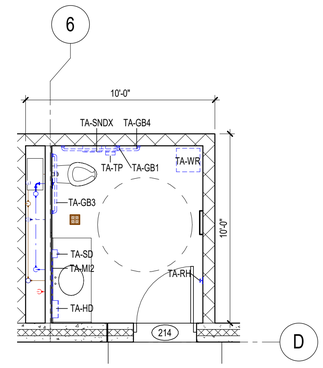
REGISTERED PROFESSIONAL ARCHITECT
REG. NO.
13485
MARK D. AVERITT
SOUTH DAKOTA
12/1/2021

FOR BIDDING PURPOSES ONLY

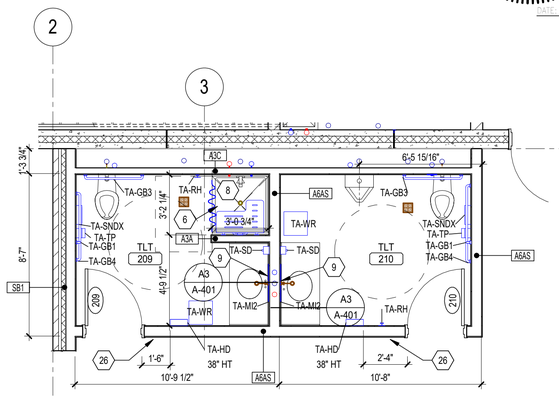
WALL CABINETS

BASE CABINETS

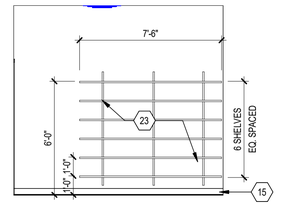




C1 ENLARGED TLT 214
SCALE: 1/4" = 1'-0"



C2 ENLARGED PLAN - TLT 209 & 210
SCALE: 1/4" = 1'-0"



C3 INTERIOR ELEVATION -STOR 207 - EAST
SCALE: 1/4" = 1'-0"

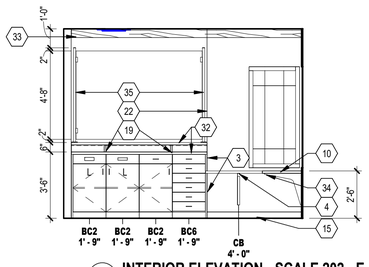
SHEET GENERAL NOTES: PLANS & INTERIOR ELEVATIONS

A. PROVIDE BLOCKING AT PARTITIONS AS REQUIRED FOR MOUNTING OF FURNISHED AND NON-FURNISHED WALL MOUNTED ITEMS.
B. ALIGN FINISHED FACE OF CONTINUOUS PARTITIONS THAT CHANGE PARTITION TYPES ALONG A STRAIGHT RUN.
C. EDGE OF INTERIOR DOOR FRAMES TO BE 4" FROM ADJACENT WALL, UNLESS NOTED OTHERWISE.
D. REFER TO SHEET A-601 FOR DOOR SCHEDULE AND TYPES.
E. ALL WALL DIMENSIONS ARE TO FACE OF GYPSUM BOARD, CMU, BRICK, OR CONCRETE; UNLESS NOTED OTHERWISE.
F. INTERIOR PARTITION TYPES ARE ASSUMED TO BE TYPE 'A6AS' UNLESS NOTED OTHERWISE.
G. 25 1/2" DEEP PLASTIC LAMINATE COUNTERTOP U.N.O.
H. SEE BUILDING ACCESSORIES ON SHEET G-002 FOR ADDITIONAL INFORMATION.
I. ASSUME PLASTIC LAMINATE FILLER AT END OF ALL CASEWORK ADJACENT TO A WALL.
J. ALL WALL CABINETS AND TALL CABINETS WILL HAVE SLOPED TOPS U.N.O.
K. COORDINATE GROMMET LOCATION WITH OWNER.
L. CABINET DEPTH (NOT INCLUDING DOORS) U.N.O.
   - WALL CABINET = 14"
   - BASE CABINET = 24"
   - TALL CABINET = 24"
M. REFER TO SHEET G-002 FOR SCHEDULE AND TYPICAL ACCESSORY MOUNTING HEIGHTS AND LOCATIONS.

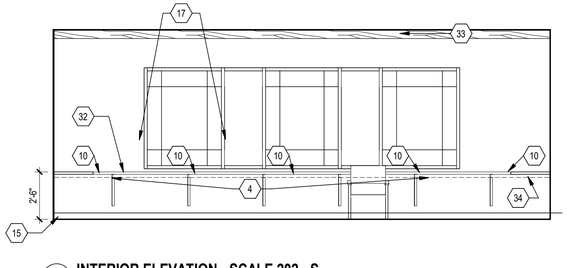
KEY NOTES: PLANS & INTERIOR ELEVATIONS

1 1" CABINET FILLER PANEL @ WALL, TYP.
2 SOLID SURFACE COUNTERTOP - SSM1
3 FINISHED END PANEL.
4 PAINTED CLEAT ON BACK AND SIDE WALL, MITERED AND ANGLED TO BE CONCEALED.
5 OPEN TO BEYOND
6 VERIFY DIMENSIONS REQUIRED FOR SHOWER UNIT INSTALLATION.
7 COORDINATE OPENING REQ'D. BY EQUIPMENT WITH OWNER.
8 PREFABRICATED SHOWER UNIT INSERT WITH GRAB BARS SHOWER SEAT & SHOWER ROD WITH CURTAIN.
9 CENTER MIRROR OVER SINK.
10 GROMMET. VERIFY LOCATION WITH OWNER EQUIPMENT LAYOUT.
11 CABINET FILLER PANEL @ CORNER, TYP.
12 FULL HEIGHT/DEPTH FINISHED END PANEL.
13 OVER THE RANGE MICROWAVE. VERIFY REQUIRED HEIGHTS AND CLEARANCES FOR OFCI EQUIPMENT PRIOR TO WALL CABINET FABRICATION.
14 PTB1
15 VB1
16 4" BACKSPLASH W/SIDESPLASH AT ALL WALLS
17 OPERABLE PANE IN WINDOW SYSTEM. REFERENCE FRAME ELEVATIONS.
18 PREFABRICATED PLUMBING FIXTURE UNIT WITH INTEGRAL BOWLS. NUMBER OF FIXTURES AND BOWLS AS SHOWN PER PLAN. REFERENCE PLUMBING FIXTURE PLAN.
19 TRANSACTION COUNTER BRACKET.
20 6" WIDE PAPER SLOT GROMMET IN FACE OF DRAWER.
21 PTB2
22 INTERCOM AND DOOR RELEASE FOR MAIN ENTRY DOOR 201 POSTIONED ON WALL.
23 12" DEEP PLAM SHELVES WITH WALL-MOUNT STANDARDS AND BRACKETS.
24 6" CMU (STACK BOND) BEHIND SIGNAGE ONLY
25 WOOD LOOK TILE PLANK
26 10" W X 12" H ACCESSIBLE SIGNAGE. REF A1/A-401 FOR MOUNTING HEIGHT OF SIGNAGE.
27 2" X 2" TILES
28 SCHULTER QUADEC BRONZE
29 SCHULTER QUADEC FS BRONZE
30 RESDENTIAL APPLIANCE - OFCI.
31 PLASTIC LAMINATE CABINETRY-PLAM1
32 PLASTIC LAMINATE COUNTERTOP - PLAM2
33 1X6 WOOD TRIM PAINTED TO MATCH CEILING AROUND ENTIRE PERIMETER OF ROOM.
34 WIRE MANAGER AT UNDERSIDE OF COUNTERTOP.
35 5' TALL SS COUNTER MOUNTED POST RAILS WITH 1/4" CLEAR POLYCARBONATE WITHIN GLASS CLAMPS

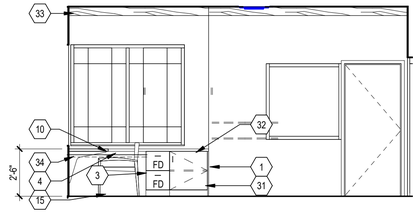
NOTE: NOT ALL KEYNOTES MAY BE USED ON EACH PLAN



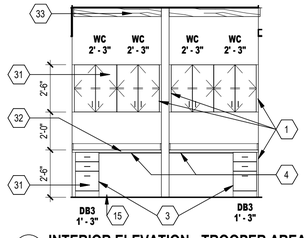
B1 INTERIOR ELEVATION - SCALE 202 - E
SCALE: 1/4" = 1'-0"



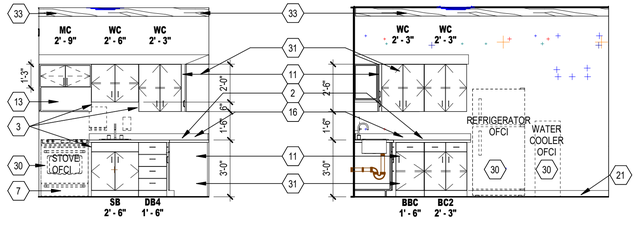
B2 INTERIOR ELEVATION - SCALE 202 - S
SCALE: 1/4" = 1'-0"



B3 INTERIOR ELEVATION - SCALE 202 - W
SCALE: 1/4" = 1'-0"

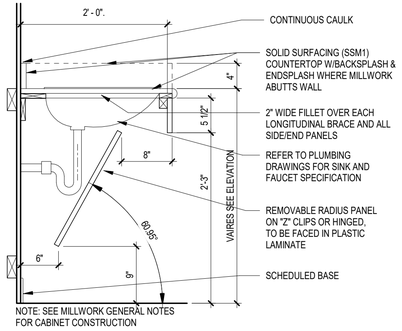


B4 INTERIOR ELEVATION - TROOPER AREA 205
SCALE: 1/4" = 1'-0"

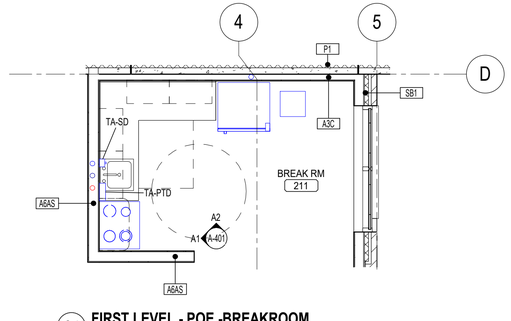


A1 INTERIOR ELEVATION - BREAK RM 211 - W
SCALE: 1/4" = 1'-0"

A2 INTERIOR ELEVATION - BREAK RM 211- N
SCALE: 1/4" = 1'-0"



A3 VANITY SECTION
SCALE: 1" = 1'-0"



A4 FIRST LEVEL - POE -BREAKROOM
SCALE: 1/4" = 1'-0"

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

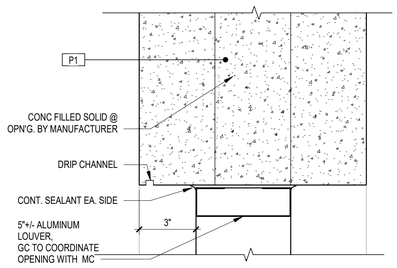
L:_TSP Revit Local\03191315 SDDOT_Tilford POE_A20_mitzelfeltbr.rvt
3/11/2022 8:52:20 AM

SECTION G: TILFORD PORT OF ENTRY BUILDING AND SCALE

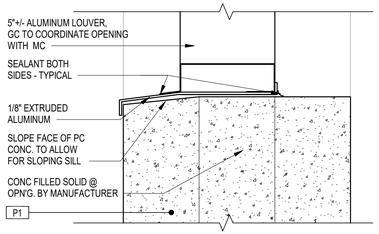
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G26	G47

REVISED 03/18/2022 BRM

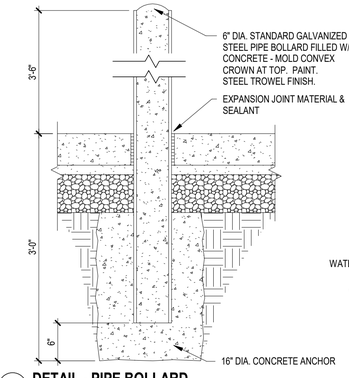
A-501 DETAILS



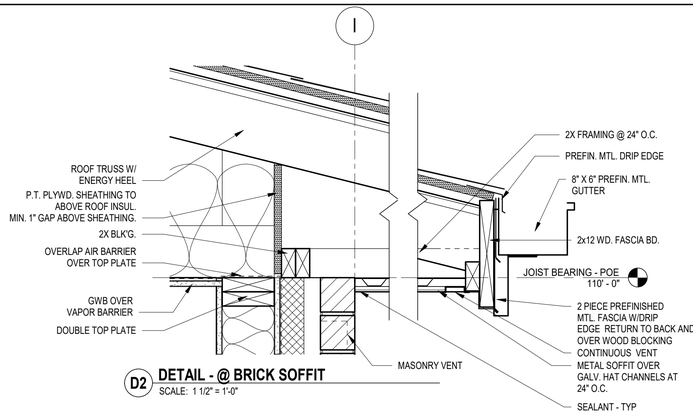
D1 LOUVER - HEAD @ PRECAST (JAMB SIM.)
SCALE: 3" = 1'-0"



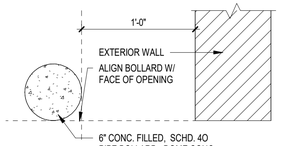
C1 LOUVER - SILL @ CMU/BRICK
SCALE: 3" = 1'-0"



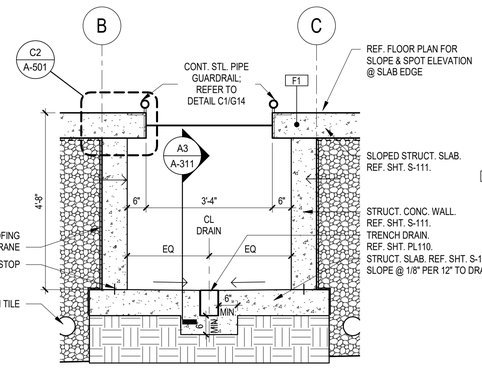
B1 DETAIL - PIPE BOLLARD
SCALE: 1" = 1'-0"



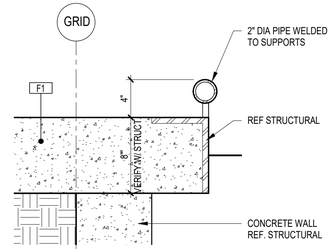
D2 DETAIL - @ BRICK SOFFIT
SCALE: 1 1/2" = 1'-0"



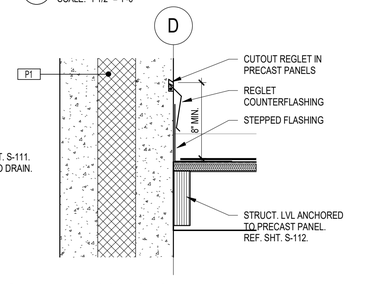
C1.5 DETAIL - PIPE BOLLARD - PLAN
SCALE: 1 1/2" = 1'-0"



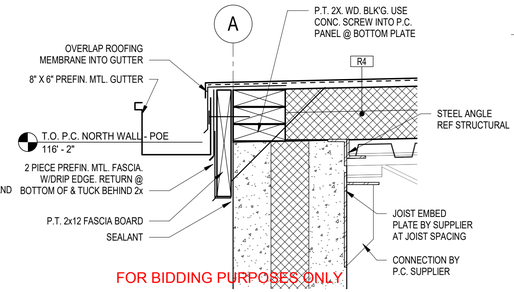
B1.5 WALL SECTION- @ INSP. PIT
SCALE: 1/2" = 1'-0"



C2 DETAIL - @ PIT PERIMETER
SCALE: 1 1/2" = 1'-0"

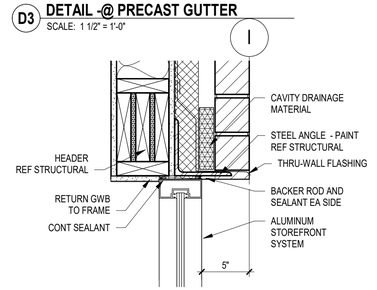


B2 DETAIL -ROOF TO PC PANEL
SCALE: 1 1/2" = 1'-0"

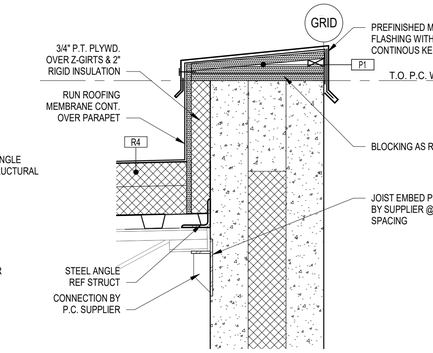


FOR BIDDING PURPOSES ONLY

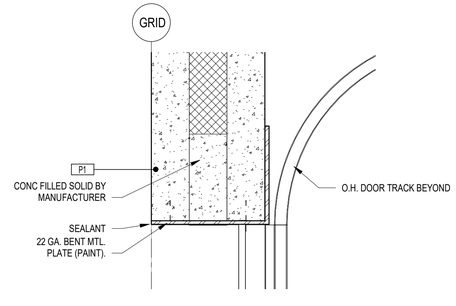
D3 DETAIL -@ PRECAST GUTTER
SCALE: 1 1/2" = 1'-0"



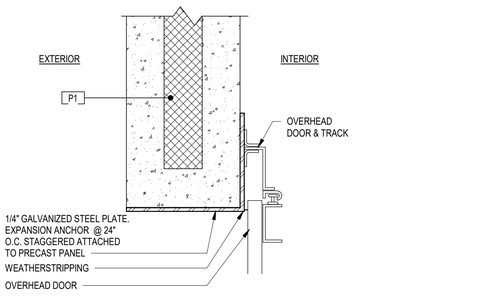
C3 DETAIL - @ WDW HEAD - TYP
SCALE: 1 1/2" = 1'-0"



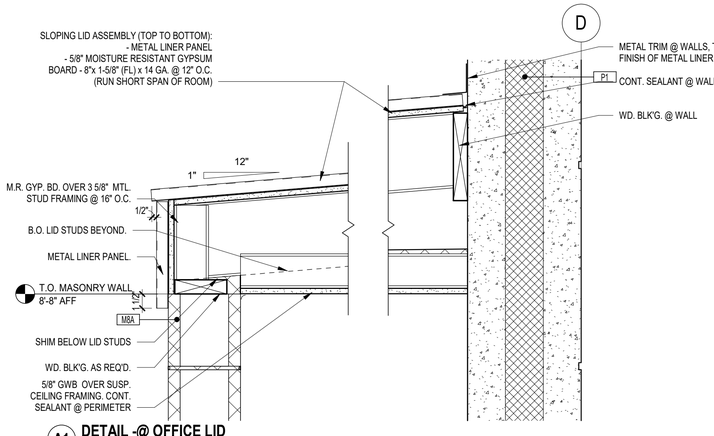
D4 DETAIL -@ PRECAST PARAPET - TYP
SCALE: 1 1/2" = 1'-0"



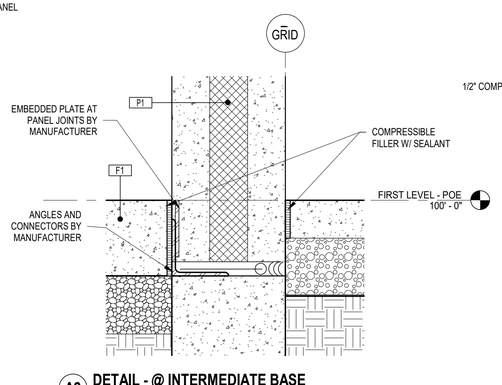
C4 DETAIL @ OH DOOR HEAD
SCALE: 1 1/2" = 1'-0"



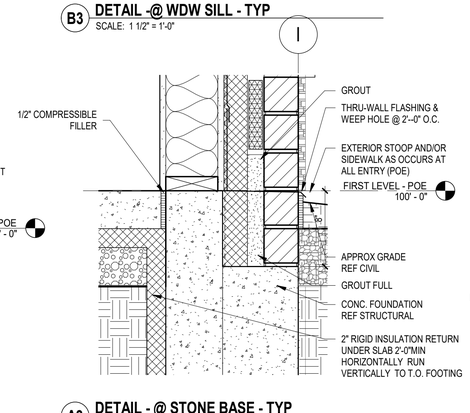
B4 DETAIL - @OH DOOR JAMB
SCALE: 1 1/2" = 1'-0"



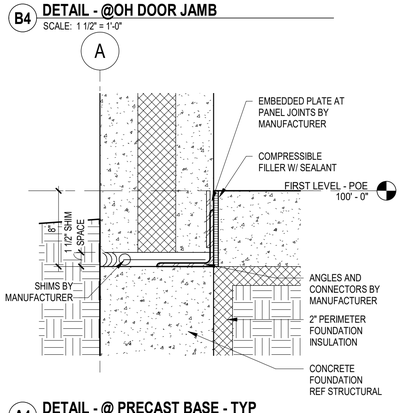
A1 DETAIL -@ OFFICE LID
SCALE: 1 1/2" = 1'-0"



A2 DETAIL - @ INTERMEDIATE BASE
SCALE: 1 1/2" = 1'-0"



A3 DETAIL - @ STONE BASE - TYP
SCALE: 1 1/2" = 1'-0"



A4 DETAIL - @ PRECAST BASE - TYP
SCALE: 1 1/2" = 1'-0"

REGISTERED PROFESSIONAL ARCHITECT
REG. NO.
13485
MARK D. AVERETT
SOUTH DAKOTA
DATE: 03/18/2022

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

CONSTRUCTION DOCUMENTS

As indicated

L:_TSP Revit Local\03191315 SDDOT_Tilford POE_A20_mitzelfeltbr.rvt
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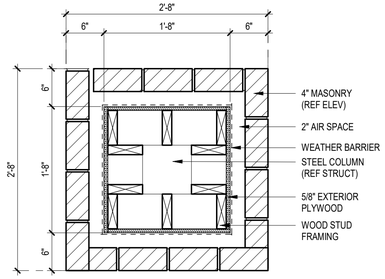
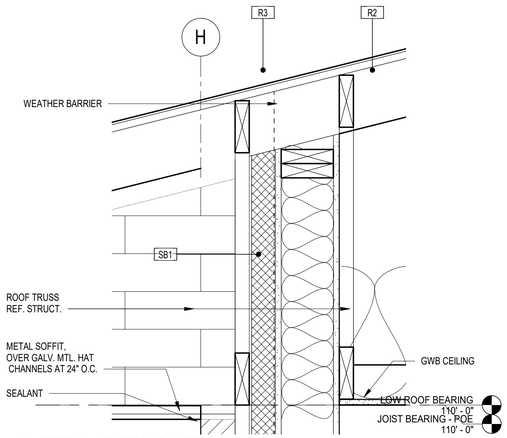
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G27	G47

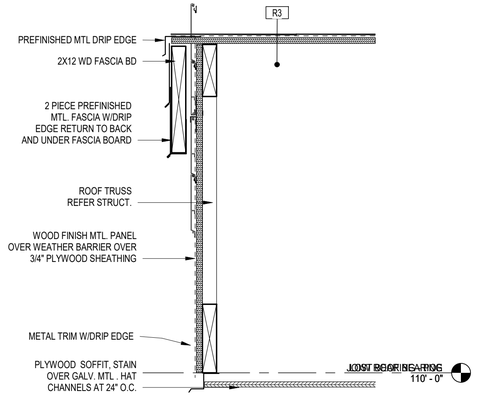
A-502 DETAILS



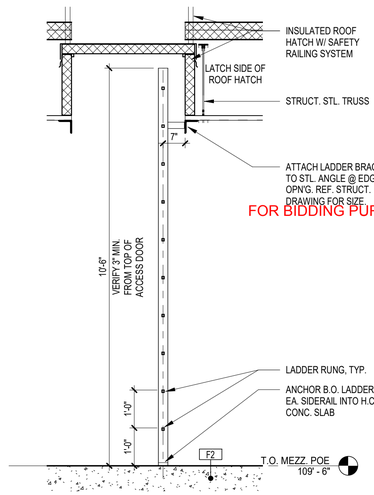
D1 PLAN DETAIL - TYPICAL EXTERIOR COLUMN
SCALE: 1" = 1'-0"



C1 DETAIL - ENTRY SF SOFFIT
SCALE: 1 1/2" = 1'-0"

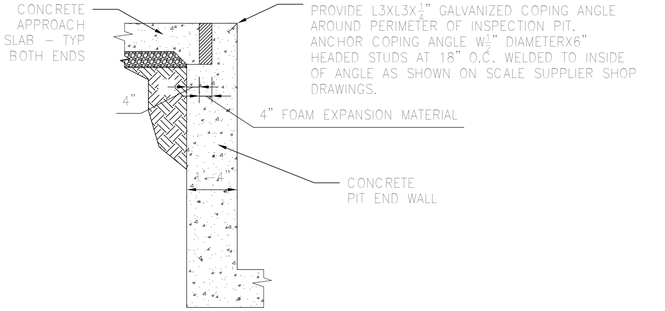


C2 DETAIL - ENTRY CANOPY OVERHANG
SCALE: 1 1/2" = 1'-0"

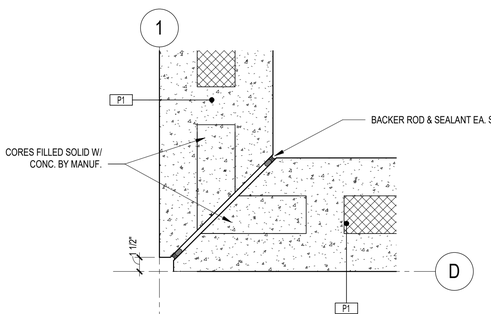


FOR BIDDING PURPOSES ONLY

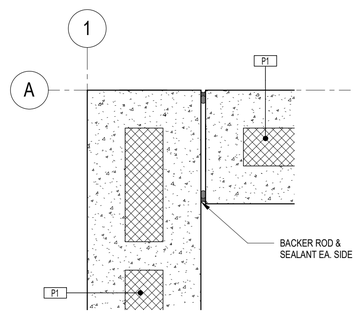
C3 SECTION - POE ROOF LADDER
SCALE: 1/2" = 1'-0"



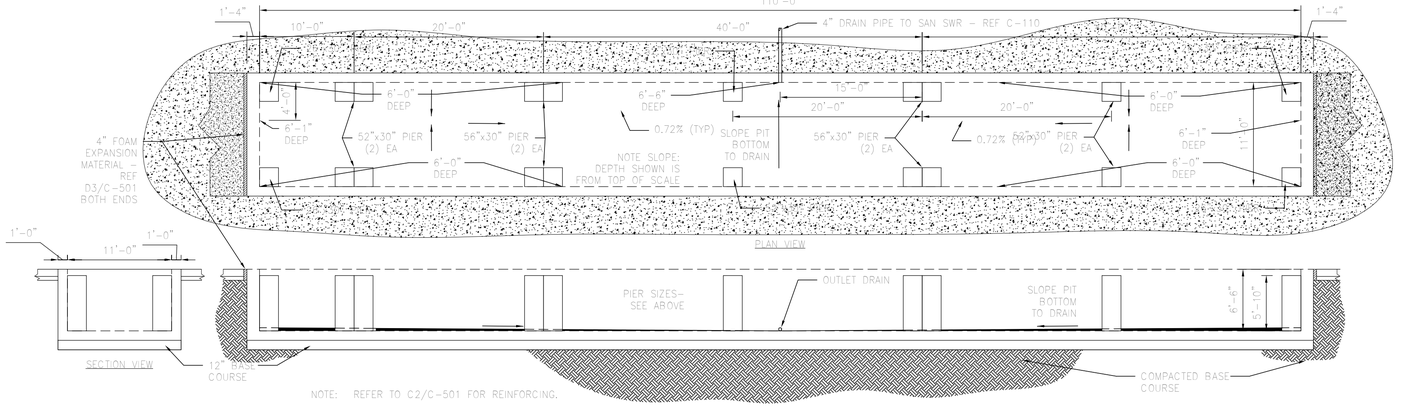
C4 DETAIL - SCALE APPROACH SLAB @ PIT END
SCALE: 1/2" = 1'-0"



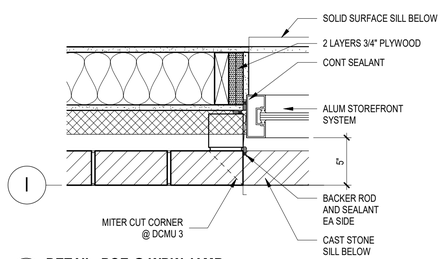
B1 P.C. PANEL - MITERED CORNER
SCALE: 1 1/2" = 1'-0"



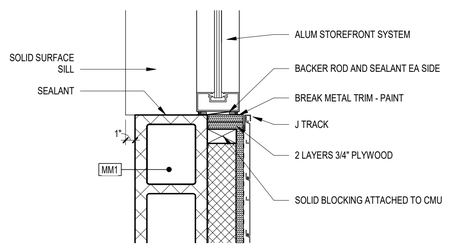
B2 DETAIL - BUTT JOINT P.C. CORNER
SCALE: 1 1/2" = 1'-0"



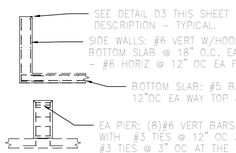
NOTE: REFER TO C2/C-501 FOR REINFORCING.



A1 DETAIL- POE @ WDW JAMB
SCALE: 1 1/2" = 1'-0"



A2 DETAIL - WC @ CLERESTORY WDW JAMB
SCALE: 1 1/2" = 1'-0"



NOTE:
PIER TO WALL REINFORCING: PROVIDE #4 HORIZONTAL BENT BARS @ 12" O.C. FROM THE MIDDLE OF THE EXTERIOR CONCRETE WALL, EXTENDING AROUND THE INSIDE FACE OF EACH PIER. EXTEND BARS 3'-0" BEYOND EACH SIDE OF PIER.

A3 DETAIL - SCALE & REINFORCING
SCALE: 1/8" = 1'-0"

REGISTERED PROFESSIONAL ARCHITECT
REG. NO.
13485
MARK D. AVERETT
SOUTH DAKOTA
DATE: 12/1/2021

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

As indicated

L:_TSP Revit Local\03191315 SDDOT_Tilford POE_A20_mitzelfeltbr.rvt
3/1/2022 8:52:23 AM

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G28	G47

A-601 DOOR SCHEDULE, DOOR & FRAME TYPES, AND ELEVATIONS

DOOR SCHEDULE

FOR BIDDING PURPOSES ONLY

MARK	DOOR SIZE TOTAL WIDTH	DOOR HEIGHT	DOOR TYPE	DOOR MATERIAL	DOOR GLAZING	FRAME TYPE	FRAME MATERIAL	FRAME GLAZING	DETAILS HEAD	DETAILS JAMB	DETAILS THRESH	RATING	HDWR	REMARKS
201	3' - 0"	7' - 10"	FG	AL	G2	PW1	AL	G2	C3/A-503	B4/A-504		-	A4	THRESHOLD SET IN BED OF SEALANT
202	3' - 0"	7' - 0"	F	WD	-	F1	HM	-				-	7	
203	3' - 0"	7' - 0"	F	WD	-	F1	HM	-				-	8	
204	3' - 0"	7' - 0"	F	WD	-	F3	HM	G3				-	8	GLAZING AT DOOR FRAME WILL HAVE BETWEEN THE GLASS BLINDS
206	3' - 0"	7' - 0"	F	WD	-	F3	HM	G3				-	8	GLAZING AT DOOR FRAME WILL HAVE BETWEEN THE GLASS BLINDS
207	3' - 0"	7' - 0"	F	WD	-	F1	HM	-				-	8	
208A	3' - 0"	7' - 0"	G	IHM	G2	F2	HM	-	C3/A-503 SIM.	B4/A-504 SIM.		-	10	THRESHOLD SET IN BED OF SEALANT
208B	3' - 0"	7' - 0"	N	HM	G3	F1	HM	-				90 MIN	11	
209	3' - 0"	7' - 0"	F	WD	-	F1	HM	-				-	4	
210	3' - 0"	7' - 0"	F	WD	-	F1	HM	-				-	4	
212	3' - 0"	7' - 0"	F	HM	-	F2	HM	-				-	12	
213	3' - 0"	7' - 0"	F	HM	-	F2	HM	-				-	1	
214	3' - 0"	7' - 0"	F	IHM	-	F1	IHM						13	THRESHOLD SET IN BED OF SEALANT
215A	3' - 0"	7' - 0"	F	IHM	-	F1	IHM	-				-	13	THRESHOLD SET IN BED OF SEALANT
215B	16' - 0"	16' - 0"	OH	STL	BY MANUF.	F5	-	-	B3/A-503	B3/A-503 SIM.		-	-	WEATHER STRIPPED
215C	10' - 0"	12' - 0"	OH	STL	BY MANUF.	F4	-	-					-	WEATHER STRIPPED
215D	3' - 0"	7' - 0"	F	IHM	-	F1	IHM	-				-	13	THRESHOLD SET IN BED OF SEALANT
215E	16' - 0"	16' - 0"	OH	STL	BY MANUF.	F5	-	-	B3/A-503	B3/A-503 SIM.		-	-	WEATHER STRIPPED
216	3' - 0"	7' - 0"	N	HM	-	F2	HM	-				-	8	

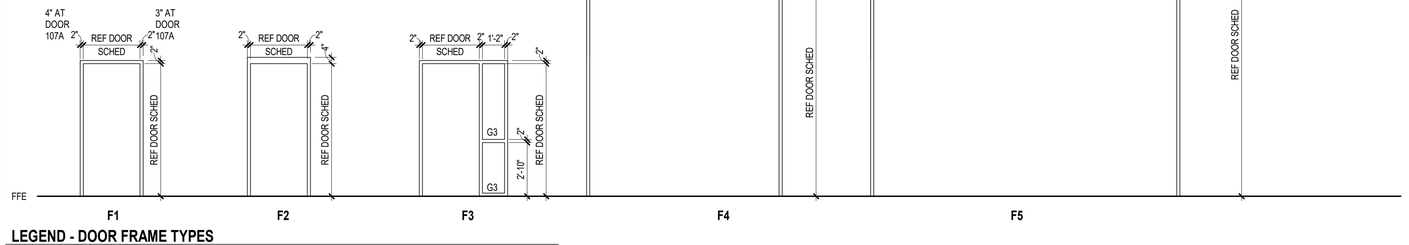
GLAZING LEGEND

G1 - 1" INSULATED GLASS
G2 - 1" INSULATED SAFETY GLASS
G3 - 1/4" SAFETY GLASS

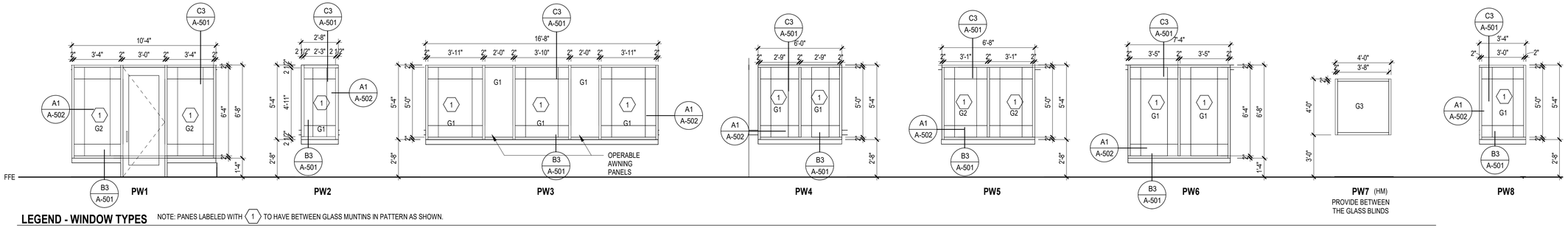
DOOR TYPE LEGEND

BASED ON SDI-106-99

F - FLUSH
N - NARROW VISION
G - HALF GLASS
FG - FULL GLASS WIDE STILE ALUMINUM
OH - SECTIONAL



LEGEND - DOOR FRAME TYPES



LEGEND - WINDOW TYPES

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

NOTE: PANES LABELED WITH (1) TO HAVE BETWEEN GLASS MUNTINS IN PATTERN AS SHOWN.

NOTE: FRAMES TO BE ALUMINUM UNLESS NOTED OTHERWISE.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G29	G47

A-911 PORT OF ENTRY - 3D VIEWS

INTERIOR OFFICE

EXTERIOR AERIAL VIEW

INTERIOR INSPECTION BAY

EXTERIOR PORT OF ENTRY

REGISTERED PROFESSIONAL ARCHITECT
REG. NO. 13485
MARK D. AVERETT
SOUTH DAKOTA
DATE: 12/1/2021

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

12" = 1'-0"

L:_TSP Revit Local\03191315 SDDOT_Tilford POE_A20_mitzelfeltbr.rvt
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I-601 FINISH PLAN AND SCHEDULE

FINISH KEY

CODE	DESCRIPTION	MANUFACTURER	PATTERN	COLOR	NUMBERS	COMMENTS
CPT1	CARPET TILE	MOHAWK	HUSTLE AND BUSTLE	HASTE	GT307-861	VERTICAL ASHLAR INSTALLATION
VB1	VINYL BASE	JOHNSONITE	4" TRADITIONAL VINYL BASE	DARK BROWN	44	-
PT1	PORCELAIN TILE 12"X24"	CAESAR	PLACE	RUST	-	LOBBY, MULTICOLOR
PT2	PORCELAIN TILE 9" X 36"	LEA CERAMICHE	TRAVEL	DESERT ROPE	-	POE
PT3	PORCELAIN TILE 8"X36"	PANARIA	LIFE	SMOOTH	-	WOODGRAIN IN LOBBY
PT4	PORCELAIN TILE 12"X24"	CROSSVILLE	BLUESTONE	COLORADO BUFF	-	INSTALL IN HORIZONTAL 1/3 OFFSET PATTERN
PT5	PORCELAIN TILE 6"X24"	CROSSVILLE	BLUESTONE	COLORADO BUFF	-	INSTALL IN HORIZONTAL 1/3 OFFSET PATTERN
PT6	PORCELAIN TILE 2"X2"	CAESAR	PLACE	RUST	-	-
PTB1	PORCELAIN TILE BASE 4" X 24"	CAESAR	PLACE	RUST	-	CUT 4"H PIECE WITH SCHLUTER TOP TRIM
PTB2	PORCEALIN TILE BASE 4"X24"	LEA CERAMICHE	TRAVEL	DESERT ROPE	-	-
GT1	GROUT - FLOOR, WELCOME CENTER	REFERENCE SPECIFICATIONS	-	TBD	-	-
GT2	GROUT - WALLS, WELCOME CENTER	REFERENCE SPECIFICATIONS	-	TBD	-	-
GT3	GROUT - FLOOR, POE	REFERENCE SPECIFICATIONS	-	TBD	-	-
GT4	GROUT - WALLS, POE	REFERENCE SPECIFICATIONS	-	TBD	-	-
PC1	POLISHED CONCRETE	REFERENCE SPECIFICATIONS	-	CLEAR	-	-
SC1	SEALED CONCRETE	REFERENCE SPECIFICATIONS	-	CLEAR	-	-
P1	PAINT	SHERWIN WILLIAMS	-	NATURAL LINEN	SW9109	-
P2	PAINT - ACCENT	SHERWIN WILLIAMS	-	VIRTUAL TAUPE	SW7039	-
P3	PAINT - METAL DOOR FRAME	PPG	-	PHANTOM MIST	PPG1002-7	-
P4	PAINT - CEILINGS	SHERWIN WILLIAMS	-	PURE WHITE	SW7005	-
P5	PAINT - ACCENT	SHERWIN WILLIAMS	-	EDAMAME	SW7729	-
P6	PAINT - DRYFALL	SHERWIN WILLIAMS	-	NATURAL LINEN	SW9109	PAINT ALL EXPOSED CEILING STRUCTURE INCLUDING MECHANICAL, STRUCTURAL, & ELECTRICAL COMPONENETS: INCLUDING CONDUITS, J-BOXES, PIPES, SUPPORTS WIRES/ CABLES, UNISTRUTS, ALL EXPOSED GALVANIZED TO BE PAINTED TO MATCH CEILING: DO NOT PAINT EXPOSED ELECTRICAL CABLING
P7	PAINT - DRYFALL	SHERWIN WILLIAMS	-	TBD	-	PAINT ALL EXPOSED CEILING STRUCTURE INCLUDING MECHANICAL, STRUCTURAL, & ELECTRICAL COMPONENETS: INCLUDING CONDUITS, J-BOXES, PIPES, SUPPORTS WIRES/ CABLES, UNISTRUTS, ALL EXPOSED GALVANIZED TO BE PAINTED TO MATCH CEILING: DO NOT PAINT EXPOSED ELECTRICAL CABLING
EP1	EPOXY PAINT	SHERWIN WILLIAMS	-	NATURAL LINEN	SW9101	-
APC1	ACOUSTICAL CEILING PLANELS	ARMSTRONG	FINE FISSURED TEGULAR, 2X2	WHITE	-	-
PLAM1	PLASTIC LAMINATES	FORMICA	-	COGNAC MAPLE	7738-58	CABINETS
PLAM2	PLASTIC LAMINATES	WILSONART	-	SABLE SOAPSTONE	4883-38	COUNTERS
SSM1	SOLID SURFACE MATERIAL	LG HAUSYS, HI MACS	-	UMBER GRANITE	G605	BREAKROOM COUNTERS & SILLS
DCMU1	BURNISHED BLOCK	REFERENCE SPECIFICATIONS	-	SEASHELL	-	-
DCMU2	SPLITFACED BLOCK	REFERENCE SPECIFICATIONS	-	SEASHELL	-	-
CG1	CORNER GUARD	REFERENCE SPECIFICATIONS	-	TBD	-	-

ROOM FINISH SCHEDULE REMARKS

1. PAINT HORIZONTAL AND VERTICAL SURFACES OF SOFFITS.
2. PTB1 IS PT1 CUT AT 4"H WITH A SCHLUTER TRIM ON TOP.
3. PTB2 IS PT2 CUT AT 4"H WITH A SCHLUTER TRIM ON TOP.
4. PROVIDE VERTICAL METAL EDGE STRIPS AT ALL EXPOSED WALL TILE EDGES.

FINISH PLAN KEYNOTES

1. BASE BID TO INCLUDE PTB1, ALTERNATE 1 TO INCLUDE PT5, INSTALL IN A HORIZONTAL, STAGGERED 1/3 OFFSET PATTERN
2. BASE BID TO INCLUDE PTB1, ALTERNATE 1 TO INCLUDE PT4, , INSTALL IN A HORIZONTAL, STAGGERED 1/3 OFFSET PATTERN

ROOM FINISH SCHEDULE

ROOM #	ROOM NAME	FLOOR	BASE	CEILING	WALLS				CASEWORK		REMARKS
					NORTH	EAST	SOUTH	WEST	CABINET	COUNTER	
201	LOBBY	*PT2	PTB2	P4	P2	P1	P1	P1	-	PLAM2	*HERRINGBONE PATTERN
202	SCALE	CPT1	VB1	P4	P1	P1	P2	P1	PLAM1	PLAM2	-
203	OFFICE	CPT1	VB1	P4	P1	P1	P2	P1	-	-	-
204	OFFICE	CPT1	VB1	P4	P2	P1	P1	P1	-	-	-
205	TROOPER AREA	CPT1	VB1	P4	P1	P1/ *P5	P1	P1/ *P5	-	-	*REFERENCE FLOOR PLAN
206	OFFICE	CPT1	VB1	P4	P2	P1	P1	P1	-	-	-
207	STOR	SC1	VB1	P4	P1	P1	P1	P1	-	-	-
208	CORR.	*PT2	PTB2	P4	P1	P1	P1	P1	-	-	*INSTALL IN STAGGERED PATTEREN RUNNING WEST TO EAST THE LONG WAY
209	TLT	**PT2	PTB2/ *PT2	P4	EP1/ *PT2	EP1	EP1	EP1/ *PT2	-	SSM1	*EP1 WITH PTB2 IS BASE BID, ALTERNATE 2 TO INCLUDE PT2 IN A STAGGERED PATTERN RUNNING HORIZONTALLY, **INSTALL IN A STAGGERED PATTERN RUNNING WEST TO EAST THE LONG WAY
210	TLT	**PT2	PTB2/ *PT2	P4	EP1/ *PT2	EP1/ *PT2	EP1	EP1	-	SSM1	*EP1 WITH PTB2 IS BASE BID, ALTERNATE 2 TO INCLUDE PT2 IN A STAGGERED PATTERN RUNNING HORIZONTALLY, **INSTALL IN A STAGGERED PATTERN RUNNING WEST TO EAST THE LONG WAY
211	BREAK RM	*PT2	PTB2	P4	P5	P5	P1	P1	PLAM1	SSM1	*INSTALL IN STAGGERED PATTEREN RUNNING WEST TO EAST THE LONG WAY
212	JAN	SC1	VB1	P6	EP1	EP1	EP1	EP1	-	-	-
213	MECH	SC1	VB1	P6	P1	P1	P1	P1	-	-	-
214	TLT										
215	INSPECTION BAY	SC1	VB1	P6	P1	P1	P1	P1	-	-	-
215A	LOCKER AREA	SC1	VB1	P6	P1	P1	P1	P1	-	-	-
215B	CORR.	SC1	VB1	P6	P1	P1	P1	P1	-	-	-
216	OFFICE	SC1	VB1	P6	P1	P1	P1	P1	-	-	-
217	INSPECTION PLATFORM	SC1	VB1	P6	P1	P1	P1	P1	-	-	-

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G31	G47

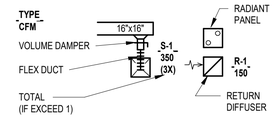
M-001 MECHANICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES

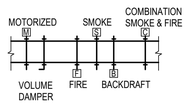
GENERAL MECHANICAL SYMBOLS

- PONT WHERE NEW CONNECTS TO EXISTING
- x / x-xxx — NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS
- 1 — KEYNOTE
- CONTINUATION SYMBOL
- Room / 1 — ROOM NAME AND NUMBER
- x-xxx — EQUIPMENT TAG

HVAC SYMBOLS

- 16"x8" — SQUARE DUCT SIZE TAG (WIDTH X HEIGHT)
- 16"/8" — OVAL DUCT SIZE TAG (WIDTH / HEIGHT)
- 16"Ø — ROUND DUCT SIZE TAGE (DIAMETER)
- DROP SA — RECTANGULAR SUPPLY/OUTSIDE AIR DUCT RISE
- DROP SA — ROUND SUPPLY/OUTSIDE AIR DUCT RISE
- DROP RA — RECTANGULAR RETURN/TRANSFER AIR DUCT RISE
- DROP RA — ROUND RETURN/TRANSFER AIR DUCT RISE
- DROP EA — RECTANGULAR EXHAUST/RELIEF AIR DUCT RISE
- DROP EA — ROUND EXHAUST/RELIEF AIR DUCT RISE
- ELBOW WITH TURNING VANES
- COUPLING
- SOUND ATTENUATOR
- VAV BOXES
- POWER ROOF VENTILATOR
- UNIT HEATERS
- LINEAR DIFFUSER





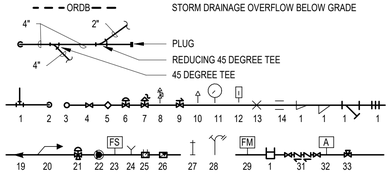
- CARBON DIOXIDE SENSOR — CO2 — TH — TEMERATURE & HUMIDITY SENSOR
- CARBON MONOXIDE SENSOR — CO — TS — TEMPERATURE SENSOR
- NITROGEN DIOXIDE SENSOR — NO2 — T — THERMOSTAT
- HUMIDITY SENSOR — HS — SVV — MANUAL SWITCH
- HUMIDISTAT — H — S — SENSOR

LAB AND MEDICAL SYMBOLS

- LA — LAB AIR
- LDE — LAB DEIONIZED WATER
- LDI — LAB DISTILLED WATER
- LG — LAB GAS
- LV — LAB VACUUM
- MA — MEDICAL AIR
- CO2 — MEDICAL CO2
- MGAS — MEDICAL GAS
- H — MEDICAL HYDROGEN
- NI — MEDICAL NITROGEN
- NO — MEDICAL NITROUS OXIDE
- O — MEDICAL OXYGEN
- MV — MEDICAL VACUUM

PLUMBING AND PIPING SYMBOLS

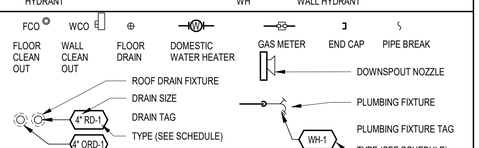
- 2" — PIPE SIZE TAG (DIAMETER)
- 1/8" / 12" SLOPE — PIPE SLOPE TAG
- (E) — EXISTING PIPE TAG
- PIPE BEING DEMOLISHED
- AV — ACID VENT PIPING
- AW — ACID WASTE ABOVE GRADE
- AWB — ACID WASTE BELOW GRADE
- CWR — CHILLED WATER RETURN
- CWS — CHILLED WATER SUPPLY
- CWV — COMBINATION WASTE AND VENT
- CD — COMPRESSED AIR
- CD — CONDENSATE DRAIN
- CDR — CONDENSATE RETURN
- CR — CONDENSER WATER RETURN
- CS — CONDENSER WATER SUPPLY
- DI — DEINOIZED WATER
- CW — DOMESTIC COLD WALTER
- F-CW — DOMESTIC COLD WALTER - FILTERED
- HCW — DOMESTIC COLD WATER HARD
- SCW — DOMESTIC COLD WATER SOFT
- HW — DOMESTIC HOT WATER
- HW 140 — DOMESTIC HOT WATER - 140 DEGRESS
- RHW — DOMESTIC HOT WATER RECIRCULATING
- RHW 140 — DOMESTIC HOT WATER RECIRCULATING 140 DEGREES
- DTWR — DUAL TEMP WATER RETURN
- DTWS — DUAL TEMP WATER SUPPLY
- GTR — GEOTHERMAL RETURN
- GTS — GEOTHERMAL SUPPLY
- GHR — GLYCOL HOT WATER RETURN
- GHS — GLYCOL HOT WATER SUPPLY
- HWR — GREASE VENT
- HWS — GREASE WASTE
- HWR — HEATING WATER RETURN
- HWS — HEATING WATER SUPPLY
- MIT — MITIGATION VENT
- G — NATURAL GAS
- G-2LB — NATURAL GAS - 2LB
- OV — OIL VENT
- OW — OIL WASTE
- PRO — PROCESS
- PD — PUMP DISCHARGE
- REF — REFRIGERANT
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- RHG — REFRIGERANT HOT GAS
- RO — REVERSE OSMOSIS WATER
- HPS — STEAM - HP
- HPR — STEAM - HP CONDENSATE
- MPS — STEAM - MP
- MPR — STEAM - MP CONDENSATE
- LPS — STEAM - LP
- LPR — STEAM - LP CONDENSATE
- V — SANITARY VENT
- W — SANITARY WASTE
- WB — SANITARTY WASTE - BELOW GROUND
- RD — STORM DRAINAGE
- RDB — STORM DRAINAGE - BELOW GRADE
- ORD — STORM DRAINAGE OVERFLOW
- ORDB — STORM DRAINAGE OVERFLOW BELOW GRADE



1. SIDE CONNECTION
2. ELBOW DOWN
3. ELBOW UP
4. SHUT OFF VALVE
5. BALANCING VALVE
6. CONTROL VALVE
7. PRESSURE REDUCING VALVE
8. PRESSURE RELIEF VALVE
9. CHECK VALVE
10. AIR VENT
11. PRESSURE GAUGE
12. THERMOMETER
13. PIPE ANCHOR
14. PIPE GUIDE
15. CONCENTRIC REDUCER
16. ECCENTRIC REDUCER
17. STRAINER
18. UNION
19. DIRECTION OF FLOW
20. PITCH PIPE DOWN
21. 3-WAY CONTROL VALVE
22. PUMP
23. FLOW SWITCH
24. PRESSURE TEMPERATURE TAP
25. MANUAL CALIBRATED BALANCING VALVE
26. AUTOMATIC FLOW CONTROL VALVE
27. MEDICAL GAS OUTLET
28. HOSE BIBB OR WALL HYDRANT
29. INSERTION FLOW METER
30. FLOW METER
31. REDUCED PRESSURE BACKFLOW PREVENTER
32. AQUASTAT
33. 3-WAY VALVE

ABBREVIATIONS

&	AND	ID	INDIRECT
Ø	ROUND	IN	INCH
A	AIR	INL	INLET
AC	AIR CONDITIONING	INSUL	INSULATION
ACOUS	ACOUSTICAL	INT	INTERIOR
AD	AREA DRAIN	INV	INVERT
ADD	ADDENDUM	INWG	INCHES WATER GAUGE
ADDL	ADDITIONAL	JT	JOINT
AFF	ABOVE FINISHED FLOOR	LAB	LABORATORY
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY	LB	POUND
AG	ABOVE GROUND	LB/HR	POUNDS PER HOUR
ALT	ALTERNATE	LAT	LEAVING AIR TEMPERATURE
ALUM	ALUMINUM	LF	LINEAL FOOT
AP	ACCESS PANEL	LP	LOW PRESSURE
APPROX	APPROXIMATE	LPG	LIQUEFIED PETROLEUM GAS
ARCH	ARCHITECT/ARCHITECTURAL	LR	LIQUID REFRIGERANT
AV	ACID RESISTANT VENT	LS	LAWN SPRINKLER
AW	ACID RESISTANT WASTE	LVR	LOUVER
AUTO	AUTOMATIC	LWT	LEAVING WATER TEMPERATURE
BFF	BELOW FINISHED FLOOR	M/A	MIXED AIR
BLDG	BUILDING	MAN	MANUAL
BLW	BELOW	MATL	MATERIAL
BM	BEAM	MAV	MANUAL AIR VENT
BO	BY OTHER	MAX	MAXIMUM
BOT	BOTTOM	MBD	MOTORIZED BYPASS DAMPER
BSMT	BASEMENT	MBH	ONE THOUSAND BTU PER HOUR
BTU	BRITISH THERMAL UNITS	MCF	ONE THOUSAND CUBIC FEET
BTUH	BRITISH THERMAL UNITS PER HOUR	MCW	MAKE-UP COLD WATER
BTWN	BETWEEN	MD	MOTORIZED DAMPER
CAP	CAPACITY	MECH	MECHANICAL
CB	CATCH BASIN	MFR	MANUFACTURER
CCW	COUNTER CLOCKWISE	MH	MANHOLE
CFCV	CONSTANT FLOW CONTROL VALVE	MIN	MINIMUM
CFM	CUBIC FEET PER MINUTE	MISC	MISCELLANEOUS
CHW	CIRCULATING HOT WATER	MTR	MOTOR
CI	CAST IRON	MU/A	MAKE-UP/AIR
CLG	CEILING	N	NECK / NORTH
CLG	COOLING	NC	NOISE CRITERIA
CO	CLEAN OUT	NC	NORMALLY CLOSED
COL	COLUMN	NIC	NOT IN CONTRACT
COMB	COMBINATION	NO	NUMBER / NORMALLY OPEN
CONC	CONCRETE	NOM	NOMINAL
COND	CONDENSATE	NTS	NOT TO SCALE
CONF	CONFERENCE	O	OXYGEN
CONN	CONNECT	O/A	OUTSIDE AIR
CONST	CONSTRUCTION	OC	ON CENTER
CONT	CONTINUE/CONTINUATION	OF	OVERFLOW
CONTR	CONTRACT/CONTRACTOR	OPNG	OPENING
COORD	COORDINATE	ORD	OVERFLOW ROOF DRAIN
CTR	CENTER	PD	PRESSURE DROP
CUFT	CUBIC FEET	PIV	POST INDICATOR VALVE
CV	CHECK VALVE	PLBG	PLUMBING
CW	COLD WATER	PR	PAIR
CW	CLOCKWISE	PRESS	PRESSURE
D	DEGREE	PRIM	PRIMARY
DB	DRY BULB	PRV	PRESSURE REDUCING VALVE
DET	DETAIL	PSI	POUNDS PER SQUARE INCH
DIA	DIAMETER	PSIG	POUNDS PER SQUARE INCH GAUGE
DIAG	DIAGONAL	PW	POTABLE WATER
DIV	DIVISION	PWR	POWER
DI	DEIONIZED WATER	R	DUCT RISER
DMPR	DAMPER	R/A	RETURN AIR
DN	DOWN	RCP	RADIANT CEILING PANEL
DWG	DRAWING	RD	ROOF DRAIN
DW	DISTILLED WATER	REC	RECESSED
EA	EACH	RED	REDUCER
EAT	ENTERING AIR TEMPERATURE	REFR	REFRIGERATION
EL	ELBOW	RH	RELATIVE HUMIDITY
ELEC	ELECTRICAL	REQD	REQUIRED
ELEV	ELEVATION	REV	REVERSE
EP	EXPLOSION PROOF	RL/A	RELIEF AIR
EQ	EQUAL	RM	ROOM
EQUIP	EQUIPMENT	RPM	REVOLUTIONS PER MINUTE
EWC	ELECTRIC WATER COOLER	RW	RAIN WATER
EWT	ENTERING WATER TEMPERATURE	SF	SQUARE FOOT
E/A	EXHAUST AIR	S/A	SUPPLY AIR
EAH	EXHAUST HOOD	SAN	SANITARY
EXIST	EXISTING	SCHED	SCHEDULE
EXP	EXPANSION	SECT	SECTION
EXT	EXTERIOR	SD	SMOKE DAMPER
F	DEGREES FAHRENHEIT	SHT	SHEET
FCO	FLOOR CLEAN OUT	SIM	SIMILAR
FD	FLOOR DRAIN	SLV	SLEEVE
FD	FIRE DAMPER	SM	SURFACE MOUNT
FDV	FIRE DEPARTMENT VALVE	SP	STANDPIPE / STATIC PRESSURE
FHC	FIRE HOSE CABINET	SPEC	SPECIFICATION
FL	FLOOR	SPS	STATIC PRESSURE STATION
FLEX	FLEXIBLE	SQ	SQUARE
FLG	FLANGE	SR	SUCTION REFRIGERANT
FO	FUEL OIL	SSD	SOIL SUBDRAIN
FOV	FUEL OIL VENT	SS	STAINLESS STEEL
FOR	FUEL OIL RETURN	STD	STANDARD
FOS	FUEL OIL SUPPLY	STM	STEAM
FPM	FEET PER MINUTE	STRUCT	STRUCTURAL
FRP	FIBERGLASS REINFORCED PIPE	SUCT	SUCTION
FS	FULL SIZE	SUSP	SUSPENDED
FS	FLOOR SINK	T	THERMOSTAT
FT	FOOT/FEET	TCP	TEMPERATURE CONTROL PANEL
FTG	FOOTING	TD	TEMPERATURE DROP
FTR	FIN TUBE RADIATION	TDR	TRENCH DRAIN
GA	GAGE/GAUGE	TEMP	TEMPERATURE
GAL	GALLON	TYP	TYPICAL
GALV	GALVANIZED	UFD	UNDER FLOOR DUCT
GC	GENERAL CONTRACTOR	UG	UNDERGROUND
GEN	GENERATOR/GENERAL	VAC	VACUUM
GPH	GALLONS PER MINUTE	V	VENT
GR	GRADE	VAV	VARIABLE AIR VOLUME
GW	GREASE WASTE	VEL	VELOCITY
HB	HOSE BIB	VENT	VENTILATION
HORZ	HORIZONTAL	VERT	VERTICAL
HP	HORSE POWER	VOL	VOLUME
HP	HIGH PRESSURE	VTR	VENT THROUGH ROOF
HTG	HEATING	W	WASTE
HTR	HEATER	WB	WET BULB
HW	HOT WATER	WCO	WALL CLEAN OUT
HYD	HYDRANT	WH	WALL HYDRANT



EQUIPMENT ABBREVIATIONS

AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLING CONDENSING UNIT
AFMS	AIR FLOW MEASURING STATION
AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
B	BOILER
CF	CABINET FAN
CF	CHEMICAL FEEDER
CFP	CHEMICAL FEEDER PUMP
CH	CHILLER
CRU	CONDENSATE RETURN UNIT
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CWP	CONDENSER WATER PUMP
CHWP	CHILLED WATER PUMP
DBP	DOMESTIC WATER BOOSTER PUMP
DC	DUCT MOUNTED COIL
DCP	DOMESTIC WATER CIRCULATING PUMP
EF	EXHAUST FAN
EDC	ELECTRIC DUCT COIL
ET	EXPANSION TANK
EWH	ELECTRIC WATER HEATER
FCU	FAN COIL UNIT
FP	FIRE PUMP
GI	GREASE INTERCEPTOR
GRV	GRAVITY ROOF VENTILATOR
H	HUMIDIFIER
HWP	HEATING WATER PUMP
HX	HEAT EXCHANGER
HPU	HEAT PUMP UNIT
HRU	HEAT RECOVERY UNIT
ILC	INLINE CENTRIFUGAL
PF	PROPELLER FAN
PRV	POWER ROOF VENTILATOR
PWF	POWER WALL FAN
RE	RETURN/EXHAUST FAN
RTU	ROOFTOP UNIT
SA	SHOCK ABSORBER
SAT	SOUND ATTENUATOR
SEP	SEWAGE EJECTOR PUMP
SF	SUPPLY FAN
SP	SUMP PUMP
UH	UNIT HEATER
US	UTILITY SET
UV	UNIT VENTILATOR
WFMS	WATER FLOW MEASURING STATION
WH	WATER HEATER

* NOTE *

ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET.THE SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THIS SET OF DRAWINGS.

HVAC GENERAL NOTES

*	NEW 1	CONTRACTOR SHALL LOCATE THERMOSTATS AT 4'-0" AFF, A MINIMUM OF 8" FROM LIGHT SWITCH.
*	NEW 2	REFER TO HVAC DRAWINGS FOR THERMOSTAT LOCATIONS.
*	NEW 3	CONDENSATE DRAINS SHALL BE SUPPLIED FOR ALL COOLING EQUIPMENT. CONTRACTOR SHALL ENSURE PROPER INSTALLATION AND DRAINAGE AS REQUIRED BY FEDERAL, STATE, AND LOCAL CODES. CONDENSATE PIPING SHALL BE SCH 40 PVC.
*	NEW 4	PROVIDE A 4" HOUSEKEEPING PAD FOR EACH PIECE OF MECHANICAL EQUIPMENT. COORDINATE SIZES WITH MECHANICAL EQUIPMENT SELECTED.
*	NEW 5	THIS CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH.

PLUMBING GENERAL NOTES

*	NEW 1	PITCH UNDERFLOOR SANITARY WASTE PIPING 3" AND GREATER AT 1/8" PER FOOT, UNLESS NOTED OTHERWISE. PITCH ALL OTHER WASTE PIPING AT 1/4" PER FOOT UNLESS OTHERWISE NOTED.
*	NEW 2	FIELD VERIFY LOCATION AND INVERTS OF SITE UTILITIES PRIOR TO INSTALLATION.
*	NEW 3	ROUTE DOMESTIC WATER AND SANITARY SEWER SERVICES TO SITE UTILITIES 5'-0" FROM BUILDING UNLESS NOTED OTHERWISE. REFER TO CIVIL PLANS.
*	NEW 4	WASTE AND VENT PIPING BELOW FLOOR AND THROUGH FLOOR SHALL BE 2" MINIMUM.
*	NEW 5	PROVIDE CLEANOUT IN ACCESSIBLE LOCATION AT THE BASE OF ALL PLUMBING RISERS.

PROJECT GENERAL NOTES

*	NEW 1	COORDINATE AND COOPERATE WITH THE OTHER TRADES ON THE INSTALLATION OF PIPING, DUCTWORK, CONDUIT, LIGHTS, CABLE TRAY, STRUCTURE, AND EQUIPMENT TO PREVENT CONFLICTS.
*	NEW 2	THE CONTRACTOR SHALL BE FAMILIAR WITH ALL THE CONDITIONS BOTH EXISTING AND THOSE ILLUSTRATED BY THESE DOCUMENTS AS WELL AS THOSE WHICH CAN BE REASONABLY ANTICIPATED INCLUDING, BUT NOT LIMITED TO ARCHITECTURAL, ELECTRICAL, VENTILATION, PLUMBING, AND OTHER SYSTEMS INVOLVED ON THIS PROJECT.
*	NEW 3	FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM, AND SHALL CONFORM TO ALL REQUIREMENTS OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING BUT NOT LIMITED TO THE INTERNATIONAL BUILDING CODE AND INTERNATIONAL MECHANICAL CODE.
*	NEW 4	LOCATE EQUIPMENT REQUIRING ACCESS 2'-0" MAXIMUM ABOVE CEILING.
*	NEW 5	ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'-0" FROM EDGE OF ROOF.
*	NEW 6	LOCATE DUCTWORK, PIPING AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS. TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT.
*	NEW 7	ADJUST PIPING AND DUCTWORK SIZES TO PROPERLY CONNECT TO MECHANICAL EQUIPMENT.
*	NEW 8	REFER TO PLUMBING SERIES DRAWINGS FOR GAS AND A.C. CONDENSATE DRAIN PIPING.
*	NEW 9	PIPE SIZES SHOWN SHALL BE CONTINUED IN THE DIRECTION OF FLOW UNTIL ANOTHER SIZE IS SHOWN.
*	NEW 10	FOR DETAILS, EQUIPMENT CONNECTIONS, AND PIPE SIZES NOT SHOWN ON THE SEGMENTS, REFER TO DETAILS, SCHEDULES, AND SPECIFICATIONS.
*	NEW 11	INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
*	NEW 12	LOCATIONS OF PIPING, DUCTWORK AND EQUIPMENT AS INDICATED ON THE DRAWING, ARE APPROXIMATE AND SUBJECT TO MINOR ADJUSTMENTS IN THE FIELD. WORK SHALL BE COORDINATED WITH ALL OTHER TRADES TO AVOID INTERFERENCE IN THE FIELD.
*	NEW 13	INSTALL EXPOSED PIPING AND DUCTWORK AS HIGH AS PRACTICAL IN ROOMS WITHOUT CEILINGS.
*	NEW 14	MATERIALS AND EQUIPMENT SHOWN ON PLANS SHALL BE NEW AND FURNISHED BY THIS CONTRACTOR UNLESS OTHERWISE INDICATED.
*	NEW 15	THIS CONTRACTOR IS RESPONSIBLE FOR ALL SLEEVES AND/OR OPENINGS WHERE REQUIRED TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOOR SLABS, WALLS, BRIDGING AND BEAMS EXCEPT WHERE OTHERWISE INDICATED.
*	NEW 16	CEILING ACCESS IS REQUIRED AT ALL VALVES, FIRE DAMPERS, MANUAL AND MOTORIZED DAMPERS LOCATED ABOVE CEILING. CEILING ACCESS PANELS WILL BE PROVIDED UNDER THE GENERAL SECTION OF CONSTRUCTION AND SHALL BE MINIMUM OF 24" X 24" UNLESS OTHERWISE INDICATED. COORDINATE WITH GENERAL CONTRACTOR.
*	NEW 17	THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY THE A/E IMMEDIATELY OF ANY DISCREPANCIES.
*	NEW 18	ALL PLUMBING SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH NATIONAL, STATE, AND LOCAL CODES.
*	NEW 19	SEAL ALL SHEET METAL DUCTWORK JOINTS.
*	NEW 20	BALANCING OF AIR SYSTEMS SHALL BE PERFORMED BY AN NEBB OR AABC CERTIFIED TEST AND BALANCE AGENCY.
*	NEW 21	PIPE PENETRATIONS OF RATED WALLS AND FLOORS SHALL BE SLEEVED AND PROPERLY FIRE SEALED.
*	NEW 22	INSTALL FLUSH VALVE OPERATORS ON WIDE SIDE OF ACCESSIBLE STALLS.

SHEET INDEX - MECHANICAL

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
14612
CHRIS H
MAKS
SOUTH DAKOTA
DATE: 12/01/2021

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

CONSTRUCTION DOCUMENTS

12" = 1'-0"

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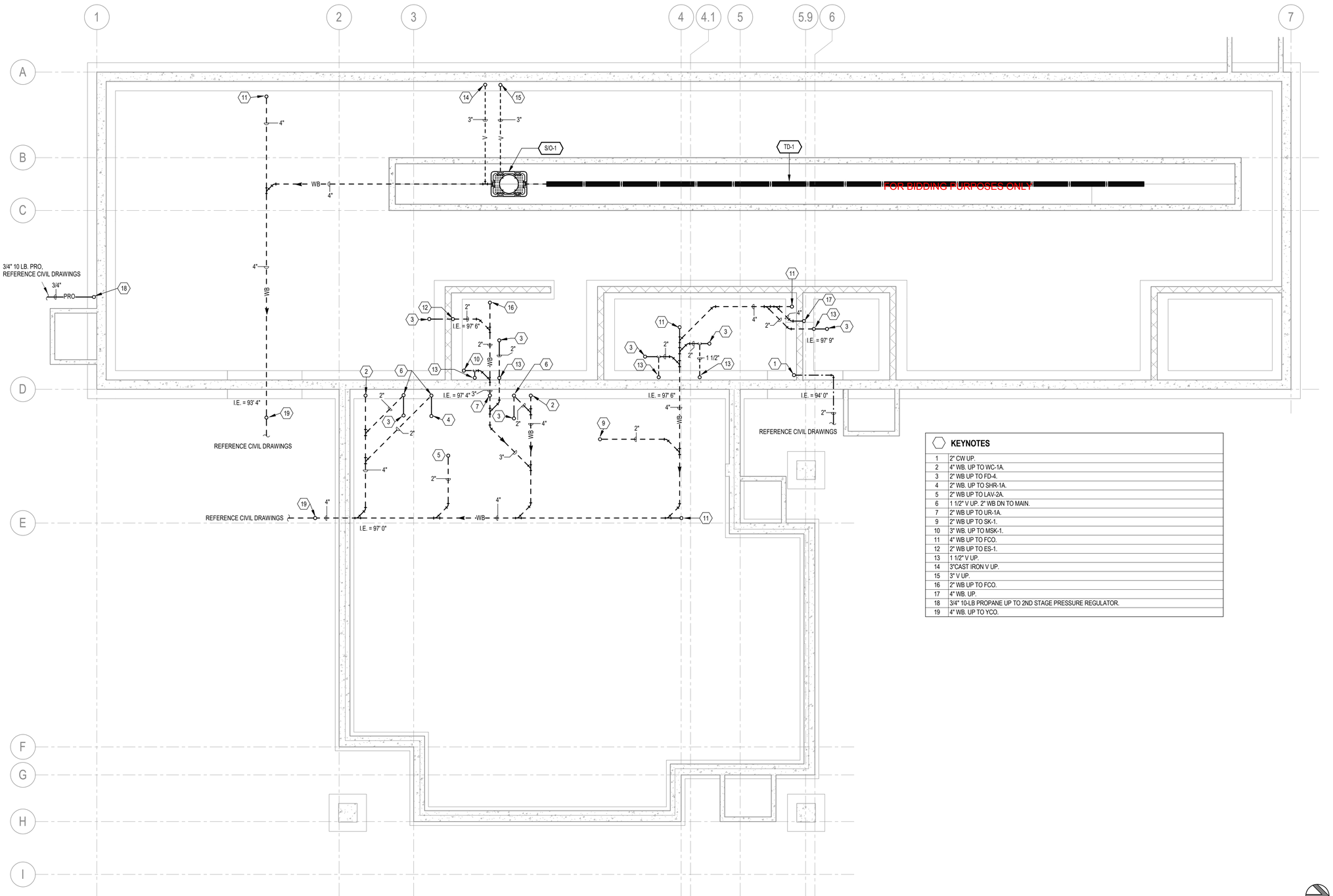
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G32	G47

PL100 PLUMBING PLAN - UNDERFLOOR



KEYNOTES

1	2" CW UP.
2	4" WB. UP TO WC-1A.
3	2" WB UP TO FD-4.
4	2" WB. UP TO SHR-1A.
5	2" WB UP TO LAV-2A.
6	1 1/2" V UP. 2" WB DN TO MAIN.
7	2" WB UP TO UR-1A.
9	2" WB UP TO SK-1.
10	3" WB. UP TO MSK-1.
11	4" WB UP TO FCO.
12	2" WB UP TO ES-1.
13	1 1/2" V UP.
14	3"CAST IRON V UP.
15	3" V UP.
16	2" WB UP TO FCO.
17	4" WB. UP.
18	3/4" 10-LB PROPANE UP TO 2ND STAGE PRESSURE REGULATOR.
19	4" WB. UP TO YCO.

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
14612
CHRIS H. MAKS
SOUTH DAKOTA
DATE: 12/01/2021

PLAN NORTH

A1 PLUMBING PLAN - UNDERFLOOR - POINT OF ENTRY
SCALE: 3/16" = 1'-0"

3/16" = 1'-0"

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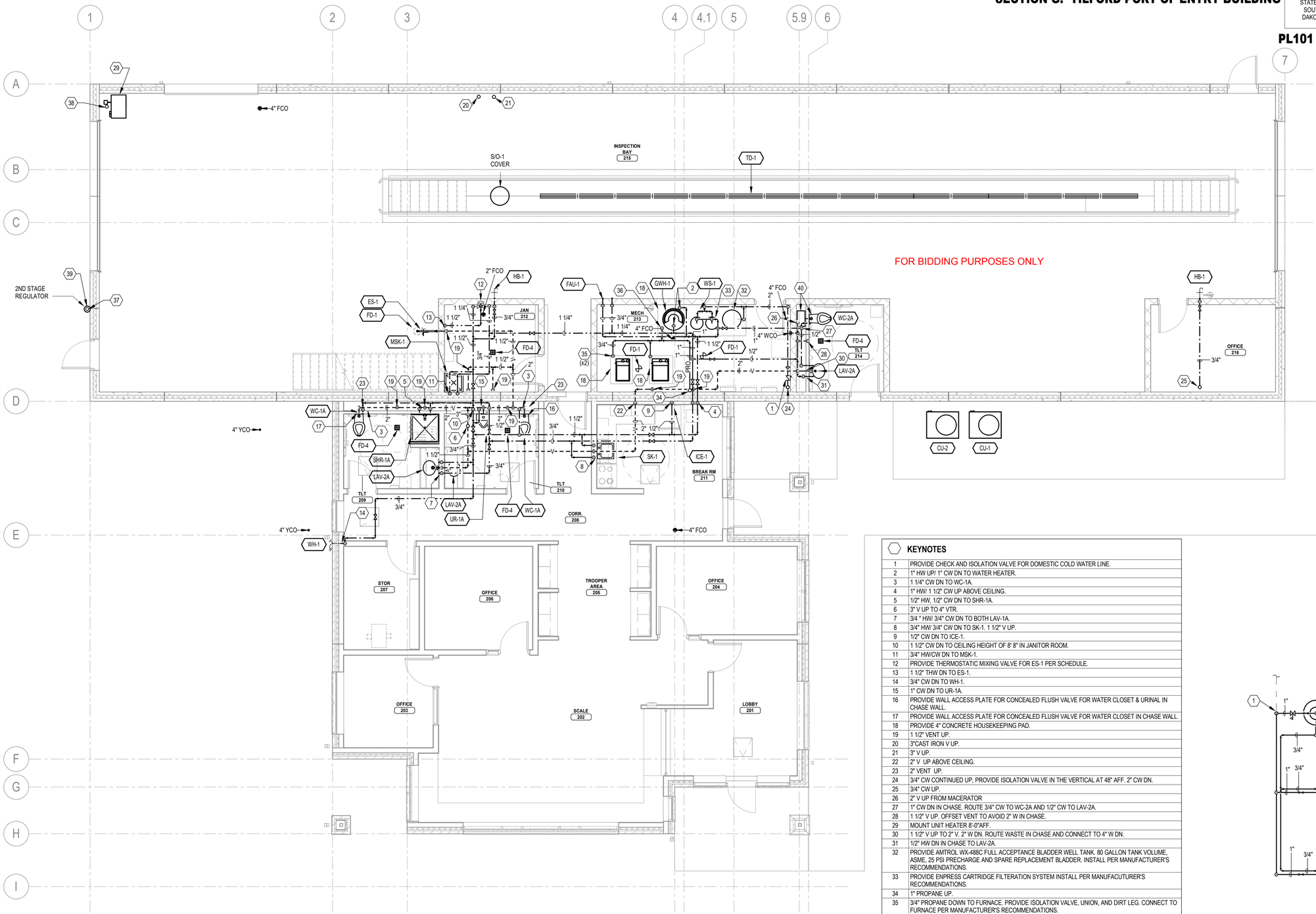
LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

CONSTRUCTION DOCUMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G33	G47

PL101 PLUMBING PLAN - FIRST LEVEL

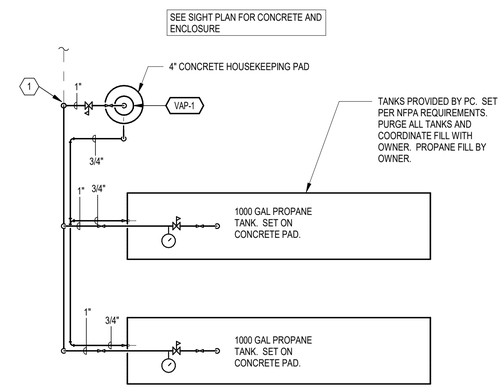


KEYNOTES	
1	PROVIDE CHECK AND ISOLATION VALVE FOR DOMESTIC COLD WATER LINE.
2	1" HW UP/ 1" CW DN TO WATER HEATER.
3	1 1/4" CW DN TO WC-1A.
4	1" HW/ 1 1/2" CW UP ABOVE CEILING.
5	1/2" HW, 1/2" CW DN TO SHR-1A.
6	3" V UP TO 4" VTR.
7	3/4 " HW/ 3/4" CW DN TO BOTH LAV-1A.
8	3/4" HW/ 3/4" CW DN TO SK-1. 1 1/2" V UP.
9	1/2" CW DN TO ICE-1.
10	1 1/2" CW DN TO CEILING HEIGHT OF 8' 8" IN JANITOR ROOM.
11	3/4" HW/CW DN TO MSK-1.
12	PROVIDE THERMOSTATIC MIXING VALVE FOR ES-1 PER SCHEDULE.
13	1 1/2" THW DN TO ES-1.
14	3/4" CW DN TO WH-1.
15	1" CW DN TO UR-1A.
16	PROVIDE WALL ACCESS PLATE FOR CONCEALED FLUSH VALVE FOR WATER CLOSET & URINAL IN CHASE WALL.
17	PROVIDE WALL ACCESS PLATE FOR CONCEALED FLUSH VALVE FOR WATER CLOSET IN CHASE WALL.
18	PROVIDE 4" CONCRETE HOUSEKEEPING PAD.
19	1 1/2" VENT UP.
20	3"CAST IRON V UP.
21	3" V UP.
22	2" V UP ABOVE CEILING.
23	2" VENT UP.
24	3/4" CW CONTINUED UP, PROVIDE ISOLATION VALVE IN THE VERTICAL AT 48" AFF. 2" CW DN.
25	3/4" CW UP.
26	2" V UP FROM MACERATOR
27	1" CW DN IN CHASE. ROUTE 3/4" CW TO WC-2A AND 1/2" CW TO LAV-2A.
28	1 1/2" V UP. OFFSET VENT TO AVOID 2" W IN CHASE.
29	MOUNT UNIT HEATER 8'-0"AFF.
30	1 1/2" V UP TO 2" V. 2" W DN. ROUTE WASTE IN CHASE AND CONNECT TO 4" W DN.
31	1/2" HW DN IN CHASE TO LAV-2A.
32	PROVIDE AMTROL WX-488C FULL ACCEPTANCE BLADDER WELL TANK. 80 GALLON TANK VOLUME, ASME, 25 PSI PRECHARGE AND SPARE REPLACEMENT BLADDER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
33	PROVIDE ENPRESS CARTRIDGE FILTERATION SYSTEM INSTALL PER MANUFACUTURER'S RECOMMENDATIONS.
34	1" PROPANE UP.
35	3/4" PROPANE DOWN TO FURNACE. PROVIDE ISOLATION VALVE, UNION, AND DIRT LEG. CONNECT TO FURNACE PER MANUFACTURER'S RECOMMENDATIONS.
36	3/4" PROPANE DOWN TO WATER HEATER. PROVIDE ISOLATION VALVE, UNION, AND DIRT LEG. CONNECT TO WATER HEATER PER MANUFACTURER'S RECOMMENDATIONS.
37	1 1/2" PROPANE UP.
38	3/4" PROPANE UP/DN TO UNIT HEATER. PROVIDE ISOLATION VALVE, UNION, AND DIRT LEG. CONNECT TO HEATER PER MANUFACTURER'S RECOMMENDATIONS.
39	10 PSI TO 11" WC REGULATOR RATED FOR 905,000 BTUH. REGULATOR LISTED FOR WEATHER EXPOSURE IN ACCORDANCE WITH NFPA 58 LIQUIFIED PETROLEUM CODE. PROVIDE MAIN SHUT-OFF VALVE IN VERTICAL 36" ABOVE GRADE.
40	MACERATOR TO BE INSTALLED IN CHASE PROVIDE ACCESS PANEL IN MECH 213 WALL. COORDINATE WITH G.C. FOR ACCESS PANEL REQUIREMENTS. ROUTE DISCHARGE PIPE TO 4" WASTE PIPE IN CHASE. INSTALL WATER CLOSET MACERATOR SYSTEM PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE WITH E.C. FOR ELECTRICAL REQUIREMENTS.

A1 **PLUMBING PLAN - FIRST LEVEL - POINT OF ENTRY**
SCALE: 3/16" = 1'-0"

PLAN NORTH

KEYNOTES	
1	NEW BURIED LP GAS LINE FROM NEW 1000 GAL PROPANE TANKS TO BUILDING. SEE SITE UTILITIES PLAN FOR CONTINUATION.



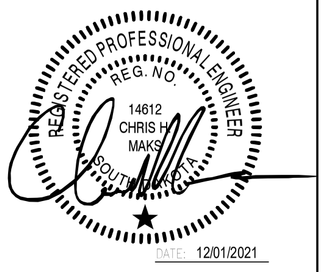
A4 **ENLARGED PROPANE TANK ENCLOSURE PLAN**
SCALE: 1/4" = 1'-0"

PLAN NORTH

CONSTRUCTION DOCUMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G34	G47

PL102 PLUMBING PLAN - SECOND LEVEL



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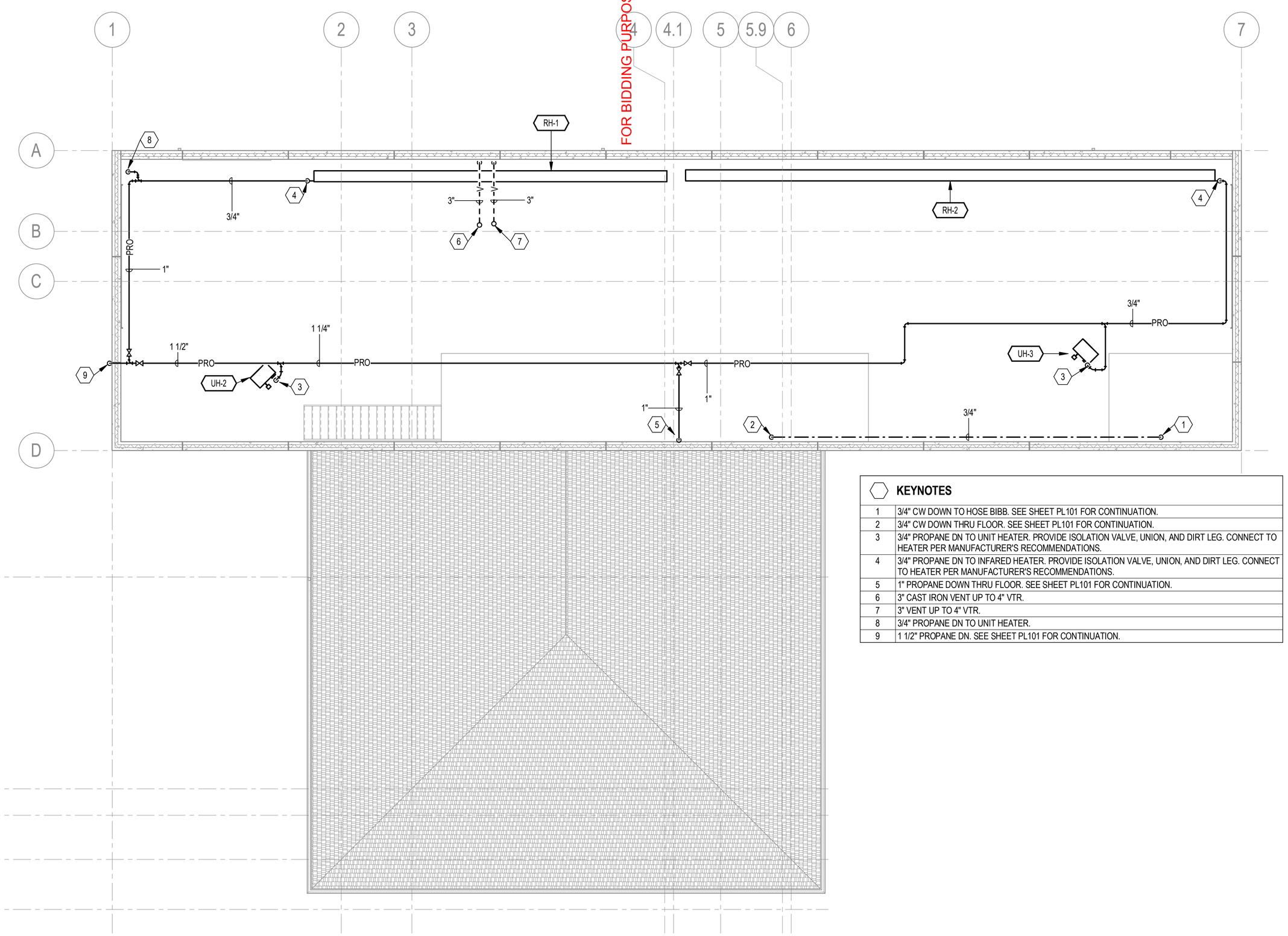
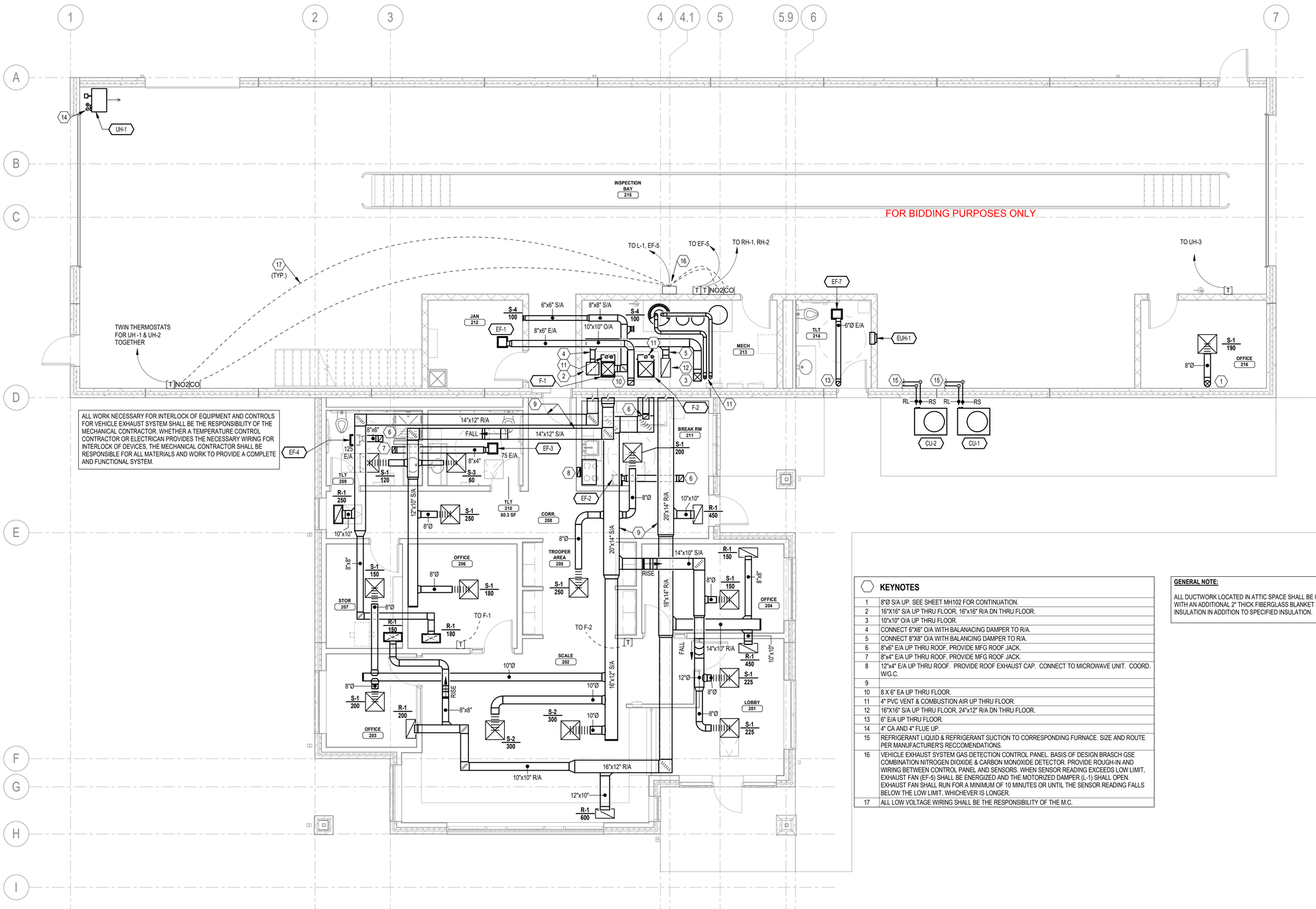


KEYNOTES	
1	3/4" CW DOWN TO HOSE BIBB. SEE SHEET PL101 FOR CONTINUATION.
2	3/4" CW DOWN THRU FLOOR. SEE SHEET PL101 FOR CONTINUATION.
3	3/4" PROPANE DN TO UNIT HEATER. PROVIDE ISOLATION VALVE, UNION, AND DIRT LEG. CONNECT TO HEATER PER MANUFACTURER'S RECOMMENDATIONS.
4	3/4" PROPANE DN TO INFARED HEATER. PROVIDE ISOLATION VALVE, UNION, AND DIRT LEG. CONNECT TO HEATER PER MANUFACTURER'S RECOMMENDATIONS.
5	1" PROPANE DOWN THRU FLOOR. SEE SHEET PL101 FOR CONTINUATION.
6	3" CAST IRON VENT UP TO 4" VTR.
7	3" VENT UP TO 4" VTR.
8	3/4" PROPANE DN TO UNIT HEATER.
9	1 1/2" PROPANE DN. SEE SHEET PL101 FOR CONTINUATION.

A1 **PLUMBING PLAN - SECOND LEVEL**
SCALE: 1/8" = 1'-0"

MH101 HVAC PLAN - FIRST LEVEL



ALL WORK NECESSARY FOR INTERLOCK OF EQUIPMENT AND CONTROLS FOR VEHICLE EXHAUST SYSTEM SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. WHETHER A TEMPERATURE CONTROL CONTRACTOR OR ELECTRICAN PROVIDES THE NECESSARY WIRING FOR INTERLOCK OF DEVICES, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS AND WORK TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.

KEYNOTES

1	8"Ø S/A UP. SEE SHEET MH102 FOR CONTINUATION.
2	16"X16" S/A UP THRU FLOOR, 16"x16" R/A DN THRU FLOOR.
3	10"x10" O/A UP THRU FLOOR.
4	CONNECT 6"X6" O/A WITH BALANACING DAMPER TO R/A.
5	CONNECT 8"X8" O/A WITH BALANCING DAMPER TO R/A.
6	8"x6" E/A UP THRU ROOF, PROVIDE MFG ROOF JACK.
7	8"x4" E/A UP THRU ROOF, PROVIDE MFG ROOF JACK.
8	12"x4" E/A UP THRU ROOF. PROVIDE ROOF EXHAUST CAP. CONNECT TO MICROWAVE UNIT. COORD. W/G.C.
9	
10	8 X 6" EA UP THRU FLOOR.
11	4" PVC VENT & COMBUSTION AIR UP THRU FLOOR.
12	16"X16" S/A UP THRU FLOOR, 24"x12" R/A DN THRU FLOOR.
13	6" E/A UP THRU FLOOR.
14	4" CA AND 4" FLUE UP.
15	REFRIGERANT LIQUID & REFRIGERANT SUCTION TO CORRESPONDING FURNACE. SIZE AND ROUTE PER MANUFACTURER'S RECCOMENDATIONS.
16	VEHICLE EXHAUST SYSTEM GAS DETECTION CONTROL PANEL. BASIS OF DESIGN BRASCH GSE COMBINATION NITROGEN DIOXIDE & CARBON MONOXIDE DETECTOR. PROVIDE ROUGH-IN AND WIRING BETWEEN CONTROL PANEL AND SENSORS. WHEN SENSOR READING EXCEEDS LOW LIMIT, EXHAUST FAN (EF-5) SHALL BE ENERGIZED AND THE MOTORIZED DAMPER (L-1) SHALL OPEN. EXHAUST FAN SHALL RUN FOR A MINIMUM OF 10 MINUTES OR UNTIL THE SENSOR READING FALLS BELOW THE LOW LIMIT, WHICHEVER IS LONGER.
17	ALL LOW VOLTAGE WIRING SHALL BE THE RESPONSIBILITY OF THE M.C.

GENERAL NOTE:

ALL DUCTWORK LOCATED IN ATTIC SPACE SHALL BE INSULATED WITH AN ADDITIONAL 2" THICK FIBERGLASS BLANKET BOARD INSULATION IN ADDITION TO SPECIFIED INSULATION.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 14612
CHRIS H. MAKS
SOUTH DAKOTA

DATE: 12/01/2021

PLAN NORTH

A1 MECHANICAL HVAC PLAN - FIRST LEVEL
SCALE: 3/16" = 1'-0"

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

3/16" = 1'-0"

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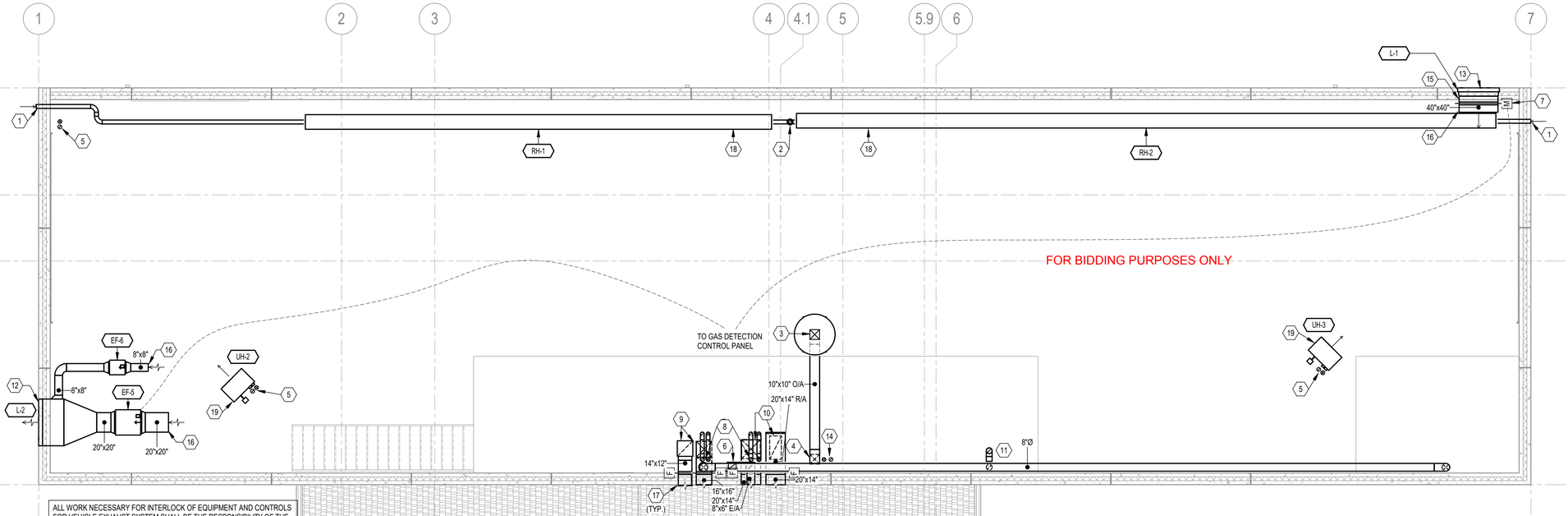
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G36	G47

MH102 HVAC PLAN - SECOND LEVEL



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KEYNOTES

1	C/A INLET AS PER MFG.
2	CONNECT TO COMMON FLUE UP THRU ROOF PER MFG. FLUE MATERIAL AS RECOMMENDED BY RADIANT HEATER MFG.
3	10"x10" O/A UP THRU ROOF TO IV-2.
4	10"x10" O/A DN. TO MECH 213.
5	4" VENT & COMBUSTION AIR UP TO MFG CONCENTRIC VENT KIT THRU ROOF.
6	8 X 6" DN TO EF-1.
7	PROVIDE MOTORIZED CONTROL DAMPER OF EQUAL SIZE TO LOUVER PLENUM. DAMPER SHALL BE RUSKIN TED40 OR EQUAL WITH LOW LEAKAGE INSULATED BLADES FOR THERMAL PERFORMANCE. INTERLOCK WITH BRASCH GAS DETECTION CONTROL PANEL AND EF-5 TO OPEN WHENEVER EF-5 IS ENERGIZED.
8	4" VENT & COMBUSTION AIR UP THRU ROOF. PROVIDE MANUFACTURER'S RECOMMENDED TERMINATION KIT.
9	16"X16" S/A DN THRU FLOOR, 16"x16" R/A DN THRU FLOOR TO FURNACE.
10	16"X16" S/A DN THRU FLOOR, 24"x12" R/A DN THRU FLOOR TO FURNACE.
11	6" E/A UP THRU ROOF, PROVIDE MFG ROOF JACK.
12	34" x 32" EXHAUST LOUVER. LOUVER INSTALLED APPROXIMATELY 13'-9" AFF TO BOTTOM OF LOUVER. COORDINATE WITH STRUCTURE AND ARCHITECTURAL BUILDING SECTIONS TO AVOID CONFLICTS. TAP EXHAUST DUCTS INTO TOP OF LOUVER PLENUM.
13	40" x 40" INTAKE LOUVER. LOUVER INSTALLED APPROXIMATELY 14'-8" AFF TO BOTTOM OF LOUVER. COORDINATE WITH STRUCTURE AND ARCHITECTURAL BUILDING SECTIONS TO AVOID CONFLICTS.
14	4" PVC VENT & COMBUSTION AIR UP TO MFG CONCENTRIC VENT KIT THRU ROOF.
15	PROVIDE MINIMUM 16" INSULATED PLENUM TO LOUVER, SLOPE BOTTOM OF PLENUM AT 1/2" PER FOOT TO ENSURE CAPTURED WATER DRAINS OUT OF THE LOUVER FACE. PLENUM SHALL BE CONTINUOUS THROUGH WALL TO FACE OF LOUVER AND SOLDERED OR BRAZED WATER TIGHT. SILICONE TO WATER PROOF PLENUM. PROVIDE FLASHING AND COUNTER FLASHINGS AS RECOMMENDED BY LOUVER MANUFACTURER.
16	PROVIDE HEAVY DUTY WIRE MESH OVER OPENING.
17	MEZZANINE FLOOR AT 9'-6" AFF. ROUTE DUCTWORK THROUGH WALL INTO OFFICE ATTIC SPACE. PROVIDE FIRE DAMPERS FOR ALL DUCTWORK PENETRATIONS INTO ATTIC SPACE.
18	MOUNT INFARED HEATER 13'-4" AFF TO BOTTOM OF INFARED HEATER.
19	MOUNT UNIT HEATER 10'-0" AFF.

SEQUENCE OF OPERATION

RESTROOM (TLT 209, TLT 210, TLT 214):
1. EXHAUST FAN (EF-3, EF-4, EF-7) SHALL OPERATE THROUGH LIGHT SWITCH.

JANITOR'S CLOSET (JAN 212):
1. EXHAUST FAN (EF-1) CONTROL SHALL BE THROUGH WALL SWITCH.

BREAK ROOM (BREAK RM 211):
1. EXHAUST FAN (EF-2) CONTROL SHALL BE THROUGH WALL SWITCH.

INSPECTION BAY (INSPECTION BAY 215):
1. EXHAUST FAN (EF-6) SHALL RUN CONTINOUSLY PROVIDING MINIMUM 0.05 CFM/SF PER IMC 404.2.
2. EXHAUST FAN (EF-5) SHALL RUN UPON A SIGNAL FROM EITHER THE CO/NO2 DETECTOR OR THE THERMOSTAT IN THE GARAGE EXCEEDS THE SETPOINT (85°F ADJ.) MOTORIZED DAMPER (L-1) SHALL OPEN. MOTORIZED DAMPER SHALL OPEN FIRST PRIOR TO ENERGIZING EXHAUST FAN. EXHAUST FAN SHALL RUN FOR A MINIMUM OF 10 MINUTES OR UNTIL SENSOR READING FALLS BELOW THE LOW LIMIT, WHICHEVER IS LONGER.

GAS FIRED FURNACE AND CONDENSING UNIT:
1. FURNACE (F-1 & F-2) AND CONDENSING UNIT (CU-1 & CU-2) SHALL OPERATE BASED ON THERMOSTAT. CONTRACTOR SHALL PROGRAM A 7-DAY SCHEDULE BASED ON OWNER PROVIDED OCCUPIED HOURS.

PLAN NORTH

A1 MECHANICAL HVAC PLAN - SECOND LEVEL
SCALE: 3/16" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
14612
CHRIS H
MAKS
SOUTH DAKOTA
DATE: 12/01/2021

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

CONSTRUCTION DOCUMENTS

3/16" = 1'-0"

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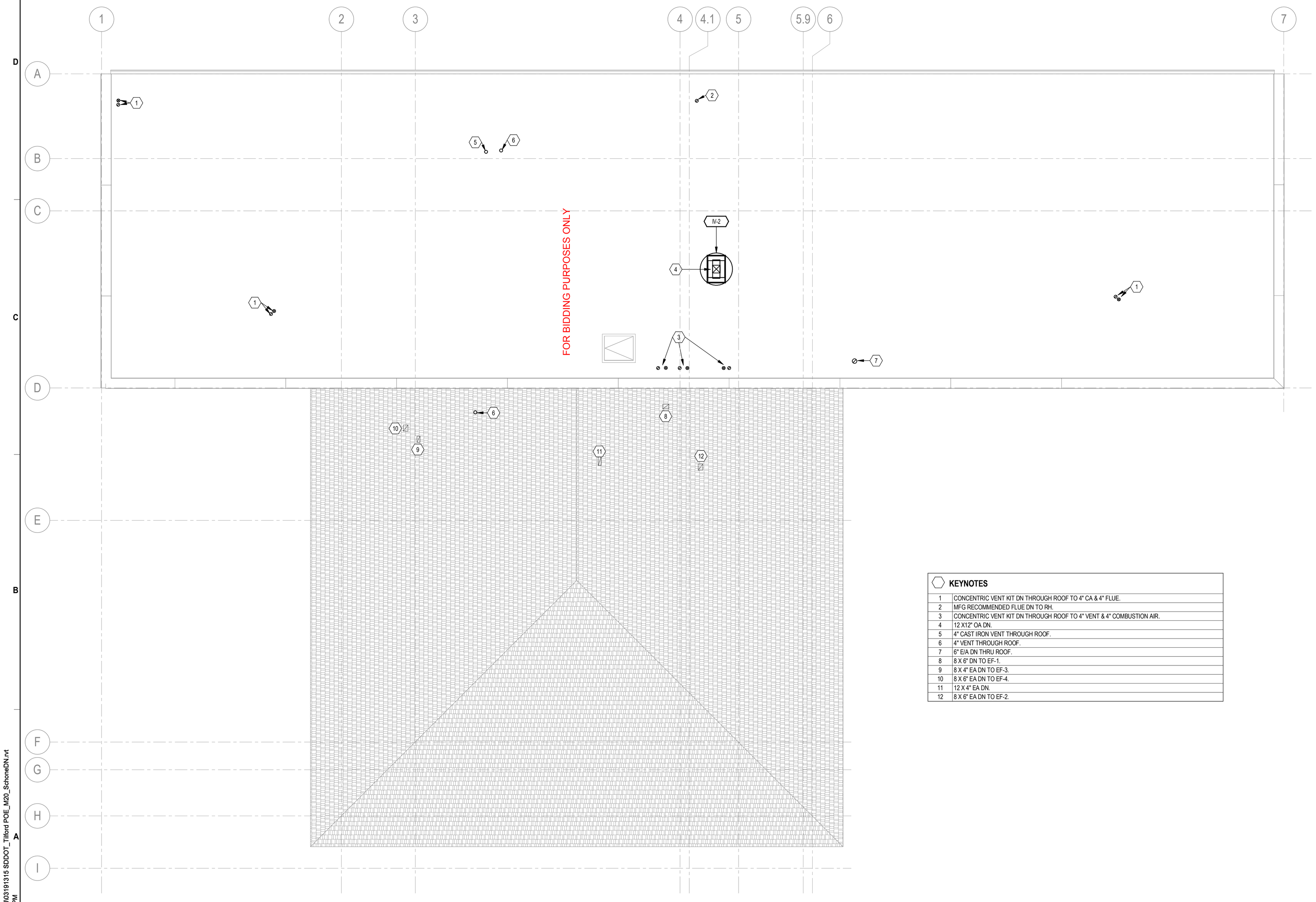
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G37	G47

M-121 MECHANICAL ROOF PLAN



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
14612
CHRIS H
MAKS
SOUTH DAKOTA

DATE: 12/01/2021

KEYNOTES

1	CONCENTRIC VENT KIT DN THROUGH ROOF TO 4" CA & 4" FLUE.
2	MFG RECOMMENDED FLUE DN TO RH.
3	CONCENTRIC VENT KIT DN THROUGH ROOF TO 4" VENT & 4" COMBUSTION AIR.
4	12 X12" OA DN.
5	4" CAST IRON VENT THROUGH ROOF.
6	4" VENT THROUGH ROOF.
7	6" E/A DN THRU ROOF.
8	8 X 6" DN TO EF-1.
9	8 X 4" EA DN TO EF-3.
10	8 X 6" EA DN TO EF-4.
11	12 X 4" EA DN.
12	8 X 6" EA DN TO EF-2.

PLAN NORTH

A1 **MECHANICAL PLAN - ROOF - POE**
SCALE: 3/16" = 1'-0"

3/16" = 1'-0"

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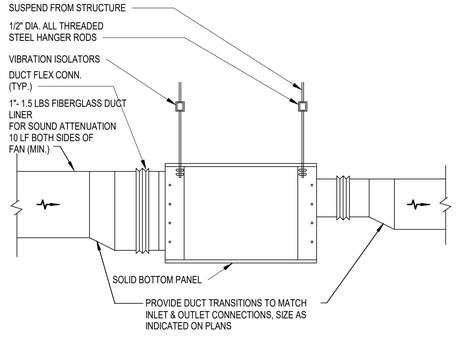
LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

CONSTRUCTION DOCUMENTS

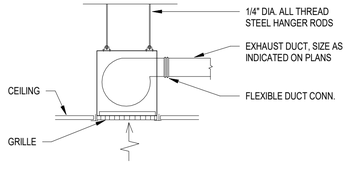
REGISTERED PROFESSIONAL ENGINEER
REG. NO.
14612
CHRIS H
MAKS
SOUTH DAKOTA

DATE: 12/01/2021

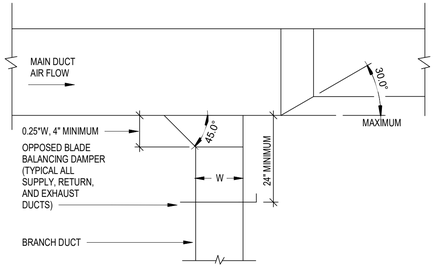
FOR BIDDING PURPOSES ONLY



A1 IN-LINE EXHAUST FAN
SCALE: NOT TO SCALE

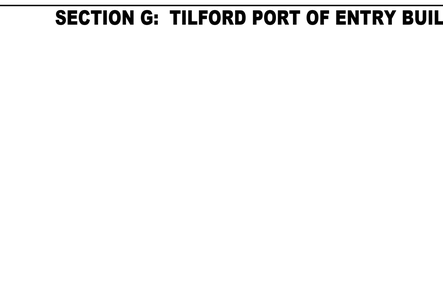


A2 CEILING FAN
SCALE: NOT TO SCALE

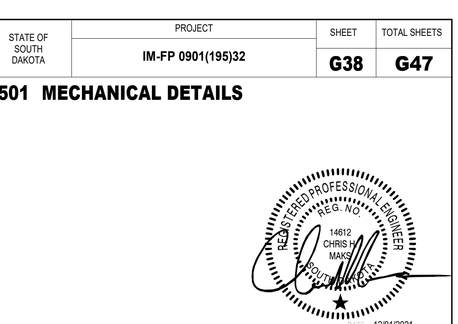


A3 BRANCH DUCT CONNECTION
SCALE: NOT TO SCALE

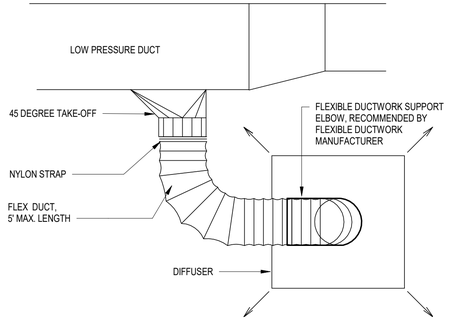
B3 OUTSIDE AIR INTAKE
SCALE: NOT TO SCALE



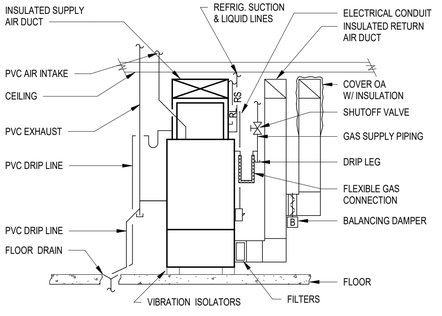
B4 LOUVER
SCALE: NOT TO SCALE



B5 DUCT STRAP HANGER
SCALE: NOT TO SCALE



A4 CEILING DIFFUSER TAKE-OFF
SCALE: 1/8" = 1'-0"



A5 CONDENSING FURNACE CONNECTION
SCALE: NOT TO SCALE

CONSTRUCTION DOCUMENTS

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

1/8" = 1'-0"

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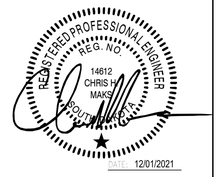

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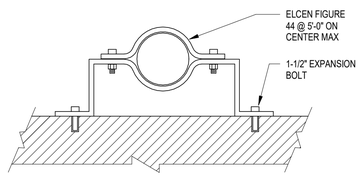
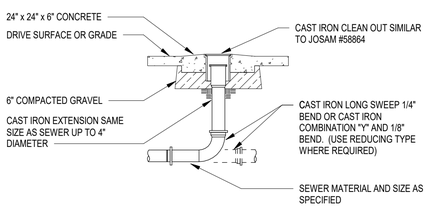
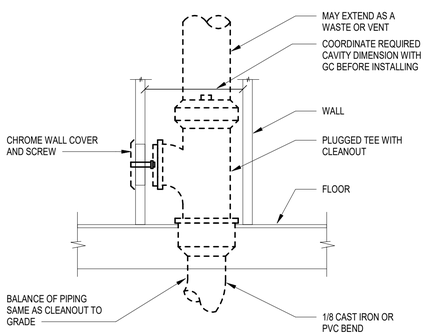


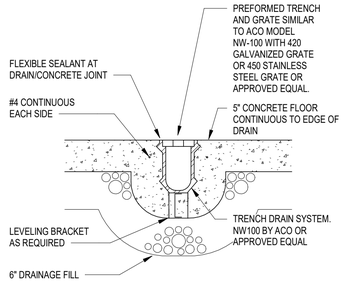
C1 WALL GAS PIPING SUPPORT
SCALE: NOT TO SCALE



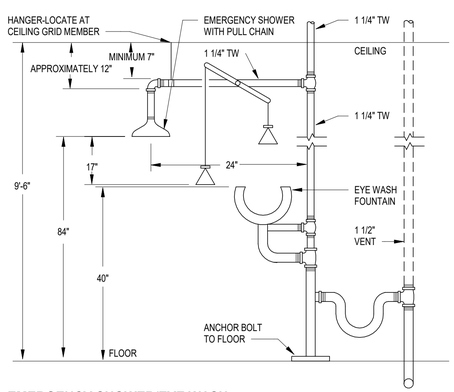
B1 EXTERIOR CLEANOUT
SCALE: NOT TO SCALE



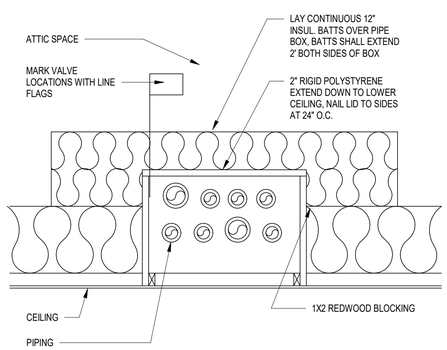
A1 WALL CLEANOUT
SCALE: NOT TO SCALE



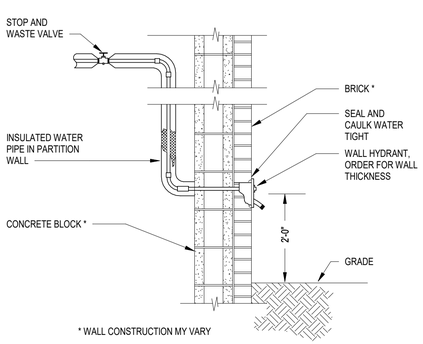
B2 TRENCH DRAIN
SCALE: 1/8" = 1'-0"



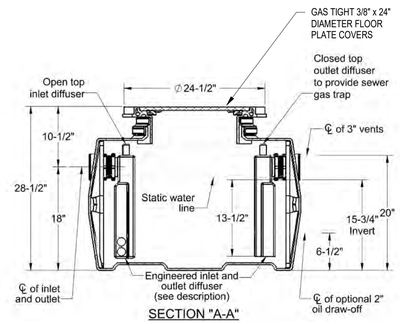
A2 EMERGENCY SHOWER/EYE WASH
SCALE: NOT TO SCALE



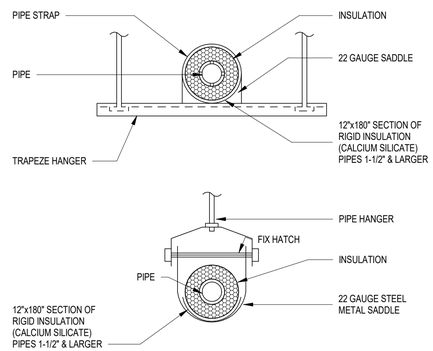
B3 ATTIC PIPING
SCALE: NOT TO SCALE



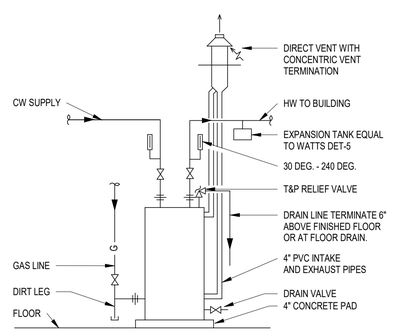
A3 WALL HYDRANT
SCALE: NOT TO SCALE



C4 SAND / OIL INTERCEPTOR
SCALE: NOT TO SCALE



A4 HANGER AND INSULATION SADDLES
SCALE: NOT TO SCALE



B5 GAS WATER HEATER
SCALE: NOT TO SCALE

ME601 MECHANICAL SCHEDULES

WATER HEATER SCHEDULE

EQUIPMENT REQUIREMENTS													ELECTRICAL REQUIREMENTS									
														CONTROLLER							DISCONNECT	
UNIT NO.	LOCATION	MANUFACTURER	MODEL NO.	STORAGE CAP.	INPUT	FUEL TYPE	RECOVERY	TEMP RISE	EXHUAST AIR DUCT DIAMETER	EQUIPMENT NOTES	VOLT/PH	MIN CKT AMP	WIRE SIZE / CONDUIT	TYPE	SIZE	LOCATION	CTL DEVICE	AUX	BY	CONTROL BY	TYPE	BY	ELECTRICAL NOTES
GWH-1	MECH 213	A. O. Smith	BTH-120A	60.0 gal	120000 Btu/h	LP	138.0 gal/h	100 °F	4"	ALL	120 / 1	5	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV 22/23	TOGGLE	DIV 26	

MECH NOTES:
1. AGA T&P RELIEF VALVE.
2. PROVIDE 4" VENT AND COMBUSTION AIR.
3. PROVIDE MFG CONCENTRIC VENT AND COMBUSTION AIR ROOF TERMINATION.
4. PROVIDE CONDENSATE NEUTRALIZATION KIT.
5. PROVIDE 4" HOUSEKEEPING PAD.

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

TYPE	SYSTEM	MANUFACTURER	MODEL NO.	FACE SIZE	NECK SIZE	MOUNTING TYPE	SPECIFICATION	MAX NC (dB)	MAX PD ("WG)	INTEGRAL DAMPER	FINISH COLOR	MATERIAL	REMARKS
S-1	SUPPLY	KRUEGER	5SHV	24x24	8"	SURFACE	LOUVER FACE, SQUARE NECK	22	0.03	YES	ALUM.	ALUMINUM	1
S-2	SUPPLY	KRUEGER	5SHV	24x24	10"	SURFACE	LOUVER FACE, SQUARE NECK	22	0.03	YES	ALUM.	ALUMINUM	1
S-3	SUPPLY	KRUEGER	5SHV	8x8	6"x6"	SURFACE	LOUVER FACE, SQUARE NECK	22	0.03	YES	ALUM.	ALUMINUM	1
S-4	SUPPLY	KRUEGER	5880	8x8	6"x6"	SURFACE	DOUBLE DEFLECTION, 3/4" BLADE SPACING	21	0.03	YES	ALUM.	ALUMINUM	-
R-1	RETURN	KRUEGER	EGC5	24x12	22"x10"	SURFACE	CUBE CORE, 1/2"x1/2"	20	0.05	YES	ALUM.	ALUMINUM	1

MECH. REMARKS
1. BODY SHALL FIT BETWEEN 24" OC TRUSS MEMBERS.

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AIR COOLED CONDENSING UNIT SCHEDULE

EQUIPMENT REQUIREMENTS														ELECTRICAL REQUIREMENTS										
				CONDENSER FAN											CONTROLLER							DISCONNECT		
UNIT NO.	SERVES	MANUFACTURER	MODEL NO.	QUANTITY	POWER	TOTAL CLG. CAP.	SEER	REFRIGERANT TYPE	OUTDOOR AIR TEMP.	COOLING EFFICIENCY (SEER)	EQUIPMENT NOTES	VOLT/PH	MIN AIC	MIN CKT AMP	MOCP	WIRE SIZE / CONDUIT	TYPE	SIZE	LOCATION	CTL DEVICE	AUX	BY	CONTROL BY	TYPE	BY	ELECTRICAL NOTES
CU-1	F-1	TRANE	4TTR	1	0.13 hp	36000 Btu/h	13	R410A	95.0 °F	14.5	1, 2	240 / 1	3100	18	30	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV 22/23	30A, NF, 3P, NEMA 3R	DIV 26	
CU-2	F-2	TRANE	4TTR	1	0.25 hp	60000 Btu/h	13	R410A	95.0 °F	14.5	1, 2	240 / 1	4800	35	60	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV 22/23	60A, NF, 3P, NEMA 3R	DIV 26	E1

MECH NOTES:
1. MATCH WITH DX COIL.
2. PROVIDE 4" CONCRETE PAD.

ELEC NOTES:
E1. PROVIDE ADDITIONAL CIRCUIT LENGTH AS NOTED ON DRAWINGS TO REDUCE AVAILABLE FAULT CURRENT AT EQUIPMENT BELOW SCCR.

EXHAUST FAN & POWER ROOF VENT SCHEDULE

EQUIPMENT REQUIREMENTS														ELECTRICAL REQUIREMENTS										
															CONTROLLER							DISCONNECT		
UNIT NO.	LOCATION	SERVES	MANUFACTURER	MODEL NO.	TYPE	AIRFLOW	TSP	RPM	BRAKE POWER	EQUIPMENT NOTES	VOLT/PH	MIN CKT AMP	MOCP	WIRE SIZE / CONDUIT	TYPE	SIZE	LOCATION	CTL DEVICE	AUX	BY	CONTROL BY	TYPE	BY	ELECTRICAL NOTES
EF-1	JAN 212	JAN 212	GREENHECK	SPB-150	CEILING EXHAUST FAN	125 CFM	0.25 in-wg	1350	0.20 hp	1, 2, 3, 4, 5	120 / 1	2.2	-	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV. 26	INTEGRAL	DIV 22/23	E3
EF-2	BREAK RM 211	BREAK RM 211	GREENHECK	SPB-150	CEILING EXHAUST FAN	300 CFM	0.25 in-wg	1350	0.20 hp	1, 2, 3, 4, 5	120 / 1	2.2	-	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV. 26	INTEGRAL	DIV 22/23	E1
EF-3	TLT 210	TLT 210	GREENHECK	SPB-90	CEILING EXHAUST FAN	75 CFM	0.25 in-wg	700	0.07 hp	1, 2, 3, 4, 5	120 / 1	.23	-	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV. 26	INTEGRAL	DIV 22/23	E1
EF-4	TLT 209	TLT 209	GREENHECK	SPB-150	CEILING EXHAUST FAN	125 CFM	0.25 in-wg	1050	0.20 hp	1, 2, 3, 4, 5	120 / 1	2.2	-	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV. 26	INTEGRAL	DIV 22/23	E1
EF-5	INSPECTION BAY 215	INSPECTION BAY 215 - VEHICLE EXHAUST	GREENHECK	SQ-160-VG	CENTRIFUGAL, SQUARE INLINE, DIRECT DRIVE	2810 CFM	0.75 in-wg	1275	0.70 hp	1, 4, 5, 6	120 / 1	20	-	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	DIV. 22/23	DIV 22/23	DIV 22/23	INTEGRAL	DIV 22/23	E2
EF-6	INSPECTION BAY 215	INSPECTION BAY 215 - MINIMUM VENTILATION	GREENHECK	SQ-97-VG	CENTRIFUGAL, SQUARE INLINE, DIRECT DRIVE	210 CFM	0.50 in-wg	1623	0.12 hp	1, 4, 5, 6	120 / 1	7.25	-	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	DIV. 22/23	DIV 22/23	TOGGLE	INTEGRAL	DIV 22/23	E4
EF-7	TLT 214	TLT 214	GREENHECK	SPB-90	CEILING EXHAUST FAN	75 CFM	0.25 in-wg	700	0.07 hp	1, 2, 3, 4, 5	120 / 1	.23	-	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV. 26	INTEGRAL	DIV 22/23	E1

MECH NOTES:
1. SUPPORT UNITS FROM STRUCTURE WITH HANGER RODS AND VIBRATION ISOLATORS.
2. PROVIDE BACKDRAFT DAMPER.
3. PROVIDE ROOF VENT OR LOUVER AS INDICATED.
4. INTEGRAL DISCONNECT.
5. INTEGRAL THERMAL OVERLOAD PROTECTION.
6. PROVIDE WITH AIR BALANCING KIT.

ELEC NOTES:
E1. EXHAUST FAN TO BE CONTROLLED BY PILOT LIGHT SWITCH IN ROOM IT IS SERVING. SEE ELECTRICAL PLANS FOR LOCATION OF SWITCH.
E2. FAN TO BE CONTROLLED VIA GAS DETECTION SYSTEM AND INTERLOCKED WITH MOTORIZED DAMPER. GAS DETECTION CONTROL PANEL AND FAN CONTROLLER PROVIDED, INSTALLED, AND WIRED BY DIV. 23.
E3. PROVIDE DEDICATED TOGGLE SWITCH IN ROOM TO CONTROL FAN.
E4. FAN TO OPERATE CONTINUOUSLY. TOGGLE SWITCH TO BE PROVIDED BY MANUFACTURER FOR LOCAL OVERRIDE. COORDINATE SWITCH MOUNTING LOCATION WITH OWNER.

LPG VAPORIZER SCHEDULE

											ELECTRICAL REQUIREMENTS													
														CONTROLLER							DISCONNECT		
UNIT NO.	LOCATION	MANUFACTURER	MODEL NO.	INPUT MBH	VAPORIZATION CAPACITY MBH	LIQ INLET	VAPOR OUTLET	RELIEF VALVE PSI	IGNITION	MECH. REMARKS	VOLT/PH	MIN CKT AMP	WIRE SIZE / CONDUIT	TYPE	SIZE	LOCATION	CTL DEVICE	AUX	BY	CONTROL BY	TYPE	BY	ELECTRICAL NOTES
VAP-1	PROPANE TANKS PAD	ALGAS	TORREXX TX25	905	1100	3/4"	1"	250.0 psi	ELECTRIC	1	240 / 1	20.25 A	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV 22/23	NFDS	DIV 26	E1

MECH NOTES:
1. PROVIDE WITH 4" HOUSEKEEPING PAD.

ELECTRICAL NOTES:
E1. PROVIDE 30A, HEAVY-DUTY, NON-FUSED DISCONNECT SWITCH IN AN ENCLOSURE RATED FOR A CLASS 1, DIVISION 1 AREA. IN A NEMA 3R ENCLOSURE.

GAS FIRED INFRARED HEATING SCHEDULE

EQUIPMENT REQUIREMENTS															ELECTRICAL REQUIREMENTS											
				GAS BURNER											CONTROLLER							DISCONNECT		
UNIT NO.	LOCATION	MANUFACTURER	MODEL NO.	INPUT	FUEL TYPE	GAS PIPE DIAMETER	FLUE DIA.	TUBE LENGTH (FT)	TUBE DIA.	TUBE 1ST 10FT	TUBE MAT	REFLECTOR	EQUIPMENT NOTES	VOLT/PH	MIN CKT AMP	WIRE SIZE / CONDUIT	TYPE	SIZE	LOCATION	CTL DEVICE	AUX	BY	CONTROL BY	TYPE	BY	ELECTRICAL NOTES
RH-1	INSPECTION BAY 215	ROBERTS GORDON	HE-125-40	125000 Btu/h	LPG	3/4"	4"	40	4"	ALUMI-THERM	ALUM STL	SS TYPE 304	1, 2, 3, 4, 5	120 / 1	1	SEE CIRCUIT SCHEDULE	-	-	-	-	-	DIV 22/23	DIV 22/23	TOGGLE	DIV 26	
RH-2	INSPECTION BAY 215	ROBERTS GORDON	HE-175-60	175000 Btu/h	LPG	3/4"	4"	60	4"	ALUMI-THERM	ALUM STL	SS TYPE 304	1, 2, 3, 4, 5	120 / 1	1	SEE CIRCUIT SCHEDULE	-	-	-	-	-	DIV 22/23	DIV 22/23	TOGGLE	DIV 26	

MECH NOTES:
1. PROVIDE COMBUSTION AIR INTAKE PER MFG INSTRUCTIONS.
2. PROVIDE FLUE TYPE AND MATERIAL PER MFG INSTRUCTIONS.
3. BURNER W/HOT SURFACE ELECTRONIC IGNITION, PRE-PURGE, AUTO RESET, LED INDICATOR STATUS.
4. PROVIDE MFG WALL CONTROL AND THERMOSTAT.
5. SIDE EXTENSION REFLECTOR.

LOUVER SCHEDULE

UNIT NO.	MANUFACTURER	MODEL NO.	AIRFLOW	MAX APD	HEIGHT	WIDTH	FREE AREA	FRAME STYLE	MATERIAL DESCRIPTION	FINISH	EQUIPMENT NOTES
L-1	GREENHECK	EHH-601	3020 CFM	0.05 in-wg	41"	45"	6.1 SF	CHANNEL	ALUMINUM	MILL	ALL
L-2	GREENHECK	EHH-601	3020 CFM	0.15 in-wg	26"	46"	3.8 SF	CHANNEL	ALUMINUM	MILL	ALL

*ALL LOUVERS SHALL BE AMCA CERTIFIED FOR ALL PERFORMANCE AND WATER PENETRATION.
MAX WATER PENETRATION SHALL BE LESS THAN .01 OZ. PER SQ. FT. FREE AREA FOR INTAKE LOUVERS.

MECH NOTES:
1. PROVIDE BIRD SCREEN
2. PROVIDE COLOR CHART FOR COLOR SELECTION BY ARCH.

GAS FIRED UNIT HEATER SCHEDULE

EQUIPMENT REQUIREMENTS																	ELECTRICAL REQUIREMENTS												
						SUPPLY FAN			GAS FIRED HEAT EXCHANGER																				
							MOTOR		GAS BURNER			EFFICIENCY																	
UNIT NO.	LOCATION	AREA SERVED	MANUFACTURER	MODEL NO.	ARRANGEMENT	AIRFLOW	POWER	RPM	INPUT	OUTPUT	FUEL TYPE	THERMAL EFFICIENCY	FLUE SIZE	EQUIPMENT NOTES	VOLT/PH	MIN CKT AMP	MOCP	WIRE SIZE / CONDUIT	CONTROLLER TYPE	CONTROLLER SIZE	CONTROLLER LOCATION	CONTROLLER CTL DEVICE	CONTROLLER AUX	CONTROLLER BY	CONTROL BY	DISCONNECT TYPE	DISCONNECT BY	ELECTRICAL NOTES
UH-1	INSPECTION BAY 215	INSPECTION BAY 215	REZNOR	UDAS 75	HORIZ	961 CFM	0.06 hp	1550	75000 Btu/h	62250 Btu/h	LPG	83	4"	1, 3, 4, 5, 6, 7	120 / 1	4.2	15	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV 22/23	INTEGRAL	DIV 22/23	
UH-2	INSPECTION BAY 215	INSPECTION BAY 215	REZNOR	UDAS 125	HORIZ	1537 CFM	0.25 hp	1550	120000 Btu/h	99600 Btu/h	LPG	83	4"	1, 2, 3, 4, 6, 7	120 / 1	6.4	15	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV 22/23	INTEGRAL	DIV 22/23	
UH-3	INSPECTION BAY 215	INSPECTION BAY 215	REZNOR	UDAS 125	HORIZ	1537 CFM	0.25 hp	1550	120000 Btu/h	99600 Btu/h	LPG	83	4"	1, 2, 3, 4, 6, 7	120 / 1	6.4	15	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV 22/23	INTEGRAL	DIV 22/23	

MECH NOTES:
1. UNIT SHALL HAVE SEPARATED COMBUSTION SYSTEM APPROVED FOR RESIDENTIAL GARAGES.
2. PROVIDE HANGER KIT FOR 4-POINT SUSPENSION.
3. PROVIDE UNIT WITH INTEGRATED CIRCUIT BOARD TO CONTROL UNIT OPERATIONS, AND WITH DIAGNOSTIC INDICATOR LIGHTS.
4. PROVIDE COMBINATION COMBUSTION AIR AND VENT KIT. VERIFY WALL OR ROOF TERMINATION.
5. PROVIDE WALL MOUNT KIT.
6. PROVIDE WITH INTEGRAL DISCONNECT AND THERMAL OVERLOAD PROTECTION.
7. PROVIDE WITH REMOTE THERMOSTAT.

GRAVITY VENTILATOR SCHEDULE

UNIT NO.	LOCATION	SERVES	MANUFACTURER	MODEL NO.	CFM	SERVICE	THROAT AREA (FT^2)	THROAT SIZE	THROAT VELOCITY	STATIC PRESSURE	MECH. NOTES
IV-2	ROOF	FURNACES	GREENHECK FABRA-HOOD	FGI	300	INTAKE	1.0	12X12	400	0.05	ALL

MECH NOTES:
1. 24-INCH HIGH ROOF CURB.
2. BIRD SCREEN.
3. STATIC PRESSURE IS DUCTED STATIC PRESSURE DROP
4. GRAVITY BACK DRAFT DAMPER.

SAND / OIL INTERCEPTOR SCHEDULE

EQUIPMENT REQUIREMENTS											
			PIPE CONNECTIONS		CAPACITY			DIMENSIONS			
			INLET	OUTLET							
FIXTURE SYMBOL	MANUFACTURER	MODEL	PIPE DIAMETER	PIPE DIAMETER	LIQUID	OIL	SAND	LENGTH	WIDTH	HEIGHT	EQUIPMENT NOTES
S/O-1	SCHIER PRODUCTS	OS-50	4"	4"	52.0 gal	34.0 gal	12.5 gal	37"	28"	28 1/2"	1, 2

MECH NOTES:
1. INDOOR POLYETHYLENE SOLIDS INTERCEPTOR.
2. PROVIDE WITH WATER AND GAS TIGHT COVER.

GAS FURNACE SCHEDULE

EQUIPMENT REQUIREMENTS																			ELECTRICAL REQUIREMENTS												
						SUPPLY FAN					GAS FIRED HEAT EXCHANGER																			
							EXT. STATIC	DRIVE	MOTOR					NO. OF	FUEL		UNIT	EQUIPMENT												
UNIT NO.	LOCATION	MANUFACTURER	MODEL NO.	ARRANGEMENT	OUTDOOR AIRFLOW	AIRFLOW	PRESS.	TYPE	POWER	FILTER TYPE	INPUT	OUTPUT	STAGES	TYPE	AFUE	WEIGHT	NOTES	VOLT/PH	MIN CKT AMP	MOCP	WIRE SIZE / CONDUIT	CONTROLLER TYPE	CONTROLLER SIZE	CONTROLLER LOCATION	CONTROLLER CTL DEVICE	CONTROLLER AUX	CONTROLLER BY	CONTROL BY	DISCONNECT TYPE	DISCONNECT BY	ELECTRICAL NOTES
F-1	MECH 213	TRANE	TDH2C	UP FLOW	100 CFM	1000 CFM	0.70 in-wg	DIRECT	0.75 hp	TA	60000 Btu/h	57000 Btu/h	2	LPG	95	150 lb	1, 2	120 / 1	11.5	15	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV 22/23	E1	DIV 26	E1
F-2	MECH 213	TRANE	TDH2C	UP FLOW	200 CFM	2000 CFM	0.70 in-wg	DIRECT	1.00 hp	TA	110000 Btu/h	105000 Btu/h	2	LPG	95	205 lb	1, 2	120 / 1	16.125	20	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV 22/23	E1	DIV 26	E1

MECH NOTES:
1. MATCH DX COIL WITH CU.
2. PROVIDE EXHAUST AND CA PIPING AND TERMINATION KIT AS PER MFG INSTALLATION REQUIREMENTS.
3. PROVIDE ACID NEUTRALIZATION KIT.

ELEC NOTES:
E1. PROVIDE A MOTOR RATED TOGGLE SWITCH.

ME602 MECHANICAL SCHEDULES

DATE: 12/01/2021

FOR BIDDING PURPOSES ONLY

ELECTRIC UNIT HEATER SCHEDULE

EQUIPMENT REQUIREMENTS												ELECTRICAL REQUIREMENTS										
													CONTROLLER							DISCONNECT		
UNIT NO.	LOCATION	MANUFACTURER	MODEL NO.	TYPE	AIRFLOW	MBH	HEATING CAP.	UNIT WEIGHT	EQUIPMENT NOTES	VOLT/PH	MIN CKT AMP	WIRE SIZE / CONDUIT	TYPE	SIZE	LOCATION	CTL DEVICE	AUX	BY	CONTROL BY	TYPE	BY	ELECTRICAL NOTES
EUH-1	TLT 214	REZNOR	EHL 2000	SURFACE MOUNT	80 CFM	6.8	2 kW	9 lb	ALL	240/1	10.4	SEE CIRCUIT SCHEDULE	INTEGRAL	-	-	-	-	DIV 22/23	DIV 22/23	INTEGRAL	DIV 22/23	

MECH NOTES:
1. PROVIDE UNIT WITH DISCONNECT SWITCH AND INTERGRAL THERMOSTAT.
2. PROVIDE SURFACE MOUNT KIT.

WATER SOFTENER SCHEDULE

EQUIPMENT REQUIREMENTS																ELECTRICAL REQUIREMENTS										
																	CONTROLLER							DISCONNECT		
UNIT NO.	LOCATION	MANUFACTURER	MODEL NO.	PEAK FLOW GPM	PEAK FLOW (PD) PSI	CONTINUOUS GPM	DESIGN FLOW (PD) PSI	DAILY USAGE	WATER HARDNESS	SOLUBLE IRON AS ION	PIPE SIZE	TYPE	INITIAL FILL	BRINE TAMK DIAMETER	EQUIPMENT NOTES	VOLT/PH	MIN CKT AMP	WIRE SIZE / CONDUIT	TYPE	SIZE	LOCATION	CTL DEVICE	AUX	BY	CONTROL BY	TYPE	BY	ELECTRICAL NOTES
WS-1	MECH 213	HELLENBRAND	H125-MM18-5	37.0	25.0	27.0	15.0	142 gal	14.0	0.05	1 1/4"	DUPLEX	70 lb	1' - 6"	-	120 / 1	3.75	SEE CIRCUIT SCHEDULE	-	-	-	-	-	-	DIV 22/23	PLUG AND CORD	DIV. 26	

PLUMBING FIXTURE SCHEDULE

UNIT NO.	DESCRIPTIION	MANUFACTURER	MODEL	SPECIFICATIONS	FLUSH VALVE OR FAUCET	ACCESSORY	CONNECTIONS				MOUNTING HEIGHT
							CW	HW	WASTE	VENT	
ES-1	EMERGENCY SHOWER / EYE WASH	SPEAKMAN	SE-603	COMBINATION SHOWER AND EYE/FACE WASH, HAND OPERATED, S.S. WASH BOWL, POP OFF SPRAY HEAD COVERS, 1/2" EYE WASH VALVE, 1" SHOWER VALVE, 2" P-TRAP, MIXED WATER TEMPERATURE OF 85°F	LAWLER 911E MIXING VALVE, 1 1/4" INLET, 1 1/2" OUTLET,		1 1/4" & 1 1/4"	1 1/2" TW	2"	1 1/2"	
FAU-1	FAUCET	CHICAGO	897	-	CHICAGO 897, VACUUM BREAKER, PAIL HOOK, HOSE END SPOUT.		3/4"	3/4"	-	-	36" TO FAUCET
FD-1	FLOOR DRAIN	SIOUX CHIEF	833	CAST IRON, NICKEL BRONZE ADJUSTABLE STRAINER, FLASHING COLLAR CLAMP AND P-TRAP.			-	-	2"	1 1/2"	
FD-4	FLOOR DRAIN - SQUARE	WATTS	FD-103-L6	FLOOR DRAIN WITH ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR WITH PRIMARY AND SECONDARY WEEPHOLES, AND ADJUSTABLE HEAVY DUTY SQUARE HEEL PROOF STRAINER.			-	-	2	1 1/2"	
HB-1	HOSE BIBB	CHICAGO	952-CP	VACUUM BREAKER, BACKFLOW PREVENTER			3/4"	-	-	-	24" ABOVE FLOOR
ICE-1	ICE MAKER SUPPLY BOX	SIOUX CHIEF	696	ICE MAKER OUTLET BOX		1/2" FIP INLET X 1/4" OD OUTLET COMP, CHROME ANGLE STOP	1/2"	-	-	-	-
LAV-2A	LAVATORY - COUNTER UNDERMOUNT-ADA	ELKAY	ELUH1511	18"x14"x6", 18 GAUGE, 304 S.S, CENTERED DRAIN, WITH OVERFLOW ASSEMBLY	DELTA 501LF-HDF SINGLE LEVER LAVATORY FAUCET, SCALD GUARD, VANDAL RESISTANT, CERAMIC DESC VALVING. (0.5 GPM)	ADA COMPLIANT OFFSET DRAIN, 1 1/4" P-TRAP, PERFORATED STRAINER, CHROME SUPPLIES & STOPS, PREMOLDED PIPE INSULATION KIT (WHITE). ASSE 1070 MIXING VALVE.	1/2"	1/2"	2"	1 1/2"	29" TO BOTTOM OF APRON
MSK-1	MOP SINK	FIAT	MSB-3624	36"x24"x10" HIGH, MOLDED STONE	CHICAGO 897, VACUUM BREAKER, PAIL HOOK, HOSE END SPOUT, WALL BRACKET, DOME TYPE WITH LINT BASKET OF NO. 302 STAINLESS STEEL, COMPRESSION GASKET OR LEAD CAULK JOINT, 3-INCH DEEP SEAL CAST IRON TRAP	VINYL BUMPER GUARD ON EXPOSED SIDES, NO. 832-AA HOSE AND BRACKET, NO. 889-CC MOP HANGER	3/4"	3/4"	3"	1 1/2"	36" TO FAUCET
SHR-1A	SHOWER - ADA COMPLIANT	BEST BATH	LSS24038A75FTB.V2	SINGLE PIECE SHOWER MODULE, CONSTRUCTED WITH GELCOAT/FIBERGLASS WITH FULL INTERGRAL PLYWOOD BACKING. ROUGH-IN: STUD OPENING +1/4" NOMINAL DIMENSIONS.	AMER. STD. 1662SG.223 PRESSURE BALANCED MIXING VALVE WITH HOT LIMIT SAFETY STOPS, LEVER HANDLE, CERAMIC DISC CARTRIDGE, SCREWDRIVER STOPS, HAND HELD SHOWER WITH 59" CHROME PLATED METAL FLEX HOSE WITH RUBBER LINER, 24" CHROME SLIDE/GRAB BAR, SWIVEL HANGER, VACUUM BREAKER.	GRAB BAR, MIXING VALVE, PRESSURE-BALBANCING, LEVER HANDLE, PRE-PLUMBED TREE TO SUPPLY ELBOW, SOAP DISH.	1/2"	1/2"	2"	1 1/2"	42" TO HAND HELD SHOWER & VALVE
SK-1	SS. SINK, SINGLE COMPARTMENT	ELKAY	"LUSTERTONE" LRAD-191955	SINGLE COMPARTMENT SINK, 19 1/2" X 19" X 5.5" D. 18 GAUGE, TYPE 304 S.S., 1 HOLE SELF-RIMMING, CENTERED DRAIN OPENING, FULLY UNDERCOATED.	ELKAY LKHA2031 GOOSENECK FAUCET, PULL-DOWN SPRAY AND LEVER HANDLE. GN8 (11 1/4" X 8" X 6 1/8") SWING GOOSENECK, CERAMIC DISC VALVING, COPPER/BRASS SUPPLY AND WATERWAYS, CHROME PLATED BRASS BODY, FC SPOUT.	1 1/2" P-TRAP, CHROME ANGLE SUPPLIES AND STOPS, NEOPRENE CRUMB CUP STOPPER.	1/2"	1/2"	2"	1 1/2"	
TD-1	TRENCH DRAIN	ACO	K300	12" WIDE X 64' LONG, POLYMER CONCRETE WITH STEEL EDGE PROTECTION RAIL AND GRATE LUGS AND LOCKS TO PREVENT DISLODGEMENT. CONTINOUS SLOPE, END CAP, DISCHARGE END, COORDINATE WASTE CONNECTION WITH SUPPLIER. DUCTILE IRON SLOTTED GRATE.			-	-	4"	-	
UR-1A	URINAL - ADA COMPLIANT	AMERICAN STANDARD	WASHBROOK	VITREOUS CHINA, SIPHON JET, 3/4" BACK SPUD, 2" OUTLET	SLOAN ROYAL 952 CONCEALED FLUSH VALVE. (1.0 GALLON FLUSH)	PROVIDE URINAL CARRIER WITH SUPPORT PLATES AND RECTANGULAR STEEL UPRIGHTS	3/4"	-	2"	1 1/2"	17" TO RIM
WC-1A	WATER CLOSET - WALL HUNG - ADA	AMERICAN STANDARD	AFWALL	VITREOUS CHINA, ELONGATED BOWL, SIPHON JET, 1 1/2" BACK SPUD.	SLOAN ROYAL 952 CONCEALED FLUSHOMETER, ADA WITH SUPPORT RING (1.6 GALLON FLUSH)	PROVIDE 500 LB. CAPACITY CARRIER, BENEKE 527 SS WHITE, OPEN FRONT SEAT, LESS COVER, WITH SELF-SUSTAINING CHECK HINGE, BOLT CAPS.	1"	-	4"	2"	18" TO RIM
WC-2A	WATER CLOSET -FLOOR MOUNT - ADA	LIBERTY PUMPS	ASCENT II MACERATING	VITREOUS CHINA, ELONGATED BOWL, FLUSH TANK WITH MACERATOR, WHITE	3/8" ANGLE SUPPLY LOOSE KEY STOP (1.23 GALLON FLUSH)	ASCENTII LID WHITE, OPEN FRONT SEAT, LESS COVER, WITH SELF-SUSTAINING CHECK HINGE, FLAT BOLT CAPS, INSULATED TANK, LOCKING TANK COVER. K001184 EXTENSION PIPE WITH INTEGRAL SEAL AND TRIM RING	1/2"	-	4"	2"	17" TO RIM
WH-1	WALL HYDRANT	WOODFORD	B65	FREEZELESS, VACUUM BREAKER, CHROME FINISH, BRASS CASTING, S.S. STEM, 3/8" ROD, BRASS VALVE WITH HEMISPHERICAL SEAT, LOOSE KEY, RECESSED WITH HINGED DOOR AND KEY			3/4"	-	-	-	24" ABOVE GRADE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G42	G47

E-001 ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES

REGISTERED PROFESSIONAL ENGINEER — REG. NO. 13400 — KELLI A OSTERLOO — SOUTH DAKOTA

Kelli A Osterloo

DATE: 12/01/2021

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

CONVENTIONS LEGEND

- NAME / 101 — SPACE TAG
- 1 — REVISION TAG
- KEYNOTE TAG
- A1 / A-301 — SECTION TAG
- A1 / A-501 — DETAIL TAG
- A1 / A-201 — ELEVATION TAG
- EXISTING WORK
- NEW WORK
- EXISTING ITEMS TO BE REMOVED
- PLAN NORTH — NORTH ARROW
- GRID — COLUMN/FND GRID INDICATOR
- SHEET XXXXX / SHEET XXXXX — MATCH LINE INDICATOR
- A1 PLAN OR DETAIL, SCALE: 1'-0" = 1'-0" — DETAIL/SECTION/PLAN INDICATOR

ELECTRICAL ABBREVIATIONS LIST

1P	1 POLE (2P, 3P, 4P, ETC.)
A	AMPERE
AC	AIR CONDITIONER
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI	ARC FAULT CIRCUIT INTERRUPTER
AHU	AIR HANDLING UNIT
AIC	AVAILABLE INTERRUPTING FAULT CURRENT
AL	ALUMINUM
ALT	ALTERNATE
AMP	AMPERE
AMPL	AMPLIFIER
ANNUN	ANNUNCIATOR
APPROX	APPROXIMATELY
AQ-STAT	AQUASTAT
ARCH	ARCHITECT, ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BD	BOARD
BLDG	BUILDING
BMS	BUILDING MANAGEMENT SYSTEM
C	CONDUIT
CAB	CABINET
CAT	CATALOG
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CB-XX	RECESSED CEILING BOX (SEE SCHEDULE)
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CM	CORNER MOUNT
CMPR	COMPRESSOR
COMB	COMBINATION
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUATION OR CONTINUOUS
CONTR	CONTRACTOR
CP	CIRCULATING PUMP
CRT	CATHODE-RAY TUBE
CT	CURRENT TRANSFORMER
CTR	CENTER
CU	COPPER
DCP	DOMESTIC WATER CIRCULATING PUMP
DEPT	DEPARTMENT
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DN	DOWN
DT	DOUBLE THROW
DTS	DUAL TECHNOLOGY SENSOR
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRIC, ELECTRICAL
ELEV	ELEVATOR
EM	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXH	EXHAUST
EXP	EXPLOSION PROOF
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FB-XX	FLOOR BOX (SEE SCHEDULE)
FCU	FAN COIL UNIT
FIXT	FIXTURE
FLR	FLOOR
FLUOR	FLUORESCENT
FU	FUSE
FVNR	FULL VOLTAGE NON-REVERSING
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTOR
GND	GROUND
GRS	GALVANIZED RIGID STEEL (CONDUIT)
GYP BD	GYPSUM BOARD
HB	HIGH BAY
HOA	HANDS-OFF-AUTOMATIC SWITCH
HORIZ	HORIZONTAL
HP	HORSEPOWER
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
HWP	HYDRONIC WATER PUMP
IC	INTERRUPTING CAPACITY
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
INCAND	INCANDESCENT
IR	INFRARED
IW	INTERLOCK WITH
J-BOX	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KVAR	KILOVOLT-AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT HOUR
LOC	LOCATE OR LOCATION
LT	LIGHT
LTG	LIGHTING
LTNG	LIGHTNING
LV	LOW VOLTAGE
MAX	MAXIMUM
MAG.S	MAGNETIC STARTER
M/C	MOMENTARY CONTACT
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDC	MAIN DISTRIBUTION CENTER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MFS	MAIN FUSED DISCONNECT SWITCH
MH	MANHOLE
MIC	MICROPHONE
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MMS	MANUAL MOTOR STARTER
MOA	MULTIOUTLET ASSEMBLY
MSP	MOTOR STARTER PANELBOARD
MSB	MAIN SWITCHBOARD
MT	MOUNT
MT.C	EMPTY CONDUIT
MTS	MANUAL TRANSFER SWITCH
MTR	MOTOR, MOTORIZED
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NFDS	NON-FUSED SAFETY DISCONNECT SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OH	OVERHEAD
OL	OVERLOADS
OS	OCCUPANCY SENSOR
PA	PUBLIC ADDRESS
PB	PULL BOX
PED	PEDESTAL
PF	POWER FACTOR
PH	PHASE
PIR	PASSIVE INFRARED
PIV	POST INDICATING VALVE
PNL	PANEL
PP	POWER POLE
PR	PAIR
PRI	PRIMARY
PROJ	PROJECTION
PRV	POWER ROOF VENTILATOR
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE (CONDUIT)
PWR	POWER
QUAN	QUANTITY
REC	RECEPTACLE
REQD	REQUIRED
RM	ROOM
RSC	RIGID STEEL CONDUIT
RTU	ROOF TOP UNIT
SC	SURFACE CONDUIT
SEC	SECONDARY
SHT	SHEET
SIM	SIMILAR
S/N	SOLID NEUTRAL
SPEC	SPECIFICATION
SPKR	SPEAKER
SP	SPARE
SR	SURFACE RACEWAY
SS	STAINLESS STEEL
SSW	SELECTOR SWITCH
S/S	STOP/START PUSHBUTTONS
STA	STATION
STD	STANDARD
SURF	SURFACE MOUNTED
SW	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
SYS	SYSTEM
TEL	TELEPHONE
TERM	TERMINAL
TL	TWIST LOCK
TR	TAMPER RESISTANT
T-STAT	THERMOSTAT
TV	TELEVISION
TYP	TYPICAL
UC	UNDER COUNTER
UE	UNDERGROUND ELECTRICAL
UG	UNDERGROUND
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UT	UNDERGROUND TELEPHONE
UTIL	UTILITY
UV	UNIT VENTILATOR OR ULTRAVIOLET
V	VOLT
VA	VOLT-AMPERES
VDT	VIDEO DISPLAY TERMINAL
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
VS	VACANCY SENSOR
W	WATT
W/	WITH
WB-XX	RECESSED WALL BOX (SEE SCHEDULE)
WG	WIRE GUARD
WH	WATER HEATER
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER
XFR	TRANSFER
Y	WYE-CONNECTED
∠	ANGLE
@	AT
△	DELTA
'	FEET
"	INCHES
#	NUMBER
Ø	PHASE
C	CENTER LINE
P	PLATE

ELECTRICAL SYMBOL LEGEND

HT AFF	SYMBOL	DESCRIPTION
AS NOTED	S1	SURFACE MOUNTED LIGHT (TYPE DENOTED)
AS NOTED	F	FLOODLIGHT (TYPE DENOTED)
	D1 D1	RECESSED LIGHT (TYPE DENOTED)
PER SCHED	A	POLE MOUNTED LIGHT (TYPE DENOTED)
	A1	SURFACE LIGHT (TYPE DENOTED)
P1 P2		PENDANT OR HUNG LIGHT (TYPE DENOTED)
	A1	RECESSED LIGHT (TYPE DENOTED)
	L1	STRIP LIGHT (TYPE DENOTED)
AS NOTED 21		TRACK LIGHT/FLOOD LIGHT (TYPES DENOTED)
96"	EM	EMERGENCY BATTERY LIGHT (TYPE DENOTED)
12"[a]	E	EXIT SIGN (TYPE DENOTED)
AS NOTED	EM	LIGHT FIXTURE ON EM / LIFE SAFETY BRANCH
AS NOTED		LIGHT FIXTURE ON CRITICAL BRANCH
		LIGHT ON CORD REEL (TYPE DENOTED)
46"		SINGLE POLE SWITCH
46"		2 POLE SINGLE THROW SWITCH
46"	3	3-WAY SWITCH
46"	4	4-WAY SWITCH
46"	K	KEYED SWITCH
46"	PL	PILOT SWITCH
46"	D	DIMMER SWITCH
46"	3D	3-WAY DIMMER SWITCH
46"	OS	OCCUPANCY SENSOR SWITCH
46"	MC	MOMENTARY CONTACT SWITCH
46"	TM	TIMER SWITCH
46"	TD	TIME DELAY SWITCH
46"	FS	FAN SPEED CONTROL
46"	HP	MOTOR HORSEPOWER RATED SWITCH
46"	LV	LOW-VOLTAGE SWITCH
46"	LVD	LOW-VOLTAGE DIMMING SWITCH
46"	MMS	MANUAL MTR. STR. (W/OVERLOADS)
18"		SINGLE RECEPT (SLASH INDICATES MOUNTING ABOVE FINISHED COUNTER)
18"		DUPLEX RECEPT (SLASH INDICATES MOUNTING ABOVE FINISHED COUNTER)
18"		GFI DUPLEX RECEPT. (SLASH INDICATES MOUNTING ABOVE FINISHED COUNTER)
18"		DEAD FRONT GFI (SLASH INDICATES MOUNTING ABOVE FINISHED COUNTER)
18"		DUPLEX SPLIT RECEPT
18"		DUPLEX ISOLATED GROUND RECEPT
18"		DUPLEX RECEPT ON EMERGENCY CIRCUIT
18"		FOURPLEX RECEPT. (SLASH INDICATES MOUNTING ABOVE FINISHED COUNTER)
18"		GFI FOURPLEX RECEPT. (SLASH INDICATES MOUNTING ABOVE FINISHED COUNTER)
18"		FOURPLEX RECEPT ON EMERGENCY CIRCUIT
		FLOOR RECEPT. (DUPLEX SHOWN)
AS NOTED		SPECIAL RECEPTACLE
AS NOTED	USB	USB RECEPTACLE

HT AFF	SYMBOL	DESCRIPTION
AS NOTED		RECEPT ON DROP CORD (DUPLEX SHOWN)
		RECEPT ON CORD REEL (DUPLEX SHOWN)
AS NOTED		MULTIOUTLET ASSEMBLY
	E	EQUIPMENT CONNECTION
	P	POWER POLE (OPEN OFFICE STYLE)
18"	J	JUNCTION BOX (WALL/FLOOR/CEILING)
	PB	PULL BOX
72"[b]		CIRCUIT BREAKER PANEL
72"[b]		LIFE SAFETY CIRCUIT BREAKER PANEL
72"[b]		CRITICAL CIRCUIT BREAKER PANEL
72"[b]		EQUIPMENT CIRCUIT BREAKER PANEL
72"[b]		POWER OR DISTRIBUTION PANEL
		SWITCHBOARD
72"[b]		SPECIAL CABINET (TYPE DENOTED)
	T1	TRANSFORMER (TYPE DENOTED)
	20 KVA	GENERATOR (KVA DENOTED)
	SF-1	MOTOR
72"[b]		MAG. MOTOR STARTER
72"[b]		COMB. MOTOR STARTER (NON-FUSED)
72"[b]		COMB. MOTOR STARTER (FUSED)
72"[b]		SAFETY DISC. SW. (NON-FUSED)
72"[b]		SAFETY DISC. SW. (FUSED)
72"[b]		CONTACTOR
AS NOTED		BUS DUCT WITH PLUG-IN DISCONNECT (FUSED)
	VFD	VARIABLE FREQUENCY DRIVE
72"[b]	R	RELAY
72"[b]		ENCLOSED CIRCUIT BREAKER
	OS	OCCUPANCY SENSOR
AS NOTED	PC	PHOTOCELL/PHOTOSENSOR
46"	T	THERMOSTAT
		HAND OR HAIR DRYER (SEE ARCH SPEC)
		SOLENOID VALVE
46"		PUSH BUTTON
46"		POWER-OPERATED DOOR ACTUATOR
46"	EPO	EMERGENCY POWER OFF PUSH BUTTON

HT AFF	SYMBOL	DESCRIPTION
		CONDUIT CONCEALED IN WALL OR OVERHEAD
		CONDUIT CONCEALED BELOW FLOOR
		CONDUIT EXPOSED
		CONDUIT TRANSITION UP
		CONDUIT TRANSITION DOWN
		CONDUIT STUBBED OUT
	-LV-	LOW VOLTAGE POWER WIRING
	-EX-	EXISTING CONDUIT
	-UE-	UNDERGROUND ELECTRICAL
	-UHVE-	UNDERGROUND HIGH VOLTAGE ELECTRICAL
	-UT-	UNDERGROUND TELEPHONE
	-UCOM-	UNDERGROUND COMMUNICATIONS
	-UTV-	UNDERGROUND CABLE (CATV OR CCTV)
	-UFIBR-	UNDERGROUND FIBER OPTIC
	-OHE-	OVERHEAD ELECTRIC
	-OHT-	OVERHEAD TELEPHONE
		BRANCH CIRCUIT HOME RUN
		CABLE TRAY (TYPE DENOTED)
		TELECOM. EQUIPMENT RACK (2-POST)
		TELECOM. EQUIPMENT RACK (4-POST)
		GROUNDING BUS BAR
	E	CONDUIT SLEEVE (SIZE DENOTED)
18"		TELEPHONE OUTLET (SLASH INDICATES MOUNTING ABOVE FINISHED COUNTER)
46"[c]	TC	WALL TELEPHONE OUTLET
18"		DATA OUTLET, (SLASH INDICATES MOUNTING ABOVE FINISHED COUNTER)
18"		COMBINATION VOICE / DATA OUTLET, (SLASH INDICATES MOUNTING ABOVE FINISHED COUNTER)
		DATA OUTLET, FLOOR
AS NOTED		WIRELESS ACCESS POINT
46"	IC	INTERCOM OUTLET LOCATION
18"	TV	TELEVISION OUTLET
18"	AV	AUDIO VISUAL OUTLET
	M	OUTLET IN FLOOR (MICROPHONE SHOWN)
	AV	MULTI-SERVICE OUTLET
84"	C	SINGLE FACE CLOCK WALL MOUNTED
84"	C	DOUBLE FACE CLOCK WALL MOUNTED
18"	G	EQUIPOTENTIAL GROUND OUTLET
84"		BELL / CHIME / BUZZER
84"	S	SPEAKER
84"	HS	HORN TYPE SPEAKER
46"		VOLUME CONTROL
		ANTENNA

HT AFF	SYMBOL	DESCRIPTION
90°[b]	HN	FIRE ALARM HORN
90°[b]	HNS	FIRE ALARM HORN / STROBE
90°[b]	F	FIRE ALARM STROBE
90°[b]	C	FIRE ALARM CHIME
90°[b]	CS	FIRE ALARM CHIME / STROBE
90°[b]	S	FIRE ALARM SPEAKER
90°[b]	SS	FIRE ALARM SPEAKER / STROBE
8"[d]		SMOKE DETECTOR
		HEAT DETECTOR
	D	DUCT SMOKE DETECTOR
AS NOTED		REMOTE TEST/STATUS STATION
46"[c]		F.A. PULLSTATION
		F.A. DOOR HOLDER
	FR	FIRE ALARM SHUT DOWN RELAY
	FS	SPRINKLER FLOW SWITCH
	TS	SPRINKLER VALVE TAMPER SWITCH
	FACP	FIRE ALARM CONTROL PANEL
	FA ANNUN	FIRE ALARM REMOTE ANNUNCIATOR
	ES	ELECTRIC STRIKE
	ML	MAGNETIC LOCK
	RTE	REQUEST TO EXIT
	DCS	DOOR CONTACTS / DOOR SWITCH
46"[c]	CR	CARD READER
46"[c]	KP	KEYPAD
AS NOTED	MS	MOTION DETECTOR
AS NOTED		CCTV CAMERA
46"		NURSE CALL EMERG. STATION
46"		NURSE CALL CODE BLUE EMRG. STATION
46"[c]		NURSE CALL DUTY STATION
46"[c]		NURSE CALL STAFF STATION
46"[c]		NURSE CALL STAFF ASSIST STATION
46"		NURSE CALL SINGLE PATIENT STATION
46"		NURSE CALL DUAL PATIENT STATION
12"[a]		NURSE CALL DOME LIGHT
12"[a]		NURSE CALL ZONE LIGHT
46"[c]	NCM	NURSE CALL MASTER STATION
46"[c]	NCC	NURSE CALL EQUIPMENT CABINET
72"[b]	NC ANNUN	NURSE CALL ANNUNCIATOR PANEL

ALL DISTANCES ARE TO CENTER OF DEVICE OR EQUIPMENT UNLESS OTHERWISE NOTED.
a. DISTANCE ABOVE TOP OF DOOR FRAME b. DISTANCE TO TOP OF EQUIPMENT OR DEVICE c. DISTANCE TO HIGHEST OPERABLE PART OF EQUIPMENT d. DISTANCE BELOW CEILING

ELECTRICAL SYMBOL NOTES

- A2 / 12 b — THE LIGHTING FIXTURE TYPE IS INDICATED BY AN UPPER CASE LETTER. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER.
  EXAMPLE 1: LIGHTING FIXTURE TYPE "A2" IS CONNECTED TO CIRCUIT 12 AND CONTROLLED BY SWITCH "b".
- E 14 — EXIT LIGHTS. STEM INDICATES WALL MOUNTING. NO STEM INDICATES CEILING MOUNTING. SHADED AREA INDICATES ILLUMINATED FACE(S). ARROW INDICATES DIRECTIONAL ARROW ON ILLUMINATED FACE(S). THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. EXAMPLE: THE WALL MOUNTED EXIT LIGHT TYPE "E" WITH SINGLE FACE AND DIRECTIONAL ARROW IS CONNECTED TO CIRCUIT 14.
- 16 c — DEVICES. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER. THE SWITCH DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SPLIT DUPLEX RECEPTACLE IS CONNECTED TO CIRCUIT 16 AND ONE RECEPTACLE OUTLET IS CONTROLLED BY SWITCH "c".
- d — THE CONTROL DEVICE DESIGNATION IS INDICATED BY A LOWER CASE LETTER. EXAMPLE: SINGLE POLE SWITCH "d" TO CONTROL LIGHTING FIXTURES INDICATED BY "d".
- 1,3,5 — SPECIAL /RECEPT CONNECTIONS. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER(S) ADJACENT TO THE SYMBOL. SEE KEYNOTE FOR CONFIGURATION. EXAMPLE: 3 PHASE CONNECTION TO CIRCUITS 1, 3, 5.
- SF-1 / 2,4,6 — MOTOR CONNECTIONS. THE MOTOR IS INDICATED BY A NUMBER WITHIN OR CHARACTERS ADJACENT TO THE MOTOR SYMBOL. THE CIRCUIT DESIGNATION IS INDICATED BY A NUMBER(S) ADJACENT TO THE SYMBOL. EXAMPLE: MOTOR SF-1; 3 PHASE CONNECTION TO CIRCUITS 2, 4, 6.
- T1 — TRANSFORMERS. THE TRANSFORMER TYPE IS INDICATED BY A NUMBER FOLLOWING THE UPPER CASE LETTER "T". SEE THE SINGLE LINE DIAGRAM OR RISER FOR THE TRANSFORMER DESCRIPTION AND REQUIREMENTS. EXAMPLE: TRANSFORMER TYPE "T1".
- PANELBOARDS. PANELBOARD DOORS MAY BE SHOWN TO INDICATE OPENING SIDE OF RECESSED PANELBOARDS. SEE PANELBOARD IDENTIFICATION FOR DESIGNATION CODES.
- CONDUIT RUN CONCEALED IN CEILING OR WALL CONSTRUCTION.
- LN12 / 1,3,5 — HOME RUN TO BRANCH CIRCUIT PANELBOARD. THE PANELBOARD DESIGNATION IS SHOWN ADJACENT TO THE HOME RUN ARROW AS A NUMERATOR AND THE CIRCUIT DESIGNATION IS SHOWN AS THE DENOMINATOR. CIRCUIT BREAKER SIZES (AMPS/NUMBER OF POLES) ARE SHOWN IN THE PANELBOARD SCHEDULE WITH THE CORRESPONDING PANELBOARD AND CIRCUIT DESIGNATION. EXAMPLE: HOME RUN TO PANELBOARD LN12; CIRCUITS 1, 3, 5.
  SYMBOL NOTATIONS: UPPER CASE LETTERS ADJACENT TO SYMBOLS INDICATE A UNIT TYPE. SEE APPROPRIATE SCHEDULE OR SPECIFICATIONS.

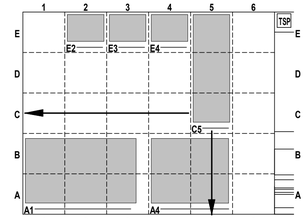
SHEET IDENTIFICATION

E - 5 01

A A N N N

- DISCIPLINE CHARACTER
- MODIFIER CHARACTER
- SHEET SEQUENCE NUMBER 01-99
- SHEET TYPE DESIGNATOR

DISCIPLINE CHARACTERS		SHEET TYPE DESIGNATORS	
S	SITE	0	GENERAL (SYMBOLS LEGEND)
D	DEMOLITION	1	PLANS (HORIZONTAL VIEWS)
L	LIGHTING	2	ELEVATIONS (VERTICAL VIEWS)
P	POWER	3	SECTIONS (SECTIONAL VIEWS)
T	TECHNOLOGY	4	LARGE SCALE VIEWS
		5	DETAILS
		6	SCHEDULES AND DIAGRAMS
		7	USER DEFINED
		8	USER DEFINED
		9	3D REPRESENTATIONS



PANELBOARD IDENTIFICATION

EQUIPMENT DESIGNATION	CODE
LOW VOLTAGE 3Ø4W. 120/240	L
SYSTEMS DESIGNATION	**CODE**
NORMAL	N
EMERGENCY	E

SYSTEM DESIGNATION / EQUIPMENT DESIGNATION — PANEL NO. — LN1

SHEET INDEX - ELECTRICAL

DESIGN REVIEW

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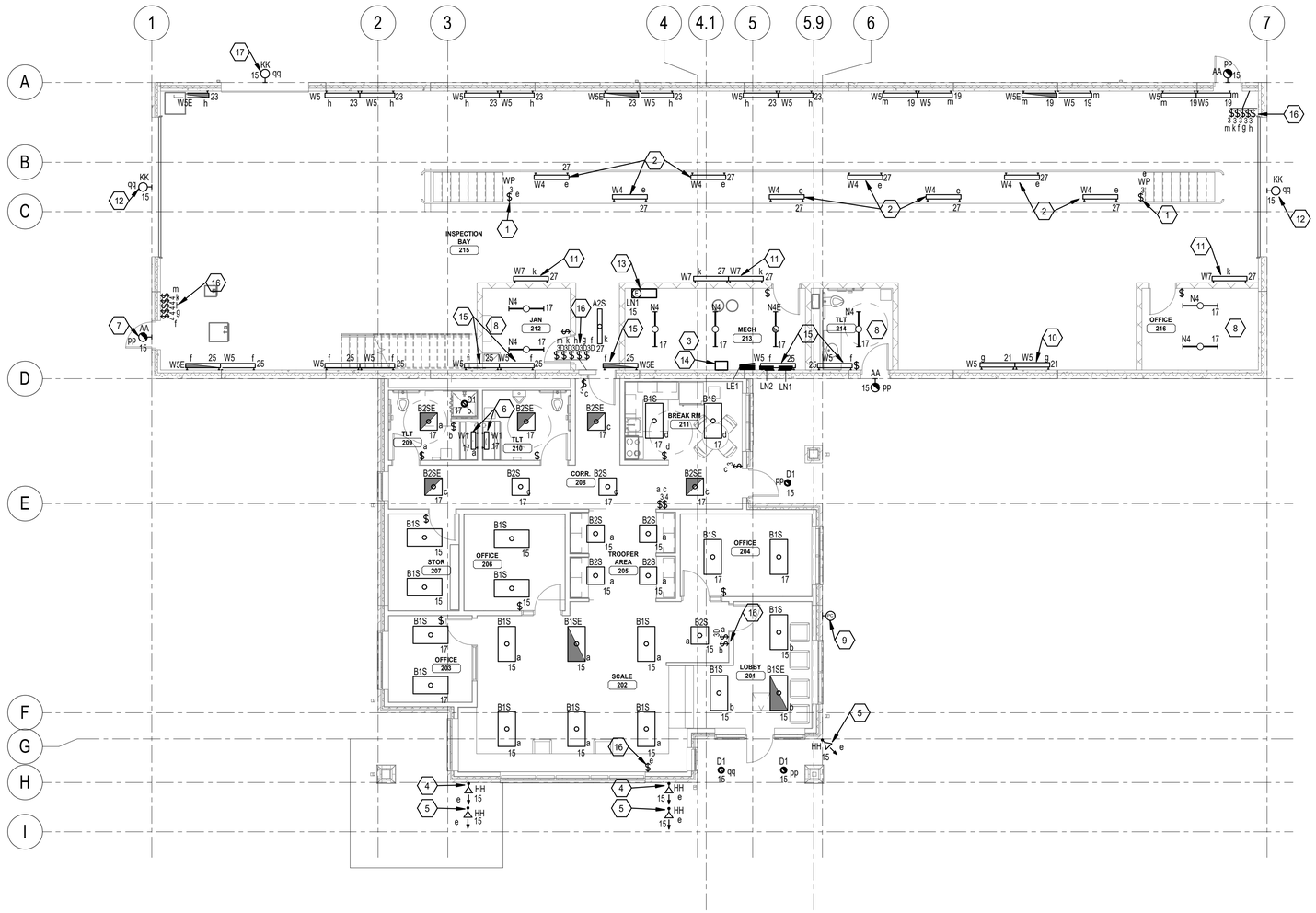
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G43	G47

EL101 LIGHTING PLAN

FOR BIDDING PURPOSES ONLY



GENERAL NOTES: LIGHTING PLANS

A. ALL SURFACE JUNCTION BOXES IN INSPECTION BAY PIT SHALL BE NEMA 4 RATED.

B. ALL CONDUIT AND BOXES IN PRECAST WALLS IN INSPECTION BAY SHALL BE RECESSED. COORDINATE WITH GENERAL CONTRACTOR FOR ALL COSTS AND LOCATIONS OF ROUGH-INS PRIOR TO BID.

KEY NOTES: LIGHTING PLAN

1. PROVIDE WEATHERPROOF TOGGLE SWITCH COVER. BASIS OF DESIGN; HUBBELL HBL1795 SILICONE BUBBLE PLATE OR EQUAL. MOUNT SWITCH ON WALL IN INSPECTION BAY TROUGH.
2. MOUNT BOTTOM OF FIXTURE 3'-0" ABOVE FLOOR OF INSPECTION TROUGH. RECESS FIXTURE IN WALL WITH THE ASYMMETRICAL LIGHT POINTED UP TO SHINE ON THE BOTTOM OF THE TRUCK.
3. CHAIN HANG FIXTURES AT 8'-0" AFF IN ROOM, COORDINATE LOCATIONS WITH MECHANICAL EQUIPMENT AND DUCTWORK.
4. MOUNT FLOOD LIGHTS 4'-0" AFG ON EXTERIOR WALL. COORDINATE FINAL AIMING OF LIGHTS WITH OWNER FOR SEMI WHEEL HEIGHT.
5. MOUNT FLOOD LIGHTS 9'-0" AFG ON EXTERIOR WALL. COORDINATE FINAL AIMING OF LIGHTS WITH OWNER FOR SEMI BODY HEIGHT.
6. MOUNT FIXTURE 6" ABOVE MIRROR. COORDINATE WITH ARCHITECTURAL ELEVATION.
7. MOUNT FIXTURE 9'-0" AFG. TYPICAL FOR FIXTURE TYPE AA UNLESS NOTED OTHERWISE.
8. SURFACE MOUNT LIGHT FIXTURES IN ROOM.
9. PROVIDE EXTERIOR PHOTOCELL. MOUNT AT 8'-0" AFG. USE PHOTOCELL TO CONTROL THE CONTACTOR, SEE KEYNOTE 14 THIS SHEET.
10. MOUNT WALL FIXTURE 10'-0" AFF. TYPICAL FOR TYPE W5 AND W5E UNLESS NOTED OTHERWISE.
11. MOUNT WALL FIXTURE 8'-6" AFF.
12. MOUNT FIXTURE 17'-0" AFG.
13. PROVIDE EMERGENCY LIGHTING INVERTER TO PROVIDE BACK-UP POWER TO EXTERIOR BUILDING MOUNTED EMERGENCY LIGHTS. BASIS OF DESIGN: EMERGI-LITE EMIU-250, 250W, 120V, WITH SELF-TESTING AND DIAGNOSTICS WALL MOUNT INVERTER OR APPROVED EQUAL.
14. PROVIDE 6-POLE CONTACTOR TO CONTROL EXTERIOR LIGHTS, SEE LIGHTING CONTACTOR SCHEDULE SHEET E-602 FOR SWITCH LEGS. CONTACTOR TO BE CONTROLLED BY PHOTOCELL.
15. MOUNT LIGHT FIXTURE 5' ABOVE MEZZANINE FLOOR.
16. LABEL SWITCHES FOR THE AREA THAT THEY CONTROL.
17. MOUNT FIXTURE 13'-0" AFG.

A1 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

DESIGN REVIEW

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

As indicated

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G44	G47

EP101 POWER AND TECHNOLOGY PLAN

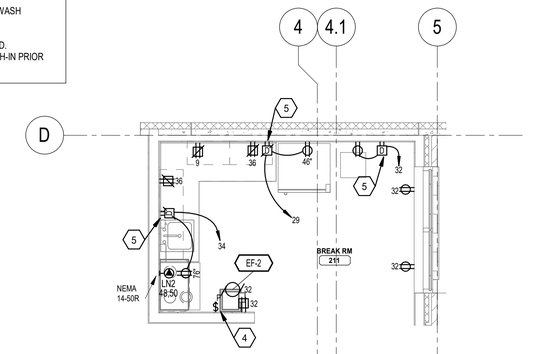
KEY NOTES: POWER PLAN

1. REBAR STUB UP LOCATION. SEE GROUNDING DETAIL A3 SHEET E-501 AND STRUCTURAL SHEETS FOR MORE INFORMATION. CONNECT GROUNDING ELECTRODE CONDUCTOR TO REBAR WITH GROUND CONNECTOR.
2. PROVIDE INTERSYSTEM BONDING BAR AT THE ELECTRICAL SERVICE EQUIPMENT. GROUND PER N.E.C. AND SEE GROUNDING DETAIL A3 SHEET E-501.
3. OVERHEAD DOOR MOTOR, PUSHBUTTON, CONTROLLER AND SENSORS FURNISHED BY DOOR SUPPLIER, INSTALLED AND WIRED BY DIVISION 26. INSTALL WIRING TO SENSORS IN CONDUIT. PROVIDE A MOTOR RATED TOGGLE SWITCH. MOUNT DISCONNECT ADJACENT TO THE MOTOR.
4. PROVIDE PILOT LIGHT SWITCH TO CONTROL EXHAUST FAN IN ROOM. PILOT LIGHT SHALL BE ON WHEN FAN IS ON. PROVIDE LABEL FOR SWITCH.
5. PROVIDE FACELESS GFCI DEVICE WITH LABEL TO SERVE RECEPTACLE BEHIND KITCHEN EQUIPMENT. LABEL ACCORDINGLY.
6. STUB UP LOCATION FOR COMMUNICATION UTILITY, ITS CABLING, AND SPARE CONDUITS. STUB OUT FOUR 2" CONDUITS AND ONE 4" CONDUIT WITH 3 1" INNERDUCTS. COORDINATE FINAL LOCATION OF STUB OUT WITH SDN COMMUNICATIONS: RYAN SMITH AND ITS DESIGN.
7. PROVIDE 4 11/16" SQUARE, 2 1/8" DEEP BACKBOX WITH A SINGLE GANG BOX COVER. PROVIDE ONE 2" CONDUIT TO ABOVE RECEPTACLE, KEYNOTE 32 THIS SHEET. PROVIDE INSULATED BUSHINGS ON CONDUIT ENDS. PROVIDE PULL STRING IN CONDUIT. FOR WIM CABLING PROVIDED BY OTHERS.
8. PROVIDE 4 11/16" SQUARE, 2 1/8" DEEP BACKBOX WITH A SINGLE GANG BOX COVER. PROVIDE ONE 1" CONDUIT TO ABOVE DATA RACK IN STOR 207. PROVIDE INSULATED BUSHINGS ON CONDUIT ENDS. SEE TECHNOLOGY RISER, DETAIL B1 SHEET E-601 FOR CABLING INFORMATION. TYPICAL UNLESS NOTED OTHERWISE.
9. PROVIDE 4 11/16" SQUARE, 2 1/8" DEEP BACKBOX WITH A SINGLE GANG BOX COVER. PROVIDE ONE 1" CONDUIT TO ABOVE DATA RACK IN STOR 207. PROVIDE INSULATED BUSHINGS ON CONDUIT ENDS. BOX FOR EQUIPMENT CABLING PROVIDED BY OWNER.
10. PROVIDE 1/2" CONDUIT FROM DOOR FRAME TO MASTER STATION JUNCTION BOX. PROVIDE 18/2 CONDUCTOR FROM ELECTRIC STRIKE TO PUSHBUTTON CONTACT IN MASTER INTERCOM STATION. SEE KEYNOTE 12 THIS SHEET FOR MASTER INTERCOM STATION LOCATION. PROVIDE ELECTRIC STRIKE BASIS OF DESIGN: AIPHONE TYPE EL-12S OR EQUAL.
11. PROVIDE EXTERIOR INTERCOM STATION. BASIS OF DESIGN: AIPHONE LE-D OR EQUAL. PROVIDE SINGLE GANG JUNCTION BOX AND 1" CONDUIT TO MASTER STATION JUNCTION BOX. PROVIDE 18/2 CONDUCTOR BETWEEN EXTERIOR INTERCOM AND MASTER INTERCOM. SEE KEYNOTE 12 THIS SHEET FOR MASTER INTERCOM STATION LOCATION.
12. PROVIDE INTERCOM SYSTEM. BASIS OF DESIGN: AIPHONE LE SERIES OR EQUAL. INSTALL MASTER INTERCOM STATION LEM-1DL. PROVIDE SINGLE GANG JUNCTION BOX MOUNTED ABOVE COUNTER AND 1 1/4" CONDUIT TO ABOVE CEILING.
13. PROVIDE ONE 2" CONDUIT STUBBED UP IN MECH 213 AND STUBBED OUT UNDERGROUND FOR WEIGH-IN MOTION CONTROL CABLING. CABLING PROVIDED BY OTHERS. COORDINATE FINAL STUB-OUT LOCATION ON SITE.
14. STEP UP TRANSFORMER AND SECONDARY DISCONNECT PROVIDED BY WEIGH IN MOTION CONTRACTOR.
15. PROVIDE TELECOMMUNICATIONS BUS BAR. GROUND PER N.E.C. AND DETAIL A3 SHEET E-501 FOR MORE INFORMATION.
16. PROVIDE 120/240V, 50A, TWIST-LOCK INLET RECEPTACLE AND 10'-0" WET LOCATION TYPE SO-W CORD WITH TERMINATED ENDS L14-50 PLUG AND L14-50 TWIST-LOCK RECEPTACLE. RECEPTACLE FOR MOBILE GENERATOR CONNECTION. BASIS OF DESIGN INLET RECEPTACLE: GE T050N WITH 50A, L14-50 TWIST LOCK RECEPTACLE. GENERATOR TO BE PROVIDED BY OWNER. PROVIDE WEATHERPROOF IN-USE COVERPLATE FOR RECEPTACLE.
17. PROVIDE SINGLE GANG JUNCTION BOX MOUNTED IN WALL AT 10'-0" AFG. PROVIDE 3/4" CONDUIT FROM JUNCTION BOX TO ABOVE DATA RACK IN STOR 207. PROVIDE BUSHINGS ON BOTH ENDS OF CONDUIT. PROVIDE PULL STRING IN CONDUIT. SECURITY CAMERA AND CABLING FURNISHED AND INSTALLED BY OWNER.
18. PROVIDE 240V, 60A, 2 POLE DOUBLE THROW MANUAL TRANSFER SWITCH. BASIS OF DESIGN: SQUARE D DTU222, OR APPROVED EQUAL.
19. PROVIDE SINGLE GANG JUNCTION BOX IN BOTTOM OF CANOPY. PROVIDE 3/4" CONDUIT FROM JUNCTION BOX TO ABOVE DATA RACK IN STOR 207. PROVIDE BUSHINGS ON BOTH ENDS OF CONDUIT. PROVIDE PULL STRING IN CONDUIT. WEATHER SEAL AROUND EXTERIOR PENETRATION. SECURITY CAMERA AND CABLING FURNISHED AND INSTALLED BY OWNER.
20. PROVIDE FLUSH MOUNTED SINGLE GANG JUNCTION BOX MOUNTED IN WALL AT 8'-6" AFF. PROVIDE 3/4" CONDUIT FROM JUNCTION BOX TO ABOVE DATA RACK IN STOR 207. PROVIDE BUSHINGS ON BOTH ENDS OF CONDUIT. PROVIDE PULL STRING IN CONDUIT. SECURITY CAMERA AND CABLING FURNISHED AND INSTALLED BY OWNER.
21. MOUNT RECEPTACLE 18" ABOVE MEZZANINE FLOOR. COORDINATE EXACT MOUNTING LOCATION WITH MECHANICAL DUCT AND PIPING.
22. PROVIDE POWER CONNECTION TO SCALE PIT CONTROLLER.
23. PROVIDE POWER TO CO/NO2 CONTROL PANEL. CO/NO2 CONTROL PANEL, SENSORS, AND CONTROL CABLING PROVIDED AND INSTALLED BY DIVISION 23.
24. MOUNT DEVICES HORIZONTAL IN SPACE BETWEEN TRANSACTION COUNTER AND DESK COUNTER.
25. PROVIDE ONE 2" CONDUIT FROM ABOVE RACK IN STOR 207 TO WEATHERHEAD FOR ANTENNA CABLING. ANTENNA CABLING BY OWNER. ROUTE CONDUIT IN CEILING SPACE AND POKE THROUGH ROOF AT WEATHERHEAD LOCATION, SEE KEYNOTE 26 THIS SHEET. PROVIDE ADDITIONAL CONDUIT SUPPORTS IN CEILING SPACE PRIOR TO CONDUIT EXITING ROOF STRUCTURE. PROVIDE BUSHINGS ON CONDUIT END IN STOR 207. PROVIDE PULLSTING IN CONDUIT. SEE DETAL B3/E-501 FOR MORE INFORMATION.
26. PROVIDE WEATHERHEAD MOUNTED ON ROOF, ABOVE INSPECTION BAY 215. INSTALL WEATHERHEAD AT END OF CONDUIT NOTED IN KEYNOTE 25 THIS SHEET. PROVIDE WEATHERHEAD WITH CAPACITY FOR FOUR CONDUIT ENTRY HOLES. WEATHER SEAL PENETRATION THROUGH ROOF.
27. PROVIDE POWER TO HAND DRYER. DISCONNECT IS PROVIDED BY LOCKABLE BREAKER. SEE ARCHITECTURAL ELEVATIONS FOR HEIGHT AND SEE ARCHITECTURAL SPECIFICATIONS FOR POWER REQUIREMENTS.
28. CIRCUIT LENGTH TO BE A MINIMUM OF 50' TO REDUCE AVAILABLE FAULT CURRENT BELOW THE 5000A SCCR OF THE UNIT.
29. PROVIDE POWER CONNECTION TO DOOR POWER SUPPLY ABOVE CEILING SPACE.
30. PROVIDE OUTLET IN CASEWORK CABINETRY FOR INTERCOM POWER SUPPLY. PROVIDE SINGLE GANG JUNCTION BOX ADJACENT TO OUTLET WITH A SINGLE GANG MUDRING. PROVIDE 1/2" CONDUIT FROM JUNCTION BOX TO INTERCOM BACKBOX, KEYNOTE 12 THIS SHEET, FOR LOW VOLTAGE WIRING BETWEEN TRANSFORMER AND INTERCOM. PROVIDE POWER TRANSFORMER. BASIS OF DESIGN: AIPHONE TYPE PT-1210N OR EQUAL. PROVIDE LOW VOLTAGE POWER WIRING BETWEEN TRANSFORMER AND INTERCOM.
31. PROVIDE FOUR SQUARE RECESSED JUNCTION BOX ADJACENT TO SCALE PIT CONTROLLER. SEE KEYNOTE 33 THIS SHEET FOR CONDUIT AND CABLING INFORMATION.
32. RECEPTACLE FOR IRD EQUIPMENT.
33. PROVIDE 4 SQUARE NEMA 3R SURFACE BOX. PROVIDE 1 1/2" CONDUIT FOM SCALE PIT CONTROLLER JUNCTION BOX (SEE KEYNOTE 31 THIS SHEET) TO PIER BELOW 3RD DECK. CABLING FURNISHED BY SCALE PIT SUPPLIER. COORDINATE FINAL LOCATION OF SCALE PIT ON SITE.
34. APPROXIMATE LOCATION OF NEW BHE PROVIDED TRANSFORMER. CONFIRM EXACT LOCATION WITH BHE ON SITE. REFER TO RISER DIAGRAM A2/E-601 FOR MORE INFORMATION.
35. SEWAGE PUMP. ROUTE CIRCUIT THROUGH PUMP CONTROL BOX. REFERENCE CIVIL DRAWINGS FOR EXACT LOCATION OF NEW SEWAGE PUMP PROVIDE AN ADDITIONAL 1" CONDUIT FROM PUMP TO ALARM PANEL OF KEYNOTE 36 FOR ALARM WIRING. PROVIDE A 30A, NONFUSED DISCONNECT SWITCH IN A NEMA 3R ENCLOSURE TO SERVE AS UNIT DISCONNECT. SEE DETAIL A1/E-501 FOR MOUNTING INFORMATION.
36. PUMP CONTROL BOX. ELECTRICAL CONTRACTOR TO PROVIDE TWO 120V/20A CIRCUITS TO CONTROL BOX. ONE CIRCUIT IS FOR PUMP ALARM AND THE OTHER IS FOR PUMP. ROUTE CIRCUITS IN 1" PVC CONDUIT FROM PANEL LN2. PUMP CIRCUIT TO HAVE #10 CONDUCTORS. COORDINATE LOCATION OF PUMP CONTROL BOX WITH CIVIL.
37. NEW PROPANE VAPORIZER. PROVIDE A NEMA 3R, 30A, NON-FUSED DISCONNECT SWITCH. SPACE WITHIN 5' OF PROPANE FILL VALVES SHALL BE CONSIDERED A CLASS 1, DIVISION 1 SPACE. AREA OUTSIDE OF 5' FROM FILL VALVE SHALL BE CONSIDERED CLASS 1, DIVISION 2 SPACE. ELECTRICAL INSTALLATION ABOVE GRADE FOR THIS VAPORIZER SHALL BE PER NEC REQUIREMENTS FOR THESE CLASSIFIED AREAS.
38. PROVIDE 120V, 20A CIRCUIT TO MACERATING TOILET.
39. STUB UP LOCATION FOR COMMUNICATION UTILITY, ITS CABLING, AND SPARE CONDUITS. STUB OUT FOUR 2" CONDUITS AND ONE 4" CONDUIT WITH 3 1" INNERDUCTS. COORDINATE FINAL LOCATION OF STUB OUT WITH SDN COMMUNICATIONS: RYAN SMITH AND ITS DESIGN.
40. STUB OUT ONE 2" CONDUIT FOR POWER TO HUB 8.

GENERAL NOTES: POWER PLAN

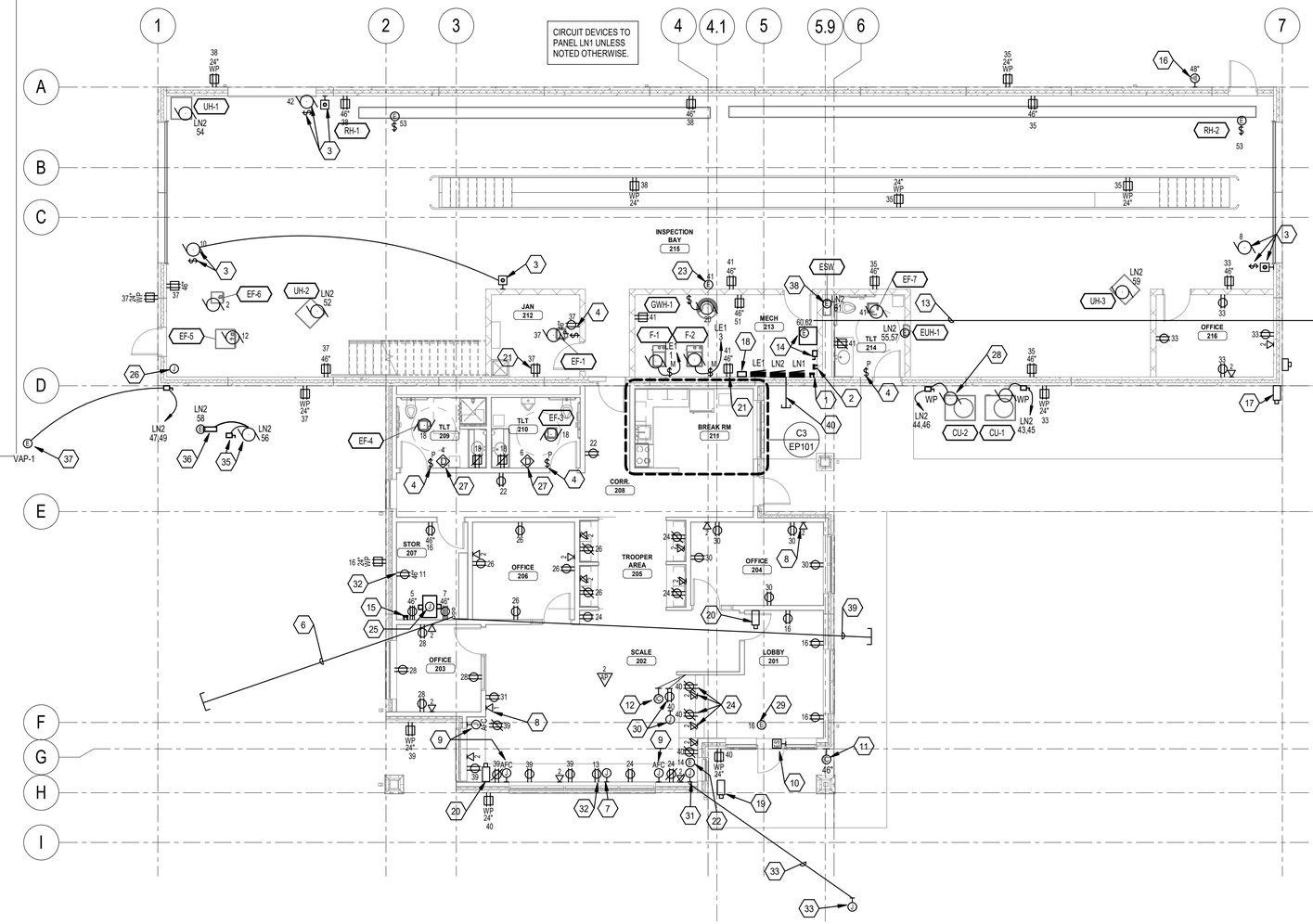
A. ALL SURFACE JUNCTION BOXES IN INSPECTION BAY SHALL BE WEATHERPROOF FOR WASH DOWN NEMA 4 RATING.

B. ALL CONDUIT AND BOXES IN PRECAST WALLS IN INSPECTION BAY SHALL BE RECESSED. COORDINATE WITH GENERAL CONTRACTR FOR ALL COSTS AND LOCATIONS OF ROUGH-IN PRIOR TO BID.



C3 POWER PLAN - BREAK ROOM
SCALE: 1/4" = 1'-0"

PLAN NORTH



A2 POWER AND TECHNOLOGY PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
13400
KELLI A. OSTERLOO
SOUTH DAKOTA
DATE 12/01/2021

DESIGN REVIEW

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

As indicated

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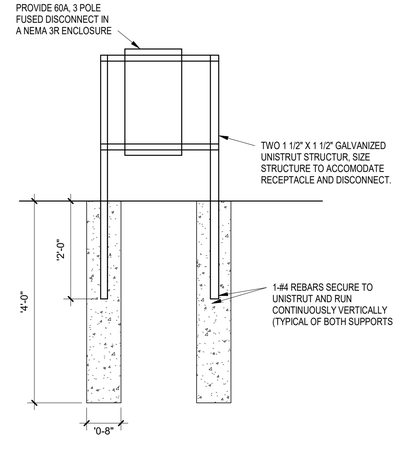
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G45	G47

E-501 ELECTRICAL DETAILS

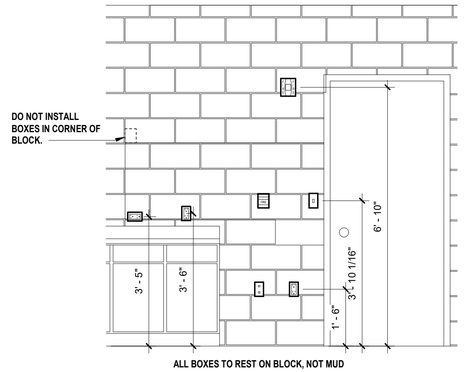
REGISTERED PROFESSIONAL ENGINEER
REG. NO.
13400
KELLI A.
OSTERLOO
SOUTH DAKOTA

DATE 12/01/2021

FOR BIDDING PURPOSES ONLY

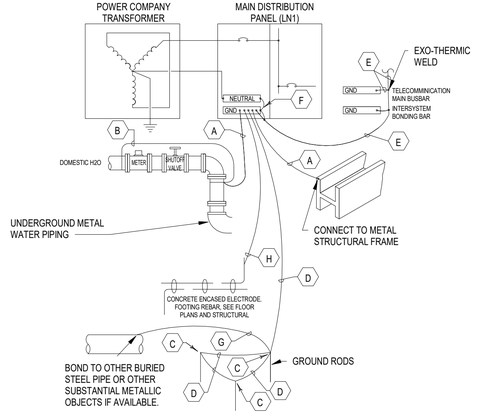


A1 **GROUND DISCONNECT MOUNTING**
SCALE: NOT TO SCALE



A2 **DEVICE MOUNTING HEIGHTS**
SCALE: NOT TO SCALE

B3 **CONDUIT THRU ROOF DETAIL**
SCALE: NOT TO SCALE



A3 **GROUNDING DETAIL**
SCALE: NOT TO SCALE

KEYNOTES

A. GROUNDING ELECTRODE CONDUCTOR TO GROUNDING ELECTRODE, AS SHOWN. SIZE PER NEC TABLE 250.66.

B. BOND WATER SYSTEMS AROUND ALL VALVES AND METERS PER NEC.

C. CONNECT GROUNDING ELECTRODE CONDUCTOR TO GROUND ROD WITH GROUND CONNECTOR.

D. GROUNDING ELECTRODE CONDUCTOR TO GROUNDING ELECTRODE, AS SHOWN. #6 AWG BARE COPPER CONDUCTOR.

E. #3/0 AWG BARE COPPER BONDING CONDUCTOR.

F. SYSTEM BONDING JUMPER SHALL NOT BE SMALLER THAN THE SIZES SHOWN IN NEC TABLE 250.66. WHERE THE SUPPLY CONDUCTORS ARE LARGER THAN 1100KCMIL COPPER, THE BONDING JUMPER SHALL HAVE AN AREA THAT IS NOT LESS THAN 12 1/2 PERCENT OF THE AREA OF THE LARGEST PHASE CONDUCTOR.

G. BOND METAL WATER PIPING AND OTHER METAL PIPING SYSTEMS WITH BONDING JUMPER SIZED PER NEC.

H. GROUND ELECTRODE CONDUCTOR TO GROUNDING ELECTRODE, AS SHOWN. #4 AWG COPPER CONDUCTOR.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM-FP 0901(195)32	G46	G47

E-601 ELECTRICAL POWER AND TECHNOLOGY RISER DIAGRAMS

GENERAL SHEET NOTES: TELECOMMUNICATION RISER DIAGRAM

A. ALL CABLING SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE. SUPPORT EQUIPMENT SHALL BE AS INDICATED AND SPECIFIED.

B. DIVISION 26 TO PROVIDE PULL STRING IN ALL CONDUIT RUNS.

C. REFER TO PLANS FOR CAMERA LOCATIONS. REQUIRED CABLING PROVIDED BY OWNER.

D. FINAL QUANTITIES OF ALL PROVIDED DEVICES, SUPPORTS, HARDWARE, CABLING, ETC. TO BE VERIFIED AND PROVIDED BY THE DIVISION 27 CONTRACTOR.

E. TELECOMMUNICATION COMMON BONDING NETWORK SHALL COMPLY WITH J-STD-607A, TIA 942, IEEE STD 1100, AND NATIONAL ELECTRIC CODE.

F. ACTIVE EQUIPMENT (ROUTERS, SWITCHES, HUBS, ETC.) TO BE PROVIDED BY OWNER/OWNER'S REPRESENTATIVE. COORDINATE FINAL EQUIPMENT LOCATION WITH OWNER'S IT STAFF.

G. DIVISION 27 TO PROVIDE ALL EQUIPMENT/CABLING INDICATED ON THIS SHEET UNLESS NOTED OTHERWISE.

H. ALL TELECOMMUNICATION ROOM EQUIPMENT RACKS PROVIDED AND INSTALLED BY DIVISION 27.

I. ALL COMMUNICATION DEVICES SHALL HAVE ASSOCIATED POWER RECEPTACLES. DIVISION 27 CONTRACTOR SHALL COORDINATE EXACT HEIGHTS AND LOCATIONS WITH DIVISION 26 CONTRACTOR PRIOR TO ROUGH-IN.

KEY NOTES: TELECOMMUNICATION RISER DIAGRAM

1. PROVIDE QUANTITY OF 4-PAIR UTP PLENUM RATED CABLES AS INDICATED ON PLAN DRAWINGS AND AS SHOWN IN THE TELECOMMUNICATION OUTLETS SECTION BELOW. ROUTE FROM COMMUNICATIONS OUTLET TO COMMUNICATIONS RACK.
2. PROVIDE VERTICAL LADDER RACK ABOVE DATA RACK TO CEILING.
3. CONDUIT STUB OUTS FOR TELECOMMUNICATION SERVICES. SEE SHEET EP101 FOR MORE INFORMATION.

FOR BIDDING PURPOSES ONLY

CABLE TYPE: TELECOMMUNICATION RISER DIAGRAM

X#/24/#
- QTY OF CABLE TYPE
- QTY OF CABLE PAIRS
- CABLE TYPE CALLOUT (C = COPPER) (F = FIBER)

F/1/12/# — 12 STRAND 50/125 MICRON OM4 MULTIMODE FIBER OPTIC CABLE(S) ROUTED TO FIBER LIU(S). [LAN/WAN BACKBONE].

C/2/#/# — CATEGORY 6 PLENUM UTP CABLES.

EQUIPMENT: TELECOMMUNICATION RISER DIAGRAM

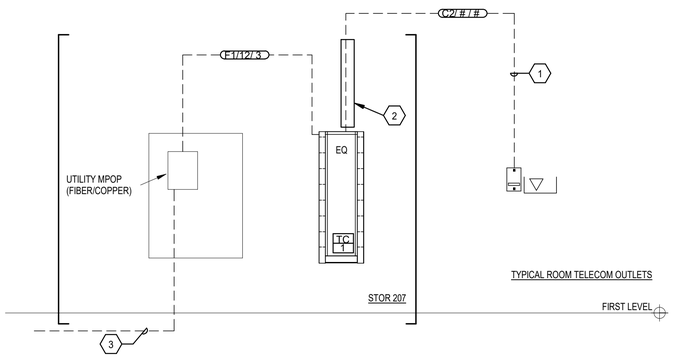
TC / 1 — DEVICE TYPE CALLOUT; INDIVIDUAL DEVICE CALLOUT

TC / 1 — TELECOMMUNICATIONS EQUIPMENT RACK.

TELECOMMUNICATION OUTLETS: TELECOMMUNICATION RISER DIAGRAM

— DENOTATION ON PLAN ADJACENT TO SYMBOL INDIACTES QTY OF CABLES.

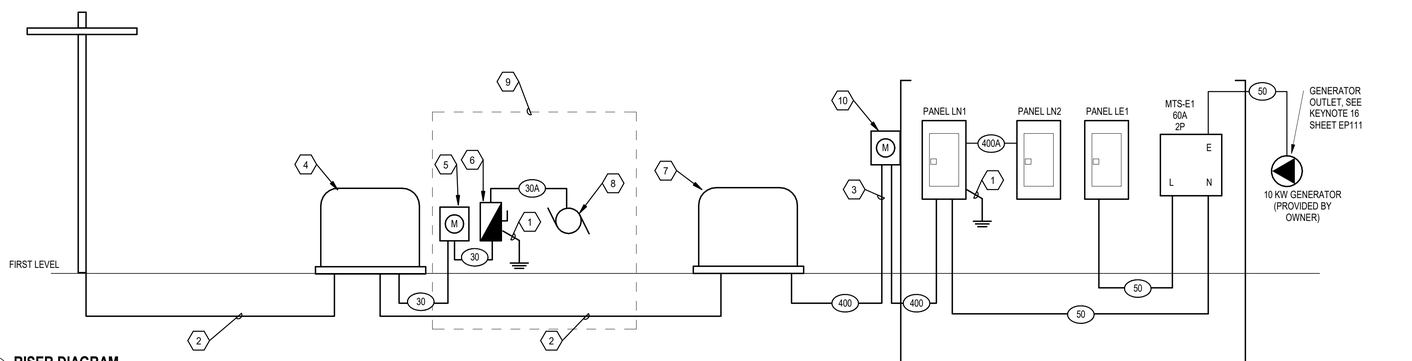
— VOICE/DATA OUTLET, WALL MOUNTED AS NOTED. (#: QTY UTP DATA CABLES, QTY TWO IF NUMBER NOT SHOWN. SLASH INDICATES MOUNTING ABOVE FINISH COUNTER.)



B1 DIVISION 27 RISER DIAGRAM
SCALE: NOT TO SCALE

KEY NOTES: RISER DIAGRAM

1. GROUND PER NEC AND DETAIL A3 SHEET E-501.
2. CONDUIT, TRENCHING, AND STUB-UP BY UTLITY.
3. PROVIDE METER SOCKET PER UTILITY'S REQUIREMENTS. METER PROVIDED BY UTILITY. CONTRACTOR TO PROVIDE 1" CONDUIT BETWEEN UTILITY TRANSFORMER AND METER SOCKET. COORDINATE METER MOUNTING LOCATION ON BUILDING WITH BHE.
4. NEW 208V, 3-PHASE UTILITY TRANSFORMER PRVIDED BY BHE. DIV. 26 CONTRACTOR TO PROVIDE AND INSTALL PAD PER BHE REQUIREMENTS.
5. PROVIDE METER SOCKET PER UTILITY'S REQUIREMENTS. SELF-CONTAINED METER PROVIDED BY UTILITY. PROVIDE UNISTRUT MOUNTING RACK ADJACENT TO TRANSFORMER TO MOUNT METER. SEE DETAIL A1/E-501 FOR MORE INFORMATION ON UNISTRUT.
6. PROVIDE SERVICE ENTRANCE RATED 60A FUSED DISCONNECT SWITCH IN A NEMA 3R ENCLOSURE. FUSED AT 30 AMPS, TO SERVE WELL PUMP. MOUNT DISCONNECT SWITCH ON UNI-STRUT RACK. SEE DETAIL A1/E-501 FOR MORE INFORMATION ON UNISTRUT.
7. NEW 240V, 1-PHASE UTILITY TRANSFORMER PROVIDED AND INSTALLED BY BHE. DIV. 26 CONTRACTOR TO PROVIDE AND INTALL PAD PER BHE REQUIREMENTS.
8. NEW 208V/3P, 7.5HP WELL PUMP. SEE CIVIL DRAWINGS FOR EXACT LOCATION OF PUMP.
9. REFERENCE SITE PLAN FOR LOCATION OF WELL PUMP AND ASSOCIATED EQUIPMENT.
10. PROVIDE METER SOCKET PER UTILITY'S REQUIREMENTS. SELF-CONTAINED METER PROVIDED BY UTILITY. COORDINATE METER MOUNTING LOCATION ON BUILDING WITH BHE. PROVIDE UNISTRUT MOUNTING RACK ADJACENT TO TRANSFORMER TO MOUNT METER. SEE DETAIL A1/E-501 FOR MORE INFORMATION ON UNISTRUT.



A2 RISER DIAGRAM
SCALE: NOT TO SCALE

DESIGN REVIEW

LISTED DRAWINGS SCALE(S) UNLESS REDUCED FROM ORIGINAL 22 x 34 FORMAT

12" = 1'-0"

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E-602 ELECTRICAL SCHEDULES

240V, SINGLE PHASE - MAXIMUM CONDUCTOR LENGTH (FEET) FOR <3% VOLTAGE DROP							
CIRCUIT BREAKER AMPACITY	MAXIMUM CIRCUIT CURRENT (A)	MAXIMUM CONDUCTOR LENGTH (FEET)					
		#12	#10	#8	#6	#4	#3
15	12	170	280	430	690	1100	1400
20	12	170	280	430	690	1100	1400
	16	130	210	330	510	800	1060
30	24	-	140	220	350	530	700

120V, SINGLE PHASE - MAXIMUM CONDUCTOR LENGTH (FEET) FOR <3% VOLTAGE DROP							
CIRCUIT BREAKER AMPACITY	MAXIMUM CIRCUIT CURRENT (A)	MAXIMUM CONDUCTOR LENGTH (FEET)					
		#12	#10	#8	#6	#4	#3
15	12	75	120	190	300	480	600
20	12	55	120	190	300	480	600
	16	-	90	140	225	360	450
30	24	-	60	95	150	240	300
40	32	-	-	70	110	180	225
50	40	-	-	-	90	145	480
60	48	-	-	-	-	120	150

TAG: LC-EXT POE			
MOUNTING: SURFACE			
ENCLOSURE: NEMA-1			
POLE	DESCRIPTION OF LOAD	SWITCH LEG	CONTROL
1	EXT. BUILDING LTG EMERG	pp	PC
2	EXTERIOR BUILDING LTG	qq	PC
3	SPARE		--
4	SPARE		--
5	SPARE		--
6	SPARE		--

FOR BIDDING PURPOSES ONLY

PANELBOARD: LN1

LOCATION: MECH 213 **VOLTAGE:** 120/240 V. 1 ø 3 W.
MOUNTING: Surface Type 1 **A.I.C. RATING:** 16,500 AMPS SYMMETRICAL
MAIN DEVICE: 400 A MCB **SPECIAL:** SERVICE ENTRANCE RATED, FEED THRU BREAKER
BUS AMPS: 400 AMPS

N	LOAD DESCRIPTION	RATING	P	CKT	A		B		CKT	P	RATING	LOAD DESCRIPTION	N
	MTS-E1/PANEL LE1	50 A	2	1	1.5	1.1			2	1	15 A	EF 6	
				3			1.1	1.7	4	1	20 A	HAND DRYER TLT 210	1
	REC - 207 DATA RACK	20 A	1	5	0.4	1.7			6	1	20 A	HAND DRYER TLT 209	1
	REC - 207 DATA RACK	20 A	1	7			0.4	1.8	8	1	30 A	OVERHEAD DOOR	
	REC - BREAK RM 211	20 A	1	9	0.2	1.8			10	1	30 A	OVERHEAD DOOR	
	REC - 207 IRD EQUIPMENT	20 A	1	11			0.2	1.8	12	1	25 A	EF-5	
	REC - 202 IRD CONTROLLER	20 A	1	13	0.2	0.4			14	1	20 A	WRLSS CMRA TRANSMITTER	
	LTG - 201-2, 205-7,EXT	20 A	1	15			1.5	1.0	16	1	20 A	REC - 201, 207, EXT	
	LTG - 203-204, 208-214	20 A	1	17	0.8	0.6			18	1	20 A	REC - 209, 210, EF-3, EF-4	
	LTG - INSPECTION BAY 215	20 A	1	19			1.1	0.7	20	1	15 A	GWH-2	
	LTG - 215 INSPECTION BAY	20 A	1	21	0.4	0.4			22	1	20 A	REC- 208	
	LTG - 215 INSPECTION BAY	20 A	1	23			1.6	0.9	24	1	20 A	REC - 202, 205	
	LTG - 215 INSPECTION BAY	20 A	1	25	1.6	1.1			26	1	20 A	REC - 205-206	
	LTG - 215 INSPECT. BAY PIT	20 A	1	27			0.8	0.7	28	1	20 A	REC - 203 OFFICE	
	REC - 211 FRIDGE	20 A	1	29	0.4	0.9			30	1	20 A	REC - 204 OFFICE	
	REC - COPIER	20 A	1	31			0.2	0.9	32	1	20 A	EWC, REC - 211 BREAK RM	
	REC - 215, EXT	20 A	1	33	1.1	0.4			34	1	20 A	REC - 211 MICROWAVE	
	REC - 212, 215, EXT	20 A	1	35			1.1	0.4	36	1	20 A	REC - 211 BREAK RM	
	REC - 202, EXT	20 A	1	37	1.2	0.7			38	1	20 A	REC - 215, EXT	
	REC - 213, 124, CO/NO2, EF-7	20 A	1	39			1.1	1.1	40	1	20 A	REC - 201, 202	
		20 A	1	41	0.8	1.7			42	1	20 A	OVERHEAD DOOR NORTH	
		TOTAL LOAD:			37 kVA		37 kVA						
		TOTAL AMPS:			310 A		306 A						

LOAD CLASSIFICATION	CONNECTED	DEMAND	ESTIMATED	PANEL TOTALS	
LTG	7540 VA	125.00%	9426 VA		
MTR	30227 VA	109.00%	32946 VA	**CONNECTED LOAD:**	73884 VA
Other	0 VA	0.00%	0 VA	**ESTIMATED DEMAND:**	75541 VA
REC	15840 VA	81.57%	12920 VA	**CONNECTED CURRENT:**	308 A
SPEC	20890 VA	100.44%	20982 VA	**EST. DEMAND CURRENT:**	315 A

NOTES (N):
1. PROVIDE LOCKABLE CIRCUIT BREAKER.

PANELBOARD: LN2

LOCATION: MECH 213 **VOLTAGE:** 120/240 V. 1 ø 3 W.
MOUNTING: Surface Type 1 **A.I.C. RATING:** 15,000 AMPS SYMMETRICAL
MAIN DEVICE: 400 A MLO **SPECIAL:**
BUS AMPS: 400 AMPS

N	LOAD DESCRIPTION	RATING	P	CKT	A		B		CKT	P	RATING	LOAD DESCRIPTION	N
	CU-4	30 A	2	43	2.2	4.2			44	2	60 A	CU-5	
				45			2.2	4.2	46				
	VAP-1	30 A	2	47	2.4	4.2			48	2	50 A	RANGE - BREAK RM 211	1
				49			2.4	4.2	50				
	WS-1	15 A	1	51	0.4	0.6			52	1	15 A	UH-2	
	RH-1, RH-2	15 A	1	53			0.2	0.4	54	1	15 A	UH-1	
	EUH-1	20 A	2	55	1.0	1.1			56	1	20 A	SEW BOOSTER PUMP	
				57			1.0	0.0	58	1	20 A	PUMP ALARM	3
	UH-3	15 A	1	59	0.6	1.9			60				
	MACERATING TOILET	20 A	1	61			0.9	1.9	62	2	50 A	WEIGH IN MOTION TRANS	2
	HUB 8	30 A	1	63	0.0	0.0			64	1	20 A	SPARE	
	SPARE	20 A	1	65			0.0	0.0	66	1	20 A	SPARE	
	SPARE	20 A	1	67	0.0	0.0			68	1	20 A	SPARE	
	SPARE	20 A	1	69			0.0	0.0	70	1	20 A	SPARE	
	SPARE	20 A	1	71	0.0	0.0			72	1	20 A	SPARE	
--	SPACE	--	--	73			0.0	0.0	74	--	--	SPACE	--
--	SPACE	--	--	75	0.0	0.0			76	--	--	SPACE	--
--	SPACE	--	--	77			0.0	0.0	78	--	--	SPACE	--
--	SPACE	--	--	79	0.0	0.0			80	--	--	SPACE	--
--	SPACE	--	--	81			0.0	0.0	82	--	--	SPACE	--
--	SPACE	--	--	83	0.0	0.0			84	--	--	SPACE	--
		TOTAL LOAD:			18 kVA		17 kVA						
		TOTAL AMPS:			154 A		144 A						

LOAD CLASSIFICATION	CONNECTED	DEMAND	ESTIMATED	PANEL TOTALS	
MTR	15400 VA	113.64%	17500 VA		
REC	360 VA	100.00%	360 VA	**CONNECTED LOAD:**	35755 VA
SPEC	20027 VA	100.45%	20118 VA	**ESTIMATED DEMAND:**	37944 VA
				CONNECTED CURRENT:	149 A
				EST. DEMAND CURRENT:	158 A

NOTES (N):
1. GROUND FAULT CIRCUIT PROTECTION 4 - 6 mA.
2. COORDINATE FINAL BREAKER REQUIREMENTS WITH WEIGH IN MOTION SUPPLIER.
3. PROVIDE A LOCKABLE CIRCUIT BREAKER.

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG SERIES	DESCRIPTION	VOLTAGE	MOUNTING	BALLAST/DRIVER	LAMP	Luminaire Lumens	WATTAGE	EQUIVALENTS
A2S	EATON METALUX	4VT2 LD5 4 FR50 120 EL10W L835 CD1 WL SSL U	4' WRAP; IP66 RATED; EMERGENCY BATTERY	120 V	SURFACE	0-10V DIMMING	LED	4000 lm	31 W	SUBMIT FOR PRIOR APPROVAL
B1S	PHILIPS DAY-BRITE	2 FXP 48L 835 - 4 - DS - UNV - DIM; FSK24	2'X4' PANEL TROFFER; SURFACE MOUNT FIELD INSTALL KIT	120 V	SURFACE	0-10V DIMMING	LED	4800 lm	47 W	SUBMIT FOR PRIOR APPROVAL
B1SE	PHILIPS DAY-BRITE	2 FXP 48L 835 - 4 - DS - UNV - DIM - EMLED; FSK24	2'X4' PANEL TROFFER; EMERGENCY BATTERY; SURFACE MOUNT FIELD INSTALL KIT	120 V	SURFACE	0-10V DIMMING	LED	4800 lm	47 W	SUBMIT FOR PRIOR APPROVAL
B2S	PHILIPS DAY-BRITE	2 FXP 30L 835 - 2 - DS - UNV - DIM; FSK22	2'X2' PANEL TROFFER; SURFACE MOUNT FIELD INSTALL KIT	120 V	SURFACE	0-10V DIMMING	LED	3000 lm	27 W	SUBMIT FOR PRIOR APPROVAL
B2SE	PHILIPS DAY-BRITE	2 FXP 30L 835 - 2 - DS - UNV - DIM - EMLED; FSK22	2'X2' PANEL TROFFER; EMERGENCY BATTERY; SURFACE MOUNT FIELD INSTALL KIT	120 V	SURFACE	0-10V DIMMING	LED	3000 lm	27 W	SUBMIT FOR PRIOR APPROVAL
D1	EATON	LD6B 20 D010; E76B 1020 80 35; 6LB M 1 LI; LGSKT6IP66	6" DOWNLIGHT, IP 66 GASKET TO PROVIDE SHOWER RATING	120 V	RECESSED/SOFFIT	0-10V DIMMING	LED	2000 lm	21 W	SUBMIT FOR PRIOR APPROVAL
N4	PHILIPS DAY-BRITE	FSS 4 40L 835 UNV DIM	4' LED STRIP	120 V	CHAIN HANG	LED STANDARD	LED	4000 lm	31 W	SUBMIT FOR PRIOR APPROVAL
N4E	PHILIPS DAY-BRITE	FSS 4 40L 835 UNV DIM EMLED	4' LED STRIP; EMERGENCY BATTERY	120 V	CHAIN HANG	LED STANDARD	LED	4000 lm	31 W	SUBMIT FOR PRIOR APPROVAL
W1	KENALL	MLHA5 24 F LG PP 25L35K DCC 1 120	2' VANITY	120 V	WALL	LED STANDARD	LED	2374 lm	25 W	SUBMIT FOR PRIOR APPROVAL
W4	LIGMAN LIGHTING	ULA-40002-57W-S-M-W35-120/277V-AS-A61051	4' RECESSED WALL LINEAR, IP 67 RATED, ASYMMETRIC FORWARD THROW OPTICS	120 V	WALL	LED STANDARD	LED	5200 lm	57 W	SUBMIT FOR PRIOR APPROVAL
W5	EATON FAILSAFE	FMB S 4 LD4 2 HI 2 HI 35 120 80 / 84 EDD 1	4' DIRECT/INDIRECT LINEAR; 50% UPLIGHT/50% DOWNLIGHT	120 V	WALL	0-10V DIMMING	LED	10518 lm	181 W	SUBMIT FOR PRIOR APPROVAL
W5E	EATON FAILSAFE	FMB S 4 LD4 2 HI 2 HI 35 120 80 / 84 EDD 1 EL14W	4' DIRECT/INDIRECT LINEAR; 50% UPLIGHT/50% DOWNLIGHT; EMERGENCY BATTERY	120 V	WALL	0-10V DIMMING	LED	10518 lm	181 W	SUBMIT FOR PRIOR APPROVAL
W7	EATON FAILSAFE	FMB S 4 LD4 1 HI 1 STD 35 120 80 / 84 EDD 1	4' DIRECT/INDIRECT LINEAR; 55% UPLIGHT/45% DOWNLIGHT	120 V	WALL	0-10V DIMMING	LED	5604 lm	82 W	SUBMIT FOR PRIOR APPROVAL
AA	HUBBELL	QSP1 12L 30 4K7 4 UNV DBT	QUARTERSPHERE WALL PACK; BRONZE FINISH	120 V	WALL	LED STANDARD	LED	3050 lm	28 W	SUBMIT FOR PRIOR APPROVAL
HH	PHILIPS STONCO	FL20 NW G1 K FL 8 BZ	FLOOD LIGHT	120 V	WALL	LED STANDARD	LED	2122 lm	20 W	SUBMIT FOR PRIOR APPROVAL
KK	HUBBELL	QSP2 - 24L - 50 - 4K7 - 2 - UNV - DBT	QUARTERSPHERE WALL PACK	120 V	WALL	LED STANDARD	LED	5820 lm	49 W	SUBMIT FOR PRIOR APPROVAL

CIRCUIT SCHEDULE			
MARK (AMPACITY)	SERVICE CONDUCTORS PH/N-C	4-WIRE (W/NEUTRAL) PH/N-GND-C	3-WIRE (NO NEUTRAL) PH-GND-C
15	12-3/4"	12-12-3/4"	12-12-3/4"
20	12-3/4"	12-12-3/4"	12-12-3/4"
25	10-3/4"	10-10-3/4"	10-10-3/4"
30	10-3/4"	10-10-3/4"	10-10-3/4"
35	8-1"	8-10-1"	8-10-3/4"
40	8-1"	8-10-1"	8-10-3/4"
45	6-1 1/4"	6-10-1 1/4"	6-10-1"
50	6-1 1/4"	6-10-1 1/4"	6-10-1"
60	6-1 1/4"	6-10-1 1/4"	6-10-1"
70	4-1 1/2"	4-8-1 1/2"	4-8-1 1/4"
80	3-1 1/2"	3-8-1 1/2"	3-8-1 1/2"
90	3-1 1/2"	3-8-1 1/2"	3-8-1 1/2"
100	2-1 1/2"	2-8-1 1/2"	2-8-1 1/2"
110	2-1 1/2"	2-6-1 1/2"	2-6-1 1/2"
125	1-2"	1-6-2"	1-6-1 1/2"
150	1/0-2"	1/0-6-2"	1/0-6-2"
175	2/0-2"	2/0-6-2"	2/0-6-2"
200	3/0-2 1/2"	3/0-6-2 1/2"	3/0-6-2"
225	4/0-2 1/2"	4/0-4-2 1/2"	4/0-4-2 1/2"
250	250 KCMIL-3"	250 KCMIL-4-3"	250 KCMIL-4-2 1/2"
300	350 KCMIL-3"	350 KCMIL-4-3"	350 KCMIL-4-3"
350	500 KCMIL-3 1/2"	500 KCMIL-3-3 1/2"	500 KCMIL-3-3"
400	600 KCMIL-4"	600 KCMIL-3-4"	600 KCMIL-3-3 1/2"
400	(2) 3/0-2 1/2"	(2) 3/0-3-2 1/2"	(2) 3/0-3-2"

MISCELLANEOUS NOTES:
1. ALL CIRCUITS (BRANCH, FEEDERS, AND SERVICE) SHALL BE SIZED PER THE OVERCURRENT DEVICE AND THIS CIRCUIT SCHEDULE UNLESS OTHERWISE NOTED. THE ABOVE CHART IS THE MINIMUM CONDUCTOR AND CONDUIT SIZE FOR THE OVERCURRENT DEVICE. CHART DOES NOT INCLUDE REQUIRED VOLTAGE DROP.
2. CIRCUITS SHALL BE 4 WIRE (4W) UNLESS DENOTED WITH "3W" (3 WIRE), OR IS THE SERVICE ENTRANCE FROM THE UTILITY.
3. ALL BRANCH CIRCUITS AND FEEDERS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR.
4. ALL CONDUCTORS SHALL BE COPPER.
5. THE NEUTRAL SHALL BE THE SAME SIZE AS THE PHASE CONDUCTORS UNLESS 3-WIRE, OR NOTED OTHERWISE.
6. THE NUMBER OF PARALLEL SETS IS INDICATED IN PARENTHESIS.
7. SINGLE PHASE CIRCUITS SHALL BE SIZED PER THE OVERCURRENT DEVICE UNLESS OTHERWISE NOTED. SIZE THE CONDUCTORS AND CONDUIT PER THE 4-WIRE COLUMN OF THIS CHART BUT REDUCE THE AMOUNT OF PHASE CONDUCTORS AS REQUIRED.

PANELBOARD: LE1

LOCATION: MECH 213 **VOLTAGE:** 120/240 V. 1 ø 3 W.
MOUNTING: Surface Type 1 **A.I.C. RATING:** 7,000 AMPS SYMMETRICAL
MAIN DEVICE: 60 A MCB **SPECIAL:** SURGE PROTECTION DEVICE
BUS AMPS: 60 AMPS

N	LOAD DESCRIPTION	RATING	P	CKT	A		B		CKT	P	RATING	LOAD DESCRIPTION	N
	F-5	20 A	1	1	1.5	0.0			2	1	20 A	SPARE	
	F-4	15 A	1	3			1.1	0.0	4	1	20 A	SPARE	
	SPARE	20 A	1	5	0.0	0.0			6	1	20 A	SPARE	
	SPARE	20 A	1	7			0.0	0.0	8	1	20 A	SPARE	
	SPARE	20 A	1	9	0.0	0.0			10	1	20 A	SPARE	
	SPARE	20 A	1	11			0.0	0.0	12	1	20 A	SPARE	
	SPARE	20 A	1	13	0.0	0.0			14	1	20 A	SPARE	
--	SPACE	--	--	15			0.0	0.0	16	--	--	SPACE	--
--	SPACE	--	--	17	0.0	0.0			18	--	--	SPACE	--
--	SPACE	--	--	19			0.0	0.0	20	--	--	SPACE	--
--	SPACE	--	--	21	0.0	0.0			22	--	--	SPACE	--
--	SPACE	--	--	23			0.0	0.0	24	--	--	SPACE	--
--	SPACE	--	--	25	0.0	0.0			26	--	--	SPACE	--
--	SPACE	--	--	27			0.0	0.0	28	--	--	SPACE	--
--	SPACE	--	--	29	0.0	0.0			30	--	--	SPACE	--
		TOTAL LOAD:			1 kVA		1 kVA						
		TOTAL AMPS:			12 A		9 A						

LOAD CLASSIFICATION	CONNECTED	DEMAND	ESTIMATED	PANEL TOTALS	
MTR	2542 VA	114.59%	2912 VA		
Other	0 VA	0.00%	0 VA	**CONNECTED LOAD:**	2542 VA
				ESTIMATED DEMAND:	2912 VA
				CONNECTED CURRENT:	11 A
				EST. DEMAND CURRENT:	12 A

NOTES (N):
1. NONE.