US Army Corps
of Engineers ®
OMAHA DISTRICT

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
ISSUE DATE: 05/01/2025
VOLUME:

CAD DIRECTORY NAME: BUCO00102
PROJECT TITLE: POWER INDEPENDENCE, MISSION CONTROL STATION
PROJECT LOCATION: BUCKLEY SFB, COLORADO

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SIGNATURES AFFIXED BELOW INDICATE OFFICIAL RECOMMENDATION AND APPROVAL OF DRAWINGS IN THIS SET.

DAVENPORT.WILLIAM.C.1403662271 Digitally signed by DAVENPORT.WILLIAM.C.1403662271 Date: 2025.05.06 13:02:11 -05'00' CHIEF, DESIGN BRANCH	SUBMITTED BY: GORUP.BERNARD.R.1231360448 Digitally signed by GORUP.BERNARD.R.1231360448 Date: 2025.05.06 13:52:14 -05'00' RA CHIEF: ARCHITECTURAL-INT DES SECTION	US Army Corps of Engineers Omaha District
	SUBMITTED BY: DENNING.SEAN.A.1367418750 Digitally signed by DENNING.SEAN.A.1367418750 Date: 2025.05.06 13:46:15 -05'00' P.E. CHIEF: STRUCTURAL SECTION	
BAUSCH.ERIC.LEE.1268761043 Digitally signed by BAUSCH.ERIC.LEE.1268761043 Date: 2025.05.27 12:56:27 -05'00' 27-May-2025 CHIEF, POL-MCX ENG. SPT. BRANCH	SUBMITTED BY: FOSMER.CORY.T.1251904410 Digitally signed by FOSMER.CORY.T.1251904410 Date: 2025.05.07 06:16:27 -05'00' CHIEF: MECHANICAL SECTION	
	SUBMITTED BY: LINDGREN.SCOTT.A.1384736048 Digitally signed by LINDGREN.SCOTT.A.1384736048 Date: 2025.05.06 14:08:06 -05'00' P.E. CHIEF: ELECTRICAL SECTION	
	SUBMITTED BY: MUELLER.KENNETH.JAMES.1536035 Digitally signed by MUELLER.KENNETH.JAMES.1536035 Date: 2025.05.08 14:33:31 -05'00' P.E. CHIEF: SITE/CIVIL SECTION	
	SUBMITTED BY: SCHEUFFELE.DUSTIN.J.1367074490 Digitally signed by SCHEUFFELE.DUSTIN.J.1367074490 Date: 2025.05.02 12:03:41 -05'00' P.E. CHIEF: FUELS MECHANICAL SECTION	
BENSON.JOHN.MICHAEL.1123224406 CHIEF, ENGINEERING DIVISION, P.E.	SUBMITTED BY: WAGNER.PATRICK.F.1415526 Digitally signed by WAGNER.PATRICK.F.1415526 Date: 2025.05.29 07:57:34 -05'00' P.E. CHIEF: FUELS ELECTRICAL SECTION	
	SUBMITTED BY: LINDGREN.SCOTT.A.1384736048 Digitally signed by LINDGREN.SCOTT.A.1384736048 Date: 2025.05.06 14:09:19 -05'00' TECHNICAL LEAD:	

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BUCKLEY SFB, COLORADO
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COVER SHEET

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G-001

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FIRE PROTECTION

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BUCO00102FA501.PDF	FA501	FIRE ALARM DETAILS
BUCO00102FA600.PDF	FA600	FIRE ALARM RISER DIAGRAM
BUCO00102FA601.PDF	FA601	FIRE ALARM MATRIX
BUCO00102FA602.PDF	FA602	RSCP FIRE ALARM MATRIX
BUCO00102F-101.PDF	F-101	COMPOSITE LIFE SAFETY AND BUILDING CODE PLAN
BUCO00102F-102.PDF	F-102	COMPOSITE MEZZANINIE LIFE SAFETY AND BUILDING CODE PLAN
BUCO00102F-103.PDF	F-103	CODE PLAN NARRATIVE
BUCO00102FX101.PDF	FX101	COMPOSITE FIRE SUPPRESSION PLAN
BUCO00102FX102.PDF	FX102	COMPOSITE MEZZANINE FIRE SUPPRESSION PLAN

INDEX LEGEND

1. SHEET INDENTIFICATION NUMBERS:

M - 2 0 1

- DISCIPLINE DESIGNATOR w/ Level 2 Designator *(see A/E/C CADD STANDARD RELEASE 6.0 for Level 2 Designator)*
- SHEET TYPE DESIGNATOR
- SHEET SEQUENCE NUMBER

2. DISCIPLINE DESIGNATORS:

G	GENERAL
H	HAZARDOUS MATERIALS
V	SURVERY / MAPPING
B	GEOTECHNICAL
C	CIVIL
L	LANDSCAPE
S	STRUCTURAL
A	ARCHITECTURAL
I	INTERIORS
Q	EQUIPMENT
F	FIRE PROTECTION
P	PLUMBING
D	PROCESS
M	MECHANICAL
E	ELECTRICAL
T	TELECOMMUNICATIONS
R	RESOURCE

3. SHEET TYPE DESIGNATORS:

0	GENERAL
1	PLANS
2	ELEVATIONS
3	SECTIONS
4	LARGE-SCALE VIEWS
5	DETAILS
6	SCHEDULES & DIAGRAMS
7	USER DEFINED
8	USER DEFINED
9	3D REPRESENTATIONS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

INDEX

SHEET ID
G-002

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BUCO00102P-101.PDF	P-101	COMPOSITE PLUMBING PLAN
BUCO00102P-102.PDF	P-102	COMPOSITE CONDENSATION PLAN
BUCO00102P-401.PDF	P-401	ENLARGED PLUMBING PLANS & ISOMETRICS
BUCO00102P-402.PDF	P-402	ENLARGED PLUMBING PLANS & SECTION
BUCO00102P-501.PDF	P-501	PLUMBING DETAILS
BUCO00102P-502.PDF	P-502	PLUMBING DETAILS
BUCO00102P-503.PDF	P-503	PLUMBING DETAILS
BUCO00102P-601.PDF	P-601	PLUMBING SCHEDULES
BUCO00102MH101.PDF	MH101	FIRST FLOOR HVAC PLAN
BUCO00102MH102.PDF	MH102	SECOND FLOOR HVAC PLAN
BUCO00102MH501.PDF	MH501	HVAC DETAILS
BUCO00102MH601.PDF	MH601	HVAC SCHEDULES
BUCO00102MH701.PDF	MH701	HVAC CONTROLS
BUCO00102MH702.PDF	MH702	HVAC CONTROLS
BUCO00102MP101.PDF	MP101	DEF PLAN
BUCO00102MP401.PDF	MP401	DEF ENLARGED PLAN
BUCO00102MP402.PDF	MP402	DEF SECTION VIEWS
BUCO00102MP606.PDF	MP606	DEF P&ID
BUCO00102MP607.PDF	MP607	DEF SCHEDULES
BUCO00102M-001.PDF	M-001	FUEL SYSTEM LEGEND AND NOTES
BUCO00102M-501.PDF	M-501	MECHANICAL FUELING DETAILS - SHEET 1 OF 9
BUCO00102M-502.PDF	M-502	MECHANICAL FUELING DETAILS - SHEET 2 OF 9
BUCO00102M-503.PDF	M-503	MECHANICAL FUELING DETAILS - SHEET 3 OF 9
BUCO00102M-504.PDF	M-504	MECHANICAL FUELING DETAILS - SHEET 4 OF 9
BUCO00102M-505.PDF	M-505	MECHANICAL FUELING DETAILS - SHEET 5 OF 9
BUCO00102M-506.PDF	M-506	MECHANICAL FUELING DETAILS - SHEET 6 OF 9
BUCO00102M-507.PDF	M-507	MECHANICAL FUELING DETAILS - SHEET 7 OF 9
BUCO00102M-508.PDF	M-508	MECHANICAL FUELING DETAILS - SHEET 8 OF 9
BUCO00102M-509.PDF	M-509	MECHANICAL FUELING DETAILS - SHEET 9 OF 9
BUCO00102M-601.PDF	M-601	MECHANICAL FUELING SCHEDULES
BUCO00102M-602.PDF	M-602	MECHANICAL FUELING VALVE MATRIX
BUCO00102M-603.PDF	M-603	MECHANICAL FUELS P&ID
BUCO00102M-604.PDF	M-604	LUBE OIL P&ID

ELECTRICAL

FILE NAME	SHEET ID NO.	DESCRIPTION
BUCO00102E-101.PDF	E-101	ENVIRONMENTAL CONDITION PLAN
BUCO00102E-110.PDF	E-110	ENVIRONMENTAL CONDITION PLAN
BUCO00102E-120.PDF	E-120	AREAS SUBJECT TO PHYSICAL DAMAGE
BUCO00102EG001.PDF	EG001	GROUNDING LIGHTNING PROTECTON NOTES AND SUPPLEMENTAL LEGEND
BUCO00102EG101.PDF	EG101	GROUNDING PLAN
BUCO00102EG102.PDF	EG102	GROUNDING PLAN MEZZANINE
BUCO00102EG104.PDF	EG104	LIGHTNING PROTECTION PLAN
BUCO00102EG401.PDF	EG401	LOAD BANK GROUNDING PLAN
BUCO00102EG501.PDF	EG501	GROUNDING DETAILS
BUCO00102EG502.PDF	EG502	GROUNDING DETAILS
BUCO00102EG503.PDF	EG503	GROUNDING DETAILS
BUCO00102EG504.PDF	EG504	GROUNDING DETAILS
BUCO00102EG600.PDF	EG600	GROUNDING RISER DIAGRAM NOTES
BUCO00102EG601.PDF	EG601	GROUNDING RISER DIAGRAM
BUCO00102EG602.PDF	EG602	GROUNDING RISER DIAGRAM OFFLOAD
BUCO00102EL001.PDF	EL001	LIGHTING NOTES AND SUPPLEMENTAL LEGEND
BUCO00102EL101.PDF	EL101	REFLECTED CEILING PLAN LIGHTING
BUCO00102EL102.PDF	EL102	REFLECTED CEILING PLAN LIGHTING MEZZANINE
BUCO00102EL200.PDF	EL200	LIGHTING CONTROL TECHNOLOGY INTENT
BUCO00102EL201.PDF	EL201	LIGHTING CONTROL PRIMARY ZONE INTENT
BUCO00102EL500.PDF	EL500	LIGHTING CONTROLS NOTES
BUCO00102EL501.PDF	EL501	LIGHTING CONTROL DETAILS
BUCO00102EL600.PDF	EL600	LUMINAIRE SCHEDULE
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BUCO00102EP103.PDF	EP103	EQUIPMENT POWER PLAN
BUCO00102EP104.PDF	EP104	EQUIPMENT POWER PLAN MEZZANINE
BUCO00102EP502.PDF	EP201	ELECTRICAL ELEVATIONS
BUCO00102EP401.PDF	EP401	ENLARGED GENERAL AND EQUIPMENT POWER PLAN
BUCO00102EP500.PDF	EP500	ELECTRICAL DETAILS
BUCO00102EP501.PDF	EP501	GENERATOR CONTROLS
BUCO00102EP600.PDF	EP600	ELECTRICAL ONE-LINE DIAGRAM NOTES AND SCHEDULES
BUCO00102EP601.PDF	EP601	ONE-LINE DIAGRAM 2N
BUCO00102EP602.PDF	EP602	ONE-LINE DIAGRAM 2N
BUCO00102EP603.PDF	EP603	ONE-LINE DIAGRAM OFFLOAD
BUCO00102EP610.PDF	EP610	EQUIPMENT ELECTRICAL CONNECTION NOTES
BUCO00102EP611.PDF	EP611	EQUIPMENT ELECTRICAL CONNECTION
BUCO00102EP612.PDF	EP612	EQUIPMENT ELECTRICAL CONNECTION
BUCO00102EP613.PDF	EP613	EQUIPMENT ELECTRICAL CONNECTION SITE OFFLOAD
BUCO00102EP620.PDF	EP620	PANEL SCHEDULE NOTES AND KEY
BUCO00102EP621.PDF	EP621	PANEL SCHEDULES
BUCO00102EP622.PDF	EP622	PANEL SCHEDULES
BUCO00102EP623.PDF	EP623	PANEL SCHEDULES
BUCO00102EP624.PDF	EP624	PANEL SCHEDULES
BUCO00102EP625.PDF	EP625	PANEL SCHEDULES
BUCO00102EP626.PDF	EP626	PANEL SCHEDULES
BUCO00102EP627.PDF	EP627	PANEL SCHEDULES
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BUCO00102EP631.PDF	EP631	PANEL SCHEDULES OFFLOAD
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BUCO00102EY101.PDF	EY101	INTERCOMMUNICATIONS PLAN

TELECOMMUNICATIONS

FILE NAME	SHEET ID NO.	DESCRIPTION
BUCO00102TN001.PDF	TN001	TELECOMMUNICATIONS NOTES AND SUPPLEMENTAL LEGEND
BUCO00102TN101.PDF	TN101	TELECOMMUNICATIONS PLAN
BUCO00102TN401.PDF	TN401	ENLARGED TELECOMMUNICATIONS PLAN
BUCO00102TN500.PDF	TN500	TELECOMMUNICATIONS DETAILS
BUCO00102TN501.PDF	TN501	TELECOMMUNICATIONS DETAILS
BUCO00102TN502.PDF	TN502	TELECOMMUNICATIONS DETAILS
BUCO00102TN600.PDF	TN600	TELECOMMUNICATIONS RISER DIAGRAM
BUCO00102TN601.PDF	TN601	TELECOMMUNICATIONS OUTSIDE PLANT AND BACKBONE CONNECTION DIAGRAM

FILTER (PUMP) SHELTER

STRUCTURAL

FILE NAME	SHEET ID NO.	DESCRIPTION
BUCO00102S-001S.PDF	S-001S	STRUCTURAL GENERAL NOTES
BUCO00102S-002S.PDF	S-002S	COMPONENT AND CLADING LOADS
BUCO00102S-101S.PDF	S-101S	FOUNDATION PLAN
BUCO00102S-102S.PDF	S-102S	ROOF FRAMING PLAN
BUCO00102S-201S.PDF	S-201S	FRAMING ELEVATIONS
BUCO00102S-501S.PDF	S-501S	STEEL DETAILS
BUCO00102S-502S.PDF	S-502S	STEEL DETAILS
BUCO00102S-510S.PDF	S-510S	FOUNDATION DETAILS
BUCO00102S-511S.PDF	S-511S	SLAB ON GRADE DETAILS

ARCHITECTURAL

FILE NAME	SHEET ID NO.	DESCRIPTION
BUCO00102A-101S.PDF	A-101S	FILTER SHELTER PLANS AND ELEVATIONS
BUCO00102A-301S.PDF	A-301S	FILTER SHELTER SECTIONS AND DETAILS

ELECTRICAL

FILE NAME	SHEET ID NO.	DESCRIPTION
BUCO00102E-100S.PDF	E-100S	ENVIRONMENTAL CONDITION PLAN AND AREAS SUBJECT TO PHYSICAL DAMAGE FILTER SHELTER
BUCO00102EF404S.PDF	EF404S	FILTER SHELTER PIPING GROUNDING PLAN
BUCO00102EG111S.PDF	EG111S	GROUNDING PLANS FILTER SHELTER
BUCO00102EG114S.PDF	EG114S	LIGHTNING PROTECTION PLAN FILTER SHELTER
BUCO00102EG603S.PDF	EG603S	GROUNDING RISER DIAGRAM FILTER SHELTER
BUCO00102EL111S.PDF	EL111S	REFLECTED CEILING PLAN LIGHTING FILTER SHELTER
BUCO00102EL202S.PDF	EL202S	LIGHTING CONTROL TECHNOLOGY AND PRIMARY ZONE INTENT FILTER SHELTER
BUCO00102EP101S.PDF	EP101S	EQUIPMENT POWER PLAN FILTER SHELTER
BUCO00102EP604S.PDF	EP604S	ONE-LINE DIAGRAM FILTER SHELTER
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BUCO00102EP632S.PDF	EP632S	PANEL SCHEDULES FILTER SHELTER
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BUCO00102EP634S.PDF	EP634S	PANEL SCHEDULES FILTER SHELTER

US Army Corps of Engineers ®

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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

INDEX (CONTINUED)

SHEET ID

G-003

ADVERTISEMENT

L	ANGLE
A/C	AIR CONDITIONING
A/C UNIT	AIR CONDITIONING UNIT
AB	ANCHOR BELT
ABV	ABOVE
AC	ALTERNATING CURRENT
ACC	ACCESSIBLE
ACI	AMERICAN CONCRETE INSTITUTE
ACR	ACRYLIC PLASTIC
ACS DR	ACCESS DOOR
ACS PNL	ACCESS PANEL
ACSR	ALUMINUM CABLE STEEL REINFORCED
ACST	ACOUSTIC
ACT	ACOUSTICAL CEILING TILE
ADDM	ADDENDUM
ADH	ADHESIVE
ADJ	ADJACENT, ADJOINING, ADJUSTABLE
ADO	AUTOMATIC DOOR OPERATOR
AFF	ABOVE FINISHED FLOOR
AGGR	AGGREGATE
AHR	ANCHOR
AHU	AIR HANDLING UNIT
AI	AREA INLET
AIC	AMPERE INTERRUPTING CAPACITY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
A.L.	ACTIVE LEAF
ALT	ALTERNATE
ALUM	ALUMINUM
AMB	AMBIENT
AMP	AMPERE
ANOD	ANODIZE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECT
ARI	AMERICAN REFRIGERATION INSTUTUTE
ASB	ASBESTOS
ASC	ABOVE SUSPENDED CEILING
ASPH	ASPHALT
ATC	ACOUSTIC TILE CEILING
AUTO	AUTOMATIC
AVG	AVERAGE
AWG	AMERICAN WIRE GUAGE
AWT	ACOUSTICAL WALL TREATMENT
BB	BULLETIN BOARD
BC	BOOKCASE
BD	BOARD
BDRY	BOUNDARY
BEJ	BRICK EXPANSION JOINT
BEV	BEVEL
BITUM	BITUMINOUS
BJT	BED JOINT
BL	BUILDING LINE
BLDG	BUILDING
BLW	BELOW
BM	BENCHMARK
BO	BOTTOM OF
BOT	BOTTOM
BP	BACK PLASTER(ED)
BRCG	BRACING
BRDG	BRIDGING
BRG	BEARING
BRG PL	BEARING PLATE
BRK	BRICK
BRKT	BRACKET
BRZ	BRONZE
BS	BOTH SIDES
BSMT	BASEMENT
Btu	BRITISH THERMAL UNIT
BtuH	BTU PER HOUR
BTWN	BETWEEN
BUR	BUILT-UP ROOFING
BW	BOTH WAYS
CAB	CABINET
CAP	CAPACITY
CB	CATCH BASIN
CCT	CUBICLE CURTAIN TRACK
CCTV	CLOSED CIRCUIT TELEVISION
CE	COVER ELEVATION
CEM	CEMENT
CEM PLAS	CEMENT PLASTER
CER	CERAMIC
CFI	CONDUCTIVE FLOORING
CFLG	COUNTERFLASHING
CFM	CUBIC FEET PER MINUTE
CG	CORNER GUARD
CH BD	CHALKBOARD
CHFR	CHAMFER
CHIM	CHIMNEY
CHK	CHECK
CHR PL	CHROME PLATED
CI	CAST IRON
CI	CURB INLET
CIP	CAST-IN-PLACE
CIRC	CIRCULAR
CJ	CONTROL JOINT
CJ	CONSTRUCTION JOINT
CKT	CIRCUIT
CKT BRKR	CURCUIT BREAKER
CL	CENTER LINE
CLG	CEILING
CLG HT	CEILING HEIGHT
CLGL	CLEAR GLASS
CLL	CONTRACT LIMIT LINE
CLO	CLOSET
CLOS	CLOSURE
CLR	CLEAR(ANCE)
CLWG	CLEAR WIRED GLASS
cm	CENTIMETER(S)
CMP	CORRUGATED METAL PIPE
CMPST	COMPOSITE
CMU	CONCRETE MASONRY UNIT
CND	CONDUIT
CNL	CONDUCTIVE NEOPRENE LATEX
CNR	CORNER
CNTR	COUNTER
CO	CLEANOUT
CO2	CARBON DIOXIDE
COL	COLUMN
COM	COMMON
COMB	COMBUSTION
COMPT	COMPARTMENT
CONC	CONCRETE
CONN	CONNECT
CONSTR	CONSTRUCTION
CONT	CONTINUE
CONTR	CONTRACTOR
CORR	CORRIDOR
COV	COVER
CPRS	COMPRESSSIBLE
CPT	CARPET
CRCMF	CIRCUMFERENCE
CRES	CORROSIVE RESISTANT STEEL
CRG	CROSS GRAIN
CRS	COURSE(S)
CS	CAST STONE
CSK	COUNTERSUNK
CSMT	CASEMENT
CT	CERAMIC TILE
CT	CURRENT TRANSFORMER
C TO C	CENTER TO CENTER
CTR	CENTER
CU	CONDENSING UNIT
Cu	COPPER
CU FT	CUBIC FEET
CUH	CABINET UNIT HEATER
CU YD	CUBIC YARDS
CV	CEILING VENT
CVH	CONDUCTIVE VINYL HOMOGENEOUS (SHEET TYPE)
CW	COLD WATER
CYL	CYLINDER
d	PENNY (AS IN NAIL -10D)
DAT	DATUM
DB	DRY BULB
DBL	DOUBLE
DBL ACT DR	DOUBLE ACTING DOOR
DCJ	DOWELED CONTROL JOINT
DCJT	DUMMY CONTROL JOINT
DEG	DEGREE
DEMO	DEMOLITION
DEPR	DEPRESSION
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DH	DUCT HEATER
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DISC	DISCONNECT
DISP	DISPENSER
DISTR PNL	DISTRIBUTION PANEL
DIV	DIVISION
DL	DEAD LOAD
DMPF	DAMPPROOFING
DMPR	DAMPER
DMT	DEMOUNTABLE
DN	DOWN
DR	DOOR
DR	DRAIN
DRB	DRAINBOARD
DR CL	DOOR CLOSER
DS	DOUBLE STRENGTH (GLASS)
DS	DOWNSPOUT
DT	DRAIN TILE
DVTL	DOVETAIL
DWG	DRAWING
DWLS	DOWELS
DWR	DRAWER
DWTR	DUMBWAITER
DX	DIRECT EXPANSION
E	EAST
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION - GRADE OR BUILDING
ELEC	ELECTRIC
EM	EXPANDED METAL
EMD	ESTIMATED MAXIMUM DEMAND
EMER	EMERGENCY
ENCL	ENCLOSE(URE)
ENTR	ENTRANCE, ENTERING
EP	ELECTRICAL PANELBOARD
EPRF	EXPLOSION PROOF
EPY	EPOXY COATING
EQ	EQUAL
EQUIP	EQUIPMENT
ESCAL	ESCALATOR
EST	ESTIMATE(D)
EWC	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMPERATURE
EXC	EXCAVATE
EXH	EXHAUST
EXH A	EXHAUST AIR
EXST	EXISTING
EXP	EXPANSION
EXP	EXPOSED
EXP BT	EXPANSION BOLT
EXT	EXTERIOR
F	FAHRENHEIT
FA	FIRE ALARM
FA	FRESH AIR
FAC	FIRE APPARATUS CLOSET
FAI	FRESH AIR INTAKE
F BRK	FIRE BRICK
FC	FOOT CANDLE
FC BRK	FACE BRICK
FCG	FACING
FCJ	FLOOR CONSTRUCTION JOINT
FCO	FLOOR CLEANOUT
FCU	FAN COIL UNIT
FD	FLOOR DRAIN
FDMPR	FIRE DAMPER
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEB	FIRE EXTINGUISHER BRACKET
FEC	FIRE EXTINGUISHER CABINET
FF	FACTORY FINISH
FGL	FIBERGLASS
FH	FIRE HYDRANT
FH	FLAT HEAD
FHC	FIRE HOSE CABINET
FHMS	FLAT HEAD MACHINE SCREW
FHR	FIRE HOSE RACK
FHS	FIRE HOSE STATION
FHWS	FLAT HEAD WOOD SCREW
FIG	FIGURE
FIN	FINISH
FIN FLR	FINISH FLOOR
FIXT	FIXTURE
FJT	FLUSH JOINT
FLASH	FLASHING
FLR	FLOOR
FLEX	FLEXIBLE
FLG	FLOORING
FLR PL	FLOOR PLATE
FLUOR	FLUORESCENT
FN	FENCE
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FP	FIRE PARTITION
FP	FIREPROOF
FPM	FEET PER MINUTE
FR	FIRE RESISTANT
FR	FRAME
FRG	FORGED
FRMG	FRAMING
FRT	FIRE-RETARDANT
FS	FULL SIZE
FSTNR	FASTEN(ER)
FT	FEET
FTG	FOOTING
FURG	FURRING
FUT	FUTURE
FW	FIRE WATER
FWC	FABRIC WALL COVERING
G	NATURAL GAS
GA	GAGE
GAL	GALLON(S)
GALV	GALVANIZED
GALV STL	GALVANIZED STEEL
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GEN	GENERAL
GF	GROUND FACE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFE	GOVERNMENT-FURNISHED EQUIPMENT
GFE/CI	GOVERNMENT-FURNISHED EQUIPMENT CONTRACTOR INSTALLED
GI	GALVANIZED IRON
GIP	GALVANIZED IRON PIPE
GKT	GASKET(ED)
GL	GLASS
GL BLK	GLASS BLOCK
GLF	GLASS FIBER
GLZ	GLAZING
GLZ CMU	GLAZED CONCRETE MASONRY UNITS
G	GROUND
GOVT	GOVERNMENT
GPM	GALLONS PER MINUTE
GPT	GYPSUM TILE
GRAN	GRANITE
GR LN	GRADE LINE
GRTG	GRATING
GST	GLAZED STRUCTURAL TILE
GSU	GLAZED STRUCTURAL UNITS
GT	GROUT
GWT	GLAZED WALL TILE
GYP	GYPSUM
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
HB	HOSE BIBB
HC	HOLLOW CORE
HCD	HALON CONTAINMENT DAMPER
HCL	HORIZONTAL CONTROL LINE
HCP	HANDICAPPED
HD	HEAD
HD	HEAVY DUTY
HDBD	HARDBOARD
HD JT	HEAD JOINT
HDR	HEADER
HDW	HARDWARE
HDWD	HARDWOOD
HES	HIGH EARLY-STRENGTH CEMENT
HEX	HEXAGON
HH	HANDHOLE
HK	HOOK(S)
HM	HOLLOW METAL
HNDRL	HANDRAIL
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HP	HORSEPOWER
HPT	HIGH POINT
HR	HOUR
HS	HIGH STRENGTH
HSGYP	HIGH-STRENGTH GYPSUM PLASTER
HSKPG	HOUSEKEEPING
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HYDR	HYDRAULIC
Hz	HERTZ
IC	INTERCOM
ID	INSIDE DIAMETER
IESNA	ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA
ILK	INTERLOCK
IN	INCH
INCIN	INCINERATOR
INCL	INCLUDED
INSF	INSULATING FILL
INSUL	INSULATION
INT	INTERIOR
INTM	INTERMEDIATE
INV	INVERT
IP	IRON PIPE
IPS	IRON PIPE SIZE
I.P.S.	INSIDE PIPE SIZE
JAN CLO	JANITOR'S CLOSET
J-BOX	JUNCTION BOX
JCT	JUNCTION
JST	JOIST
JT	JOINT
KIP	KILOPOUND (1000 POUNDS)
KIT	KITCHEN
KOP	KNOCKOUT PANEL
KPL	KICKPLATE
km	KILOMETER
kV	KILOVOLTS
kVA	KILOVOLT AMPERES
kVAR	KILOVOLT AMPERES REACTIVE
kW	KILOWATT
KWY	KEYWAY
LAB	LABORATORY
LAD	LADDER
LAM	LAMINATE
LAT	LEAVING AIR TEMPERATURE
LAU	LAUNDRY
LAV	LAVATORY
LB	LAG BOLT
LB	POUND
LBL	LABEL
LBR	LUMBER
LC	LIGHT CONTROL
LD	LOAD
LDG	LOADING
LG	LENGTH
LH	LEFT HAND(ED)
LIN	LINEAR
LKR	LOCKER
LL	LIVE LOAD
LLD	LEAD-LINED DOOR
LM	LUMEN
LMST	LIMESTONE
LNTL	LINTEL
LONG	LONGITUDINAL
LP	LIGHTPROOF
LPD	LIGHTPROOF DOOR
LPL	LIGHTPROOF LOUVER
LPT	LOW POINT
LR	LIVING ROOM
LS	LAWN SPRINKLER
LT	LIGHT
LT WT	LIGHTWEIGHT
LTG	LIGHTING
LTNG	LIGHTNING
LVR	LOUVER
LWC	LIGHTWEIGHT CONCRETE
LWT	LEAVING WATER TEMPERATURE
m	METER(S)
M&B	MATCHED AND BEADED
MACH	MACHINE
MAS	MASONRY
MATL	MATERIAL(S)
MAX	MAXIMUM
MB	MACHINE BOLTS
MBR	MEMBER
MC	MEDICINE CABINET
MCJ	MASONRY CONTROL JOINT
MCO	METAL-CASED OPENING
MDS	METAL DIVIDER STRIP
MECH	MECHANICAL
MECH RM	MECHANICAL ROOM
MED	MEDIUM
MEMB	MEMBRANE
MES	METAL EDGE STRIP
MFD	METAL FLOOR DECKING
MFG	MANUFACTURING
MFR	MANUFACTURER
MG	MOTOR GENERATOR
MGT	MATTE-GLAZED TILE
MH	MANHOLE
MI	MALLEABLE IRON
MIN	MINIMUM
MIRR	MIRROR
MISC	MISCELLANEOUS
ML	METAL LATH
ML	MONOLITHIC
MLDG	MOULDING
MLWK	MILLWORK
mm	MILLIMETER(S)
MNIC	MATERIAL NOT IN CONTRACT (INSTALLATION BY CONTRACTOR)
MO	MASONRY OPENING
MOD	MODULAR
MOD.	MODIFIED
MOT	MOTOR
MP	MOVABLE PARTITION
MR	MOP RECEPTOR
MRB	MARBLE BASE
MRD	METAL ROOF DECKING
MS	MACHINE SCREWS
MT	METAL THRESHOLD
MT	MOUNT
MTD	MOUNTED
MTFR	METAL FURRING
MTL	METAL
MVBL	MOVABLE
MULL	MULLION
N	NORTH
NAT	NATURAL
NC	NORAMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
Ni	NICKEL
NIC	NOT IN CONTRACT
NL	NAILABLE
N.L.	NEOPRENE LATEX
NM	NONMETALLIC
NO	NORMALLY OPEN
NO	NUMBER
NOM	NOMINAL
NR	NOISE REDUCTION
NRC	NOISE REDUCTION COEFFICIENT
N°REQD	NOT REQUIRED
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBSC	OBSCURE
OBW	OBSERVATION WINDOW
OC	ON CENTER
OCEW	ON CENTER EACH WAY
OD	OUTSIDE DIAMETER
OFC	OFFICE
OGL	OBSCURE GLASS
OH	OVERHEAD
OHMS	OVALHEAD MACHINE SCREW
OHWS	OVALHEAD WOOD SCREW
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OPQ	OPAQUE
OPS	OPERATIONS
OS & Y	OUTSIDE SCREW AND YOKE
OWGL	OBSCURE WIRED GLASS
P	POLE
PA	PUBLIC ADDRESS
PAR	PARALLEL
PB	PANIC BAR
PBD	PARTICLE BOARD
PBS	PUSH BUTTON STATION
PC	PIECE
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCP	CEMENT PLASTER (PORTLAND)
PD	PAVEMENT DRAIN
PED	PEDESTAL
PERF	PERFORATE(D)
PERIM	PERIMETER
PH	PHASE
PHAR	PHARMACY
PI	POINT OF INTERSECTION
PIPU	PREFAB ISOLATION POWER UNIT
PIV	POST INDICATING VALVE
PL	PLATE
PL	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLAT	PLATFORM
PLBG	PLUMBING
PLF	POUNDS PER LINEAR FOOT
PLG	PILING
PL GL	PLATE GLASS
PLYWD	PLYWOOD
PNL	PANEL
PT	PAINT(ED)
POL	POLISHED
PORC	PORCELAIN
PORT	PORTABLE
PPGL	POLISHED PLATE GLASS
PPM	PARTS PER MILLION
PR	PAIR
PREFAB	PREFABRICATE(D)
PREFIN	PREFINISHED
PREFMD	PREFORMED
PRKG	PARKING
PROJ	PROJECT
PRV	PRESSURE-REGULATING VALVE
PS	PIPE SPACE
P.S.	PRESSED STEEL
PS CONC	PRESTRESSED CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PNEUMATIC TUBE
PT.	POINT
PT CONC	POST-TENSIONED CONCRETE
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PTR	PAPER TOWEL RECEPTACLE
PV	PAVED
PVC	POLYVINYL CHLORIDE
PVG	PAVING
PW	PASS WINDOW
QT	QUARRY TILE
QT.	QUART
QTR	QUARTER
1/4 RND	QUARTER ROUND
QTY	QUANTITY
R	RADIUS
R	RANGE
R	RISER
RA	RETURN AIR
RAB	RABBETED
RA GR	RETURN AIR GRILLE
RAR	RETURN AIR REGISTER
RB	RUBBER BASE, RESILIENT BASE
RBL	RUBBLE STONE
RBR	RUBBER
RC	REMOTE CONTROL
RCP	REINFORCED CONCRETE PIPE
RCVR	RECEIVER
RD	ROOF DRAIN
RDG INS	RIGID INSULATION
RECPT	RECEPTACLE
REC ROOM	RECREATION ROOM
RECT	RECTIFIER
REF	REFERENCE
REFL	REFLECT
REFR	REFRIGERATION
REG	REGISTER
REGLET	REGLET
REINF	REINFORCE
REM	REMOVE(ABLE)
REQD	REQUIRED
RESIL	RESILIENT
RET	RETURN
REV	REVISION
RFG	ROOFING
RH	RELATIVE HUMIDITY
RH	RIGHT HAND
RH	ROOF HATCH
RK	RACK
RLG	RAILING
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RP	RETRACTABLE PARTITION
RPM	REVOLUTIONS PER MINUTE
RPRT	RAISED PATTERN RUBBER TILE
RTF	RUBBER TILE FLOOR
RVS	REVERSE
RVT	RIVET
RWC	RAINWATER CONDUCTOR
S	SOUTH
SA	SUPPLY AIR
SB	SPLASH BLOCK
S.B.	SECURITY BARS
SC	SOLID CORE
SCHED	SCHEDULE
SCRN	SCREEN
SCT	STRUCTURAL CLAY TILE
SD	STORM DRAIN
SDI	STEEL DOOR INSTITUTE
SECT	SECTION
SEQ	SEQUENCE
SFGL	SAFETY GLASS
SFTU	STRUCTURAL FACING TILE UNIT
SFU	STRUCTURAL FACING UNIT
SG	SHEET GLASS
SHLDR	SHOULDER
SHT	SHEET
SHTHG	SHEATHING
SHV	SHELVING
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
SKLT	SKYLIGHT
SLNT	SEALANT
SLV	SLEEVE
SM	SHEET METAL
SMS	SHEET METAL SCREWS
SOV	SHUT OFF VALVE
SPC	SPACER
SPCL	SPECIAL
SPD	SOUNDPROOF DOOR
SPEC	SPECIFICATION
SPF	SOUNDPROOF
SP FIN	SPECIAL FINISH
SPH	SPACE HEATER
SPKR	SPEAKER
SQ	SQUARE
SQHD	SQUARE HEAD
S&R	SHELF AND ROD
SS	SERVICE SINK
SS	STANDING SEAM (ROOF)
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STG	SEATING
STL	STEEL
STOR	STORAGE
ST PR	STATIC PRESSURE
STR	STRINGER
STRUCT	STRUCTURAL
STWY	STAIRWAY
SUB FL	SUBFLOOR
SUSP	SUSPENDED
SV	SHEET VINYL
SW	SWITCH
SWBD	SWITCHBOARD
SYMM	SYMMETRICAL
SYNTH	SYNTHETIC
SYS	SYSTEM
T	TREAD
TAN	TANGENT
TB	TOWEL BAR
TC	TERRA COTTA
TEL	TELEPHONE
TEMP	TEMPERATURE
TEMP	TEMPORARY
TER	TERRAZZO
TERM	TERMINAL
T&G	TONGUE AND GROOVE
TGL	TOGGLE
TH	TRUSS HEAD
THK	THICK(NESS)
THRES	THRESHOLD
TK BD	TACKBOARD
TKS	TACKSTRIP
TO	TOP OF
TOL	TOLERANCE
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB
TOS	TOP OF STEEL
TOW	TOP OF WALL
TPO	TOILET PAPER DISPENSER
TPTN	TOILET PARTITION
TRANS	TRANSOM
TRANS	TRANSVERSE
TSTAT	THERMOSTAT
TV	TELEVISION
TYP	TYPICAL
UC	UNIT COOLER
UGND	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UPS	UNINTERRUPTABLE POWER SUPPLY
UR	URINAL
UTIL	UTILITY
UV	UNIT VENTILATOR
V	VOLT
VAR	VARNISH
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VCT	VITRIFIED CLAY TILE
VD	VAULT DOOR
VENT	VENTILATOR(TION)
VERT	VERTICAL
VEST	VESTIBULE
VF	VINYL FABRIC
VG	VERTICAL GRAIN
VH	VINYL HOMOGENEOUS
VJ	V-JOINTED
VNR	VENEER
VOL	VOLUME
VR	VAPOR RETARDER
VRM	VERMICULITE
VS	VENT STACK
V.T.	VOLTAGE TRANSFORMER
VTR	VENT THRU ROOF
VWC	VINYL WALL COVERING
W	WEST
W/	WITH
WB	WET BULB
WBL	WOOD BLOCKING
WC	WATER CLOSET
W/C	WHEELCHAIR
WCO	WOOD-CASED OPENING
WD	WOOD
WD	WOOD DOOR
WDSP	WASTE DISPOSER
WDW	WINDOW
WF	WIDE FLANGE
WGL	WIRED GLASS
WH	WALL HUNG
WH	WATER HEATER
WHB	WHEEL BUMPER
WHM	WATT-HOUR METER
WI	WROUGHT IRON
WKSH	WORK SHOP
WM	WIRE MESH
W/O	WITHOUT
WP	WATERPROOF(ING)
WP	WEATHERPROOF
WP	WORKING POINT
WR	WASTE RECEPTACLE
WRB	WARDROBE
WS	WATERSTOP
W.S.	WASTE STACK
WSCT	WAINSCOT
WT	WEIGHT
WTH	WIDTH
W/W	WALL TO WALL
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
WWR	WELDED WIRE REINFORCEMENT
XFMR	TRANSFORMER
YD	YARD
YD	YARD DRAIN

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DATE	DESCRIPTION	MARK

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

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SUBMITTED BY: B. CORUP
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ABBREVIATIONS

SHEET ID

G-004

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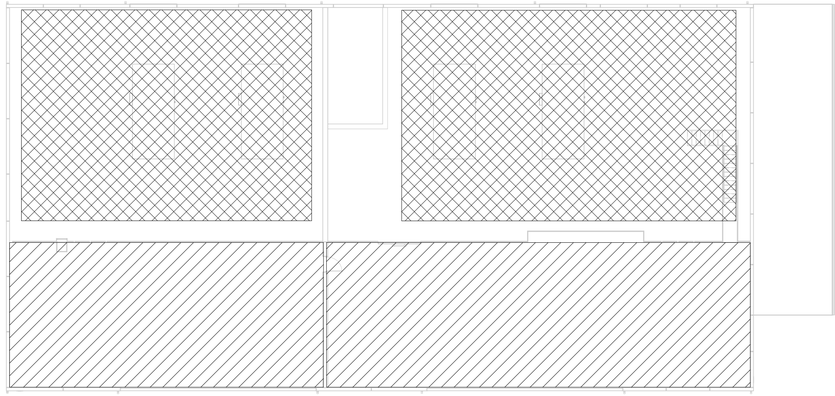
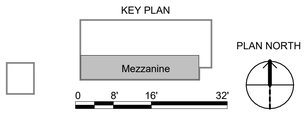
KEYNOTES - SPACE CONTENTS LIMITATIONS	
1	SPACE CONTAINS OVERHEAD CRANE. COORDINATE TO NOT OBSTRUCT OPERATION.

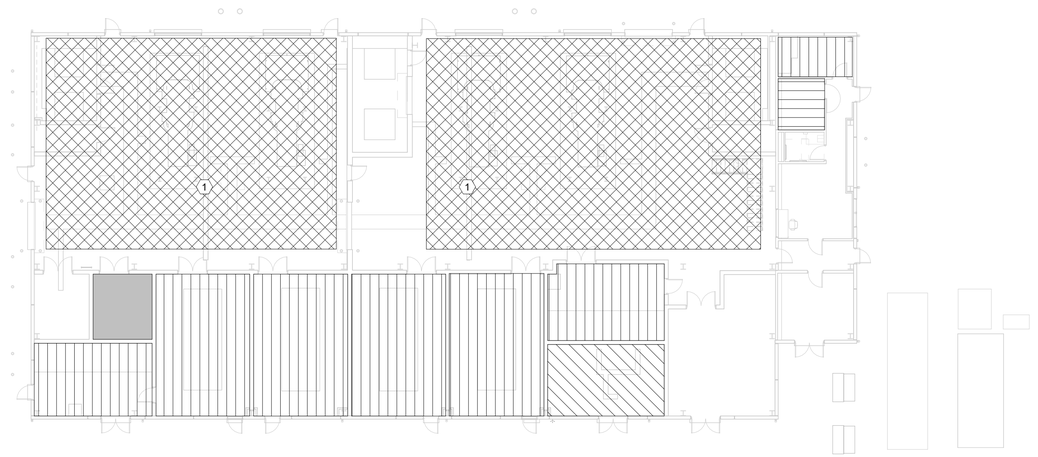
SPACE CONTENTS LIMITATION LEGEND		
	1	COMMUNICATIONS SPACE. NO UTILITIES, SERVICES, OR OTHER PERMANENTLY-INSTALLED AMENITIES SHALL ENTER THE SPACE OTHER THAN THOSE DIRECTLY SERVING THE SPACE.
	2	ELECTRICAL SPACE. NO UTILITIES, SERVICES, OR OTHER PERMANENTLY-INSTALLED AMENITIES SHALL ENTER THE SPACE OTHER THAN THOSE DIRECTLY SERVING THE SPACE.
	3	FIRE PROTECTION SPACE. NO UTILITIES, SERVICES, OR OTHER PERMANENTLY-INSTALLED AMENITIES SHALL ENTER THE SPACE OTHER THAN THOSE DIRECTLY SERVING THE SPACE.
	4	CRANE SPACE. APPROXIMATE OPERATION RANGE OF CRANE. SEE S-SERIES SHEETS FOR COORDINATION. NO CONDUIT, LUMINAIRES, OR SIMILAR ELECTRICAL EQUIPMENT TO BE RUN SUCH THAT CRANE OPERATING SPACE IS OBSTRUCTED.
	5	MEZZANINE SPACE. COORDINATE LUMINAIRE LOCATION SO THAT NO LUMINAIRES ARE LOCATED DIRECTLY OVER EXHAUST FANS. SEE M-SERIES SHEETS FOR COORDINATION.
	6	FORKLIFT CHARGING ROOM. NO UTILITIES, SERVICES, OR OTHER PERMANENTLY-INSTALLED AMENITIES SHALL ENTER THE SPACE OTHER THAN THOSE DIRECTLY SERVING THE SPACE.



G11 SPACE CONTENTS LIMITATIONS PLAN MEZZANINE

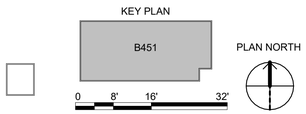
1/16" = 1'-0"





A11 SPACE CONTENT LIMITATIONS FLOOR PLAN

1/16" = 1'-0"



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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
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SPACE CONTENTS LIMITATIONS PLAN

SHEET ID

G-005

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A1 SOF CONSTRUCTION FREE ZONE

TRUE NORTH

0 80' 160'

NOTES
1. SEE CS511 AND CS512 FOR CHAINLINK FENCE AND GATE DETAILS.
2. CONTRACTOR MAY PROVIDE THEIR OWN GUARD SHACK FOR ACCESS CONTROL OF THE FREE ZONE, AND SHOULD POWER BE REQUIRED, IT MAY BE SOURCED FROM EXISTING TRANSFORMER (150 KVA 208/120V SECONDARY).
3. CONTRACTOR RESPONSIBLE FOR REMOVING FREE ZONE FENCING AT CONCLUSION OF CONSTRUCTION.

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BUCKLEY SFB, COLORADO
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CONSTRUCTION FREE ZONE

SHEET ID
G-006

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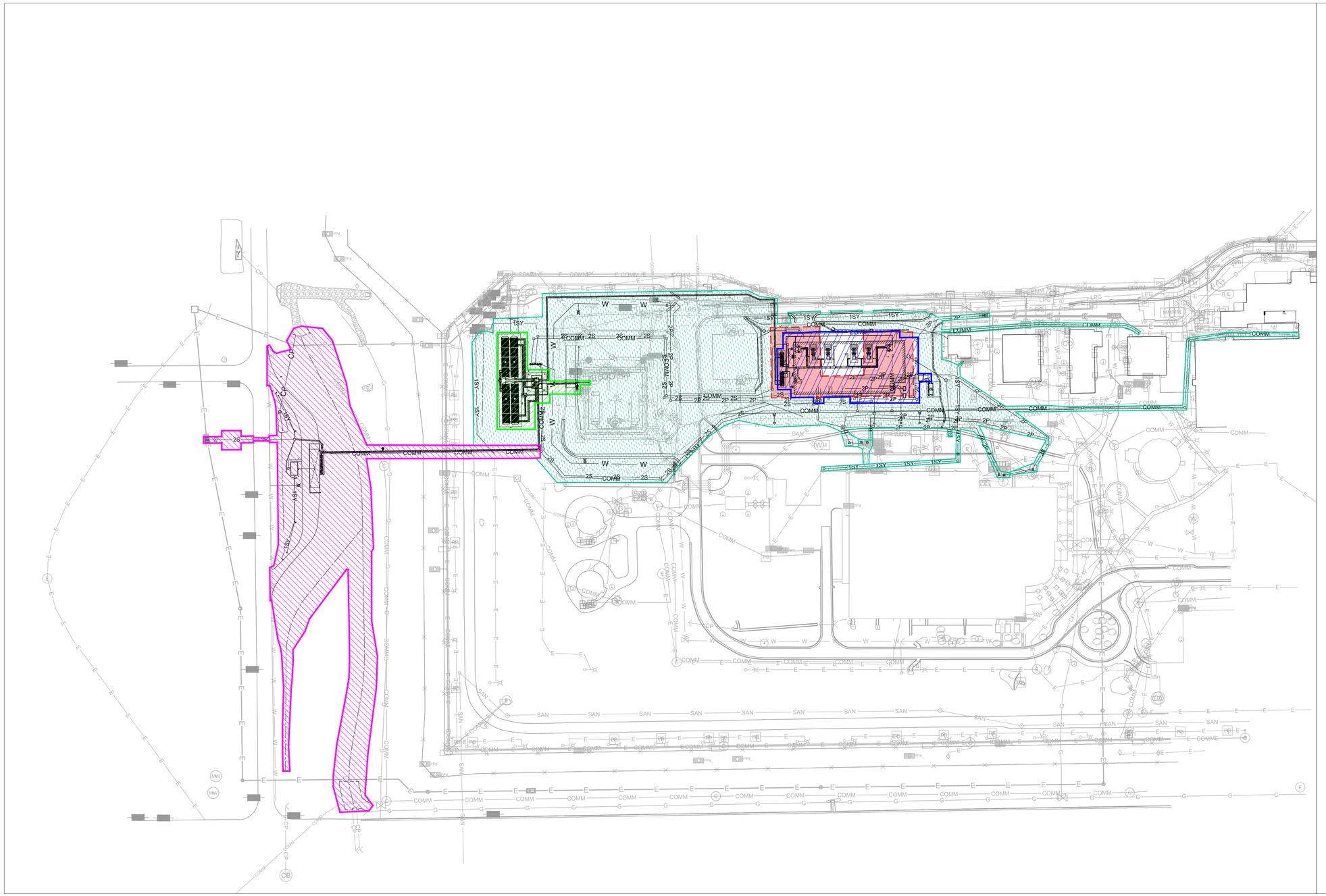

NOTES
1. SEE SPECS FOR CLIN SCHEDULE.
2. THE CURB & GUTTER REMOVAL AND REPLACEMENT SHOWN ON CS107 IS TO BE INCLUDED IN CLIN 0004.
3. CLIN 0006, 0007 AND 0008 NOT SHOWN.
4. ALL WORK SHOWN ON G-006 IS TO BE INCLUDED IN CLIN 0004.

TRUE NORTH

0 80' 160'

A1 CLIN OVERVIEW PLAN

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CLIN OVERVIEW PLAN

SHEET ID
G-007

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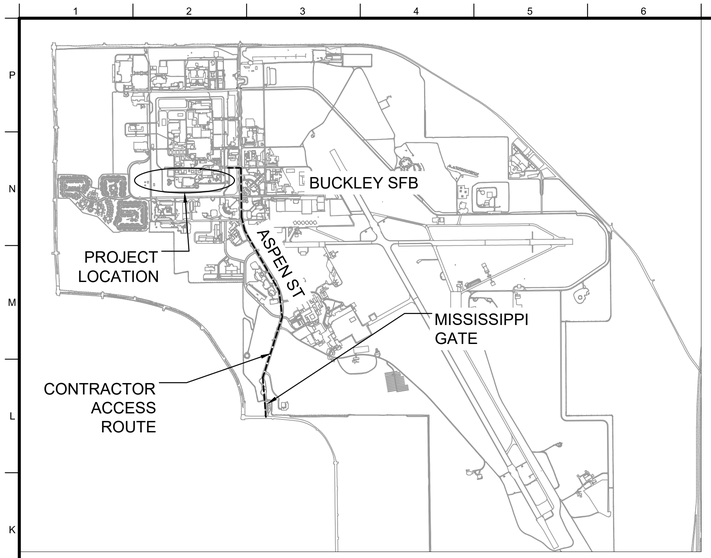
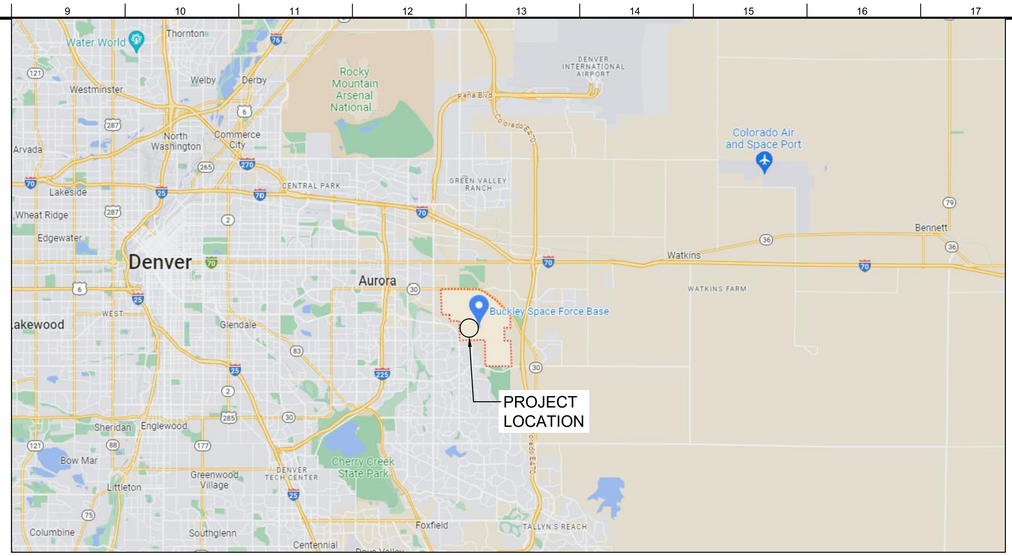
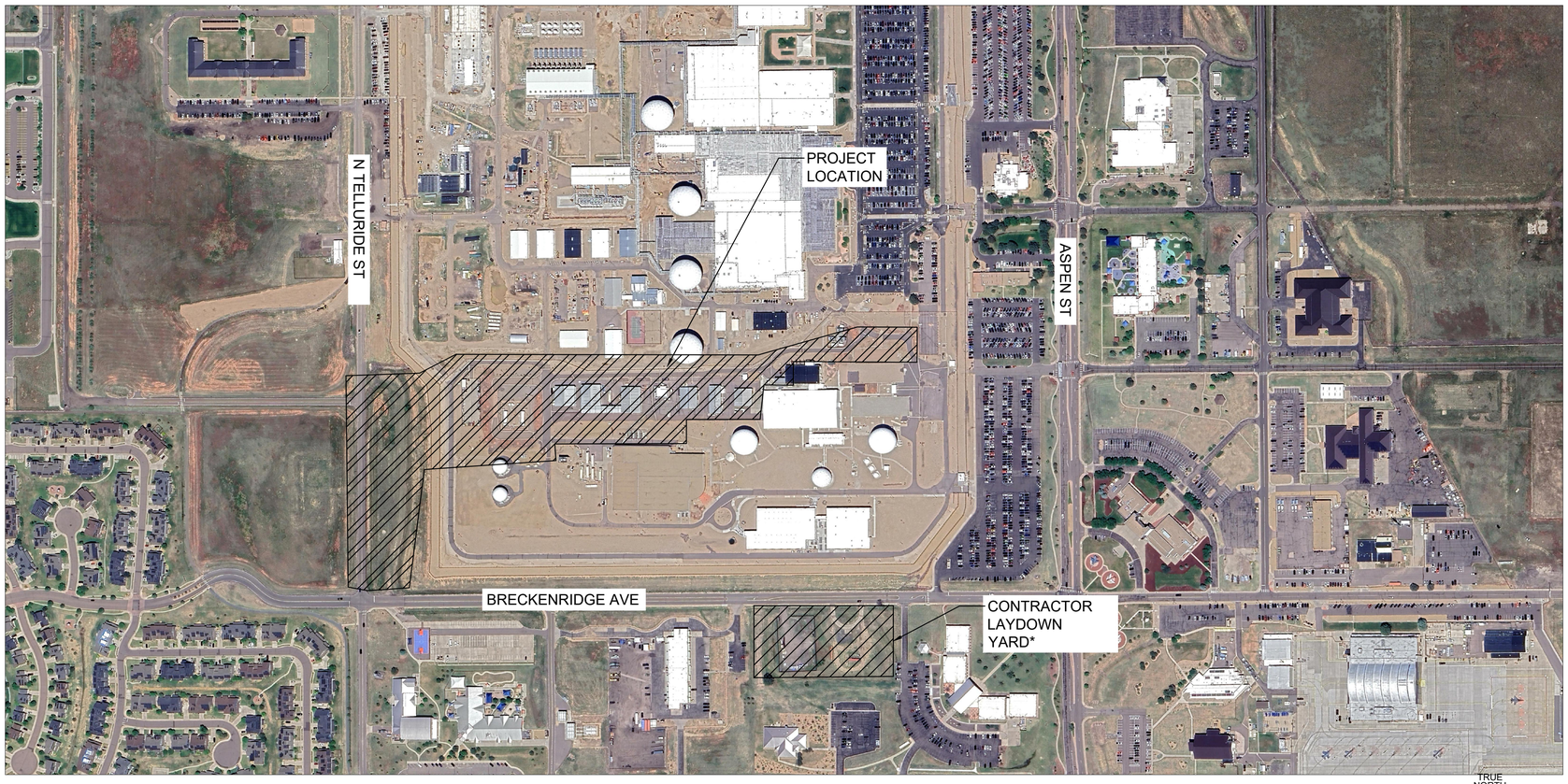


J1 BUCKLEY SPACE FORCE BASE
SCALE:NTS



J9 VINICTY MAP
SCALE:NTS



A1 PROJECT LOCATION PLAN
SCALE:NTS

*CONTRACTOR RESPONSIBLE FOR RESTORING LAYDOWN YARD AREA TO PRE-PROJECT CONDITION PRIOR TO PROJECT COMPLETION. THE ERCIP WATER WELL PROJECT MAY ALSO BE UTILIZING THE SAME SPACE FOR LAYDOWN YARD. CONTRACTOR TO COORDINATE WITH COR AND OTHER CONTRACTOR AS NECESSARY.

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PROJECT LOCATION AND VICINITY MAP

SHEET ID
GI100

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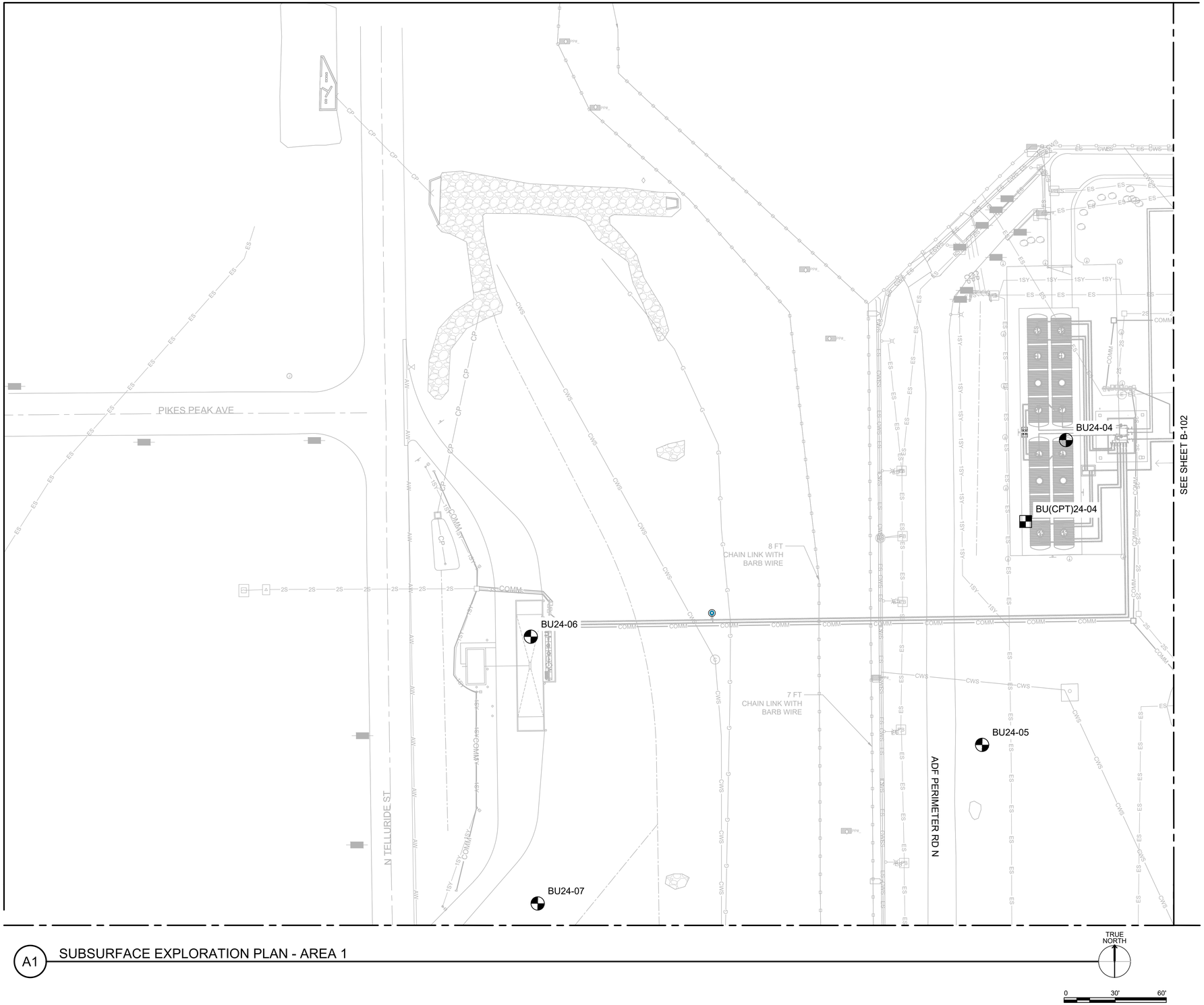


A1 SUBSURFACE EXPLORATION PLAN - AREA 1

GENERAL NOTES

1. SEE SHEETS B-301 TO B-304 FOR BORING AND CONE PENETRATION TEST (CPT) LOGS.
2. COORDINATE SYSTEM: COLORADO CENTRAL (0502). DATUM: NAVD88, NAD83.

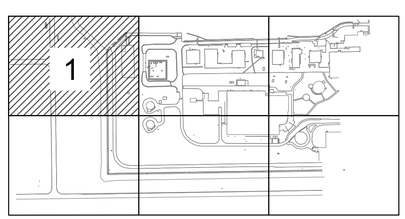
EXPLORATION COORDINATES

POINT	NORTHING	EASTING	DEPTH (FT)
BU24-04	3202528.281	1686375.559	20.0
BU24-05	3202479.059	1686196.673	20.0
BU24-06	3202214.107	1686260.145	20.0
BU24-07	3202218.159	1686103.538	20.0
BU(CPT)24-04	3202504.578	1686327.797	41.3

LEGEND

- SOIL BORING
- CONE PENETRATION TEST (CPT) SOUNDING

KEY PLAN



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SOLICITATION NO.:	W9126F25RA043
CONTRACT NO.:	
FILE NUMBER:	
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SUBSURFACE EXPLORATION PLAN - AREA 1

SHEET ID
B-101

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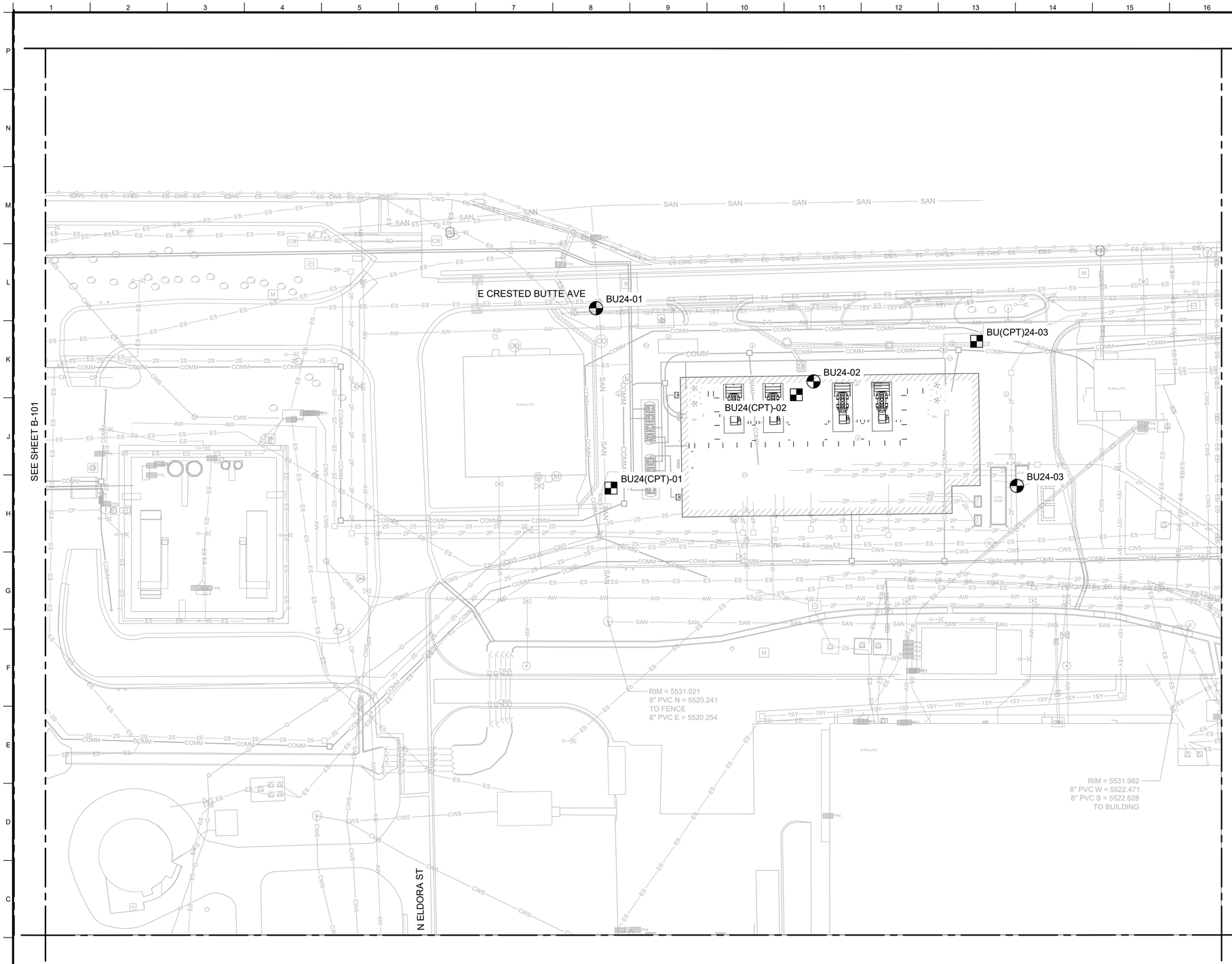


A1 SUBSURFACE EXPLORATION PLAN - AREA 2

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. SEE SHEETS B-301 TO B-304 FOR BORING AND CONE PENETRATION TEST (CPT) LOGS.
2. COORDINATE SYSTEM: COLORADO CENTRAL (0502). DATUM: NAVD88, NAD83.

EXPLORATION COORDINATES

POINT	NORTHING	EASTING	DEPTH (FT)
BU24-01	3202912.867	1686480.607	71.2
BU24-02	3203039.804	1686437.902	98.4
BU24-03	3203158.446	1686376.918	78.6
BU(CPT)24-01	3202921.521	1686375.655	52.7
BU(CPT)24-02	3203029.709	1686430.136	54.2
BU(CPT)24-03	3203134.960	1686461.316	66.0

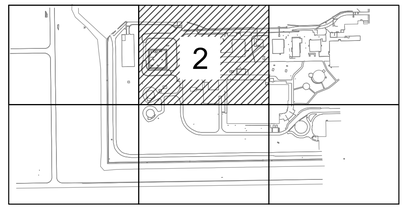
LEGEND

- SOIL BORING
- CONE PENETRATION TEST (CPT) SOUNDING

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



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MARK	DESCRIPTION	DATE

DESIGNED BY: R. SISK
DRAWN BY: R. SISK
CHECKED BY: K. HALL
SUBMITTED BY: K. HALL
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102B101-102.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SUBSURFACE EXPLORATION PLAN - AREA 2

SHEET ID
B-102

ADVERTISEMENT

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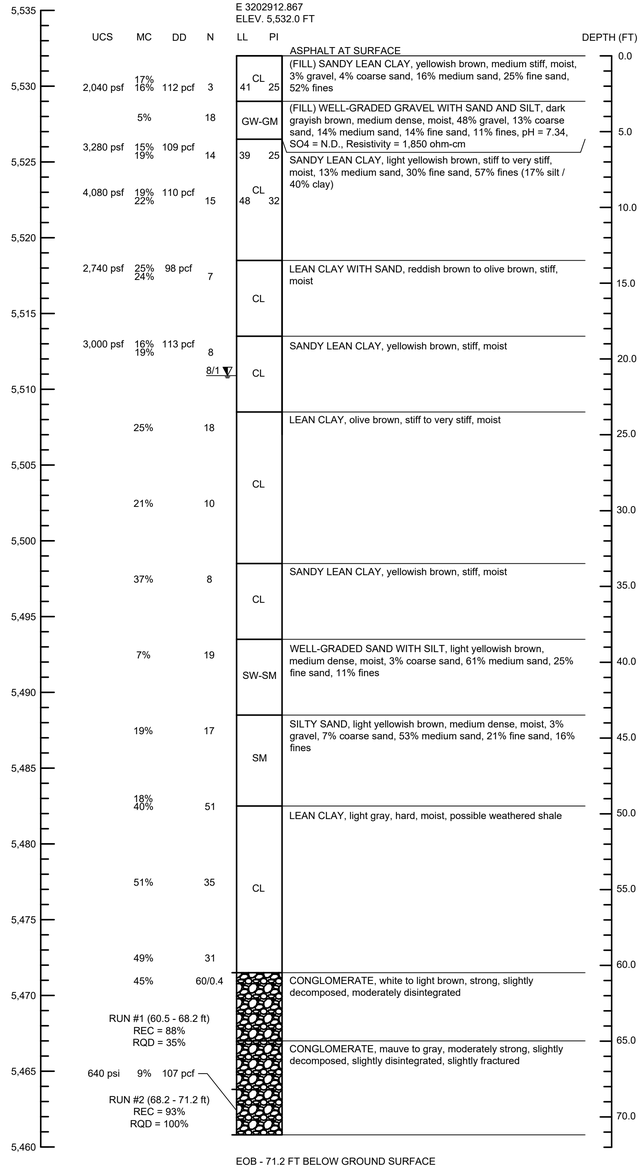

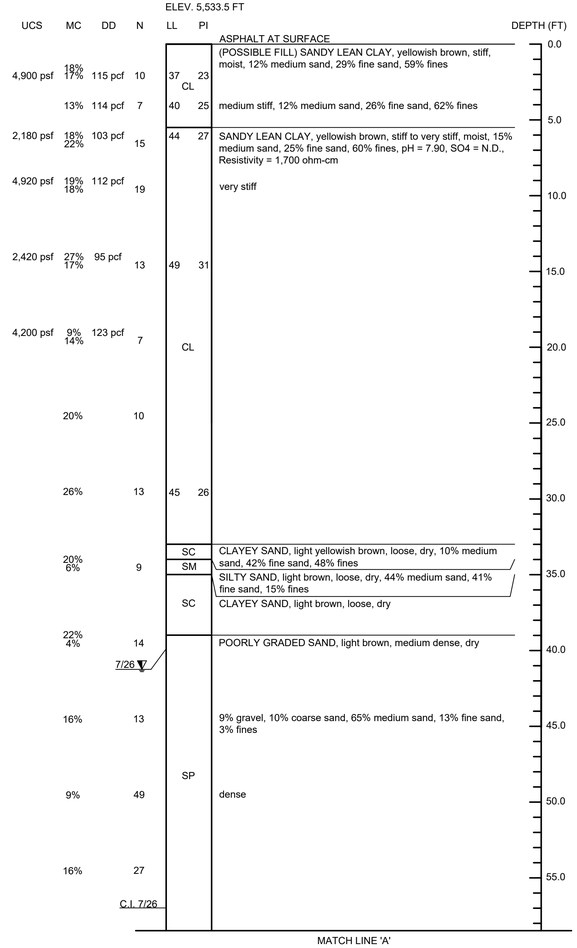

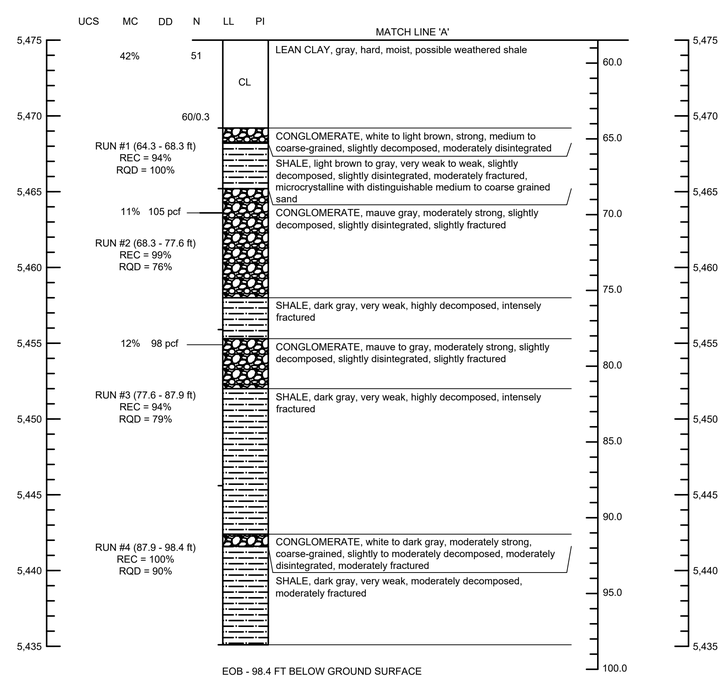

BORING NOTES

1. THE DESCRIPTIONS AT THE RIGHT OF THE LOGS ARE THE RESULTS OF FIELD AND LABORATORY DATA. THE TERMS "DRY", "MOIST", "WET", ETC. ARE FIELD DESCRIPTIONS MADE BY THE GEOLOGIST IN THE FIELD AT THE TIME OF DRILLING. SEE "MC" ON THE CONDENSED LOG OF BORINGS FOR LABORATORY DETERMINATION OF MOISTURE CONTENTS FOR THE SOIL. LABORATORY CLASSIFICATIONS ARE IN ACCORDANCE WITH ASTM D 2487.
2. THE LOGS FURNISHED REPRESENT THE TYPES OF SOIL AND ROCK ENCOUNTERED AT THEIR RESPECTIVE LOCATIONS AND THE WATER LEVEL ENCOUNTERED AT THAT TIME. THE BORING LOGS ARE CONSIDERED REPRESENTATIVE OF THE SOILS WHICH WERE ENCOUNTERED AT THAT LOCATION; HOWEVER, WATER LEVELS CAN FLUCTUATE APPRECIABLY AT DIFFERENT SEASONS OF THE YEAR OR FROM YEAR TO YEAR DEPENDING LARGELY ON CLIMATIC CONDITIONS. THE CONTRACTOR SHOULD IDENTIFY GROUNDWATER CONDITIONS PRIOR TO THE TIME OF CONSTRUCTION.
3. REFUSAL IS DEFINED AS A CUMULATIVE BLOW COUNT EXCEEDING 60 IN ANY SIX-INCH INTERVAL OF THE STANDARD PENETRATION TEST (SPT). ONCE REFUSAL WAS ENCOUNTERED, THE SPT WAS DISCONTINUED.
4. FOR SOIL BORING LOCATIONS, SEE SHEET B-101.
5. COORDINATE SYSTEM: COLORADO CENTRAL STATE PLANE (0502) DATUM: NAVD88, NAD83

BORING LEGEND

BU24-01	BORING NUMBER
JULY 31, 2024	DATE BORING COMPLETED
N 1686480.607 E 3202912.867	UNITED STATES STATE PLANE COORDINATES, US SURVEY FEET, ZONE 0502, COLORADO CENTRAL
ELEV. 5,532.0 FT	TOP OF BORING ELEVATION ROUNDED TO NEAREST HALF-FOOT (NAVD88)
UCS	UNCONFINED COMPRESSIVE STRENGTH (ASTM D2166 / D7012)
MC	NATURAL MOISTURE CONTENT IN PERCENT (ASTM D2216)
DD	DRY UNIT WEIGHT OF SOIL (ASTM D7263)
LL	LIQUID LIMIT (ASTM D4318)
PI	PLASTICITY INDEX (ASTM D4318)
N	STANDARD PENETRATION BLOW COUNT. NUMBER OF BLOWS FOR A 140-POUND WEIGHT DROPPING 30 INCHES TO DRIVE A 2-INCH OUTSIDE DIAMETER SAMPLER 1 FOOT.
% fines	PERCENT OF SOIL BY DRY WEIGHT PASSING THE NO. 200 SIEVE (ASTM D422 / C136)
REC	ROCK CORE RECOVERY
RQD	ROCK QUALITY DESIGNATION
pH	pH VALUE FROM LAB ANALYSIS (ASTM G51)
SO4	WATER SOLUBLE SULFATE FROM LAB ANALYSIS (EPA 9056A)
ppm	PARTS PER MILLION
Resistivity	RESISTIVITY AS RECIPROCAL OF ELECTRICAL RESISTIVITY FROM LAB ANALYSIS (ASTM G57)
N.D.	NOT DETECTABLE
11/15 ▽	GROUNDWATER LEVEL IN BORING IMMEDIATELY AFTER DRILLING
11/16 ▼	GROUNDWATER LEVEL IN BORING 24 HOURS AFTER DRILLING
C.I. 4/22	BORING CAVE-IN DEPTH AND DATE MEASURED
EOB	END OF BORING

US Army Corps of Engineers®

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FILENAME: BUCO00102B101-102.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SOIL BORING LOGS - 1 OF 2

SHEET ID
B-301

ADVERTISEMENT

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BU24-03
JULY 29, 2024
N 1686376.918
E 3203158.446
ELEV. 5,534.0 FT

UCS	MC	DD	N	LL	PI		DEPTH (FT)
	22%					ASPHALT AT SURFACE	0.0
3,680 psf	25%	101 pcf	12			(POSSIBLE FILL) LEAN CLAY, reddish brown, stiff, moist, 2% medium sand, 7% fine sand, 44% silt, 47% clay, pH = 7.72, SO4 = 110 ppm, Resistivity = 1,000 ohm-cm	
	22%					CL	
5,300 psf	17%	111 pcf	6				5.0
	15%		8	39	25	SANDY LEAN CLAY, reddish brown to gray, stiff to very stiff, moist, 14% medium sand, 28% fine sand, 58% fines	
						CL	
4,900 psf	19%	103 pcf	17	39	23	9% medium sand, 23% fine sand, 68% fines	10.0
	20%						
3,260 psf	28%	92 pcf	11			LEAN CLAY WITH SAND, light gray, stiff, moist	15.0
	30%					CL	
3,180 psf	24%	98 pcf	7			LEAN CLAY, reddish brown, medium stiff, moist	
	22%					CL	20.0
	23%		18	48	29	SANDY LEAN CLAY, light yellowish brown, stiff to very stiff, moist, 1% coarse sand, 6% medium sand, 28% fine sand, 65% fines	
						CL	
	21%		12				25.0
			7/30				
	20%		20			POORLY GRADED SAND, light brown to light gray, medium dense, moist	30.0
	9%						
	22%		28			2% gravel, 9% coarse sand, 69% medium sand, 16% fine sand, 4% fines	35.0
	4%						
			7/26				40.0
						SP	
	17%		18				45.0
	16%		29				50.0
	44%		52			LEAN CLAY, gray, hard, moist, possible weathered shale	55.0
	43%		46			CL	60.0
	38%		60				65.0
			60/0.3			CONGLOMERATE, white to light brown, strong, coarse-grained, slightly decomposed, slightly to moderately disintegrated, intensely fractured	70.0
720 psi	10%	102 pcf				CONGLOMERATE, gray, strong, competent, slightly fractured	
RUN #1 (68.3 - 78.6 ft) REC = 93% RQD = 90%							75.0
							80.0

EOB - 78.6 FT BELOW GROUND SURFACE

BU24-04
AUGUST 3, 2024
N 1686375.559
E 3202528.281
ELEV. 5,524.5 FT

MC	N	LL	PI		DEPTH (FT)
				CONCRETE AT SURFACE	0.0
20%	11	38	21	LEAN CLAY WITH SAND, grayish brown, stiff, moist, 3% coarse sand, 9% medium sand, 13% fine sand, 75% fines	
20%	11			pH = 9.54, SO4 = 481 ppm, Resistivity = 1,100 ohm-cm	
				CL	5.0
20%	8	44	27	LEAN CLAY WITH SAND, light olive brown, medium stiff to stiff, moist, 1% coarse sand, 7% medium sand, 14% fine sand, 78% fines	
				CL	
22%	20			LEAN CLAY, yellowish brown, very stiff, moist	10.0
				CL	
12%	10			SANDY LEAN CLAY, grayish brown, stiff, moist	15.0
C.I. 8/3				CL	
19%	13			LEAN CLAY WITH SAND, light yellowish brown, stiff, moist	20.0

EOB - 20.0 FT BELOW GROUND SURFACE
GROUNDWATER NOT ENCOUNTERED

BU24-05
AUGUST 2, 2024
N 1686196.673
E 3202479.059
ELEV. 5,525.0 FT

MC	N	LL	PI		DEPTH (FT)
				CONCRETE AT SURFACE	0.0
21%	14			LEAN CLAY, grayish brown to light gray, stiff, moist	
				CL	
20%	8	40	22	1% medium sand, 6% fine sand, 93% fines, pH = 7.61, SO4 = N.D., Resistivity = 1,000 ohm-cm	5.0
19%	15	41	25	SANDY LEAN CLAY, light olive brown, stiff, moist, 7% medium sand, 32% fine sand, 61% fines	
				CL	
15%	13				10.0
14%	7			CLAYEY SAND, olive brown, loose to medium dense, moist	15.0
C.I. 8/2				SC	
11%	14				20.0

EOB - 20.0 FT BELOW GROUND SURFACE
GROUNDWATER NOT ENCOUNTERED

BU24-06
AUGUST 5, 2024
N 1686260.145
E 3202214.107
ELEV. 5,520.0 FT

MC	N	LL	PI		DEPTH (FT)
				VEGETATION AT SURFACE	0.0
9%	25			SILTY LEAN CLAY, yellowish brown, stiff to very stiff, moist	
13%	10			CL-ML	5.0
12%	2			soft at about 6 ft.	
10%	19				10.0
8%	19			POORLY GRADED SAND WITH CLAY, light yellowish brown, medium dense, moist	15.0
C.I. 8/5				SP	
12%	23				20.0

EOB - 20.0 FT BELOW GROUND SURFACE
GROUNDWATER NOT ENCOUNTERED

BU24-07
AUGUST 5, 2024
N 1686103.538
E 3202218.159
ELEV. 5,524.0 FT

MC	N	LL	PI		DEPTH (FT)
				VEGETATION AT SURFACE	0.0
9%	15			SILTY LEAN CLAY, yellowish brown to grayish brown, very stiff, dry to moist	
13%	22			CL-ML	5.0
13%	19				
13%	21				10.0
8%	18			POORLY GRADED SAND WITH CLAY, light yellowish brown, medium dense, moist	15.0
C.I. 8/5				SP	
6%	23				20.0

EOB - 20.0 FT BELOW GROUND SURFACE
GROUNDWATER NOT ENCOUNTERED

BORING NOTES

1. SEE SHEET B-301 FOR NOTES.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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7:09:02 AM 7/3/2025

DESIGNED BY:	R. SISK
DRAWN BY:	R. SISK
CHECKED BY:	K. HALL
SUBMITTED BY:	K. HALL
SIZE:	ANSI D
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9126F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	BUCO00102B101-102.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SOIL BORING LOGS - 2 OF 2

SHEET ID

B-302

ADVERTISEMENT

Test name	Depth [ft]	Company name	Scale
BU(CPT)24-01	52.7		
Nominal surface area of cone tip [cm²]	Cone name	Start date	Page
15.0	5891	7/24/2024	1/3
Remarks1			

US Army Corps of Engineers®
Omaha District

Classification by Robertson 1990 — qt [t/ft²] — fs [t/ft²] — u2 [t/ft²] — N60 [] — Su(qc) [t/ft²]

Very stiff sand to clayey sand
Very stiff fine grained
Clayey silt to silty clay
Very stiff fine grained
Clayey silt to silty clay
Clays, clay to silty clay
Clayey silt to silty clay
Clays, clay to silty clay
Clays, clay to silty clay

Depth [ft]

— qc [t/ft²] — Su(qt,WL) [t/ft²]

Test name	Depth [ft]	Company name	Scale
BU(CPT)24-01	52.7		
Nominal surface area of cone tip [cm²]	Cone name	Start date	Page
15.0	5891	7/24/2024	2/3
Remarks1			

US Army Corps of Engineers®
Omaha District

Classification by Robertson 1990 — qt [t/ft²] — fs [t/ft²] — u2 [t/ft²] — N60 [] — Su(qc) [t/ft²]

Clays, clay to silty clay
Clayey silt to silty clay
Silty sand to sandy silt
Clayey silt to silty clay
Silty sand to sandy silt
Clayey silt to silty clay
Clays, clay to silty clay
Clays, clay to silty clay
Silty sand to sandy silt
Silty sand to sandy silt
Clean sands to silty sands
Silty sand to sandy silt
Clean sands to silty sands
Clayey silt to silty clay
Silty sand to sandy silt

Depth [ft]

— qc [t/ft²] — Su(qt,WL) [t/ft²]

Test name	Depth [ft]	Company name	Scale
BU(CPT)24-01	52.7		
Nominal surface area of cone tip [cm²]	Cone name	Start date	Page
15.0	5891	7/24/2024	3/3
Remarks1			

US Army Corps of Engineers®
Omaha District

Classification by Robertson 1990 — qt [t/ft²] — fs [t/ft²] — u2 [t/ft²] — N60 [] — Su(qc) [t/ft²]

Clayey silt to silty clay

Depth [ft]

— qc [t/ft²] — Su(qt,WL) [t/ft²]

Test name	Depth [ft]	Company name	Scale
BU(CPT)24-02	54.2		
Nominal surface area of cone tip [cm²]	Cone name	Start date	Page
15.0	5891	7/24/2024	1/3
Remarks1			

US Army Corps of Engineers®
Omaha District

Classification by Robertson 1990 — qt [t/ft²] — fs [t/ft²] — u2 [t/ft²] — N60 [] — Su(qc) [t/ft²]

Clays, clay to silty clay
Clayey silt to silty clay
Clays, clay to silty clay
Clays, clay to silty clay
Clean sands to silty sands
Clayey silt to silty clay
Clays, clay to silty clay
Clayey silt to silty clay
Clays, clay to silty clay
Clays, clay to silty clay
Clays, clay to silty clay

Depth [ft]

— qc [t/ft²] — Su(qt,WL) [t/ft²]

Test name	Depth [ft]	Company name	Scale
BU(CPT)24-02	54.2		
Nominal surface area of cone tip [cm²]	Cone name	Start date	Page
15.0	5891	7/24/2024	2/3
Remarks1			

US Army Corps of Engineers®
Omaha District

Classification by Robertson 1990 — qt [t/ft²] — fs [t/ft²] — u2 [t/ft²] — N60 [] — Su(qc) [t/ft²]

Clays, clay to silty clay
Clays, clay to silty clay
Silty sand to sandy silt
Clayey silt to silty clay
Clean sands to silty sands
Clays, clay to silty clay
Clean sands to silty sands
Silty sand to sandy silt
Clean sands to silty sands
Clays, clay to silty clay
Clayey silt to silty clay
Silty sand to sandy silt
Clean sands to silty sands

Depth [ft]

— qc [t/ft²] — Su(qt,WL) [t/ft²]

Test name	Depth [ft]	Company name	Scale
BU(CPT)24-02	54.2		
Nominal surface area of cone tip [cm²]	Cone name	Start date	Page
15.0	5891	7/24/2024	3/3
Remarks1			

US Army Corps of Engineers®
Omaha District

Classification by Robertson 1990 — qt [t/ft²] — fs [t/ft²] — u2 [t/ft²] — N60 [] — Su(qc) [t/ft²]

Clean sands to silty sands
Silty sand to sandy silt

Depth [ft]

— qc [t/ft²] — Su(qt,WL) [t/ft²]

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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7:09:29 AM 7/3/2025
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DESIGNED BY:	D. BASNER
DRAWN BY:	D. BASNER
CHECKED BY:	R. SISK
SUBMITTED BY:	K. HALL
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ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9126F25RA043
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FILENAME:	BUC000102B101-102.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE; MISSION CONTROL STATION

CONE PENETRATION TEST LOGS - 1 OF 2

SHEET ID
B-303

ADVERTISEMENT

Test name	Depth [ft]	Company name	Scale
BU(CPT)24-01	52.7		
Nominal surface area of cone tip [cm²]	Cone name	Start date	Page
15.0	5891	7/24/2024	1/3
Remarks1			

US Army Corps of Engineers®
Omaha District

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Very stiff fine grained
Clayey silt to silty clay
Very stiff fine grained
Clayey silt to silty clay
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Clayey silt to silty clay
Clays, clay to silty clay
Clays, clay to silty clay

Depth [ft]

qc [t/ft²] — Su(qt,WL) [t/ft²]

Test name	Depth [ft]	Company name	Scale
BU(CPT)24-01	52.7		
Nominal surface area of cone tip [cm²]	Cone name	Start date	Page
15.0	5891	7/24/2024	2/3
Remarks1			

US Army Corps of Engineers®
Omaha District

Classification by Robertson 1990 — qt [t/ft²] — fs [t/ft²] — u2 [t/ft²] — N60 [] — Su(qc) [t/ft²]

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Clayey silt to silty clay
Silty sand to sandy silt
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Clayey silt to silty clay
Clays, clay to silty clay
Clays, clay to silty clay
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Silty sand to sandy silt
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Clayey silt to silty clay
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Depth [ft]

qc [t/ft²] — Su(qt,WL) [t/ft²]

Test name	Depth [ft]	Company name	Scale
BU(CPT)24-01	52.7		
Nominal surface area of cone tip [cm²]	Cone name	Start date	Page
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Remarks1			

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Depth [ft]

qc [t/ft²] — Su(qt,WL) [t/ft²]

Test name	Depth [ft]	Company name	Scale
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Clays, clay to silty clay
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Clays, clay to silty clay
Clays, clay to silty clay

Depth [ft]

qc [t/ft²] — Su(qt,WL) [t/ft²]

Test name	Depth [ft]	Company name	Scale
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Nominal surface area of cone tip [cm²]	Cone name	Start date	Page
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Depth [ft]

qc [t/ft²] — Su(qt,WL) [t/ft²]

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Clean sands to silty sands
Silty sand to sandy silt

Depth [ft]

qc [t/ft²] — Su(qt,WL) [t/ft²]

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

DESIGNED BY:	
D. BASNER	
DRAWN BY:	
D. BASNER	
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R. SISK	
SUBMITTED BY:	
K. HALL	
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE; MISSION CONTROL STATION

CONE PENETRATION TEST LOGS - 2 OF 2

SHEET ID

B-304

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GENERAL NOTES:

1. BORE UTILITY AREAS TO AVOID EXISTING LINES

KEY NOTES:

1. PROVIDE A 12 INCH STEEL CASING PIPE AT A LENGTH OF 119.28' FOR FL-1. THE CASING PIPE SHALL BE PROVIDED FOR A 8.6" DOUBLE WALLED FUEL LINE. PROVIDE A CEMENTITIOUS GROUT BETWEEN THE 12" STEEL CASING PIP AND THE DOUBLE WALLED FUEL LINE.SEE SHEET MS-201 FOR PROFILE.
2. PROVIDE A 12 INCH STEEL CASING PIPE AT A LENGTH OF 119.27' FOR FL-2. THE CASING PIPE SHALL BE PROVIDED FOR A 8.6" DOUBLE WALLED FUEL LINE. PROVIDE A CEMENTITIOUS GROUT BETWEEN THE 12" STEEL CASING PIP AND THE DOUBLE WALLED FUEL LINE.SEE SHEET MS-202 FOR PROFILE.
3. PROVIDE A MINIMUM 14" STEEL CASING PIPE FOR A MINIMUM 4" HDPE COMM CASING. LENGTH IS APPROXIMATELY 120 FEET. FILL THE SPACE BETWEEN THE 14" STEEL CASING AND THE 4" COMM CONDUIT PLUS SPARE WITH CEMENTITIOUS GROUT. PROVIDE HDPE SPACERS.
4. PROVIDE A MINIMUM 14" STEEL CASING PIPE FOR A MINIMUM 4" HDPE ES CONDUIT. LENGTH IS 40' WITH A MINIMUM DEPTH OF INSTALLATION OF 6' UNDER THE ROAD. THE 14" STEEL CASING PIPE SHALL PROVIDE A CONDUIT FOR A 4" ES LINE. FILL THE SPACE BETWEEN THE 14" STEEL CASING AND THE 4" ES CONDUIT PLUS SPARE WITH CEMENTITIOUS GROUT. PROVIDE HDPE SPACERS. SEE DETAIL A15 ON SHEET ES-501.

BU24-04

BU(CPT)24-04

BU24-06

BU24-05

N TELLURIDE ST

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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DESIGNED BY:
DRAWN BY: DEVIN BASNER
CHECKED BY: BRIAN GOLIBER
SUBMITTED BY: DEVIN BASNER
SIZE:
ISSUE DATE: 05/01/2025
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102B305

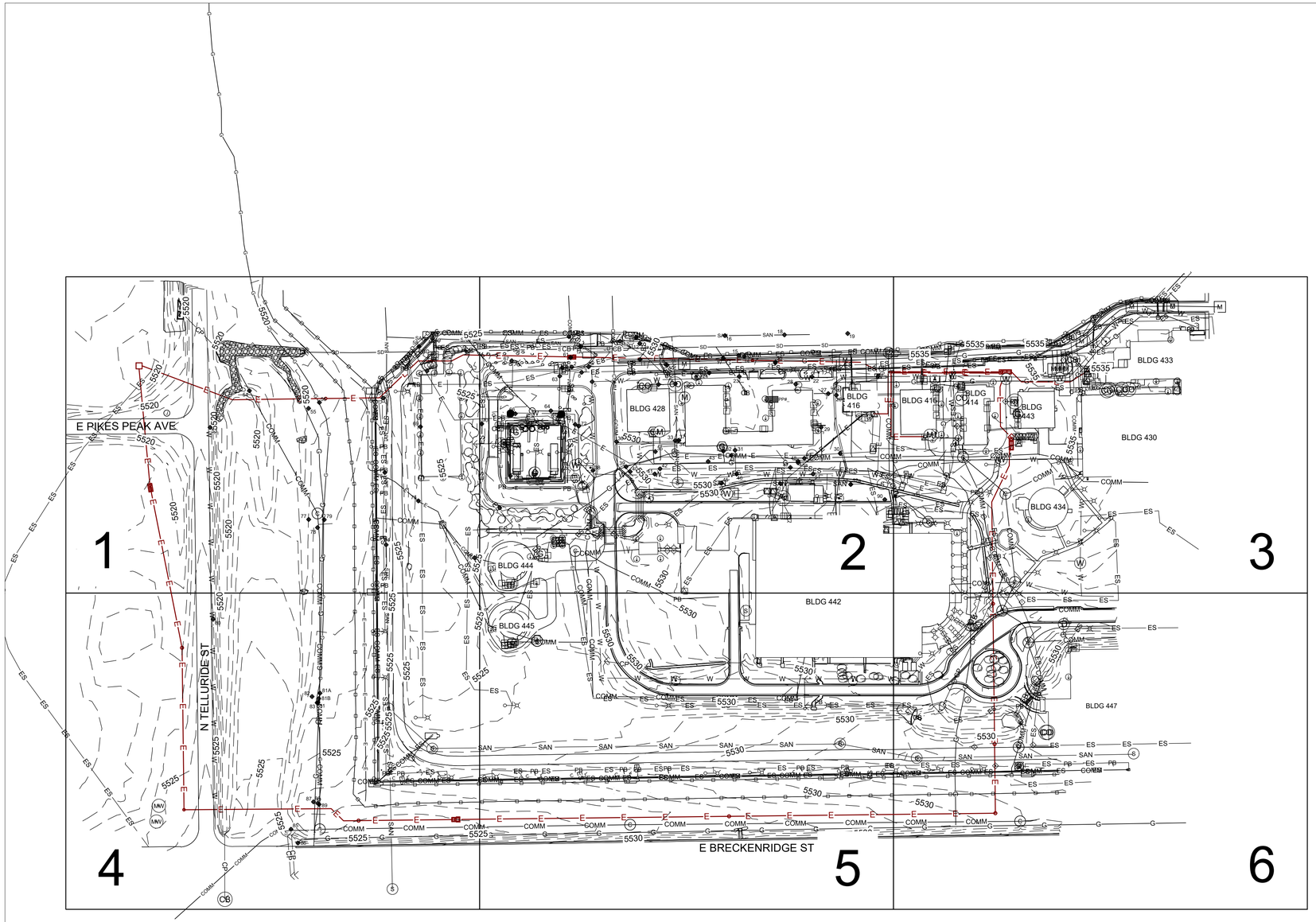
U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE

TRUCK OFFLOAD PIPELINE
AND UTILITY
JACK AND BORE LIMIT

SHEET ID
B-305

ADVERTISEMENT



CONTROL POINT NAME:
IH 17-05 A

TRUE NORTH

0 100' 200'

A1 SURVEY PLAN OVERVIEW

SURVEY NOTES

SURVEY NOTES

1) GRID COORDINATES ARE REFLECTED IN U.S.SURVEY FEET AND REFER TO THE NORTH AMERICAN DATUM of 1983 (NAD 83) STATE PLANE COORDINATE SYSTEM FOR: COLORADO CENTRAL (FIPS 0502). THEY ARE BASED ON CONTROL POINT IH17-05.

2) ELEVATIONS ARE REFLECTED IN U.S. SURVEY FEET AND REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). THEY ARE BASED ON CONTROL POINT IH 17-05.

3) TOPOGRAPHY IS DERIVED FROM GPS/RTK SURVEY METHODS.
FIELD SURVEY DATE: AUGUST 2023

4) CONTOUR INTERVAL IS 1 US SURVEY FOOT.

5) COMBINED GRID FACTOR IS: 0.999688944.

6) ALL UTILITIES WERE LOCATED BY SURFACE INDICATION ONLY.

7) A PORTION OF UNDERGROUND UTILITIES WERE LOCATED BY BASE PERSONNEL AND 811.

8) UTILITY SURVEY DATA HAS BEEN SUPPLEMENTED WITH GIS INFORMATION FROM BUCKLEY SPACE FORCE DATABASE FOR DESIGN PURPOSES ONLY AND ALL UTILITIES SHOULD BE FIELD VERIFIED AS NECESSARY AT THE TIME OF CONSTRUCTION.

CONTROL DATA

NAME	NORTHING	EASTING	ELEVATION	DESCRIPTION
IH 17-05 A	1685280.698	3204049.837	5540.737	ALUMINUM CAP ON REBAR

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

DESIGNED BY: N. BURNS
DRAWN BY: N. BURNS
CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102VF100-106.dwg

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SURVEY PLAN OVERVIEW

SHEET ID
VF100

ADVERTISEMENT

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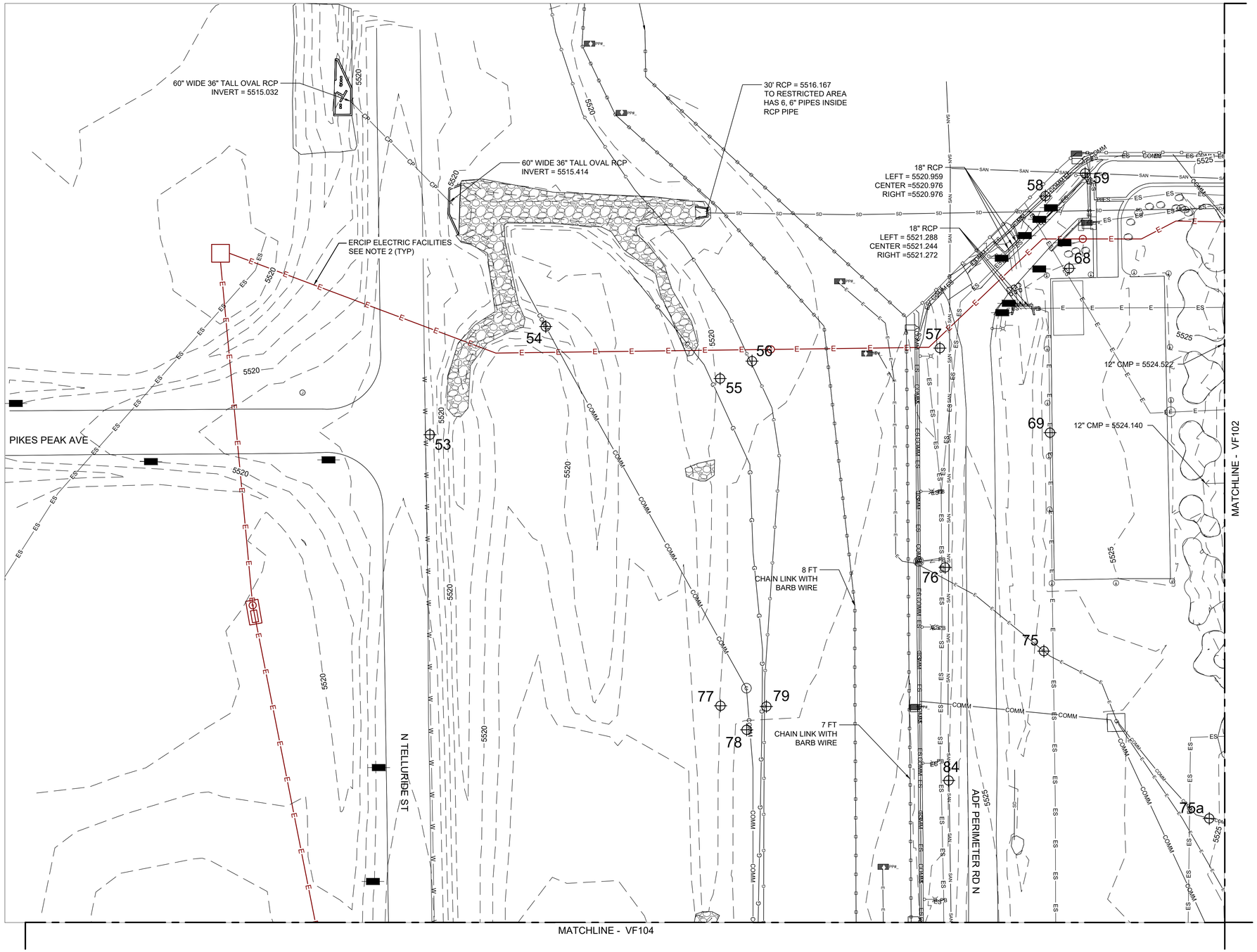


A1 SURVEY PLAN - AREA 1

TRUE NORTH

0 30' 60'

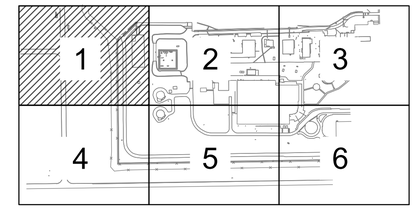
GENERAL NOTES

1. UTILITY SURVEY DATA HAS BEEN SUPPLEMENTED WITH GIS INFORMATION FROM BUCKLEY SPACE FORCE DATABASE FOR DESIGN PURPOSES ONLY AND ALL UTILITIES SHALL BE FIELD VERIFIED AT THE TIME OF CONSTRUCTION.
2. ERCIP ELECTRIC CONSTRUCTION PROJECT (SOLICITATION #: W9128F24R0050) IS ANTICIPATED TO OCCUR SIMULTANEUOUSLY OR PRIOR TO THIS PROJECT. THE LINEWORK SHOWN IS THE MOST UP-TO-DATE DESIGN PLANIMETRICS AT THE TIME THESE CONSTRUCTION DRAWINGS WERE COMPILED. THE ERCIP ELECTRIC FACILITIES SHALL BE PROTECTED IN PLACE. COORDINATE WITH CONTRACTING OFFICER'S REPRESENTATIVE IF ACTUAL LOCATION OF ERCIP FACILITIES VARIES FROM THOSE SHOWN REQUIRING ALTERATIONS TO THE DESIGN.

LEGEND

- 5525 — CONTOURS
- CP — CULVERT
- SD — STORM DRAIN
- SAN — SANITARY SEWER
- W — WATER LINE
- E — ELECTRICAL PRIMARY
- COM — COMMUNICATION LINES
- G — NATURAL GAS LINE
- LIGHT POLE
- CB — CATCH BASIN
- MW — MOTORING WELL
- MANHOLE DEPENDING ON TYPE OF UTILITY LINE: SS=SANITARY SEWER; SD=STORM DRAIN
- CI — CURB INLET
- FIRE HYDRANT
- GATE VALVE & VALVE BOX
- FENCE
- E — ELECTRICAL (ERCIP ELECTRIC CONSTRUCTION PROJECT, SOLIC. #: W9128F24R0050)
- 87 — UTILITY POTHOLE LOCATION & ID

KEY PLAN



TRUE NORTH

SCALE:1" = 400'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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DESIGNED BY: N. BURNS	ISSUE DATE: 05/01/2025
DRAWN BY: N. BURNS	SOLICITATION NO.: W9128F25RA043
CHECKED BY: T. OWENS	CONTRACT NO.:
SUBMITTED BY: T. OWENS	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCO00102VF100-106.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SURVEY PLAN - AREA 1

SHEET ID

VF101

ADVERTISEMENT

RIM = 5529.486
10" PVC S LEFT = 5526.06
10" PVC S RIGHT = 5526.134
10" PVC N LEFT = 5525.995
10" PVC N RIGHT = 5526.047

RIM = 5528.695
10" PVC S = 5525.594
18" RCP W = 5525.128
18" RCP N = 5525.611
TO RESTRICTED AREA
30" CMP E = 5525.310
TO RESTRICTED AREA

RIM = 5527.373
18" RCP E = 5524.631
30" CMP W = 5522.560
TO FENCE

7 FT
CHAIN LINK WITH
BARB WIRE

ERCIP ELECTRIC FACILITIES
SEE NOTE 2 (TYP)

RIM = 5529.410
10" PVC N LEFT = 5527.092
10" PVC N RIGHT = 5527.070
10" PVC S = 5526.934

RIM = 5532.318
12" PVC NW = 5529.036
TO RESTRICTED AREA

E CRESTED BUTTE AVE

3750 GALLON
FUEL WASTE TANKS

12" CMP = 5525.631

650 GALLON
WASTE OIL TANK

72" CMP = 5525.830

43,000 GALLON
DIESEL FUEL TANK

12" CMP = 5525.783

12" CMP = 5525.606

BUILDING 428
F.F ELE = 5531.320

BUILDING 423
F.F. ELE = 5533.332

BUILDING 417
F.F. ELE = 5534.258

BUILDING 416

14" RCP
LEFT = 5526.842
LEFT CENTER = 5526.934
CENTER = 5526.812
RIGHT CENTER = 5526.736
RIGHT = 5526.785

BUILDING 424 F.F. ELE = 5533.266

HVAC
UNITS

6" PVC
LEFT = 5530.497
RIGHT = 5530.455

RIM = 5531.021
8" PVC N = 5520.241
TO FENCE
8" PVC E = 5520.254

14" RCP
LEFT = 5526.394
LEFT CENTER = 5526.429
CENTER = 5526.295
RIGHT CENTER = 5526.264
RIGHT = 5526.283

6" PVC
LEFT = 5532.306
RIGHT =5532.249

RIM = 5531.982
8" PVC W = 5522.471
8" PVC S = 5522.628
TO BUILDING

15" TALL 24" WIDE OVAL RCP
TOP = 5526.109
TOP CENTER = 5526.081
CENTER = 5526.081
BOTTOM CENTER = 5526.073
BOTTOM = 5526.144

15" TALL 24" WIDE OVAL RCP
TOP = 5525.524
TOP CENTER = 5525.507
CENTER = 5525.577
BOTTOM CENTER = 5525.701
BOTTOM = 5525.708

BUILDING 444
F.F ELE = 5528.904

BUILDING 446
F.F. ELE = 5530.254

BUILDING 442
F.F. ELE = 5532.810

N ELDORA ST

MATCHLINE - VF101

MATCHLINE - VF103

MATCHLINE - VF105

A1 SURVEY PLAN - AREA 2

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. UTILITY SURVEY DATA HAS BEEN SUPPLEMENTED WITH GIS INFORMATION FROM BUCKLEY SPACE FORCE DATABASE FOR DESIGN PURPOSES ONLY AND ALL UTILITIES SHALL BE FIELD VERIFIED AT THE TIME OF CONSTRUCTION.
2. ERCIP ELECTRIC CONSTRUCTION PROJECT (SOLICITATION #: W9128F24R0050) IS ANTICIPATED TO OCCUR SIMULTANEUOUSLY OR PRIOR TO THIS PROJECT. THE LINEWORK SHOWN IS THE MOST UP-TO-DATE DESIGN PLANIMETRICS AT THE TIME THESE CONSTRUCTION DRAWINGS WERE COMPILED. THE ERCIP ELECTRIC FACILITIES SHALL BE PROTECTED IN PLACE. COORDINATE WITH CONTRACTING OFFICER'S REPRESENTATIVE IF ACTUAL LOCATION OF ERCIP FACILITIES VARIES FROM THOSE SHOWN REQUIRING ALTERATIONS TO THE DESIGN.

LEGEND

- 5525 — CONTOURS
- CP — CULVERT
- SD — STORM DRAIN
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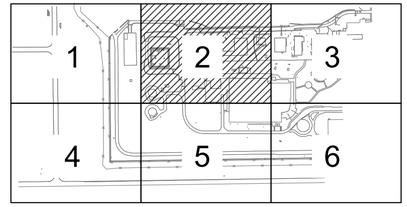
- MANHOLE DEPENDING ON TYPE OF UTILITY LINE: SS=SANITARY SEWER; SD=STORM DRAIN
- CI — CURB INLET
- FIRE HYDRANT
- GATE VALVE & VALVE BOX
- FENCE
- E — ELECTRICAL (ERCIP ELECTRIC CONSTRUCTION PROJECT, SOLIC. #: W9128F24R0050)
- 87 — UTILITY POTHOLE LOCATION & ID

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



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MARK	DESCRIPTION	DATE

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SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:

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DRAWN BY: N. BURNS
CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
FILENAME: BUCO00102VF100-106.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SURVEY PLAN - AREA 2

SHEET ID
VF102

ADVERTISEMENT

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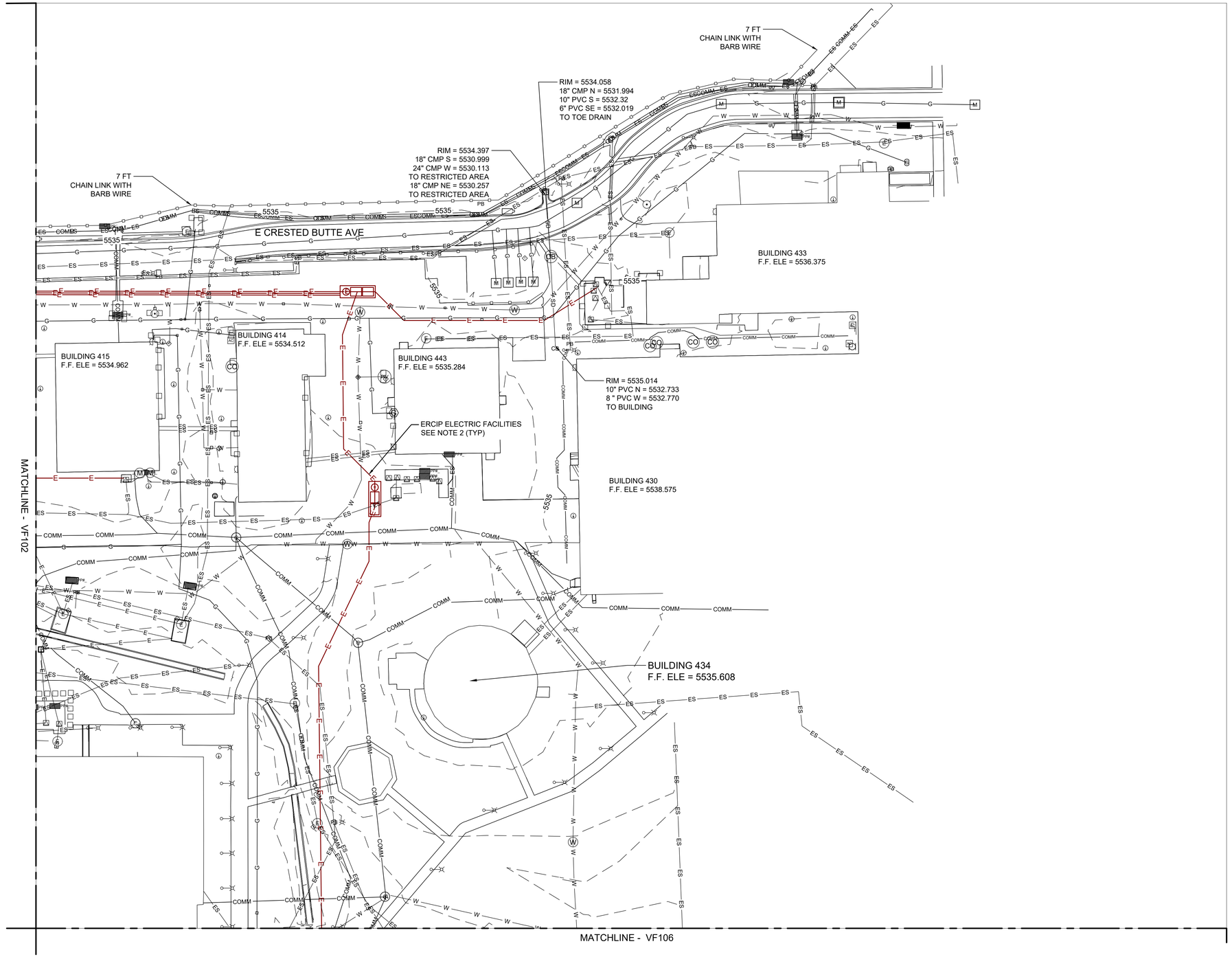

A1 SURVEY PLAN - AREA 3

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. UTILITY SURVEY DATA HAS BEEN SUPPLEMENTED WITH GIS INFORMATION FROM BUCKLEY SPACE FORCE DATABASE FOR DESIGN PURPOSES ONLY AND ALL UTILITIES SHALL BE FIELD VERIFIED AT THE TIME OF CONSTRUCTION.
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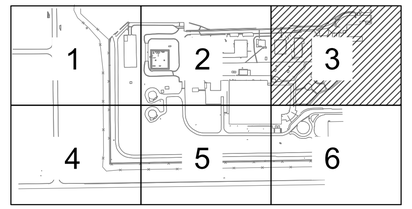
- FIRE HYDRANT
- GATE VALVE & VALVE BOX
- FENCE
- E — ELECTRICAL (ERCIP ELECTRIC CONSTRUCTION PROJECT, SOLIC. #: W9128F24R0050)
- 87 — UTILITY POTHOLE LOCATION & ID

KEY PLAN



TRUE NORTH

SCALE:1" = 400'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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DESIGNED BY: N. BURNS
DRAWN BY: N. BURNS
CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102VF100-106.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SURVEY PLAN - AREA 3

SHEET ID
VF103

ADVERTISEMENT

MATCHLINE - VF101

MATCHLINE - VF105

N TELLURIDE ST

ADF PERIMETER RD N

E BRECKENRIDGE ST

80 81A 81B 81 82 83 85 86 87 88 89

RIM = 5524.920
8" IRON S = 5517.515
4" IRON SE = 5517.507
8" IRON N = 5517.409
TO RESTRICTED AREA

10" CMP = 5525.565
DAMAGED

RIM = 5526.194
8" PVC NW = 5518.169
8" PVC E = 5518.670

10" CMP 5524.975

7 FT
CHAIN LINK WITH
BARB WIRE

8 FT
CHAIN LINK WITH
BARB WIRE

ERCIP ELECTRIC FACILITIES
SEE NOTE 2 (TYP)

30" RCP = 5521.733

30" RCP = 5521.763

48" WIDE 30" TALL OVAL RCP
LEFT = 5522.732
RIGHT = 5522.718

48" WIDE 30" TALL OVAL RCP
LEFT = 5523.241
RIGHT = 5523.155

RIM = 5528.111
10" PVC N = 5519.984

A1 SURVEY PLAN - AREA 4

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. UTILITY SURVEY DATA HAS BEEN SUPPLEMENTED WITH GIS INFORMATION FROM BUCKLEY SPACE FORCE DATABASE FOR DESIGN PURPOSES ONLY AND ALL UTILITIES SHALL BE FIELD VERIFIED AT THE TIME OF CONSTRUCTION.
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- G — NATURAL GAS LINE
- LIGHT POLE
- CB — CATCH BASIN
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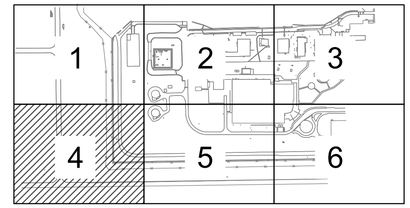
- MANHOLE DEPENDING ON TYPE OF UTILITY LINE: SS=SANITARY SEWER; SD=STORM DRAIN
- CI — CURB INLET
- FIRE HYDRANT
- GATE VALVE & VALVE BOX
- FENCE
- E — ELECTRICAL (ERCIP ELECTRIC CONSTRUCTION PROJECT, SOLIC. #: W9128F24R0050)
- 87 UTILITY POTHOLE LOCATION & ID

KEY PLAN



TRUE NORTH

SCALE:1" = 400'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	N. BURNS
DRAWN BY:	N. BURNS
CHECKED BY:	T. OWENS
SUBMITTED BY:	T. OWENS
SIZE: ANSI D	FILENAME: BUCO00102VF100-106.dwg
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SURVEY PLAN - AREA 4

SHEET ID

VF104

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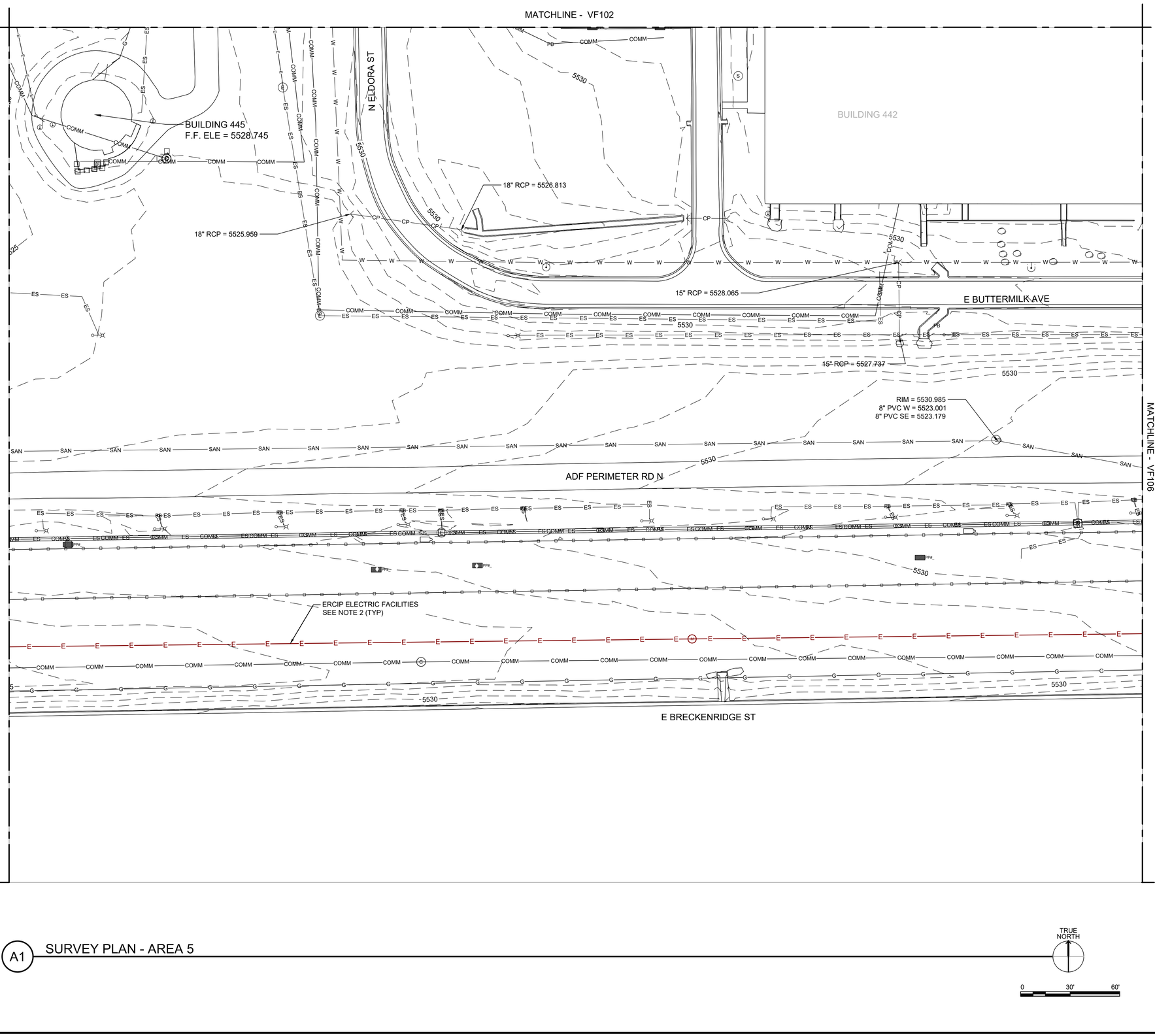

A1 SURVEY PLAN - AREA 5

GENERAL NOTES

1. UTILITY SURVEY DATA HAS BEEN SUPPLEMENTED WITH GIS INFORMATION FROM BUCKLEY SPACE FORCE DATABASE FOR DESIGN PURPOSES ONLY AND ALL UTILITIES SHALL BE FIELD VERIFIED AT THE TIME OF CONSTRUCTION.
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LEGEND

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- CP — CULVERT
- SD — STORM DRAIN
- SAN — SANITARY SEWER
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- LIGHT POLE
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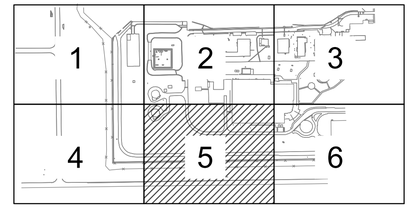
- MANHOLE DEPENDING ON TYPE OF UTILITY LINE: SS=SANITARY SEWER; SD=STORM DRAIN
- CI — CURB INLET
- FIRE HYDRANT
- GATE VALVE & VALVE BOX
- FENCE
- E — ELECTRICAL (ERCIP ELECTRIC CONSTRUCTION PROJECT, SOLIC. #: W9128F24R0050)
- 87 — UTILITY POTHOLE LOCATION & ID

KEY PLAN



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DESIGNED BY:	N. BURNS
DRAWN BY:	N. BURNS
CHECKED BY:	T. OWENS
SUBMITTED BY:	T. OWENS
SIZE:	ANSI D
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	BUCO00102VF100-106.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SURVEY PLAN - AREA 5

SHEET ID
VF105

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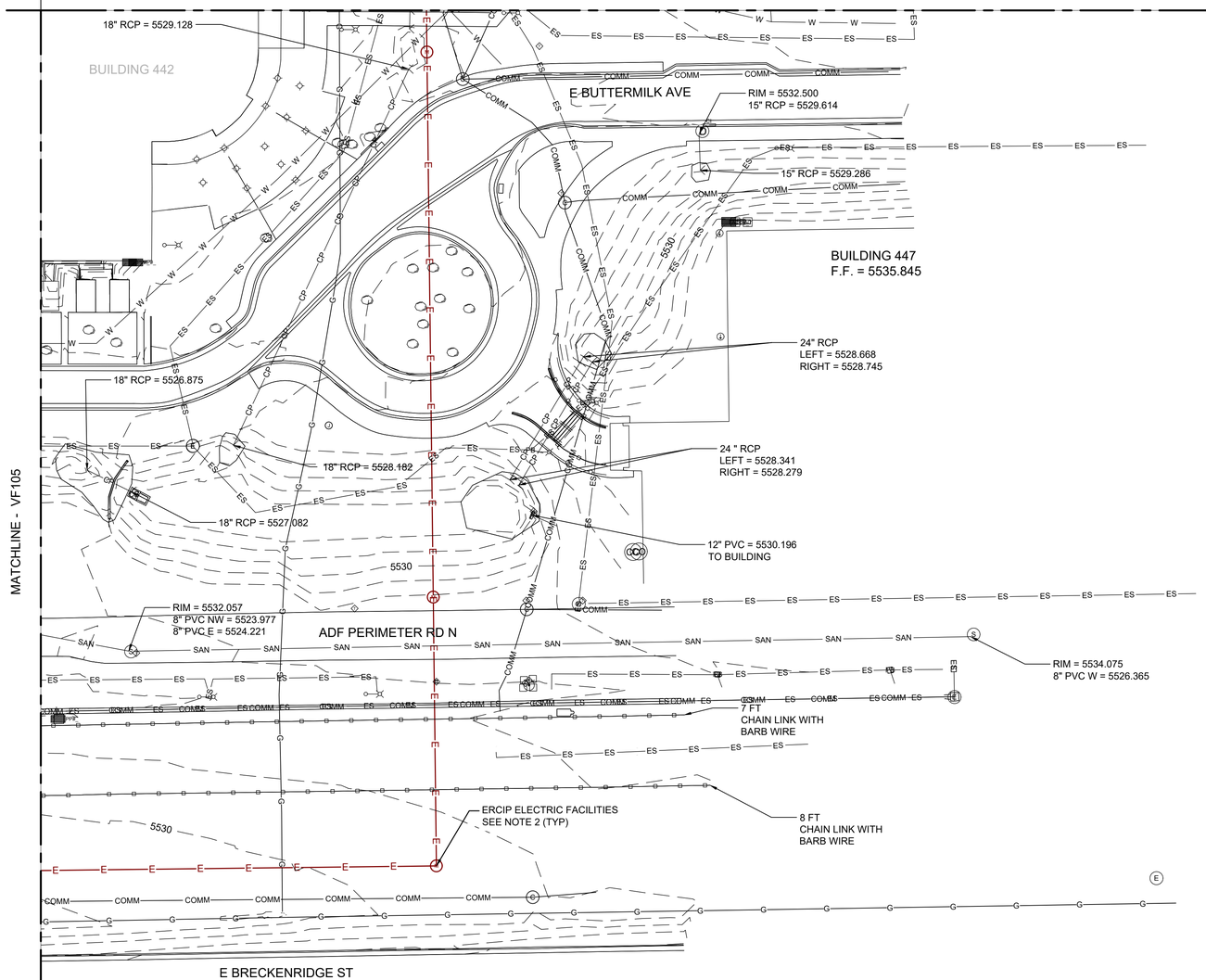
MATCHLINE - VF103



A1 SURVEY PLAN - AREA 6

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. UTILITY SURVEY DATA HAS BEEN SUPPLEMENTED WITH GIS INFORMATION FROM BUCKLEY SPACE FORCE DATABASE FOR DESIGN PURPOSES ONLY AND ALL UTILITIES SHALL BE FIELD VERIFIED AT THE TIME OF CONSTRUCTION.
2. ERCIP ELECTRIC CONSTRUCTION PROJECT (SOLICITATION #: W9128F24R0050) IS ANTICIPATED TO OCCUR SIMULTANEUOUSLY OR PRIOR TO THIS PROJECT. THE LINEWORK SHOWN IS THE MOST UP-TO-DATE DESIGN PLANIMETRICS AT THE TIME THESE CONSTRUCTION DRAWINGS WERE COMPILED. THE ERCIP ELECTRIC FACILITIES SHALL BE PROTECTED IN PLACE. COORDINATE WITH CONTRACTING OFFICER'S REPRESENTATIVE IF ACTUAL LOCATION OF ERCIP FACILITIES VARIES FROM THOSE SHOWN REQUIRING ALTERATIONS TO THE DESIGN.

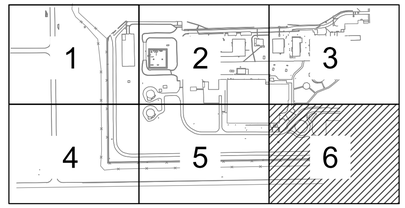
LEGEND

- 5525 — CONTOURS
- CP — CULVERT
- SD — STORM DRAIN
- SAN — SANITARY SEWER
- W — WATER LINE
- E — ELECTRICAL PRIMARY
- COM — COMMUNICATION LINES
- G — NATURAL GAS LINE
- LIGHT POLE
- CB — CATCH BASIN
- MW — MOTORING WELL
- MANHOLE DEPENDING ON TYPE OF UTILITY LINE: SS=SANITARY SEWER; SD=STORM DRAIN
- CI — CURB INLET
- FIRE HYDRANT
- GATE VALVE & VALVE BOX
- X — X — X — FENCE
- E — ELECTRICAL (ERCIP ELECTRIC CONSTRUCTION PROJECT, SOLIC. #: W9128F24R0050)
- 87 — UTILITY POTHOLE LOCATION & ID

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



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DESIGNED BY: N. BURNS	ISSUE DATE: 05/01/2025
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SUBMITTED BY: T. OWENS	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCO00102VF100-106.dwg

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OMAHA DISTRICT
1616 CAPITOL AVE
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SURVEY PLAN - AREA 6

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BUCKLEY SPACE FORCE BASE - POTHOLES

Point Name	PH Name	NAD83 Colorado Central State Plane Coordinates Northing	Easting	Top of Casing Elev. U.S. Survey Ft	Ground Surface Elev. U.S. Survey Ft	Utility Type	Material	Size	Notes
1	E1	1686523.84	3202758.87	5527.25	5528.11	ELEC	PVC	4"	4" GRAY ELECTRIC CONDUIT RUNNING EAST/WEST
1a	N/A	1686523.49	3202758.86	5527.14	5528.11	UNKOWN	PVC	1"	ALSO FOUND 1" GRAY CONDUIT RUNNING EAST/WEST
2	F1	1686489.78	3202741.19	5524.11	5528.48	FUEL	STEEL	6"	6" GREEN STEEL FUEL LINE RUNNING EAST/WEST
3	G1	1686490.14	3202772.03	5524.87	5528.79	GAS	STEEL	6"	6" GREEN STEEL RUNNING EAST/WEST
4	S51	1686532.58	3202824.21	N/A	5529.15	SEWER	N/A	N/A	NOT FOUND
5	W1	1686465.36	3202777.93	5528.91	5528.91	WATER	N/A	N/A	W1//PREVIOUSLY POTHOLED//SXS STAMP 60" DEEP
6	E2	1686480.90	3202760.43	5524.86	5528.81	ELEC	CONC DUCT	N/A	South Edge of CONCRETE DUCT RUNNING EAST/WEST
7	S52	1686460.76	3202887.99	5525.95	5531.08	SEWER	PVC	4"	4" GREEN PVC RUNNING EAST/WEST
8	S53	1686462.02	3202915.98	5524.91	5531.30	SEWER	PVC	4"	4" GREEN PVC RUNNING EAST/WEST
9	F2	1686493.73	3202900.30	5525.06	5530.71	FUEL	STEEL	3"	3" BLACK STEEL RUNNING E/W
10	G2	1686492.82	3202902.31	5525.48	5530.70	GAS	STEEL	6"	6" GREEN STEEL RUNNING EAST/WEST
11	CM1	1686502.05	3202857.40	5530.16	5530.16	COMM	CONC DUCT	2.4' WIDE x 1.6' DEEP	2.4' WIDE x 1.6' DEEP CONCRETE DUCT
12	CM2	1686528.59	3202856.99	5527.12	5529.67	COMM	PVC	2"	2" GRAY PVC RUNNING EAST/WEST
12a	N/A	1686528.67	3202856.99	5526.98	5529.67	N/A	PVC	2"	2" GRAY PVC RUNNING EAST/WEST
13	CM3	1686538.58	3202851.25	5529.63	5529.58	COMM	CONC DUCT	2.6' WIDE x 2.5' DEEP	2.6' WIDE x 2.5' DEEP CONCRETE DUCT
14	CM10	1686507.09	3203030.36	5532.82	5532.81	COMM	CONC DUCT	2.5' WIDE x 1.7' DEEP	2.5' WIDE x 1.7' DEEP CONCRETE DUCT
15	CM9	1686509.11	3203020.80	5532.68	5532.68	COMM	CONC DUCT	24" WIDE	CM9//ON SURFACE DUCT NEXT TO PT#14
16	SS8	1686541.81	3202998.21	N/A	N/A	SEWER	N/A	N/A	Removed
17	SD1	1686504.38	3202995.73	N/A	5532.10	STORM	N/A	N/A	NOT FOUND//MOVED LOCATION
18	SS9	1686543.06	3203097.00	N/A	N/A	SEWER	N/A	N/A	Removed
19	SS10	1686545.38	3203201.89	N/A	N/A	SEWER	N/A	N/A	Removed
20	F3	1686498.08	3203062.10	5526.88	5533.69	FUEL	STEEL	6"	6" GREEN STEEL RUNNING EAST/WEST
21	G3	1686496.62	3203081.77	5526.85	5533.72	GAS	STEEL	6"	6" GREEN STEEL RUNNING EAST/WEST
22	W3	1686473.32	3203142.72	5528.60	5533.76	WATER	CONC DUCT	N/A	NORTH EDGE GRAY CONCRETE DUCT
23	W2	1686473.99	3203021.85	5527.37	5532.86	WATER	PVC	8"	8" BLUE PVC RUNNING EAST/WEST
24	E5	1686479.92	3202972.07	5528.66	5532.06	ELEC	PVC	2"	2" GRAY PVC CONDUIT UNDER CONCRETE DUCT
25	W4	1686473.75	3203251.78	5527.79	5533.99	WATER	PVC	8"	8" BLUE PVC RUNNING EAST/WEST
26	G7	1686443.05	3203183.01	5531.22	5533.64	GAS	STEEL	6"	6" GREEN STEEL RUNNING NORTH/SOUTH
27	E7	1686415.54	3203169.65	5531.47	5534.01	ELEC	PVC	3"	3" GREEN PVC CONDUIT RUNNING EAST/WEST
28	W5	1686461.40	3203115.69	5529.32	5534.08	WATER	PVC	4"	4" WHITE PVC RUNS NORTH/SOUTH
29	G10	1686389.60	3203157.70	5531.12	5534.15	GAS	PVC	2"	2" YELLOW PVC RUNNING NORTH/SOUTH
30	E8	1686346.37	3203189.40	5529.40	5532.36	ELEC	CONC DUCT	24" WIDE	24" WIDE CONCRETE DUCT RUNNING EAST/WEST
31	W6	1686351.78	3203015.08	N/A	5532.86	WATER	N/A	N/A	NOT FOUND
32	G9	1686350.16	3202995.63	5529.46	5532.84	GAS	PVC	2"	2" YELLOW PVC RUNNING NORTH/SOUTH
33	CM4	1686367.65	3202915.62	5529.75	5530.45	COMM	CONC DUCT	N/A	GRAY CONCRETE DUCT RUNNING NORTH/SOUTH
34	SS4	1686367.68	3202921.54	5520.86	5530.76	SEWER	PVC	8"	8" GREEN PVC RUNNING NORTH/SOUTH
35	G4	1686349.46	3202842.76	5528.79	5531.78	GAS	PVC	2"	2" YELLOW PVC RUNNING NORTH/SOUTH
36	CM6	1686365.75	3202818.39	N/A	5528.88	COMM	N/A	N/A	NOT FOUND
37	E3	1686340.47	3202834.33	5524.29	5529.49	ELEC	CONC DUCT	24" WIDE	24" WIDE GRAY CONCRETE DUCT RUNNING NW/SE - SHOT ON SW EDGE
38	W10	1686318.15	3202779.36	5521.58	5528.30	WATER	STEEL	8"	8" BLACK STEEL RUNNING NORTH/SOUTH
39	CM5	1686324.24	3202834.17	N/A	5529.09	COMM	N/A	N/A	NOT FOUND
40	G8	1686316.06	3202841.07	5526.64	5528.91	GAS	PVC	4"	4" YELLOW PVC RUNNING N/E/SW
41	W19	1686312.18	3202881.71	5524.82	5530.89	WATER	PVC	8"	8" BLUE PVC RUNNING EAST/WEST
42	E4	1686320.90	3202890.56	5531.18	5531.55	ELEC	CONC DUCT	42" WIDE	42" WIDE GRAY CONCRETE DUCT RUNNING EAST/WEST
43	G5	1686333.03	3202970.35	5528.65	5532.59	GAS	PVC	4"	4" YELLOW PVC RUNNING EAST/WEST
44	CM7	1686343.10	3203008.98	5531.03	5532.62	COMM	CONC DUCT	24" WIDE	24" WIDE GRAY CONCRETE DUCT RUNNING EAST/WEST
45	S55	1686297.12	3202992.13	5521.56	5529.96	SEWER	PVC	8"	8" GREEN PVC RUNNING EAST/WEST
46	W8	1686312.13	3203017.61	5526.74	5531.85	WATER	PVC	8"	8" BLUE PVC RUNNING EAST/WEST
47	E6	1686323.03	3203106.76	5532.04	5532.31	ELEC	CONC DUCT	42" WIDE	42" WIDE GRAY CONCRETE DUCT RUNNING EAST/WEST
48	G6	1686333.44	3203119.35	5529.14	5532.99	GAS	PVC	4"	4" YELLOW PVC RUNNING EAST/WEST
48a	N/A	1686330.87	3203119.74	5529.91	5532.66	UNKOWN	INSULATED WIRE	1"	1" BLACK INSULATED WIRE RUNNING EAST/WEST
49	CM8	1686338.33	3203130.03	5530.60	5533.27	COMM	CONC DUCT	24" WIDE	24" WIDE GRAY CONCRETE DUCT RUNNING EAST/WEST
50	SS6	1686296.07	3203090.58	5522.25	5531.37	SEWER	PVC	8"	8" GREEN PVC RUNS EAST/WEST
51	W7	1686312.30	3203144.49	5526.32	5531.15	WATER	PVC	8"	8" BLUE PVC RUNNING EAST/WEST
52	SS7	1686294.89	3203206.79	5522.89	5531.47	SEWER	PVC	8"	8" GREEN PVC RUNS EAST/WEST
52a	N/A	1686295.05	3203206.96	5530.14	5531.47	UNKOWN	PVC	3"	3" WHITE PVC RUNS EAST/WEST
53	2-W1	1686389.50	3202144.14	5515.53	5522.45	WATER	STEEL	12"	12" BLACK STEEL RUNNING NORTH/SOUTH
54	2-CM1	1686450.38	3202209.34	N/A	5517.4	COMM	N/A	N/A	NOT FOUND
55	2-G2	1686421.11	3202307.49	5517.90	5520.40	GAS	STEEL	4"	4" YELLOW STEEL RUNNING NORTH/SOUTH
56	2-G1	1686430.92	3202325.45	5518.59	5530.50	GAS	STEEL	6"	6" BLACK STEEL RUNNING NORTH/SOUTH
57	2-SS3	1686438.26	3202431.20	5515.60	5522.07	SEWER	STEEL	18"	18" BLACK STEEL RUNNING NORTH/SOUTH
58	2-CM5	1686523.88	3202490.59	5522.70	5522.70	COMM	N/A	N/A	NO DIG
59	2-SS1	1686536.68	3202512.94	5524.00	5524.00	SEWER	N/A	N/A	NO DIG
60	2-SS2	1686540.08	3202739.54	5523.55	5538.02	UNKOWN	STEEL	8"	2-SS2/FOUND UNKOWN UTILITY
61	2-CM8	1686505.47	3202742.27	5525.77	5528.03	COMM	INSULATED WIRE	1"	1" BLACK INSULATED WIRE RUNNING NORTH/SOUTH
62	2-F1	1686488.51	3202728.65	5523.84	5528.29	FUEL	STEEL	6"	6" GREEN STEEL FUEL LINE RUNNING EAST/WEST
63	2-G7	1686474.67	3202724.17	5524.13	5528.91	GAS	STEEL	6"	6" GREEN STEEL RUNNING NORTH/SOUTH
64	2-CM6	1686417.08	3202709.46	5524.37	5528.64	COMM	INSULATED WIRE	1"	1" BLACK INSULATED WIRE RUNNING EAST/WEST
65	2-F2	1686408.40	3202722.85	5523.25	5528.49	FUEL	STEEL	6"	6" GREEN STEEL RUNNING N/ORTH/SOUTH
66	2-W4	1686412.28	3202650.46	5524.27	5528.45	WATER	COPPER	1"	1" COPPER RUNNING EAST/WEST
67	2-E5	1686500.09	3202644.52	N/A	5525.62	ELEC	N/A	N/A	NOT FOUND
68	2-E2	1686483.17	3202503.95	5520.52	5523.87	ELEC	CONC DUCT	1' WIDE x 2' DEEP	1' WIDE x 2' DEEP GRAY CONCRETE DUCT RUNNING N/W/SSE
69	2-E1	1686390.63	3202493.16	N/A	5524.08	ELEC	N/A	N/A	NOT FOUND
70	2-E3	1686395.43	3202594.80	5523.19	5526.58	ELEC	INSULATED WIRE	(4) 1/4"	FOUR 1/4" BLACK INSULATED WIRES RUNNING N/ORTH/SOUTH
71	2-W3	1686394.48	3202749.79	5523.91	5528.60	WATER	COPPER	1"	1" COPPER RUNNING N/ORTH/SOUTH
72	2-CM7	1686391.72	3202755.64	5524.98	5528.65	COMM	INSULATED WIRE	1"	1" BLACK INSULATED WIRE RUNNING N/ORTH/SOUTH
73	2-E4	1686256.10	3202624.64	5522.77	5526.94	ELEC	INSULATED WIRE	(4) 1/4"	FOUR 1/4" BLACK INSULATED WIRES RUNNING EAST/WEST
74	2-F3	1686309.11	3202542.30	5526.76	5525.85	FUEL	INSULATED 8" STEEL	8"	2-F3//Utility is above surface
75	2-CM9(E)	1686267.64	3202489.71	N/A	5523.51	COMM	N/A	N/A	NOT FOUND
75A	2-CM9(E)A	1686173.38	3202582.83	N/A	N/A	N/A	N/A	N/A	NOT FOUND/2ft D LOCATION
76	2-SS4	1686314.76	3202434.12	5516.36	5522.26	SEWER	STEEL	18"	18" BLACK STEEL RUNNING NORTH/SOUTH
77	2-G3	1686236.86	3202307.71	5518.46	5520.86	GAS	STEEL	4"	4" YELLOW STEEL RUNNING NORTH/SOUTH
78	2-CM2	1686223.34	3202322.41	5518.54	5522.15	COMM	CONC DUCT	1.5' WIDE x 1' DEEP	1.5' WIDE x 1' DEEP GRAY CONCRETE DUCT RUNNING NORTH/SOUTH
79	2-G4	1686236.45	3202333.52	5520.41	5522.12	GAS	STEEL	6"	6" BLACK STEEL RUNNING NORTH/SOUTH
80	2-W2	1686071.27	3202149.21	5516.84	5523.93	WATER	STEEL	12"	12" BLACK STEEL RUNNING NORTH/SOUTH
81	2-G5	1685932.69	3203122.97	5521.46	5523.65	GAS	STEEL	6"	6" BLACK STEEL RUNNING NORTH/SOUTH
81A	N/A	1685948.72	3202326.48	5521.70	5523.64	GAS	STEEL	6"	6" BLACK STEEL RUNNING NORTH/SOUTH
81B	N/A	1685939.70	3202324.40	5521.51	5523.71	GAS	STEEL	6"	6" BLACK STEEL RUNNING NORTH/SOUTH
82	2-G6	1685942.98	3202313.26	5520.31	5523.43	GAS	STEEL	4"	4" YELLOW STEEL RUNNING NORTH/SOUTH
83	2-CM3	1685932.76	3202321.72	5520.79	5523.65	COMM	CONC DUCT	1.5' WIDE x 1' DEEP	1.5' WIDE x 1' DEEP GRAY CONCRETE DUCT RUNNING NORTH/SOUTH
84	2-SS5	1686194.79	3202436.13	5516.89	5522.83	SEWER	STEEL	18"	18" BLACK STEEL RUNNING NORTH/SOUTH
85	3-CM1	1685722.81	3202278.42	5520.12	5523.36	COMM	PVC	(2) 4"	TWO 4" BLACK PVC CONDUITS RUNNING EAST/WEST - ONE ABOVE THE OTHER
86	3-G1	1685700.11	3202289.89	N/A	5527.25	GAS	N/A	N/A	NOT FOUND
87	3-G3	1685768.35	3202315.74	5523.31	5526.27	GAS	STEEL	4"	4" YELLOW STEEL RUNNING NORTH/SOUTH
88	3-CM2	1685765.96	3202322.79	5523.30	5526.27	COMM	CONC DUCT	1.5' WIDE x 1' DEEP	1.5' WIDE x 1' DEEP GRAY CONCRETE DUCT RUNNING NORTH/SOUTH
89	3-G2	1685764.21	3202324.94	5523.99	5526.38	GAS	STEEL	6"	6" BLACK STEEL RUNNING NORTH/SOUTH
90	5-SS1	1686269.76	3202633.37	5523.36	5531.94	SEWER	PVC	8"	8" GREEN PVC RUNNING NORTH/SOUTH

SURVEY NOTES
1. GRID COORDINATES ARE REFLECTED IN U.S. SURVEY FEET AND REFER TO THE NORTH AMERICAN DATUM OF 1983 (NAD 1983) STATE PLANE COORDINATE SYSTEM FOR: COLORADO CENTRAL (0502). THEY ARE BASED ON CONTROL MONUMENT IH 17-05 A.
2. ELEVATIONS ARE REFLECTED IN U.S. SURVEY FEET AND REFER TO THE NORTH AMERICAN VERITICAL DATUM OF 1988 (NAVD 88). THEY ARE BASED ON CONTROL MONUMENT IH 17-05 A.

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Midland Surveying, Inc.
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FILE:	DATE:	SCALE:	REVISED:	SHEET NO.
BUCKLEY_POTHOLE-MAP	NOV. 8, 2024			1 OF 1

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DESIGNED BY:	N. BURNS
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SUBMITTED BY:	T. OWENS
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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

POTHOLE PLAN OVERVIEW

SHEET ID
VF107

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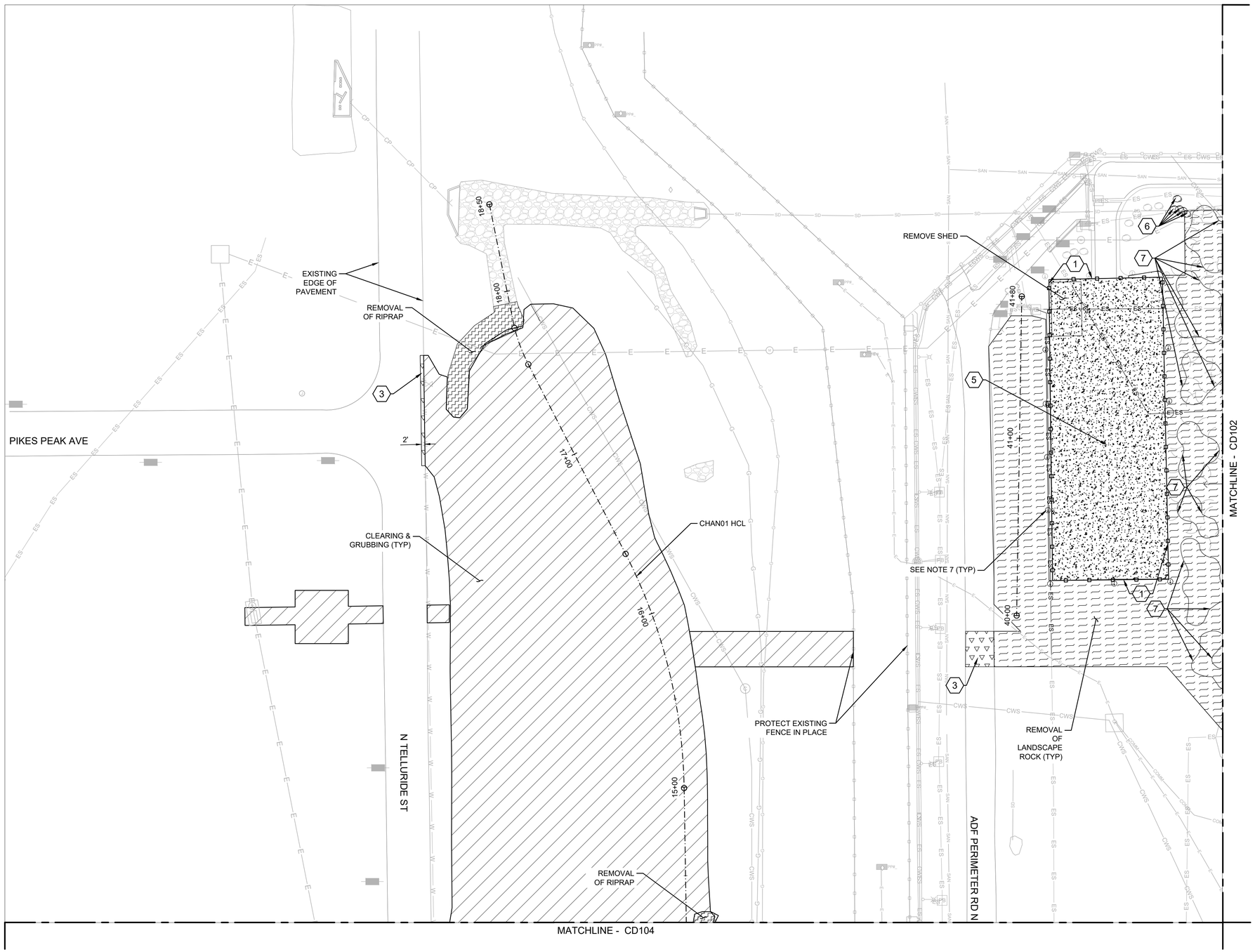


A1 CIVIL DEMOLITION PLAN - AREA 1

GENERAL NOTES

1. SEE UD SERIES FOR ADDITIONAL DEMOLITION ITEMS.
2. PAVEMENT REMOVAL EXTENTS SHOWN ASSUME PROPOSED UTILITY INSTALLATION ARE DONE VIA TRENCHING. CONTRACTOR SHALL PHASE CONSTRUCTION TO MAINTAIN ACCESS TO EXISTING BLDG 428 AT ALL TIMES.
3. SAWCUT NEAT LINE AT ALL EDGES OF ASPHALT OR CONCRETE PAVEMENT REMOVALS. ALL CONCRETE PAVEMENT TO BE REMOVED, SHALL BE REMOVED TO THE NEAREST JOINT.
4. SEE SPECIFICATION SECTION 02 82 00 ASBESTOS REMEDIATION, 02 83 00 LEAD IN CONSTRUCTION, AND 02 84 16 HANDLING OF LIGHTING BALLASTS AND LAMPS CONTAINING PCBS AND MERCURY FOR REMOVAL, HANDLING, AND DISPOSAL OF HAZARDOUS BUILDING MATERIALS.
5. A SINGLE CLOSURE OF ACCESS TO THE GRAVITY EXISTING FUEL OFFLOAD IS ALLOWED, NOT TO EXCEED 28 CALENDAR DAYS DURATION FOR PROPOSED UTILITY WORK AND REMOVAL AND REPLACEMENT OF FUEL OFFLOAD PAVEMENT INCLUDING NEEDED CONCRETE PAVEMENT CURING TIME. COORDINATE TIMING OF CLOSURE WITH CONTRACTING OFFICER'S REPRESENTATIVE TO ENSURE TANKS ARE FILLED BY OTHERS PRIOR TO CLOSURE OF ACCESS TO OFFLOAD.
6. CONTRACTOR MAY SALVAGE AND REUSE LANDSCAPE ROCK. IF RE-USED, NEW WEED BARRIER FABRIC WILL BE REQUIRED AND ROCK SHALL BE CLEAN AND FREE OF SOIL AND DEBRIS.
7. ALL GROUNDING RODS WITHIN DISTURBANCE LIMITS TO BE REMOVED.
8. PAVEMENT REMOVALS AND SURFACE DISTURBANCES WITHIN RESTRICTED AREA ARE PRIMARILY ASSOCIATED WITH TRENCHING FOR UTILITY CONSTRUCTION AND SHALL BE UPDATED AS NECESSARY.

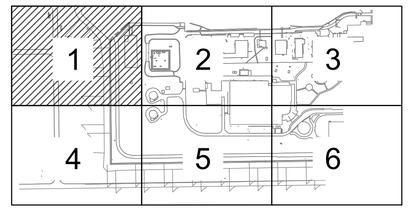
KEY NOTES

1. REMOVE FENCE
2. REMOVE CURB AND GUTTER
3. REMOVE ASPHALT PAVEMENT
4. REMOVE BOLLARD
5. REMOVE CONCRETE PAVEMENT
6. REMOVE AND RESET BOULDER
7. REMOVE CONCRETE BLOCK LANDSCAPE WALL

LEGEND

- CLEARING & GRUBBING
- REMOVAL OF CONCRETE PAVEMENT OR C&G
- REMOVAL OF BUILDING
- REMOVAL OF ASPHALT MAT
- REMOVAL OF LANDSCAPE ROCK (SEE NOTE 6)
- REMOVAL OF RIPRAP

KEY PLAN



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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CIVIL DEMOLITION PLAN - AREA 1

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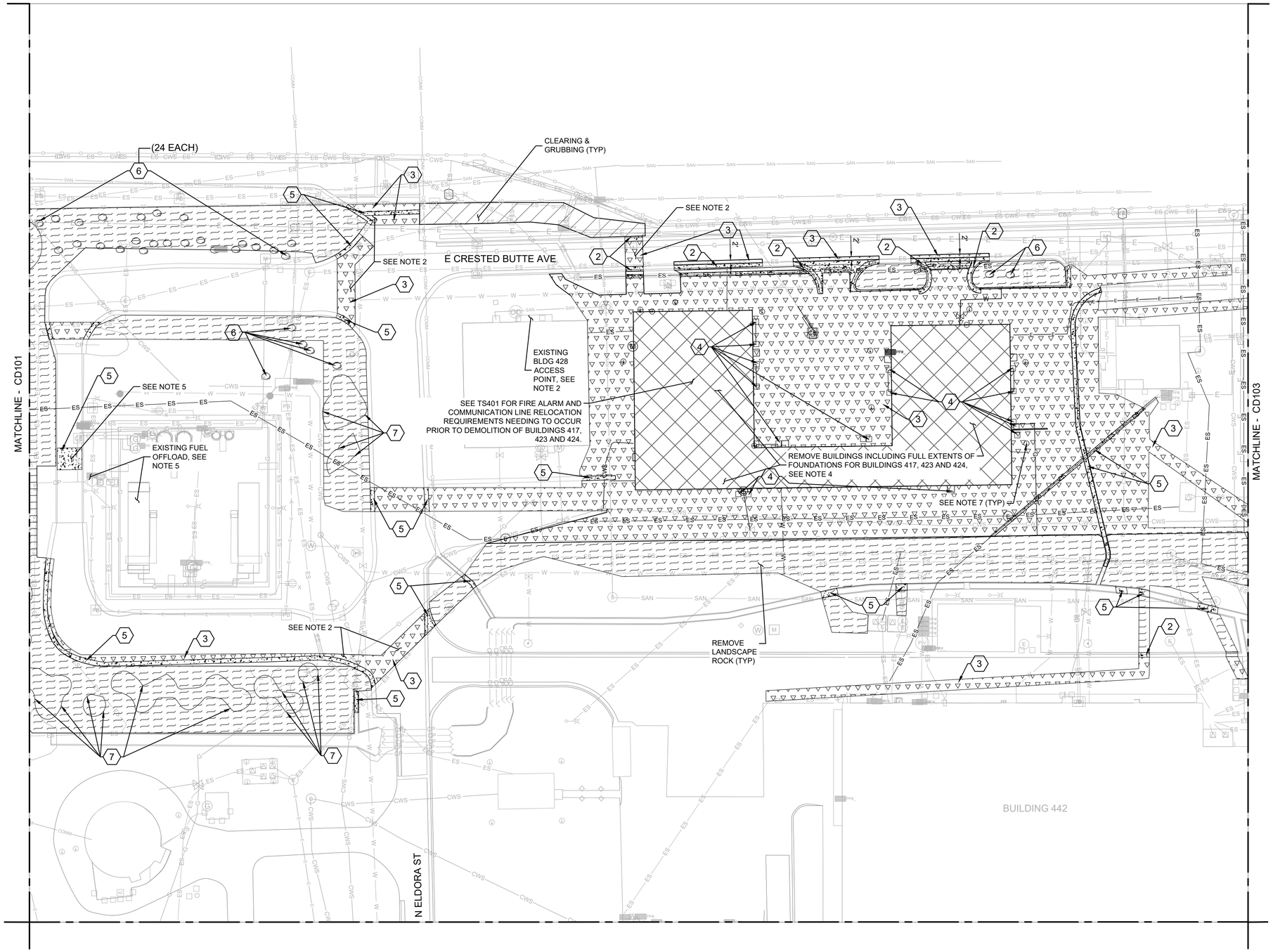


A1 CIVIL DEMOLITION PLAN - AREA 2

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. SEE UD SERIES FOR ADDITIONAL DEMOLITION ITEMS.
2. PAVEMENT REMOVAL EXTENTS SHOWN ASSUME PROPOSED UTILITY INSTALLATION ARE DONE VIA TRENCHING. CONTRACTOR SHALL PHASE CONSTRUCTION TO MAINTAIN ACCESS TO EXISTING BLDG 428 AT ALL TIMES.
3. SAWCUT NEAT LINE AT ALL EDGES OF ASPHALT OR CONCRETE PAVEMENT REMOVALS. ALL CONCRETE PAVEMENT TO BE REMOVED, SHALL BE REMOVED TO THE NEAREST JOINT.
4. SEE SPECIFICATION SECTION 02 82 00 ASBESTOS REMEDIATION, 02 83 00 LEAD IN CONSTRUCTION, AND 02 84 16 HANDLING OF LIGHTING BALLASTS AND LAMPS CONTAINING PCBS AND MERCURY FOR REMOVAL, HANDLING, AND DISPOSAL OF HAZARDOUS BUILDING MATERIALS.
5. A SINGLE CLOSURE OF ACCESS TO THE GRAVITY EXISTING FUEL OFFLOAD IS ALLOWED, NOT TO EXCEED 28 CALENDAR DAYS DURATION FOR PROPOSED UTILITY WORK AND REMOVAL AND REPLACEMENT OF FUEL OFFLOAD PAVEMENT INCLUDING NEEDED CONCRETE PAVEMENT CURING TIME. COORDINATE TIMING OF CLOSURE WITH CONTRACTING OFFICER'S REPRESENTATIVE TO ENSURE TANKS ARE FILLED BY OTHERS PRIOR TO CLOSURE OF ACCESS TO OFFLOAD.
6. CONTRACTOR MAY SALVAGE AND REUSE LANDSCAPE ROCK. IF RE-USED, NEW WEED BARRIER FABRIC WILL BE REQUIRED AND ROCK SHALL BE CLEAN AND FREE OF SOIL AND DEBRIS.
7. ALL GROUNDING RODS WITHIN DISTURBANCE LIMITS TO BE REMOVED.
8. PAVEMENT REMOVALS AND SURFACE DISTURBANCES WITHIN RESTRICTED AREA ARE PRIMARILY ASSOCIATED WITH TRENCHING FOR UTILITY CONSTRUCTION AND SHALL BE UPDATED AS NECESSARY.

KEY NOTES

1. REMOVE FENCE
2. REMOVE CURB AND GUTTER
3. REMOVE ASPHALT PAVEMENT
4. REMOVE BOLLARD
5. REMOVE CONCRETE PAVEMENT
6. REMOVE AND RESET BOULDER
7. REMOVE CONCRETE BLOCK LANDSCAPE WALL

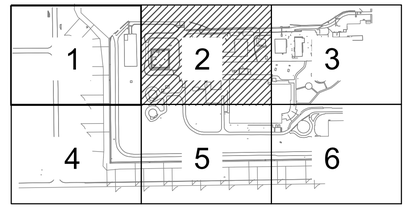
LEGEND

- CLEARING & GRUBBING
- REMOVAL OF CONCRETE PAVEMENT OR C&G
- REMOVAL OF BUILDING
- REMOVAL OF ASPHALT MAT
- REMOVAL OF LANDSCAPE ROCK (SEE NOTE 6)
- REMOVAL OF RIPRAP

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



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DRAWN BY:	N. BURNS
CHECKED BY:	T. OWENS
SUBMITTED BY:	T. OWENS
SIZE: ANSI D	FILENAME: BUCO000102CD101-104.dwg
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
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FILE NUMBER:	

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CIVIL DEMOLITION PLAN - AREA 2

SHEET ID

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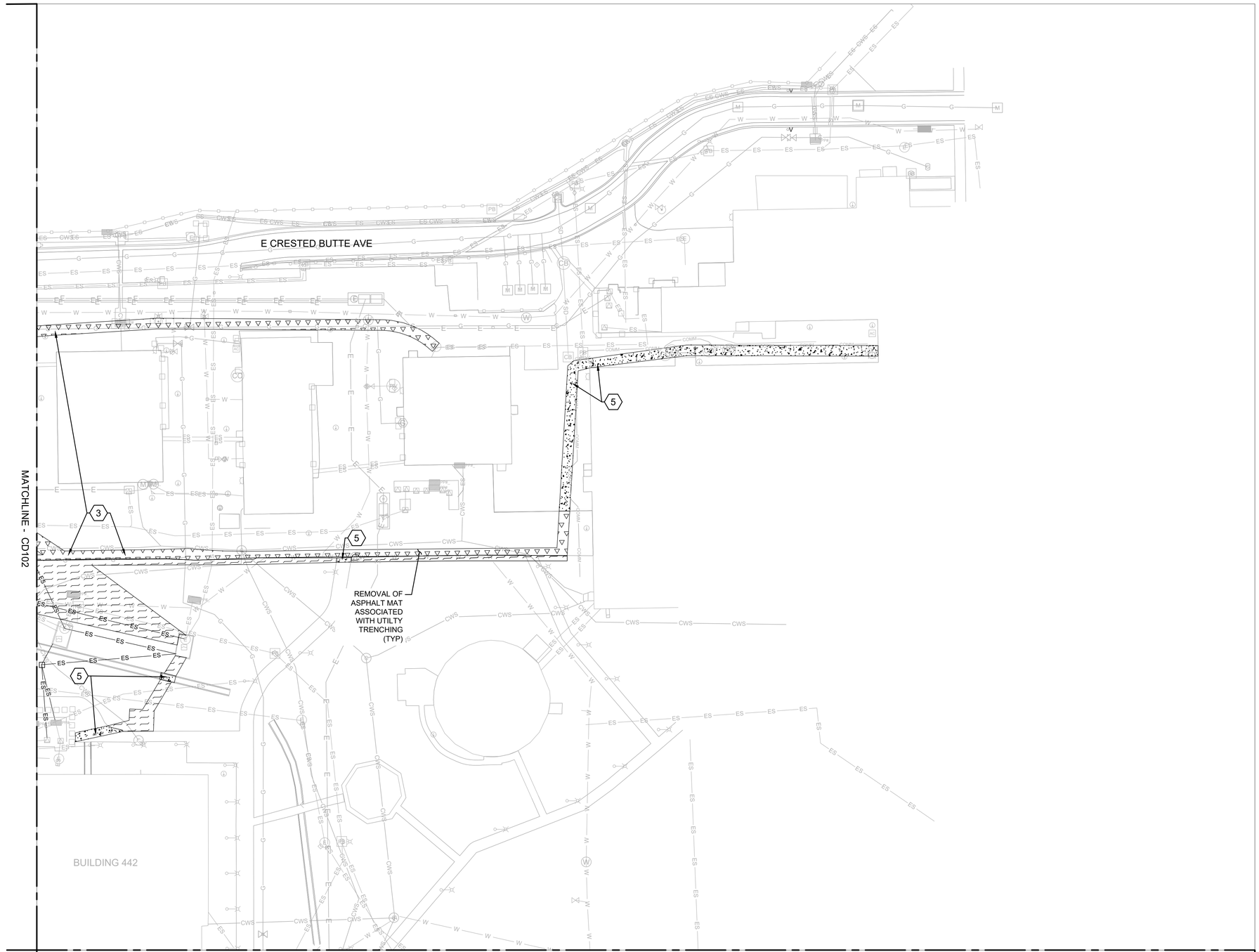

A1 CIVIL DEMOLITION PLAN - AREA 3

GENERAL NOTES

1. SEE UD SERIES FOR ADDITIONAL DEMOLITION ITEMS.
2. PAVEMENT REMOVAL EXTENTS SHOWN ASSUME PROPOSED UTILITY INSTALLATION ARE DONE VIA TRENCHING. CONTRACTOR SHALL PHASE CONSTRUCTION TO MAINTAIN ACCESS TO EXISTING BLDG 428 AT ALL TIMES.
3. SAWCUT NEAT LINE AT ALL EDGES OF ASPHALT OR CONCRETE PAVEMENT REMOVALS. ALL CONCRETE PAVEMENT TO BE REMOVED, SHALL BE REMOVED TO THE NEAREST JOINT.
4. SEE SPECIFICATION SECTION 02 82 00 ASBESTOS REMEDIATION, 02 83 00 LEAD IN CONSTRUCTION, AND 02 84 16 HANDLING OF LIGHTING BALLASTS AND LAMPS CONTAINING PCBS AND MERCURY FOR REMOVAL, HANDLING, AND DISPOSAL OF HAZARDOUS BUILDING MATERIALS.
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6. CONTRACTOR MAY SALVAGE AND REUSE LANDSCAPE ROCK. IF RE-USED, NEW WEED BARRIER FABRIC WILL BE REQUIRED AND ROCK SHALL BE CLEAN AND FREE OF SOIL AND DEBRIS.
7. ALL GROUNDING RODS WITHIN DISTURBANCE LIMITS TO BE REMOVED.
8. PAVEMENT REMOVALS AND SURFACE DISTURBANCES WITHIN RESTRICTED AREA ARE PRIMARILY ASSOCIATED WITH TRENCHING FOR UTILITY CONSTRUCTION AND SHALL BE UPDATED AS NECESSARY.

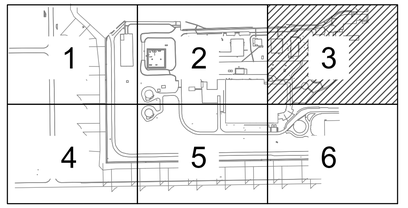
KEY NOTES

1. REMOVE FENCE
2. REMOVE CURB AND GUTTER
3. REMOVE ASPHALT PAVEMENT
4. REMOVE BOLLARD
5. REMOVE CONCRETE PAVEMENT
6. REMOVE AND RESET BOULDER
7. REMOVE CONCRETE BLOCK LANDSCAPE WALL

LEGEND

- CLEARING & GRUBBING
- REMOVAL OF CONCRETE PAVEMENT OR C&G
- REMOVAL OF BUILDING
- REMOVAL OF ASPHALT MAT
- REMOVAL OF LANDSCAPE ROCK (SEE NOTE 6)
- REMOVAL OF RIPRAP

KEY PLAN



TRUE NORTH
SCALE:1" = 400'

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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CIVIL DEMOLITION PLAN - AREA 3

SHEET ID
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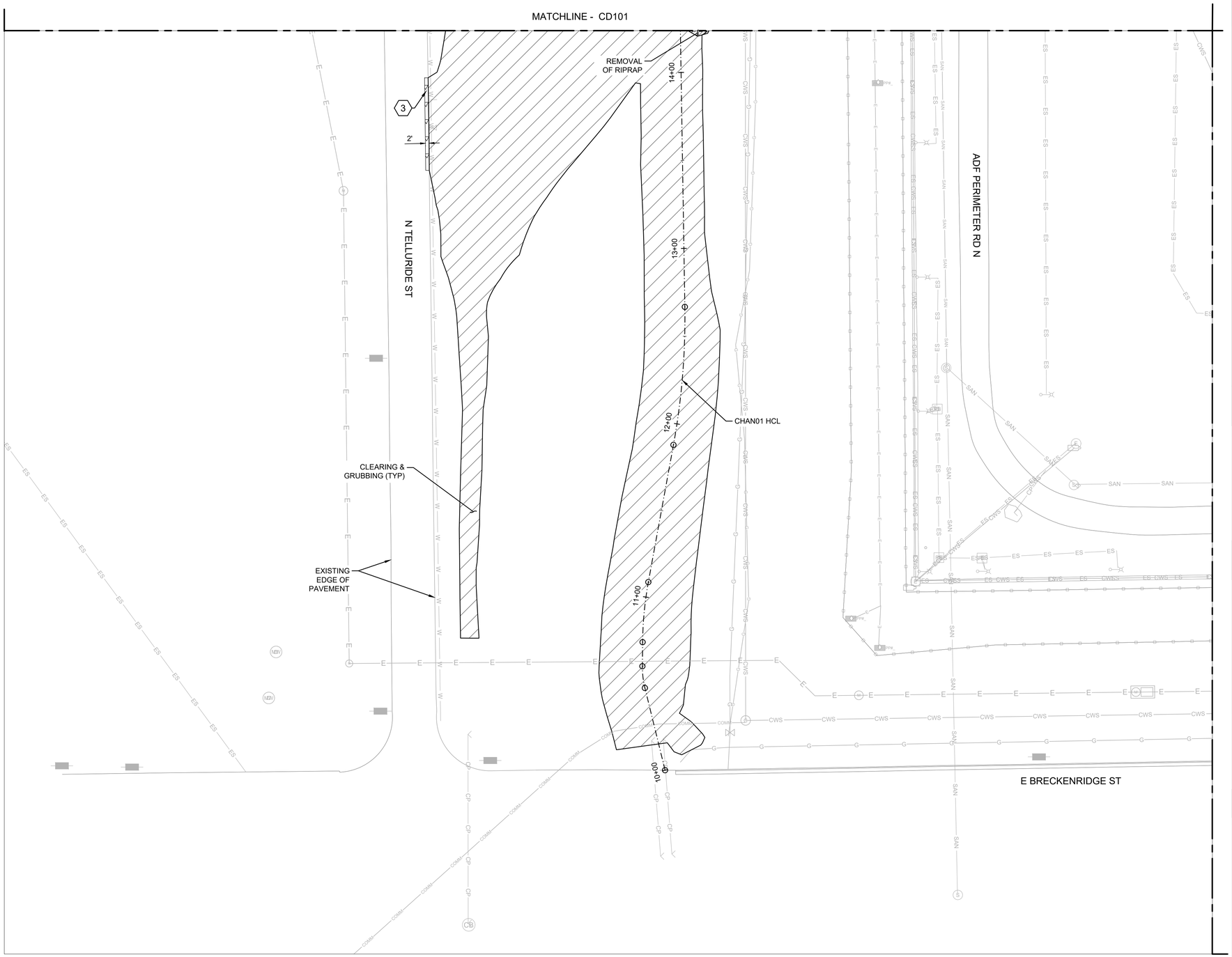

A1 CIVIL DEMOLITION PLAN - AREA 4

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. SEE UD SERIES FOR ADDITIONAL DEMOLITION ITEMS.
2. PAVEMENT REMOVAL EXTENTS SHOWN ASSUME PROPOSED UTILITY INSTALLATION ARE DONE VIA TRENCHING. CONTRACTOR SHALL PHASE CONSTRUCTION TO MAINTAIN ACCESS TO EXISTING BLDG 428 AT ALL TIMES.
3. SAWCUT NEAT LINE AT ALL EDGES OF ASPHALT OR CONCRETE PAVEMENT REMOVALS. ALL CONCRETE PAVEMENT TO BE REMOVED, SHALL BE REMOVED TO THE NEAREST JOINT.
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8. PAVEMENT REMOVALS AND SURFACE DISTURBANCES WITHIN RESTRICTED AREA ARE PRIMARILY ASSOCIATED WITH TRENCHING FOR UTILITY CONSTRUCTION AND SHALL BE UPDATED AS NECESSARY.

KEY NOTES

1. REMOVE FENCE
2. REMOVE CURB AND GUTTER
3. REMOVE ASPHALT PAVEMENT
4. REMOVE BOLLARD
5. REMOVE CONCRETE PAVEMENT
6. REMOVE AND RESET BOULDER
7. REMOVE CONCRETE BLOCK LANDSCAPE WALL

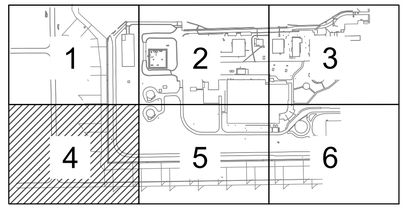
LEGEND

- CLEARING & GRUBBING
- REMOVAL OF CONCRETE PAVEMENT OR C&G
- REMOVAL OF BUILDING
- REMOVAL OF ASPHALT MAT
- REMOVAL OF LANDSCAPE ROCK (SEE NOTE 6)
- REMOVAL OF RIPRAP

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



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CHECKED BY: T. OWENS
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SIZE: ANSI D
ISSUE DATE: 06/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102CD101-104.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CIVIL DEMOLITION PLAN - AREA 4

SHEET ID
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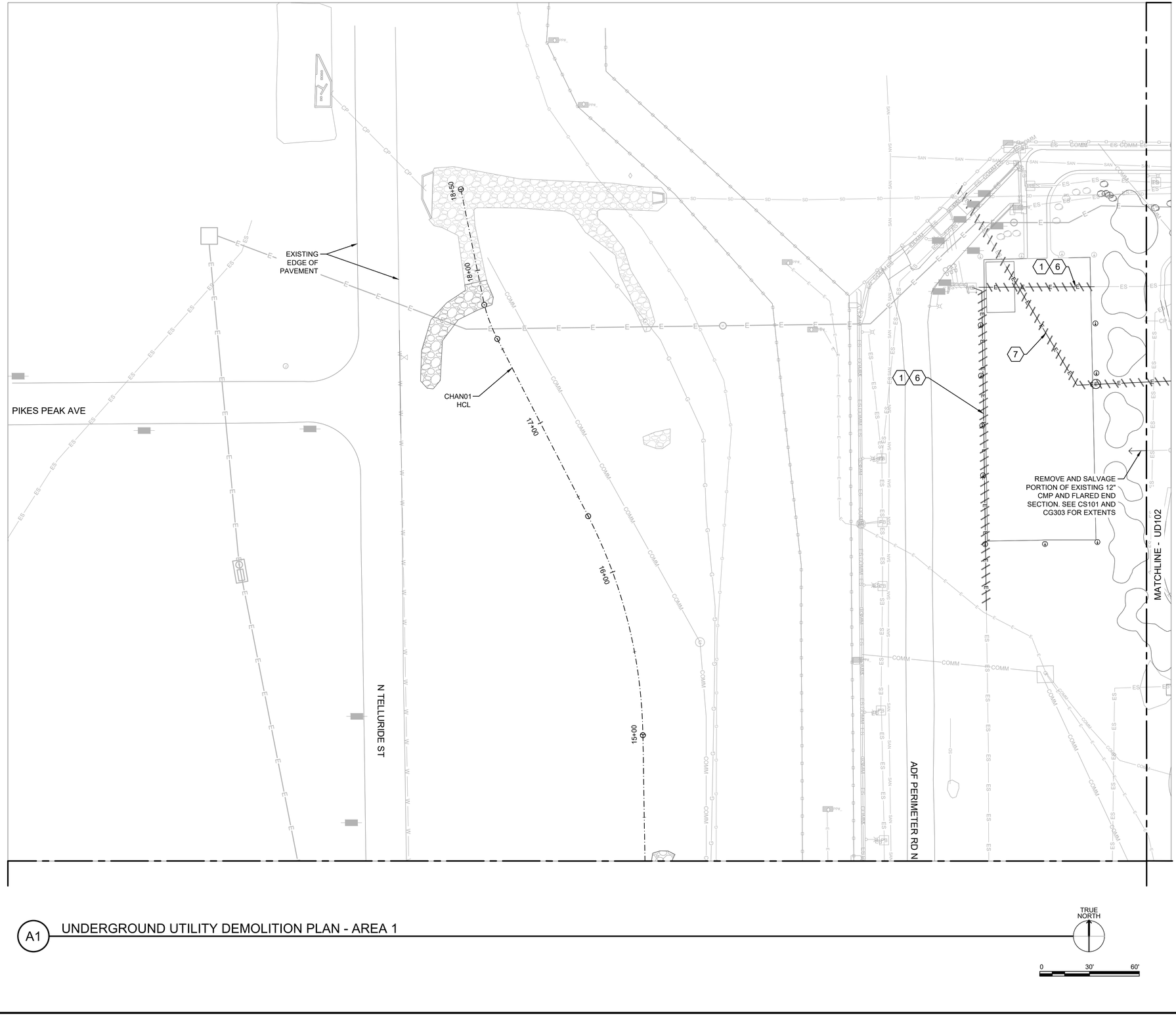


A1 UNDERGROUND UTILITY DEMOLITION PLAN - AREA 1

GENERAL NOTES

1. DEMOLITION ITEMS IN THIS SUBSET ARE LIMITED TO UNDERGROUND ITEMS. SEE "CD" SERIES SHEETS FOR ADDITIONAL DEMOLITION ITEMS.
2. AS A PART OF A SEPARATE PROJECT, MULTIPLE TREES HAVE BEEN PARTIALLY REMOVED. SHOULD ANY PORTION OF THE REMAINING TREES BE WITHIN THIS PROJECT'S EXTENTS OF TRENCHING OR SURFACE IMPROVEMENTS THE CONTRACTOR SHALL REMOVE THE TREES, STUMPS AND ROOTS AT NO ADDITIONAL COST TO THE OWNER.
3. ERCIP PROJECT CONSTRUCTION MAY BE ONGOING. COORDINATE WITH BASE AUTHORITY AND ERCIP CONTRACTORS AS NECESSARY.
4. WITHIN THE RESTRICTED AREA ALL EXCAVATION BY CONTRACTOR SHALL OCCUR BY HYDRO EXCAVATION. CONTRACTOR TO COORDINATE WITH COR FOR SLURRY SPOIL LOCATION ON BASE.
5. CONTRACTOR TO FIELD LOCATE AND PROTECT EXISTING UTILITIES AND COORDINATE OUTAGES WITH THE CONTRACTING OFFICER'S REPRESENTATIVE.
6. INSTALL MECHANICAL PLUGS IN ALL DUCT BANKS AT THE REMOVAL POINT TO PREVENT WATER INTRUSION INTO THE PORTIONS TO REMAIN.

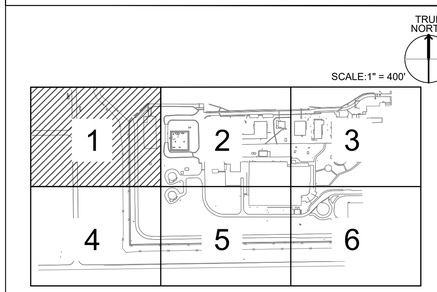
KEY NOTES

1. REMOVAL OF UNDERGROUND ELECTRIC.
2. REMOVAL OF GAS SERVICE LINE.
3. SEVER AND REMOVE SANITARY SEWER SERVICE LINE AND CLEANOUT (LOCATION ASSUMED). INSTALL CAP AT JUNCTION OF EXISTING TO REMAIN.
4. SEVER AND REMOVE WATER SERVICE LINE. INSTALL CAP AND PLUG AT JUNCTION OF EXISTING TO REMAIN.
5. MAINTAIN TELECOMMUNICATIONS CONNECTION UNTIL NEW CONNECTION IS IN PLACE. SEE TS SERIES SHEETS.
6. MAINTAIN LIGHTING CONNECTION UNTIL REROUTED. SEE ES SERIES SHEETS.
7. PRIMARY FEEDER REMOVAL WORK CAN COMMENCE ONCE THE ERCIP LOOP INSTALLATION IS COMPLETE, THE PATHWAY HAS BEEN DE-ENERGIZED, AND THE PATHWAY HAS BEEN ABANDONED IN-PLACE. CONTRACTOR TO VERIFY CONDITIONS. ANY DUCT BANK WITH LIVE CONDUCTORS/CONDUCTORS TO REMAIN IN SERVICE TO REMAIN IN PLACE.
8. POWER FOR B417 (WHICH SUBFEEDS TO B424) AND FOR B423 TIE BACK TO THE TRANSFORMER SECONDARY LUGS SOUTH OF B415. CONTRACTOR TO FIELD VERIFY POWER SOURCE(S) FOR B417/B423/B424 AND DEMOLISH CONDUCTORS AND PATHWAYS FROM B417/B423/B424 TO BUT NOT INCLUDING THE SOURCE EQUIPMENT (I.E., TRANSFORMER, PANELBOARD, SWITCHBOARD, DISCONNECT, ETC). COORDINATE AN OUTAGE FOR THE TRANSFORMER SOUTH OF B415 WITH THE COR PRIOR TO COMMENCING WORK.
9. MAINTAIN FIRE ALARM CONNECTION UNTIL NEW CONNECTION IS IN PLACE. SEE TS SERIES SHEETS.
10. MAINTAIN POWER CONNECTION UNTIL NEW CONNECTION IS IN PLACE. SEE ES SERIES SHEETS.
11. MAINTAIN POWER CONNECTION. SEE ES SERIES SHEETS FOR PHASING
12. PROTECT POWER CONNECTION TO B428 FROM TRANSFORMER SOUTH OF B415. COORDINATE ANY DE-ENERGIZATION OF TRANSFORMER SOUTH OF B415 WITH BASE. WORK CAN OCCUR ALONG THIS PATH ONCE THE ERCIP LOOP INSTALLATION IS COMPLETE, THE PATHWAY HAS BEEN DE-ENERGIZED, AND THE PATHWAY HAS BEEN ABANDONED IN-PLACE. CONTRACTOR TO VERIFY CONDITIONS.ANY DUCTBANK WITH CONDUCTORS TO REMAIN IN SERVICE TO REMAIN IN PLACE. NOTABLY THE CONNECTION TO B428 WILL REMAIN.

LEGEND

- REMOVE STORM DRAIN
- REMOVE SANITARY SEWER
- REMOVE WATER LINE
- REMOVE ELECTRICAL PRIMARY
- REMOVE COMMUNICATION LINES
- REMOVE NATURAL GAS LINE

KEY PLAN



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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

UNDERGROUND UTILITY DEMOLITION PLAN - AREA 1

SHEET ID
UD101

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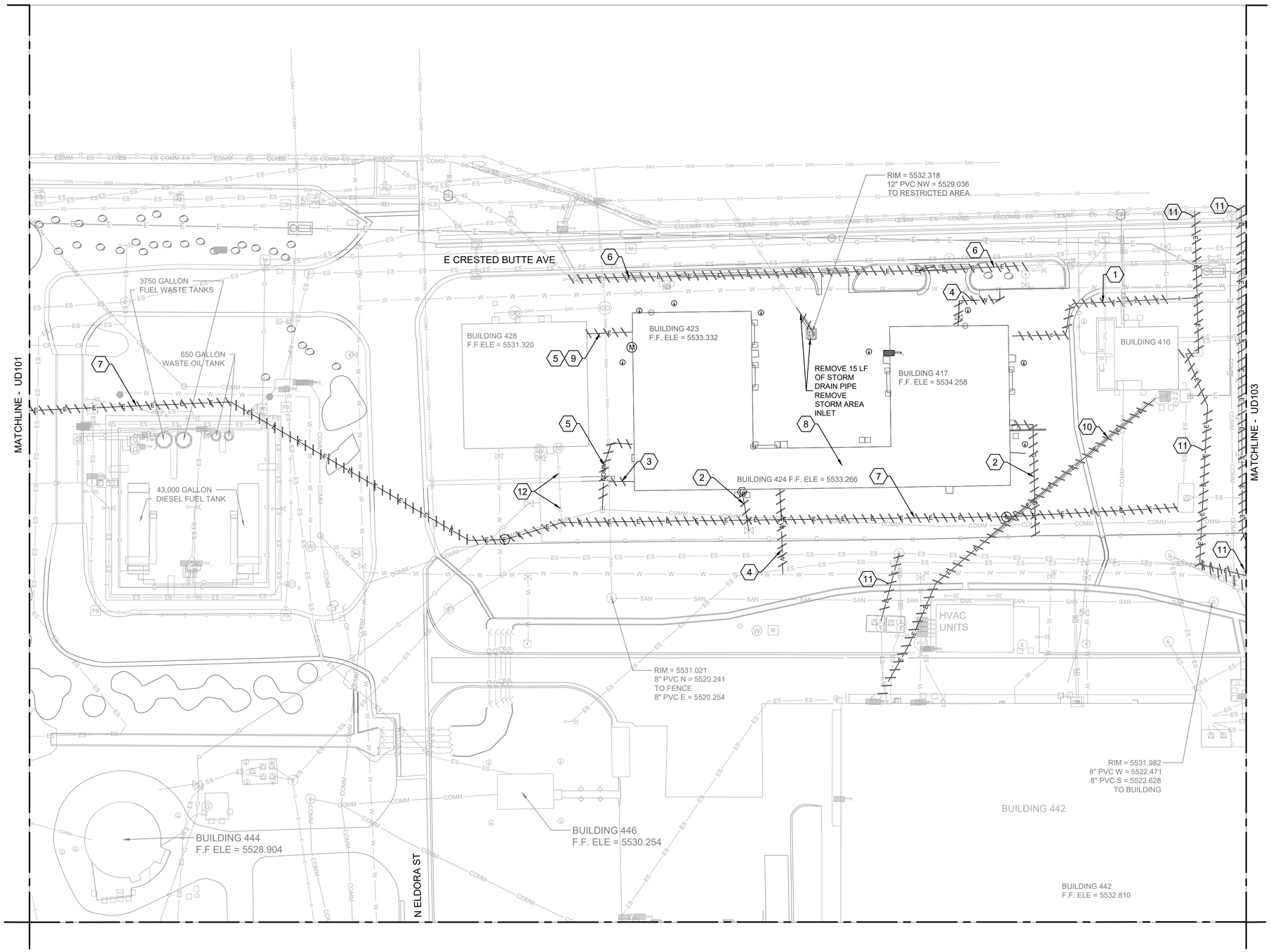

A1 UNDERGROUND UTILITY DEMOLITION PLAN - AREA 2

GENERAL NOTES

1. DEMOLITION ITEMS IN THIS SUBSET ARE LIMITED TO UNDERGROUND ITEMS. SEE "CD" SERIES SHEETS FOR ADDITIONAL DEMOLITION ITEMS.
2. AS A PART OF A SEPARATE PROJECT, MULTIPLE TREES HAVE BEEN PARTIALLY REMOVED. SHOULD ANY PORTION OF THE REMAINING TREES BE WITHIN THIS PROJECT'S EXTENTS OF TRENCHING OR SURFACE IMPROVEMENTS THE CONTRACTOR SHALL REMOVE THE TREES, STUMPS AND ROOTS AT NO ADDITIONAL COST TO THE OWNER.
3. ERCIP PROJECT CONSTRUCTION MAY BE ONGOING. COORDINATE WITH BASE AUTHORITY AND ERCIP CONTRACTORS AS NECESSARY.
4. WITHIN THE RESTRICTED AREA ALL EXCAVATION BY CONTRACTOR SHALL OCCUR BY HYDRO EXCAVATION. CONTRACTOR TO COORDINATE WITH COR FOR SLURRY SPOIL LOCATION ON BASE.
5. CONTRACTOR TO FIELD LOCATE AND PROTECT EXISTING UTILITIES AND COORDINATE OUTAGES WITH THE CONTRACTING OFFICER'S REPRESENTATIVE.
6. INSTALL MECHANICAL PLUGS IN ALL DUCT BANKS AT THE REMOVAL POINT TO PREVENT WATER INTRUSION INTO THE PORTIONS TO REMAIN.

KEY NOTES

1. REMOVAL OF UNDERGROUND ELECTRIC.
2. REMOVAL OF GAS SERVICE LINE.
3. SEVER AND REMOVE SANITARY SEWER SERVICE LINE AND CLEANOUT (LOCATION ASSUMED). INSTALL CAP AT JUNCTION OF EXISTING TO REMAIN.
4. SEVER AND REMOVE WATER SERVICE LINE. INSTALL CAP AND PLUG AT JUNCTION OF EXISTING TO REMAIN.
5. MAINTAIN TELECOMMUNICATIONS CONNECTION UNTIL NEW CONNECTION IS IN PLACE. SEE TS SERIES SHEETS.
6. MAINTAIN LIGHTING CONNECTION UNTIL REROUTED. SEE ES SERIES SHEETS.
7. PRIMARY FEEDER REMOVAL WORK CAN COMMENCE ONCE THE ERCIP LOOP INSTALLATION IS COMPLETE, THE PATHWAY HAS BEEN DE-ENERGIZED, AND THE PATHWAY HAS BEEN ABANDONED IN-PLACE. CONTRACTOR TO VERIFY CONDITIONS. ANY DUCT BANK WITH LIVE CONDUCTORS/CONDUCTORS TO REMAIN IN SERVICE TO REMAIN IN PLACE.
8. POWER FOR B417 (WHICH SUBFEEDS TO B424) AND FOR B423 TIE BACK TO THE TRANSFORMER SECONDARY LUGS SOUTH OF B415. CONTRACTOR TO FIELD VERIFY POWER SOURCE(S) FOR B417/B423/B424 AND DEMOLISH CONDUCTORS AND PATHWAYS FROM B417/B423/B424 TO BUT NOT INCLUDING THE SOURCE EQUIPMENT (I.E., TRANSFORMER, PANELBOARD, SWITCHBOARD, DISCONNECT, ETC). COORDINATE AN OUTAGE FOR THE TRANSFORMER SOUTH OF B415 WITH THE COR PRIOR TO COMMENCING WORK.
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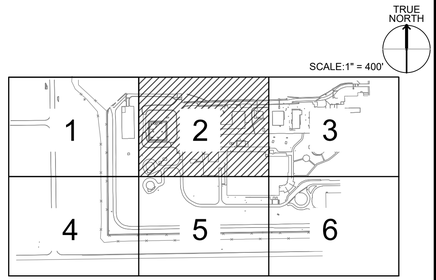
LEGEND

- REMOVE STORM DRAIN
- REMOVE SANITARY SEWER
- REMOVE WATER LINE
- REMOVE ELECTRICAL PRIMARY
- REMOVE COMMUNICATION LINES
- REMOVE NATURAL GAS LINE

KEY PLAN



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OMAHA DISTRICT
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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

UNDERGROUND UTILITY DEMOLITION PLAN - AREA 2

SHEET ID

UD102

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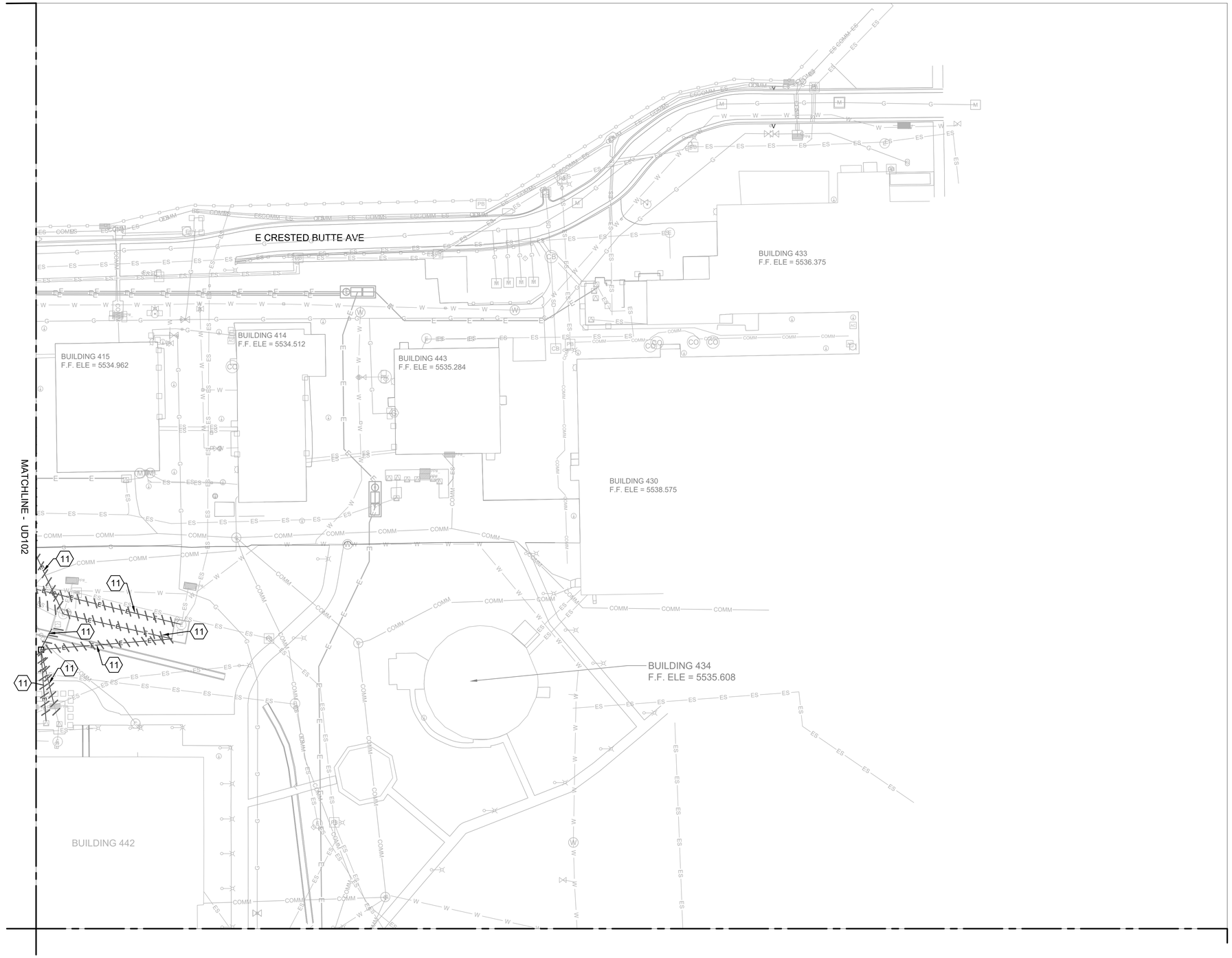

A1 UNDERGROUND UTILITY DEMOLITION PLAN - AREA 3

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6. INSTALL MECHANICAL PLUGS IN ALL DUCT BANKS AT THE REMOVAL POINT TO PREVENT WATER INTRUSION INTO THE PORTIONS TO REMAIN.

KEY NOTES

1. REMOVAL OF UNDERGROUND ELECTRIC.
2. REMOVAL OF GAS SERVICE LINE.
3. SEVER AND REMOVE SANITARY SEWER SERVICE LINE AND CLEANOUT (LOCATION ASSUMED). INSTALL CAP AT JUNCTION OF EXISTING TO REMAIN.
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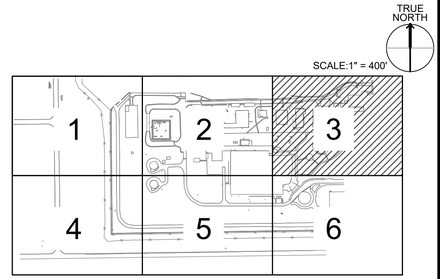
6. MAINTAIN LIGHTING CONNECTION UNTIL REROUTED. SEE ES SERIES SHEETS.
7. PRIMARY FEEDER REMOVAL WORK CAN COMMENCE ONCE THE ERCIP LOOP INSTALLATION IS COMPLETE, THE PATHWAY HAS BEEN DE-ENERGIZED, AND THE PATHWAY HAS BEEN ABANDONED IN-PLACE. CONTRACTOR TO VERIFY CONDITIONS. ANY DUCT BANK WITH LIVE CONDUCTORS/CONDUCTORS TO REMAIN IN SERVICE TO REMAIN IN PLACE.
8. POWER FOR B417 (WHICH SUBFEEDS TO B424) AND FOR B423 TIE BACK TO THE TRANSFORMER SECONDARY LUGS SOUTH OF B415. CONTRACTOR TO FIELD VERIFY POWER SOURCE(S) FOR B417/B423/B424 AND DEMOLISH CONDUCTORS AND PATHWAYS FROM B417/B423/B424 TO BUT NOT INCLUDING THE SOURCE EQUIPMENT (I.E., TRANSFORMER, PANELBOARD, SWITCHBOARD, DISCONNECT, ETC). COORDINATE AN OUTAGE FOR THE TRANSFORMER SOUTH OF B415 WITH THE COR PRIOR TO COMMENCING WORK.
9. MAINTAIN FIRE ALARM CONNECTION UNTIL NEW CONNECTION IS IN PLACE. SEE TS SERIES SHEETS.
10. MAINTAIN POWER CONNECTION UNTIL NEW CONNECTION IS IN PLACE. SEE ES SERIES SHEETS.
11. MAINTAIN POWER CONNECTION. SEE ES SERIES SHEETS FOR PHASING
12. PROTECT POWER CONNECTION TO B428 FROM TRANSFORMER SOUTH OF B415. COORDINATE ANY DE-ENERGIZATION OF TRANSFORMER SOUTH OF B415 WITH BASE. WORK CAN OCCUR ALONG THIS PATH ONCE THE ERCIP LOOP INSTALLATION IS COMPLETE, THE PATHWAY HAS BEEN DE-ENERGIZED, AND THE PATHWAY HAS BEEN ABANDONED IN-PLACE. CONTRACTOR TO VERIFY CONDITIONS.ANY DUCTBANK WITH CONDUCTORS TO REMAIN IN SERVICE TO REMAIN IN PLACE. NOTABLY THE CONNECTION TO B428 WILL REMAIN.

LEGEND

- REMOVE STORM DRAIN
- REMOVE SANITARY SEWER
- REMOVE WATER LINE
- REMOVE ELECTRICAL PRIMARY
- REMOVE COMMUNICATION LINES
- REMOVE NATURAL GAS LINE

KEY PLAN



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MARK	DESCRIPTION	DATE

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DESIGNED BY: N. BURNS
DRAWN BY: N. BURNS
CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO001020UD101-104.dwg

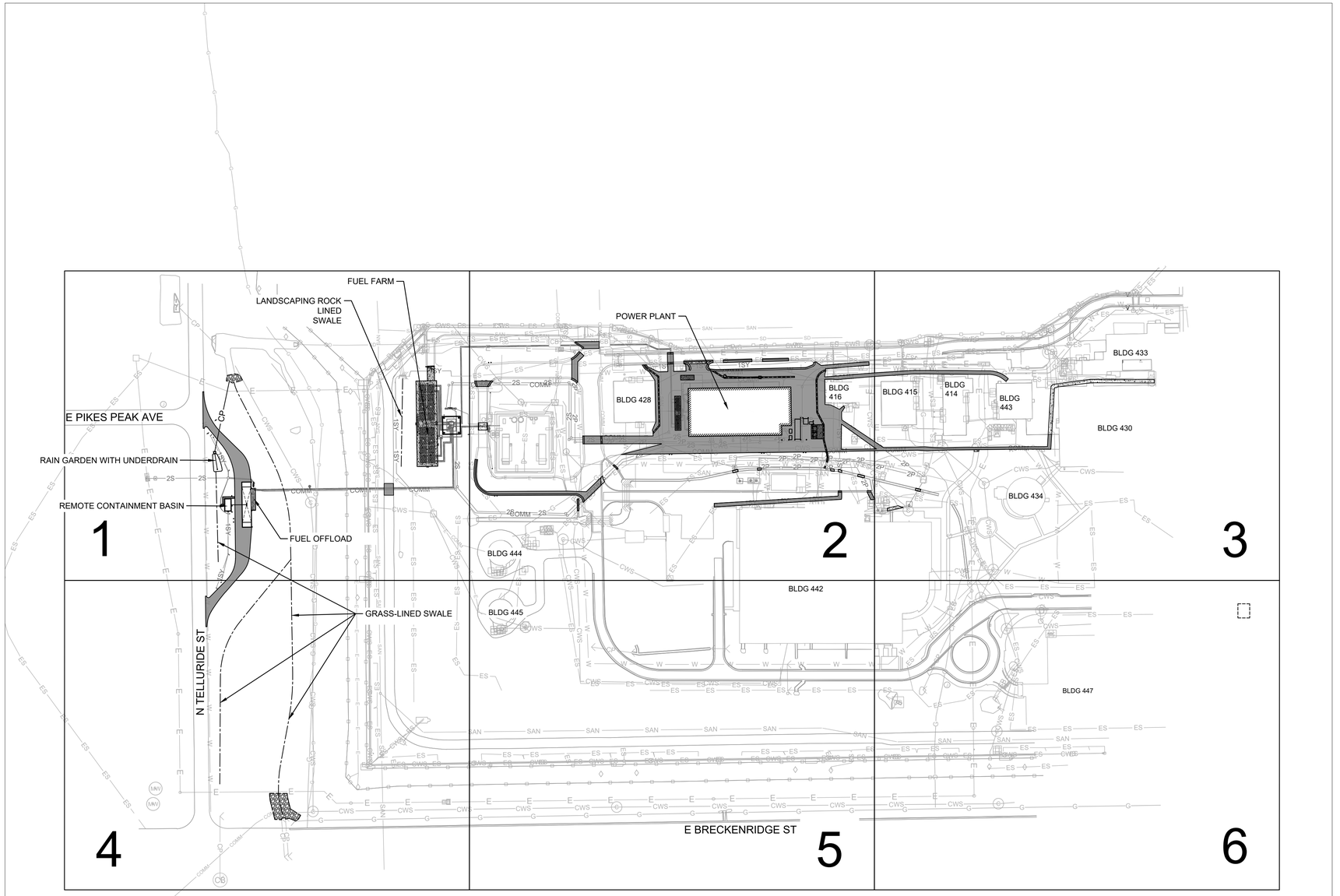
U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

UNDERGROUND UTILITY DEMOLITION PLAN - AREA 3

SHEET ID
UD103

ADVERTISEMENT



A1 CIVIL SITE PLAN OVERVIEW

TRUE NORTH

0 100' 200'

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1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
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CIVIL SITE PLAN OVERVIEW

SHEET ID

CS100

ADVERTISEMENT

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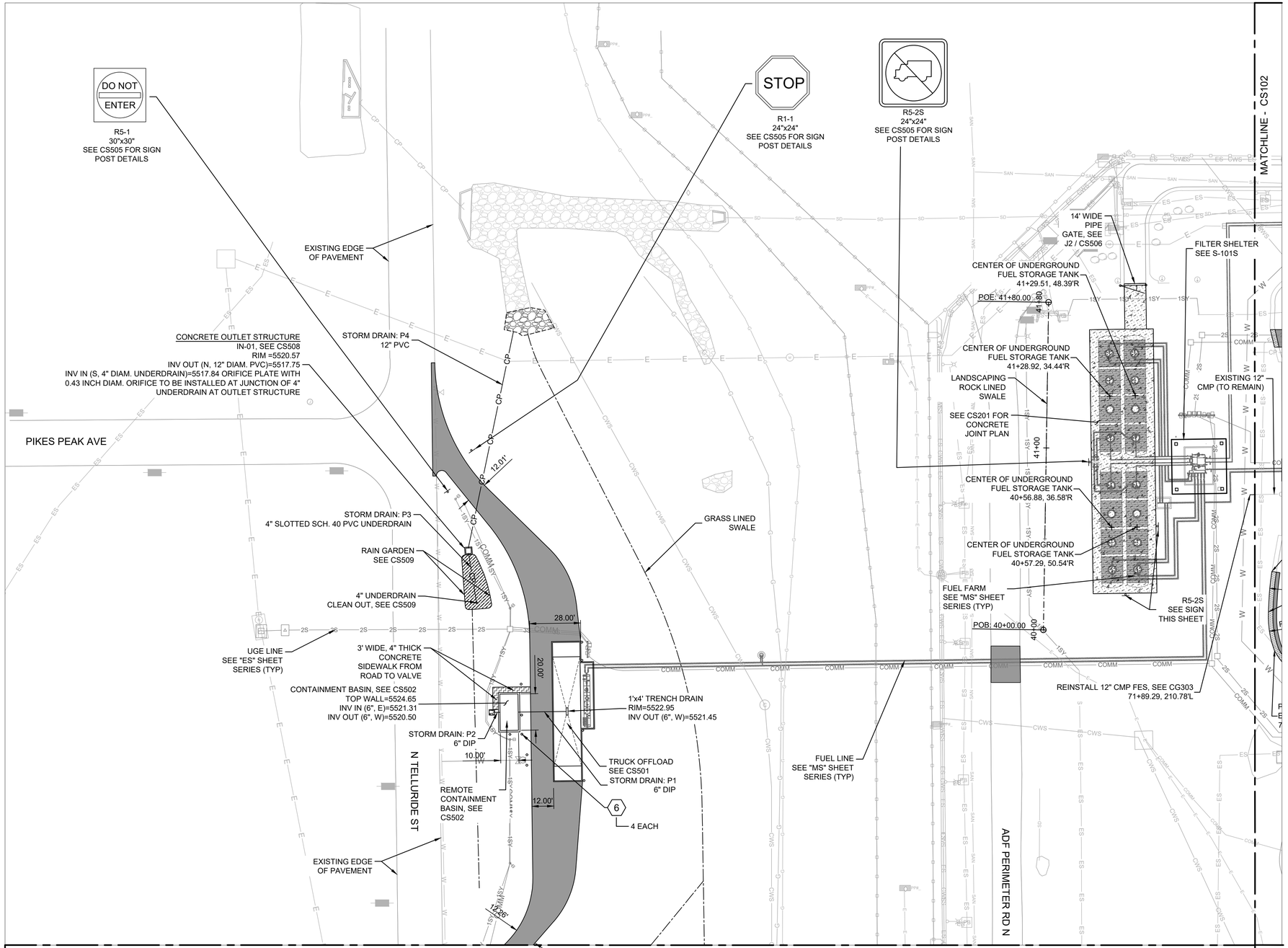


GENERAL NOTES

1. SEE CG301-303 FOR ROAD, CHANNEL & AND STORM DRAIN PROFILES.
2. SEE CG201 FOR CHANNEL TYPICAL SECTIONS.
3. SEE CG101-104 FOR GRADING INFORMATION AND ADDITIONAL HORIZONTAL DESIGN INFORMATION.
4. SEE CE101-104 FOR SEEDING AND ADDITIONAL SURFACING INFORMATION.
5. THE PAVEMENT REMOVALS AND REPLACEMENT AND SURFACE DISTURBANCES WITHIN THE RESTRICTED AREA ARE PRIMARILY ASSOCIATED WITH TRENCHING FOR UTILITY CONSTRUCTION AND SHALL BE UPDATED AS NECESSARY.

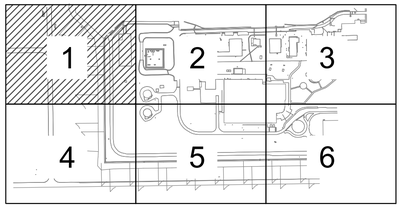
KEY NOTES

1. CARRY CURB AND GUTTER, SEE C1 / CS506
2. VALLEY GUTTER, SEE L14 / CS506
3. BOLLARD, SEE STRUCTURAL PLANS
4. GRAVITY OFFLOAD CONCRETE EDGE, SEE N8 / CS506
5. U-CHANNEL, SEE J14 / CS506
6. CONCRETE CROSSPAN, SEE C7 / CS506
7. SPILL CURB AND GUTTER, SEE C1 / CS506

LEGEND

- FULL-DEPTH ASPHALT SEE L8 / CS506
- REBAR REINFORCED CONCRETE PAVEMENT, SEE N14 / CS506
- WWM REINFORCED CONCRETE PAVEMENT, SEE G14 / CS506
- CONCRETE EQUIPMENT PAD, SEE STRUCTURAL PLANS
- GRAVITY OFFLOAD CONCRETE EDGE, SEE N8 / CS506
- RIPRAP
- CONCRETE SIDEWALK
- RAINGARDEN INFILTRATION MEDIA SEE CS509

KEY PLAN



A1 CIVIL SITE PLAN - AREA 1

SCALE:1" = 400'

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FILENAME: BUCO00102CS100-104.dwg

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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CIVIL SITE PLAN - AREA 1

SHEET ID
CS101

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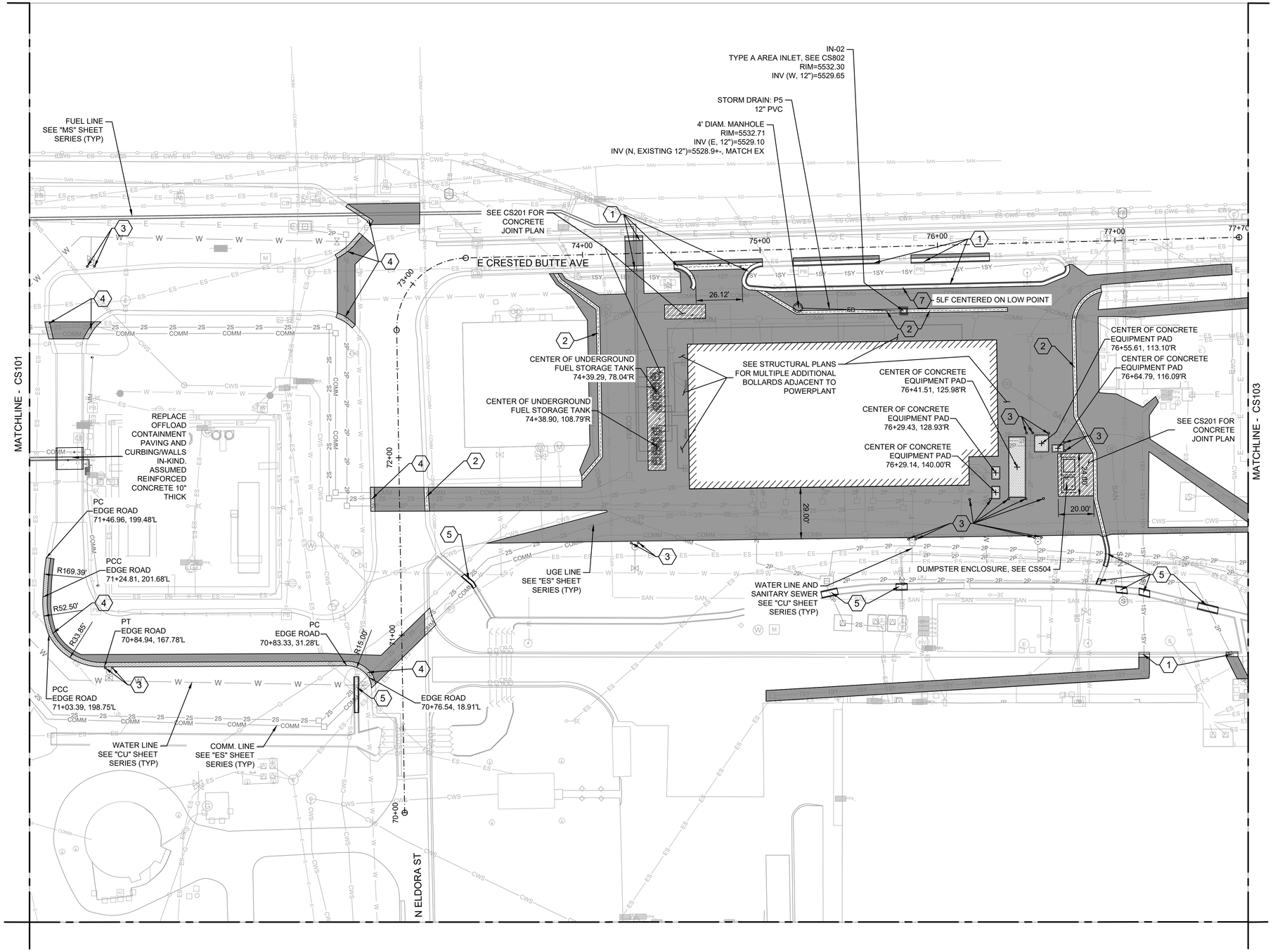
ADVERTISEMENT



A1 CIVIL SITE PLAN - AREA 2

GENERAL NOTES

1. SEE CG301-303 FOR ROAD, CHANNEL & AND STORM DRAIN PROFILES.
2. SEE CG201 FOR CHANNEL TYPICAL SECTIONS.
3. SEE CG101-104 FOR GRADING INFORMATION AND ADDITIONAL HORIZONTAL DESIGN INFORMATION.
4. SEE CE101-104 FOR SEEDING AND ADDITIONAL SURFACING INFORMATION.
5. THE PAVEMENT REMOVALS AND REPLACEMENT AND SURFACE DISTURBANCES WITHIN THE RESTRICTED AREA ARE PRIMARILY ASSOCIATED WITH TRENCHING FOR UTILITY CONSTRUCTION AND SHALL BE UPDATED AS NECESSARY.

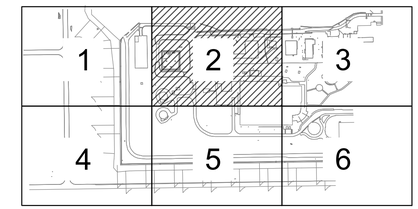
KEY NOTES

1. CARRY CURB AND GUTTER, SEE C1 / CS506
2. VALLEY GUTTER, SEE L14 / CS506
3. BOLLARD, SEE STRUCTURAL PLANS
4. GRAVITY OFFLOAD CONCRETE EDGE, SEE N8 / CS506
5. U-CHANNEL, SEE J14 / CS506
6. CONCRETE CROSSPAN, SEE C7 / CS506
7. SPILL CURB AND GUTTER, SEE C1 / CS506

LEGEND

- FULL-DEPTH ASPHALT SEE L8 / CS506
- REBAR REINFORCED CONCRETE PAVEMENT, SEE N14 / CS506
- WWM REINFORCED CONCRETE PAVEMENT, SEE G14 / CS506
- CONCRETE EQUIPMENT PAD, SEE STRUCTURAL PLANS
- GRAVITY OFFLOAD CONCRETE EDGE, SEE N8 / CS506
- RIPRAP
- CONCRETE SIDEWALK
- RAINGARDEN INFILTRATION MEDIA SEE CS509

KEY PLAN



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DRAWN BY: N. BURNS
CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
ISSUE DATE: 06/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO0102CS100-104.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

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CIVIL SITE PLAN - AREA 2

SHEET ID
CS102

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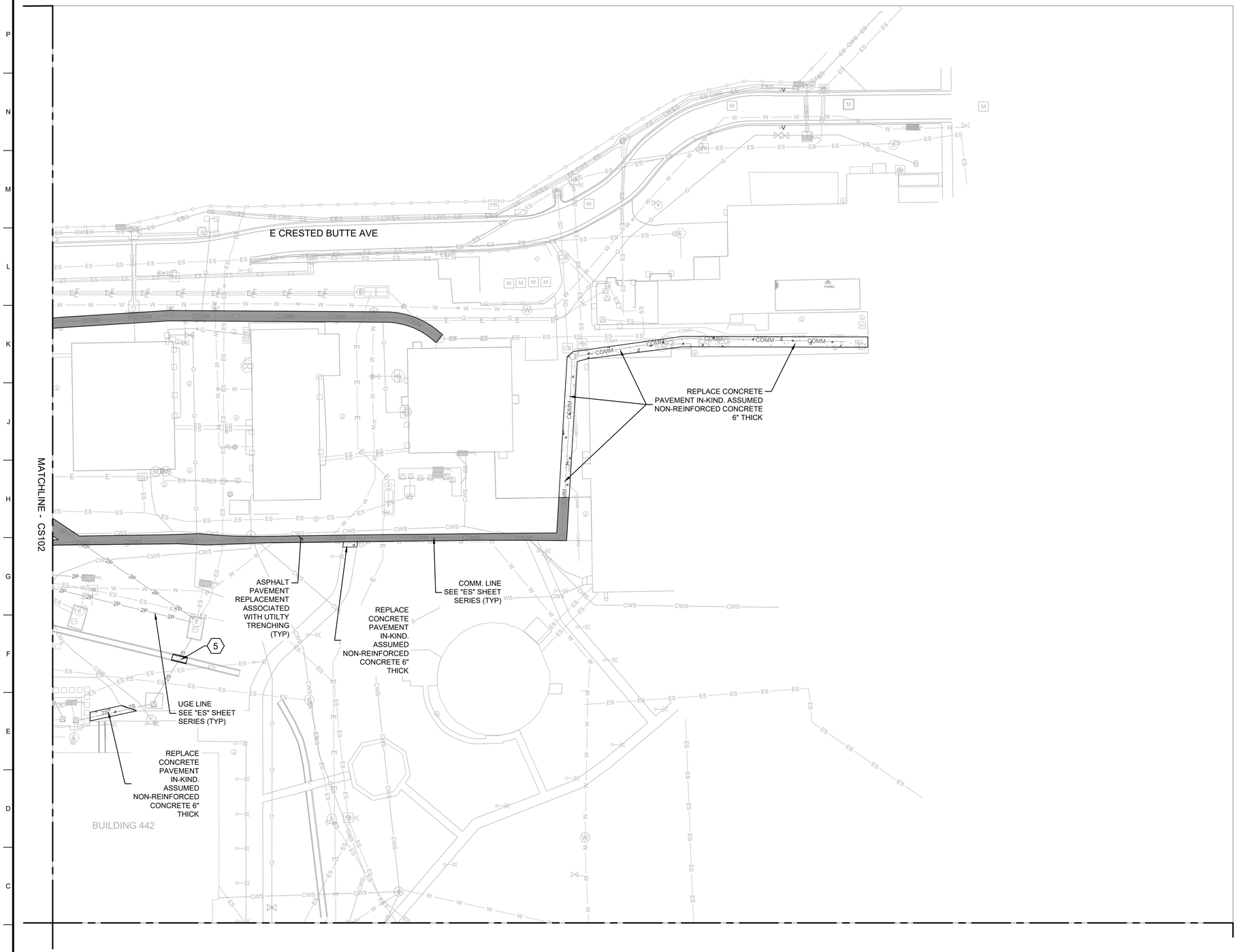


A1 CIVIL SITE PLAN - AREA 3

GENERAL NOTES

1. SEE CG301-303 FOR ROAD, CHANNEL & AND STORM DRAIN PROFILES.
2. SEE CG201 FOR CHANNEL TYPICAL SECTIONS.
3. SEE CG101-104 FOR GRADING INFORMATION AND ADDITIONAL HORIZONTAL DESIGN INFORMATION.
4. SEE CE101-104 FOR SEEDING AND ADDITIONAL SURFACING INFORMATION.
5. THE PAVEMENT REMOVALS AND REPLACEMENT AND SURFACE DISTURBANCES WITHIN THE RESTRICTED AREA ARE PRIMARILY ASSOCIATED WITH TRENCHING FOR UTILITY CONSTRUCTION AND SHALL BE UPDATED AS NECESSARY.

KEY NOTES

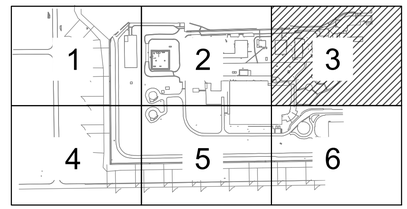
1. CARRY CURB AND GUTTER, SEE C1 / CS506
2. VALLEY GUTTER, SEE L14 / CS506
3. BOLLARD, SEE STRUCTURAL PLANS
4. GRAVITY OFFLOAD CONCRETE EDGE, SEE N8 / CS506
5. U-CHANNEL, SEE J14 / CS506
6. CONCRETE CROSSPAN, SEE C7 / CS506
7. SPILL CURB AND GUTTER, SEE C1 / CS506

LEGEND

- FULL-DEPTH ASPHALT SEE L8 / CS506
- REBAR REINFORCED CONCRETE PAVEMENT, SEE N14 / CS506
- WWM REINFORCED CONCRETE PAVEMENT, SEE G14 / CS506
- CONCRETE EQUIPMENT PAD, SEE STRUCTURAL PLANS
- GRAVITY OFFLOAD CONCRETE EDGE, SEE N8 / CS506
- RIPRAP
- CONCRETE SIDEWALK
- RAINGARDEN INFILTRATION MEDIA SEE CS509

KEY PLAN

SCALE:1" = 400'



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1616 CAPITOL AVE
OMAHA, NE 68102

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CIVIL SITE PLAN - AREA 3

SHEET ID

CS103

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MATCHLINE - CS101

N TELLURIDE ST

ADF PERIMETER RD N

EXISTING EDGE OF PAVEMENT

EXISTING EDGE OF PAVEMENT

E BRECKENRIDGE ST

TRUE NORTH

0 30' 60'

A1 CIVIL SITE PLAN - AREA 4

GENERAL NOTES

1. SEE CG301-303 FOR ROAD, CHANNEL & AND STORM DRAIN PROFILES.
2. SEE CG201 FOR CHANNEL TYPICAL SECTIONS.
3. SEE CG101-104 FOR GRADING INFORMATION AND ADDITIONAL HORIZONTAL DESIGN INFORMATION.
4. SEE CE101-104 FOR SEEDING AND ADDITIONAL SURFACING INFORMATION.
5. THE PAVEMENT REMOVALS AND REPLACEMENT AND SURFACE DISTURBANCES WITHIN THE RESTRICTED AREA ARE PRIMARILY ASSOCIATED WITH TRENCHING FOR UTILITY CONSTRUCTION AND SHALL BE UPDATED AS NECESSARY.

KEY NOTES

1. CARRY CURB AND GUTTER, SEE C1 / CS506
2. VALLEY GUTTER, SEE L14 / CS506
3. BOLLARD, SEE STRUCTURAL PLANS
4. GRAVITY OFFLOAD CONCRETE EDGE, SEE N8 / CS506
5. U-CHANNEL, SEE J14 / CS506
6. CONCRETE CROSSPAN, SEE C7 / CS506
7. SPILL CURB AND GUTTER, SEE C1 / CS506

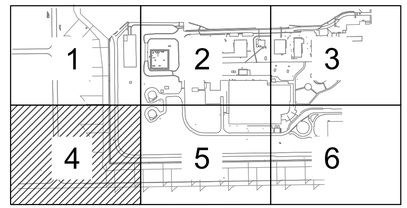
LEGEND

- FULL-DEPTH ASPHALT SEE L8 / CS506
- REBAR REINFORCED CONCRETE PAVEMENT, SEE N14 / CS506
- WWM REINFORCED CONCRETE PAVEMENT, SEE G14 / CS506
- CONCRETE EQUIPMENT PAD, SEE STRUCTURAL PLANS
- GRAVITY OFFLOAD CONCRETE EDGE, SEE N8 / CS506
- RIPRAP
- CONCRETE SIDEWALK
- RAINGARDEN INFILTRATION MEDIA SEE CS509

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
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CIVIL SITE PLAN - AREA 4

SHEET ID

CS104

ADVERTISEMENT

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3:02:41 PM 4/29/2025
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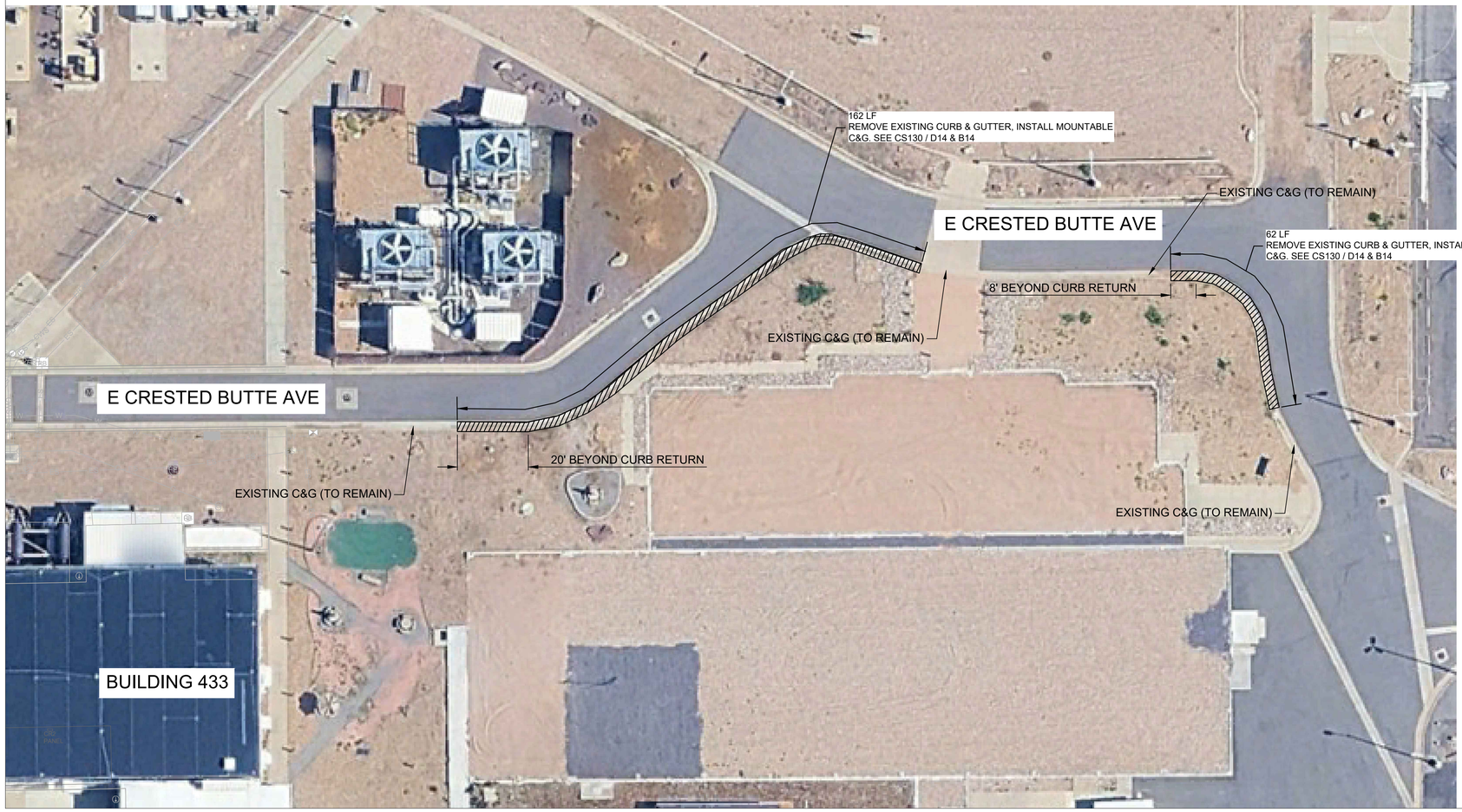
NOTES
1. IT IS ASSUMED LIMITED CONSTRUCTION TRAFFIC WILL NEED TO SLIGHTLY OFFTRACK FROM THE EXISTING ROADWAY EXTENTS TO NAVIGATE TO THE SITE.
2. IT IS ASSUMED THE EXISTING CURB & GUTTER IN THE HATCHED AREA IS VERTICAL CURB & GUTTER. IF THE CURB AND GUTTER IS ACTUALLY MOUNTABLE CURB & GUTTER THEN THE EXISTING MOUNTABLE CURB & GUTTER SHALL REMAIN.
3. CONTRACTOR RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES (NOT SHOWN) AND PROTECTING IN PLACE. IF UTILITIES ARE DETERMINED TO BE IN CONFLICT WITH PROPOSED IMPROVEMENTS, COORDINATE WITH CONTRACTING OFFICER'S REPRESENTATIVE.



A1 CIVIL SITE PLAN - AREA 7

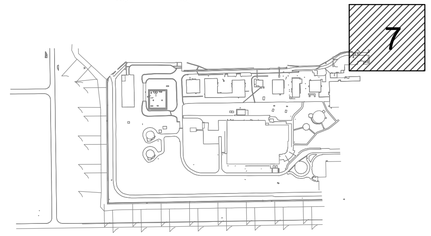
TRUE NORTH

0 20' 40'

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



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MARK	DESCRIPTION	DATE

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ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
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DESIGNED BY: N. BURNS	
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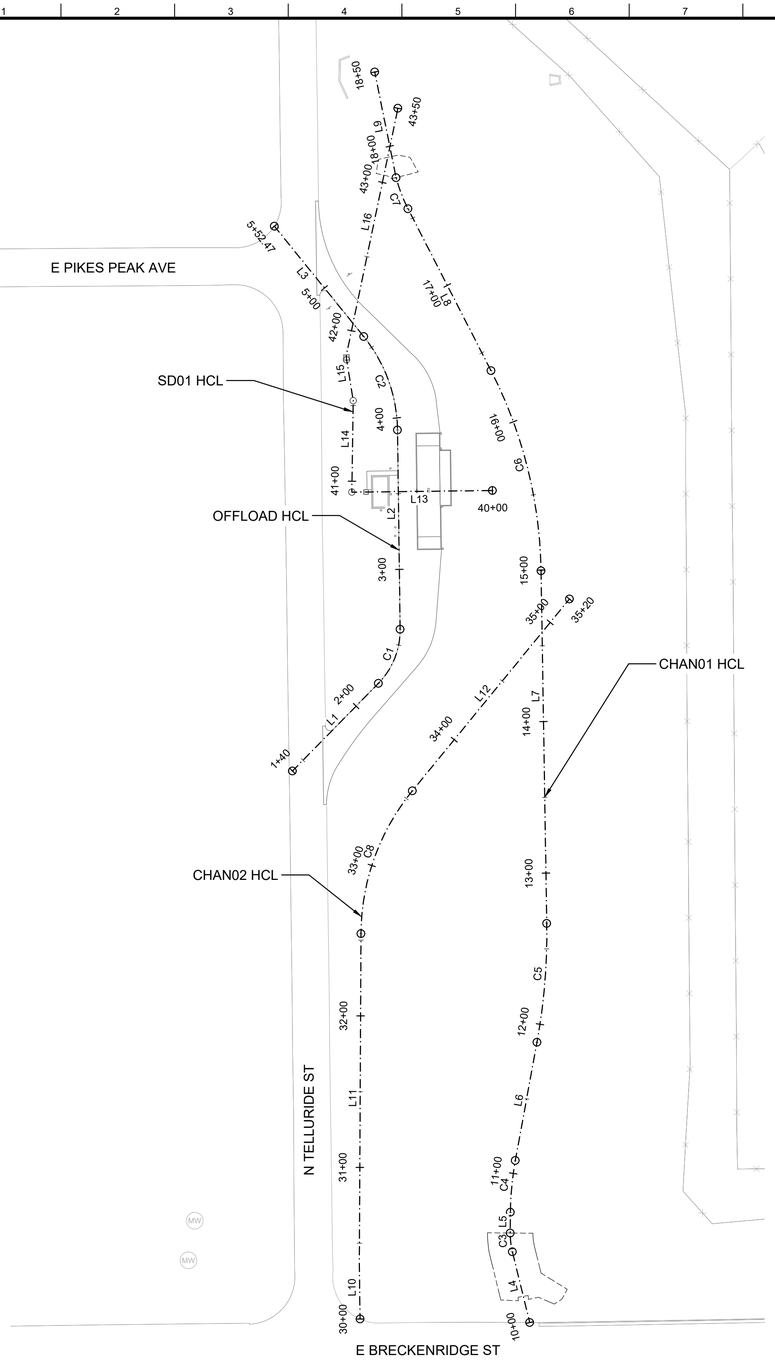
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CIVIL SITE PLAN - AREA 7

SHEET ID
CS107

ADVERTISEMENT



A1 ALIGNMENT GEOMETRY PLAN

NORTH

0 50' 100'

ALIGNMENTS: OFFLOAD HCL

NUMBER	PC/BEGIN	PI	PT/END	LINE/CHORD DIRECTION	DELTA	RADIUS	LENGTH	TANGENT
L1	STA. 1+40.00 E= 3202123.7751 N= 1686058.5565		STA. 2+21.05 E= 3202180.5332 N= 1686116.4196	N44° 26' 51.60"E			81.05'	
C1	STA. 2+21.05 E= 3202180.5332 N= 1686116.4196	STA. 2+41.87 E= 3202195.1078 N= 1686131.2780	STA. 2+60.50 E= 3202194.8343 N= 1686152.0895	N21° 50' 50.56"E	045°12'02"	50.00'	39.44'	20.813
L2	STA. 2+60.50 E= 3202194.8343 N= 1686152.0895		STA. 3+92.02 E= 3202193.1060 N= 1686283.6034	N00° 45' 10.48"W			131.53'	
C2	STA. 3+92.02 E= 3202193.1060 N= 1686283.6034	STA. 4+26.70 E= 3202192.6503 N= 1686318.2789	STA. 4+58.78 E= 3202170.8244 N= 1686345.2274	N19° 52' 43.23"W	038°15'05"	100.00'	66.76'	34.678
L3	STA. 4+58.78 E= 3202170.8244 N= 1686345.2274		STA. 5+52.47 E= 3202111.8601 N= 1686418.0308	N39° 00' 15.98"W			93.69'	

ALIGNMENTS: CHAN01 HCL

NUMBER	PC/BEGIN	PI	PT/END	LINE/CHORD DIRECTION	DELTA	RADIUS	LENGTH	TANGENT
L4	STA. 10+00.00 E= 3202280.3553 N= 1685694.6167		STA. 10+48.10 E= 3202268.9054 N= 1685741.3343	N13° 46' 15.72"W			48.10'	
C3	STA. 10+48.10 E= 3202268.9054 N= 1685741.3343	STA. 10+54.37 E= 3202267.4126 N= 1685747.4252	STA. 10+60.58 E= 3202267.4702 N= 1685753.6961	N06° 37' 19.74"W	014°17'52"	50.00'	12.48'	6.271
L5	STA. 10+60.58 E= 3202267.4702 N= 1685753.6961		STA. 10+74.27 E= 3202267.5961 N= 1685767.3931	N00° 31' 36.24"E			13.70'	
C4	STA. 10+74.27 E= 3202267.5961 N= 1685767.3931	STA. 10+91.49 E= 3202267.7544 N= 1685784.6056	STA. 11+08.62 E= 3202270.8513 N= 1685801.5380	N05° 26' 45.03"E	009°50'18"	200.00'	34.34'	17.213
L6	STA. 11+08.62 E= 3202270.8513 N= 1685801.5380		STA. 11+87.91 E= 3202285.1179 N= 1685879.5393	N10° 21' 53.83"E			79.30'	
C5	STA. 11+87.91 E= 3202285.1179 N= 1685879.5393	STA. 12+27.45 E= 3202292.2318 N= 1685918.4334	STA. 12+66.73 E= 3202291.5931 N= 1685957.9676	N04° 43' 10.91"E	011°17'26"	400.00'	78.82'	39.539
L7	STA. 12+66.73 E= 3202291.5931 N= 1685957.9676		STA. 14+99.46 E= 3202287.8338 N= 1686190.6609	N00° 55' 32.01"W			232.72'	
C6	STA. 14+99.46 E= 3202287.8338 N= 1686190.6609	STA. 15+69.34 E= 3202286.7050 N= 1686260.5326	STA. 16+36.77 E= 3202254.8164 N= 1686322.7133	N14° 02' 16.75"W	026°13'29"	300.00'	137.31'	69.881
L8	STA. 16+36.77 E= 3202254.8164 N= 1686322.7133		STA. 17+56.88 E= 3202200.0083 N= 1686429.5857	N27° 09' 01.49"W			120.11'	
C7	STA. 17+56.88 E= 3202200.0083 N= 1686429.5857	STA. 17+67.93 E= 3202194.9666 N= 1686439.4168	STA. 17+78.89 E= 3202192.1926 N= 1686450.1115	N20° 50' 44.28"W	012°36'34"	100.00'	22.01'	11.049
L9	STA. 17+78.89 E= 3202192.1926 N= 1686450.1115		STA. 18+50.00 E= 3202178.0520 N= 1686519.8014	N11° 28' 12.15"W			71.11'	

ALIGNMENTS: CHAN02 HCL

NUMBER	PC/BEGIN	PI	PT/END	LINE/CHORD DIRECTION	DELTA	RADIUS	LENGTH	TANGENT
L10	STA. 30+00.00 E= 3202168.3918 N= 1685696.9759		STA. 30+35.06 E= 3202167.9128 N= 1685732.0338	N00° 46' 57.81"W			35.06'	
L11	STA. 30+35.06 E= 3202167.9128 N= 1685732.0338		STA. 32+54.29 E= 3202169.0152 N= 1685951.2609	N00° 17' 17.19"E			219.23'	
C8	STA. 32+54.29 E= 3202169.0152 N= 1685951.2609	STA. 33+07.42 E= 3202169.2824 N= 1686004.3938	STA. 33+56.42 E= 3202202.9353 N= 1686045.5114	N19° 47' 36.50"E	039°00'39"	150.00'	102.13'	53.134
L12	STA. 33+56.42 E= 3202202.9353 N= 1686045.5114		STA. 35+20.00 E= 3202306.5409 N= 1686172.0979	N39° 17' 55.82"E			163.58'	

ALIGNMENTS: SD-01 HCL

NUMBER	PC/BEGIN	PI	PT/END	LINE/CHORD DIRECTION	DELTA	RADIUS	LENGTH	TANGENT
L13	STA. 40+00.00 E= 3202255.7263 N= 1686243.6610		STA. 40+92.77 E= 3202162.9597 N= 1686242.5349	S89° 18' 16.24"W			92.77'	
L14	STA. 40+92.77 E= 3202162.9597 N= 1686242.5349		STA. 41+53.17 E= 3202163.8963 N= 1686302.9233	N00° 53' 18.91"E			60.40'	
L15	STA. 41+53.17 E= 3202163.8963 N= 1686302.9233		STA. 41+80.51 E= 3202159.5326 N= 1686329.9137	N09° 11' 01.77"W			27.34'	
L16	STA. 41+83.51 E= 3202159.3552 N= 1686332.9088		STA. 43+50.00 E= 3202193.3638 N= 1686495.8841	N11° 47' 13.08"E			166.49'	

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MARK	DESCRIPTION	DATE

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DESIGNED BY:	ISSUE DATE:
N.BURNS	05/01/2025
DRAWN BY:	SOLICITATION NO.:
N.BURNS	W9128F25RA043
CHECKED BY:	CONTRACT NO.:
T.OWENS	
SUBMITTED BY:	FILE NUMBER:
T.OWENS	
SIZE:	FILENAME:
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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

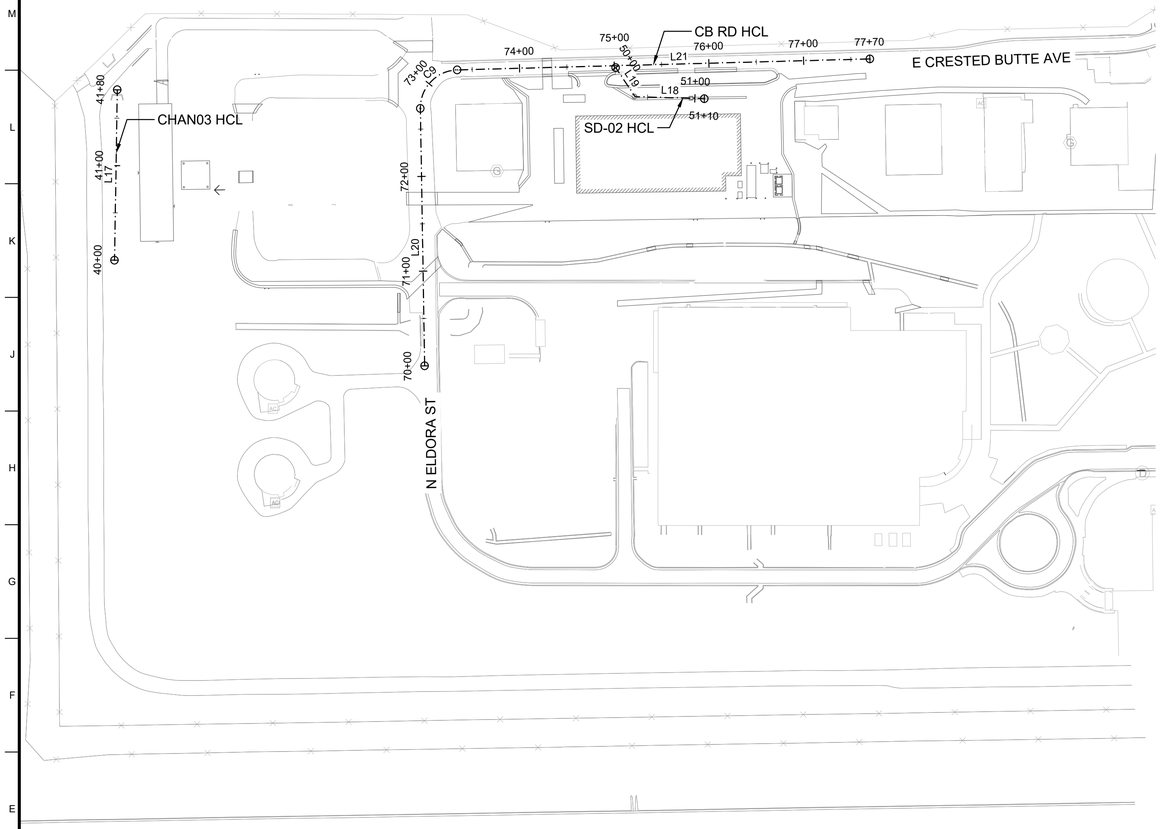
BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ALIGNMENT GEOMETRY PLAN

SHEET ID

CS125

ADVERTISEMENT



ALIGNMENTS: CHAN03 HCL

NUMBER	PC/BEGIN	PI	PT/END	LINE/CHORD DIRECTION	DELTA	RADIUS	LENGTH	TANGENT
L17	STA. 40+00.00 E= 3202475.3122 N= 1686287.9229		STA. 41+80.00 E= 3202478.1835 N= 1686467.8986	N00° 54' 50.41"E			180.00'	

ALIGNMENTS: SD-02 HCL

NUMBER	PC/BEGIN	PI	PT/END	LINE/CHORD DIRECTION	DELTA	RADIUS	LENGTH	TANGENT
L19	STA. 50+00.00 E= 3203004.4593 N= 1686491.2541		STA. 50+36.83 E= 3203024.8498 N= 1686460.5827	S33° 36' 58.05"E			36.83'	
L18	STA. 50+36.83 E= 3203024.8498 N= 1686460.5827		STA. 51+10.00 E= 3203097.9865 N= 1686458.5098	S88° 22' 35.44"E			73.17'	

ALIGNMENTS: CB RD HCL

NUMBER	PC/BEGIN	PI	PT/END	LINE/CHORD DIRECTION	DELTA	RADIUS	LENGTH	TANGENT
L20	STA. 70+00.00 E= 3202802.7085 N= 1686176.4302		STA. 72+71.78 E= 3202798.1905 N= 1686448.1771	N00° 57' 09.00"W			271.78'	
C9	STA. 72+71.78 E= 3202798.1905 N= 1686448.1771	STA. 73+11.38 E= 3202797.5322 N= 1686487.7716	STA. 73+34.21 E= 3202837.1182 N= 1686488.8278	N43° 45' 34.57"E	089°25'27"	40.00'	62.43'	39.600
L21	STA. 73+34.21 E= 3202837.1182 N= 1686488.8278		STA. 77+70.00 E= 3203272.7485 N= 1686500.4504	N88° 28' 18.14"E			435.79'	

A1 ALIGNMENT GEOMETRY PLAN

NORTH

0 80' 160'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

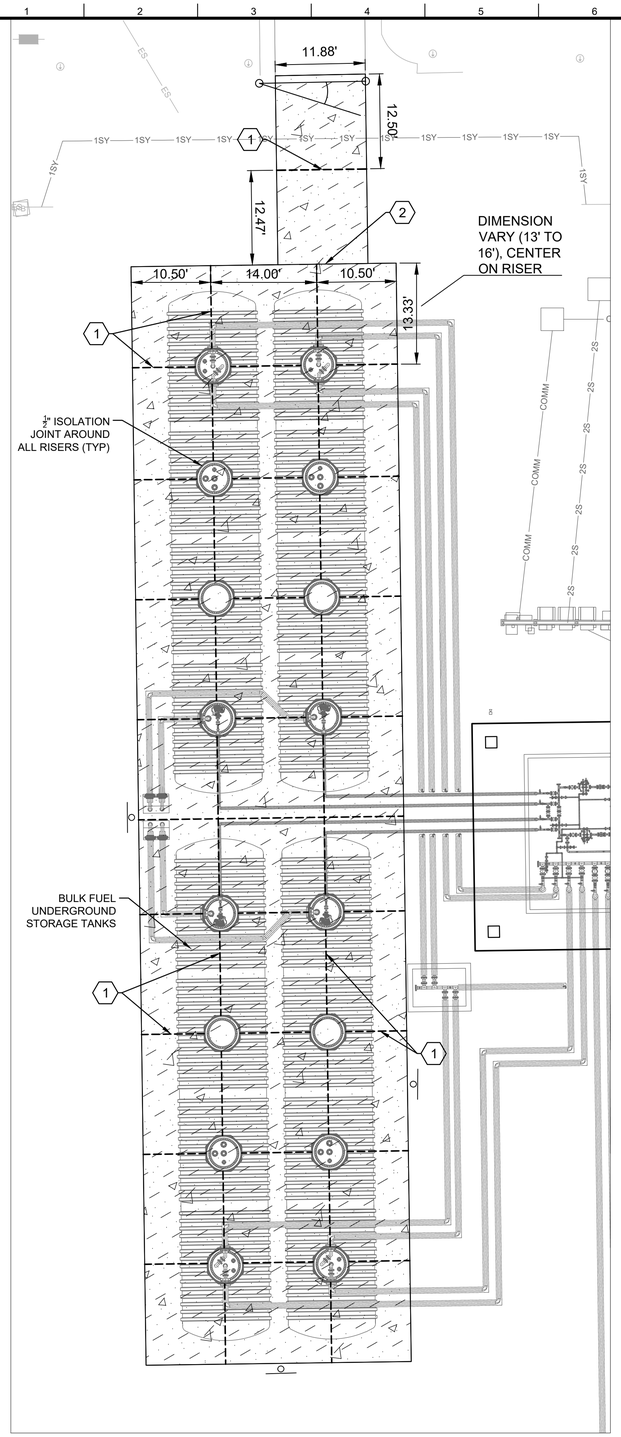
DESIGNED BY:	N.BURNS
DRAWN BY:	N.BURNS
CHECKED BY:	T.OWENS
SUBMITTED BY:	T.OWENS
SIZE:	ANSI D
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	AP\A00101CS125-126

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ALIGNMENT GEOMETRY PLAN

SHEET ID
CS126

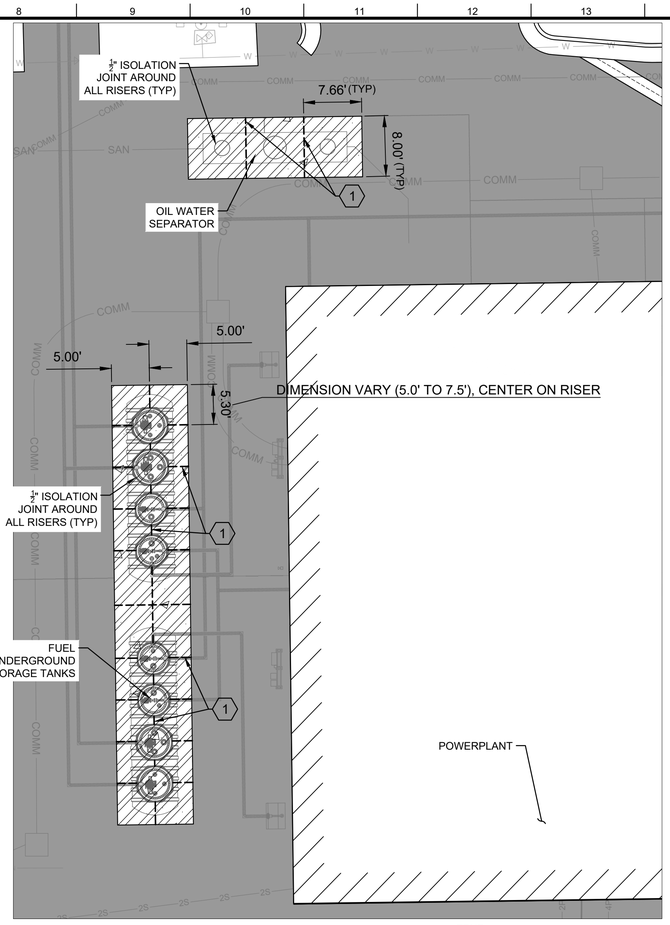
ADVERTISEMENT



A1 CONCRETE JOINT PLAN -AREA 1

TRUE NORTH

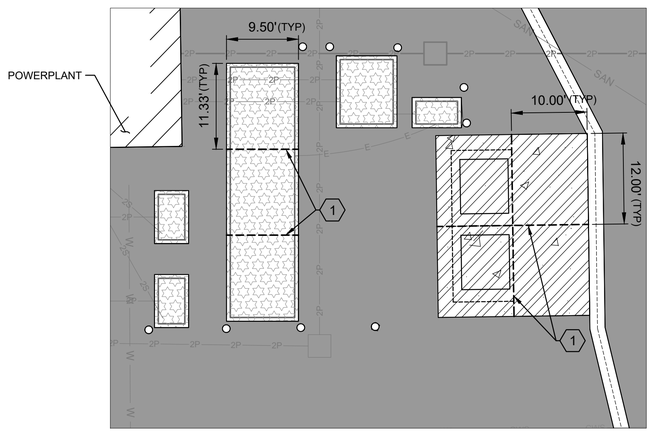
0 10' 20'



F9 CONCRETE JOINT PLAN -AREA 3

TRUE NORTH

0 10' 20'



A9 CONCRETE JOINT PLAN -AREA 2

TRUE NORTH

0 10' 20'

GENERAL NOTES

1. SEE CG301-303 FOR ROAD, CHANNEL & AND STORM DRAIN PROFILES.
2. SEE CS101-104 FOR PAVING INFORMATION.
3. SEE CG101-104 FOR GRADING INFORMATION AND ADDITIONAL HORIZONTAL DESIGN INFORMATION.
4. ANY VARIANCE TO THE JOINTING PLAN SHALL BE APPROVED IN WRITING BY THE CONTRACTING OFFICER REPRESENTATIVE PRIOR TO CONSTRUCTION.

KEY NOTES

1. CONTRACTION JOINT, SEE A10 / CS506
2. EXPANSION JOINT, SEE G10 / CS506

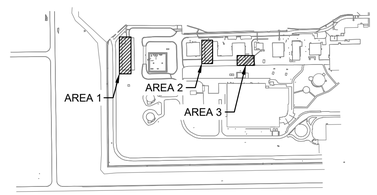
LEGEND

- FULL-DEPTH ASPHALT SEE L8 / CS506
- REBAR REINFORCED CONCRETE PAVEMENT, SEE N14 / CS506
- WWM REINFORCED CONCRETE PAVEMENT, SEE G14 / CS506
- CONCRETE EQUIPMENT PAD, SEE STRUCTURAL PLANS
- CONTRACTION JOINT, SEE A10 / CS506
- EXPANSION JOINT, SEE G10 / CS506

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



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DRAWN BY:	N. BURNS
CHECKED BY:	T. OWENS
SUBMITTED BY:	T. OWENS
SIZE:	ANSI D
ISSUE DATE:	06/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	BUCO0102CS100-104.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CONCRETE JOINT PLAN

SHEET ID

CS201

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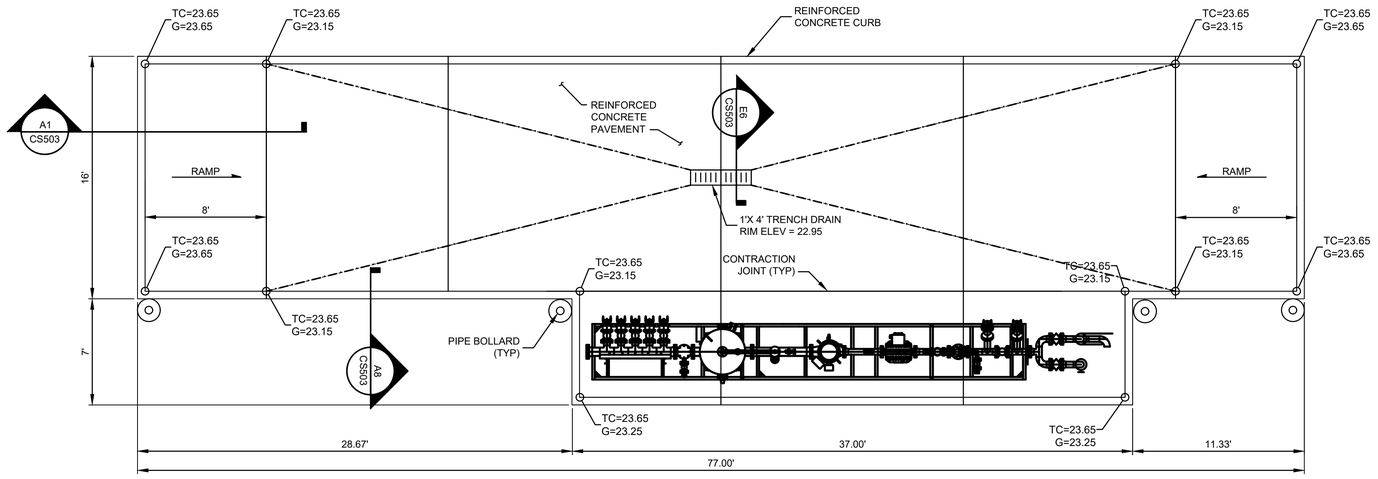
NOTES:
1. SEE CS101 FOR SITE PLAN LOCATION.



A1 TRUCK OFFLOAD
NOT TO SCALE

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SUBMITTED BY: T. OWENS	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCO00102CG201.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TRUCK OFFLOAD DETAIL

SHEET ID
CS501

ADVERTISEMENT

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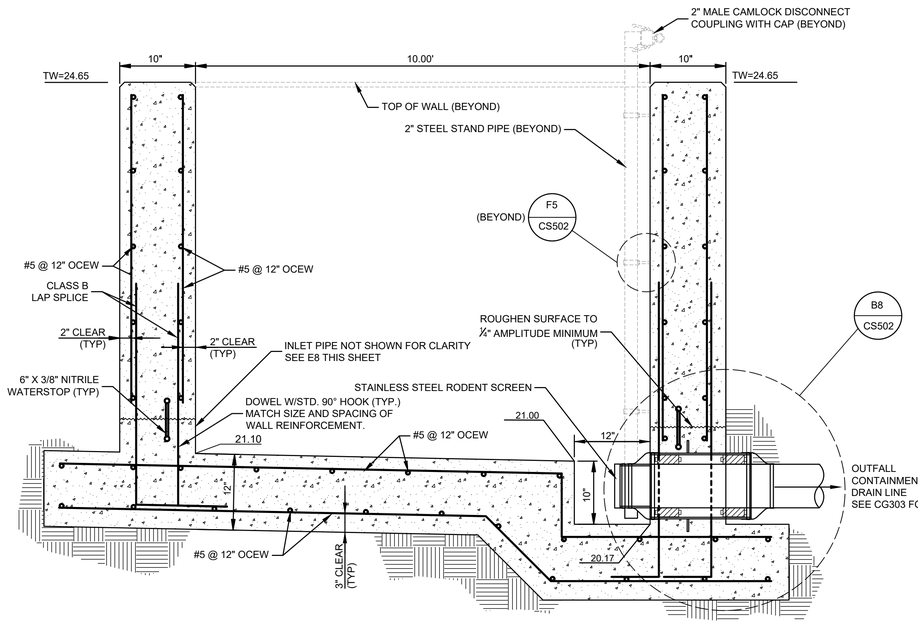
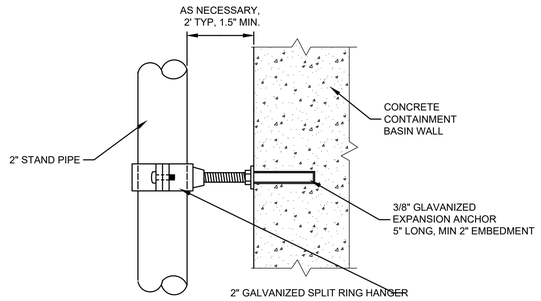


E1 CONTAINMENT BASIN SECTION

NOT TO SCALE

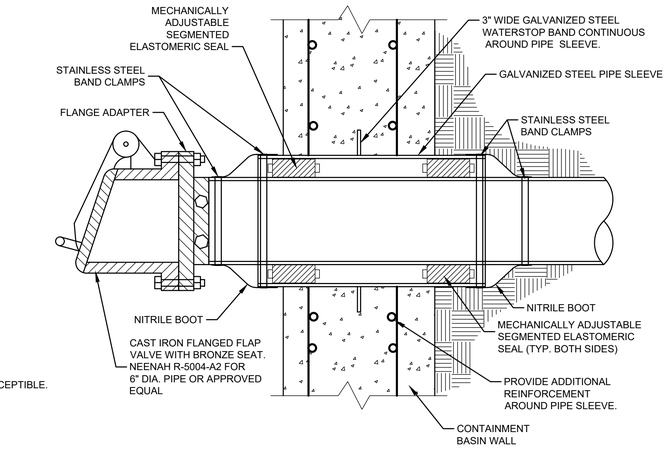


NOTES:

1. A MINIMUM OF THREE GUIDE BRACKETS SHALL BE PROVIDED FOR EACH STAND PIPE.
2. OTHER MEANS OF SECURELY MOUNTING THE STAND PIPE TO THE CONTAINMENT BASIN WALL ARE ACCEPTIBLE.

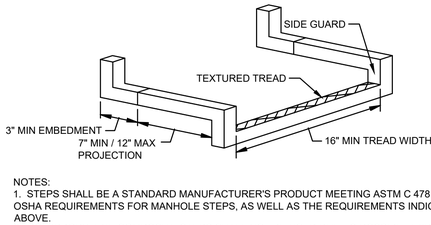
F5 STAND PIPE GUIDE BRACKET DETAIL

NO SCALE



E8 INLET PIPE DETAIL

NO SCALE



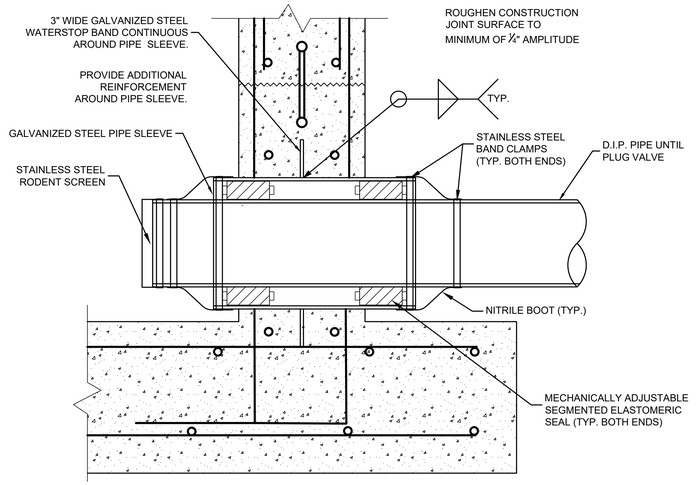
NOTES:

1. STEPS SHALL BE A STANDARD MANUFACTURER'S PRODUCT MEETING ASTM C 478 AND OSHA REQUIREMENTS FOR MANHOLE STEPS, AS WELL AS THE REQUIREMENTS INDICATED ABOVE.
2. POLYPROPYLENE COMPOSITE STEPS SHALL NOT BE USED DUE TO POSSIBLE EXPOSURE TO JET FUEL.
3. THE LOWEST STEP SHALL BE LOCATED NOTE MORE THAN 12 INCHES ABOVE THE BASIN FLOOR. THE HIGHEST STEP SHALL BE LOCATED NOT MORE THAN 12 INCHES BELOW THE TOP OF THE BASIN WALL. STEPS SHALL BE ALIGNED VERTICALLY AND EVENLY SPACED AT A MINIMUM OF 12 INCHES AND MAXIMUM OF 16 INCHES.

D5 STEP DETAIL

NO SCALE

WATERSTOP IS TO BE CONTINUOUS AROUND BASIN PERIMETER AT ALL CONSTRUCTION JOINTS. WELD WATERSTOP SPLICES IN ACCORDANCE WITH 03 30 00.

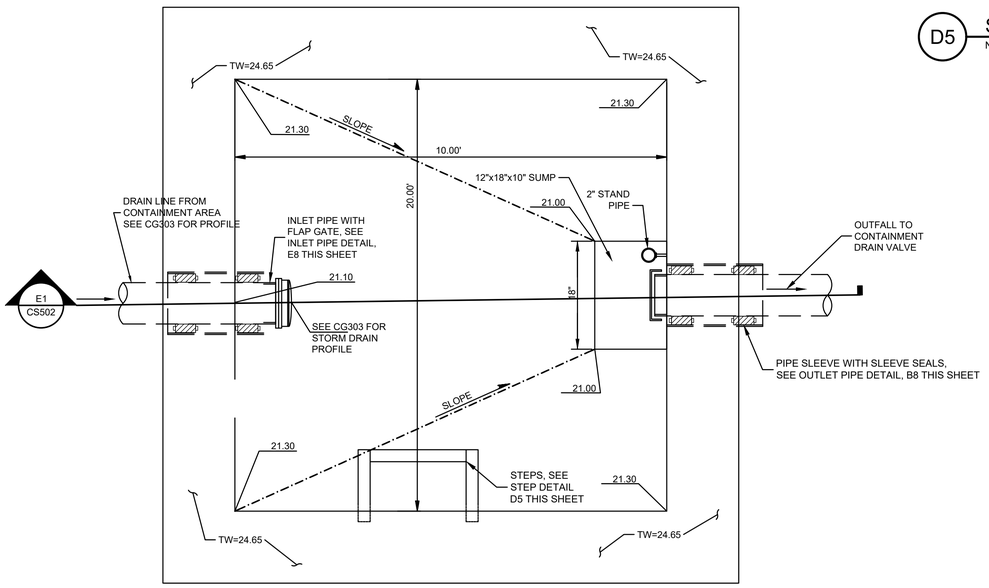


B8 OUTLET PIPE DETAIL

NO SCALE

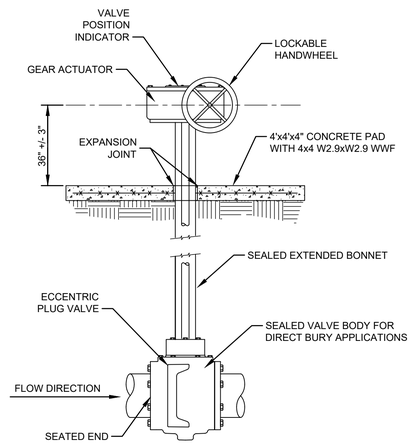
CONTAINMENT BASIN NOTES:

1. PROVIDE RE-ENTRANT CORNER REINFORCEMENT AROUND SUMP PIT.



A1 CONTAINMENT BASIN PLAN

NOT TO SCALE



NOTE: 100% PORT ECCENTRIC PLUG VALVE SHALL CONFORM TO AWWA C517 AND BE RESISTANT TO HYDROCARBONS (NITRILE RUBBER SEALS). GEAR ACTUATOR SHALL BE PROVIDED WITH A LOCKABLE HANDWHEEL AND VALVE POSITION INDICATOR.

A5 CONTAINMENT DRAIN VALVE DETAIL

NO SCALE

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CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
FILENAME: BUCO0102CG201.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CONTAINMENT BASIN DETAILS

SHEET ID
CS502

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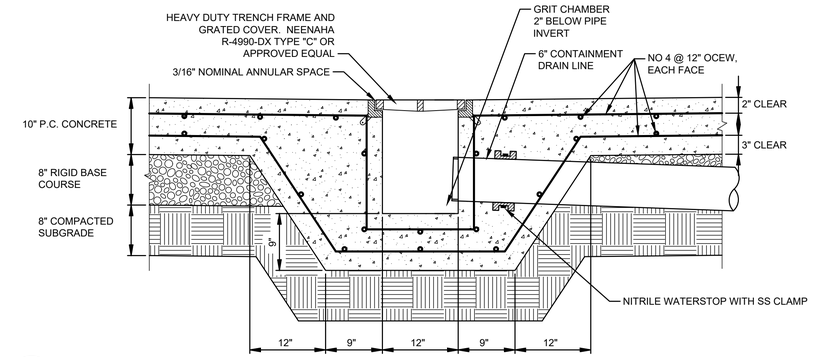
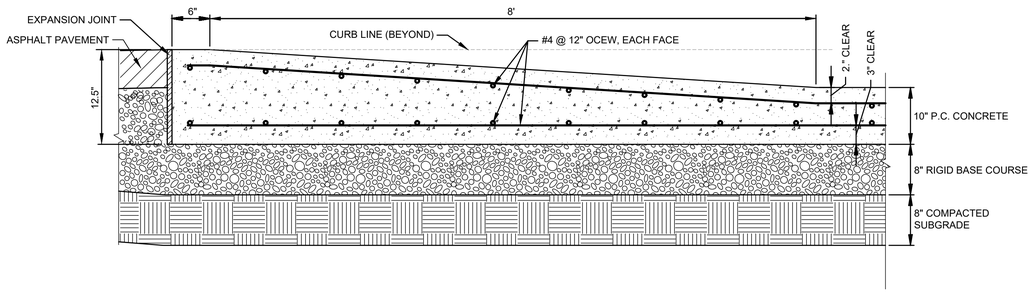


E6 TRENCH DRAIN DETAIL

NO SCALE



A1 TYPICAL CONTAINMENT AREA RAMP SECTION

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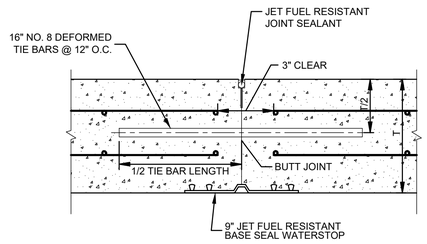

C6 CONSTRUCTION JOINT DETAIL

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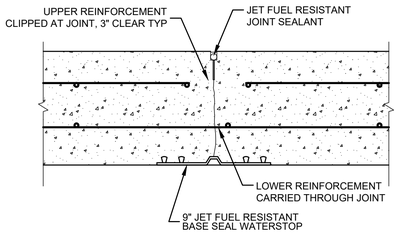

C8 CONTRACTION JOINT DETAIL

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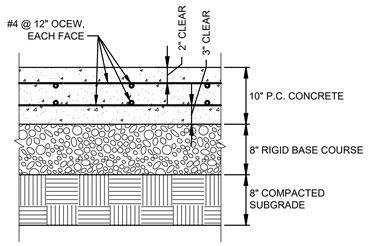
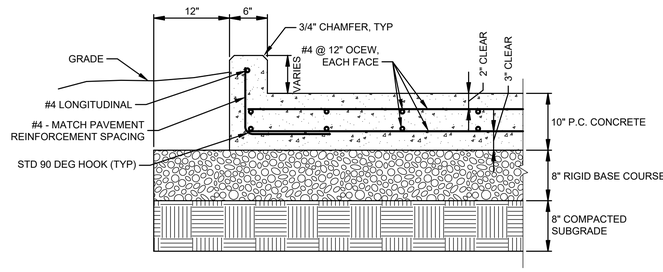


A6 TYPICAL REINFORCED CONCRETE PAVEMENT SECTION

NO SCALE



NOTE: CURB SHALL BE PLACED WITH NO COLD JOINT.

A8 REINFORCED CONCRETE CURB SECTION

NO SCALE

US Army Corps of Engineers®

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SUBMITTED BY: T. OWENS	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCO00102CG201.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

MISCELLANEOUS FUEL OFFLOAD SITE DETAILS

SHEET ID

CS503

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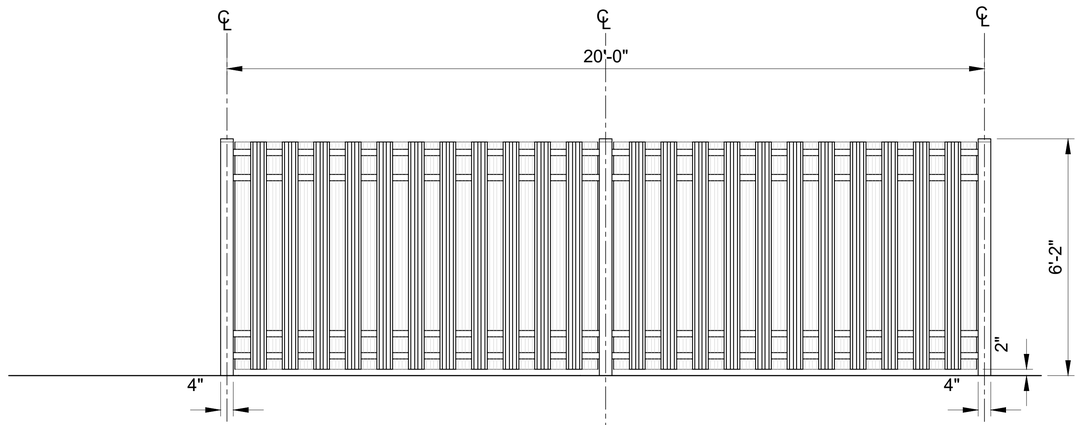


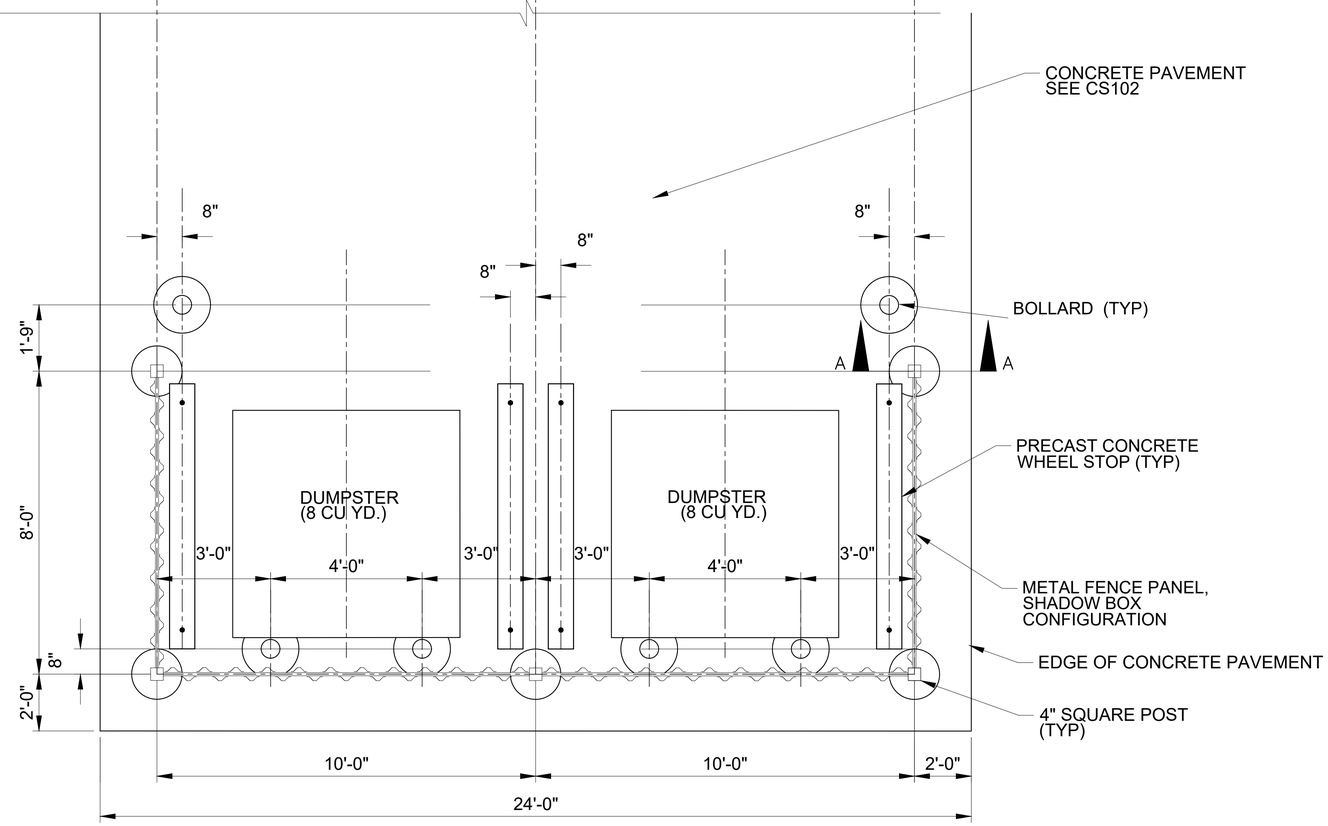
ELEVATION

GENERAL NOTES:

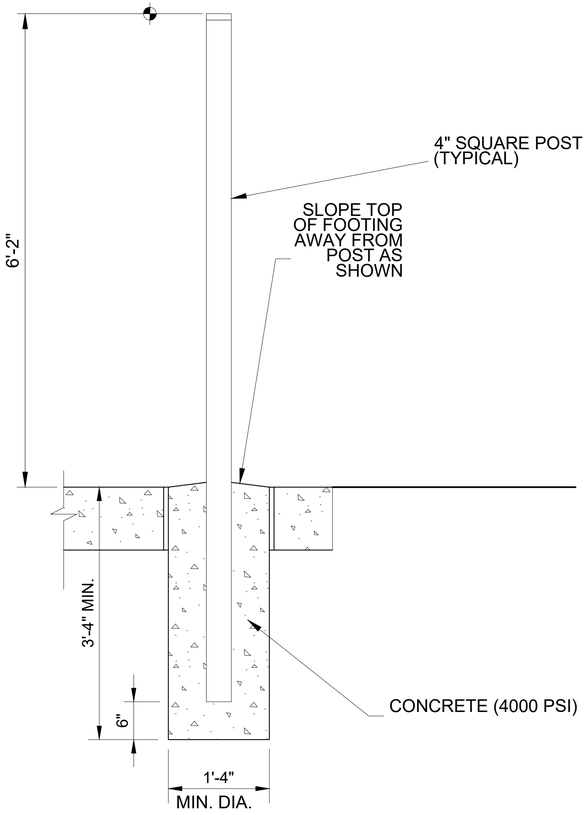
1. BASIS OF DESIGN IS A SCREEN WALL SYSTEM PROVIDED BY BASTEEL PERIMETER SYSTEMS OR APPROVED EQUAL.

2.SCREEN PANEL WALLS TO BE ROLLED FORMED PANEL IN "SHADOW BOX", ALTERNATING PATTERN. FINISH TO BE STANDARD G-90 GALVANIZED PANELS AND POSTS GALVANIZED TO ASTM B-6 SPECIFICATIONS. PANELS, POSTS, RAILS AND HARDWARE SHALL BE POWDER COATED FINISHED.
COLOR : MATCH COLOR SCHEME OF ADJACENT BUILDING. PROVIDE A SHOP DRAWING AND COLOR SAMPLE PRIOR TO ORDERING FENCING MATERIALS

3. SCREEN PANEL WALLS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS, PROVIDE SHOP DRAWINGS PRIOR TO ANY PANEL INSTALLATION.



PLAN



TRASH DUMPSTER SCREEN WALL SECTION

A

A1 DUMPSTER ENCLOSURE DETAILS
SCALE: N.T.S.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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SUBMITTED BY: T. OWENS	FILE NUMBER:
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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

DUMPSTER ENCLOSURE DETAILS

SHEET ID
CS504

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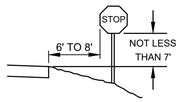
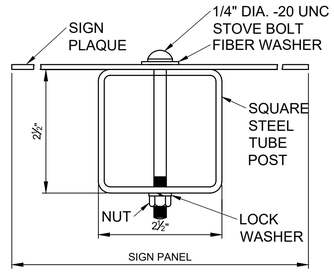


L4 HEIGHT AND LATERAL LOCATION OF SIGNS-TYPICAL INSTALLATION

NO SCALE

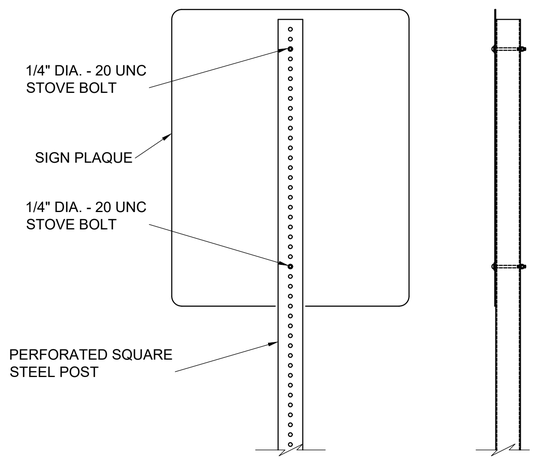


H5 TYPICAL SQUARE TUBE POST SECTION

NO SCALE

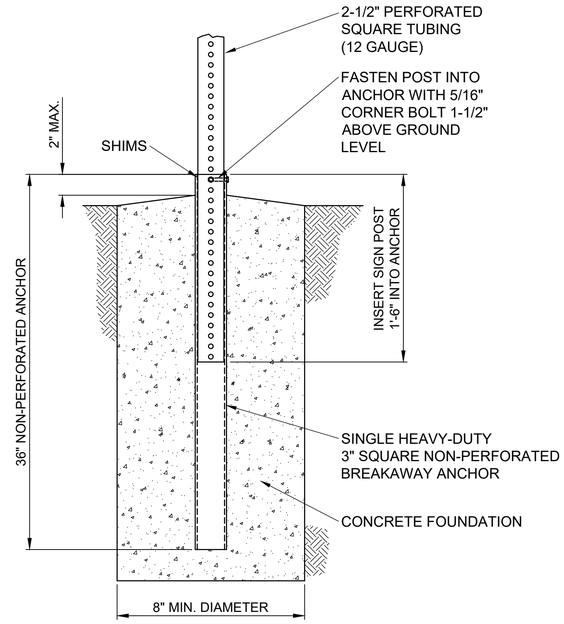
NOTES:

1. SIGN PANELS SHALL BE SINGLE SHEET ALUMINUM, 0.080" MINIMUM THICKNESS.
2. SIGN PANELS SHALL BE FASTENED DIRECTLY TO THE POST. FASTEN TO SQUARE TUBE POSTS WITH TWO 1/4" DIA.-20 UNC STOVE BOLTS.
3. A FIBER WASHER SHALL BE PLACED BETWEEN THE BOLT HEAD AND THE FACE OF THE SIGN PANEL.
4. STEEL POSTS SHALL BE 12-GAUGE PERFORATED STEEL TUBING. HOLES SHALL BE APPROXIMATELY 7/16" DIAMETER SPACED APPROXIMATELY 1" ON CENTERS.



A6 SIGN PANEL ATTACHMENT DETAILS

NO SCALE



G13 SIGN POST ANCHOR DETAILS

NO SCALE

NOTES:

1. A MINIMUM OF 2 SHIMS ARE REQURED PER INSTALLATION TO FILL GAP BETWEEN SIGN POST AND ANCHOR.
2. INSERT BOLT HEAD FROM OPPOSITE SIDE OF EXPECTED IMPACT. INSERT DRIVE RIVET INTO OPPOSITE SIDE FOR ADDITIONAL STABILITY.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

P:\09O4_PROJECTS\BUCO00102\PLAN SETS\03_SHEETS\03_SITE\BUCO00102CS501-503.DWG
1:25:59 PM 4/29/2025
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G6EDXNAB

DESIGNED BY: N. BURNS
DRAWN BY: N. BURNS
CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102CG201.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

SIGN DETAIL

SHEET ID
CS505

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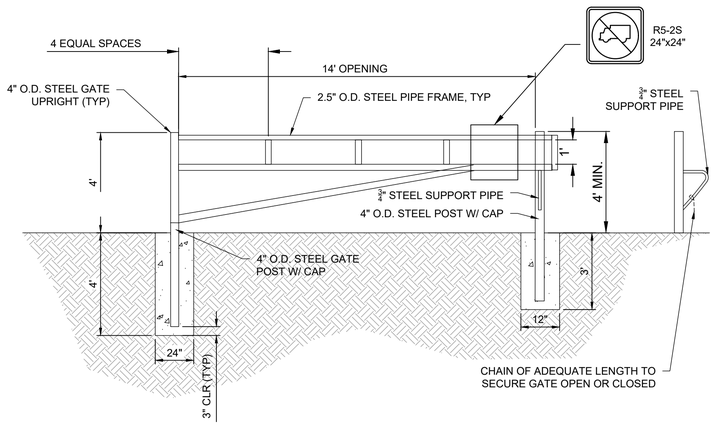
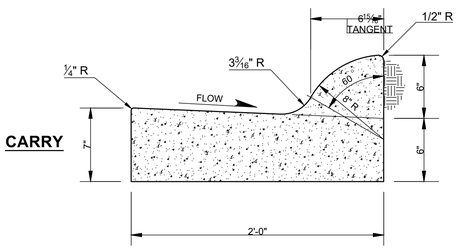
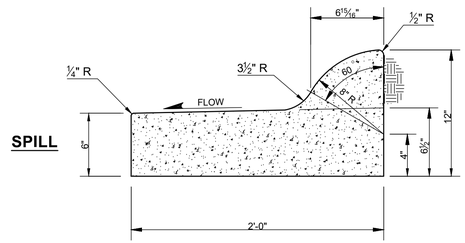


NOTES:
1. POSTS SHALL BE SET IN CONCRETE - MIN 2' OFF EDGE OF ASPHALT
2. A SECOND POST WILL BE SET 14' +- AWAY FROM SUPPORT POST TO LOCK GATE IN OPEN POSITION.
3. PROVIDE SHOP DRAWINGS FOR REVIEW.
4. $\frac{3}{16}$" CHAIN REQUIRED ON ALL POSTS TO SECURE GATE OPEN AND CLOSED.
5. FINSH TO BE GALVANIZED OR APPROVED EQUAL.

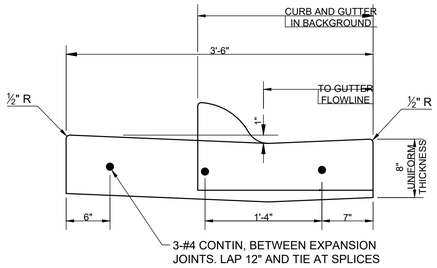
J2 14-FT ACCESS GATE



NOTE:
THE COMPACTED SUBGRADE MAY CONSIST OF EARTH, SUBBASE COURSE, AGGREGATE BASE COURSE, OR COMBINATIONS OF THESE AS INDICATED.

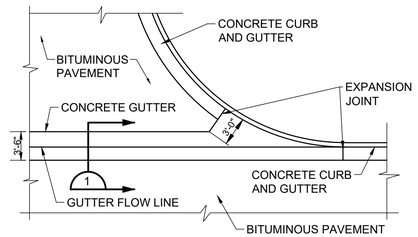


C1 CONCRETE CURB AND GUTTER DETAILS
NO SCALE

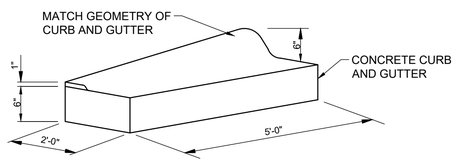


NOTES:
1. CONTRACTION AND CONSTRUCTION JOINTS SHALL BE THE SAME AS FOR CURB AND GUTTER.

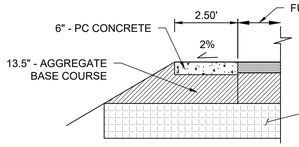
SECTION 1



C7 CONCRETE CROSSPAN DETAIL
NO SCALE

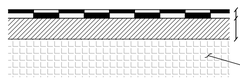


CURB TAPER DETAILS
NO SCALE



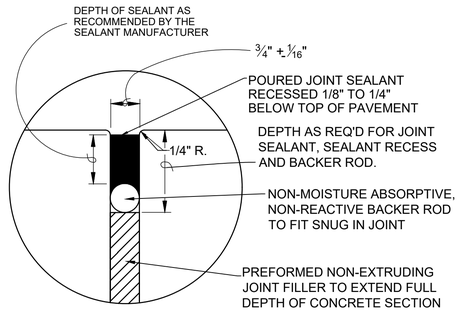
IF GRADE RAISED, UTILIZE STRUCTURAL FILL.
IF GRADE NOT RAISED, ON-SITE MATERIALS MAY REMAIN IN PLACE.
COMPACT TOP 12" TO 95% OF THE MODIFIED LABORATORY COMPACTION MAXIMUM DRY DENSITY (ASTM D1557) AT +-2% OPTIMUM MOISTURE CONTENT (ASTM D1557). SEE SECTION 31 00 00 SPECIFICATION.

N8 GRAVITY OFFLOAD CONCRETE EDGE DETAIL

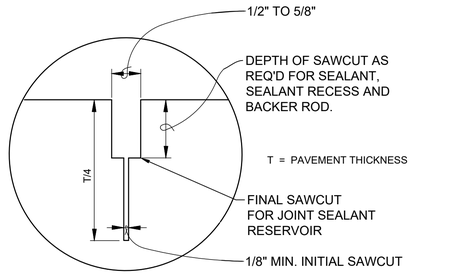


IF GRADE RAISED, UTILIZE STRUCTURAL FILL.
IF GRADE NOT RAISED, ON-SITE MATERIALS MAY REMAIN IN PLACE.
COMPACT TOP 12" TO 95% OF THE MODIFIED LABORATORY COMPACTION MAXIMUM DRY DENSITY (ASTM D1557) AT +-2% OPTIMUM MOISTURE CONTENT (ASTM D1557). SEE SECTION 31 00 00 SPECIFICATION.

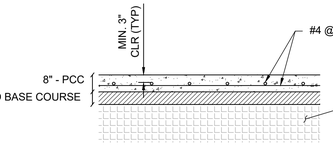
L8 FULL DEPTH ASPHALT PAVEMENT DETAIL



G10 COMPLETED EXPANSION JOINT SEALANT DETAIL

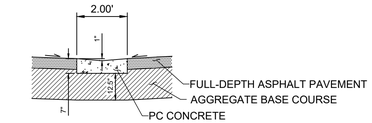


A10 CONTRACTION JOINT SEALANT DETAILS (SAWED TYPE)
NO SCALE

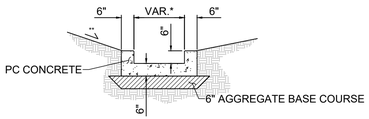


IF GRADE RAISED, UTILIZE STRUCTURAL FILL.
IF GRADE NOT RAISED, ON-SITE MATERIALS MAY REMAIN IN PLACE.
COMPACT TOP 12" TO 95% OF THE MODIFIED LABORATORY COMPACTION MAXIMUM DRY DENSITY (ASTM D1557) AT +-2% OPTIMUM MOISTURE CONTENT (ASTM D1557). SEE SECTION 31 00 00 SPECIFICATION.

N14 REBAR REINFORCED CONCRETE PAVEMENT DETAIL

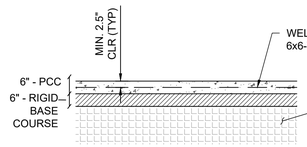


L14 VALLEY GUTTER DETAIL



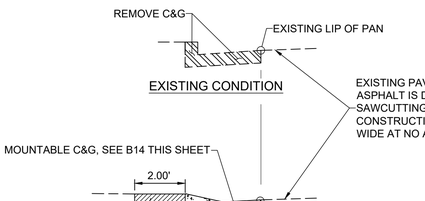
NOTES
*WIDTH TO MATCH EXISTING U-CHANNEL DRAINAGE CHANNEL WHICH PROPOSED WILL TIE IN TO.
**MAINTAIN POSITIVE DRAINAGE TO U-CHANNEL.

J14 U-CHANNEL DRAINAGE CHANNEL DETAIL



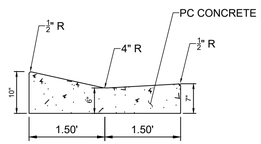
IF GRADE RAISED, UTILIZE STRUCTURAL FILL.
IF GRADE NOT RAISED, ON-SITE MATERIALS MAY REMAIN IN PLACE.
COMPACT TOP 12" TO 95% OF THE MODIFIED LABORATORY COMPACTION MAXIMUM DRY DENSITY (ASTM D1557) AT +-2% OPTIMUM MOISTURE CONTENT (ASTM D1557). SEE SECTION 31 00 00 SPECIFICATION.

G14 WWM REINFORCED CONCRETE PAVEMENT DETAIL



NOTES
1. SEE CS107 FOR EXTENTS OF DETAIL.

D14 REPLACE VERTICAL C&G WITH MOUNTABLE C&G DETAIL



B14 MOUNTABLE CURB & GUTTER DETAIL

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DESIGNED BY:	N. BURNS
DRAWN BY:	N. BURNS
CHECKED BY:	T. OWENS
SUBMITTED BY:	T. OWENS
SIZE:	ANSI D
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	RUCO00102CG201.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

PAVEMENT, C&G AND GATE DETAILS

SHEET ID
CS506

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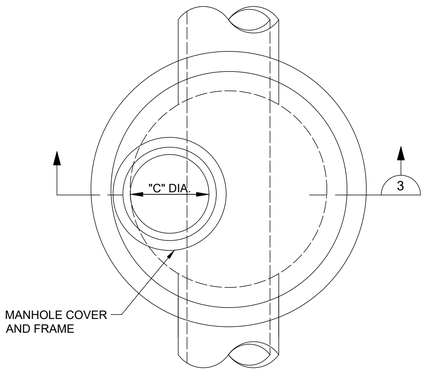
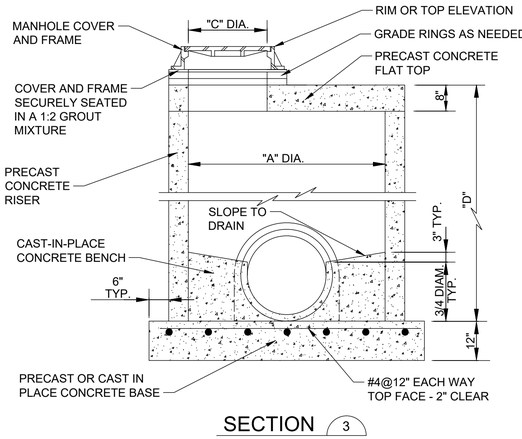


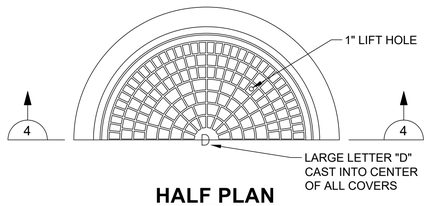
PLAN



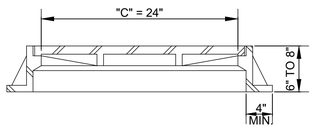
SECTION 3

MANHOLE DETAILS

NO SCALE



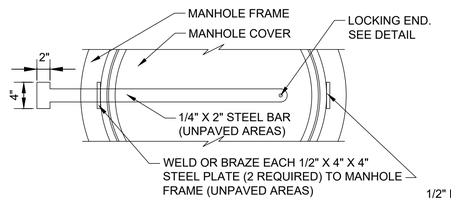
HALF PLAN



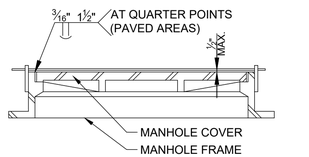
SECTION 4

MANHOLE COVER AND FRAME

NO SCALE



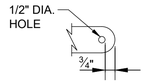
PLAN



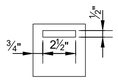
SECTION

MANPROOFING DETAILS

NO SCALE



LOCKING END



STEEL PLATE

MANHOLE	DIMENSIONS IN FEET			
	A	B	C	D
MH-01	4.0	*	2.0	*

* SEE STORM DRAIN PROFILES FOR MANHOLE RIM AND INVERT ELEVATIONS

NOTES:

1. VARIABLE DIMENSIONS (A,B,C & D) FOR STRUCTURES ARE SHOWN ON THE STORM DRAIN STRUCTURE SCHEDULE.
2. UNLESS OTHERWISE INDICATED, MANHOLES 12 FEET DEEP AND LESS MAY HAVE CONCENTRIC OR ECCENTRIC CONES. MANHOLES WITH A DEPTH GREATER THAN 12 FEET SHALL HAVE ECCENTRIC CONES ONLY. SHALLOW MANHOLES SHALL BE USED WHERE THE DEPTH OF THE MANHOLE IS LESS THAN THE OUTSIDE DIAMETER OF THE OUTFALL PIPE PLUS 4 FEET.
3. THICKNESS AND REINFORCING FOR PRECAST CONCRETE MANHOLE WALLS AND REINFORCING FOR PRECAST CONCRETE FLAT TOPS ARE NOT SHOWN BUT SHALL CONFORM TO THE SPECIFICATIONS.
4. MANHOLE BASE SLABS MAY BE PRECAST OR CAST IN PLACE CONCRETE. THICKNESS AND REINFORCING OF CAST-IN-PLACE BASES SHALL BE AS INDICATED. THICKNESS AND REINFORCING OF PRECAST BASES SHALL BE AS SPECIFIED.
5. ALL PIPE ENTRIES INTO THE BASE OF MANHOLES SHALL BE CONNECTED BY OPEN CHANNELS FORMED USING CAST-IN-PLACE CONCRETE BENCHES. CHANNELS SHALL BE ADJUSTED FOR PIPE SIZE, SHAPE, SLOPE, AND DIRECTION OF FLOW. THE INVERT CHANNELS SHALL BE SMOOTH AND SEMICIRULAR IN SHAPE CONFORMING TO THE INSIDE OF THE ADJACENT PIPE SECTION. CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE OF AS LARGE A RADIUS AS THE SIZE OF THE MANHOLE WILL PERMIT. CHANGES IN SIZE AND GRADE OF THE CHANNELS SHALL BE MADE GRADUALLY AND EVENLY.
6. MANHOLE COVER AND FRAME SHALL BE NEENAH R-1575 OR APPROVED EQUAL. ALTERNATE DESIGNS SHALL CONFORM TO THE DIMENSIONS INDICATED. COVER AND FRAME SHALL HAVE A COMBINED WEIGHT OF NOT LESS THAN 400 POUNDS.
7. PERMANENTLY INSTALLED GALVANIZED STEEL SIDE RAIL LADDERS SHALL BE INSTALLED IN ALL MANHOLES WITH A DEPTH GREATER THAN 12 FEET. IN ADDITION TO STEEL LADDERS, A LADDER CLIMBING SAFETY DEVICE SHALL BE INSTALLED IN ALL MANHOLES WITH A DEPTH GREATER THAN 20 FEET. DEPTH OF MANHOLES SHALL BE MEASURED FROM THE TOP OF THE FRAME TO THE INVERT OF THE OUTFALL PIPE.
8. MANHOLES SHALL BE MANPROOFED WHERE INDICATED. MANHOLES LOCATED IN NON-PAVED AREAS SHALL BE PROVIDED WITH A STRAP IRON LOCK. STEEL BAR FOR STRAP IRON LOCK SHALL BE GALVANIZED WITH A MINIMUM OF 2.0 OZ. OF ZINC PER SQ. FT. FILE OR GRIND ALL SHARP EDGES OR CORNERS OF BAR AND PLATES. PADLOCKS FOR STRAP IRON LOCKS SHALL BE PROVIDED BY THE GOVERNMENT. MANHOLES LOCATED IN PAVED AREAS SHALL HAVE COVERS TACK WELDED TO FRAMES AT QUARTER POINTS.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

P:\09Q4_PROJECTS\BUCO00102\PLAN SETS\03_SHEETS\03_SITE\BUCO00102CS501-503.DWG
AEC_NCS_4_MONO.CTB
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DESIGNED BY: N. BURNS
DRAWN BY: N. BURNS
CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102CG201.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

STORM MANHOLE DETAILS

SHEET ID
CS507

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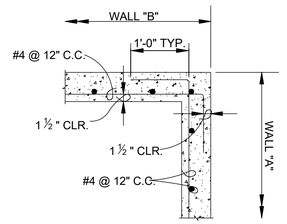
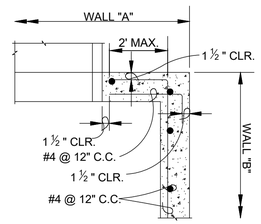


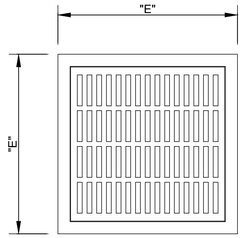
TYPICAL ABOVE PIPES

SECTION 3

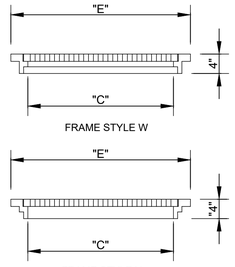


TYPICAL AT PIPES

SECTION 4



PLAN

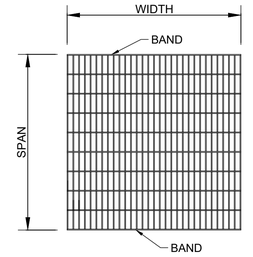


SECTION

FRAME AND GRATE DETAILS

NO SCALE

CAST IRON FRAME AND GRATE						
DIMENSIONS				FRAME STYLE	MINIMUM WEIGHT OF FRAME AND GRATE	MINIMUM GRATE WATERWAY OPENING
A	B	C	E			
37½"	37½"	36"	42"	W	665 LBS	2.9 SF



PLAN

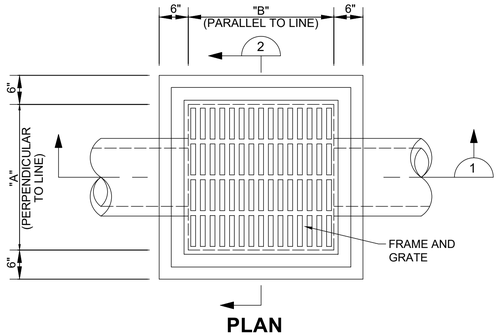
STEEL BAR GRATE DETAILS (ALTERNATE)

NO SCALE

STEEL BAR GRATE AND FRAME					
DIMENSIONS				GRATE DESIGNATION	STEEL FRAME
A	B	SPAN	WIDTH		
33¼"	33 1/16"	36"	35 13/16"	W-19-4(2X 3/16)STEEL	L 2½X2X 3/8

NOTES:

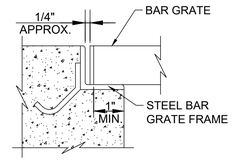
1. BAR GRATING SHALL BE GALVANIZED STEEL. PRESS LOCKED GRATING MAY BE USED IN LIEU OF WELDED. FRAME SHALL BE GALVANIZED STEEL ANGLE.



PLAN

STRUCTURE SCHEDULE			
AREA INLET	DIMENSIONS IN FEET		
	A	B	D
IN-01	36	36	*
IN-02	36	36	*

* SEE STORM DRAIN PROFILES FOR INLET RIM AND INVERT ELEVATIONS

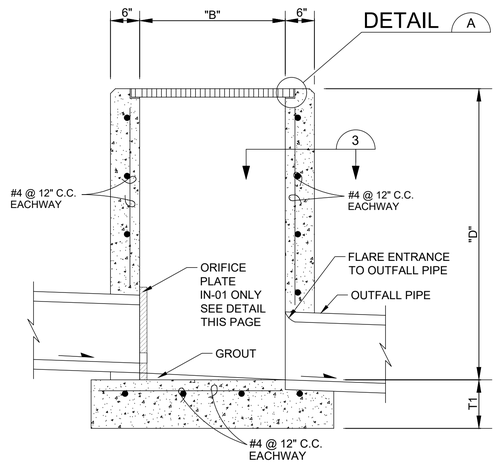


DETAIL A

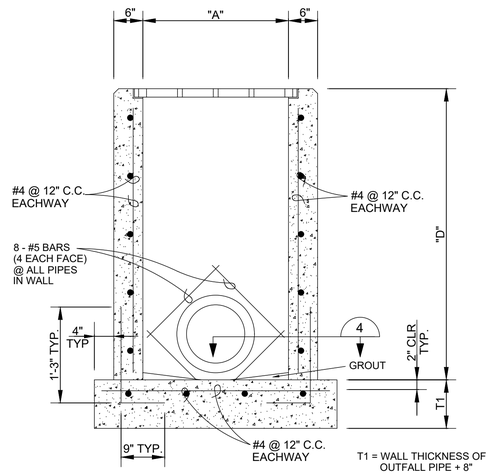
NO SCALE

NOTES:

1. VARIABLE DIMENSIONS (A,B,& D) FOR STRUCTURES ARE SHOWN ON THE STRUCTURE SCHEDULE. A, B, C, AND E DIMENSIONS MAY VARY FROM THOSE SHOWN SLIGHTLY TO ACCOMODATE MANUFACTURER'S STANDARD FRAME AND GRATES.
2. FOR SIZE OF GRATE AND FRAME, SEE DETAIL ON THIS SHEET. TYPE W OR Y FRAME STYLE MAY BE USED FOR ALL STRUCTURES.
3. STANDARD CONSTRUCTION SHALL BE PRECAST OR CAST IN PLACE REINFORCED CONCRETE.
4. THE GROUT SHALL BE LIMITED TO THAT REQUIRED TO PREVENT STANDING WATER. WHERE PIPES HAVE NEARLY THE SAME INVERT ELEVATION, GROUT SHALL TAPER FROM THE SIDES TOWARDS THE FLOWLINE BETWEEN PIPES WITH NO GROUT PLACED ALONG THE 3 INCHES EACH SIDE OF THE FLOWLINE.
5. REINFORCING STEEL FY = 60 KSI.
6. THE MINIMUM CLEAR COVER OF CONCRETE OVER REINFORCING STEEL SHALL BE 3" FOR CONCRETE PLACED DIRECTLY AGAINST THE SOIL.



SECTION 1



SECTION 2

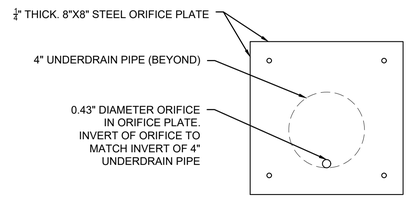
T1 = WALL THICKNESS OF OUTFALL PIPE + 8"

TYPE "A" AREA INLET DETAILS

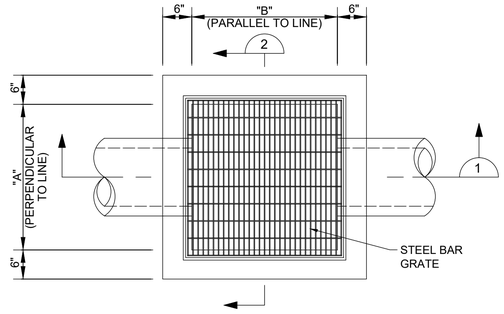
NO SCALE

NOTES

1.PROVIDE GASKET MATERIAL BETWEEN ORIFICE PLATE AND CONCRETE.
2. BOLT PLATE TO CONCRETE 12" MAX ON CENTER
3. ORIFICE PLATE ONLY TO BE INCLUDED ON IN-01.



ORIFICE PLATE DETAIL



PLAN

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: N. BURNS
DRAWN BY: N. BURNS
CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102CG201.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

STORM MANHOLE DETAILS

SHEET ID

CS508

ADVERTISEMENT

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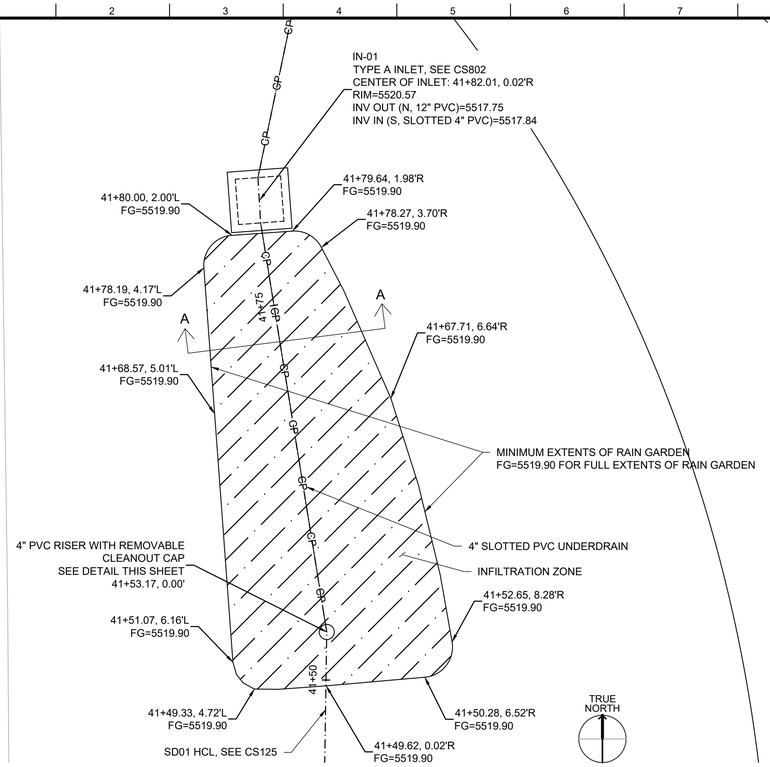
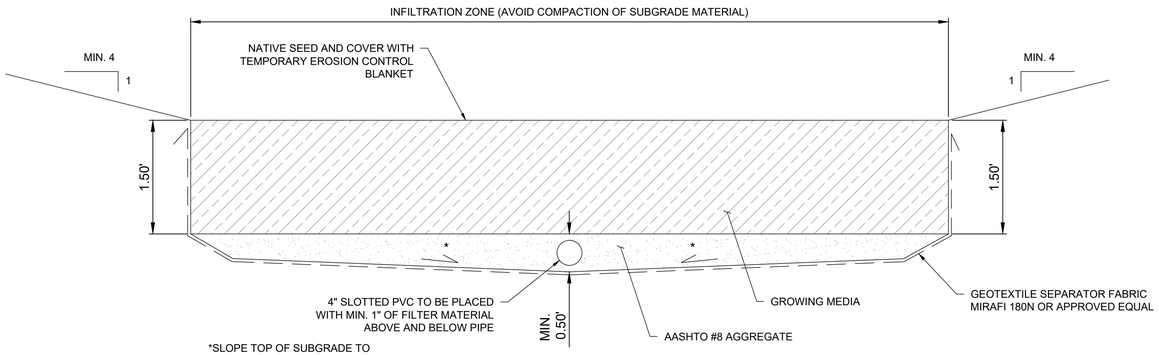


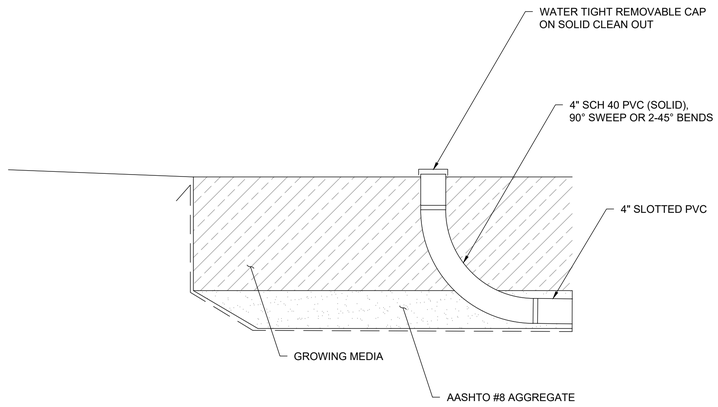
RAIN GARDEN DETAIL - PLAN

MATERIAL SPECIFICATIONS:
AASHTO NO. 8 AGGREGATE SHALL BE A COARSE AGGREGATE MEETING THE MATERIAL AND GRADATION SPECIFICATIONS SET FORTH FOR NO. 8 COARSE AGGREGATE PER AASHTO M43 AS DEFINED IN DIVISION 700, SECTION 703 OF THE CDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

MATERIAL		SPECIFICATION	SUBMITTAL	NOTES
BIORETENTION GROWING MEDIA (SOIL & ORGANICS)	BIORETENTION SOIL	PARTICLE SIZE DISTRIBUTION: 80-90% SAND (0.05 - 2.0 MM DIAMETER) 3-17% SILT (0.002-0.5 MM DIAMETER) 3-17% CLAY (<0.002 MM DIAMETER) CHEMICAL ATTRIBURE AND NUTRIENT ANALYSIS: PH 6.8 - 7.5 ORGANIC MATTER < 1.5% NITROGEN < 15 PPM PHOSPHORUS < 15 PPM SALINITY < 6 MMHOS/CM	PARTICLE SIZE DISTRIBUTION AND NUTRIENT ANALYSIS REQUIRED	PERCENTAGES ARE IN WEIGHT
	BIORETENTION ORGANICS	3 TO 5% SHREDDED MULCH (BY WEIGHT OF GROWING MEDIA)		BIORETENTION SOIL REQUIRED. AGED 6 MONTHS (MINIMUM)



SECTION A-A



CLEANOUT DETAIL

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: N. BURNS
DRAWN BY: N. BURNS
CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102CG201.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

RAIN GARDEN DETAILS

SHEET ID
CS509

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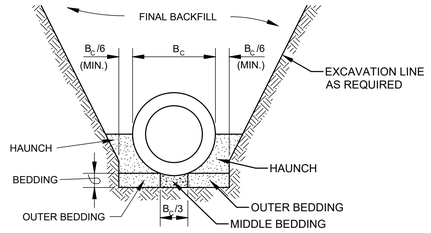
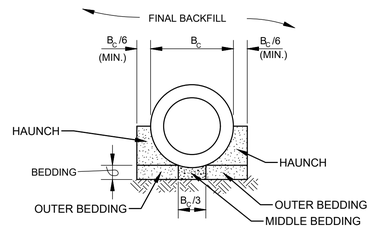


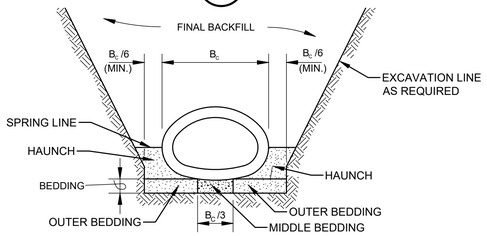
TRENCH INSTALLATIONS



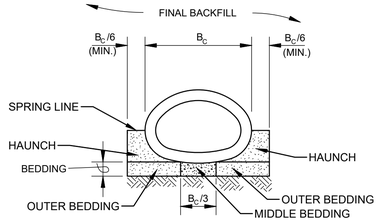
EMBANKMENT INSTALLATIONS

L4 CONCRETE CIRCULAR PIPE BEDDING DETAILS

SCALE: NTS



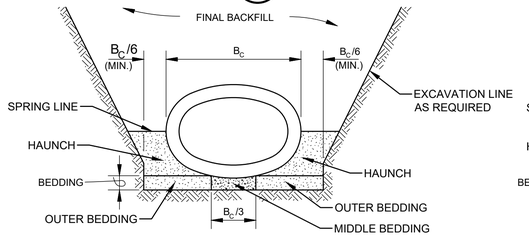
TRENCH INSTALLATIONS



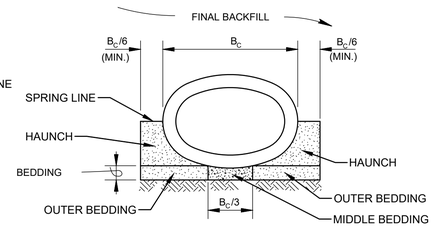
EMBANKMENT INSTALLATIONS

H4 CONCRETE ARCH PIPE BEDDING DETAILS

SCALE: NTS



TRENCH INSTALLATIONS



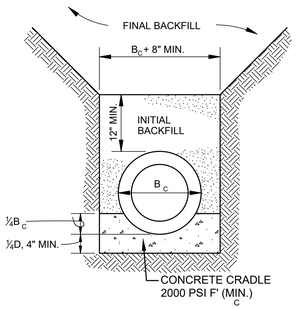
EMBANKMENT INSTALLATIONS

F3 CONCRETE HORIZONTAL ELLIPTICAL PIPE BEDDING DETAILS

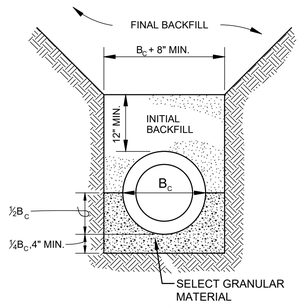
SCALE: NTS

CONCRETE PIPE BEDDING NOTES:

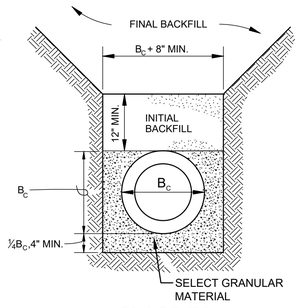
1. MINIMUM BEDDING THICKNESS SHALL BE 3 INCHES. MINIMUM BEDDING THICKNESS SHALL BE INCREASED TO 6 INCHES IN ROCK CUTS.



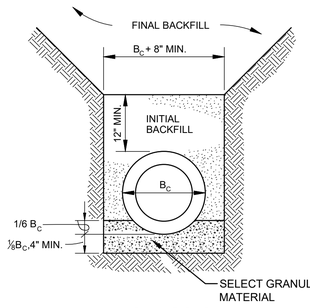
CLASS A



CLASS B



CLASS B2



CLASS C

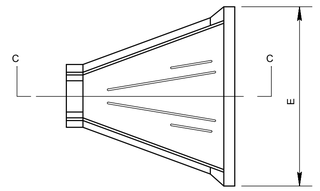
LEGEND:
B_C = OUTSIDE PIPE DIAMETER
D = INSIDE PIPE DIAMETER

NOTES:

1. SEE SPECIFICATIONS FOR MATERIAL AND COMPACTION REQUIREMENTS.
2. MAXIMUM PARTICLE SIZE IN INITIAL BACKFILL SHALL BE 1/2" FOR PLASTIC PIPE OR COATED OR WRAPPED PIPE AND 1-1/2" FOR ALL OTHER TYPES OF PIPE.

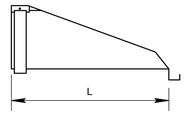
A4 STORM DRAIN PIPE BEDDING DETAILS

SCALE: NTS

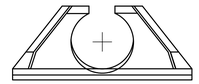


PLAN

CORRUGATED HDPE ROUND PIPE		
PIPE DIAM. (INCHES)	DIMENSIONS IN INCHES	
	L	E
12	33	42
15	45	46
18	55	54
24	65	64
30	64	88
36	67	88



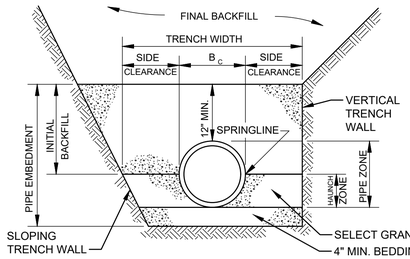
SECTION C-C



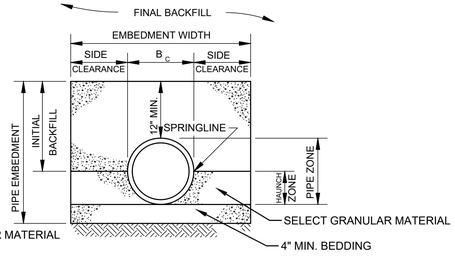
END VIEW

J13 END SECTION FOR CORRUGATE TED HDPE PIPE

SCALE: NTS



TRENCH INSTALLATIONS



EMBANKMENT INSTALLATIONS

D13 PLASTIC OR METAL STORM DRAIN PIPE BEDDING DETAILS

SCALE: NTS

PLASTIC PIPE BEDDING NOTES:

1. EMBEDMENT SIDE CLEARANCE SHALL BE 12 INCHES FOR PIPES 12 TO 18 INCHES IN DIAMETER AND 18 INCHES FOR PIPE GREATER THAN 18 INCHES IN DIAMETER.
2. BEDDING DEPTH SHALL BE INCREASED TO 6" IN ROCK CUTS.

GENERAL NOTES:

1. CONCRETE PIPES SHALL BE PROTECTED BY A MINIMUM OF 3 FEET OF COVER PRIOR TO PERMITTING HEAVY CONSTRUCTION EQUIPMENT TO PASS OVER THEM DURING CONSTRUCTION.
2. MINIMUM COVER FOR CONSTRUCTION LOADS OVER CORRUGATED STEEL PIPES SHALL BE AS SPECIFIED IN SECTION 26, DIVISION II OF THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
3. MINIMUM COVER FOR CONSTRUCTION LOADS OVER PLASTIC PIPES SHALL BE AS SPECIFIED IN ASTM D 2321.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
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SIZE:	ANSI D

DESIGNED BY:	N. BURNS
DRAWN BY:	N. BURNS
CHECKED BY:	T. OWENS
SUBMITTED BY:	T. OWENS

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

PIPE BEDDING AND FLARED END SECTION DETAILS

SHEET ID

CS510

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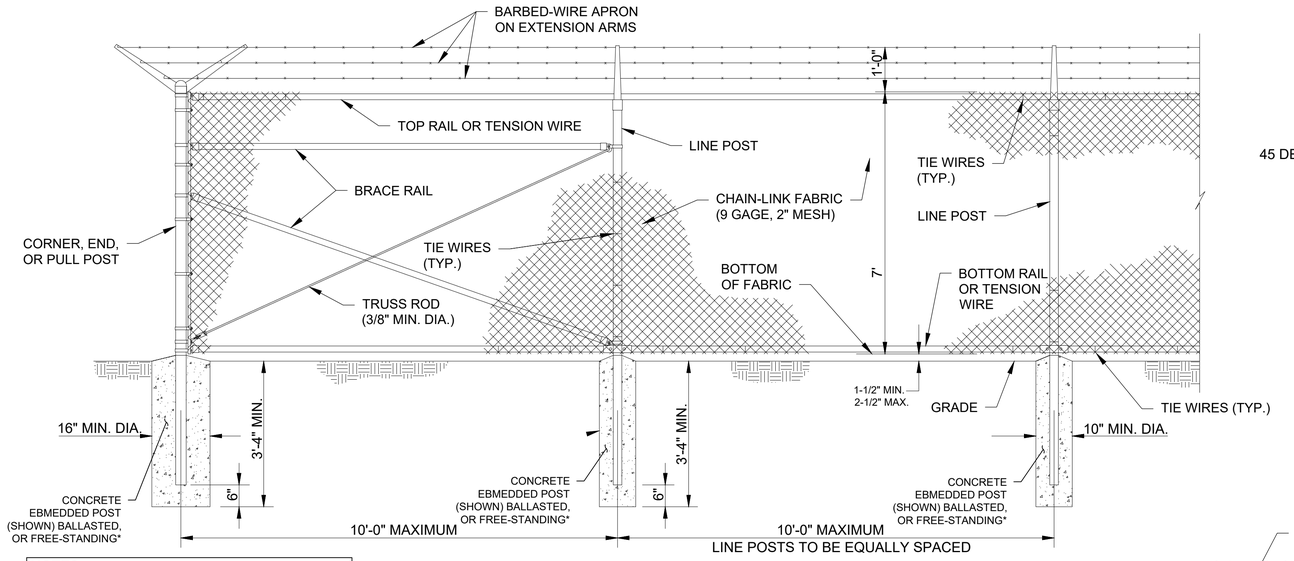
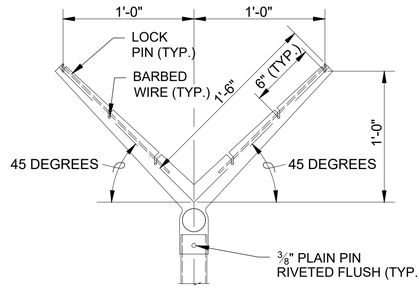


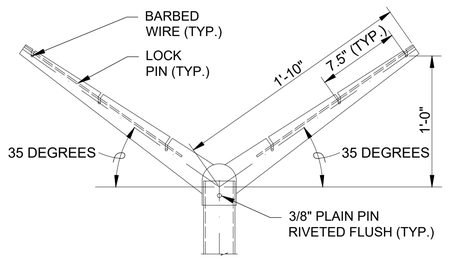
NOTES:
* BALLASTED OR FREE-STANDING POST IS ACCEPTABLE ALTERNATE TO CONCRETE EMBEDDED POSTS. ALL BALLAST, POSTS AND CONCRETE TO BE REMOVED AT CONCLUSION OF CONSTRUCTION AND SURFACE TO BE RESTORED TO PRE-PROJECT CONDITION.

FE7 CHAIN-LINK SECURITY FENCE DETAIL

NO SCALE



LINE POST

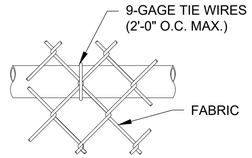


CORNER POST

EXTENSION ARM DETAILS

NO SCALE

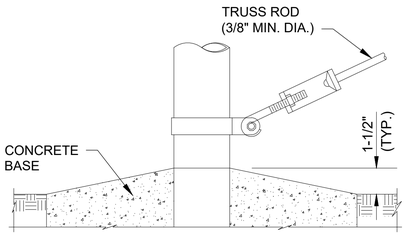
USE AND SECTION	STEEL POST SCHEDULE MINIMUM OUTSIDE DIMENSIONS (NOMINAL) FABRIC LESS THAN 72"	FABRIC 72" TO 96"	FABRIC OVER 96"
CORNER, END & PULL POSTS			
TUBULAR - ROUND	2.375" O.D.	2.875" O.D.	4.00" O.D.
TUBULAR - SQUARE	2.00" SQ.	2.50" SQ.	3.00" SQ.
C-SECTION (ROLL-FORMED)	3.50" x 3.50"	3.50" x 3.50"	———
LINE POSTS			
TUBULAR - ROUND	1.90" O.D.	2.375" O.D.	2.875" O.D.
H-SECTION	2.25" x 1.70"	2.25" x 1.70"	2.25" x 1.70"
C-SECTION (ROLL-FORMED)	1.875" x 1.625"	2.25" x 1.70"	———
TOP, BOTTOM & BRACE RAILS			
TUBULAR - ROUND	1.66" O.D.		
TUBULAR - SQUARE	1.50" O.D.		
H-SECTION	1.625" x 1.50"		
C-SECTION (ROLL-FORMED)	1.625" x 1.25"		



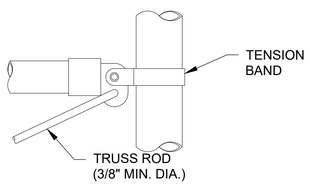
TOP OR BRACE RAIL ATTACHMENT

LINE POST ATTACHMENTS

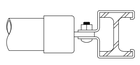
NOTES:
1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT METHOD OF INSTALLATION TO ONE MANUFACTURER.
2. WIRE TIES, RAILS, POSTS, AND BRACES SHALL BE CONSTRUCTED ON THE SECURE SIDE OF THE FENCE ALIGNMENT. CHAIN-LINK FABRIC SHALL BE PLACED ON THE OPPOSITE SIDE OF THE SECURE AREA.
3. C-SECTION POSTS SHALL BE INSTALLED SO THAT THE VOID INSIDE THE POST IS COMPLETELY FILLED WITH CONCRETE UP TO THE TOP OF THE FOUNDATION.



TRUSS ROD AND BAND

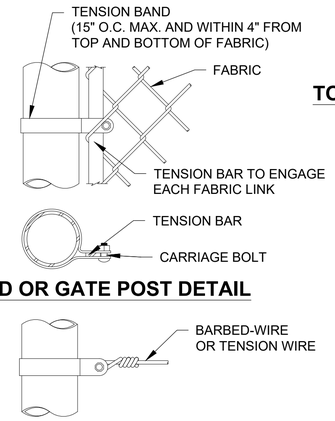


ROUND POST



H-BEAM

BRACE RAIL CLAMP DETAILS

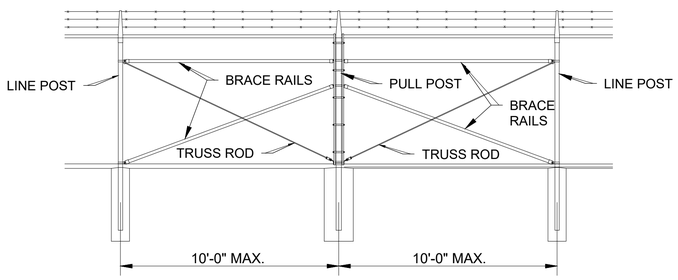


END OR GATE POST DETAIL

TENSION BAND DETAIL

FASTENING DETAILS

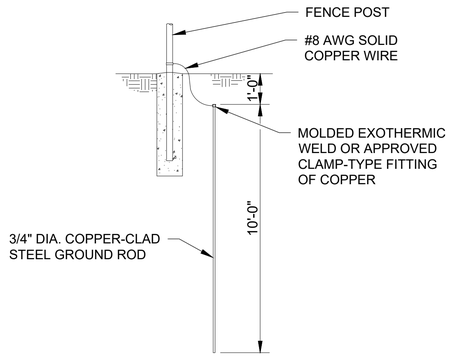
NO SCALE



BRACE PANEL DETAIL

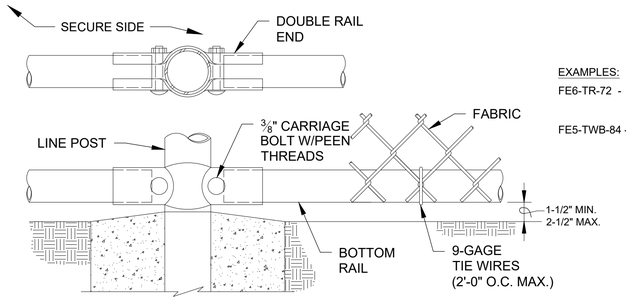
NO SCALE

NOTE:
PROVIDE BRACE PANEL WHENEVER STRAIGHT RUNS EXCEED 500 FEET.



GROUNDING DETAIL

NO SCALE



BOTTOM RAIL DETAILS

NO SCALE

FENCE LEGEND:

TYPE FE5 - CHAIN-LINK FENCE WITHOUT BARBED-WIRE APRON
TYPE FE6 - CHAIN-LINK FENCE W/BARBED-WIRE ON SINGLE OUTRIGGER
TYPE FE7 - CHAIN-LINK FENCE W/BARBED-WIRE ON DOUBLE OUTRIGGER
TYPE FE8 - CHAIN-LINK FENCE W/BARBED-WIRE AND BARBED-TAPE ON DOUBLE OUTRIGGER
TR - FENCE WITH TOP RAIL AND TENSION WIRE AT BOTTOM
TBR - FENCE WITH TOP AND BOTTOM RAILS
TWB - TENSION WIRE TOP AND BOTTOM
TWBR - FENCE WITH TOP TENSION WIRE AND BOTTOM RAIL
FINAL NUMBER IS FABRIC WIDTH IN INCHES

EXAMPLES:

FE6-TR-72 - CHAIN-LINK SECURITY FENCE WITH BARBED-WIRE ON SINGLE OUTRIGGER, TOP RAIL, AND 72 INCH FABRIC WIDTH.
FE5-TWB-84 - CHAIN-LINK SECURITY FENCE WITH NO APRON, TOP AND BOTTOM TENSION WIRE, AND 84 INCH FABRIC WIDTH.

US Army Corps of Engineers®

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AEC_NCS_4_MONO.CTB
G6EDXNAB

DESIGNED BY: N. BURNS
DRAWN BY: N. BURNS
CHECKED BY: T. OWENS
SUBMITTED BY: T. OWENS
SIZE: ANSI D
ISSUE DATE: 06/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102CG201.dwg

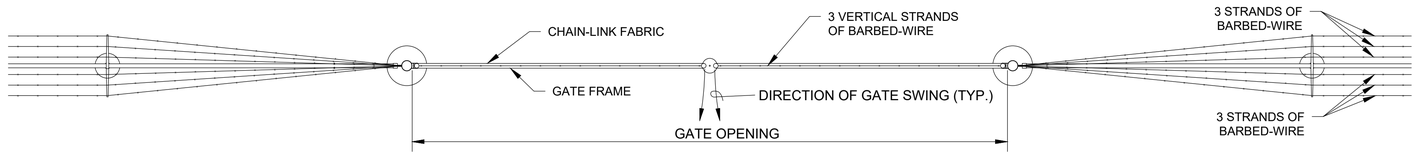
U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

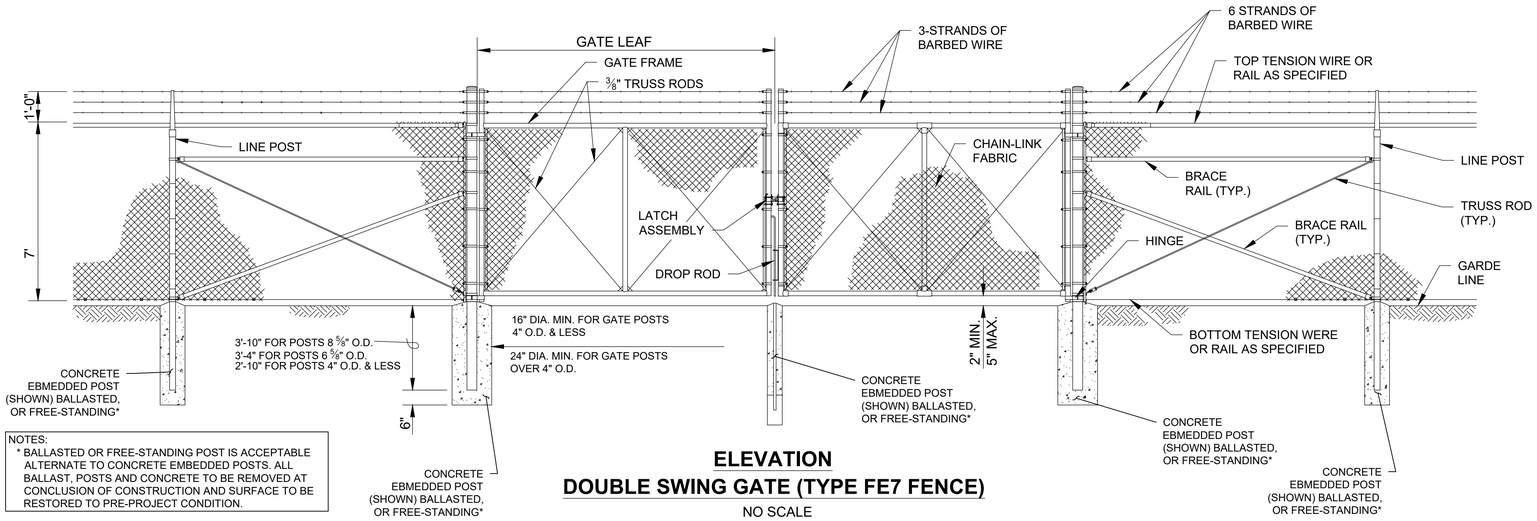
FREEZONE CHAINLINK FENCE DETAILS

SHEET ID
CS511

ADVERTISEMENT

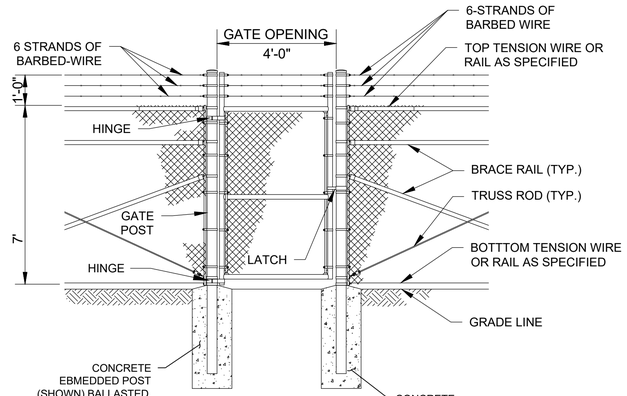


PLAN

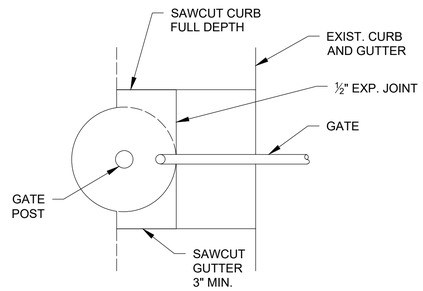


NOTES:
* BALLASTED OR FREE-STANDING POST IS ACCEPTABLE ALTERNATE TO CONCRETE EMBEDDED POSTS. ALL BALLAST, POSTS AND CONCRETE TO BE REMOVED AT CONCLUSION OF CONSTRUCTION AND SURFACE TO BE RESTORED TO PRE-PROJECT CONDITION.

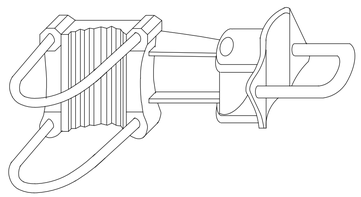
ELEVATION
DOUBLE SWING GATE (TYPE FE7 FENCE)
NO SCALE



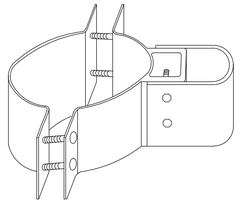
PERSONNEL GATE
TYPE FE7 FENCE
NO SCALE



PLAN



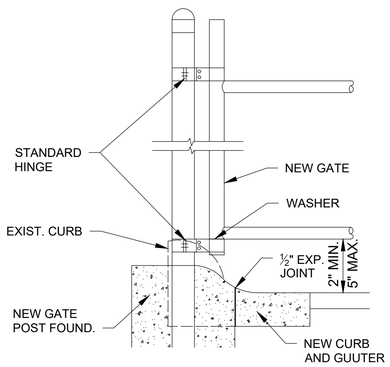
OFFSET HINGE



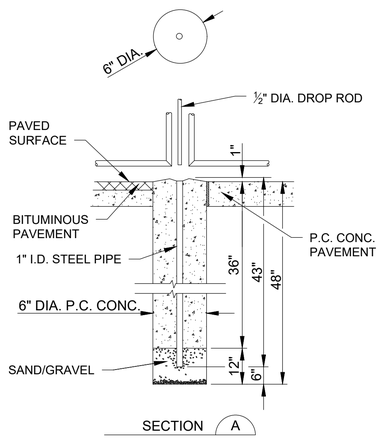
STANDARD HINGE

GATE POST SCHEDULE	
GATE LEAF WIDTH (NOMINAL)	OUTSIDE DIMENSION (NOMINAL)
6' OR LESS	2.875" O.D. 2.5" SQ.
MORE THAN 6' TO 13'	4.0" O.D.
MORE THAN 13' TO 18'	6.625" O.D.
MORE THAN 18'	8.625" O.D.

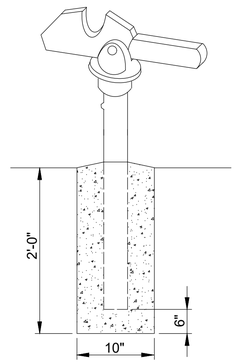
NOTES:
1. DETAILS SHOWN ARE TO CLARIFY REQUIREMENTS AND ARE NOT INTENDED TO LIMIT METHOD OF INSTALLATION TO ONE MANUFACTURER.
2. SWING GATES SHALL BE CONSTRUCTED WITH DROP RODS, PADLOCKS, LATCH ASSEMBLY AND GATE KEEPERS EXCEPT AS NOTED.
3. ALL GATE FRAMES SHALL BE A MINIMUM OF 1.90" NOMINAL (ROUND) OR 2.00" NOMINAL (SQUARE). GATE FRAMES SHALL BE WELDED CONSTRUCTION OR SHALL BE ASSEMBLED USING HEAVY FITTINGS. AT CONSTRACTOR'S OPTION, A WELDED HORIZONTAL BRACE MAY BE USED IN LIEU OF TRUSS RODS TO BRACE ALL WELDED GATE FRAMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER RIGID CONSTRUCTION OF ALL GATES SUPPLIED.
4. GATES SHALL BE DESIGNATED AS FOLLOWS:
   FENCE TYPE - FE5, FE6, ETC.
   FENCE HEIGHT - INCHES
   TYPE OPENING - SO (SINGLE)
   - DO (DOUBLE)
   HINGE - RA (STANDARD)
   - HO (OFFSET)
   OPENING - FEET (CLEAR OPENING BETWEEN GATE POSTS)
   EXAMPLES: FE6-84-DO-RA-24
   FE5-48-SO-HD-6



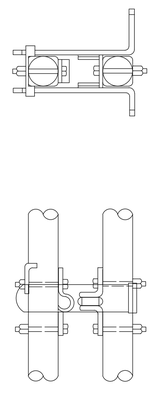
SECTION
GATE POST DETAIL
AT CURB AND GUTTER



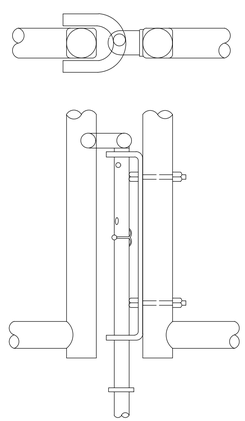
DROP ROD FOUNDATION



GATE KEEPER
(TO HOLD GATE OPEN)



LATCH ASSEMBLY



DROP ROD ASSEMBLY

SWING GATE DETAILS
NO SCALE

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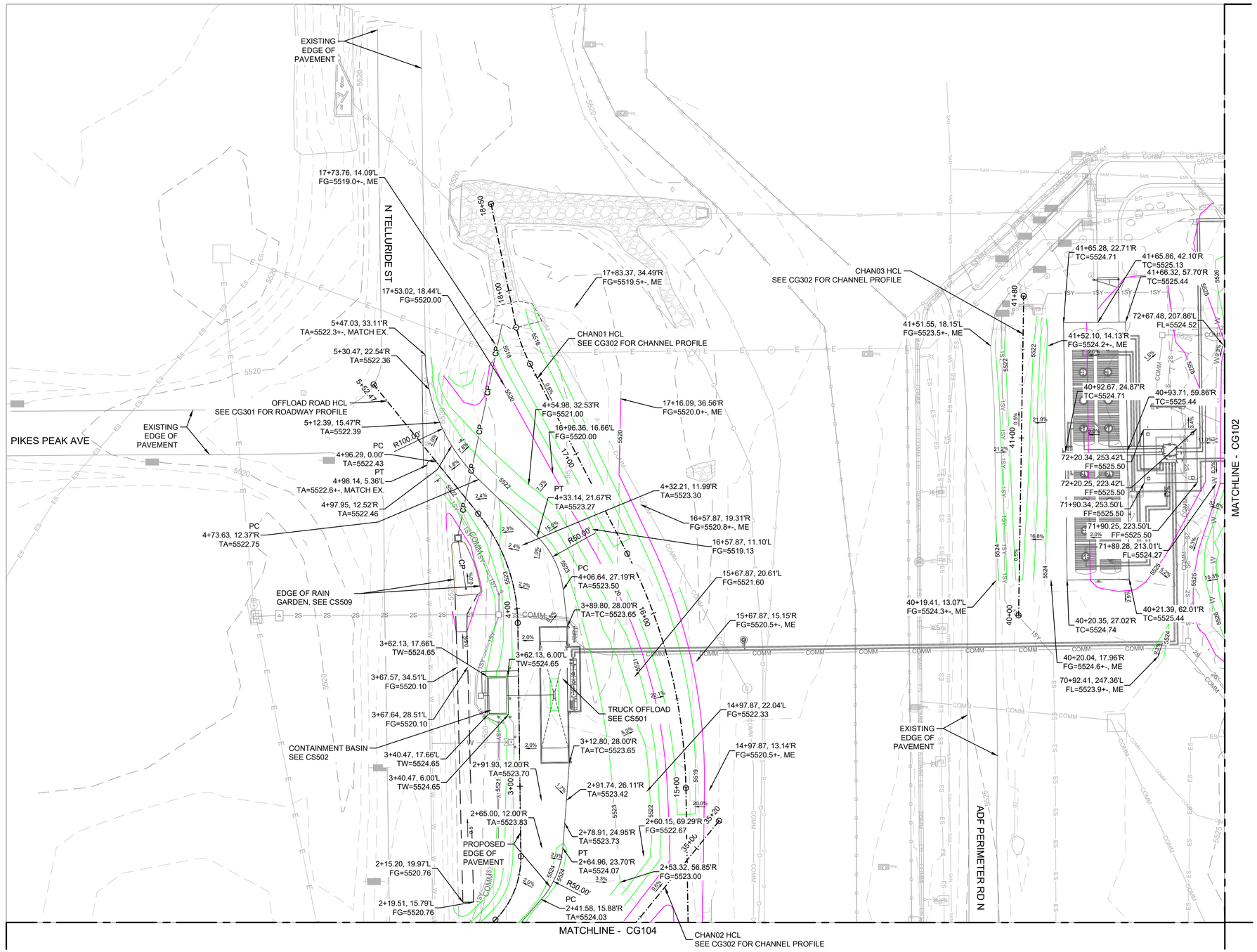
U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FREEZONE CHAINLINK GATE DETAILS

SHEET ID
CS512



A1 GRADING PLAN - AREA 1

GENERAL NOTES

1. SEE SPECIFICATION SECTION 02 61 13 EXCAVATION AND HANDLING OF CONTAMINATED MATERIAL FOR HANDLING OF CONTAMINATED SOIL.
2. SEE CS125-126 FOR HORIZONTAL CONTROL LINE (HCL) GEOMETRY SUMMARY DATA.

KEY NOTES

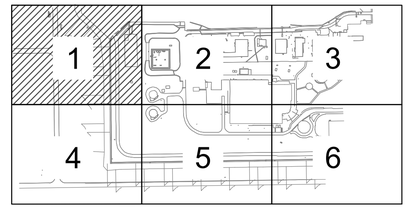
1. PAVING ASSOCIATED WITH UTILITY TRENCHING. PROPOSED TOP OF ASPHALT/CONCRETE TO BE FLUSH WITH EXISTING PAVEMENT AT CONNECTION POINT. TOP OF PAVEMENT PROFILE TO BE SMOOTH AND CONTINUOUS ACROSS PATCH AND SHALL NOT CONTAIN ANY HUMPS OR HIGH POINTS.

LEGEND

- EXISTING CONTOUR (MINOR)
- EXISTING CONTOUR (MAJOR)
- PROPOSED CONTOUR (MINOR)
- PROPOSED CONTOUR (MAJOR)
- 22.1% PROPOSED SURFACE SLOPE

ACRONYMS
FF=FINISHED FLOOR
FG=FINISHED GRADE
FL=FLOWLINE
ME=MATCH EXISTING
PC=POINT OF CURVATURE
PCC=POINT OF COMPOUND CURVATURE
PT=POINT OF TANGENCY
TA=TOP OF ASPHALT
TC=TOP OF CONCRETE

KEY PLAN



TRUE NORTH
SCALE:1" = 400'

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FILENAME: BUCO00102\CG101-104.dwg

U.S. ARMY CORPS OF ENGINEERS
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1616 CAPITOL AVE
OMAHA, NE 68102

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GRADING PLAN - AREA 1

SHEET ID
CG101

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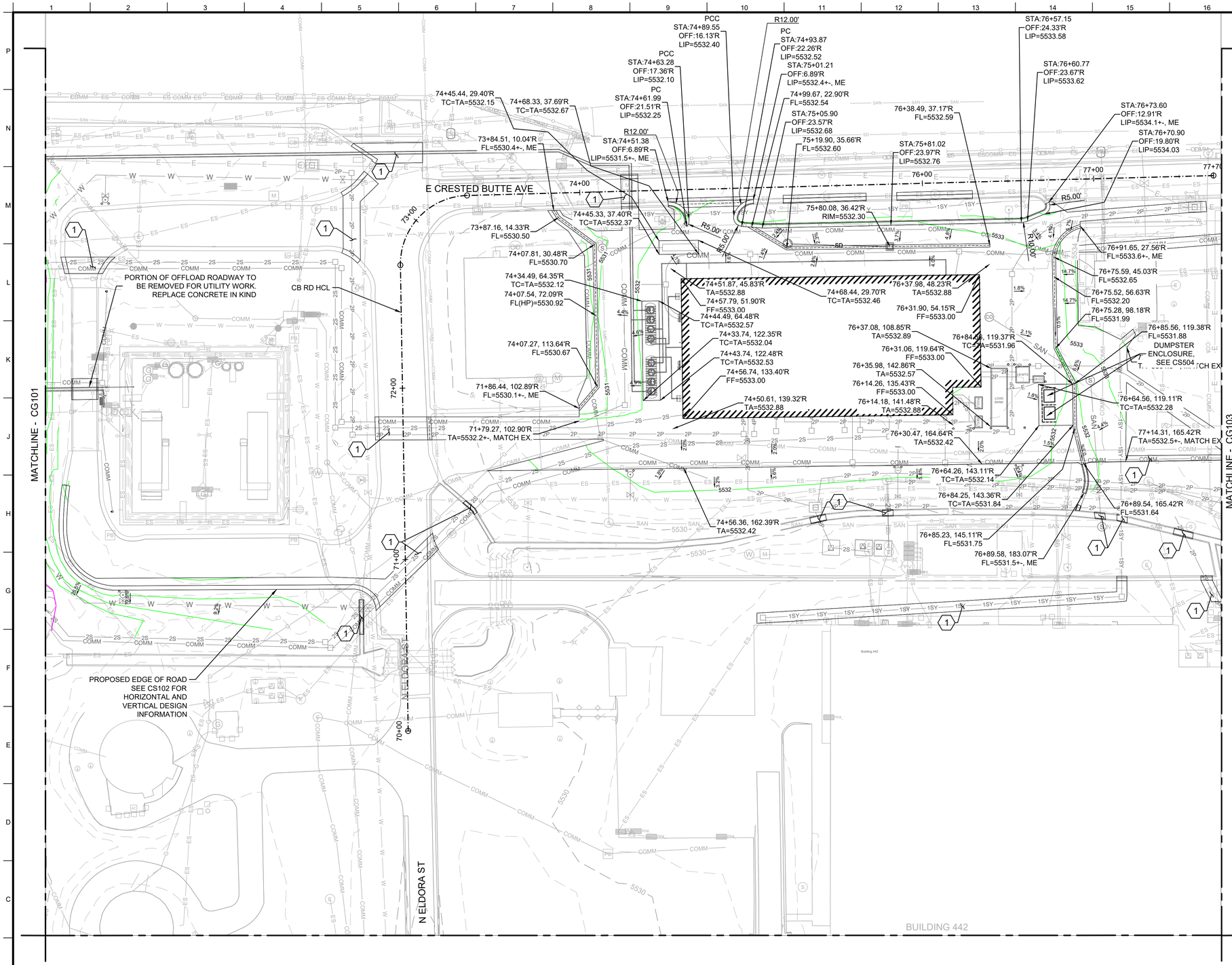

A1 GRADING PLAN - AREA 2

GENERAL NOTES

1. SEE SPECIFICATION SECTION 02 61 13 EXCAVATION AND HANDLING OF CONTAMINATED MATERIAL FOR HANDLING OF CONTAMINATED SOIL.
2. SEE CS125-126 FOR HORIZONTAL CONTROL LINE (HCL) GEOMETRY SUMMARY DATA.

KEY NOTES

1. PAVING ASSOCIATED WITH UTILITY TRENCHING. PROPOSED TOP OF ASPHALT/CONCRETE TO BE FLUSH WITH EXISTING PAVEMENT AT CONNECTION POINT. TOP OF PAVEMENT PROFILE TO BE SMOOTH AND CONTINUOUS ACROSS PATCH AND SHALL NOT CONTAIN ANY HUMPS OR HIGH POINTS.

LEGEND

- EXISTING CONTOUR (MINOR)
- EXISTING CONTOUR (MAJOR)
- PROPOSED CONTOUR (MINOR)
- PROPOSED CONTOUR (MAJOR)
- 22.1% PROPOSED SURFACE SLOPE

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PCC=POINT OF COMPOUND CURVATURE
PT=POINT OF TANGENCY
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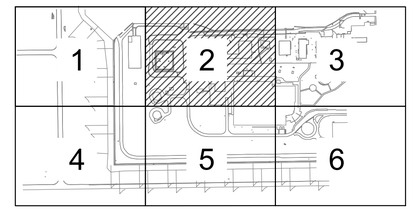
TC=TOP OF CONCRETE

KEY PLAN



TRUE NORTH
SCALE:1" = 400'

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

GRADING PLAN - AREA 2

SHEET ID
CG102

ADVERTISEMENT

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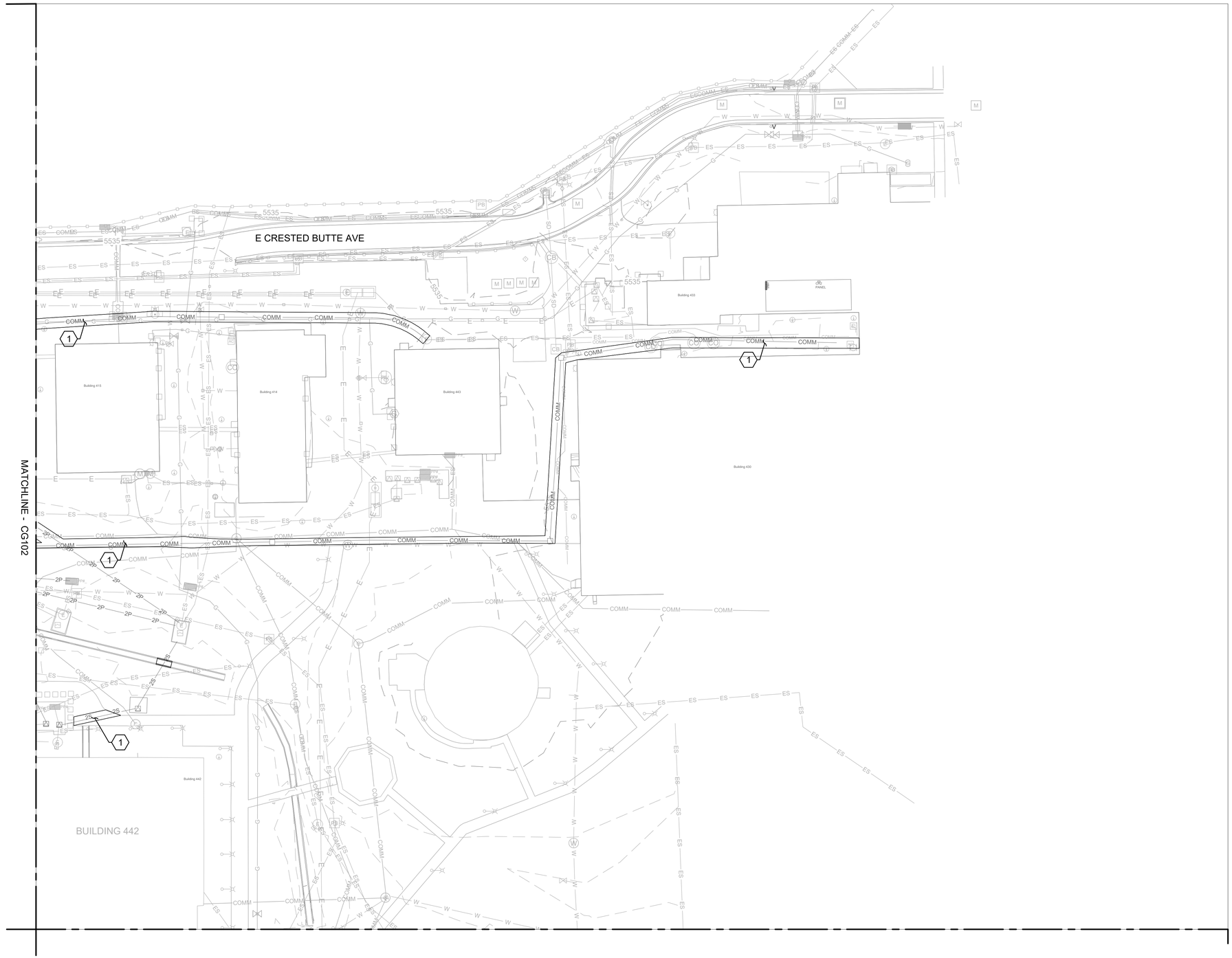

A1 GRADING PLAN - AREA 3

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. SEE SPECIFICATION SECTION 02 61 13 EXCAVATION AND HANDLING OF CONTAMINATED MATERIAL FOR HANDLING OF CONTAMINATED SOIL.
2. SEE CS125-126 FOR HORIZONTAL CONTROL LINE (HCL) GEOMETRY SUMMARY DATA.

KEY NOTES

1. PAVING ASSOCIATED WITH UTILITY TRENCHING. PROPOSED TOP OF ASPHALT/CONCRETE TO BE FLUSH WITH EXISTING PAVEMENT AT CONNECTION POINT. TOP OF PAVEMENT PROFILE TO BE SMOOTH AND CONTINUOUS ACROSS PATCH AND SHALL NOT CONTAIN ANY HUMPS OR HIGH POINTS.

LEGEND

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- EXISTING CONTOUR (MAJOR)
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- PROPOSED CONTOUR (MAJOR)
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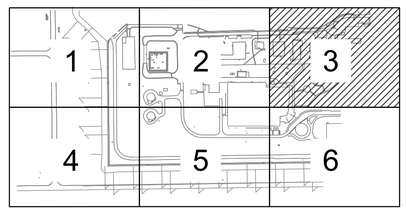
KEY PLAN

TRUE NORTH

SCALE:1" = 400'



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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

GRADING PLAN - AREA 3

SHEET ID
CG103

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G6EDXNAB

MATCHLINE - CG101

1+78.65, 0.00'
TA=5524.14

PC
1+76.52, 5.11'L
TA=5524.3+-, MATCH EX.

OFFLOAD ROAD HCL
SEE CG301 FOR ROADWAY PROFILE

PCC
1+63.71, 18.79'R
TA=5524.28

PC
1+40.00, 31.63'R
TA=5524.6+-, MATCH EX.

1+40.00, 42.46'R
FG=5524.00

PROPOSED EDGE OF PAVEMENT

2+31.74, 39.92'R
FG=5523.58

PT
2+03.92, 13.04'R
TA=5524.16

1+95.06, 28.00'R
FG=5523.94

13+94.00, 23.14'L
FG=5523.2+-, ME

1+92.73, 13.97'R
TA=5524.22

1+74.82, 48.87'R
FG=5523.00

1+77.01, 16.15'R
TA=5524.20

1+40.00, 59.01'R
FG=5523.00

32+97.90, 23.01'R
FG=5524.3+-, ME

13+87.87, 12.04'R
FG=5521.1+-, ME

N TELLURIDE ST

ADF PERIMETER RD N

32+54.29, 6.96'L
FG=5521.3+-, ME

32+54.29, 9.99'R
FG=5521.9+-, ME

12+28.47, 22.41'L
FG=5524.2+-, ME

12+27.87, 20.41'R
FG=5523.8+-, ME

CHAN01 HCL
SEE CG302 FOR CHANNEL PROFILE

CHAN02 HCL
SEE CG302 FOR CHANNEL PROFILE

10+97.87, 23.52'L
FG=5525.3+-, ME

10+97.89, 26.45'R
FG=5525.9+-, ME

30+72.71, 6.52'R
FG=5522.3+-, ME

30+72.71, 3.97'L
FG=5522.1+-, ME

EXISTING
EDGE OF
PAVEMENT

10+27.87, 5.00'R
TR=5522.49

EDGE OF
RIPRAP
LINING

10+29.49, 15.63'R
FG=5524.3+-, ME

STA:10+15.41
OFF:29.18'R
TR=5524.6+-, MATCH EXISTING

10+27.87, 24.14'L
FG=5526.3+-, ME

STA:10+11.93
OFF:25.60'R
TR=5523.6+-, MATCH EXISTING

10+18.98, 15.00'L
TR=5524.69

10+14.88, 9.59'R
TR=5524.95

STA:10+10.03
OFF:24.33'R
TR=5523.6+-, MATCH EXISTING

10+08.01, 18.70'R
TR=5525.06

E BRECKENRIDGE ST

TRUE
NORTH

0 30' 60'

A1 GRADING PLAN - AREA 4

GENERAL NOTES

1. SEE SPECIFICATION SECTION 02 61 13 EXCAVATION AND HANDLING OF CONTAMINATED MATERIAL FOR HANDLING OF CONTAMINATED SOIL.
2. SEE CS125-126 FOR HORIZONTAL CONTROL LINE (HCL) GEOMETRY SUMMARY DATA.

KEY NOTES

1. PAVING ASSOCIATED WITH UTILITY TRENCHING. PROPOSED TOP OF ASPHALT/CONCRETE TO BE FLUSH WITH EXISTING PAVEMENT AT CONNECTION POINT. TOP OF PAVEMENT PROFILE TO BE SMOOTH AND CONTINUOUS ACROSS PATCH AND SHALL NOT CONTAIN ANY HUMPS OR HIGH POINTS.

LEGEND

- EXISTING CONTOUR (MINOR)
- EXISTING CONTOUR (MAJOR)
- PROPOSED CONTOUR (MINOR)
- PROPOSED CONTOUR (MAJOR)
- 22.1% PROPOSED SURFACE SLOPE

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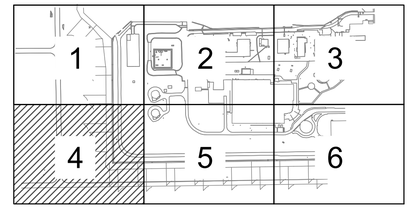
KEY PLAN



TRUE
NORTH

SCALE:1" = 400'

US Army Corps of Engineers®

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1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

GRADING PLAN - AREA 4

SHEET ID
CG104

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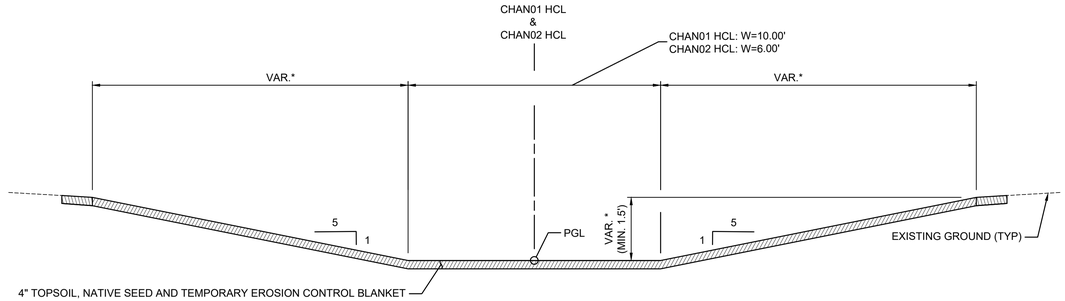


CHAN01 & CHAN02 HCL TYPICAL SECTION

CHAN01 HCL: 10+60.6 TO 17+78.9
CHAN02 HCL: 30+72.7 TO 34+83.8

NOTES
1. SEE CS101-104 FOR SITE PLANS.
2. SEE CG302 FOR PROFILES.

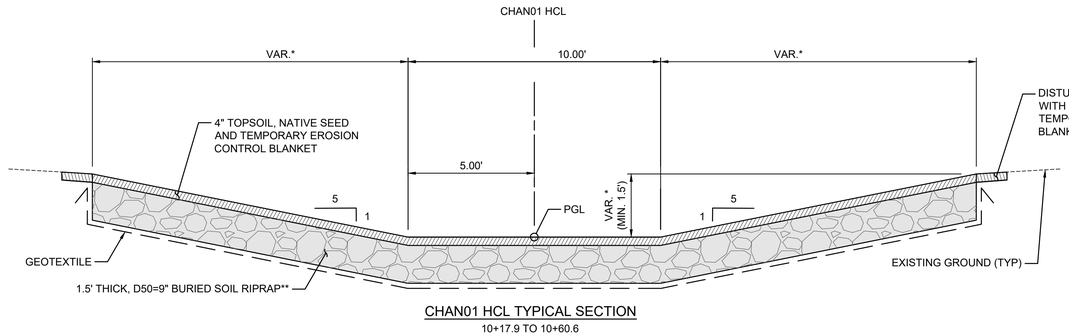
* SEE CG101-103 FOR DESIGN ELEVATIONS OF TOP OF CUT LINES.

** SOIL RIPRAP NOTES

1.1. WHERE SOIL RIPRAP IS DESIGNATED ON THE CONSTRUCTION DRAWINGS, RIPRAP VOIDS ARE TO BE FILLED WITH NATIVE SOIL AT THE FOLLOWING PROPORTIONS BY VOLUME: 65% RIPRAP AND 35% SOIL. THE SOIL USED FOR MIXING SHALL BE NATIVE TOPSOIL AND SHALL HAVE A MINIMUM FINES CONTENT OF 15%. THE SOIL RIPRAP SHALL BE INSTALLED IN A MANNER THAT RESULTS IN A DENSE, INTERLOCKED LAYER OF RIPRAP WITH VOIDS FILLED COMPLETELY WITH SOIL. SEGREGATION OF MATERIALS SHALL BE AVOIDED AND IN NO CASE SHALL THE COMBINED MATERIAL CONSIST OF PRIMARILY SOIL; THE DENSITY AND INTERLOCKING NATURE OF RIPRAP IN THE MIXED MATERIAL SHALL ESSENTIALLY BE THE SAME AS IF THE RIPRAP WAS PLACED WITHOUT SOIL.

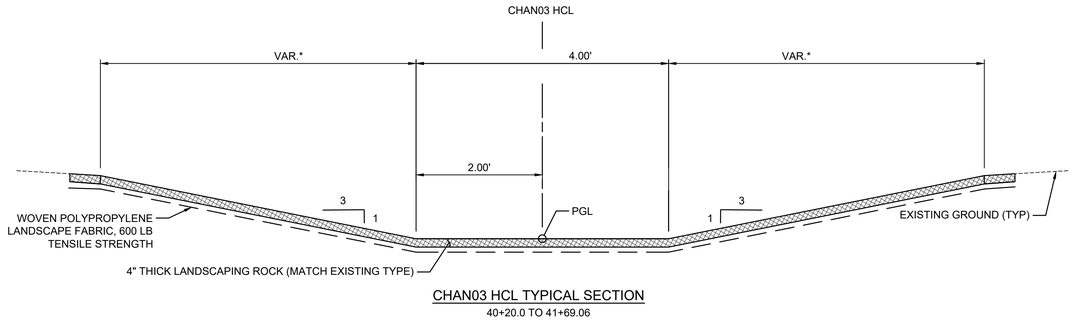
1.2. WHERE SPECIFIED, "BURIED SOIL RIPRAP", A 4" THICK SURFACE LAYER OF TOPSOIL SHALL BE PLACED OVER THE SOIL RIPRAP. THE TOPSOIL SHALL BE COMPACTED TO 85% OF MAXIMUM DENSITY AND WITH 2 PERCENTAGE POINTS OF OPTIMUM MOISTURE IN ACCORDANCE WITH ASTM D698. TOPSOIL SHALL BE ADDED TO ANY AREAS THAT SETTLE.

1.3. ALL SOIL SOIL RIPRAP THAT IS BURIED SHALL BE REVIEWED AND APPROVED BY THE FIELD ENGINEER PRIOR TO TOPSOIL PLACEMENT.



CHAN01 HCL TYPICAL SECTION

10+17.9 TO 10+60.6



CHAN03 HCL TYPICAL SECTION

40+20.0 TO 41+69.06

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CHANNEL TYPICAL SECTION

SHEET ID

CG201

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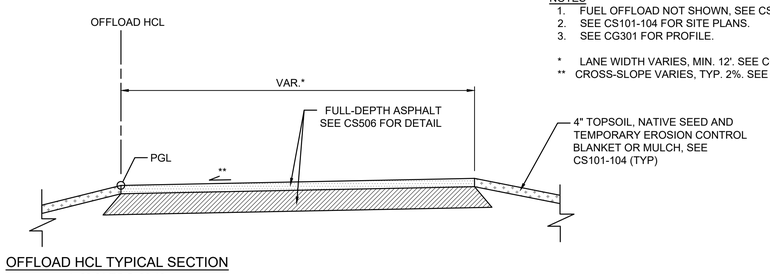

OFFLOAD HCL TYPICAL SECTION

1+68.61 TO 5+08.19

NOTES

1. FUEL OFFLOAD NOT SHOWN, SEE CS501 FOR DETAIL.
2. SEE CS101-104 FOR SITE PLANS.
3. SEE CG301 FOR PROFILE.

* LANE WIDTH VARIES, MIN. 12'. SEE CG101 AND CS101.
** CROSS-SLOPE VARIES, TYP. 2%. SEE CG101.

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ROADWAY TYPICAL SECTION

SHEET ID

CG202

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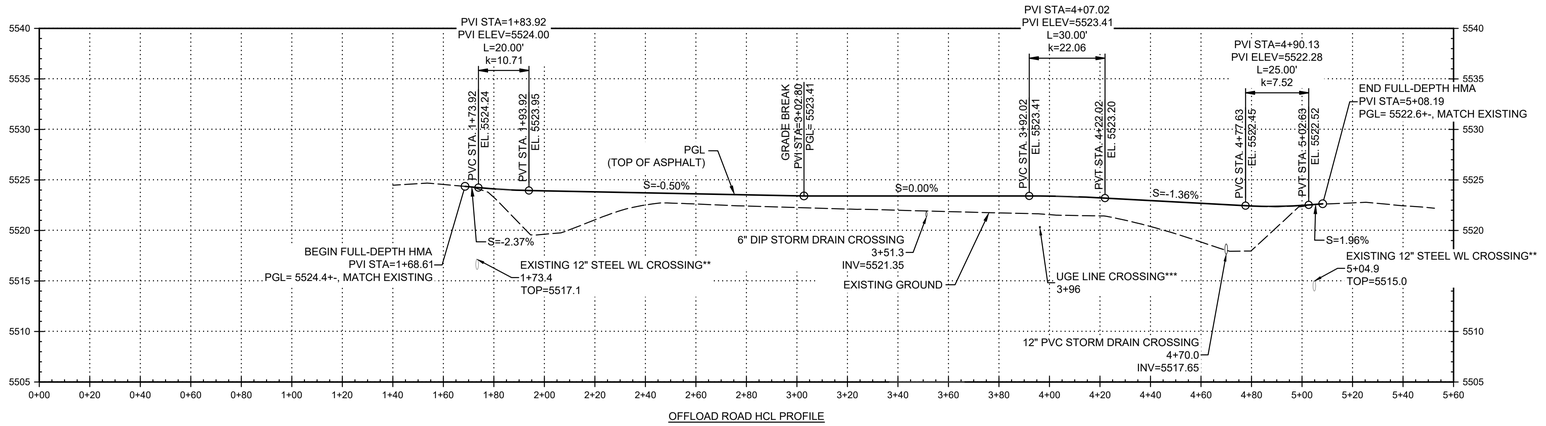

OFFLOAD ROAD HCL PROFILE

**DEPTH AND TYPE OF EXISTING UTILITY BASED ON POTHOLING DATA PRESENTED IN VF SERIES. CONTRACTOR RESPONSIBLE FOR VERIFYING LOCATION AND PROTECTING IN PLACE ALL EXISTING UTILITIES NOT SHOWN TO BE REMOVED.
***SEE CU, ES, AND MS SUBSET FOR PROPOSED UTILITY DESIGN. LOCATION SHOWN IS APPROXIMATE.

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ROADWAY PROFILE

SHEET ID

CG301

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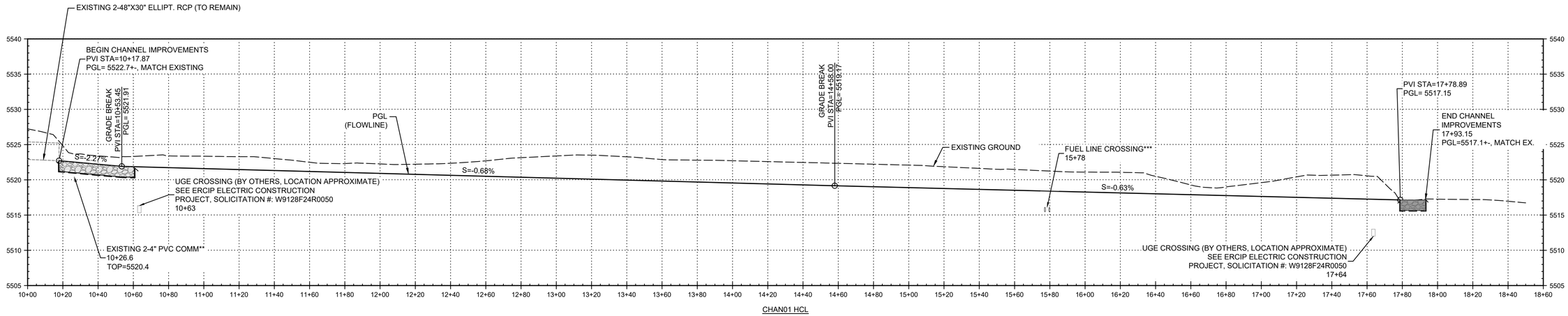
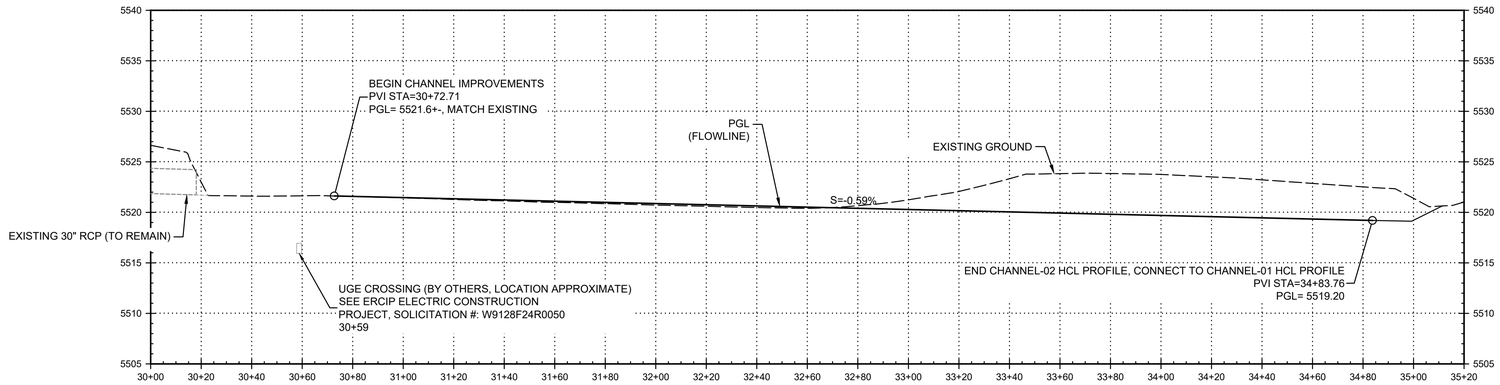


CHAN01 HCL



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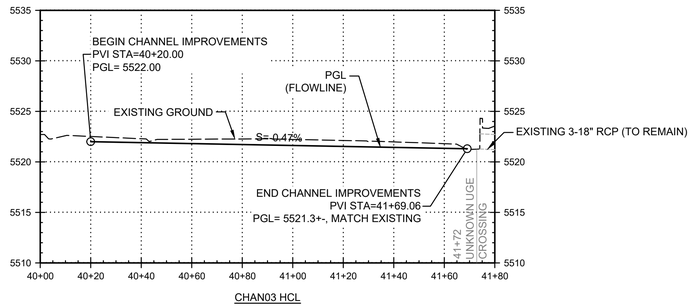

CHAN03 HCL

**DEPTH AND TYPE OF EXISTING UTILITY BASED ON POTHOLING DATA PRESENTED IN VF SERIES. CONTRACTOR RESPONSIBLE FOR VERIFYING LOCATION AND PROTECTING IN PLACE ALL EXISTING UTILITIES NOT SHOWN TO BE REMOVED.
***SEE CU, ES, AND MS SUBSET FOR PROPOSED UTILITY DESIGN. LOCATION SHOWN IS APPROXIMATE.

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CHANNEL PROFILES

SHEET ID

CG302

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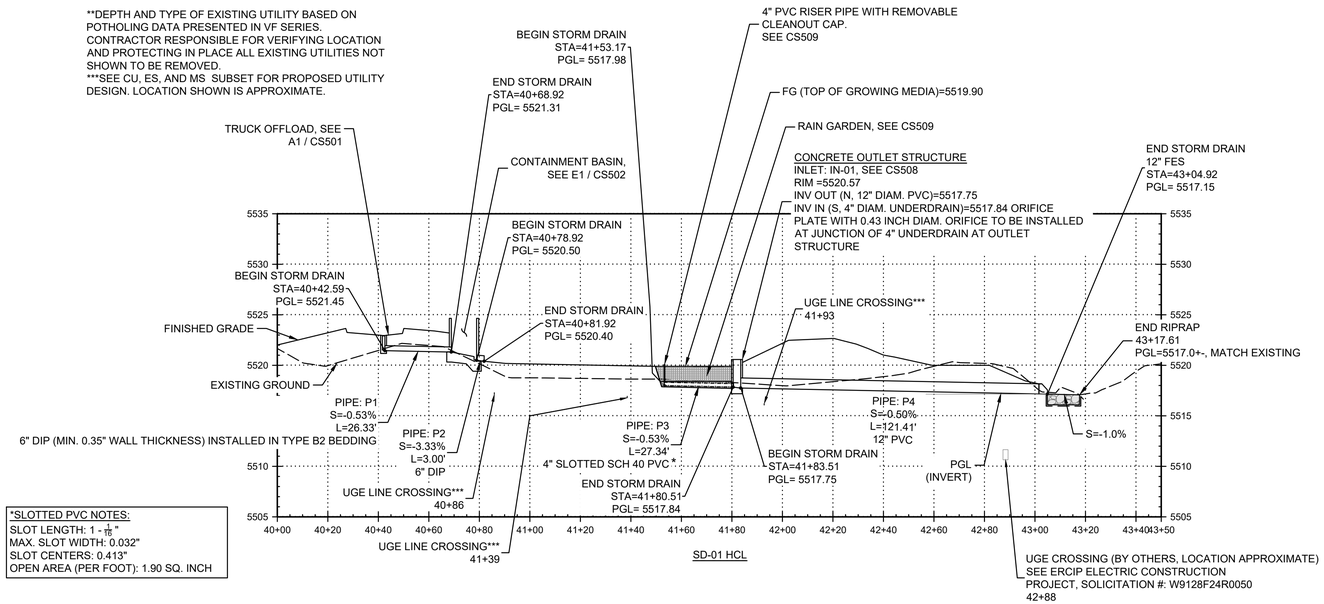
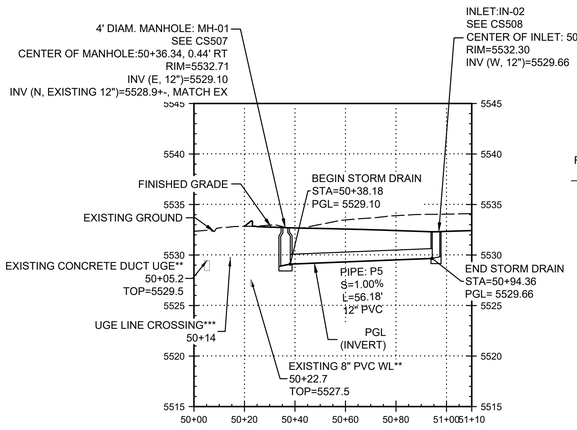
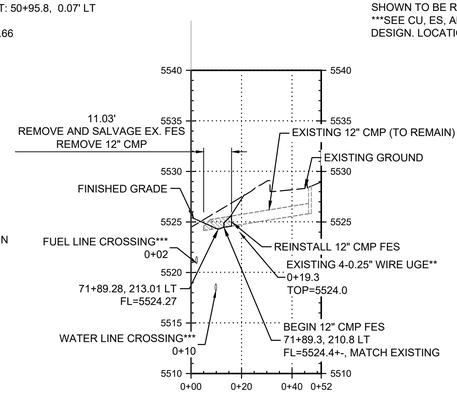


*SLOTTED PVC NOTES:
SLOT LENGTH: 1 - $\frac{1}{16}$"
MAX. SLOT WIDTH: 0.032"
SLOT CENTERS: 0.413"
OPEN AREA (PER FOOT): 1.90 SQ. INCH





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***SEE CU, ES, AND MS SUBSET FOR PROPOSED UTILITY DESIGN. LOCATION SHOWN IS APPROXIMATE.

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STORM DRAIN PROFILES

SHEET ID
CG303

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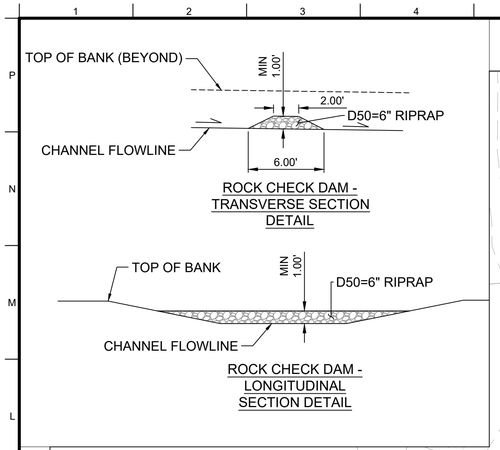
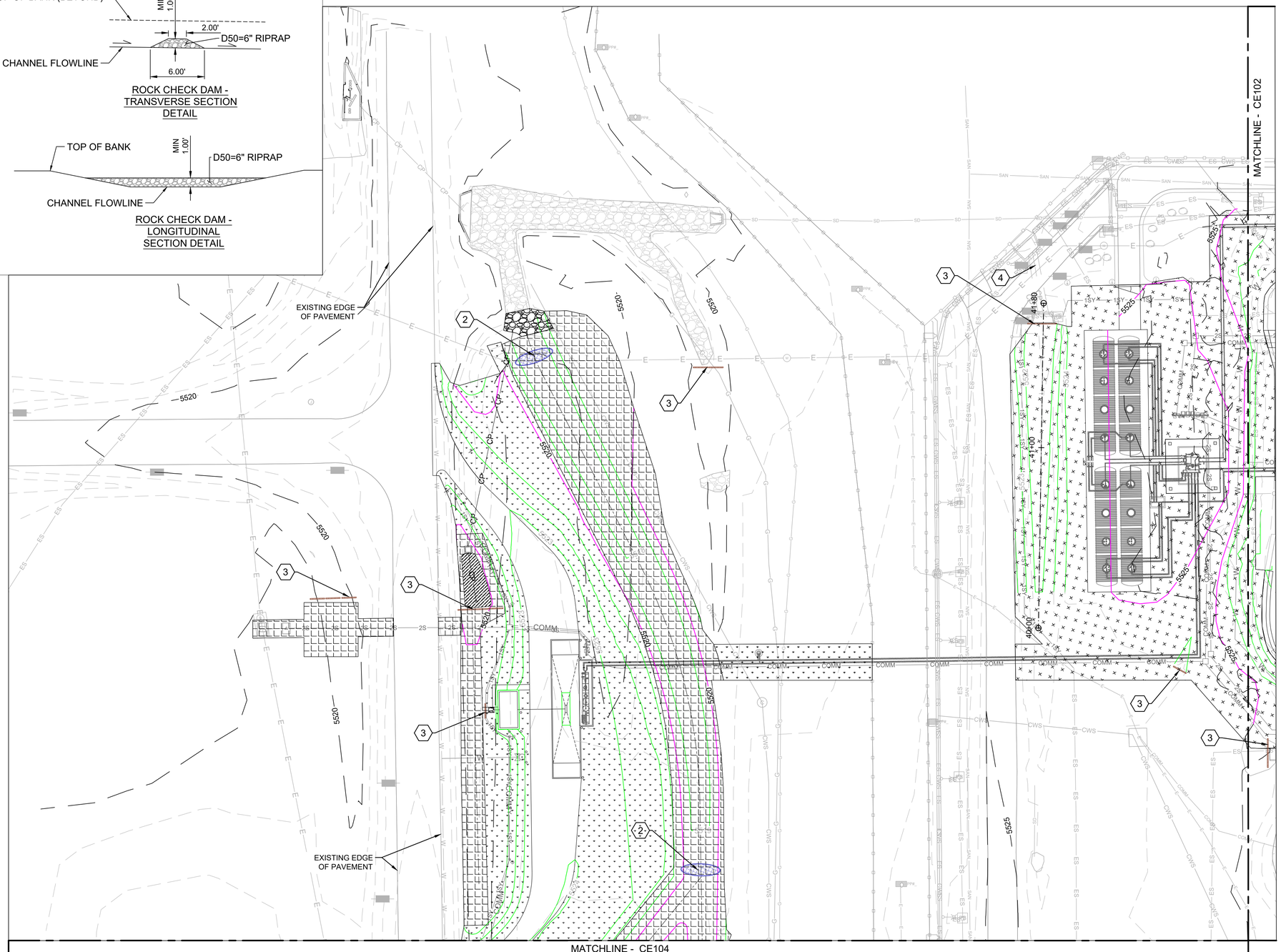




A1 SEDIMENT & EROSION CONTROL PLAN - AREA 1

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. SEE CG100-104 FOR PROPOSED GRADING INFORMATION.
2. SEE CS100-104 FOR PAVING INFORMATION.
3. CONTRACTOR RESPONSIBLE FOR RESTORING BACK TO ORIGINAL CONDITION ANY AREAS DISTURBED BEYOND THOSE SHOWN.
4. THE PLAN SHOWN INDICATES A SINGLE PHASE OF SEDIMENT CONTROL DEVICES. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING AND MODIFYING AS NECESSARY INCLUDING INSTALLING SEDIMENT CONTROL DEVICES NOT SHOWN TO AVOID EROSION AND TRACKING MUD ON ROADWAYS THROUGHOUT THE DURATION OF CONSTRUCTION.
5. CONTRACTOR RESPONSIBLE FOR AVOIDING TRACKING SOIL/MUD FROM THE CONSTRUCTION SITE TO THE ROADWAY. ANY TRACKED SOIL SHALL BE REMOVED IMMEDIATELY.

KEY NOTES

1. INLET PROTECTION
2. TEMPORARY ROCK CHECK DAM STRUCTURE, SEE DETAIL CE101
3. TEMPORARY EROSION CONTROL LOG
4. CLEAN CULVERT
5. CLEAN CONCRETE U-CHANNEL

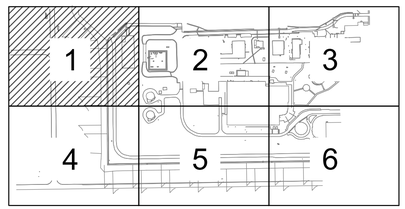
LEGEND

- LANDSCAPE ROCK
- NATIVE SEEDING AND MULCH
- RIPRAP
- NATIVE SEEDING AND TEMPORARY EROSION CONTROL BLANKET
- RAINGARDEN INFILTRATION MEDIA SEE CS509
- EROSION CONTROL LOG
- TEMPORARY ROCK CHECK STRUCTURE
- INLET PROTECTION
- EXISTING CONTOUR (MINOR)
- EXISTING CONTOUR (MAJOR)
- PROPOSED CONTOUR (MINOR)
- PROPOSED CONTOUR (MAJOR)

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



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SEDIMENT & EROSION CONTROL PLAN - AREA 1

SHEET ID
CE101

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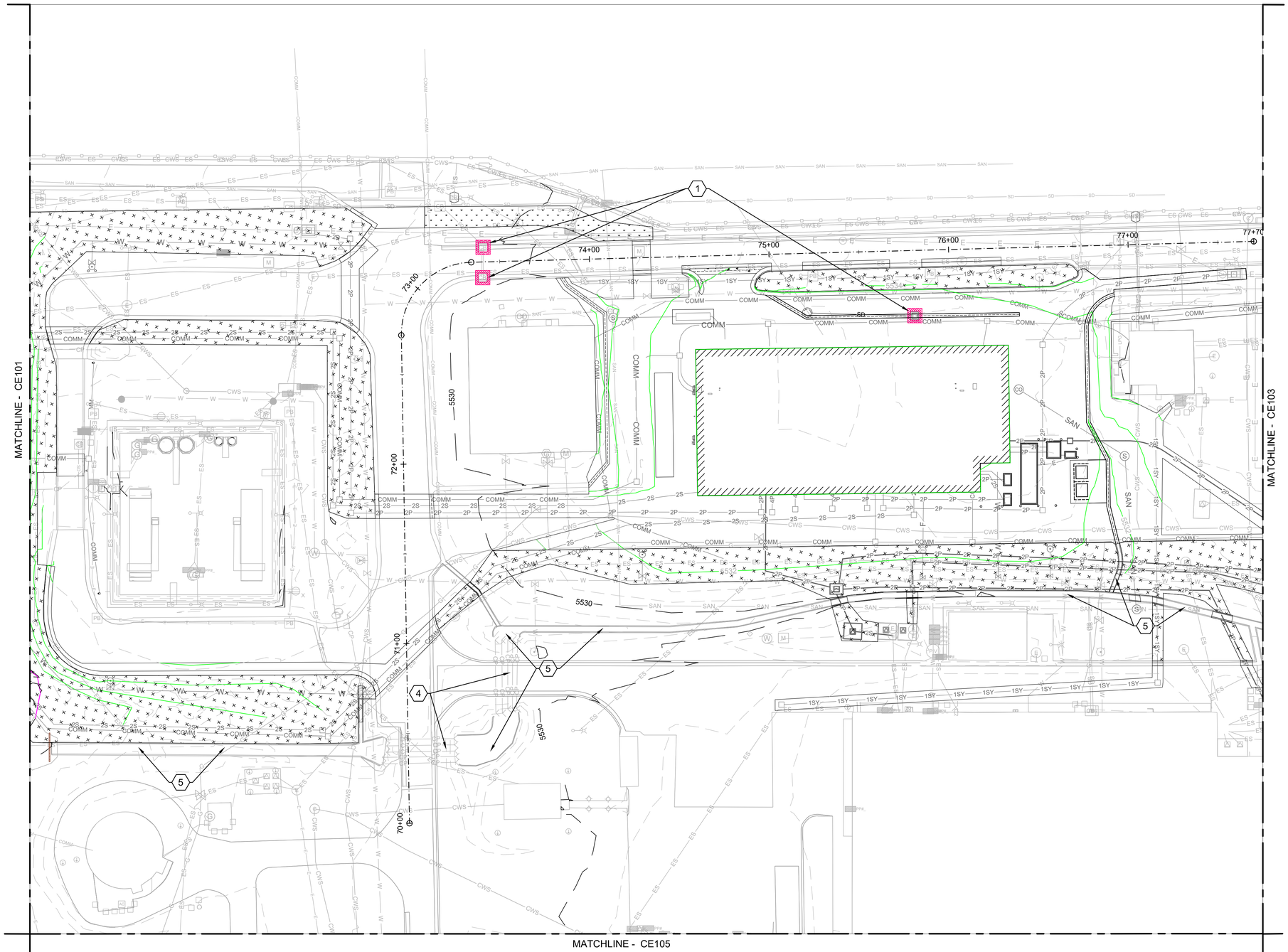


GENERAL NOTES

1. SEE CG100-104 FOR PROPOSED GRADING INFORMATION.
2. SEE CS100-104 FOR PAVING INFORMATION.
3. CONTRACTOR RESPONSIBLE FOR RESTORING BACK TO ORIGINAL CONDITION ANY AREAS DISTURBED BEYOND THOSE SHOWN.
4. THE PLAN SHOWN INDICATES A SINGLE PHASE OF SEDIMENT CONTROL DEVICES. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING AND MODIFYING AS NECESSARY INCLUDING INSTALLING SEDIMENT CONTROL DEVICES NOT SHOWN TO AVOID EROSION AND TRACKING MUD ON ROADWAYS THROUGHOUT THE DURATION OF CONSTRUCTION.
5. CONTRACTOR RESPONSIBLE FOR AVOIDING TRACKING SOIL/MUD FROM THE CONSTRUCTION SITE TO THE ROADWAY. ANY TRACKED SOIL SHALL BE REMOVED IMMEDIATELY.

KEY NOTES

1. INLET PROTECTION
2. TEMPORARY ROCK CHECK DAM STRUCTURE, SEE DETAIL CE101
3. TEMPORARY EROSION CONTROL LOG
4. CLEAN CULVERT
5. CLEAN CONCRETE U-CHANNEL

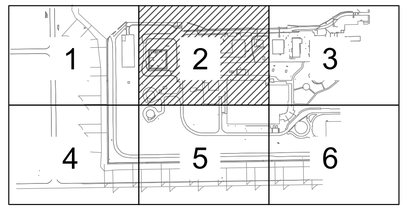
LEGEND

- LANDSCAPE ROCK
- NATIVE SEEDING AND MULCH
- RIPRAP
- NATIVE SEEDING AND TEMPORARY EROSION CONTROL BLANKET
- RAINGARDEN INFILTRATION MEDIA SEE CS509
- EROSION CONTROL LOG
- TEMPORARY ROCK CHECK STRUCTURE
- INLET PROTECTION
- EXISTING CONTOUR (MINOR)
- EXISTING CONTOUR (MAJOR)
- PROPOSED CONTOUR (MINOR)
- PROPOSED CONTOUR (MAJOR)

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



A1 SEDIMENT & EROSION CONTROL PLAN - AREA 2

TRUE NORTH

0 30' 60'

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SEDIMENT & EROSION CONTROL PLAN - AREA 2

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CE102

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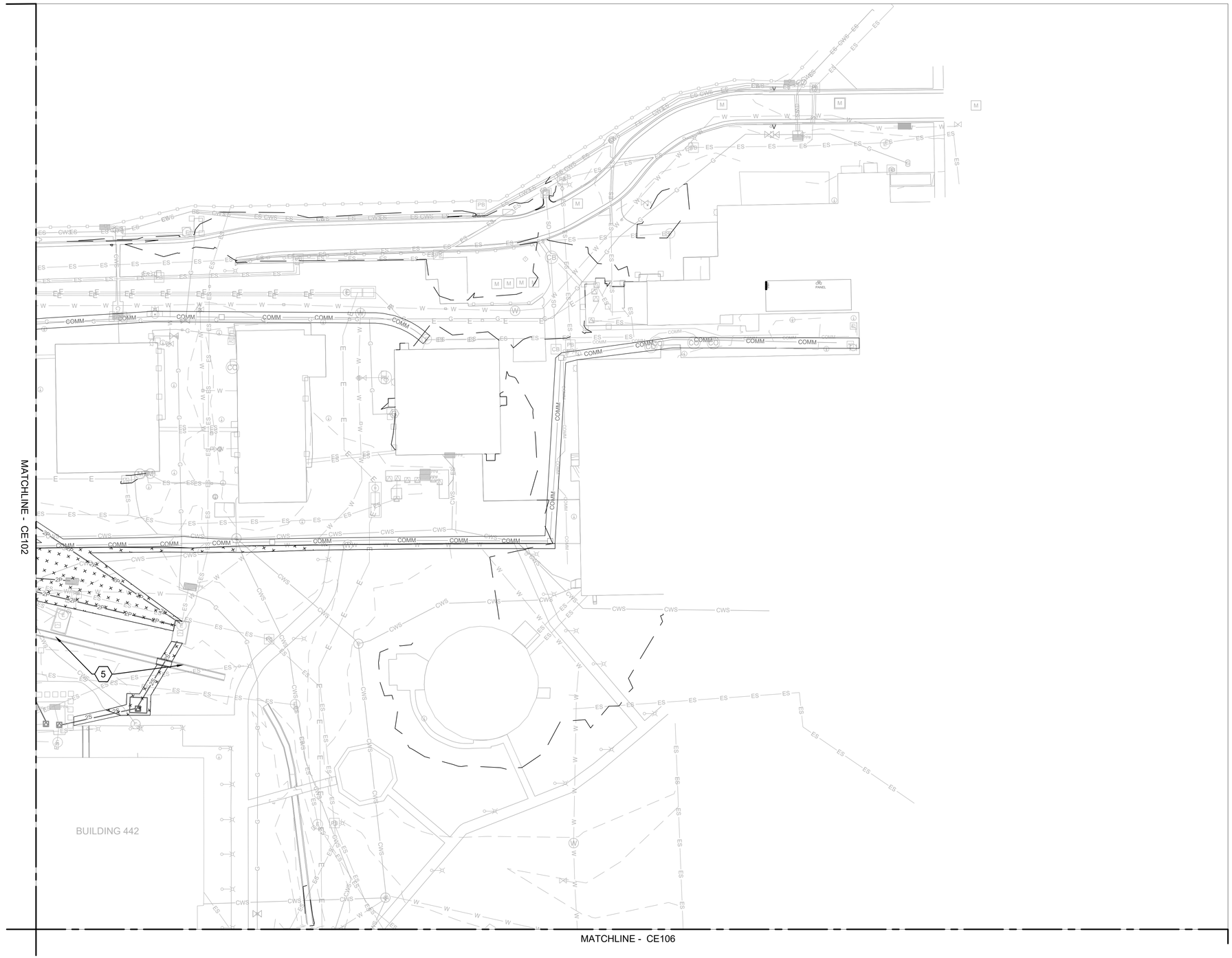


A1 SEDIMENT & EROSION CONTROL PLAN - AREA 3

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. SEE CG100-104 FOR PROPOSED GRADING INFORMATION.
2. SEE CS100-104 FOR PAVING INFORMATION.
3. CONTRACTOR RESPONSIBLE FOR RESTORING BACK TO ORIGINAL CONDITION ANY AREAS DISTURBED BEYOND THOSE SHOWN.
4. THE PLAN SHOWN INDICATES A SINGLE PHASE OF SEDIMENT CONTROL DEVICES. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING AND MODIFYING AS NECESSARY INCLUDING INSTALLING SEDIMENT CONTROL DEVICES NOT SHOWN TO AVOID EROSION AND TRACKING MUD ON ROADWAYS THROUGHOUT THE DURATION OF CONSTRUCTION.
5. CONTRACTOR RESPONSIBLE FOR AVOIDING TRACKING SOIL/MUD FROM THE CONSTRUCTION SITE TO THE ROADWAY. ANY TRACKED SOIL SHALL BE REMOVED IMMEDIATELY.

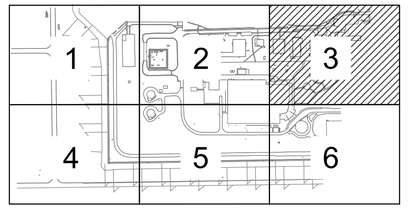
KEY NOTES

1. INLET PROTECTION
2. TEMPORARY ROCK CHECK DAM STRUCTURE, SEE DETAIL CE101
3. TEMPORARY EROSION CONTROL LOG
4. CLEAN CULVERT
5. CLEAN CONCRETE U-CHANNEL

LEGEND

- LANDSCAPE ROCK
- NATIVE SEEDING AND MULCH
- RIPRAP
- NATIVE SEEDING AND TEMPORARY EROSION CONTROL BLANKET
- RAINGARDEN INFILTRATION MEDIA SEE CS509
- EROSION CONTROL LOG
- TEMPORARY ROCK CHECK STRUCTURE
- INLET PROTECTION
- EXISTING CONTOUR (MINOR)
- EXISTING CONTOUR (MAJOR)
- PROPOSED CONTOUR (MINOR)
- PROPOSED CONTOUR (MAJOR)

KEY PLAN



TRUE NORTH

SCALE:1" = 400'

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OMAHA, NE 68102

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SEDIMENT & EROSION CONTROL PLAN - AREA 3

SHEET ID

CE103

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MATCHLINE - CE101

EXISTING EDGE OF PAVEMENT

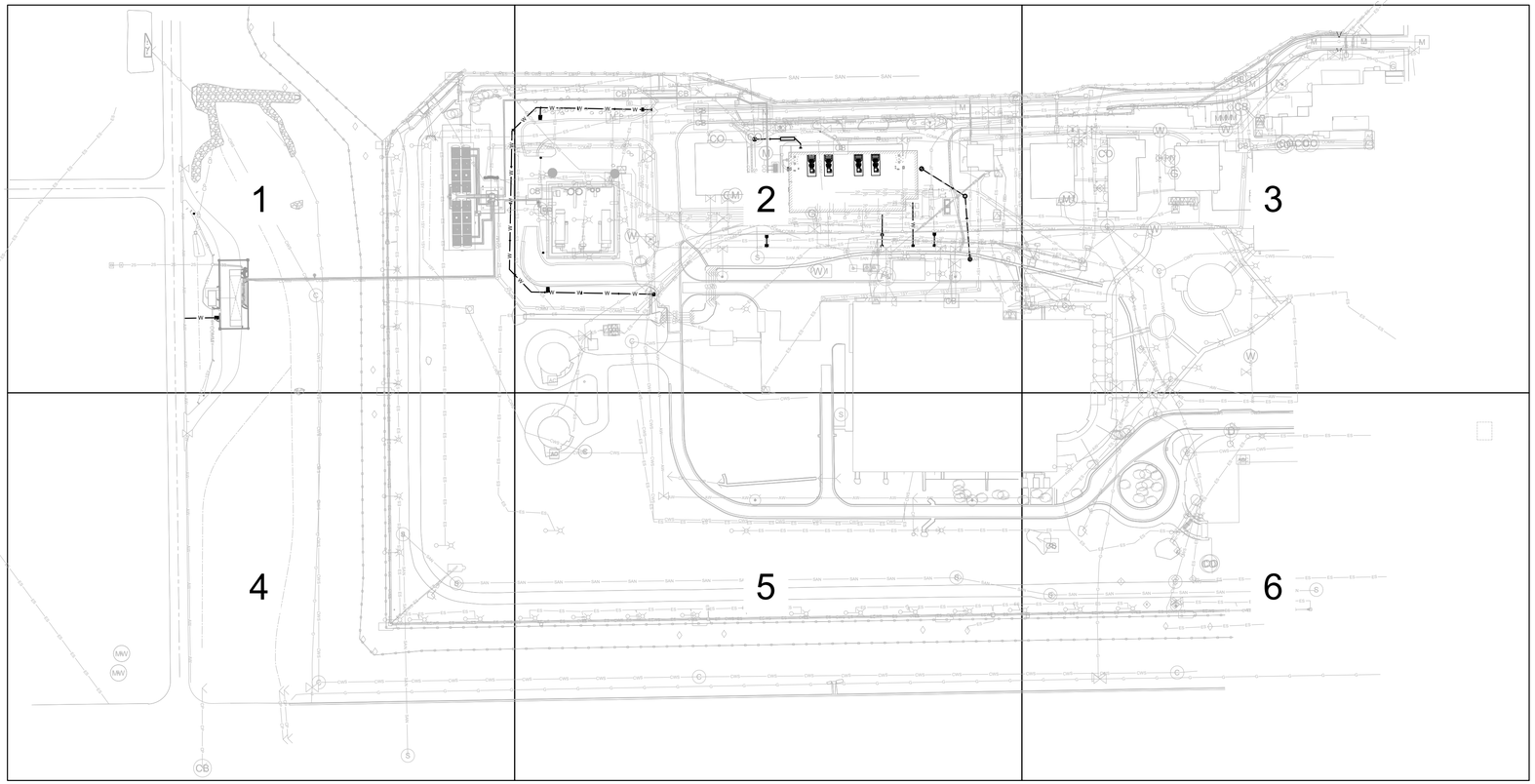
EXISTING EDGE OF PAVEMENT

5520

5525

5525

5525



GENERAL NOTES

1. ADJUST THE ELEVATIONS OF UTILITY VALVES IN AREAS OF REGRADING.
2. ACTUAL SIZE OF OIL/WATER SEPARATOR AND WASTE OIL TANK TO BE DETERMINED BY MANUFACTURER. SEE SPECIFICATION SECTION 46 25 14.

KEY NOTES

1. CONSTRUCT 3" WATER SERVICE LINE WITH SERVICE TAP ASSEMBLY.
2. CONSTRUCT PVC SANITARY SEWER LINE. REFER TO SHEET CU301 PROFILE A1.
3. INSTALL 4" SANITARY SEWER CLEANOUT.
4. CONSTRUCT 48" SANITARY SEWER MANHOLE.
5. CONSTRUCT 4" INDUSTRIAL WASTE LINE. REFER TO SHEET CU301 PROFILE A8.
6. CONSTRUCT 4" SANITARY SEWER LINE.
7. INSTALL UNDERGROUND OIL/WATER SEPARATOR AND WASTE OIL TANK. SEE SHEET CU503 FOR DETAILS.
8. CONSTRUCT 8" PVC WATERLINE. SEE SHEETS CU101 AND CU102.
9. TIE INTO EXISTING 8" STEEL WATERLINE (CUT AND TEE). PROVIDE THRUST BLOCKING. SEE SHEET CU501 FOR DETAILS.
10. INSTALL FIRE HYDRANT WITH 6" SERVICE TAP ASSEMBLY. SEE SHEET CU501 DETAIL G17.
11. CONSTRUCT 6" PVC FIRE PROTECTION LINE WITH SERVICE TAP ASSEMBLY.
12. INSTALL POST INDICATOR VALVE (PIV).

A1 UTILITY PLAN - OVERVIEW

TRUE NORTH

0 100' 200'

US Army Corps of Engineers®

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DRAWN BY: K.BERGER
CHECKED BY: Q.LE
SUBMITTED BY: OWENS
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
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UTILITY PLAN OVERVIEW

SHEET ID
CU100

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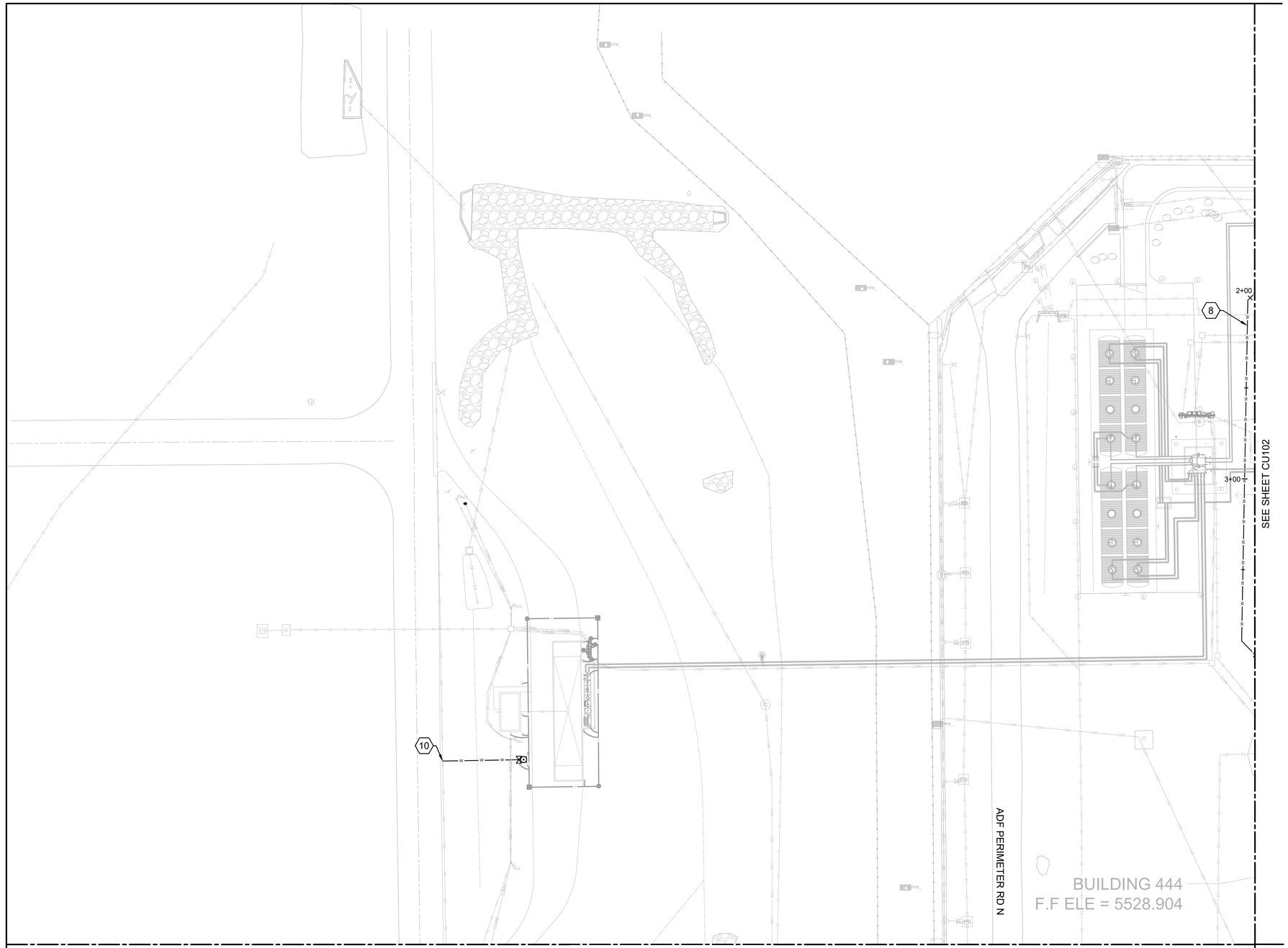


A1 UTILITY PLAN - AREA 1

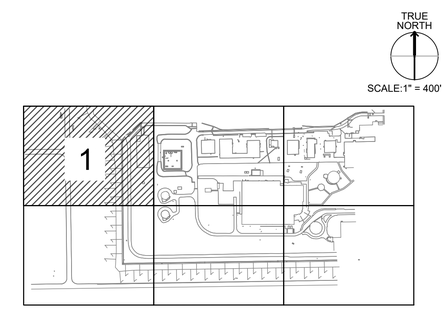
GENERAL NOTES

1. ADJUST THE ELEVATIONS OF UTILITY VALVES IN AREAS OF REGRADING.
2. ACTUAL SIZE OF OIL/WATER SEPARATOR AND WASTE OIL TANK TO BE DETERMINED BY MANUFACTURER. SEE SPECIFICATION SECTION 46 25 14.

KEY NOTES

1. CONSTRUCT 3" WATER SERVICE LINE WITH SERVICE TAP ASSEMBLY.
2. CONSTRUCT PVC SANITARY SEWER LINE. REFER TO SHEET CU301 PROFILE A1.
3. INSTALL 4" SANITARY SEWER CLEANOUT.
4. CONSTRUCT 48" SANITARY SEWER MANHOLE.
5. CONSTRUCT 4" INDUSTRIAL WASTE LINE. REFER TO SHEET CU301 PROFILE A8.
6. CONSTRUCT 4" SANITARY SEWER LINE.
7. INSTALL UNDERGROUND OIL/WATER SEPARATOR AND WASTE OIL TANK. SEE SHEET CU503 FOR DETAILS.
8. CONSTRUCT 8" PVC WATERLINE. SEE SHEET CU102 FOR CONTINUATION.
9. TIE INTO EXISTING 8" STEEL WATERLINE (CUT AND TEE). PROVIDE THRUST BLOCKING. SEE SHEET CU501 FOR DETAILS.
10. INSTALL FIRE HYDRANT WITH 6" SERVICE TAP ASSEMBLY. SEE SHEET CU501 DETAIL G17.
11. CONSTRUCT 6" PVC FIRE PROTECTION LINE WITH SERVICE TAP ASSEMBLY.
12. INSTALL POST INDICATOR VALVE (PIV).

KEY PLAN



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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9126F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102CU101-102.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

UTILITY PLAN - AREA 1

SHEET ID
CU101

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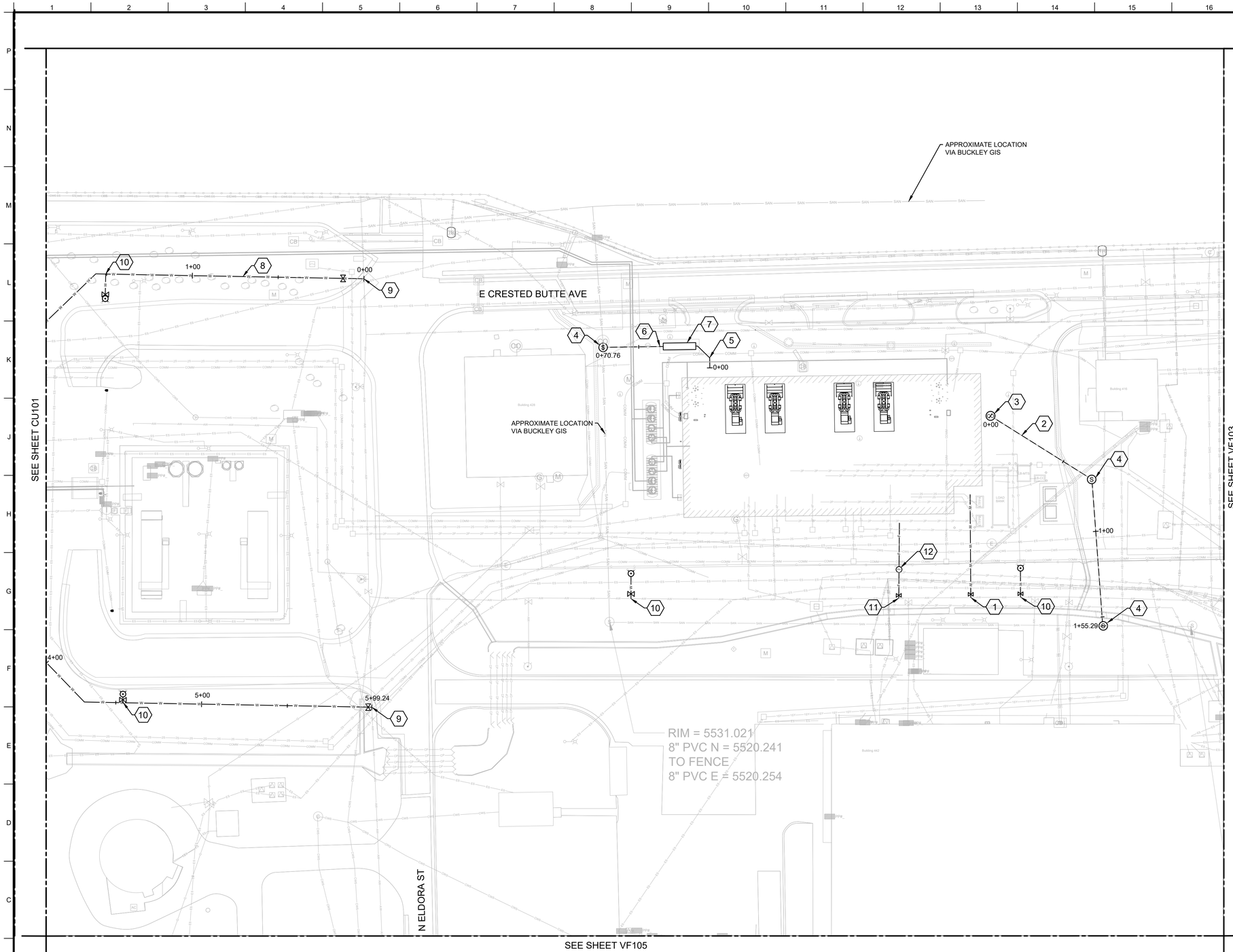


A1 UTILITY PLAN - AREA 2

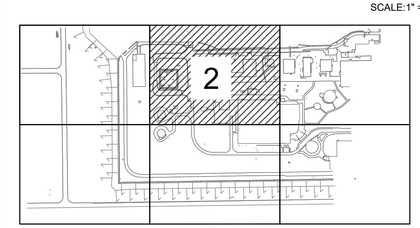
GENERAL NOTES

1. ADJUST THE ELEVATIONS OF UTILITY VALVES IN AREAS OF REGRADING.
2. ACTUAL SIZE OF OIL/WATER SEPARATOR AND WASTE OIL TANK TO BE DETERMINED BY MANUFACTURER. SEE SPECIFICATION SECTION 46 25 14.

KEY NOTES

1. CONSTRUCT 2" WATER SERVICE LINE WITH SERVICE TAP ASSEMBLY.
2. CONSTRUCT PVC SANITARY SEWER LINE. REFER TO SHEET CU301 PROFILE A1.
3. INSTALL 4" SANITARY SEWER CLEANOUT.
4. CONSTRUCT 48" SANITARY SEWER MANHOLE.
5. CONSTRUCT 4" INDUSTRIAL WASTE LINE. REFER TO SHEET CU301 PROFILE A8.
6. CONSTRUCT 4" SANITARY SEWER LINE.
7. INSTALL UNDERGROUND OIL/WATER SEPARATOR AND WASTE OIL TANK. SEE SHEET CU503 FOR DETAILS.
8. CONSTRUCT 8" PVC WATERLINE. SEE SHEET CU101 FOR CONTINUATION.
9. TIE INTO EXISTING 8" STEEL WATERLINE (CUT AND TEE). PROVIDE THRUST BLOCKING. SEE SHEET CU501 FOR DETAILS.
10. INSTALL FIRE HYDRANT WITH 6" SERVICE TAP ASSEMBLY. SEE SHEET CU501 DETAIL G17.
11. CONSTRUCT 6" PVC FIRE PROTECTION LINE WITH SERVICE TAP ASSEMBLY.
12. INSTALL POST INDICATOR VALVE (PIV).

KEY PLAN



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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
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BUCKLEY SFB, COLORADO
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UTILITY PLAN - AREA 2

SHEET ID
CU102

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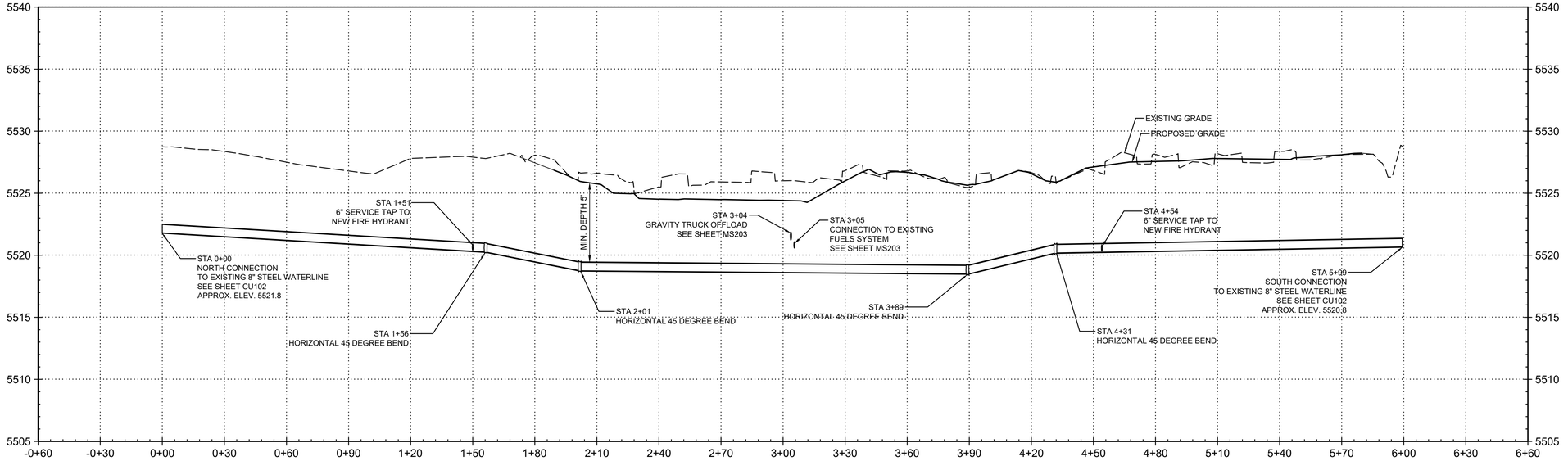
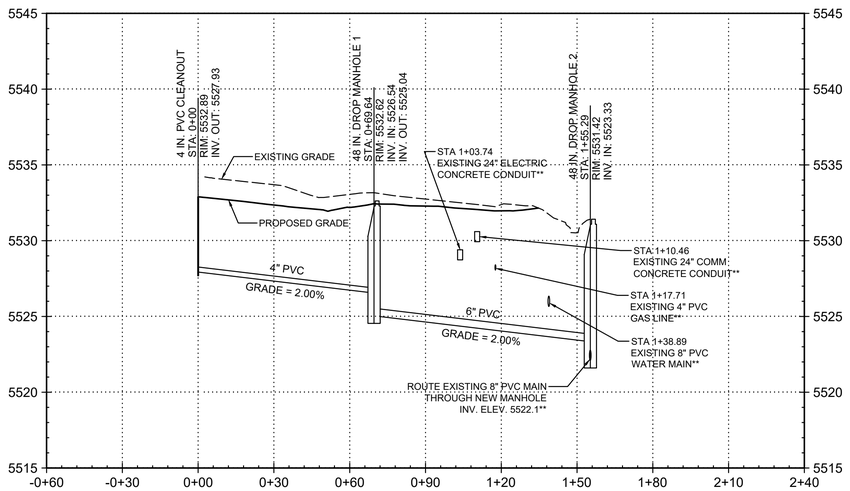
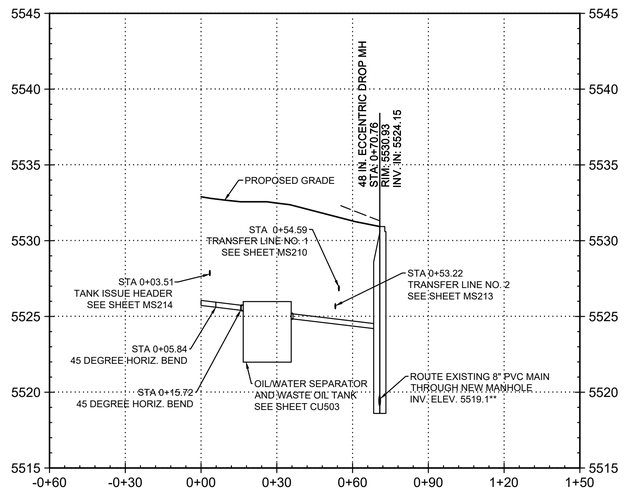


H2 WATERLINE PROFILE



B2 SANITARY SEWER PROFILE

** DEPTH AND TYPE OF EXISTING UTILITY BASED ON POTHOLING DATA PRESENTED IN VF SERIES. CONTRACTOR RESPONSIBLE FOR VERIFYING LOCATION AND PROTECTING IN PLACE ALL EXISTING UTILITIES NOT SHOWN TO BE REMOVED.



B11 INDUSTRIAL WASTE PROFILE

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UTILITY PROFILES

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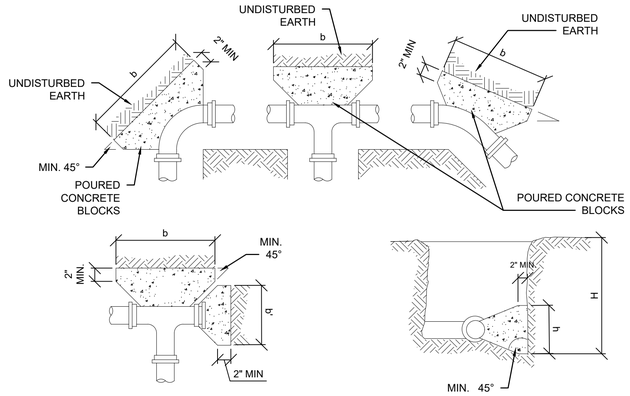


NOTES:

1. PLACE 4 ML. POLYETHYLENE BETWEEN CONCRETE AND FITTING (CONCRETE SHALL NOT INTERFERE WITH JOINT.)
2. MINIMUM CONCRETE THICKNESS SHALL BE 12 INCHES.
3. THE HORIZONTAL DIMENSION (b) OF THE BEARING AREA SHALL BE BETWEEN 1.0 AND 2.0 TIMES THE VERTICAL DIMENSION (h). (h <= b <= 2h)
4. THE VERTICAL DIMENSION (h) OF THE BEARING AREA SHALL BE EQUAL TO ONE-HALF THE TOTAL DEPTH (H) TO THE BOTTOM OF THE THRUST BLOCK BUT NOT LESS THAN THE OUTSIDE DIAMETER (DO) OF THE FITTING (DO < h <= H/2).
5. THRUST BLOCK ORIENTATION SHALL BE SUCH THAT THE CENTER OF THE FITTING CORRESPONDS WITH THE CENTER OF THE THRUST BLOCK.
6. THE MINIMUM ALLOWABLE ANGLE (EITHER VERTICAL OR HORIZONTAL) SHALL BE 45 DEGREES.

TABLE 3: BEARING AREA OF BLOCK IN SQ. FT. (b X h)					
FITTING SIZES	TEE AND END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
6"	5.9	8.4	4.5	2.3	1.2
8"	10.6	14.9	8.1	4.1	2.1
10"	16.5	23.3	12.6	6.4	3.2
12"	23.7	33.6	18.2	9.3	4.7

K2 THRUST BLOCKING
SCALE: NTS

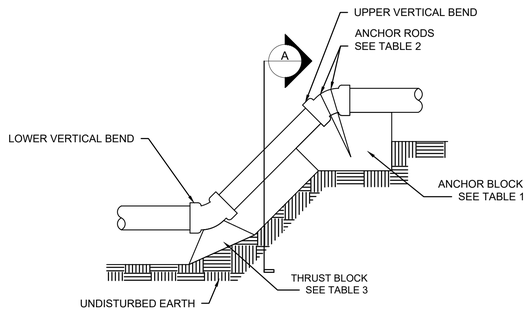


TABLE 1: MINIMUM CONCRETE ANCHOR BLOCK VOLUMES FOR UPPER VERTICAL BENDS (CU.FT.)				
FITTING SIZES	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
6"	98.9	69.9	37.9	4.1
8"	175.8	124.3	67.3	5.5
10"	274.7	194.3	105.1	6.8
12"	395.6	279.8	151.4	8.2

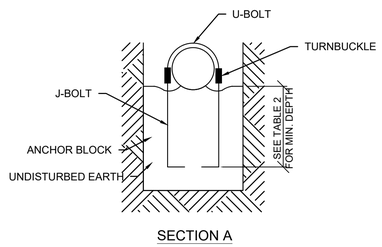
NOTES:

1. PLACE 4 ML. POLYETHYLENE BETWEEN CONCRETE AND FITTING (CONCRETE SHALL NOT INTERFERE WITH JOINT.)
2. MINIMUM CONCRETE THICKNESS SHALL BE 12 INCHES.

TABLE 2: ANCHOR ROD SCHEDULE FOR CONCRETE ANCHOR BLOCKS		
FITTING SIZES	RODS (# AND SIZE)	MIN. EMBEDMENT DEPTH
4"	1 - 3/8"	6"
6"	1 - 3/8"	6"
8"	2 - 1/2"	6"
10"	2 - 1/2"	6"
12"	2 - 5/8"	7"
14"	2 - 3/4"	8"
16"	2 - 3/4"	8"

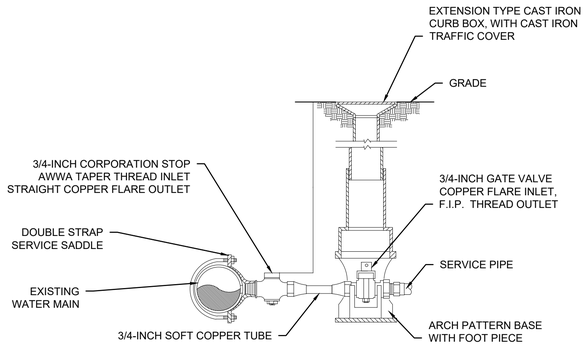
NOTES:

1. PROVIDE TYPE 304 STAINLESS ANCHOR RODS, TURNBUCKLES, U-BOLTS, AND ASSOCIATED HARDWARE

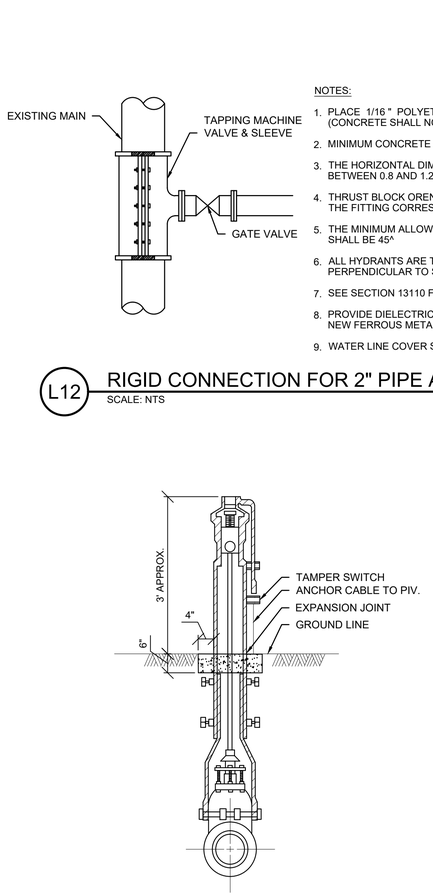


SECTION A

A2 VERTICAL PIPE BEND DETAIL
SCALE: NTS



A6 WATER MAIN CONNNECTION DETAIL
SCALE: NTS

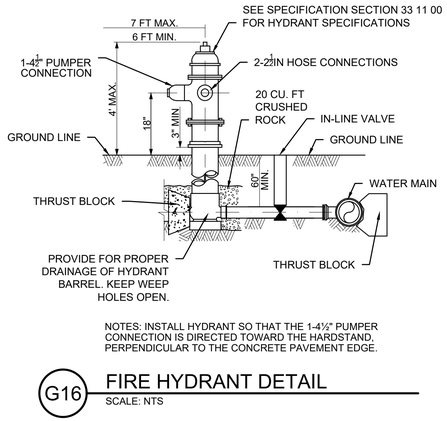


NOTES:

1. PLACE 1/16 " POLYETHYENE BETWEEN CONCRETE AND FITTING (CONCRETE SHALL NOT INTERFERE WITH JOINT.)
2. MINIMUM CONCRETE THICKNESS SHALL BE 12 IN.
3. THE HORIZONTAL DIMENSION OF THE BEARING AREA SHALL BE BETWEEN 0.8 AND 1.25 TIMES THE VERTICAL DIMENTION.
4. THRUST BLOCK ORENTATION SHALL BE SUCH THAT THE CENTER OF THE FITTING CORRESPONDS WITH THE CENTER OF THE THRUST BLOCK.
5. THE MINIMUM ALLOWABLE ANGLE (EITHER VERTICAL OR HORIZONTAL) SHALL BE 45^
6. ALL HYDRANTS ARE TO BE SET WITH PUMPER CONNECTION PERPENDICULAR TO STREET.
7. SEE SECTION 13110 FOR CATHODIC PROTECTION REQUIREMENTS.
8. PROVIDE DIELECTRIC ISOLATION BETWEEN EXISTING AND NEW FERROUS METAL PIPE INSTALL AN INSULATING JOINT TEST STATION.
9. WATER LINE COVER SHALL BE 60" ABOVE TOP OF PIPE.

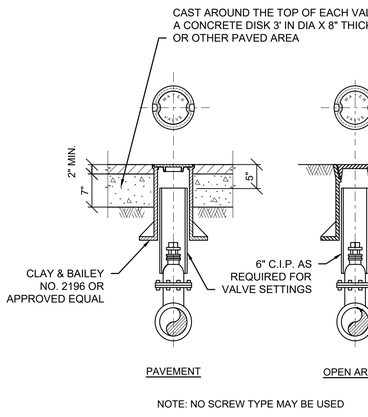
L12 RIGID CONNECTION FOR 2" PIPE AND LARGER
SCALE: NTS

F12 POST INDICATOR VALVE
SCALE: NTS



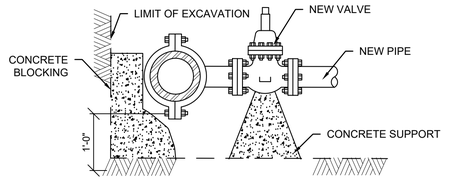
NOTES: INSTALL HYDRANT SO THAT THE 1-4½" PUMPER CONNECTION IS DIRECTED TOWARD THE HARDSTAND, PERPENDICULAR TO THE CONCRETE PAVEMENT EDGE.

G16 FIRE HYDRANT DETAIL
SCALE: NTS



NOTE: NO SCREW TYPE MAY BE USED

A12 VALVE BOX DETAILS
SCALE: NTS



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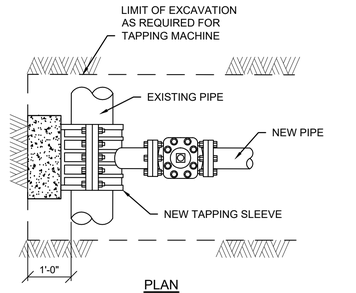

PLAN

A16 TAPPING SLEEVE
SCALE: NTS

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WATER UTILITY DETAILS

SHEET ID
CU501

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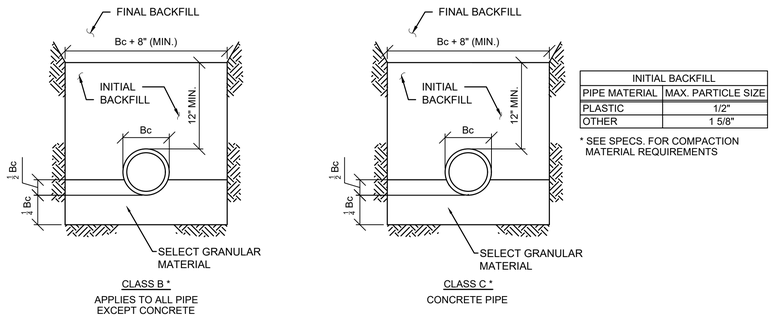


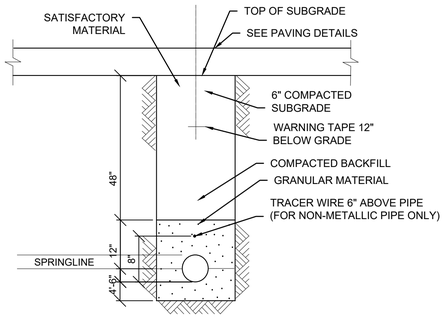
CLASS B *
APPLIES TO ALL PIPE EXCEPT CONCRETE

CLASS C *
CONCRETE PIPE

INITIAL BACKFILL	
PIPE MATERIAL	MAX. PARTICLE SIZE
PLASTIC	1/2"
OTHER	1 5/8"

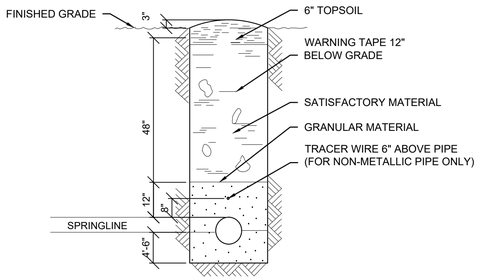
* SEE SPECS. FOR COMPACTION MATERIAL REQUIREMENTS

K1 BEDDING DETAILS
SCALE: NTS

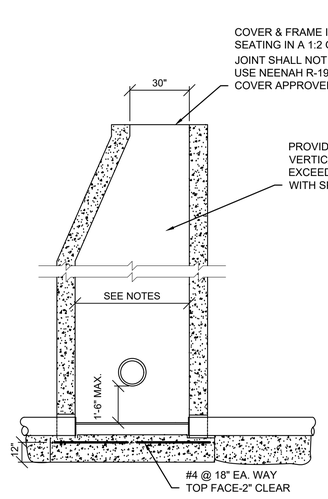


NOTE: PROVIDE TRACER WIRE AND TEST STATIONS FOR ALL NON FERROUS WATER LINES. LOOP WIRE INSIDE TRACER STATION AT VALVES, HYDRANTS AND OTHER ABOVE GROUND FEATURES. TERMINATE WIRE AT DEADENDS AND BUILDINGS.

K10 TRENCH AT PAVEMENT
SCALE: NTS



K16 TYPICAL TRENCH DETAIL
SCALE: NTS



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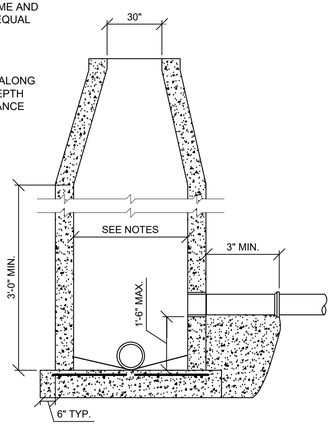

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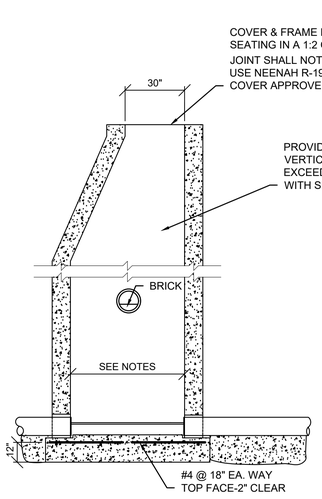

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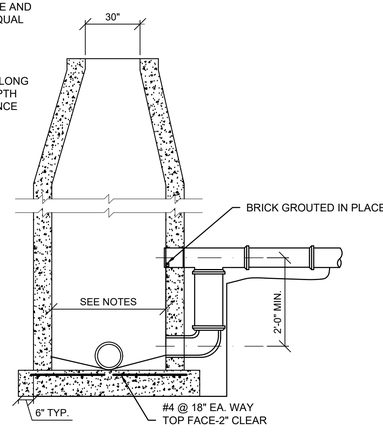

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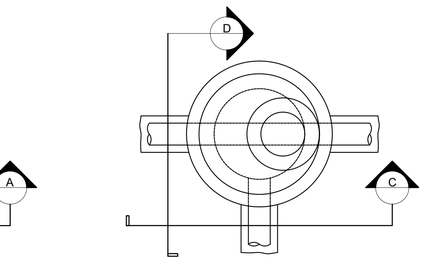


TYPICAL MANHOLE PLAN

DROP MANHOLE PLAN

NOTES:

1. INSIDE DIAMETER OF MANHOLES TO BE 4'-0" FOR PIPE THROUGH 24", 5'-0" FOR PIPE 27" THROUGH 36", AND 6'-0" FOR PIPE 42" THROUGH 48" IN SIZE UNLESS OTHERWISE REQUIRED.

2. ANY MATERIAL EXCAVATED BENEATH PIPE ENTERING OR LEAVING MANHOLES SHALL BE REPLACED WITH CONCRETE. SUCH CONCRETE FILL SHALL EXTEND TO THE CENTER OF THE PIPE FOR A DISTANCE OF AT LEAST 3'-0" FROM FACE OF MANHOLE AND SHALL TERMINATE AT A BELL.

3. COAT OUTSIDE OF ADJUSTING RINGS WITH SEMI-FIBRATED ASPHALT DAMPPROOFING COMPOUND APPLIED BY BRUSH OR SPRAY.

4. WATER STOPS SHOULD BE PROVIDED FOR INLETS AND OUTLETS OF EVERY MANHOLE, DESIGNED FOR TYPE OF PIPE USED AND WITH EXPANSIVE GROUT.

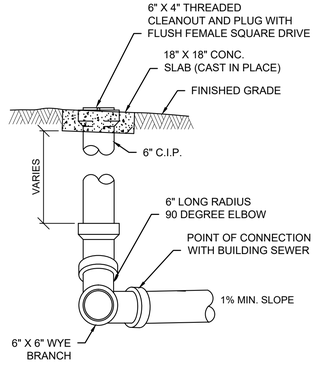
5. NO REINFORCEMENT NEEDED IN BOTTOM SLAB AT DEPTHS UP TO 12'. AT DEPTHS GREATER THAN 12' REINFORCEMENT WITH NO.4 BARS - 12" C-C.

6. ALL BARREL JOINTS ARE TO HAVE 2" MASTIC SEALS.

7. ALL PIPE TO HAVE CONCRETE CRADLE EXTENDING 6 IN PAST PENETRATION OR PAST JOINT WHICHEVER IS LESS.

A1 PRECAST ECCENTRIC SANITARY SEWER MANHOLE DETAILS
SCALE: NTS

PLAN



ELEVATION

NOTE: WHERE SEWER FROM BUILDING DOES NOT MAKE TURN, PLACE SPUR OF WYE BRANCH VERTICAL FOR CLEANOUT AND CONNECT TO BARREL. USE LONG RADIUS BEND TO COMPLETE VERTICAL RISE.

A16 BUILDING SEWER CLEANOUT
SCALE: NTS

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SANITARY SEWER UTILITY DETAILS

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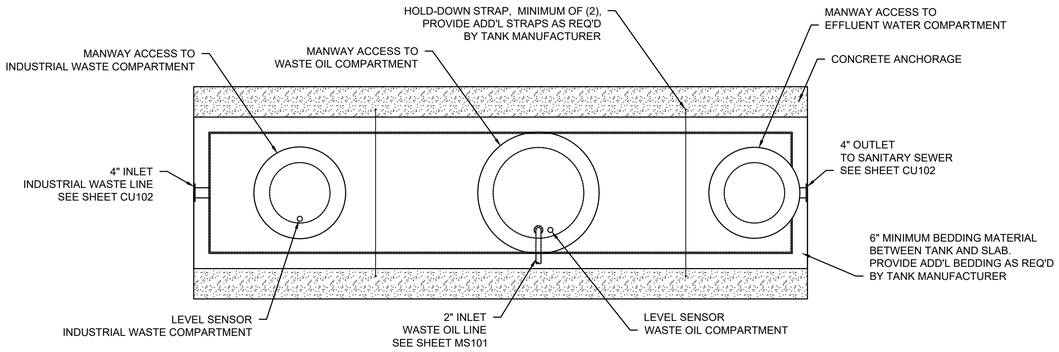
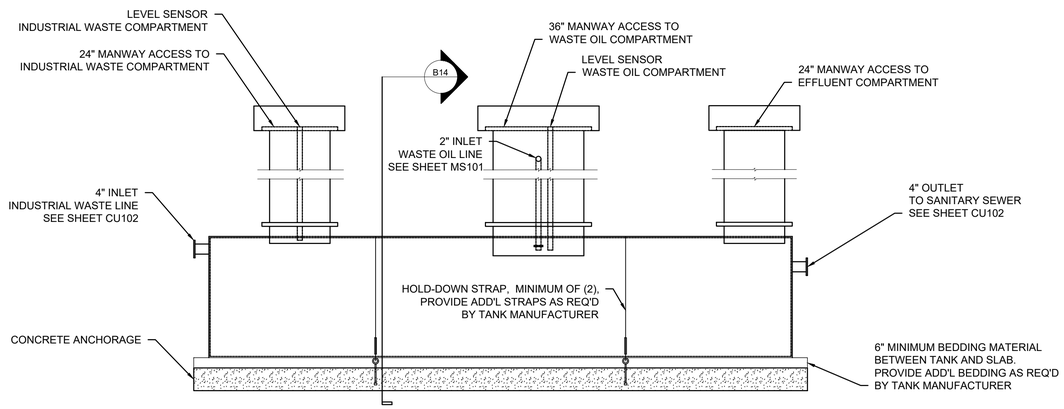


H3 OIL/WATER SEPARATOR AND WASTE OIL TANK PLAN
SCALE: NTS



B3 OIL/WATER SEPARATOR AND WASTE OIL TANK ELEVATION
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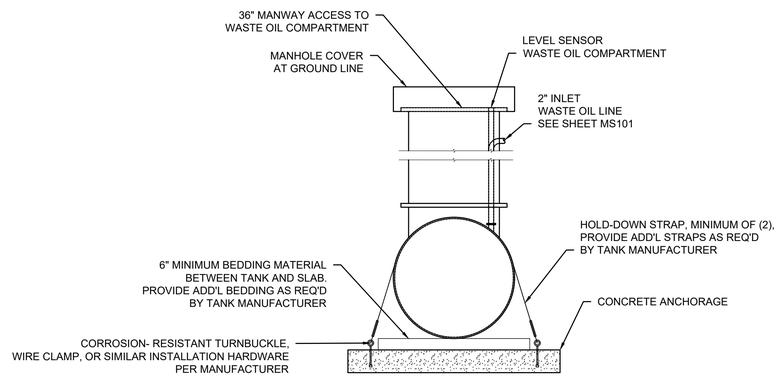

B14 SEPARATOR/TANK SECTION
SCALE: NTS

GENERAL NOTES

1. THIS DRAWING IS INTENDED TO BE A SCHEMATIC ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SELECT AN OIL/WATER SEPARATOR AND WASTE OIL TANK THAT MEETS REQUIREMENTS AND CAPACITIES.
2. REFER TO SPECIFICATION SECTION 46 25 14 FOR SEPARATOR/TANK REQUIREMENTS AND CAPACITIES.
3. PROVIDE ADEQUATE ANCHORAGE FOR THE OIL/WATER SEPARATOR IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.
4. MANWAY ACCESS STRUCTURES MUST BE TRAFFIC RATED.
5. PROVIDE ASPHALT OR CONCRETE AT GROUND SURFACE IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.
6. THE OIL/WATER SEPARATOR AND WASTE OIL TANK MUST COMPLY WITH UNDERGROUND STORAGE TANK REQUIREMENTS AS SPECIFIED IN SECTION 33 56 10.

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: K.BERGER
DRAWN BY: K.BERGER
CHECKED BY: C. LEE
SUBMITTED BY: T. OWENS
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9126F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102CU301.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

OIL WATER SEPARATOR DETAILS

SHEET ID
CU503

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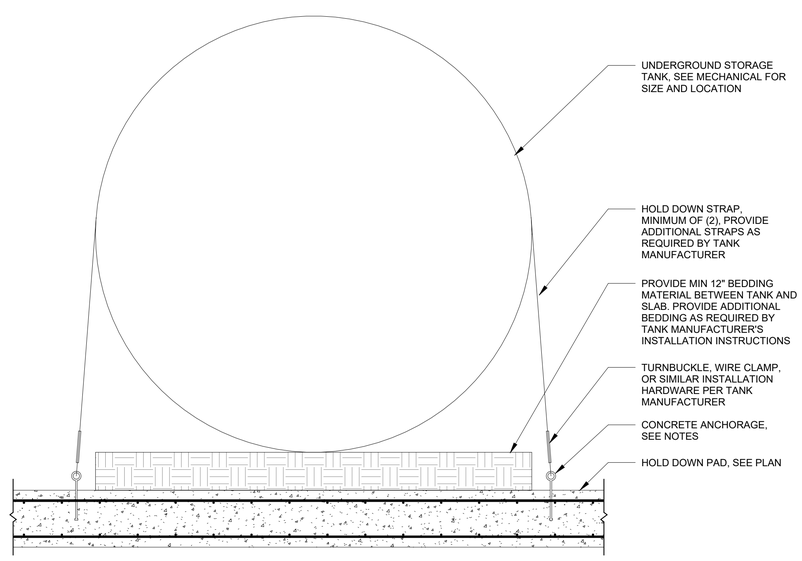
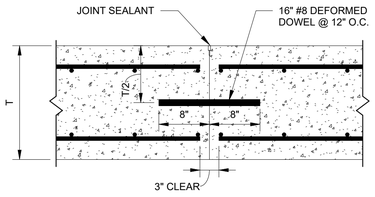
UNDERGROUND STORAGE TANK NOTES:

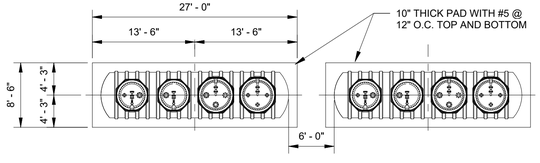
1. ALL INDICATED VALUES ARE A MINIMUM. IF MANUFACTURER REQUIRES MORE RESTRICTIVE CRITERIA, IT SHALL GOVERN OVER THE INFORMATION LISTED HERE.
2. PROVIDE ALL STAINLESS STEEL HARDWARE FOR INSTALLATION OF TANK, TO INCLUDE:
   - WIRE ROPE
   - ANCHOR BOLTS
   - WIRE CLAMPS
   - TURNBUCKLES
   - ANY MANUFACTURER SPECIFIC ANCHORAGE DEVICES
3. ANCHOR BOLTS ARE TO BE PROVIDED WITH A MINIMUM OF 12" OF SIDE COVER.
4. ANCHOR BOLTS ARE TO BE EMBEDDED A MINIMUM OF 8".
5. BOTTOM COVER OF ANCHOR BOLTS SHALL NOT BE LESS THAN 3". INCREASE SLAB THICKNESS AS REQUIRED IF ADDITIONAL EMBEDMENT IS NEEDED TO SATISFY MANUFACTURER INSTALLATION CRITERIA.
6. USE OF HEADED OR HOOKED ANCHORAGE IS REQUIRED:
   - IF HOOKED ANCHORAGE IS USED, HOOK EXTENSION MUST BE A MINIMUM OF 3"
   - IF HEADED ANCHORAGE IS USED, HEAD DIAMETER MUST BE A MINIMUM OF 1.4".
7. MINIMUM ANCHOR DIAMETER OF 1" MUST BE USED.
8. MAXIMUM ANCHOR POINT LOAD SHALL NOT EXCEED 8000 LBS.
9. MAXIMUM HOLD DOWN STRAP SPACING SHALL NOT EXCEED 45".
10. HOLD DOWN STRAPS ARE TO BE COMPOSED OF A NON-CORROSIVE MATERIAL SUCH AS STAINLESS STEEL OR FIBERGLASS. DO NOT ALLOW METAL STRAPS TO BE IN DIRECT CONTACT WITH THE TANK.
11. RESIZE SLAB AS REQUIRED TO MEET MINIMUM OUTSIDE CLEARANCE REQUIREMENTS FOR SELECTED TANK.
12. INCREASE SLAB REINFORCEMENT AS REQUIRED TO MEET TANK MANUFACTURER MINIMUM ANCHORAGE REQUIREMENTS.
13. IF REQUIRED BY THE MANUFACTURER, CONTRACTOR SHALL FURNISH UPDATED DEADMAN AND ANCHORAGE DESIGNS AT NO COST TO THE GOVERNMENT.



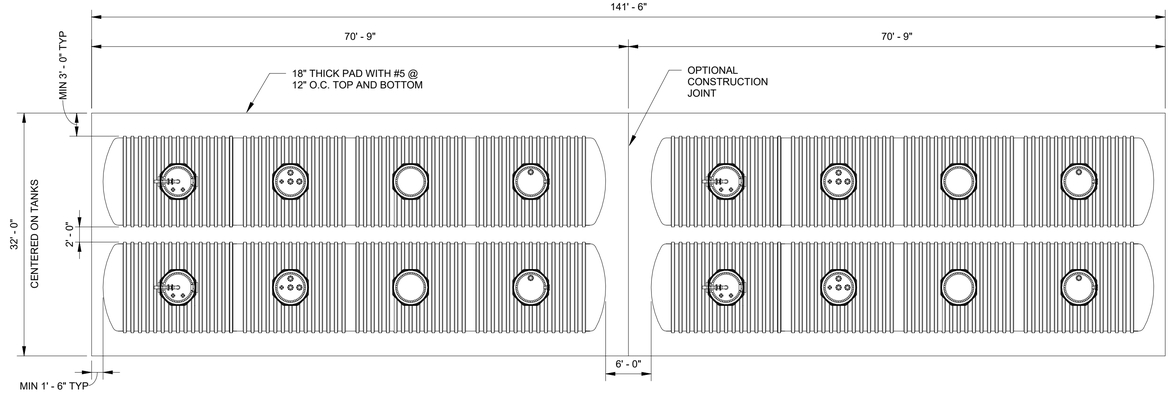
E13 HOLD DOWN PAD SECTION
NTS



D5 CONSTRUCTION JOINT DETAIL
NTS



A4 OPERATIONAL TANKS HOLD DOWN PAD PLAN
1" = 10'-0"
0 5' 10' 20'



A10 BULK TANKS HOLD DOWN PAD PLAN
1" = 10'-0"
0 5' 10' 20'

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

DESIGNED BY: J. LOGUE	ISSUE DATE: 05/01/2025
DRAWN BY: J. OSBORN	SOLICITATION NO.: W9128F25RA043
CHECKED BY: W. BDECK	CONTRACT NO.:
SUBMITTED BY: S. DENNING	
SIZE: ANSI D	FILE NAME: BUCO00102_DM_S.rvt

Plot Date: 5/5/2025 10:50:23 AM

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

UNDERGROUND STORAGE TANK HOLD DOWN PADS

SHEET ID

SS100

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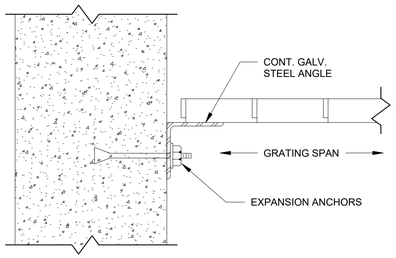
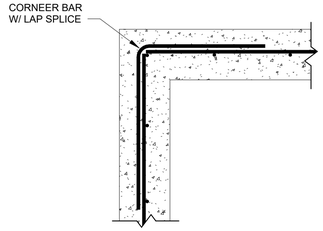
VALVE VAULT NOTES:

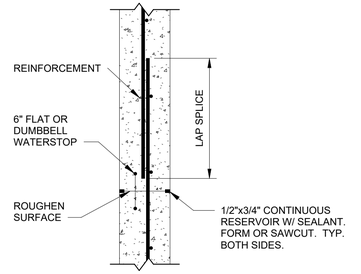
1. VALVE VAULT SHOWN IS CONCEPTUAL. CONTRACTOR SHALL HIRE A PROFESSIONAL ENGINEER TO DESIGN THE VALVE VAULT. SUBMIT STAMPED DESIGN CALCULATIONS OF THE VALVE VAULT TO THE GOVERNMENT FOR REVIEW. THE VAULT SHALL BE DESIGNED FOR THE FOLLOWING:
   - ALL RISK CATEGORY V REQUIREMENTS PER UFC 3-301-02.
   - METAL GRATING SHALL BE DESIGNED FOR 250 PSF LIVE LOAD.
   - CONCRETE SHALL BE DESIGNED IN ACCORDANCE WITH ACI 350-06.
   - LATERAL EARTH PRESSURES SHALL BE CONSIDERED. DESIGN FOR WORST CASE SCENARIO OF WATER LEVEL AT GRADE.
   - SOIL SURCHARGE LOADING SHALL BE CONSIDERED.
   - EARTHQUAKE LOADING SHALL BE CONSIDERED.
2. SEE CIVIL AND MECHANICAL SITE SHEETS FOR PIPING.
3. METAL GRATING SHALL BE REMOVABLE.
4. GRATING, SUPPORTS AND LADDER SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
5. CAST-IN-PLACE REINFORCED CONCRETE
   A. CONCRETE: SPECIFIED COMPRESSIVE STRENGTH F'c = 4,500 PSI @ 28 DAYS FOR ALL WORK.
   B. REINFORCING BARS: SPECIFIED YIELD STRENGTH Fy = 60 KSI (GRADE 60).
6. PIT DOORS
   A. SINGLE AND DOUBLE LEAF VALVE PIT DOORS SHALL BE THE PRODUCT OF A COMPANY REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH DOORS.
   B. PIT DOORS SHALL BE DESIGNED TO WITHSTAND A LIVE LOAD OF 150 POUNDS PER SQUARE FOOT.
   C. DOORS AND FRAMES SHALL BE OF EITHER ALUMINUM OR STEEL CONSTRUCTION AT THE OPTION OF THE CONTRACTOR UNLESS SPECIFICALLY CALLED OUT AS ALUMINUM. STEEL DOORS AND FRAMES SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A 123.
   D. DOOR SHALL OPEN TO 90 DEGREES AND SHALL BE EQUIPPED WITH HEAVY BRASS HINGES, STAINLESS STEEL PINS, COMPENSATING SPRINGS OR TORSION BARS, HOLD OPEN ARM AND SNAP LOCK WITH RELEASE HANDLE ON THE UNDERSIDE AND REMOVABLE KEY HANDLE FOR RELEASING LOCK FROM ABOVE. HARDWARE SHALL BE ZINC PLATED AND CHROMATE SEALED.
   E. DOORS SHALL DRAIN TO A CHANNEL FRAME TO PREVENT RAINWATER FROM ENTERING THE PIT. A 1 1/2" DRAINAGE COUPLING SHALL BE PROVIDED. DRAINS SHALL BE PROVIDED TO ALLOW DRAINAGE FROM THE CHANNEL FRAME ONTO THE SURROUNDING GRADE OR PAVEMENT.



H7 SECTION
NTS



H11 TYP WALL CORNER DETAIL
NTS



NOTE: HORIZONTAL CONSTRUCTION JOINTS SHALL BE SHOWN ON SHOP DRAWINGS AND SUBMITTED FOR APPROVAL.

H16 OPTIONAL HORIZONTAL CJ
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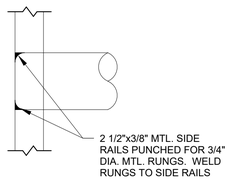
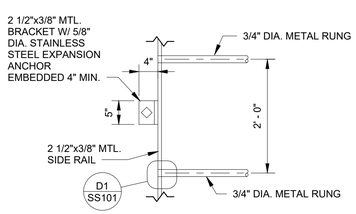
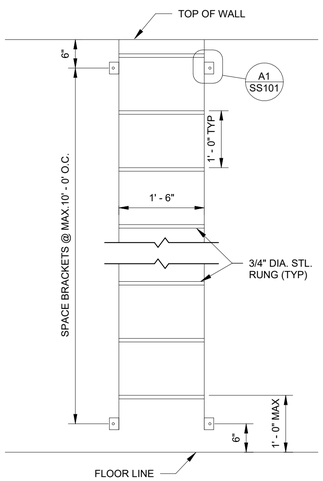


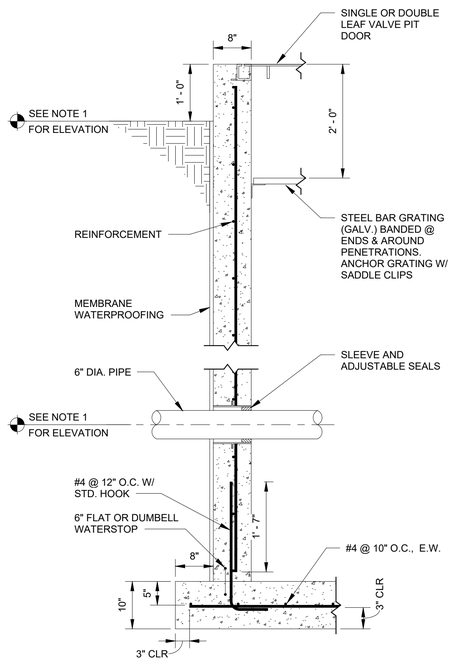
D1 LADDER RUNG CONNECTION
NTS



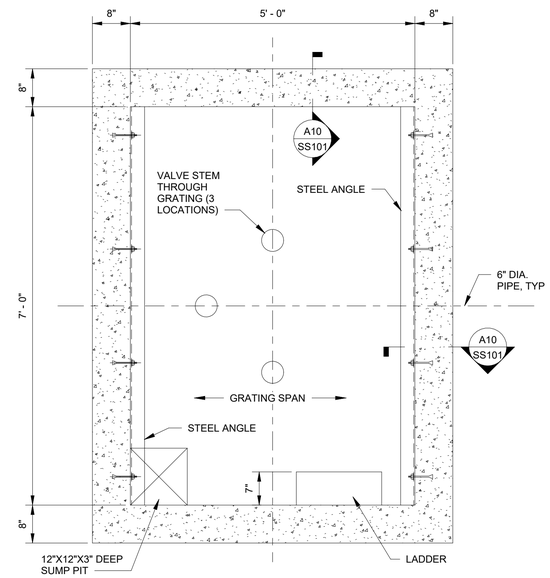
A1 ELEVATION OF BRACKET
NTS



A6 LADDER ELEVATION
3/4" = 1'-0"



A10 TYP WALL SECTION
3/4" = 1'-0"



A15 ISOLATION VALVE VAULT PLAN
3/4" = 1'-0"

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: J. LOGUE
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY: S. DENNING
SIZE: ANSI D
FILE NAME: BUC000102_DM_S.rvt

Date: 5/5/2025 10:50:29 AM
Plot Date:

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OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ISOLATION VALVE VAULT

SHEET ID
SS101

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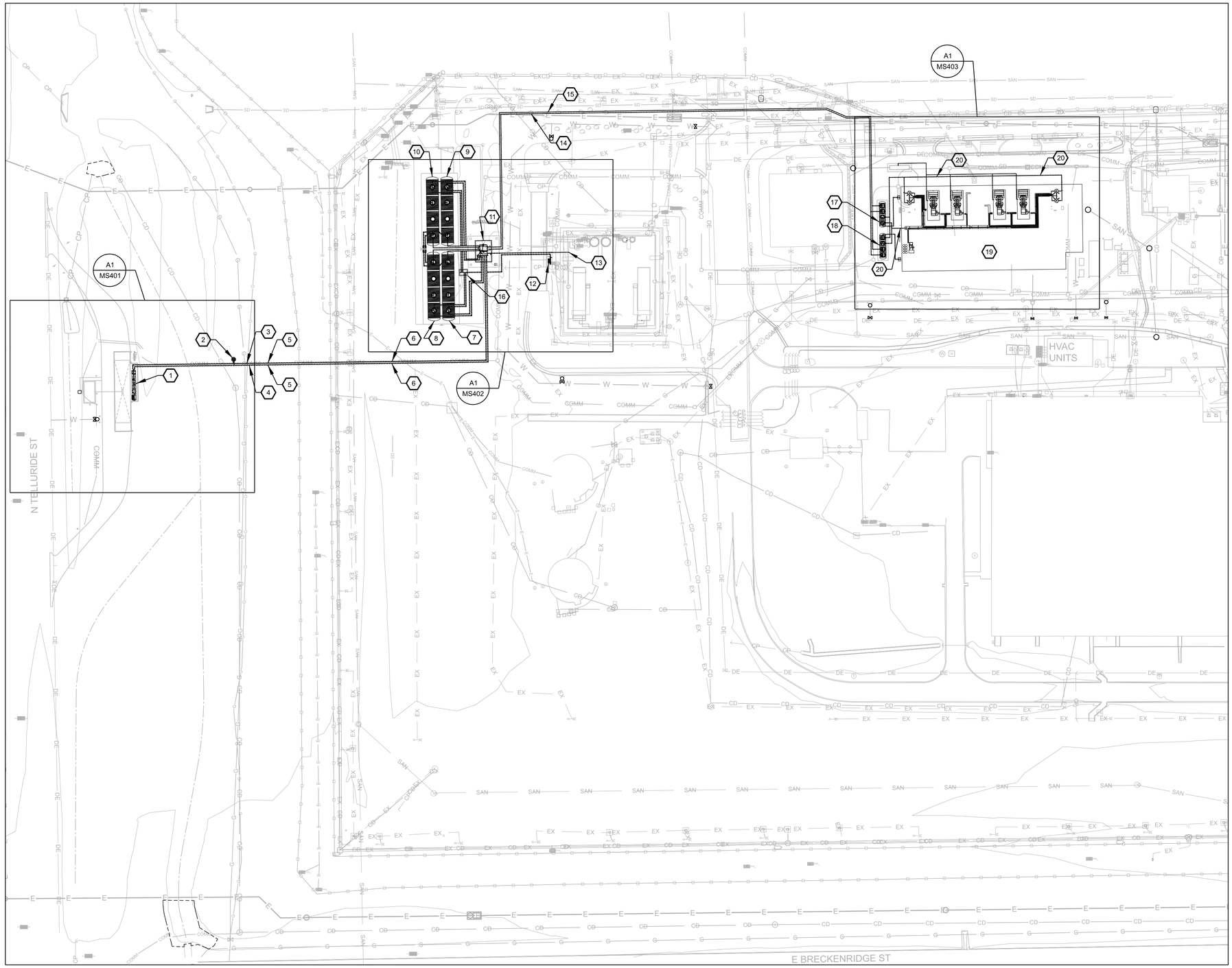


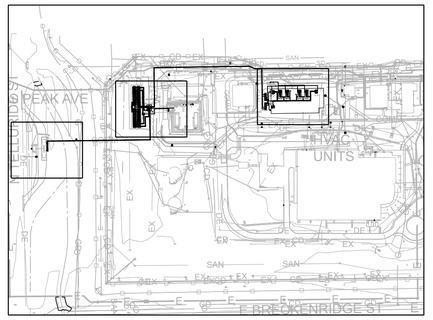
GENERAL SHEET NOTES

1. ALL UNDERGROUND PIPING SHALL BE DOUBLE WALL PIPING. THE CONTAINMENT PIPE SHALL BE FIBERGLASS REINFORCED PIPING. THE CARRIER PIPING SHALL BE BUTT WELDED STAINLESS STEEL PIPING. LEAK DETECTION SHALL BE PROVIDED IN THE INTERSTITIAL SPACE AT LOW POINTS.
2. ALL VALVES UPSTREAM OF PUMPS MUST BE FULL PORT.
3. ALL NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL.
4. FIELD VERIFY DIMENSIONS AND ELEVATIONS OF EXISTING CONDITIONS PRIOR TO FABRICATION.
5. MINIMUM WELD CLEARANCES ARE 3" BETWEEN ADJACENT GIRTH WELDS AND 2" BETWEEN PIPE GIRTH WELDS AND ADJACENT BRANCH FITTINGS.

SHEET KEYNOTES

1. 300 GPM DIESEL FUEL PUMPED TRUCK OFFLOAD
2. LOW POINT DRAIN PIT
3. 4" DOUBLE WALL RECEIPT LINE NO.1 - FROM TRUCK OFFLOAD
4. 4" DOUBLE WALL RECEIPT LINE NO.2 - FROM TRUCK OFFLOAD
5. STARTING LIMITS OF JACK AND BORE. THE METHOD OF JACK AND BORE SHALL BE USED FOR FUEL PIPING UNDERNEATH SECURITY FENCING. THE METHOD OF JACK AND BORE SHALL BE STARTED A MINIMUM OF 30 FEET FROM SECURITY FENCE.
6. ENDING LIMITS OF JACK AND BORE. THE METHOD OF JACK AND BORE SHALL BE USED FOR FUEL PIPING UNDERNEATH SECURITY FENCING. THE METHOD OF JACK AND BORE SHALL BE ENDED A MINIMUM OF 30 FEET FROM SECURITY FENCE.
7. 50,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND BULK STORAGE TANK - BT-001
8. 50,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND BULK STORAGE TANK - BT-002
9. 50,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND BULK STORAGE TANK - BT-003
10. 50,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND BULK STORAGE TANK - BT-004
11. DIESEL FUEL FILTRATION FACILITY
12. DIESEL FUEL GRAVITY TRUCK OFFLOAD
13. CROSS CONNECTION TO/FROM EXISTING FUELING FACILITY
14. 2" DOUBLE WALL TRANSFER LINE NO.1 - TO OPERATIONAL STORAGE TANKS
15. 2" DOUBLE WALL TRANSFER LINE NO.2 - TO OPERATIONAL STORAGE TANKS
16. GRAVITY TRUCK OFFLOAD ISOLATION VAULT
17. 5,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND OPERATIONAL STORAGE TANK - OT-001
18. 5,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND OPERATIONAL STORAGE TANK - OT-002
19. GENERATOR BUILDING
20. 2" DOUBLE WALL ISSUE LINE TO DAY TANKS WITHIN GENERATOR BUILDING

KEY PLAN



A1 MECHANICAL FUELING SYSTEM SITE PLAN
SCALE: 1" = 50'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
M. PETERSON	05/01/2025
DRAWN BY:	SOLICITATION NO.:
M. PETERSON	W9128F25RA043
CHECKED BY:	CONTRACT NO.:
D. SCHEUFFELE	
SUBMITTED BY:	FILE NUMBER:
D. SCHEUFFELE	
SIZE:	FILE NAME:
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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

MECHANICAL FUELING SYSTEM SITE PLAN

SHEET ID
MS101

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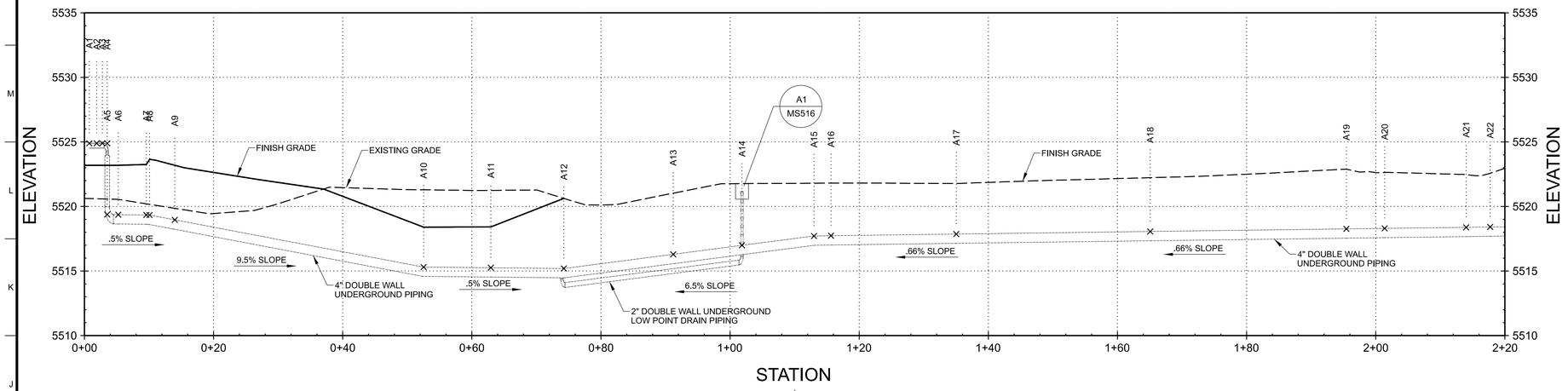
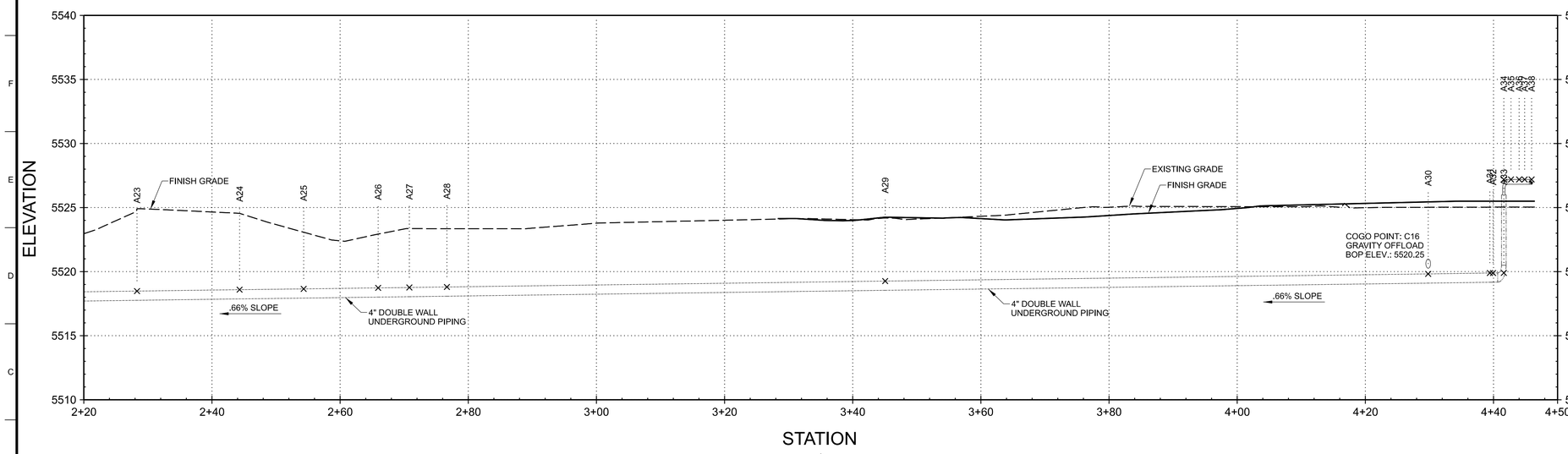


J1 TRUCK OFFLOAD PIPELINE NO.1 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'



A1 TRUCK OFFLOAD PIPELINE NO.1 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
ELBOW - AG	A1	0.750	5524.888	5524.513	1686264.280	3202223.519
DBB PLUG VALVE	A2	1.890	5524.888	5524.513	1686265.415	3202223.504
PIPE SUPPORT	A3	2.770	5524.888	5524.513	1686266.301	3202223.493
ELBOW - AG	A4	3.520	5524.888	5524.513	1686267.051	3202223.483
ELBOW - BG	A5	3.520	5519.367	5518.647	1686267.051	3202223.483
ELBOW - BG	A6	5.240	5519.358	5518.638	1686268.769	3202223.460
INSIDE EDGE OF CONTAINMENT CURB	A7	9.580	5519.336	5518.616	1686268.826	3202227.803
OUTSIDE EDGE OF CONTAINMENT CURB	A8	10.080	5519.334	5518.614	1686268.833	3202228.303
COMM LINE	A9	13.990	5518.962	5518.242	1686268.884	3202232.212
UPSTREAM LOW POINT OF DITCH	A10	52.530	5515.301	5514.581	1686269.391	3202270.752
DOWNSTREAM LOW POINT OF DITCH	A11	62.940	5515.249	5514.529	1686269.527	3202281.160
DOWNSTREAM EDGE OF DITCH	A12	74.250	5515.193	5514.473	1686269.676	3202292.460
COMM LINE	A13	91.190	5516.294	5515.574	1686269.899	3202309.402
LOW POINT DRAIN PIT	A14	101.840	5516.986	5516.266	1686270.039	3202320.051
GAS	A15	112.990	5517.711	5516.991	1686270.185	3202331.199
GAS	A16	115.620	5517.728	5517.008	1686270.220	3202333.835
JACK AND BORE LIMIT	A17	135.030	5517.858	5517.138	1686270.475	3202353.243
FENCE	A18	165.060	5518.058	5517.338	1686270.869	3202383.267
FENCE	A19	195.450	5518.260	5517.540	1686271.269	3202413.651
COMM LINE / ELECTRICAL	A20	201.380	5518.300	5517.580	1686271.346	3202419.581
ELECTRICAL	A21	214.000	5518.384	5517.664	1686271.512	3202432.204
SANITARY	A22	217.720	5518.409	5517.689	1686271.561	3202435.918
EDGE OF ROAD	A23	228.300	5518.479	5517.759	1686271.700	3202446.502
EDGE OF ROAD	A24	244.310	5518.586	5517.866	1686271.911	3202462.509
JACK AND BORE LIMIT	A25	254.310	5518.653	5517.933	1686272.042	3202472.508
ELECTRICAL	A26	265.930	5518.730	5518.010	1686272.195	3202484.130
ELECTRICAL	A27	270.800	5518.763	5518.043	1686272.259	3202489.002
ELECTRICAL	A28	276.670	5518.802	5518.082	1686272.336	3202494.863
ELBOW - BG	A29	345.060	5519.258	5518.538	1686273.234	3202563.254
PIPING FROM GRAVITY OFFLOAD	A30	429.800	5519.823	5519.103	1686357.967	3202562.087
OUTSIDE EDGE OF CONTAINMENT CURB	A31	439.420	5519.887	5519.167	1686367.587	3202561.954
INSIDE EDGE OF CONTAINMENT CURB	A32	439.920	5519.890	5519.170	1686368.087	3202561.947
ELBOW - BG	A33	441.610	5519.901	5519.181	1686369.771	3202561.924
ELBOW - AG	A34	441.610	5527.188	5526.813	1686369.771	3202561.924
PIPE SUPPORT	A35	442.730	5527.188	5526.813	1686370.894	3202561.909
DBB PLUG VALVE	A36	443.990	5527.188	5526.813	1686372.156	3202561.891
CHECK VALVE	A37	444.860	5527.188	5526.813	1686373.020	3202561.880
TEE CONNECTION TO OFFLOAD HEADER	A38	445.940	5527.188	5526.813	1686374.103	3202561.865

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

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FUEL PIPING PROFILES
SHEET 1 OF 16

SHEET ID
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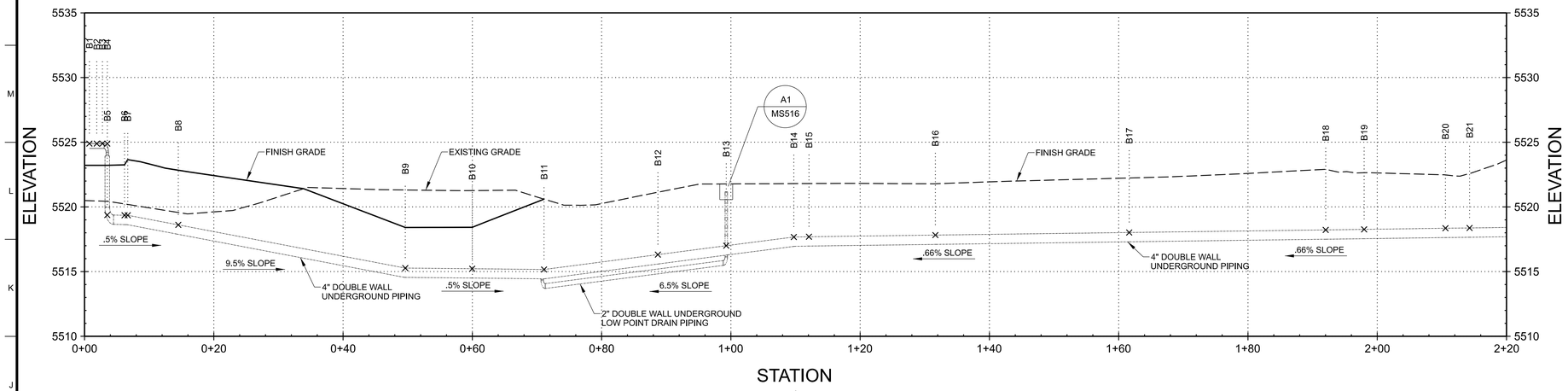
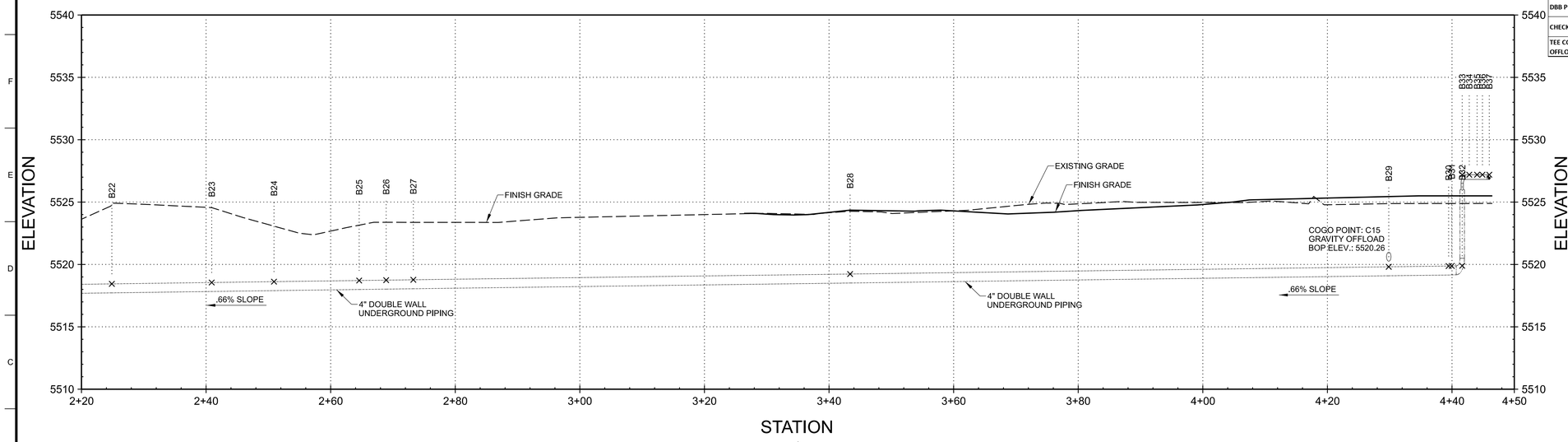


J1 TRUCK OFFLOAD PIPELINE NO.2 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
ELBOW - AG	B1	0.750	5524.888	5524.513	1686264.302	3202225.206
DBB PLUG VALVE	B2	1.890	5524.888	5524.513	1686265.438	3202225.191
PIPE SUPPORT	B3	2.770	5524.888	5524.513	1686266.322	3202225.179
ELBOW - AG	B4	3.520	5524.888	5524.513	1686267.073	3202225.169
ELBOW - BG	B5	3.520	5519.367	5518.647	1686267.073	3202225.169
INSIDE EDGE OF CONTAINMENT CURB	B6	6.180	5519.353	5518.633	1686267.108	3202227.826
OUTSIDE EDGE OF CONTAINMENT CURB	B7	6.680	5519.351	5518.631	1686267.114	3202228.326
COMM LINE	B8	14.510	5518.607	5517.887	1686267.217	3202236.153
UPSTREAM LOW POINT OF DITCH	B9	49.630	5515.271	5514.551	1686267.679	3202271.270
DOWNSTREAM LOW POINT OF DITCH	B10	59.980	5515.219	5514.499	1686267.815	3202281.620
DOWNSTREAM EDGE OF DITCH	B11	71.090	5515.163	5514.443	1686267.961	3202292.730
COMM LINE	B12	88.710	5516.309	5515.589	1686268.192	3202310.352
LOW POINT DRAIN PIT	B13	99.280	5516.996	5516.276	1686268.331	3202320.917
GAS	B14	109.730	5517.675	5516.955	1686268.468	3202331.367
GAS	B15	112.080	5517.691	5516.971	1686268.499	3202333.720
JACK AND BORE LIMIT	B16	131.630	5517.821	5517.101	1686268.756	3202353.266
FENCE	B17	161.630	5518.021	5517.301	1686269.150	3202383.264
FENCE	B18	192.030	5518.224	5517.504	1686269.550	3202413.663
COMM LINE / ELECTRICAL	B19	197.960	5518.263	5517.543	1686269.628	3202419.595
ELECTRICAL	B20	210.550	5518.347	5517.627	1686269.793	3202432.181
SANITARY	B21	214.280	5518.372	5517.652	1686269.842	3202435.911
EDGE OF ROAD	B22	224.870	5518.443	5517.723	1686269.981	3202446.497
EDGE OF ROAD	B23	240.900	5518.549	5517.829	1686270.192	3202462.532
JACK AND BORE LIMIT	B24	250.900	5518.616	5517.896	1686270.323	3202472.531
ELECTRICAL	B25	264.570	5518.707	5517.987	1686270.503	3202486.201
ELECTRICAL	B26	268.910	5518.736	5518.016	1686270.560	3202490.534
ELECTRICAL	B27	273.260	5518.765	5518.045	1686270.617	3202494.888
ELBOW - BG	B28	343.380	5519.233	5518.513	1686271.538	3202564.996
PIPING FROM GRAVITY OFFLOAD	B29	429.840	5519.809	5519.089	1686357.997	3202563.805
OUTSIDE EDGE OF CONTAINMENT CURB	B30	439.460	5519.873	5519.153	1686367.611	3202563.673
INSIDE EDGE OF CONTAINMENT CURB	B31	439.960	5519.876	5519.156	1686368.111	3202563.666
ELBOW - BG	B32	441.640	5519.888	5519.168	1686369.794	3202563.643
ELBOW - AG	B33	441.640	5527.188	5526.813	1686369.794	3202563.643
PIPE SUPPORT	B34	442.770	5527.188	5526.813	1686370.919	3202563.627
DBB PLUG VALVE	B35	444.020	5527.188	5526.813	1686372.177	3202563.610
CHECK VALVE	B36	444.890	5527.188	5526.813	1686373.044	3202563.598
TEE CONNECTION TO OFFLOAD HEADER	B37	445.980	5527.188	5526.813	1686374.127	3202563.583



A1 TRUCK OFFLOAD PIPELINE NO.2 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILE NAME: BUCO00102MS401.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUEL PIPING PROFILES
SHEET 2 OF 16

SHEET ID
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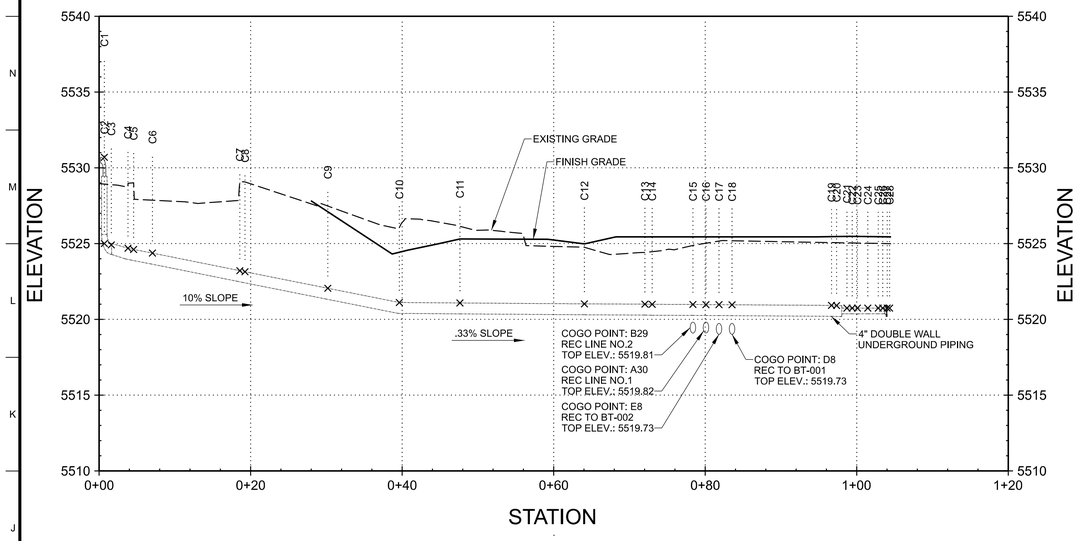
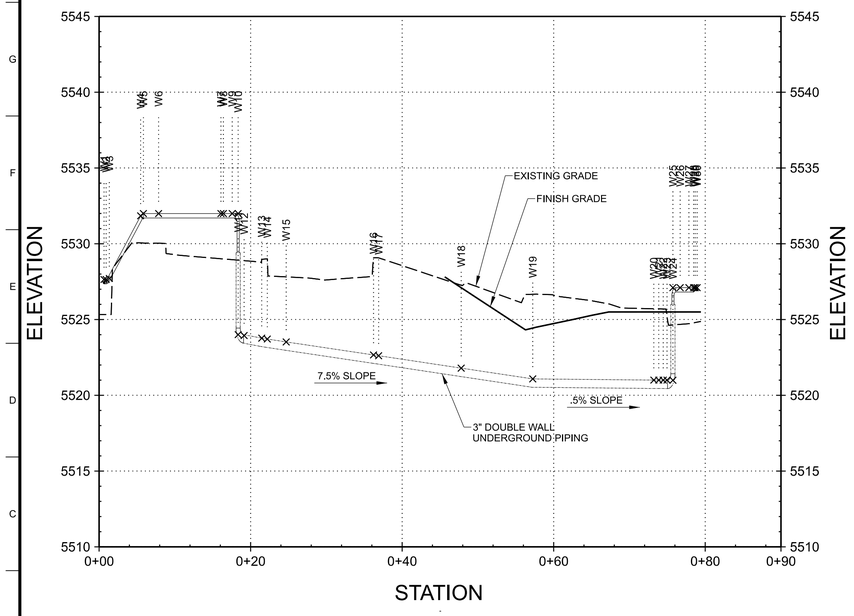


J1 GRAVITY TRUCK OFFLOAD PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
ELBOW - AG	C1	0.690	5530.688	5530.313	1686375.272	3202624.833
ELBOW - BG	C2	0.690	5525.000	5524.280	1686375.272	3202624.833
ELECTRICAL	C3	1.610	5524.908	5524.188	1686375.260	3202623.912
OUTSIDE EDGE OF DRIVE LANE CURB	C4	3.810	5524.688	5523.968	1686375.229	3202621.707
INSIDE EDGE OF DRIVE LANE CURB	C5	4.560	5524.613	5523.893	1686375.219	3202620.965
SANITARY	C6	7.040	5524.365	5523.645	1686375.185	3202618.479
INSIDE EDGE OF DRIVE LANE CURB	C7	18.570	5523.212	5522.492	1686375.026	3202606.949
OUTSIDE EDGE OF DRIVE LANE CURB	C8	19.250	5523.144	5522.424	1686375.017	3202606.273
ELECTRICAL	C9	30.190	5522.050	5521.330	1686374.866	3202595.337
WATER	C10	39.630	5521.106	5520.386	1686374.736	3202585.899
ELBOW - BG	C11	47.620	5521.079	5520.359	1686374.626	3202577.903
ELBOW - BG	C12	64.060	5521.025	5520.305	1686358.195	3202578.129
ELECTRICAL	C13	72.040	5520.998	5520.278	1686358.085	3202570.145
COMM	C14	73.000	5520.995	5520.275	1686358.072	3202569.186
RECEIPT LINE NO.2 PIPING	C15	78.380	5520.977	5520.257	1686357.997	3202563.805
RECEIPT LINE NO.1 PIPING	C16	80.100	5520.971	5520.251	1686357.974	3202562.087
RECEIPT PIPING TO BT-002	C17	81.820	5520.965	5520.245	1686357.950	3202560.370
RECEIPT PIPING TO BT-001	C18	83.540	5520.960	5520.240	1686357.926	3202558.650
OUTSIDE EDGE OF ISOLATION VAULT	C19	96.670	5520.916	5520.196	1686357.746	3202545.518
INSIDE EDGE OF ISOLATION VAULT	C20	97.340	5520.914	5520.194	1686357.736	3202544.851
GRAVITY RECEIPT PIPING TO BT-001	C21	98.710	5520.741	5520.366	1686357.717	3202543.476
PIPE SUPPORT	C22	99.400	5520.741	5520.366	1686357.708	3202542.789
GRAVITY RECEIPT PIPING TO BT-002	C23	100.090	5520.741	5520.366	1686357.698	3202542.101
GRAVITY RECEIPT PIPING TO BT-003	C24	101.460	5520.741	5520.366	1686357.680	3202540.727
GRAVITY RECEIPT PIPING TO BT-004	C25	102.840	5520.741	5520.366	1686357.661	3202539.352
PIPE SUPPORT	C26	103.430	5520.741	5520.366	1686357.652	3202538.758
BLIND FLANGE	C27	104.020	5520.741	5520.366	1686357.644	3202538.170
INSIDE EDGE OF ISOLATION VAULT	C28	104.340	5520.741	5520.366	1686357.640	3202537.852



A1 CONNECTION TO EXISTING SYSTEM PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE CONNECTION TO EXISTING SYSTEM	W1	0.650	5527.642	5527.351	1686377.152	3202642.512
45 DEGREE ELBOW	W2	0.930	5527.642	5527.351	1686377.148	3202642.230
45 DEGREE ELBOW	W3	1.350	5527.710	5527.418	1686377.142	3202641.810
45 DEGREE ELBOW	W4	5.480	5531.840	5531.418	1686377.085	3202637.679
45 DEGREE ELBOW	W5	5.850	5531.993	5531.701	1686377.080	3202637.311
PIPE SUPPORT	W6	7.850	5531.993	5531.701	1686377.053	3202635.311
ELECTRICAL	W7	16.080	5531.993	5531.701	1686376.939	3202627.082
DBB PLUG VALVE	W8	16.400	5531.993	5531.701	1686376.935	3202626.759
PIPE SUPPORT	W9	17.570	5531.993	5531.701	1686376.919	3202625.586
ELBOW - AG	W10	18.350	5531.993	5531.701	1686376.908	3202624.811
ELBOW - BG	W11	18.350	5524.000	5523.448	1686376.908	3202624.811
COMM	W12	19.140	5523.941	5523.388	1686376.897	3202624.020
OUTSIDE EDGE OF DRIVE LANE CURB	W13	21.460	5523.767	5523.214	1686376.865	3202621.702
INSIDE EDGE OF DRIVE LANE CURB	W14	22.200	5523.711	5523.159	1686376.855	3202620.960
SD	W15	24.690	5523.525	5522.972	1686376.821	3202618.474
INSIDE EDGE OF DRIVE LANE CURB	W16	36.220	5522.660	5522.107	1686376.662	3202606.941
OUTSIDE EDGE OF DRIVE LANE CURB	W17	36.890	5522.610	5522.057	1686376.653	3202606.272
ELECTRICAL	W18	47.800	5521.791	5521.239	1686376.502	3202595.366
WATER	W19	57.230	5521.084	5520.532	1686376.372	3202585.928
ELECTRICAL	W20	73.210	5521.004	5520.452	1686376.152	3202569.951
COMM	W21	73.870	5521.001	5520.448	1686376.143	3202569.296
OUTSIDE EDGE OF CONTAINMENT PAD	W22	74.460	5520.998	5520.445	1686376.135	3202568.706
INSIDE EDGE OF CONTAINMENT PAD	W23	74.960	5520.995	5520.443	1686376.128	3202568.207
ELBOW - BG	W24	75.730	5520.992	5520.439	1686376.117	3202567.430
ELBOW - AG	W25	75.730	5527.099	5526.807	1686376.117	3202567.430
PIPE SUPPORT	W26	76.690	5527.099	5526.807	1686376.104	3202566.472
DBB PLUG VALVE	W27	77.850	5527.099	5526.807	1686376.088	3202565.316
3" x 2" REDUCER FITTING	W28	78.460	5527.099	5526.807	1686376.080	3202564.701
3" x 2" REDUCER FITTING	W29	78.670	5527.099	5526.901	1686376.077	3202564.493
TEE CONNECTION AT FILTER SHELTER	W30	78.920	5527.099	5526.901	1686376.074	3202564.243

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MARK	DESCRIPTION	DATE

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102MS401.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUEL PIPING PROFILES
SHEET 3 OF 16

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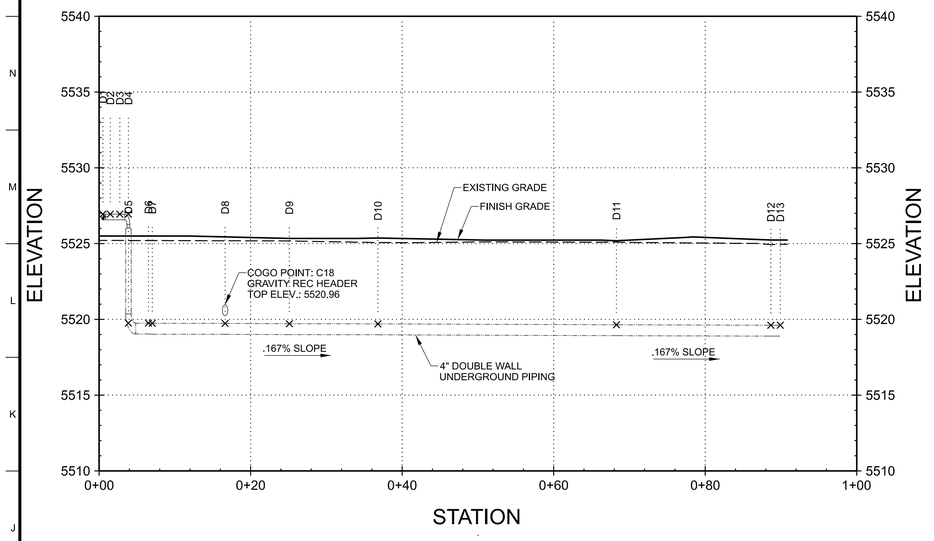
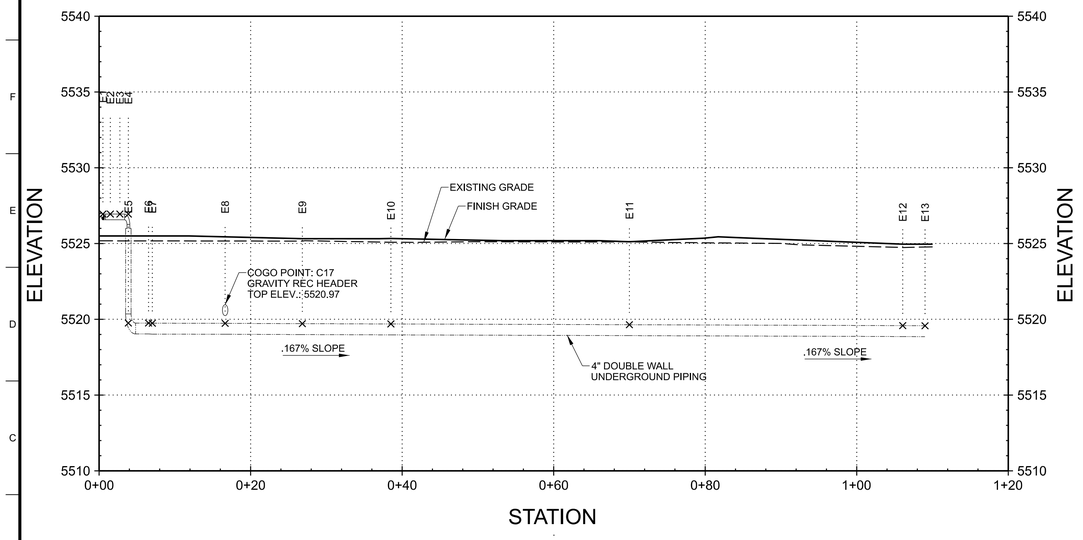


J1 RECEIPT PIPELINE TO BT-001 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT RECEIPT HEADER	D1	0.500	5526.938	5526.563	1686374.056	3202558.427
DBB PLUG VALVE	D2	1.480	5526.938	5526.563	1686373.077	3202558.441
PIPE SUPPORT	D3	2.740	5526.938	5526.563	1686371.817	3202558.458
ELBOW - AG	D4	3.860	5526.938	5526.563	1686370.692	3202558.474
ELBOW - BG	D5	3.860	5519.750	5519.030	1686370.692	3202558.474
INSIDE EDGE OF CONTAINMENT PAD	D6	6.520	5519.746	5519.026	1686368.040	3202558.510
OUTSIDE EDGE OF CONTAINMENT PAD	D7	7.020	5519.745	5519.025	1686367.540	3202558.517
GRAVITY RECEIPT HEADER	D8	16.630	5519.729	5519.009	1686357.926	3202558.650
ELBOW - BG	D9	25.100	5519.715	5518.995	1686349.454	3202558.766
ELBOW - BG	D10	36.790	5519.695	5518.975	1686349.293	3202547.080
ELBOW - BG	D11	68.280	5519.643	5518.923	1686317.812	3202547.514
ELBOW - BG	D12	88.670	5519.609	5518.889	1686317.531	3202527.125
BT-001 RECEIPT SUMP	D13	89.900	5519.607	5518.887	1686318.766	3202527.108



A1 RECEIPT PIPELINE TO BT-002 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT RECEIPT HEADER	E1	0.500	5526.938	5526.563	1686374.079	3202560.146
DBB PLUG VALVE	E2	1.480	5526.938	5526.563	1686373.101	3202560.160
PIPE SUPPORT	E3	2.740	5526.938	5526.563	1686371.840	3202560.177
ELBOW - AG	E4	3.860	5526.938	5526.563	1686370.716	3202560.192
ELBOW - BG	E5	3.860	5519.750	5519.030	1686370.716	3202560.192
INSIDE EDGE OF CONTAINMENT PAD	E6	6.520	5519.746	5519.026	1686368.063	3202560.229
OUTSIDE EDGE OF CONTAINMENT PAD	E7	7.020	5519.745	5519.025	1686367.563	3202560.236
GRAVITY RECEIPT HEADER	E8	16.630	5519.729	5519.009	1686357.948	3202560.368
ELBOW - BG	E9	26.820	5519.712	5518.992	1686347.759	3202560.509
ELBOW - BG	E10	38.510	5519.692	5518.972	1686347.598	3202548.822
ELBOW - BG	E11	69.990	5519.640	5518.920	1686316.117	3202549.256
ELBOW - BG	E12	106.060	5519.580	5518.860	1686315.620	3202513.192
BT-002 RECEIPT SUMP	E13	109.020	5519.575	5518.855	1686318.573	3202513.151

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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DRAWN BY:	M. PETERSON
CHECKED BY:	D. SCHEUFFELE
SUBMITTED BY:	D. SCHEUFFELE
SIZE:	ANSI D
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	
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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUEL PIPING PROFILES
SHEET 4 OF 16

SHEET ID
MS204

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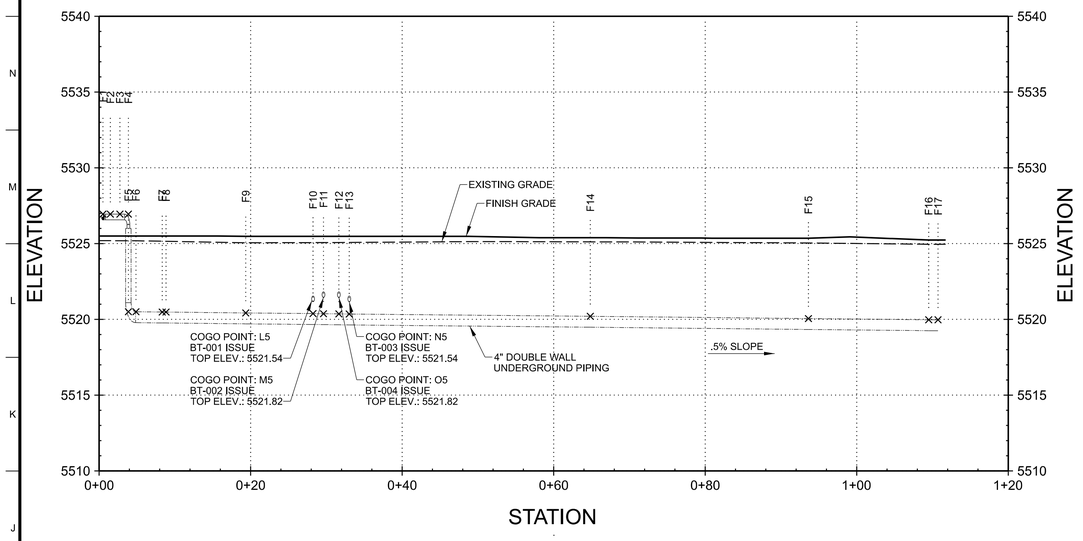
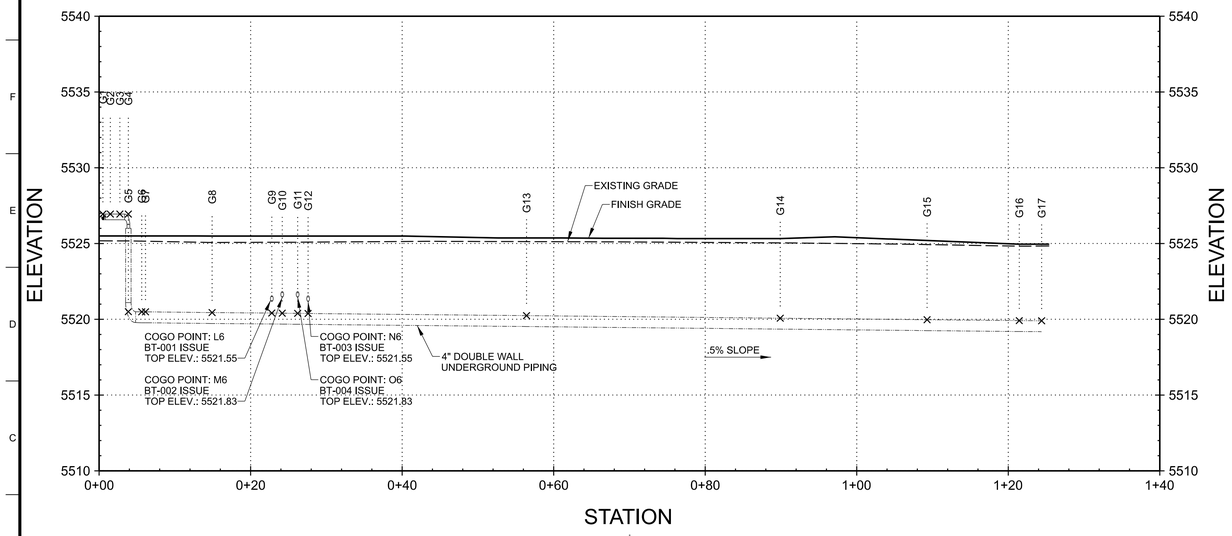


J1 RECEIPT PIPELINE TO BT-003 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT RECEIPT HEADER	F1	0.500	5526.938	5526.563	1686374.032	3202556.709
DBB PLUG VALVE	F2	1.480	5526.938	5526.563	1686373.053	3202556.722
PIPE SUPPORT	F3	2.740	5526.938	5526.563	1686371.793	3202556.740
ELBOW - AG	F4	3.860	5526.938	5526.563	1686370.668	3202556.755
ELBOW - BG	F5	3.860	5520.500	5519.780	1686370.668	3202556.755
ELBOW - BG	F6	4.860	5520.495	5519.775	1686369.668	3202556.769
INSIDE EDGE OF CONTAINMENT PAD	F7	8.340	5520.478	5519.758	1686369.620	3202553.295
OUTSIDE EDGE OF CONTAINMENT PAD	F8	8.840	5520.475	5519.755	1686369.614	3202552.795
ELBOW - BG	F9	19.350	5520.423	5519.703	1686369.469	3202542.283
TANK NO.1 ISSUE PIPING	F10	28.230	5520.378	5519.658	1686378.350	3202542.161
TANK NO.2 ISSUE PIPING	F11	29.610	5520.371	5519.651	1686379.726	3202542.142
TANK NO.4 ISSUE PIPING	F12	31.640	5520.361	5519.641	1686381.756	3202542.114
TANK NO.3 ISSUE PIPING	F13	33.010	5520.354	5519.634	1686383.131	3202542.095
ELECTRICAL	F14	64.820	5520.195	5519.475	1686414.935	3202541.657
ELBOW - BG	F15	93.620	5520.051	5519.331	1686443.731	3202541.260
ELBOW - BG	F16	109.490	5519.972	5519.252	1686443.512	3202525.389
BT-003 RECEIPT SUMP	F17	110.730	5519.966	5519.246	1686442.278	3202525.406



A1 RECEIPT PIPELINE TO BT-004 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT RECEIPT HEADER	G1	0.500	5526.938	5526.563	1686374.008	3202554.990
DBB PLUG VALVE	G2	1.480	5526.938	5526.563	1686373.030	3202555.004
PIPE SUPPORT	G3	2.740	5526.938	5526.563	1686371.769	3202555.021
ELBOW - AG	G4	3.860	5526.938	5526.563	1686370.645	3202555.037
ELBOW - BG	G5	3.860	5520.500	5519.780	1686370.645	3202555.037
INSIDE EDGE OF CONTAINMENT PAD	G6	5.620	5520.491	5519.771	1686370.620	3202553.281
OUTSIDE EDGE OF CONTAINMENT PAD	G7	6.120	5520.489	5519.769	1686370.613	3202552.781
ELBOW - BG	G8	14.910	5520.445	5519.725	1686370.492	3202543.988
TANK NO.1 ISSUE PIPING	G9	22.800	5520.405	5519.685	1686378.374	3202543.879
TANK NO.2 ISSUE PIPING	G10	24.170	5520.398	5519.678	1686379.749	3202543.860
TANK NO.4 ISSUE PIPING	G11	26.200	5520.388	5519.668	1686381.780	3202543.832
TANK NO.3 ISSUE PIPING	G12	27.580	5520.381	5519.661	1686383.155	3202543.814
ELECTRICAL	G13	56.410	5520.237	5519.517	1686411.989	3202543.416
ELBOW - BG	G14	89.900	5520.070	5519.350	1686445.473	3202542.955
ELECTRICAL	G15	109.280	5519.973	5519.253	1686445.206	3202523.581
ELBOW - BG	G16	121.450	5519.912	5519.192	1686445.039	3202511.409
BT-004 RECEIPT SUMP	G17	124.400	5519.897	5519.177	1686442.086	3202511.449

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MARK	DESCRIPTION	DATE

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102MS401.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUEL PIPING PROFILES
SHEET 5 OF 16

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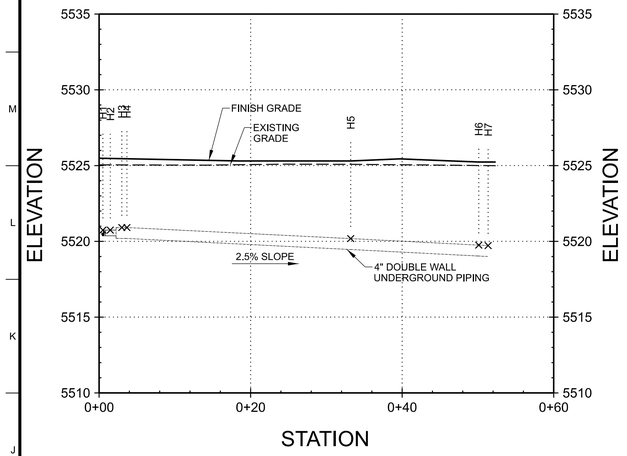
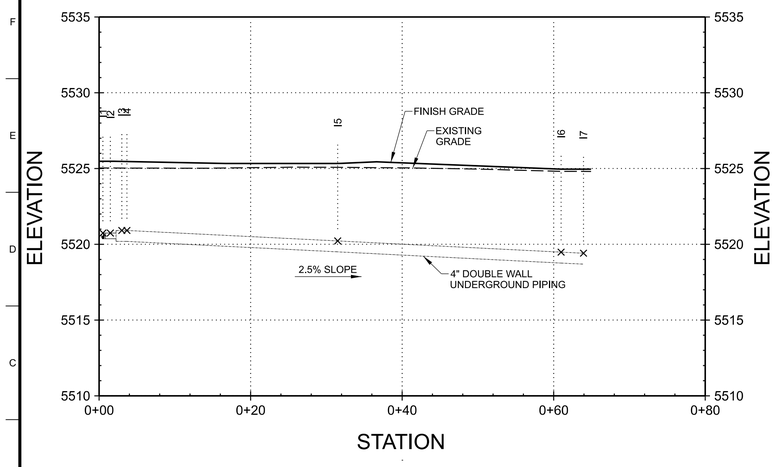


J1 GRAVITY RECEIPT PIPELINE TO BT-001 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT RECEIPT HEADER	H1	0.500	5520.741	5520.366	1686357.717	3202543.476
BALL VALVE	H2	1.480	5520.741	5520.366	1686356.739	3202543.490
INSIDE EDGE OF ISOLATION VAULT	H3	3.000	5520.914	5520.194	1686355.218	3202543.511
OUTSIDE EDGE OF ISOLATION VAULT	H4	3.670	5520.914	5520.194	1686354.551	3202543.520
ELBOW - BG	H5	33.210	5520.175	5519.455	1686325.013	3202543.927
ELBOW - BG	H6	50.110	5519.753	5519.033	1686324.781	3202527.025
BT-001 RECEIPT SUMP	H7	51.340	5519.722	5519.002	1686323.546	3202527.042



A1 GRAVITY RECEIPT PIPELINE TO BT-002 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT RECEIPT HEADER	I1	0.500	5520.741	5520.366	1686357.698	3202542.101
BALL VALVE	I2	1.480	5520.741	5520.366	1686356.720	3202542.115
INSIDE EDGE OF ISOLATION VAULT	I3	3.000	5520.914	5520.194	1686355.199	3202542.136
OUTSIDE EDGE OF ISOLATION VAULT	I4	3.670	5520.914	5520.194	1686354.532	3202542.145
ELBOW - BG	I5	31.490	5520.218	5519.498	1686326.713	3202542.528
ELBOW - BG	I6	60.980	5519.481	5518.761	1686326.307	3202513.044
BT-002 RECEIPT SUMP	I7	63.930	5519.407	5518.687	1686323.354	3202513.085

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

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DRAWN BY:	M. PETERSON
CHECKED BY:	D. SCHEUFFELE
SUBMITTED BY:	D. SCHEUFFELE
SIZE:	ANSI D

ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	BUCO00102MS401.dwg

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SHEET 6 OF 16

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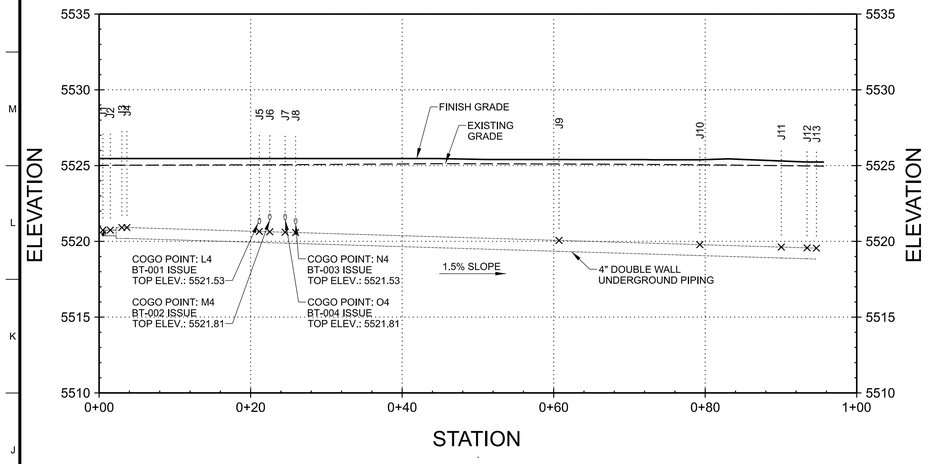
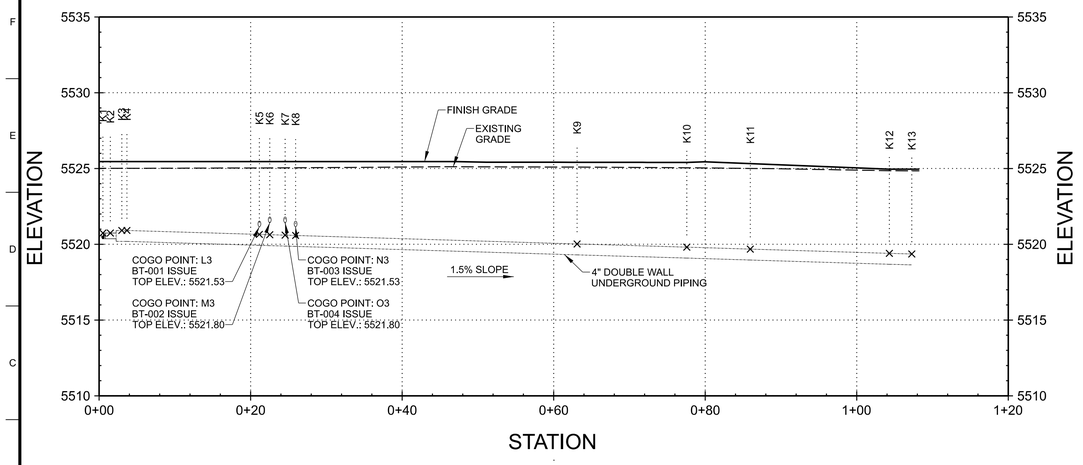


J1 GRAVITY RECEIPT PIPELINE TO BT-003 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT RECEIPT HEADER	J1	0.500	5520.741	5520.366	1686357.680	3202540.727
BALL VALVE	J2	1.480	5520.741	5520.366	1686358.658	3202540.713
INSIDE EDGE OF ISOLATION VAULT	J3	3.000	5520.914	5520.194	1686360.179	3202540.692
OUTSIDE EDGE OF ISOLATION VAULT	J4	3.670	5520.914	5520.194	1686360.846	3202540.683
ISSUE LINE - BT-001	J5	21.150	5520.651	5519.931	1686378.326	3202540.442
ISSUE LINE - BT-002	J6	22.520	5520.631	5519.911	1686379.701	3202540.423
ISSUE LINE - BT-003	J7	24.560	5520.600	5519.880	1686381.732	3202540.395
ISSUE LINE - BT-004	J8	25.930	5520.580	5519.860	1686383.107	3202540.376
ELECTRICAL	J9	60.710	5520.058	5519.338	1686417.882	3202539.897
ELBOW - BG	J10	79.290	5519.779	5519.059	1686436.458	3202539.641
ELECTRICAL	J11	90.030	5519.618	5518.898	1686436.310	3202528.893
ELBOW - BG	J12	93.440	5519.567	5518.847	1686436.263	3202525.489
BT-003 RECEIPT SUMP	J13	94.670	5519.549	5518.829	1686437.497	3202525.472



A1 GRAVITY RECEIPT PIPELINE TO BT-004 PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT RECEIPT HEADER	K1	0.500	5520.741	5520.366	1686357.661	3202539.352
BALL VALVE	K2	1.480	5520.741	5520.366	1686358.639	3202539.338
INSIDE EDGE OF ISOLATION VAULT	K3	3.000	5520.914	5520.194	1686360.160	3202539.317
OUTSIDE EDGE OF ISOLATION VAULT	K4	3.670	5520.914	5520.194	1686360.827	3202539.308
ISSUE LINE - BT-001	K5	21.150	5520.651	5519.931	1686378.307	3202539.067
ISSUE LINE - BT-002	K6	22.520	5520.631	5519.911	1686379.682	3202539.048
ISSUE LINE - BT-003	K7	24.560	5520.600	5519.880	1686381.713	3202539.020
ISSUE LINE - BT-004	K8	25.930	5520.580	5519.860	1686383.088	3202539.001
ELECTRICAL	K9	63.080	5520.022	5519.302	1686420.239	3202538.490
ELBOW - BG	K10	77.570	5519.805	5519.085	1686434.720	3202538.290
ELECTRICAL	K11	85.950	5519.679	5518.959	1686434.605	3202529.911
ELBOW - BG	K12	104.300	5519.404	5518.684	1686434.352	3202511.556
BT-004 RECEIPT SUMP	K13	107.260	5519.360	5518.640	1686437.305	3202511.515

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FILE NUMBER:
FILENAME: BUCO00102MS401.dwg

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

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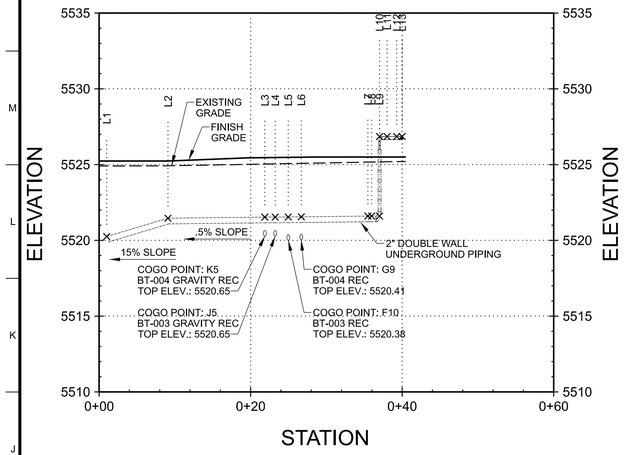

J1 BT-001 ISSUE PIPING

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
BT-001 ISSUE SUMP	L1	1.000	5520.250	5519.875	1686370.042	3202526.402
ELBOW - BG	L2	9.090	5521.464	5521.089	1686378.131	3202526.290
BT-004 GRAVITY RECEIPT PIPING	L3	21.870	5521.527	5521.152	1686378.307	3202539.067
BT-003 GRAVITY RECEIPT PIPING	L4	23.240	5521.534	5521.159	1686378.326	3202540.442
BT-003 RECEIPT PIPING	L5	24.960	5521.543	5521.168	1686378.350	3202542.161
BT-004 RECEIPT PIPING	L6	26.680	5521.551	5521.176	1686378.374	3202543.879
OUTSIDE EDGE OF CONTAINMENT PAD	L7	35.480	5521.595	5521.220	1686378.495	3202552.672
INSIDE EDGE OF CONTAINMENT PAD	L8	35.980	5521.598	5521.223	1686378.502	3202553.172
ELBOW - BG	L9	37.010	5521.603	5521.228	1686378.516	3202554.209
ELBOW - AG	L10	37.010	5526.849	5526.651	1686378.516	3202554.209
PIPE SUPPORT	L11	38.010	5526.849	5526.651	1686378.530	3202555.209
DBB PLUG VALVE	L12	39.270	5526.849	5526.651	1686378.547	3202556.469
TEE AT ISSUE HEADER	L13	39.990	5526.849	5526.651	1686378.557	3202557.188

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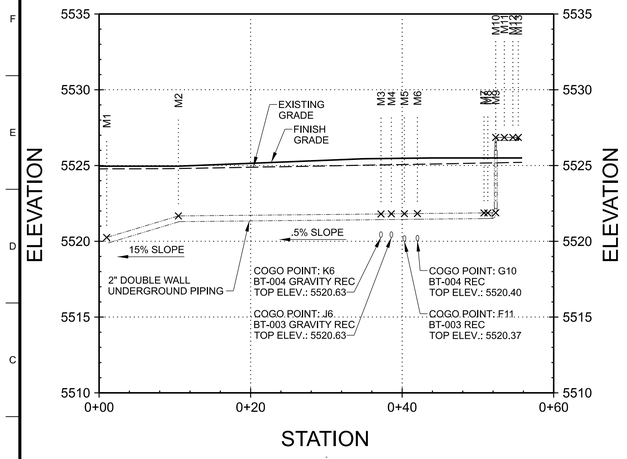

A1 BT-002 ISSUE PIPING

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
BT-002 ISSUE SUMP	M1	1.000	5520.250	5519.875	1686369.850	3202512.445
ELBOW - BG	M2	10.470	5521.671	5521.296	1686379.314	3202512.314
BT-004 GRAVITY RECEIPT PIPING	M3	37.200	5521.804	5521.429	1686379.682	3202539.048
BT-003 GRAVITY RECEIPT PIPING	M4	38.580	5521.811	5521.436	1686379.701	3202540.423
BT-003 RECEIPT PIPING	M5	40.300	5521.820	5521.445	1686379.725	3202542.142
BT-004 RECEIPT PIPING	M6	42.010	5521.828	5521.453	1686379.749	3202543.860
OUTSIDE EDGE OF CONTAINMENT PAD	M7	50.810	5521.872	5521.497	1686379.870	3202552.653
INSIDE EDGE OF CONTAINMENT PAD	M8	51.310	5521.875	5521.500	1686379.877	3202553.153
ELBOW - BG	M9	52.350	5521.880	5521.505	1686379.891	3202554.190
ELBOW - AG	M10	52.350	5526.849	5526.651	1686379.891	3202554.190
PIPE SUPPORT	M11	53.480	5526.849	5526.651	1686379.907	3202555.325
DBB PLUG VALVE	M12	54.610	5526.849	5526.651	1686379.922	3202556.450
TEE AT ISSUE HEADER	M13	55.320	5526.849	5526.651	1686379.932	3202557.169

0 10' 20'
0 5' 10'

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MARK	DESCRIPTION	DATE

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CHECKED BY:	D. SCHEUFFELE
SUBMITTED BY:	D. SCHEUFFELE
SIZE:	ANSI D
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	BUCO00102MS401.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

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POWER INDEPENDENCE, MISSION CONTROL STATION

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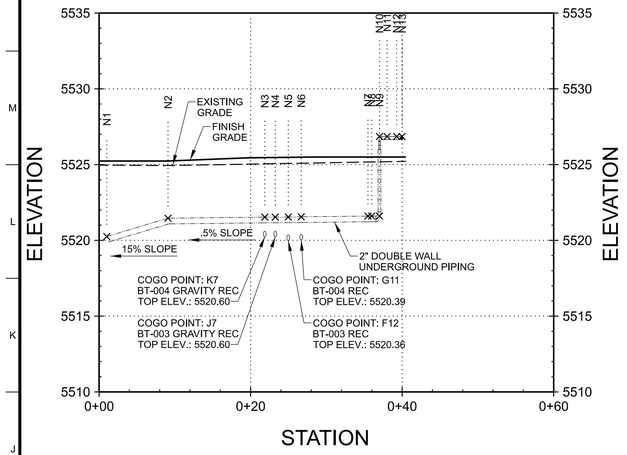

J1 BT-003 ISSUE PIPING

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
BT-003 ISSUE SUMP	N1	1.000	5520.250	5519.875	1686391.002	3202526.113
ELBOW - BG	N2	9.090	5521.464	5521.089	1686382.912	3202526.224
BT-004 GRAVITY RECEIPT PIPING	N3	21.870	5521.527	5521.152	1686383.088	3202539.001
BT-003 GRAVITY RECEIPT PIPING	N4	23.240	5521.534	5521.159	1686383.107	3202540.376
BT-003 RECEIPT PIPING	N5	24.960	5521.543	5521.168	1686383.131	3202542.095
BT-004 RECEIPT PIPING	N6	26.680	5521.551	5521.176	1686383.155	3202543.814
OUTSIDE EDGE OF CONTAINMENT PAD	N7	35.480	5521.595	5521.220	1686383.276	3202552.607
INSIDE EDGE OF CONTAINMENT PAD	N8	35.980	5521.598	5521.223	1686383.283	3202553.107
ELBOW - BG	N9	37.010	5521.603	5521.228	1686383.297	3202554.143
ELBOW - AG	N10	37.010	5526.849	5526.651	1686383.297	3202554.143
PIPE SUPPORT	N11	38.010	5526.849	5526.651	1686383.311	3202555.143
DBB PLUG VALVE	N12	39.270	5526.849	5526.651	1686383.328	3202556.403
TEE AT ISSUE HEADER	N13	39.990	5526.849	5526.651	1686383.338	3202557.122

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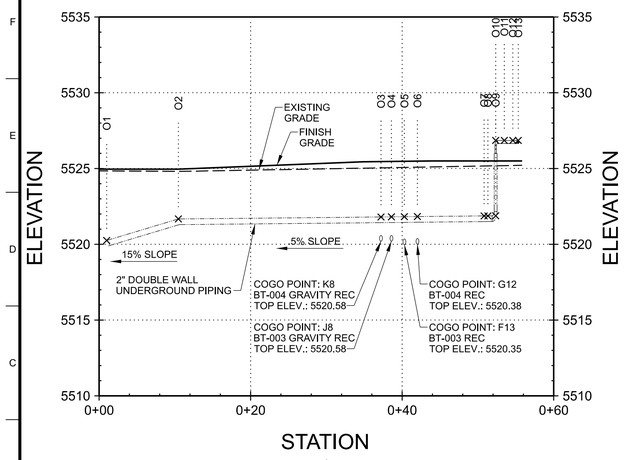

A1 BT-004 ISSUE PIPING

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
BT-004 ISSUE SUMP	O1	1.000	5520.250	5519.875	1686390.809	3202512.156
ELBOW - BG	O2	10.470	5521.671	5521.296	1686381.345	3202512.286
BT-004 GRAVITY RECEIPT PIPING	O3	37.200	5521.804	5521.429	1686381.713	3202539.020
BT-003 GRAVITY RECEIPT PIPING	O4	38.580	5521.811	5521.436	1686381.732	3202540.395
BT-003 RECEIPT PIPING	O5	40.300	5521.820	5521.445	1686381.756	3202542.114
BT-004 RECEIPT PIPING	O6	42.010	5521.828	5521.453	1686381.780	3202543.832
OUTSIDE EDGE OF CONTAINMENT PAD	O7	50.810	5521.872	5521.497	1686381.901	3202552.626
INSIDE EDGE OF CONTAINMENT PAD	O8	51.310	5521.875	5521.500	1686381.908	3202553.125
ELBOW - BG	O9	52.340	5521.880	5521.505	1686381.922	3202554.162
ELBOW - AG	O10	52.340	5526.849	5526.651	1686381.922	3202554.162
PIPE SUPPORT	O11	53.340	5526.849	5526.651	1686381.936	3202555.162
DBB PLUG VALVE	O12	54.610	5526.849	5526.651	1686381.953	3202556.422
TEE AT ISSUE HEADER	O13	55.320	5526.849	5526.651	1686381.963	3202557.141

0 10' 20'
0 5' 10'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	M. PETERSON
DRAWN BY:	M. PETERSON
CHECKED BY:	D. SCHEUFFELE
SUBMITTED BY:	D. SCHEUFFELE
SIZE:	ANSI D
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SOLICITATION NO.:	W9128F25RA043
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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

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FUELS PIPING PROFILES
SHEET 9 OF 16

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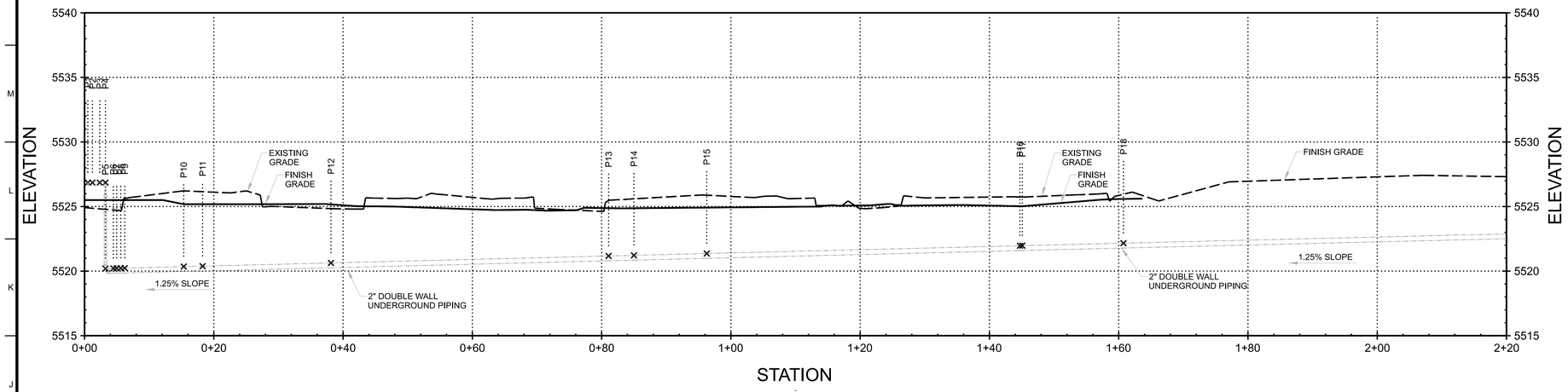
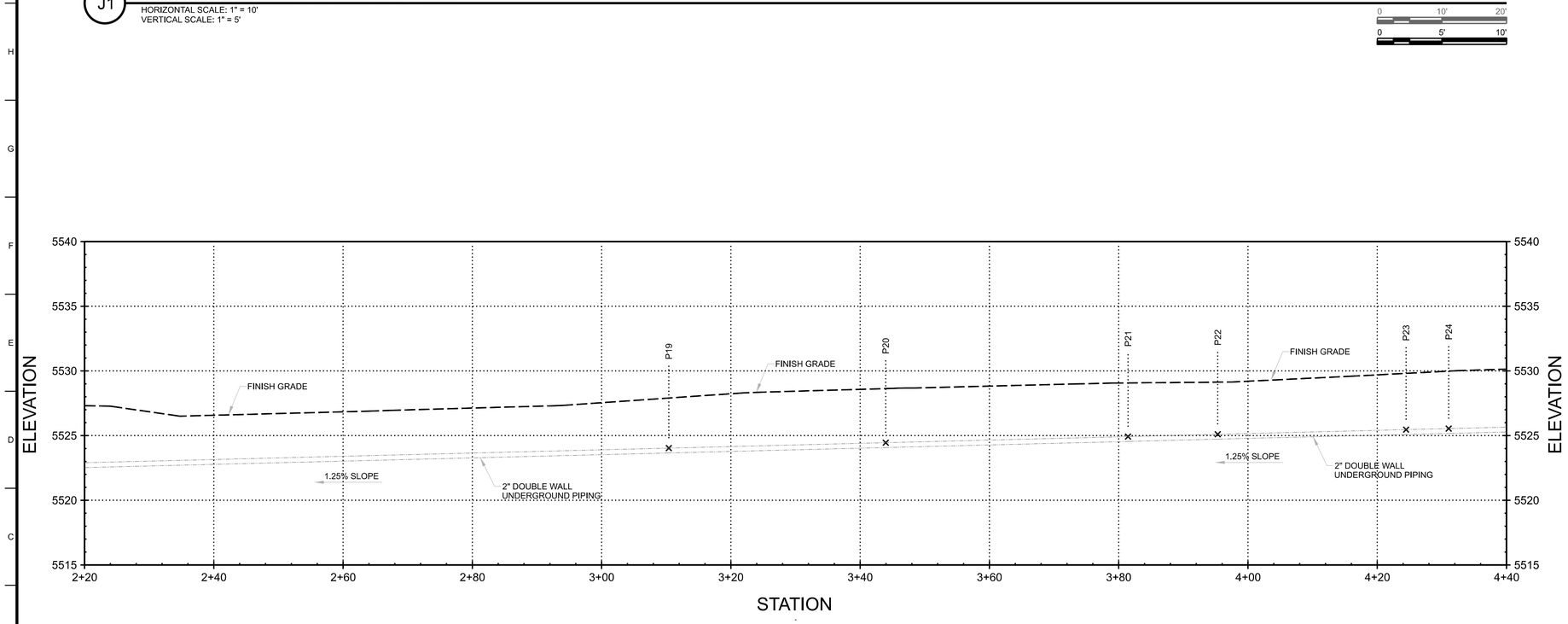


J1 TRANSFER LINE NO.1 PIPING PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'



A1 TRANSFER LINE NO.1 PIPING PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT FILTER SHELTER	P1	0.500	5526.849	5526.651	1686380.008	3202564.189
DBB PLUG VALVE	P2	1.220	5526.849	5526.651	1686380.018	3202564.908
PIPE SUPPORT	P3	2.350	5526.849	5526.651	1686380.033	3202566.043
ELBOW - AG	P4	3.230	5526.849	5526.651	1686380.045	3202566.918
ELBOW - BG	P5	3.230	5520.194	5519.819	1686380.045	3202566.918
INSIDE EDGE OF CONTAINMENT PAD	P6	4.460	5520.210	5519.835	1686380.062	3202568.152
OUTSIDE EDGE OF CONTAINMENT PAD	P7	4.960	5520.216	5519.841	1686380.069	3202568.652
COMM	P8	5.600	5520.224	5519.849	1686380.078	3202569.293
ELECTRICAL	P9	6.220	5520.232	5519.857	1686380.087	3202569.905
ELBOW - BG	P10	15.340	5520.346	5519.971	1686380.212	3202579.029
COMM	P11	18.260	5520.382	5520.007	1686383.132	3202578.989
ELECTRICAL	P12	38.120	5520.630	5520.255	1686402.993	3202578.715
COMM	P13	81.080	5521.167	5520.792	1686445.940	3202578.124
ELECTRICAL	P14	84.990	5521.216	5520.841	1686449.855	3202578.070
ELECTRICAL	P15	96.260	5521.357	5520.982	1686461.124	3202577.915
ELECTRICAL	P16	144.730	5521.963	5521.588	1686509.584	3202577.247
ELBOW - BG	P17	145.080	5521.967	5521.592	1686509.935	3202577.242
CWS	P18	160.740	5522.163	5521.788	1686510.151	3202592.902
COMM	P19	310.390	5524.034	5523.659	1686512.212	3202742.537
AW	P20	343.960	5524.453	5524.078	1686512.675	3202776.103
COMM	P21	381.430	5524.922	5524.547	1686513.191	3202813.575
SANITARY	P22	395.310	5525.095	5524.720	1686513.382	3202827.456
ELECTRICAL	P23	424.460	5525.460	5525.085	1686513.783	3202856.599
ELECTRICAL	P24	431.050	5525.542	5525.167	1686513.874	3202863.191
45 BEND	P25	458.380	5525.884	5525.509	1686514.251	3202890.516
ELECTRICAL	P26	462.550	5525.936	5525.561	1686512.608	3202894.348
45 BEND	P27	478.930	5526.141	5525.766	1686506.153	3202909.399
SANITARY	P28	482.180	5526.181	5525.806	1686506.198	3202912.655
ELBOW - BG	P29	501.150	5526.418	5526.043	1686506.453	3202931.610
ELECTRICAL	P30	504.590	5526.461	5526.086	1686503.004	3202931.658
EDGE OF ROAD	P31	509.080	5526.517	5526.142	1686498.524	3202931.719
GAS	P32	512.670	5526.562	5526.187	1686494.934	3202931.769
ELECTRICAL	P33	522.400	5526.684	5526.309	1686485.203	3202931.903
EDGE OF ROAD	P34	523.280	5526.695	5526.320	1686484.319	3202931.915
ELECTRICAL	P35	528.790	5526.764	5526.389	1686478.808	3202931.991
ELECTRICAL	P36	529.800	5526.776	5526.401	1686477.804	3202932.005
AW	P37	537.720	5526.875	5526.500	1686469.879	3202932.114
SANITARY	P38	549.430	5527.022	5526.647	1686458.174	3202932.275
COMM	P39	572.850	5527.315	5526.940	1686434.755	3202932.598
TEE CONNECTION TO OT-001	P40	591.380	5527.546	5527.171	1686416.232	3202932.853
ELBOW - BG	P41	633.170	5528.069	5527.694	1686374.442	3202933.429
OT-002 RECEIPT SUMP	P42	642.150	5528.181	5527.806	1686374.565	3202942.407

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

%PRODUCTION DATA 1%
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%PRODUCTION DATA 2%

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILE NAME: BUCO00102MS401.dwg

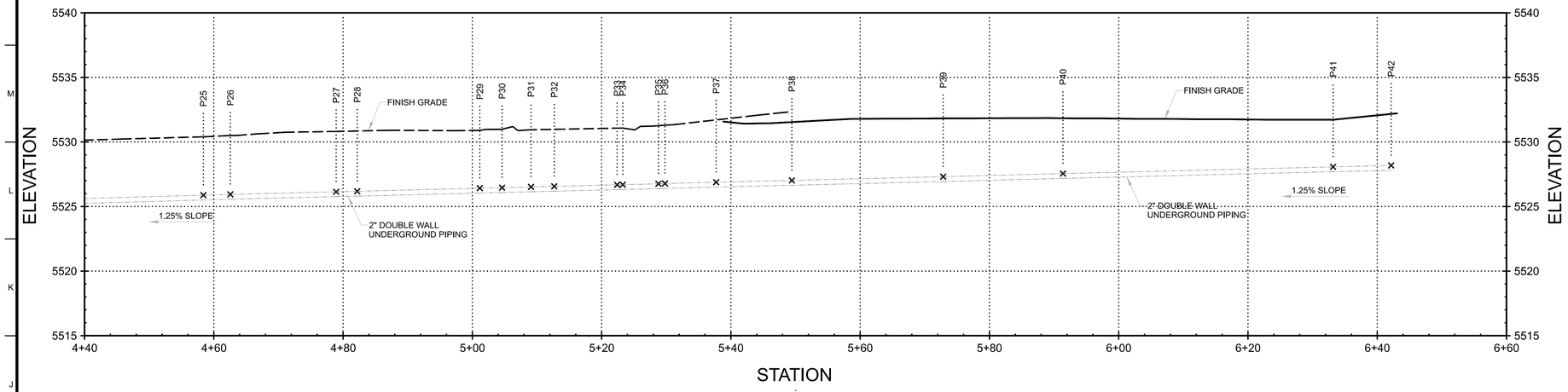
U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUELS PIPING PROFILES
SHEET 10 OF 16

SHEET ID
MS210

ADVERTISEMENT



J1 TRANSFER LINE NO.1 PIPING PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT FILTER SHELTER	P1	0.500	5526.849	5526.651	1686380.008	3202564.189
DBB PLUG VALVE	P2	1.220	5526.849	5526.651	1686380.018	3202564.908
PIPE SUPPORT	P3	2.350	5526.849	5526.651	1686380.033	3202566.043
ELBOW - AG	P4	3.230	5526.849	5526.651	1686380.045	3202566.918
ELBOW - BG	P5	3.230	5520.194	5519.819	1686380.045	3202566.918
INSIDE EDGE OF CONTAINMENT PAD	P6	4.460	5520.210	5519.835	1686380.062	3202568.152
OUTSIDE EDGE OF CONTAINMENT PAD	P7	4.960	5520.216	5519.841	1686380.069	3202568.652
COMM	P8	5.600	5520.224	5519.849	1686380.078	3202569.293
ELECTRICAL	P9	6.220	5520.232	5519.857	1686380.087	3202569.905
ELBOW - BG	P10	15.340	5520.346	5519.971	1686380.212	3202579.029
COMM	P11	18.260	5520.382	5520.007	1686383.132	3202578.989
ELECTRICAL	P12	38.120	5520.630	5520.255	1686402.993	3202578.715
COMM	P13	81.080	5521.167	5520.792	1686445.940	3202578.124
ELECTRICAL	P14	84.990	5521.216	5520.841	1686449.855	3202578.070
ELECTRICAL	P15	96.260	5521.357	5520.982	1686461.124	3202577.915
ELECTRICAL	P16	144.730	5521.963	5521.588	1686509.584	3202577.247
ELBOW - BG	P17	145.080	5521.967	5521.592	1686509.935	3202577.242
CWS	P18	160.740	5522.163	5521.788	1686510.151	3202592.902
COMM	P19	310.390	5524.034	5523.659	1686512.212	3202742.537
AW	P20	343.960	5524.453	5524.078	1686512.675	3202776.103
COMM	P21	381.430	5524.922	5524.547	1686513.191	3202813.575
SANITARY	P22	395.310	5525.095	5524.720	1686513.382	3202827.456
ELECTRICAL	P23	424.460	5525.460	5525.085	1686513.783	3202856.599
ELECTRICAL	P24	431.050	5525.542	5525.167	1686513.874	3202863.191
45 BEND	P25	458.380	5525.884	5525.509	1686514.251	3202890.516
ELECTRICAL	P26	462.550	5525.936	5525.561	1686512.608	3202894.348
45 BEND	P27	478.930	5526.141	5525.766	1686506.153	3202909.399
SANITARY	P28	482.180	5526.181	5525.806	1686506.198	3202912.655
ELBOW - BG	P29	501.150	5526.418	5526.043	1686506.453	3202931.610
ELECTRICAL	P30	504.590	5526.461	5526.086	1686503.004	3202931.658
EDGE OF ROAD	P31	509.080	5526.517	5526.142	1686498.524	3202931.719
GAS	P32	512.670	5526.562	5526.187	1686494.934	3202931.769
ELECTRICAL	P33	522.400	5526.684	5526.309	1686485.203	3202931.903
EDGE OF ROAD	P34	523.280	5526.695	5526.320	1686484.319	3202931.915
ELECTRICAL	P35	528.790	5526.764	5526.389	1686478.808	3202931.991
ELECTRICAL	P36	529.800	5526.776	5526.401	1686477.804	3202932.005
AW	P37	537.720	5526.875	5526.500	1686469.879	3202932.114
SANITARY	P38	549.430	5527.022	5526.647	1686458.174	3202932.275
COMM	P39	572.850	5527.315	5526.940	1686434.755	3202932.598
TEE CONNECTION TO OT-001	P40	591.380	5527.546	5527.171	1686416.232	3202932.853
ELBOW - BG	P41	633.170	5528.069	5527.694	1686374.442	3202933.429
OT-002 RECEIPT SUMP	P42	642.150	5528.181	5527.806	1686374.565	3202942.407

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MARK	DESCRIPTION	DATE

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FILE NUMBER:
FILENAME: BUCO00102MS401.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUELS PIPING PROFILES
SHEET 11 OF 16

SHEET ID
MS211

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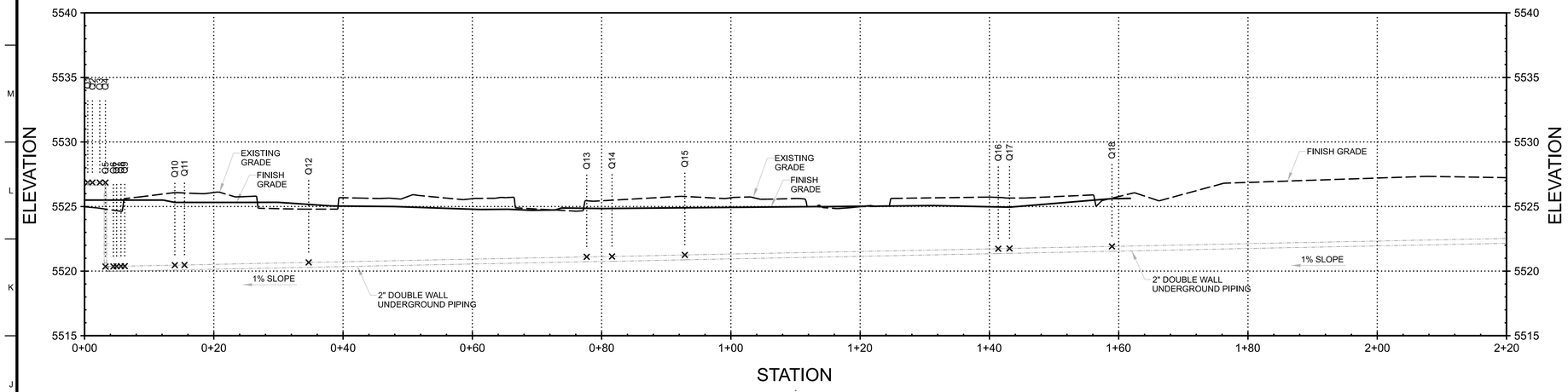

J1 TRANSFER LINE NO.2 PIPING PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

A1 TRANSFER LINE NO.2 PIPING PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT FILTER SHELTER	Q1	0.500	5526.849	5526.651	1686382.039	3202564.161
DBB PLUG VALVE	Q2	1.220	5526.849	5526.651	1686382.049	3202564.880
PIPE SUPPORT	Q3	2.350	5526.849	5526.651	1686382.064	3202566.015
ELBOW - AG	Q4	3.230	5526.849	5526.651	1686382.076	3202566.890
ELBOW - BG	Q5	3.230	5520.351	5519.976	1686382.076	3202566.890
INSIDE EDGE OF CONTAINMENT PAD	Q6	4.460	5520.364	5519.989	1686382.093	3202568.124
OUTSIDE EDGE OF CONTAINMENT PAD	Q7	4.960	5520.369	5519.994	1686382.100	3202568.624
COMM	Q8	5.630	5520.375	5520.000	1686382.110	3202569.292
ELECTRICAL	Q9	6.220	5520.381	5520.006	1686382.118	3202569.882
ELBOW - BG	Q10	13.970	5520.459	5520.084	1686382.224	3202577.626
COMM	Q11	15.470	5520.474	5520.099	1686383.724	3202577.606
ELECTRICAL	Q12	34.670	5520.666	5520.291	1686402.930	3202577.341
COMM	Q13	77.680	5521.096	5520.721	1686445.936	3202576.749
ELECTRICAL	Q14	81.600	5521.135	5520.760	1686449.855	3202576.695
ELECTRICAL	Q15	92.870	5521.248	5520.873	1686461.118	3202576.540
ELECTRICAL	Q16	141.360	5521.733	5521.358	1686509.609	3202575.872
ELBOW - BG	Q17	143.110	5521.750	5521.375	1686511.354	3202575.848
CWS	Q18	158.950	5521.908	5521.533	1686511.572	3202591.688
COMM	Q19	309.850	5523.417	5523.042	1686513.650	3202742.573
AW	Q20	343.330	5523.752	5523.377	1686514.111	3202776.047
COMM	Q21	380.820	5524.127	5523.752	1686514.628	3202813.540
SANITARY	Q22	393.250	5524.251	5523.876	1686514.799	3202825.968
ELECTRICAL	Q23	421.230	5524.531	5524.156	1686515.184	3202853.941
ELECTRICAL	Q24	430.500	5524.624	5524.249	1686515.312	3202863.208
45 BEND	Q25	457.940	5524.898	5524.523	1686515.690	3202890.648
ELECTRICAL	Q26	462.490	5524.944	5524.569	1686513.898	3202894.828
45 BEND	Q27	478.640	5525.105	5524.730	1686507.532	3202909.672
SANITARY	Q28	481.520	5525.134	5524.759	1686507.572	3202912.550
ELBOW - BG	Q29	501.940	5525.338	5524.963	1686507.847	3202932.966
ELECTRICAL	Q30	506.810	5525.387	5525.012	1686502.979	3202933.033
EDGE OF ROAD	Q31	511.230	5525.431	5525.056	1686498.559	3202933.094
GAS	Q32	514.810	5525.467	5525.092	1686494.974	3202933.143
ELECTRICAL	Q33	524.550	5525.564	5525.189	1686485.235	3202933.278
EDGE OF ROAD	Q34	525.430	5525.573	5525.198	1686484.362	3202933.290
ELECTRICAL	Q35	530.950	5525.628	5525.253	1686478.840	3202933.366
ELECTRICAL	Q36	531.940	5525.638	5525.263	1686477.848	3202933.379
AW	Q37	539.830	5525.717	5525.342	1686469.964	3202933.488
SANITARY	Q38	551.600	5525.835	5525.460	1686458.193	3202933.650
COMM	Q39	574.130	5526.060	5525.685	1686435.667	3202933.960
TEE CONNECTION TO OT-001	Q40	588.050	5526.199	5525.824	1686421.750	3202934.152
TRANSFER LINE NO.1 PIPING	Q41	593.550	5526.254	5525.879	1686416.251	3202934.228
ELBOW - BG	Q42	629.840	5527.434	5527.059	1686379.960	3202934.728
OT-002 RECEIPT SUMP	Q43	637.440	5527.681	5527.306	1686380.065	3202942.331

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DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILE NAME: BUCO00102MS401.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUELS PIPING PROFILES
SHEET 12 OF 16

SHEET ID
MS212

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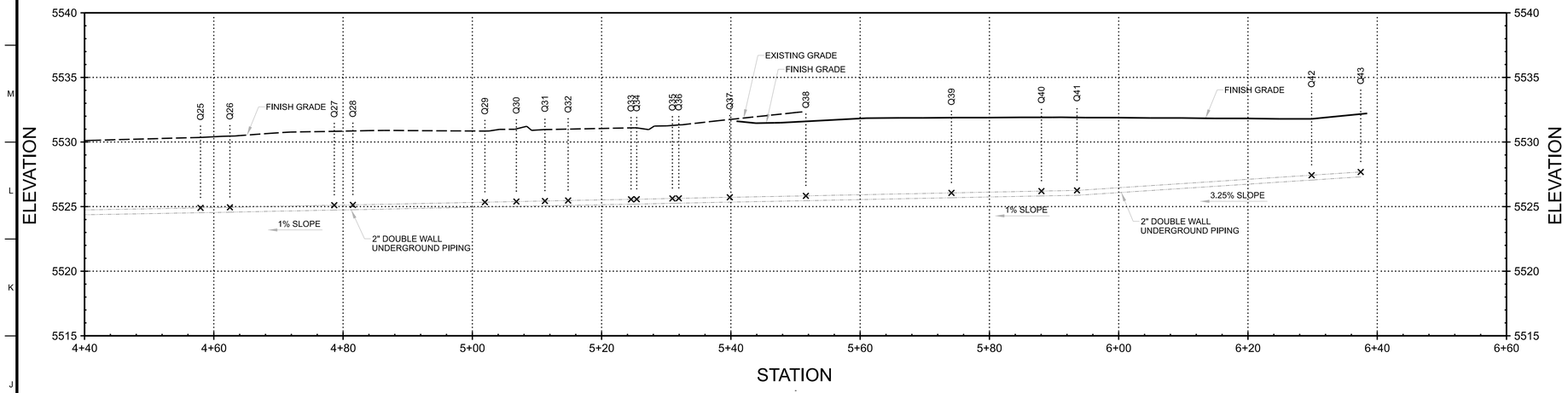

J1 TRANSFER LINE NO.2 PIPING PROFILE

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
TEE AT FILTER SHELTER	Q1	0.500	5526.849	5526.651	1686382.039	3202564.161
DBB PLUG VALVE	Q2	1.220	5526.849	5526.651	1686382.049	3202564.880
PIPE SUPPORT	Q3	2.350	5526.849	5526.651	1686382.064	3202566.015
ELBOW - AG	Q4	3.230	5526.849	5526.651	1686382.076	3202566.890
ELBOW - BG	Q5	3.230	5520.351	5519.976	1686382.076	3202566.890
INSIDE EDGE OF CONTAINMENT PAD	Q6	4.460	5520.364	5519.989	1686382.093	3202568.124
OUTSIDE EDGE OF CONTAINMENT PAD	Q7	4.960	5520.369	5519.994	1686382.100	3202568.624
COMM	Q8	5.630	5520.375	5520.000	1686382.110	3202569.292
ELECTRICAL	Q9	6.220	5520.381	5520.006	1686382.118	3202569.882
ELBOW - BG	Q10	13.970	5520.459	5520.084	1686382.224	3202577.626
COMM	Q11	15.470	5520.474	5520.099	1686383.724	3202577.606
ELECTRICAL	Q12	34.670	5520.666	5520.291	1686402.930	3202577.341
COMM	Q13	77.680	5521.096	5520.721	1686445.936	3202576.749
ELECTRICAL	Q14	81.600	5521.135	5520.760	1686449.855	3202576.695
ELECTRICAL	Q15	92.870	5521.248	5520.873	1686461.118	3202576.540
ELECTRICAL	Q16	141.360	5521.733	5521.358	1686509.609	3202575.872
ELBOW - BG	Q17	143.110	5521.750	5521.375	1686511.354	3202575.848
CWS	Q18	158.950	5521.908	5521.533	1686511.572	3202591.688
COMM	Q19	309.850	5523.417	5523.042	1686513.650	3202742.573
AW	Q20	343.330	5523.752	5523.377	1686514.111	3202776.047
COMM	Q21	380.820	5524.127	5523.752	1686514.628	3202813.540
SANITARY	Q22	393.250	5524.251	5523.876	1686514.799	3202825.968
ELECTRICAL	Q23	421.230	5524.531	5524.156	1686515.184	3202853.941
ELECTRICAL	Q24	430.500	5524.624	5524.249	1686515.312	3202863.208
45 BEND	Q25	457.940	5524.898	5524.523	1686515.690	3202890.648
ELECTRICAL	Q26	462.490	5524.944	5524.569	1686513.898	3202894.828
45 BEND	Q27	478.640	5525.105	5524.730	1686507.532	3202909.672
SANITARY	Q28	481.520	5525.134	5524.759	1686507.572	3202912.550
ELBOW - BG	Q29	501.940	5525.338	5524.963	1686507.847	3202932.966
ELECTRICAL	Q30	506.810	5525.387	5525.012	1686502.979	3202933.033
EDGE OF ROAD	Q31	511.230	5525.431	5525.056	1686498.559	3202933.094
GAS	Q32	514.810	5525.467	5525.092	1686494.974	3202933.143
ELECTRICAL	Q33	524.550	5525.564	5525.189	1686485.235	3202933.278
EDGE OF ROAD	Q34	525.430	5525.573	5525.198	1686484.362	3202933.290
ELECTRICAL	Q35	530.950	5525.628	5525.253	1686478.840	3202933.366
ELECTRICAL	Q36	531.940	5525.638	5525.263	1686477.848	3202933.379
AW	Q37	539.830	5525.717	5525.342	1686469.964	3202933.488
SANITARY	Q38	551.600	5525.835	5525.460	1686458.193	3202933.650
COMM	Q39	574.130	5526.060	5525.685	1686435.667	3202933.960
TEE CONNECTION TO OT-001	Q40	588.050	5526.199	5525.824	1686421.750	3202934.152
TRANSFER LINE NO.1 PIPING	Q41	593.550	5526.254	5525.879	1686416.251	3202934.228
ELBOW - BG	Q42	629.840	5527.434	5527.059	1686379.960	3202934.728
OT-002 RECEIPT SUMP	Q43	637.440	5527.681	5527.306	1686380.065	3202942.331

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

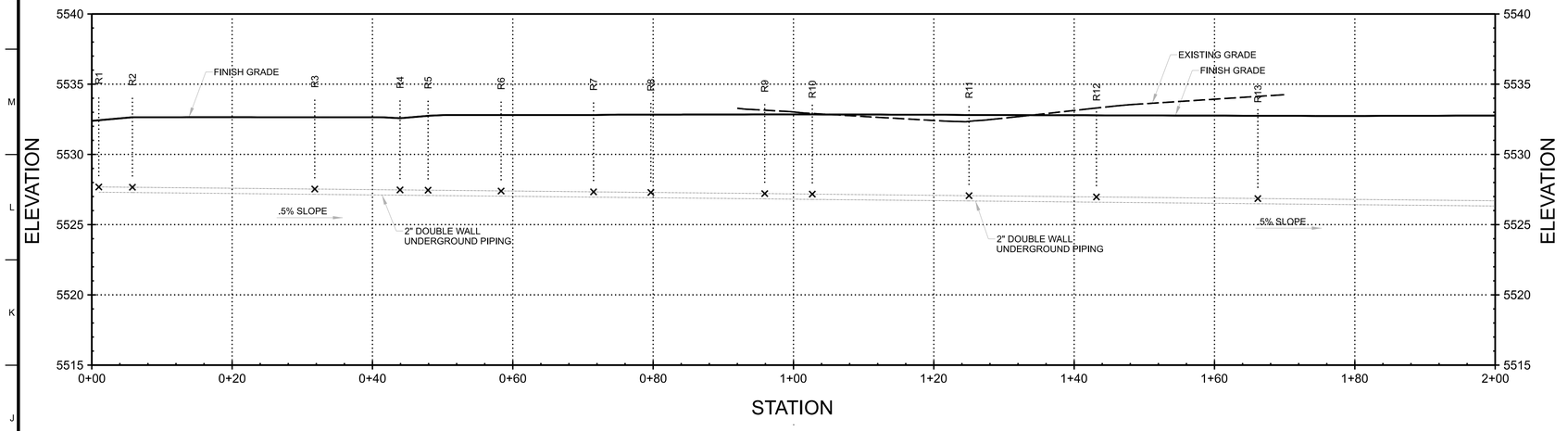
BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUELS PIPING PROFILES
SHEET 13 OF 16

SHEET ID
MS213

ADVERTISEMENT

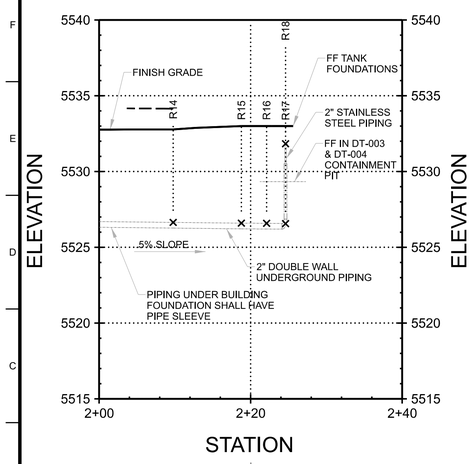
DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
OP STORAGE TANK OT-001 (IP-O1) SUMP	R1	1.000	5527.681	5527.306	1686410.870	3202946.420
TEE CONNECTION TO IP-O3 PIPING FROM OT-002	R2	5.790	5527.657	5527.282	1686410.940	3202951.210
COMM	R3	31.780	5527.527	5527.152	1686436.930	3202950.850
ELBOW - BG	R4	43.930	5527.466	5527.091	1686449.080	3202950.680
COMM	R5	47.920	5527.446	5527.071	1686449.140	3202954.670
TEE CONNECTION TO DT-001 AND DT-002	R6	58.330	5527.394	5527.019	1686449.280	3202965.080
COMM	R7	71.500	5527.328	5526.953	1686449.460	3202978.250
GB1 LUBE OIL WASTE PIPING	R8	79.670	5527.287	5526.912	1686449.580	3202986.420
COMM	R9	95.900	5527.206	5526.831	1686449.800	3203002.640
GB2 LUBE OIL WASTE PIPING	R10	102.680	5527.172	5526.797	1686449.890	3203009.420
SD	R11	125.010	5527.061	5526.686	1686450.200	3203031.750
GB3 LUBE OIL WASTE PIPING	R12	143.170	5526.970	5526.595	1686450.450	3203049.910
GB4 LUBE OIL WASTE PIPING	R13	166.170	5526.855	5526.480	1686450.770	3203072.910
ELBOW - BG	R14	209.780	5526.637	5526.262	1686451.368	3203116.510
OUTSIDE EDGE OF BUILDING	R15	218.780	5526.592	5526.217	1686442.369	3203116.634
INSIDE EDGE OF DT-003 & DT-004 CONTAINMENT	R16	222.110	5526.575	5526.200	1686439.036	3203116.680
ELBOW - BG	R17	224.610	5526.563	5526.188	1686436.536	3203116.714
ELBOW - AG	R18	224.610	5531.833	5531.635	1686436.536	3203116.714



J1 OPERATING TANKS EXTERIOR ISSUE HEADER TO DAY TANKS

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'



A1 OPERATING TANKS EXTERIOR ISSUE HEADER TO DAY TANKS

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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%PRODUCTION DATA 3%
%PRODUCTION DATA 2%

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO0102MS401.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

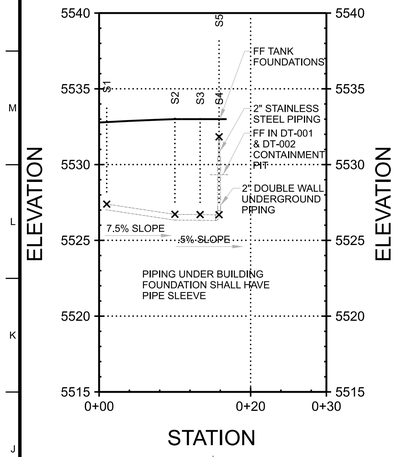
BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUELS PIPING PROFILES
SHEET 14 OF 16

SHEET ID
MS214

ADVERTISEMENT

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
OUTSIDE RECEIPT HEADER TEE CONNECTION	S1	1.000	5527.394	5527.019	1686449.280	3202965.070
OUTSIDE EDGE OF BUILDING	S2	10.000	5526.719	5526.344	1686440.280	3202965.200
INSIDE EDGE OF DT-001 & DT-002 CONTAINMENT	S3	13.330	5526.703	5526.328	1686436.950	3202965.240
ELBOW - BG	S4	15.830	5526.690	5526.315	1686434.450	3202965.280
ELBOW - AG	S5	15.830	5531.833	5531.635	1686434.450	3202965.280

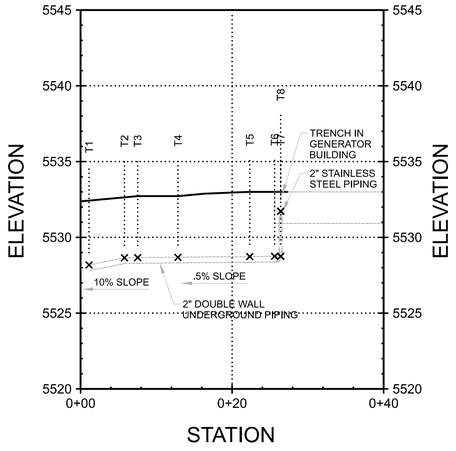


J1 TEE FROM EXTERIOR RECEIPT HEADER TO DAY TANKS NO.1 & NO.2

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
OP STORAGE TANK OT-001 (IP-O2) SUMP	T1	1.110	5528.181	5527.806	1686405.376	3202946.607
OUTSIDE ISSUE HEADER	T2	5.780	5528.648	5528.273	1686405.441	3202951.281
ELBOW - BG	T3	7.540	5528.657	5528.282	1686405.465	3202953.033
TEE CONNECTION TO OT-002 IP-O4 PIPING	T4	12.850	5528.683	5528.308	1686400.146	3202953.106
OUTSIDE EDGE OF BUILDING	T5	22.330	5528.731	5528.356	1686400.276	3202962.584
INSIDE EDGE OF CONTAINMENT TRENCH	T6	25.610	5528.747	5528.372	1686400.321	3202965.860
ELBOW - BG	T7	26.410	5528.751	5528.376	1686400.332	3202966.656
ELBOW - AG	T8	26.410	5531.721	5531.522	1686400.332	3202966.656

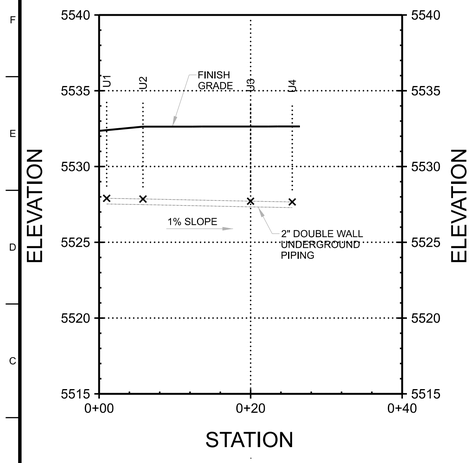


J9 OPERATING TANKS EXTERIOR ISSUE HEADER TO DAY TANKS

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
OP STORAGE TANK OT-002 (IP-O3) SUMP	U1	0.780	5527.902	5527.527	1686391.170	3202946.694
ELBOW - BG	U2	5.570	5527.854	5527.479	1686391.236	3202951.479
OUTSIDE ISSUE HEADER	U3	19.770	5527.712	5527.337	1686405.441	3202951.283
TEE CONNECTION TO IP-O1 PIPING	U4	25.270	5527.657	5527.282	1686410.940	3202951.207

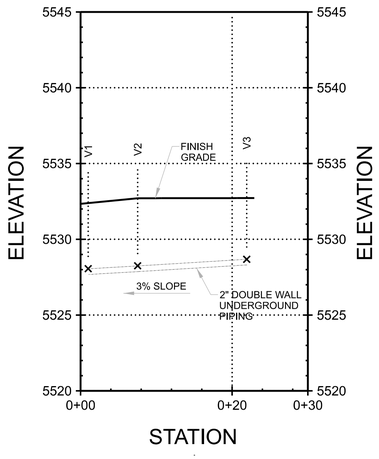


A1 OPERATING TANKS INTERIOR ISSUE HEADER TO DAY TANKS

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
OP STORAGE TANK OT-002 (IP-O4) SUMP	V1	1.000	5528.056	5527.681	1686385.670	3202946.770
ELBOW - BG	V2	7.540	5528.252	5527.877	1686385.760	3202953.304
TEE CONNECTION TO IP-O2 PIPING	V3	21.920	5528.683	5528.308	1686400.146	3202953.106



A9 OPERATING TANKS EXTERIOR ISSUE HEADER TO DAY TANKS

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

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FILENAME: BUCO00102MS401.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUELS PIPING PROFILES
SHEET 15 OF 16

SHEET ID
MS215

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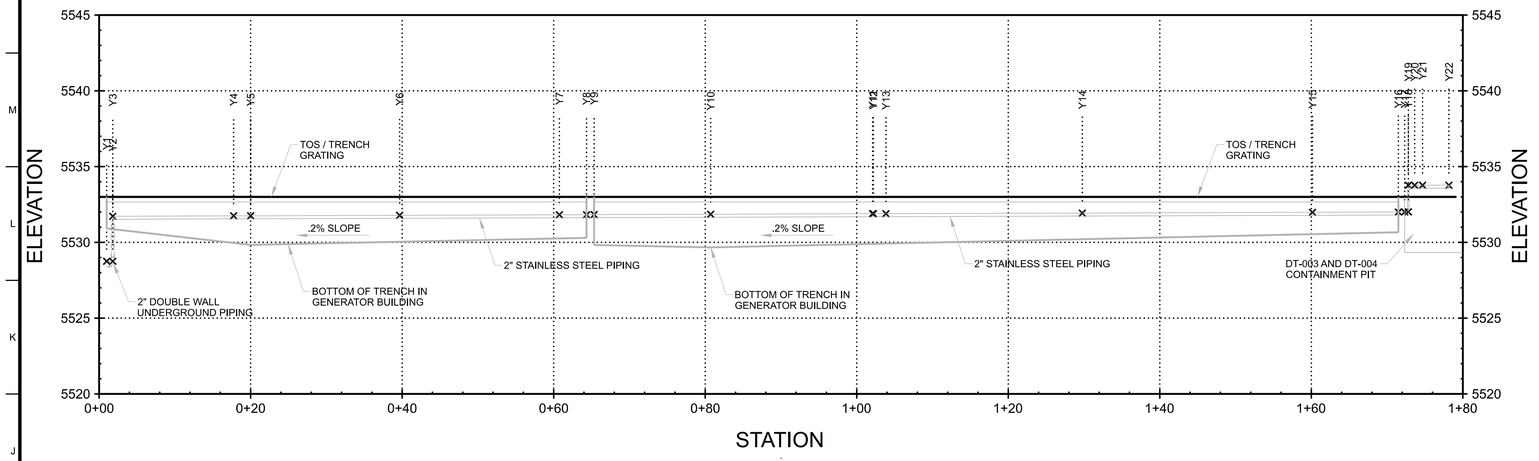

J1 MAIN FUELING TRENCH IN GENERATOR BUILDING

HORIZONTAL SCALE: 1" = 10'
VERTICAL SCALE: 1" = 5'

0 10' 20'
0 5' 10'

DESCRIPTION	COGO POINT	BASELINE STATION	ELEVATION - TOP (FT)	ELEVATION - BOP (FT)	NORTHING	EASTING
EDGE OF TRENCH	Y1	0.200	5528.747	5528.372	1686400.321	3202965.860
ELBOW - BG	Y2	1.000	5528.751	5528.376	1686400.332	3202966.656
ELBOW - AG	Y3	1.000	5531.721	5531.522	1686400.332	3202966.656
RECEIPT PIPING TEE TO DT-001 & DT-002	Y4	16.950	5531.747	5531.549	1686400.552	3202982.608
TRENCH DRAIN	Y5	19.200	5531.751	5531.553	1686400.583	3202984.858
LUBE OIL PIPING	Y6	38.870	5531.784	5531.585	1686400.854	3203004.523
LUBE OIL PIPING	Y7	59.950	5531.819	5531.621	1686401.144	3203025.604
CENTER WALL OF BUILDING	Y8	63.540	5531.825	5531.627	1686401.194	3203029.187
CENTER WALL OF BUILDING	Y9	64.540	5531.827	5531.628	1686401.207	3203030.187
TRENCH DRAIN	Y10	79.930	5531.852	5531.654	1686401.419	3203045.574
45 DEGREE ELBOW	Y11	101.290	5531.888	5531.689	1686401.714	3203066.935
LUBE OIL PIPING	Y12	101.390	5531.888	5531.690	1686401.643	3203067.007
45 DEGREE ELBOW	Y13	103.060	5531.891	5531.692	1686400.482	3203068.201
90 DEGREE ELBOW	Y14	128.970	5531.934	5531.736	1686400.839	3203094.115
90 DEGREE ELBOW	Y15	159.350	5531.985	5531.786	1686431.218	3203093.696
EDGE OF TRENCH	Y16	170.690	5532.003	5531.805	1686431.374	3203105.029
EDGE OF DAY TANK ROOM	Y17	171.520	5532.005	5531.807	1686431.386	3203105.862
ELBOW	Y18	172.010	5532.006	5531.807	1686431.393	3203106.351
ELBOW	Y19	172.010	5533.766	5533.568	1686431.393	3203106.351
DT-004 GEN ISSUE PIPING	Y20	172.840	5533.766	5533.568	1686431.404	3203107.184
DT-004 GEN RETURN PIPING	Y21	173.870	5533.766	5533.568	1686431.418	3203108.216
TEE BETWEEN DT-003 & DT-004	Y22	177.350	5533.766	5533.568	1686431.466	3203111.695

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FUELS PIPING PROFILES
SHEET 16 OF 16

SHEET ID
MS216

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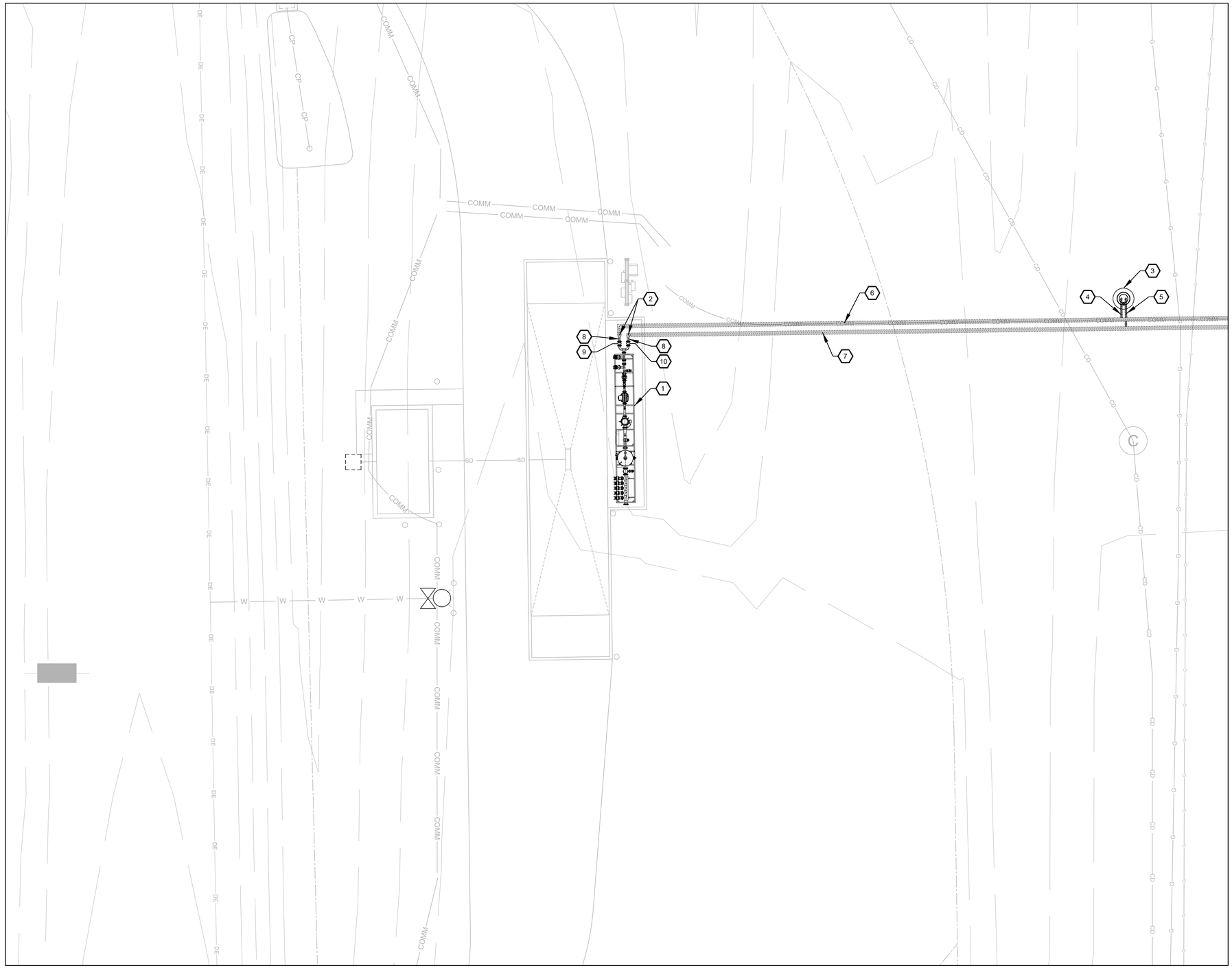


PLAN NORTH

A1 TRUCK OFFLOAD ENLARGED SITE PLAN
SCALE: 1" = 10'

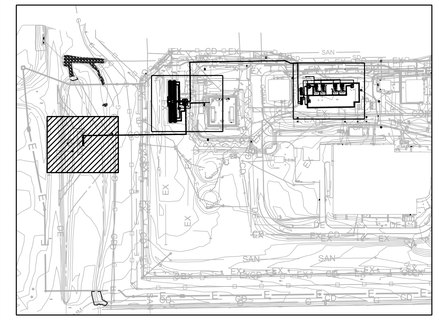
GENERAL SHEET NOTES

1. ALL UNDERGROUND PIPING SHALL BE DOUBLE WALL PIPING. THE CONTAINMENT PIPE SHALL BE FIBERGLASS REINFORCED PIPING. THE CARRIER PIPING SHALL BE BUTT WELDED STAINLESS STEEL PIPING. LEAK DETECTION SHALL BE PROVIDED IN THE INTERSTITIAL SPACE AT LOW POINTS.
2. ALL VALVES UPSTREAM OF PUMPS MUST BE FULL PORT.
3. ALL NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL.
4. FIELD VERIFY DIMENSIONS AND ELEVATIONS OF EXISTING CONDITIONS PRIOR TO FABRICATION.
5. MINIMUM WELD CLEARANCES ARE 3" BETWEEN ADJACENT GIRTH WELDS AND 2" BETWEEN PIPE GIRTH WELDS AND ADJACENT BRANCH FITTINGS.

SHEET KEYNOTES

1. 300 GPM TRUCK OFFLOAD SKID
2. ABOVEGROUND / UNDERGROUND TRANSITION
3. LOW POINT DRAIN PIT
4. 2" DOUBLE WALL LOW POINT DRAIN PIPING FROM RECEIPT LINE NO.1
5. 2" DOUBLE WALL LOW POINT DRAIN PIPING FROM RECEIPT LINE NO.2
6. 4" DOUBLE WALL RECEIPT LINE NO.1 - FROM TRUCK OFFLOAD
7. 4" DOUBLE WALL RECEIPT LINE NO.2 - FROM TRUCK OFFLOAD
8. PS-2 PIPE SUPPORT
9. COGO POINT - A2 - STA.: 0+01.89 - SEE SHEET MS201 FOR FULL PROFILE
10. COGO POINT - B2 - STA.: 0+01.89 - SEE SHEET MS202 FOR FULL PROFILE

KEY PLAN



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MARK	DESCRIPTION	DATE

DESIGNED BY: M. PETERSON	ISSUE DATE: 05/01/2025
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CHECKED BY: D. SCHEUFFELE	CONTRACT NO.:
SUBMITTED BY: D. SCHEUFFELE	FILE NUMBER:
SIZE: ANSI D	FILE NAME: BUCO00102MS401.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TRUCK OFFLOAD
ENLARGED SITE PLAN

SHEET ID
MS401

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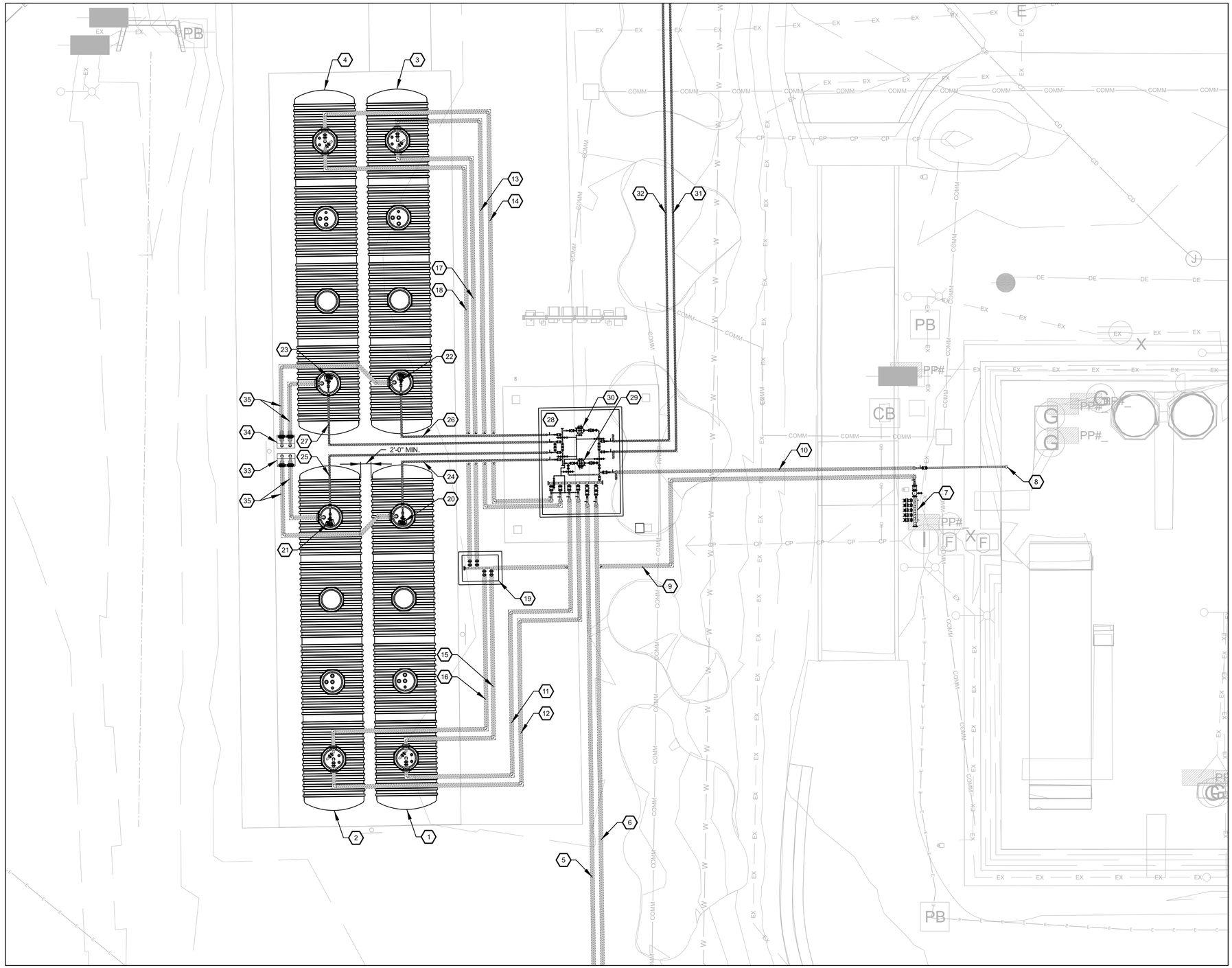


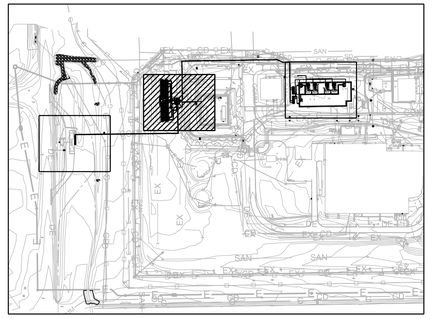
GENERAL SHEET NOTES

1. ALL UNDERGROUND PIPING SHALL BE DOUBLE WALL PIPING. THE CONTAINMENT PIPE SHALL BE FIBERGLASS REINFORCED PIPING. THE CARRIER PIPING SHALL BE BUTT WELDED STAINLESS STEEL PIPING. LEAK DETECTION SHALL BE PROVIDED IN THE INTERSTITIAL SPACE AT LOW POINTS.
2. ALL VALVES UPSTREAM OF PUMPS MUST BE FULL PORT.
3. ALL NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL.
4. FIELD VERIFY DIMENSIONS AND ELEVATIONS OF EXISTING CONDITIONS PRIOR TO FABRICATION.
5. MINIMUM WELD CLEARANCES ARE 3" BETWEEN ADJACENT GIRTH WELDS AND 2" BETWEEN PIPE GIRTH WELDS AND ADJACENT BRANCH FITTINGS.

SHEET KEYNOTES

1. 50,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND BULK STORAGE TANK - BT-001
2. 50,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND BULK STORAGE TANK - BT-002
3. 50,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND BULK STORAGE TANK - BT-003
4. 50,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND BULK STORAGE TANK - BT-004
5. 4" DOUBLE WALL RECEIPT LINE NO.1 - FROM TRUCK OFFLOAD
6. 4" DOUBLE WALL RECEIPT LINE NO.2 - FROM TRUCK OFFLOAD
7. DIESEL FUEL GRAVITY TRUCK OFFLOAD
8. CROSS CONNECTION TO EXISTING FUELING FACILITY
9. 4" DOUBLE WALL RECEIPT LINE - FROM GRAVITY TRUCK OFFLOAD
10. 3" DOUBLE WALL TRANSFER LINE - TO/FROM EXISTING FUELING SYSTEM
11. 4" DOUBLE WALL RECEIPT LINE - TO TANK NO.1 FROM PUMPED TRUCK OFFLOAD
12. 4" DOUBLE WALL RECEIPT LINE - TO TANK NO.2 FROM PUMPED TRUCK OFFLOAD
13. 4" DOUBLE WALL RECEIPT LINE - TO TANK NO.3 FROM PUMPED TRUCK OFFLOAD
14. 4" DOUBLE WALL RECEIPT LINE - TO TANK NO.4 FROM PUMPED TRUCK OFFLOAD
15. 4" DOUBLE WALL RECEIPT LINE - TO TANK NO.1 FROM GRAVITY TRUCK OFFLOAD
16. 4" DOUBLE WALL RECEIPT LINE - TO TANK NO.2 FROM GRAVITY TRUCK OFFLOAD
17. 4" DOUBLE WALL RECEIPT LINE - TO TANK NO.3 FROM GRAVITY TRUCK OFFLOAD
18. 4" DOUBLE WALL RECEIPT LINE - TO TANK NO.4 FROM GRAVITY TRUCK OFFLOAD
19. GRAVITY TRUCK OFFLOAD ISOLATION VAULT
20. 100 GPM BULK ISSUE PUMP NO.1 - (IP-F1)
21. 100 GPM BULK ISSUE PUMP NO.2 - (IP-F2)
22. 100 GPM BULK ISSUE PUMP NO.3 - (IP-F3)
23. 100 GPM BULK ISSUE PUMP NO.4 - (IP-F4)
24. 2" DOUBLE WALL ISSUE LINE - FROM IP-F1 TO FILTRATION FACILITY
25. 2" DOUBLE WALL ISSUE LINE - FROM IP-F2 TO FILTRATION FACILITY
26. 2" DOUBLE WALL ISSUE LINE - FROM IP-F3 TO FILTRATION FACILITY
27. 2" DOUBLE WALL ISSUE LINE - FROM IP-F4 TO FILTRATION FACILITY
28. DIESEL FUEL FILTRATION FACILITY
29. 100 GPM ISSUE FILTER SEPARATOR NO.1
30. 100 GPM ISSUE FILTER SEPARATOR NO.2
31. 2" DOUBLE WALL TRANSFER LINE NO.1 - TO OPERATIONAL STORAGE TANKS
32. 2" DOUBLE WALL TRANSFER LINE NO.2 - TO OPERATIONAL STORAGE TANKS
33. TRANSITION SUMP FOR BT-001 AND BT-002 VENT PIPING
34. TRANSITION SUMP FOR BT-003 AND BT-004 VENT PIPING
35. 4" DOUBLE WALL VENT PIPING

KEY PLAN



A1 BULK STORAGE ENLARGED SITE PLAN
SCALE: 1" = 10'

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

BULK STORAGE
ENLARGED SITE PLAN

SHEET ID
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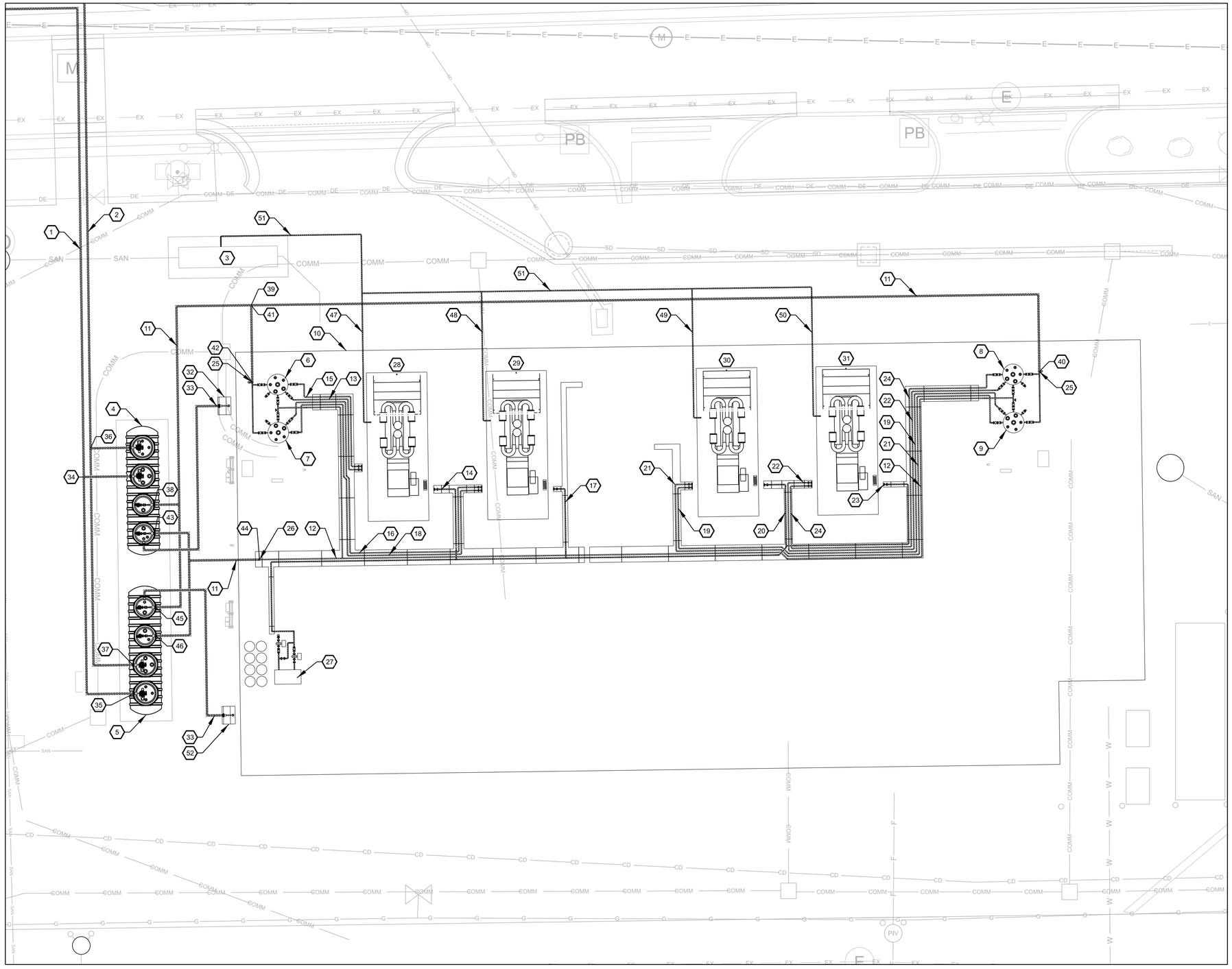


A1 GENERATOR BUILDING ENLARGED SITE PLAN

SCALE: 1" = 10'

PLAN NORTH

0 10' 20'

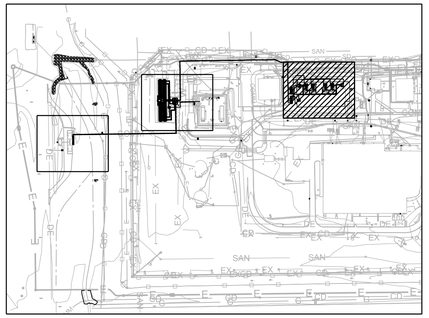
GENERAL SHEET NOTES

1. ALL UNDERGROUND PIPING SHALL BE DOUBLE WALL PIPING. THE CONTAINMENT PIPE SHALL BE FIBERGLASS REINFORCED PIPING. THE CARRIER PIPING SHALL BE BUTT WELDED STAINLESS STEEL PIPING. LEAK DETECTION SHALL BE PROVIDED IN THE INTERSTITIAL SPACE AT LOW POINTS.
2. ALL VALVES UPSTREAM OF PUMPS MUST BE FULL PORT.
3. ALL NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL.
4. FIELD VERIFY DIMENSIONS AND ELEVATIONS OF EXISTING CONDITIONS PRIOR TO FABRICATION.
5. MINIMUM WELD CLEARANCES ARE 3" BETWEEN ADJACENT GIRTH WELDS AND 2" BETWEEN PIPE GIRTH WELDS AND ADJACENT BRANCH FITTINGS.

SHEET KEYNOTES

1. 2" DOUBLE WALL TRANSFER LINE NO.1 - FROM BULK STORAGE TANKS
2. 2" DOUBLE WALL TRANSFER LINE NO.2 - FROM BULK STORAGE TANKS
3. OIL WATER SEPARATOR
4. 5,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND OPERATIONAL STORAGE TANK - OT-001
5. 5,000 GAL DOUBLE WALL FIBERGLASS UNDERGROUND OPERATIONAL STORAGE TANK - OT-002
6. 660 GAL SINGLE WALL VERTICAL STORAGE TANK - DT-001
7. 660 GAL SINGLE WALL VERTICAL STORAGE TANK - DT-002
8. 660 GAL SINGLE WALL VERTICAL STORAGE TANK - DT-003
9. 660 GAL SINGLE WALL VERTICAL STORAGE TANK - DT-004
10. GENERATOR BUILDING
11. 2" DOUBLE WALL ISSUE LINE - FROM OPERATIONAL STORAGE
12. 2" STAINLESS STEEL ISSUE LINE - FROM OPERATIONAL STORAGE
13. 2" STAINLESS STEEL ISSUE LINE TO GB1
14. 2" STAINLESS STEEL LUBE OIL ISSUE LINE TO GB1
15. 2" STAINLESS STEEL RETURN LINE FROM GB1
16. 2" STAINLESS STEEL ISSUE LINE TO GB2
17. 2" STAINLESS STEEL LUBE OIL ISSUE LINE TO GB2
18. 2" STAINLESS STEEL RETURN LINE FROM GB2
19. 2" STAINLESS STEEL ISSUE LINE TO GA1
20. 2" STAINLESS STEEL LUBE OIL ISSUE LINE TO GA1
21. 2" STAINLESS STEEL RETURN LINE FROM GA1
22. 2" STAINLESS STEEL ISSUE LINE TO GA2
23. 2" STAINLESS STEEL LUBE OIL ISSUE LINE TO GA2
24. 2" STAINLESS STEEL RETURN LINE FROM GA2
25. ABOVEGROUND / UNDERGROUND TRANSITION THROUGH FLOOR SLAB
26. ABOVEGROUND / UNDERGROUND TRANSITION THROUGH TRENCH FLOOR SLAB
27. 500 GAL SINGLE WALL HORIZONTAL STORAGE TANK - LUBE OIL
28. GB1
29. GB2
30. GA1
31. GA2
32. TRANSITION SUMP FOR OT-001 VENT PIPING
33. 2" DOUBLE WALL VENT PIPING
34. COGO POINT - P40 - STA.: 5+91.38 - SEE SHEETS MS210 AND MS211 FOR FULL PROFILE
35. COGO POINT - P42 - STA.: 6+42.15 - SEE SHEETS MS210 AND MS211 FOR FULL PROFILE
36. COGO POINT - Q40 - STA.: 5+88.05 - SEE SHEETS MS212 AND MS213 FOR FULL PROFILE
37. COGO POINT - Q43 - STA.: 6+37.44 - SEE SHEETS MS212 AND MS213 FOR FULL PROFILE
38. COGO POINT - R1 - STA.: 0+01.00 - SEE SHEET MS214 FOR FULL PROFILE
39. COGO POINT - R6 - STA.: 0+58.33 - SEE SHEET MS214 FOR FULL PROFILE
40. COGO POINT - R18 - STA.: 2+24.61 - SEE SHEET MS214 FOR FULL PROFILE
41. COGO POINT - S1 - STA.: 0+01.00 - SEE SHEET MS215 FOR FULL PROFILE
42. COGO POINT - S5 - STA.: 0+15.83 - SEE SHEET MS215 FOR FULL PROFILE
43. COGO POINT - T1 - STA.: 0+01.11 - SEE SHEET MS215 FOR FULL PROFILE
44. COGO POINT - T8 - STA.: 0+26.41 - SEE SHEET MS215 FOR FULL PROFILE
45. COGO POINT - U1 - STA.: 0+00.78 - SEE SHEET MS215 FOR FULL PROFILE
46. COGO POINT - V1 - STA.: 0+01.00 - SEE SHEET MS215 FOR FULL PROFILE
47. 2" DOUBLE WALL PIPING - GB1 LUBE OIL DRAIN PIPING
48. 2" DOUBLE WALL PIPING - GB2 LUBE OIL DRAIN PIPING
49. 2" DOUBLE WALL PIPING - GA1 LUBE OIL DRAIN PIPING
50. 2" DOUBLE WALL PIPING - GA2 LUBE OIL DRAIN PIPING
51. 2" DOUBLE WALL PIPING - LUBE OIL DRAIN PIPING HEADER TO OIL WATER SEPARATOR
52. TRANSITION SUMP FOR OT-002 VENT PIPING

KEY PLAN



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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

GENERATOR BUILDING
ENLARGED SITE PLAN

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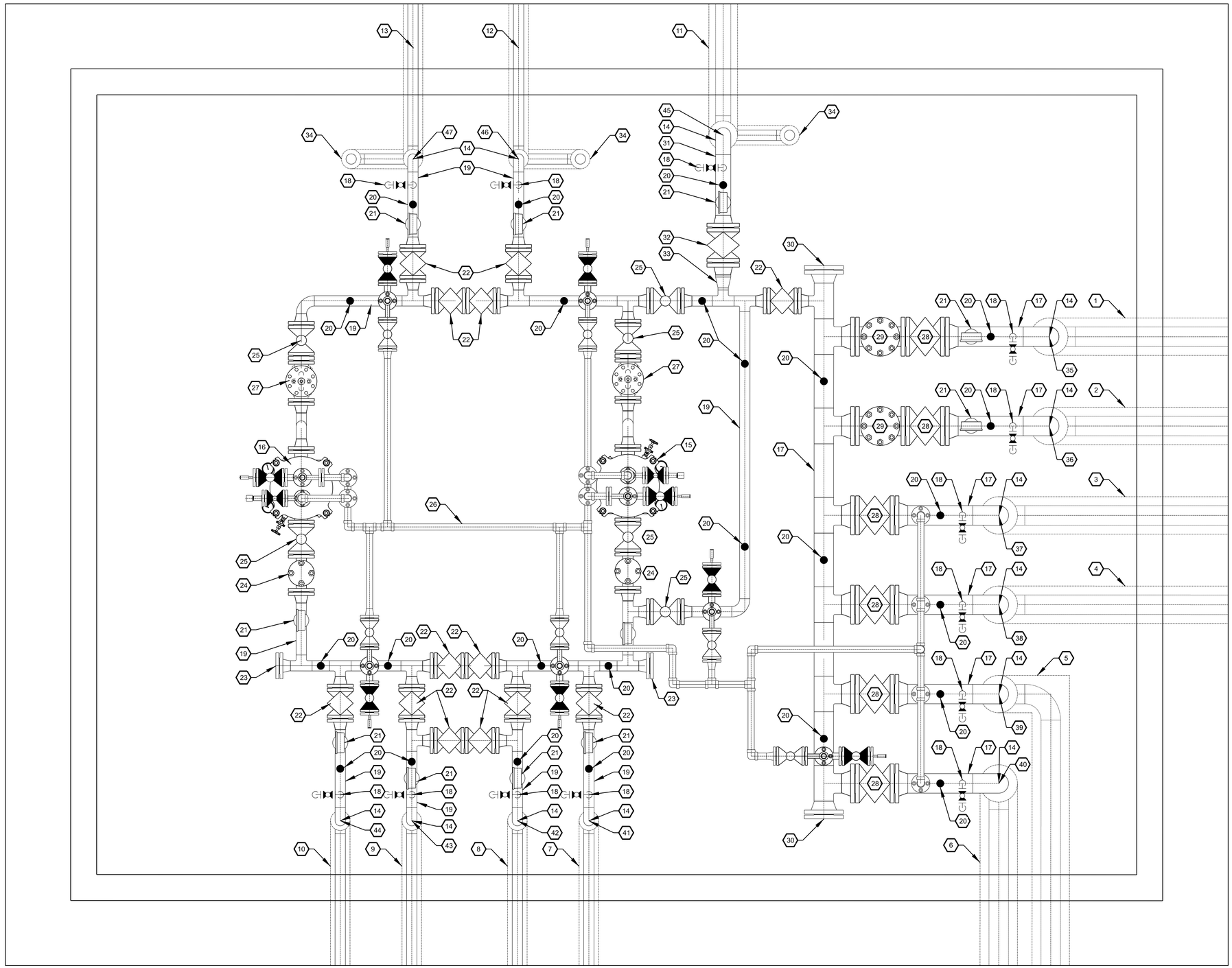

A1 FILTER SHELTER ENLARGED SITE PLAN
SCALE: 1" = 1'

GENERAL SHEET NOTES

1. ALL UNDERGROUND PIPING SHALL BE DOUBLE WALL PIPING. THE CONTAINMENT PIPE SHALL BE FIBERGLASS REINFORCED PIPING. THE CARRIER PIPING SHALL BE BUTT WELDED STAINLESS STEEL PIPING. LEAK DETECTION SHALL BE PROVIDED IN THE INTERSTITIAL SPACE AT LOW POINTS.
2. ALL VALVES UPSTREAM OF PUMPS MUST BE FULL PORT.
3. ALL NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL.
4. FIELD VERIFY DIMENSIONS AND ELEVATIONS OF EXISTING CONDITIONS PRIOR TO FABRICATION.
5. MINIMUM WELD CLEARANCES ARE 3" BETWEEN ADJACENT GIRTH WELDS AND 2" BETWEEN PIPE GIRTH WELDS AND ADJACENT BRANCH FITTINGS.

SHEET KEYNOTES

1. 4" DOUBLE WALL RECEIPT LINE NO.2 - FROM TRUCK OFFLOAD
2. 4" DOUBLE WALL RECEIPT LINE NO.1 - FROM TRUCK OFFLOAD
3. 4" DOUBLE WALL RECEIPT LINE - TO BT-002 FROM PUMPED TRUCK OFFLOAD
4. 4" DOUBLE WALL RECEIPT LINE - TO BT-001 FROM PUMPED TRUCK OFFLOAD
5. 4" DOUBLE WALL RECEIPT LINE - TO BT-003 FROM PUMPED TRUCK OFFLOAD
6. 4" DOUBLE WALL RECEIPT LINE - TO BT-004 FROM PUMPED TRUCK OFFLOAD
7. 2" DOUBLE WALL ISSUE LINE - FROM BT-001
8. 2" DOUBLE WALL ISSUE LINE - FROM BT-002
9. 2" DOUBLE WALL ISSUE LINE - FROM BT-004
10. 2" DOUBLE WALL ISSUE LINE - FROM BT-003
11. 3" DOUBLE WALL TRANSFER LINE - TO/FROM EXISTING FUELING SYSTEM
12. 2" DOUBLE WALL TRANSFER LINE NO.1 - TO OPERATIONAL STORAGE TANKS
13. 2" DOUBLE WALL TRANSFER LINE NO.2 - TO OPERATIONAL STORAGE TANKS
14. ABOVEGROUND / UNDERGROUND TRANSITION
15. 100GPM ISSUE FILTER SEPARATOR NO.1
16. 100GPM ISSUE FILTER SEPARATOR NO.2
17. 4" STAINLESS STEEL ABOVEGROUND RECEIPT PIPING
18. HIGH POINT VENT (TYP.)
19. 2" STAINLESS STEEL ABOVEGROUND PIPING
20. PS-2 PIPE SUPPORT (TYP.)
21. PRESSURE GAUGE
22. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
23. 2" STAINLESS STEEL BLIND FLANGE
24. 2" FLANGED BASKET STRAINER
25. 2" FLANGED BALL VALVE
26. 1" STAINLESS STEEL PIPING (PRESSURE RELIEF PIPING)
27. 2" FLANGED FLOW CONTROL VALVE
28. 4" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
29. 4" FLANGED CHECK VALVE
30. 4" STAINLESS STEEL BLIND FLANGE
31. 3" STAINLESS STEEL ABOVEGROUND PIPING
32. 3" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
33. 3"X2" STAINLESS STEEL REDUCER (FLAT SIDE DOWN)
34. LOW POINT DRAIN AND INTERSTITIAL LEAK DETECTION PROBE LOCATION
35. COGO POINT - B33 - STA.: 4+41.64 - SEE SHEET MS202 FOR FULL PROFILE
36. COGO POINT - A34 - STA.: 4+41.61 - SEE SHEET MS201 FOR FULL PROFILE
37. COGO POINT - E4 - STA.: 0+03.86 - SEE SHEET MS204 FOR FULL PROFILE
38. COGO POINT - D4 - STA.: 0+03.86 - SEE SHEET MS204 FOR FULL PROFILE
39. COGO POINT - F4 - STA.: 0+03.86 - SEE SHEET MS205 FOR FULL PROFILE
40. COGO POINT - G4 - STA.: 0+03.86 - SEE SHEET MS205 FOR FULL PROFILE
41. COGO POINT - L10 - STA.: 0+37.01 - SEE SHEET MS208 FOR FULL PROFILE
42. COGO POINT - M10 - STA.: 0+52.35 - SEE SHEET MS208 FOR FULL PROFILE
43. COGO POINT - O10 - STA.: 0+52.34 - SEE SHEET MS209 FOR FULL PROFILE
44. COGO POINT - N10 - STA.: 0+37.01 - SEE SHEET MS209 FOR FULL PROFILE
45. COGO POINT - W25 - STA.: 0+75.73 - SEE SHEET MS203 FOR FULL PROFILE
46. COGO POINT - P4 - STA.: 0+03.23 - SEE SHEETS MS210 AND MS211 FOR FULL PROFILE
47. COGO POINT - Q4 - STA.: 0+03.23 - SEE SHEETS MS212 AND MS213 FOR FULL PROFILE

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FILTER SHELTER
ENLARGED SITE PLAN

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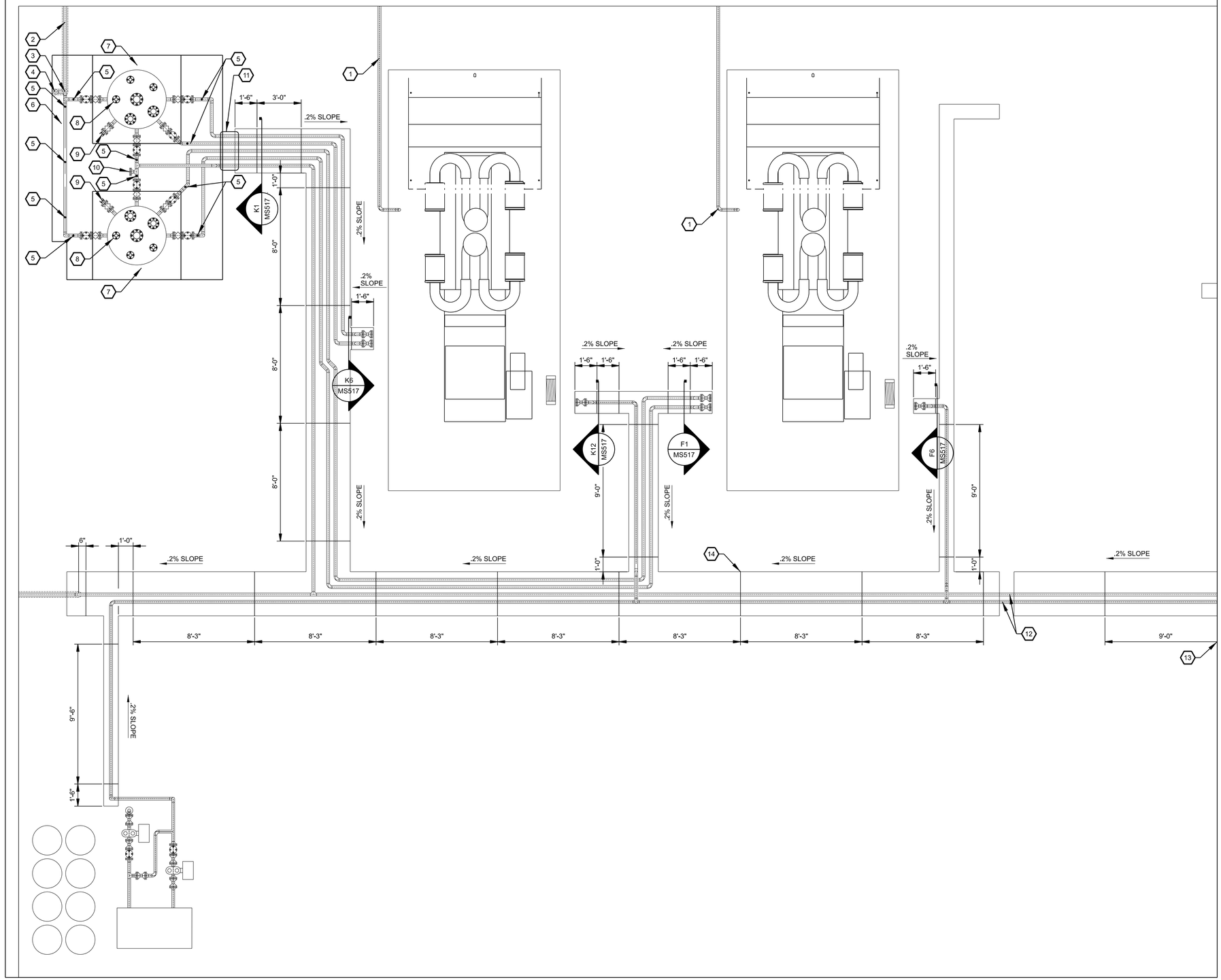

A1 GENERATOR BUILDING PIPE SUPPORT LAYOUT

SCALE: NO SCALE

GENERAL SHEET NOTES

1. ALL UNDERGROUND PIPING SHALL BE DOUBLE WALL PIPING. THE CONTAINMENT PIPE SHALL BE FIBERGLASS REINFORCED PIPING. THE CARRIER PIPING SHALL BE BUTT WELDED STAINLESS STEEL PIPING. LEAK DETECTION SHALL BE PROVIDED IN THE INTERSTITIAL SPACE AT LOW POINTS.
2. ALL VALVES UPSTREAM OF PUMPS MUST BE FULL PORT.
3. ALL NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL.
4. FIELD VERIFY DIMENSIONS AND ELEVATIONS OF EXISTING CONDITIONS PRIOR TO FABRICATION.
5. MINIMUM WELD CLEARANCES ARE 3" BETWEEN ADJACENT GIRTH WELDS AND 2" BETWEEN PIPE GIRTH WELDS AND ADJACENT BRANCH FITTINGS.
6. ALL SLOPES SHOWN ARE FOR PIPING ONLY.
7. SEE SHEETS MS517 AND MS518 FOR PIPE TRENCH DETAILS AND PIPE TRENCH SUPPORT DETAILS.

SHEET KEYNOTES

1. 2" DOUBLE WALL LUBE OIL DRAIN PIPING. PIPING SHALL SLOPE SO THAT THERE IS A CLEARANCE OF 1'-0" BETWEEN TOP OF PIPE AND BOTTOM OF BUILDING FOOTING. PIPING SHALL CONTINUE TO SLOPE A MINIMUM OF .2% UNTIL IT REACHES THE LUBE OIL DRAIN HEADER THAT THEN CONTINUES TO SLOPE A MINIMUM OF .2% UNTIL THE CONNECTION WITH OIL WATER SEPARATOR. THE ENTIRE SECTION OF DOUBLE WALL PIPING THAT RESIDES UNDERNEATH THE BUILDING FOOTING SHALL BE PLACED IN A CARBON STEEL SLEEVE FOR PROTECTION.
2. 2" DOUBLE WALL ISSUE PIPING FROM OPERATING TANKS. THE ENTIRE SECTION OF DOUBLE WALL PIPING THAT RESIDES UNDERNEATH THE BUILDING FOOTING SHALL BE PLACED IN A CARBON STEEL SLEEVE FOR PROTECTION.
3. UNDERGROUND / ABOVEGROUND TRANSITION INTO CONTAINMENT PIT.
4. LOW POINT DRAIN. SEE DETAIL B9 ON SHEET M-506. LOW POINT DRAIN PIPING SHALL BE SECURED TO THE CONTAINMENT PIT WALL.
5. PS-2 PIPE SUPPORT
6. TANK CONTAINMENT PIT
7. TANK FOUNDATION PAD. SEE STRUCTURAL DRAWINGS FOR TANK FOUNDATION DESIGN AND INFORMATION.
8. 2" STAINLESS STEEL VENT PIPING. VENT PIPING FROM DT-001 AND DT-002 SHALL BE FIELD ROUTED PARALLEL TO ONE ANOTHER AND PENETRATE THROUGH THE ROOF OF THE GENERATOR BUILDING. PIPING SHALL HAVE NO SAGS AND SHALL FOLLOW UL-142. ALL PENETRATIONS THROUGH FIRE WALLS SHALL HAVE FIRE CAULKING AND / OR PENETRATION SEALS SO THAT THE SAME FIRE RATING REMAINS. A VENT CAP SHALL RESIDE ON EACH TANK VENT PIPE ONE FOOT OUTSIDE THE PENETRATION OF THE ROOF MINIMUM. VENT PIPING SHALL BE SECURED WITH SMALL BORE PIPE SUPPORTS. PIPE SUPPORTS SHALL BE PROVIDED AT LEAST EVERY 10 FEET.
9. 2" LOW POINT DRAIN CAMLOCK CONNECTION. CONTRACTOR SHALL PROVIDE TWO - FIVE FOOT SECTIONS OF FUEL RATED FLEXIBLE HOSE WITH ALUMINUM FEMALE CAMLOCK CONNECTIONS AND DUST CAPS ON EACH END. FLEXIBLE HOSE CAN BE USED FOR EMPTYING THE DAY TANK TO THE LOWEST EXTENT POSSIBLE WHEN SERVICING TANK. A PUMP CAN BE PLACED BETWEEN ITEM 9 AND ITEM 10 ALLOWING THE TANK TO BE DRAINED BACK INTO THE OPERATING TANKS.
10. BLIND FLANGE CONNECTION. CONTRACTOR TO PROVIDE ONE 2" STAINLESS STEEL CLASS 150 FLANGED MALE CAMLOCK WITH DUST CAP.
11. CONCRETE SECTION BETWEEN CONTAINMENT PIT AND PIPE TRENCH SHALL BE CORE DRILLED FOR EACH PIPE, A SLEEVE FOLLOWING DETAIL J11 ON SHEET M-502 SHALL BE PROVIDED AND INSTALLED FOR EACH PIPE.
12. CONCRETE PARTITION BETWEEN THE TWO SIDES OF THE GENERATOR BUILDING SHALL BE CORE DRILLED FOR EACH PIPE, A SLEEVE FOLLOWING DETAIL J11 ON SHEET M-502 SHALL BE PROVIDED AND INSTALLED FOR EACH PIPE. ALL PENETRATIONS THROUGH FIRE WALLS SHALL HAVE FIRE CAULKING AND / OR PENETRATION SEALS SO THAT THE SAME FIRE RATING REMAINS.
13. SEE SHEET MS406 FOR CONTINUATION.
14. TRENCH PIPE SUPPORT (TYP.)

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GENERATOR BUILDING
PIPE SUPPORT LAYOUT
SHEET 1 OF 2

SHEET ID

MS405

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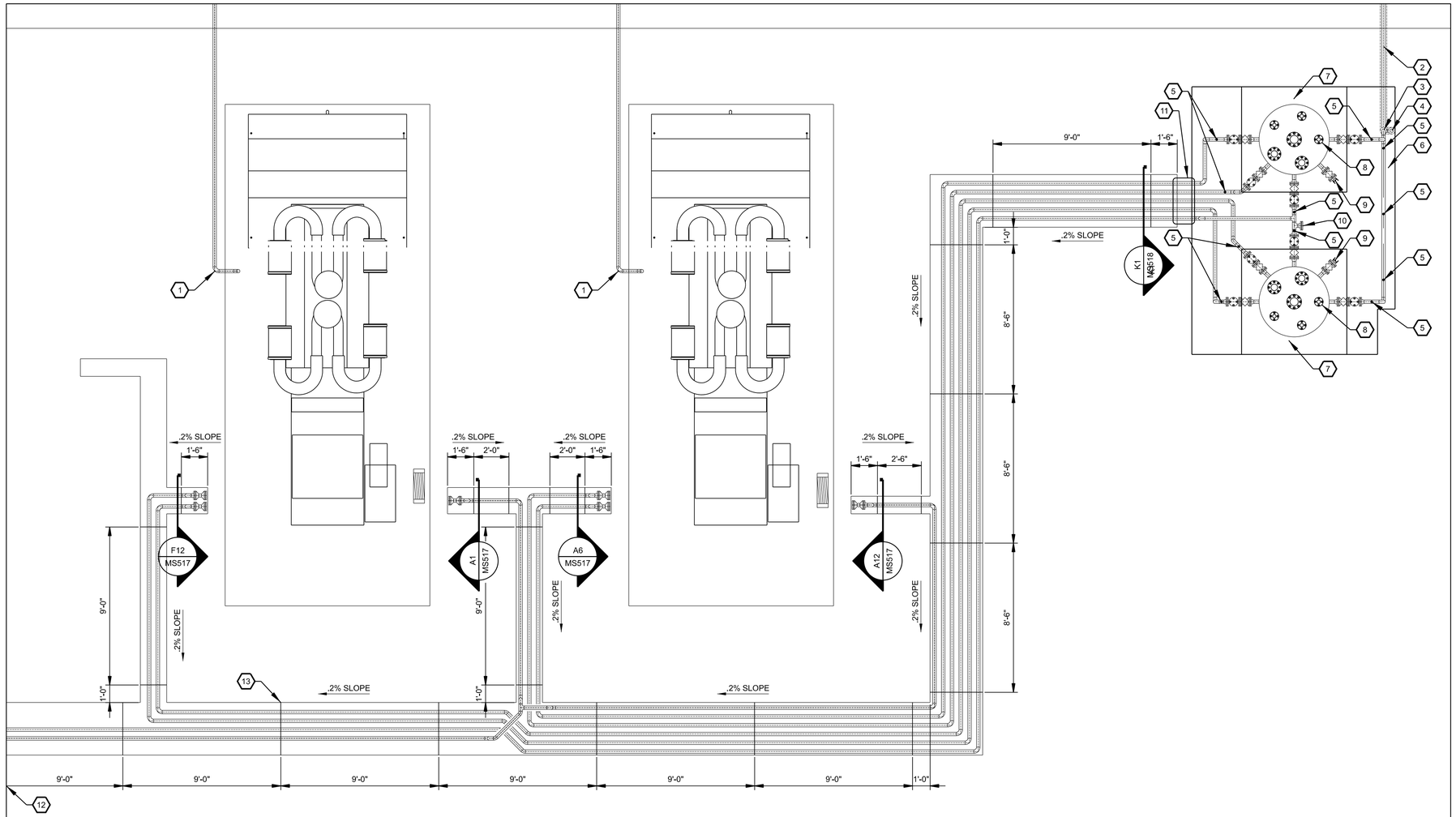

A1 GENERATOR BUILDING ENLARGED SITE PLAN

SCALE: NO SCALE

GENERAL SHEET NOTES

1. ALL UNDERGROUND PIPING SHALL BE DOUBLE WALL PIPING. THE CONTAINMENT PIPE SHALL BE FIBERGLASS REINFORCED PIPING. THE CARRIER PIPING SHALL BE BUTT WELDED STAINLESS STEEL PIPING. LEAK DETECTION SHALL BE PROVIDED IN THE INTERSTITIAL SPACE AT LOW POINTS.
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3. UNDERGROUND / ABOVEGROUND TRANSITION INTO CONTAINMENT PIT.
4. LOW POINT DRAIN. SEE DETAIL B9 ON SHEET M-506. LOW POINT DRAIN PIPING SHALL BE SECURED TO THE CONTAINMENT PIT WALL.
5. PS-2 PIPE SUPPORT
6. TANK CONTAINMENT PIT
7. TANK FOUNDATION PAD. SEE STRUCTURAL DRAWINGS FOR TANK FOUNDATION DESIGN AND INFORMATION.
8. 2" STAINLESS STEEL VENT PIPING. VENT PIPING FROM DT-003 AND DT-004 SHALL BE FIELD ROUTED PARALLEL TO ONE ANOTHER AND PENETRATE THROUGH THE ROOF OF THE GENERATOR BUILDING. PIPING SHALL HAVE NO SAGS AND SHALL FOLLOW UL-142. ALL PENETRATIONS THROUGH FIRE WALLS SHALL HAVE FIRE CAULKING AND / OR PENETRATION SEALS SO THAT THE SAME FIRE RATING REMAINS. A VENT CAP SHALL RESIDE ON EACH TANK VENT PIPE ONE FOOT OUTSIDE THE PENETRATION OF THE ROOF MINIMUM. VENT PIPING SHALL BE SECURED WITH SMALL BORE PIPE SUPPORTS. PIPE SUPPORTS SHALL BE PROVIDED AT LEAST EVERY 10 FEET.
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10. BLIND FLANGE CONNECTION. CONTRACTOR TO PROVIDE ONE 2" STAINLESS STEEL CLASS 150 FLANGED MALE CAMLOCK WITH DUST CAP.
11. CONCRETE SECTION BETWEEN CONTAINMENT PIT AND PIPE TRENCH SHALL BE CORE DRILLED FOR EACH PIPE. A SLEEVE FOLLOWING DETAIL J11 ON SHEET M-502 SHALL BE PROVIDED AND INSTALLED FOR EACH PIPE.
12. SEE SHEET MS405 FOR CONTINUATION.
13. TRENCH PIPE SUPPORT (TYP.)

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GENERATOR BUILDING
PIPE SUPPORT LAYOUT
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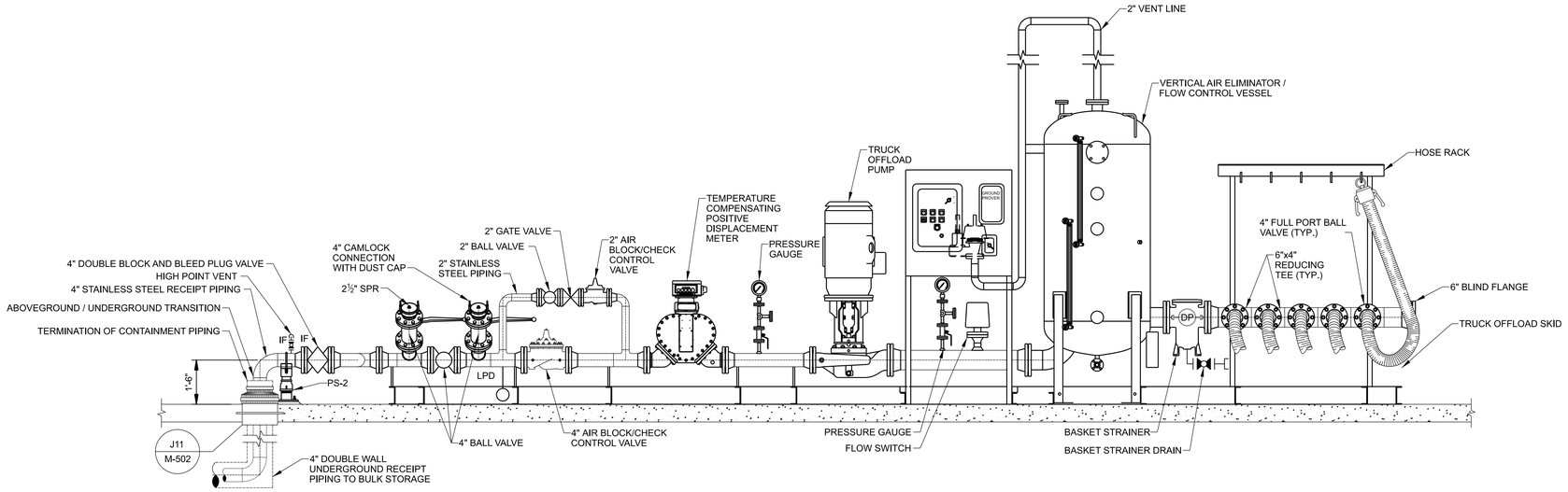
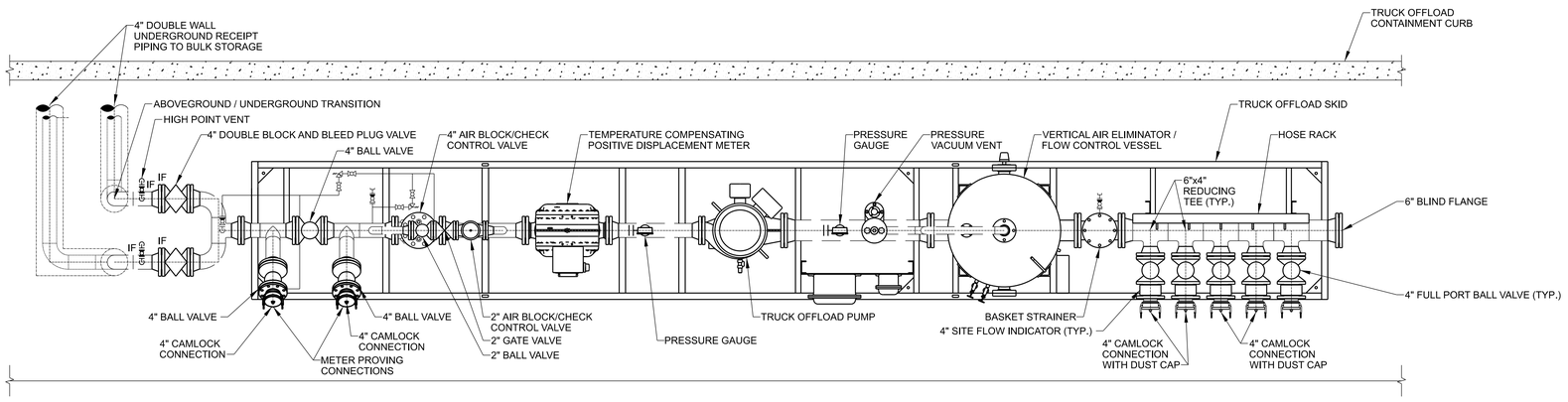


H1 TRUCK OFFLOAD PROFILE VIEW

SCALE: NO SCALE

AIR BLOCK / CHECK VALVE				
CONDITION	4" VALVE ACTION	2" VALVE ACTION	SOLENOID 'A'	SOLENOID 'B'
LOW LEVEL SENSOR IN FUEL	CLOSED	DE-ENERGIZED OPEN 75 GPM	DE- ENERGIZED	DE- ENERGIZED
MIDDLE LEVEL SENSOR IN FUEL	HALF OPEN 150 GPM	ENERGIZED CLOSED	DE- ENERGIZED	ENERGIZED
HIGH LEVEL SENSOR IN FUEL	MOST OPEN 300 GPM	ENERGIZED CLOSED	ENERGIZED	ENERGIZED



A1 TRUCK OFFLOAD PLAN VIEW

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATION.
2. PUMP SUCTION PG RANGE SHALL BE -30 TO 60 IN Hg/PSIG. PUMP DISCHARGE PG RANGE SHALL BE 0-300 PSIG
3. OFFLOAD HOSE SHALL MAINTAIN FLEXIBILITY IN FREEZING CONDITIONS
4. SEE SHEET M-601 FOR SCHEDULES.
5. SEE SHEETS M-505, M-506 AND M-507 FOR DOUBLE WALL PIPING INFORMATION AND DETAILS
6. SEE SHEET M-502 FOR FUEL PIPE CONCRETE PENETRATION DETAIL

SEQUENCE OF OPERATION

THE TRUCK OFFLOAD SYSTEM SKID IS SETUP TO OFFLOAD ONE TRUCK WITH ONE OFFLOAD PUMP. OFFLOAD PUMP (OP-1) IS LOCATED AT TRUCK OFFLOAD NO.1. A START BUTTON IS LOCATED AT THE OFFLOAD STATION.

TO INITIATE A TRUCK OFFLOAD, AN OPERATOR CONNECTS AN OFFLOAD HOSE TO EACH TRUCK COMPARTMENT CONNECTION,OPENS EACH ASSOCIATED COUPLER AND BALL VALVE. FUEL WILL FLOW TO THE AIR ELIMINATOR TANK. WHEN THE LOWER LEVEL SENSOR IS COVERED BY FUEL AND THE START BUTTON IS PUSHED, THE PUMP WILL BE ALLOWED TO START.

AS LONG AS THE LOWER LEVEL SENSOR IS COVERED WITH FUEL, THE PUMP WILL CONTINUE TO RUN. IF FUEL LEVEL DROPS BELOW THE LOWER LEVEL SENSOR, THE CONTROL SYSTEM WILL STOP THE PUMP.

WHILE THE PUMP IS RUNNING, IF ONLY THE LOWER LEVEL SENSOR IS COVERED WITH FUEL THE 2" AIR BLOCK/CHECK VALVE IN THE DISCHARGE LINE WILL BE OPEN TO CONTROL THE FLOW AT 75 GPM. THE 4" AIR BLOCK/CHECK VALVE WILL REMAIN CLOSED.

IF THE FUEL LEVEL IN THE AIR ELIMINATOR TANK RISES AND THE MIDDLE LEVEL SENSOR IS COVERED BY FUEL, SOLENOID "B" WILL BE ENERGIZED ON THE 4" AIR BLOCK/CHECK VALVE, AND THE 4" VALVE WILL OPEN TO CONTROL THE FLOW AT 150 GPM, THE 2" AIR BLOCK/CHECK VALVE WILL BE ENERGIZED TO CLOSE.

IF THE FUEL LEVEL IN THE AIR ELIMINATOR TANK DROPS BELOW THE MIDDLE LEVEL SENSOR, SOLENOID "B" WILL BE DE-ENERGIZED ON THE 4" AIR BLOCK/CHECK VALVE, AND THE VALVE WILL CLOSE, AND THE 2" AIR BLOCK/CHECK VALVE WILL OPEN TO CONTROL THE FLOW AT 75 GPM AS LONG AS THE LOWER LEVEL SENSOR IS COVERED BY FUEL.

IF THE FUEL LEVEL IN THE AIR ELIMINATOR TANK RISES AND THE UPPER LEVEL SENSOR IS COVERED BY FUEL, SOLENOID "A" WILL BE ENERGIZED ON THE 4" AIR BLOCK/CHECK VALVE, AND THE VALVE WILL THEN MODULATE TO CONTROL THE FLOW AT 300 GPM. THE 2" AIR BLOCK/CHECK VALVE WILL REMAIN CLOSED.

IF THE FUEL LEVEL IN THE AIR ELIMINATOR TANK DROPS BELOW THE UPPER LEVEL SENSOR, SOLENOID "A" WILL BE DE-ENERGIZED ON THE 4" AIR BLOCK / CHECK VALVE, AND THE VALVE WILL THEN MODULATE TO CONTROL THE FLOW AT 150 GPM AS LONG AS THE LOWER AND THE MIDDLE LEVEL SENSORS ARE COVERED BY FUEL.

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TRUCK OFFLOAD DETAILS

SHEET ID
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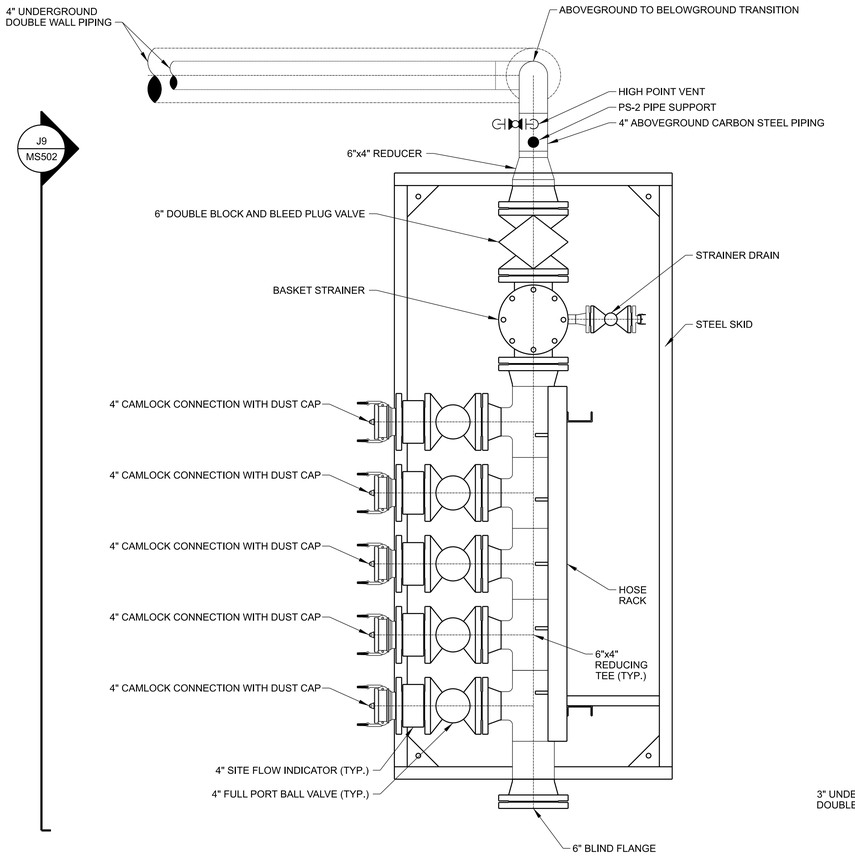
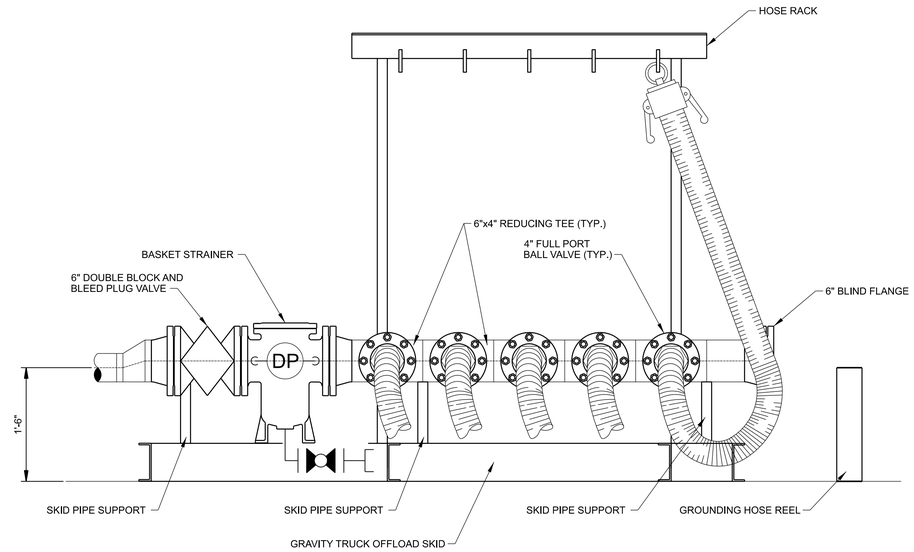
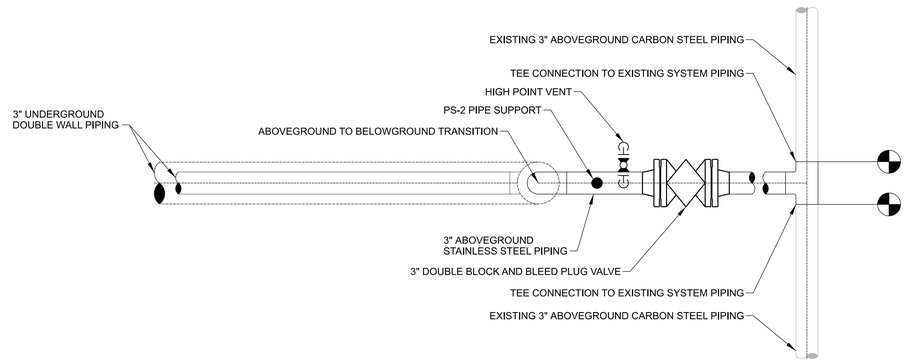


A1 GRAVITY TRUCK OFFLOAD SKID
SCALE: NO SCALE



J9 GRAVITY TRUCK OFFLOAD SKID SECTION
SCALE: NO SCALE



A9 FUEL PIPING CONNECTION TO EXISTING SYSTEM
SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS
2. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED
3. SEE SHEETS M-505, M-506 AND M-507 FOR DOUBLE WALL PIPING INFORMATION AND DETAILS
4. SEE SHEET M-502 FOR FUEL PIPE CONCRETE PENETRATION DETAIL

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

MECHANICAL FUELING SITE DETAILS

SHEET ID
MS502

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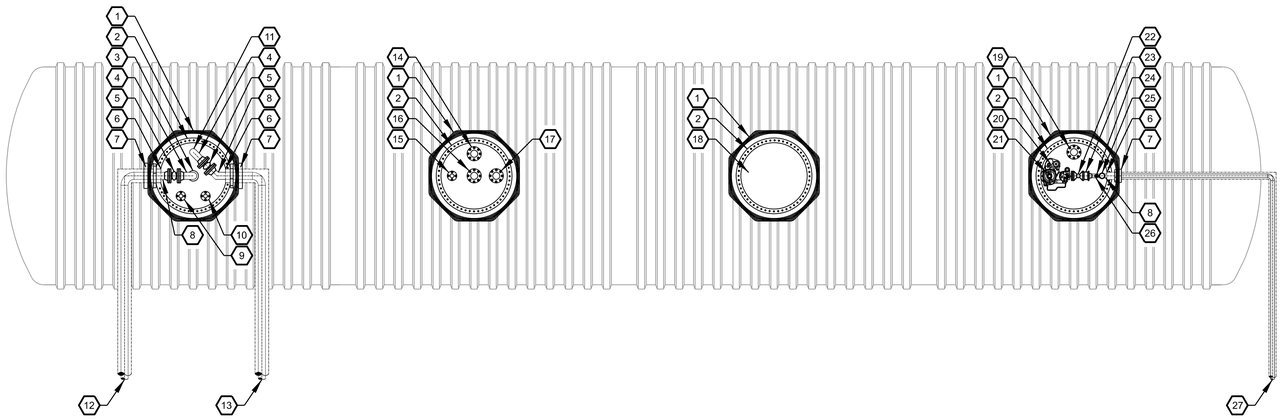
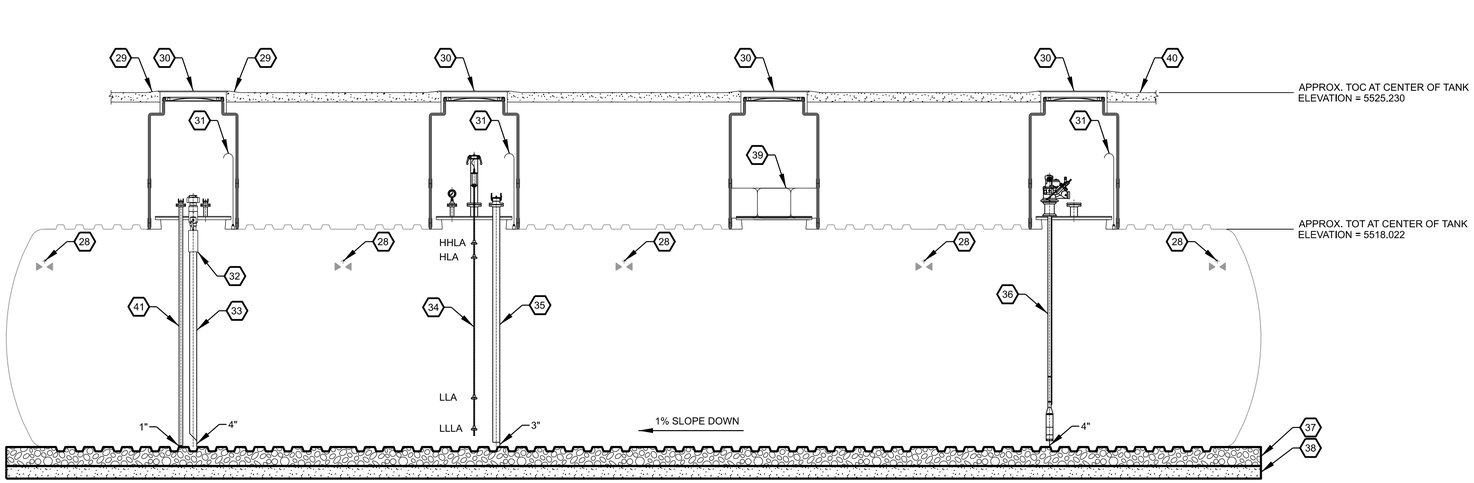


H1 50,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (BT-001) - PLAN VIEW

SCALE: NO SCALE



A1 50,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (BT-001) - PROFILE VIEW

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. PUMP SUCTION PG RANGE SHALL BE -30 TO 60 IN Hg/PSIG. PUMP DISCHARGE PG RANGE SHALL BE 0-300 PSIG.
3. SEE SHEET M-601 FOR TANK SCHEDULES
4. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
5. SEE SHEET M-509 FOR TANK LEVEL ALARM DETAIL
6. EACH TANK WILL BE SLOPED DOWN TO THE WATER DRAW-OFF END AND THE TANK NOZZLES SHALL REMAIN PLUMB WITH ONE ANOTHER DESPITE TANK SLOPE
7. PROVIDE STRIKER PLATES BENEATH EACH TANK NOZZLE
8. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL
9. SEE SHEETS M-505, M-506 AND M-507 FOR DOUBLE WALL PIPING INFORMATION AND DETAILS

(XX) SHEET KEYNOTES

1. 54" DOUBLE WALL FIBERGLASS TANK CONTAINMENT SUMP
2. 48" TANK MANWAY OPENING WITH WATERTIGHT LID
3. 6" MALE NPT TANK NOZZLE - PUMPED RECEIPT OVERFLOW VALVE
4. 4" STAINLESS STEEL RECEIPT PIPING
5. 4" FLANGED KOMPACT FULL PORT BALL VALVE
6. TERMINATION OF DOUBLE WALL PIPING
7. TANK MANWAY SUMP BOOT SEAL
8. LOW POINT DRAIN
9. 2" FLANGED TANK NOZZLE - WATER DRAW-OFF
10. 2" FLANGED TANK NOZZLE - INTERSTITIAL LEAK DETECTION
11. 4" FEMALE NPT TANK NOZZLE - GRAVITY RECEIPT OVERFLOW VALVE
12. 4" DOUBLE WALL PUMPED UNDERGROUND RECEIPT PIPING
13. 4" DOUBLE WALL GRAVITY UNDERGROUND RECEIPT PIPING
14. 4" FLANGED TANK NOZZLE - SPARE
15. 2" FLANGED TANK NOZZLE - CLOCK GAUGE
16. 4" FLANGED TANK NOZZLE - ATG
17. 4" FLANGED TANK NOZZLE - GAUGING PORT
18. 48" MANWAY OPENING WITH WATERTIGHT LID
19. 4" FLANGED TANK NOZZLE - PRIMARY VENT
20. 100GPM ISSUE PUMP (IP-F1)
21. 6" NPT TANK NOZZLE - ISSUE PUMP
22. 2" FLANGED BALL VALVE
23. 2" FLANGED WAFER CHECK VALVE
24. PRESSURE GAUGE
25. FLOW SWITCH
26. 2" STAINLESS STEEL UNDERGROUND ISSUE PIPING
27. 2" DOUBLE WALL UNDERGROUND ISSUE PIPING
28. TANK STRAPS SPACED PER MANUFACTURERS RECOMMENDATION
29. 1" -1½" SLOPE AROUND ALL TANK OPENINGS (TYP.)
30. 42" RAIN TIGHT STEEL MANWAY COVER
31. TANK SUMP LEAK DETECTION PROBE
32. OVERFLOW FLAPPER VALVE. PUMPED RECEIPT FLAPPER VALVE SHALL BE RATED FOR PRESSURIZED RECEIPT. GRAVITY RECEIPT LINE NOT SHOWN IN PROFILE VIEW.
33. 4" STAINLESS STEEL FILL LINE WITH OVERFLOW VALVE
34. AUTOMATIC TANK GAUGE
35. 4" GAUGING PORT WITH DROP TUBE
36. 100GPM SUBMERSIBLE PUMP TO FILTER SHELTER WITH ANTI-SIPHON FEATURE
37. 12" OF BEDDING MATERIAL BETWEEN TANK BOTTOM AND DEADMAN SLAB. BEDDING MATERIAL SHALL FOLLOW TANK MANUFACTURER RECOMMENDATION.
38. TANK DEADMAN SLAB
39. ALL TANK SUMPS SHALL HAVE A POLYGON SUMP BODY
40. 6" REINFORCED CONCRETE
41. 2" STAINLESS STEEL WATER DRAW-OFF PIPING

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: M. PETERSON	ISSUE DATE: 05/01/2025
DRAWN BY: M. PETERSON	SOLICITATION NO.: W9128F25RA043
CHECKED BY: D. SCHEUFFELE	CONTRACT NO.:
SUBMITTED BY: SCHEUFFELE	FILE NUMBER:
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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

BT-001 DETAILS

SHEET ID

MS503

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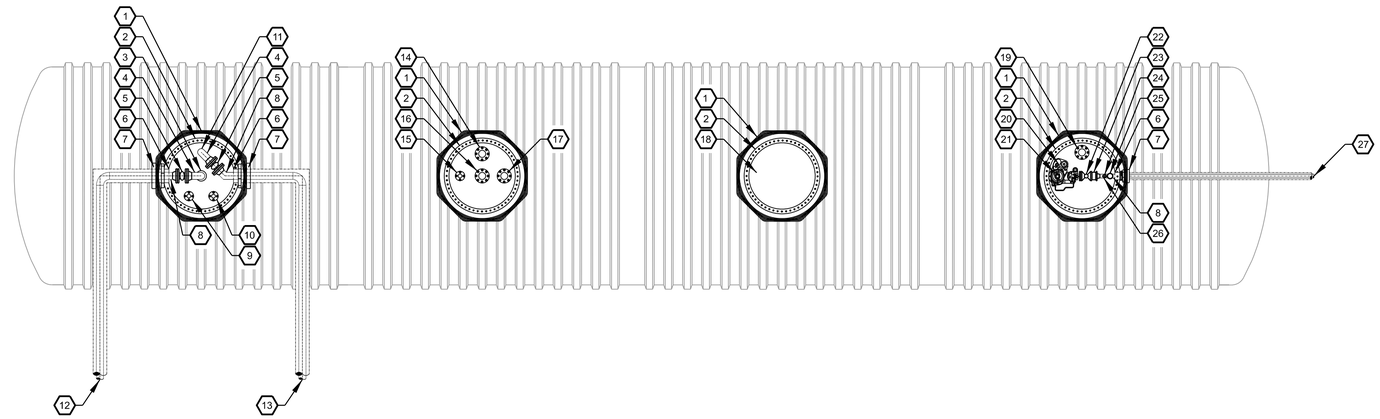
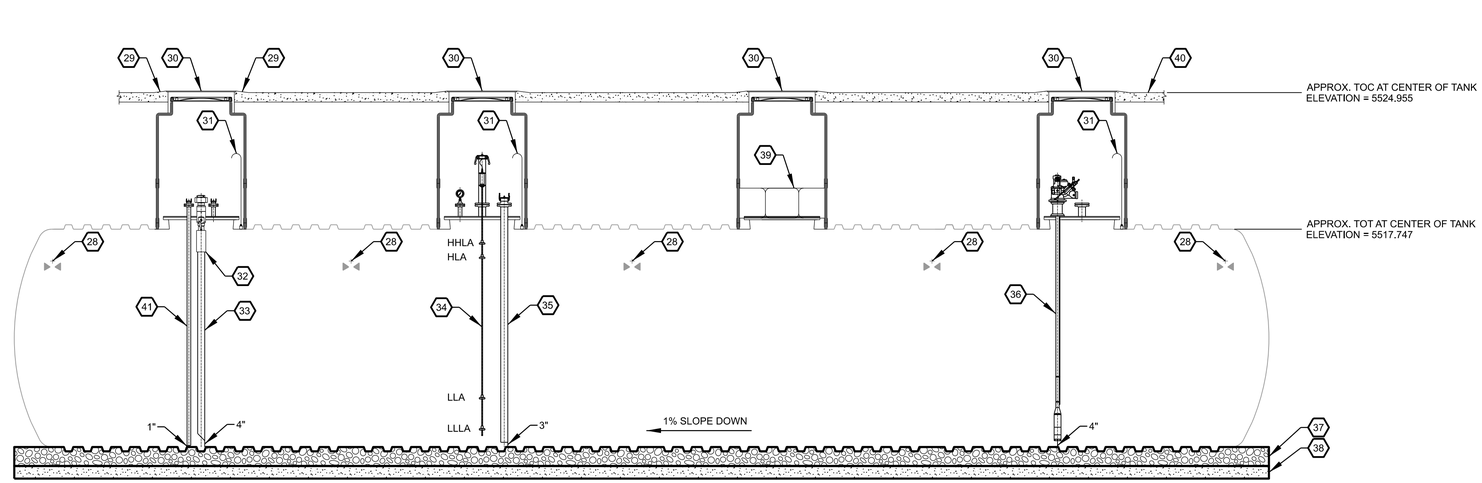


H1 50,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (BT-002) - PLAN VIEW

SCALE: NO SCALE



A1 50,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (BT-002) - PROFILE VIEW

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. PUMP SUCTION PG RANGE SHALL BE -30 TO 60 IN Hg/PSIG. PUMP DISCHARGE PG RANGE SHALL BE 0-300 PSIG.
3. SEE SHEET M-601 FOR TANK SCHEDULES
4. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
5. SEE SHEET M-509 FOR TANK LEVEL ALARM DETAIL
6. EACH TANK WILL BE SLOPED DOWN TO THE WATER DRAW-OFF END AND THE TANK NOZZLES SHALL REMAIN PLUMB WITH ONE ANOTHER DESPITE TANK SLOPE
7. PROVIDE STRIKER PLATES BENEATH EACH TANK NOZZLE
8. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL
9. SEE SHEETS M-505, M-506 AND M-507 FOR DOUBLE WALL PIPING INFORMATION AND DETAILS

(XX) SHEET KEYNOTES

1. 54" DOUBLE WALL FIBERGLASS TANK CONTAINMENT SUMP
2. 48" TANK MANWAY OPENING WITH WATERTIGHT LID
3. 6" MALE NPT TANK NOZZLE - PUMPED RECEIPT OVERFLOW VALVE
4. 4" STAINLESS STEEL RECEIPT PIPING
5. 4" FLANGED KOMPACT FULL PORT BALL VALVE
6. TERMINATION OF DOUBLE WALL PIPING
7. TANK MANWAY SUMP BOOT SEAL
8. LOW POINT DRAIN
9. 2" FLANGED TANK NOZZLE - WATER DRAW-OFF
10. 2" FLANGED TANK NOZZLE - INTERSTITIAL LEAK DETECTION
11. 4" FEMALE NPT TANK NOZZLE - GRAVITY RECEIPT OVERFLOW VALVE
12. 4" DOUBLE WALL PUMPED UNDERGROUND RECEIPT PIPING
13. 4" DOUBLE WALL GRAVITY UNDERGROUND RECEIPT PIPING
14. 4" FLANGED TANK NOZZLE - SPARE
15. 2" FLANGED TANK NOZZLE - CLOCK GAUGE
16. 4" FLANGED TANK NOZZLE - ATG
17. 4" FLANGED TANK NOZZLE - GAUGING PORT
18. 48" MANWAY OPENING WITH WATERTIGHT LID
19. 4" FLANGED TANK NOZZLE - PRIMARY VENT
20. 100GPM ISSUE PUMP (IP-F2)
21. 6" NPT TANK NOZZLE - ISSUE PUMP
22. 2" FLANGED BALL VALVE
23. 2" FLANGED WAFER CHECK VALVE
24. PRESSURE GAUGE
25. FLOW SWITCH
26. 2" STAINLESS STEEL UNDERGROUND ISSUE PIPING
27. 2" DOUBLE WALL UNDERGROUND ISSUE PIPING
28. TANK STRAPS SPACED PER MANUFACTURERS RECOMMENDATION
29. 1" -1½" SLOPE AROUND ALL TANK OPENINGS (TYP.)
30. 42" RAIN TIGHT STEEL MANWAY COVER
31. TANK SUMP LEAK DETECTION PROBE
32. OVERFLOW FLAPPER VALVE. PUMPED RECEIPT FLAPPER VALVE SHALL BE RATED FOR PRESSURIZED RECEIPT. GRAVITY RECEIPT LINE NOT SHOWN IN PROFILE VIEW.
33. 4" STAINLESS STEEL FILL LINE WITH OVERFLOW VALVE
34. AUTOMATIC TANK GAUGE
35. 4" GAUGING PORT WITH DROP TUBE
36. 100GPM SUBMERSIBLE PUMP TO FILTER SHELTER WITH ANTI-SIPHON FEATURE
37. 12" OF BEDDING MATERIAL BETWEEN TANK BOTTOM AND DEADMAN SLAB. BEDDING MATERIAL SHALL FOLLOW TANK MANUFACTURER RECOMMENDATION.
38. TANK DEADMAN SLAB
39. ALL TANK SUMPS SHALL HAVE A POLYGON SUMP BODY
40. 6" REINFORCED CONCRETE
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US Army Corps of Engineers®

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POWER INDEPENDENCE, MISSION CONTROL STATION

BT-002 DETAILS

SHEET ID

MS504

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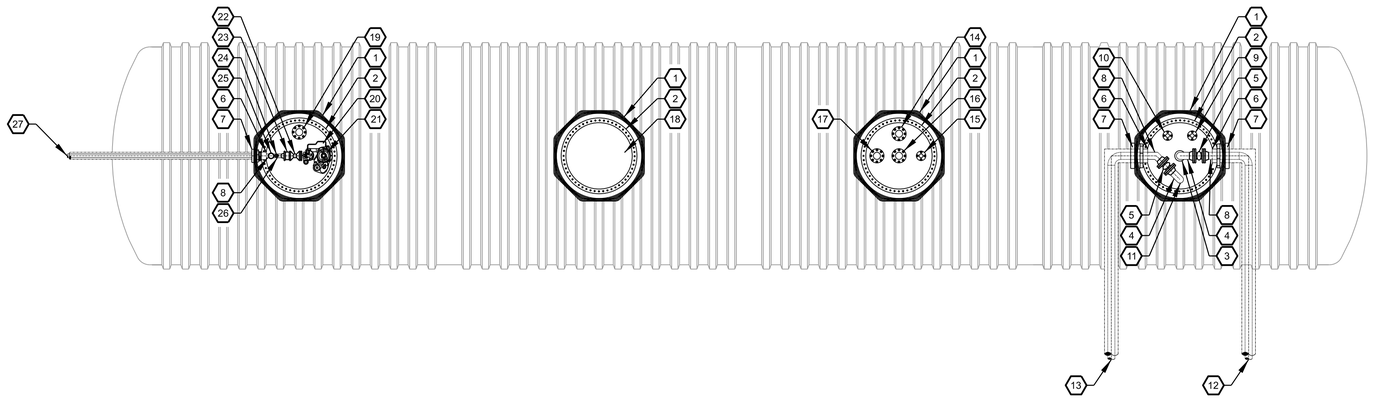
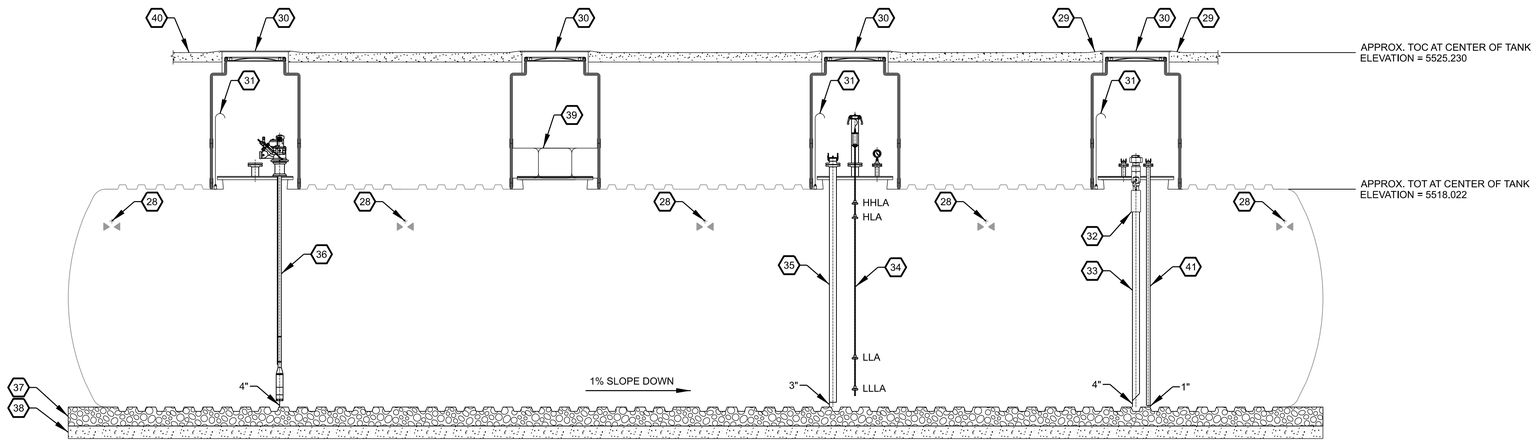


H1 50,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (BT-003) - PLAN VIEW

SCALE: NO SCALE



A1 50,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (BT-003) - PROFILE VIEW

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. PUMP SUCTION PG RANGE SHALL BE -30 TO 60 IN Hg/PSIG. PUMP DISCHARGE PG RANGE SHALL BE 0-300 PSIG.
3. SEE SHEET M-601 FOR TANK SCHEDULES
4. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
5. SEE SHEET M-509 FOR TANK LEVEL ALARM DETAIL
6. EACH TANK WILL BE SLOPED DOWN TO THE WATER DRAW-OFF END AND THE TANK NOZZLES SHALL REMAIN PLUMB WITH ONE ANOTHER DESPITE TANK SLOPE
7. PROVIDE STRIKER PLATES BENEATH EACH TANK NOZZLE
8. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL
9. SEE SHEETS M-505, M-506 AND M-507 FOR DOUBLE WALL PIPING INFORMATION AND DETAILS

(XX) SHEET KEYNOTES

1. 54" DOUBLE WALL FIBERGLASS TANK CONTAINMENT SUMP
2. 48" TANK MANWAY OPENING WITH WATERTIGHT LID
3. 6" MALE NPT TANK NOZZLE - PUMPED RECEIPT OVERFLOW VALVE
4. 4" STAINLESS STEEL RECEIPT PIPING
5. 4" FLANGED KOMPACT FULL PORT BALL VALVE
6. TERMINATION OF DOUBLE WALL PIPING
7. TANK MANWAY SUMP BOOT SEAL
8. LOW POINT DRAIN
9. 2" FLANGED TANK NOZZLE - WATER DRAW-OFF
10. 2" FLANGED TANK NOZZLE - INTERSTITIAL LEAK DETECTION
11. 4" FEMALE NPT TANK NOZZLE - GRAVITY RECEIPT OVERFLOW VALVE
12. 4" DOUBLE WALL PUMPED UNDERGROUND RECEIPT PIPING
13. 4" DOUBLE WALL GRAVITY UNDERGROUND RECEIPT PIPING
14. 4" FLANGED TANK NOZZLE - SPARE
15. 2" FLANGED TANK NOZZLE - CLOCK GAUGE
16. 4" FLANGED TANK NOZZLE - ATG
17. 4" FLANGED TANK NOZZLE - GAUGING PORT
18. 48" MANWAY OPENING WITH WATERTIGHT LID
19. 4" FLANGED TANK NOZZLE - PRIMARY VENT
20. 100GPM ISSUE PUMP (IP-F3)
21. 6" NPT TANK NOZZLE - ISSUE PUMP
22. 2" FLANGED BALL VALVE
23. 2" FLANGED WAFER CHECK VALVE
24. PRESSURE GAUGE
25. FLOW SWITCH
26. 2" STAINLESS STEEL UNDERGROUND ISSUE PIPING
27. 2" DOUBLE WALL UNDERGROUND ISSUE PIPING
28. TANK STRAPS SPACED PER MANUFACTURERS RECOMMENDATION
29. 1" -1½" SLOPE AROUND ALL TANK OPENINGS (TYP.)
30. 42" RAIN TIGHT STEEL MANWAY COVER
31. TANK SUMP LEAK DETECTION PROBE
32. OVERFLOW FLAPPER VALVE. PUMPED RECEIPT FLAPPER VALVE SHALL BE RATED FOR PRESSURIZED RECEIPT. GRAVITY RECEIPT LINE NOT SHOWN IN PROFILE VIEW.
33. 4" STAINLESS STEEL FILL LINE WITH OVERFLOW VALVE
34. AUTOMATIC TANK GAUGE
35. 4" GAUGING PORT WITH DROP TUBE
36. 100GPM SUBMERSIBLE PUMP TO FILTER SHELTER WITH ANTI-SIPHON FEATURE
37. 12" OF BEDDING MATERIAL BETWEEN TANK BOTTOM AND DEADMAN SLAB. BEDDING MATERIAL SHALL FOLLOW TANK MANUFACTURER RECOMMENDATION.
38. TANK DEADMAN SLAB
39. ALL TANK SUMPS SHALL HAVE A POLYGON SUMP BODY
40. 6" REINFORCED CONCRETE
41. 2" STAINLESS STEEL WATER DRAW-OFF PIPING

US Army Corps of Engineers®

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

BT-003 DETAILS

SHEET ID

MS505

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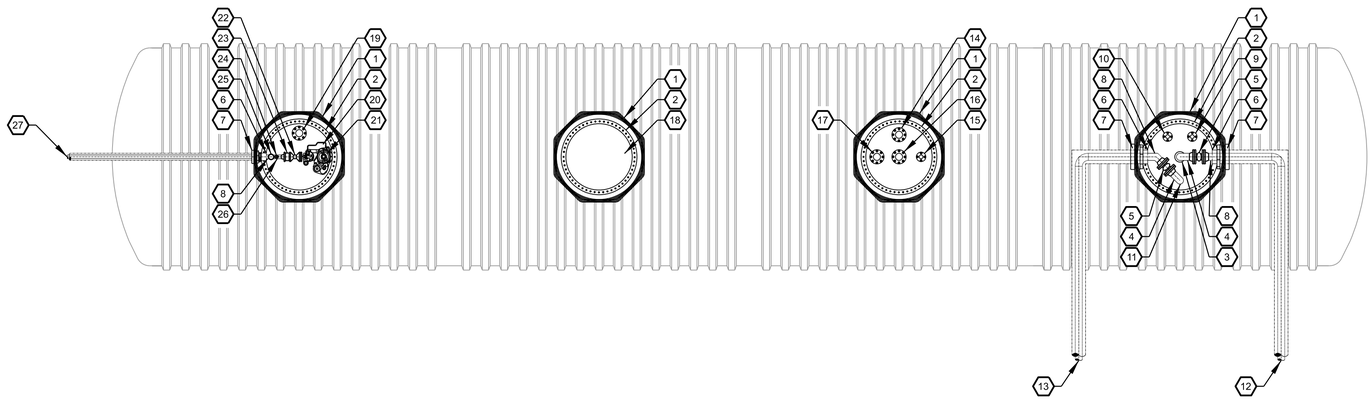
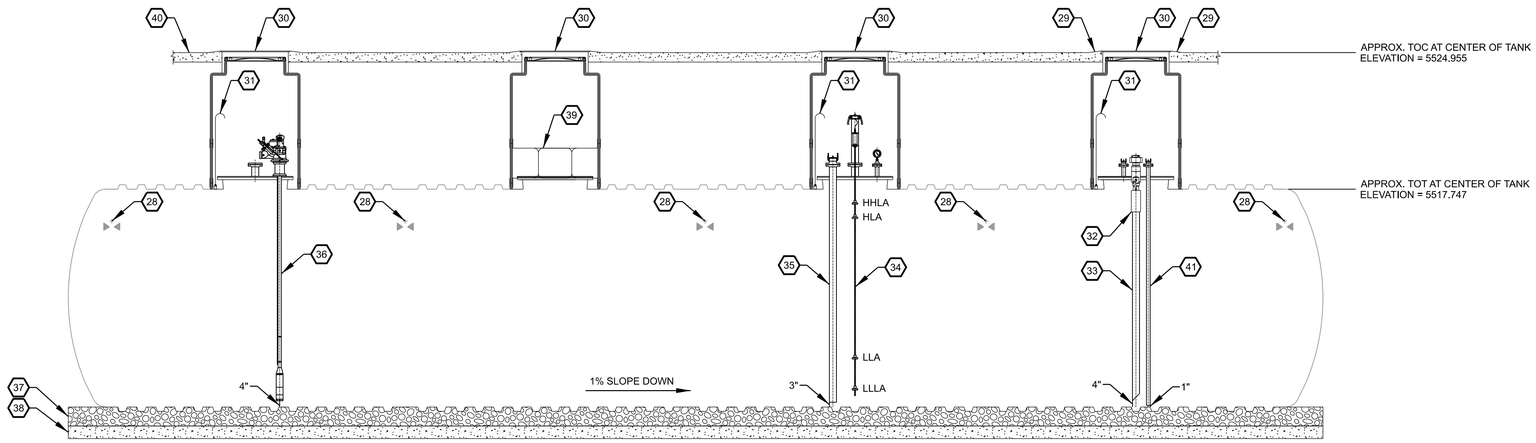


H1 50,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (BT-004) - PLAN VIEW

SCALE: NO SCALE



A1 50,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (BT-004) - PROFILE VIEW

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. PUMP SUCTION PG RANGE SHALL BE -30 TO 60 IN Hg/PSIG. PUMP DISCHARGE PG RANGE SHALL BE 0-300 PSIG.
3. SEE SHEET M-601 FOR TANK SCHEDULES
4. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
5. SEE SHEET M-509 FOR TANK LEVEL ALARM DETAIL
6. EACH TANK WILL BE SLOPED DOWN TO THE WATER DRAW-OFF END AND THE TANK NOZZLES SHALL REMAIN PLUMB WITH ONE ANOTHER DESPITE TANK SLOPE
7. PROVIDE STRIKER PLATES BENEATH EACH TANK NOZZLE
8. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL
9. SEE SHEETS M-505, M-506 AND M-507 FOR DOUBLE WALL PIPING INFORMATION AND DETAILS

(XX) SHEET KEYNOTES

1. 54" DOUBLE WALL FIBERGLASS TANK CONTAINMENT SUMP
2. 48" TANK MANWAY OPENING WITH WATERTIGHT LID
3. 6" MALE NPT TANK NOZZLE - PUMPED RECEIPT OVERFLOW VALVE
4. 4" STAINLESS STEEL RECEIPT PIPING
5. 4" FLANGED KOMPACT FULL PORT BALL VALVE
6. TERMINATION OF DOUBLE WALL PIPING
7. TANK MANWAY SUMP BOOT SEAL
8. LOW POINT DRAIN
9. 2" FLANGED TANK NOZZLE - WATER DRAW-OFF
10. 2" FLANGED TANK NOZZLE - INTERSTITIAL LEAK DETECTION
11. 4" FEMALE NPT TANK NOZZLE - GRAVITY RECEIPT OVERFLOW VALVE
12. 4" DOUBLE WALL PUMPED UNDERGROUND RECEIPT PIPING
13. 4" DOUBLE WALL GRAVITY UNDERGROUND RECEIPT PIPING
14. 4" FLANGED TANK NOZZLE - SPARE
15. 2" FLANGED TANK NOZZLE - CLOCK GAUGE
16. 4" FLANGED TANK NOZZLE - ATG
17. 4" FLANGED TANK NOZZLE - GAUGING PORT
18. 48" MANWAY OPENING WITH WATERTIGHT LID
19. 4" FLANGED TANK NOZZLE - PRIMARY VENT
20. 100GPM ISSUE PUMP (IP-F4)
21. 6" NPT TANK NOZZLE - ISSUE PUMP
22. 2" FLANGED BALL VALVE
23. 2" FLANGED WAFER CHECK VALVE
24. PRESSURE GAUGE
25. FLOW SWITCH
26. 2" STAINLESS STEEL UNDERGROUND ISSUE PIPING
27. 2" DOUBLE WALL UNDERGROUND ISSUE PIPING
28. TANK STRAPS SPACED PER MANUFACTURERS RECOMMENDATION
29. 1" -1½" SLOPE AROUND ALL TANK OPENINGS (TYP.)
30. 42" RAIN TIGHT STEEL MANWAY COVER
31. TANK SUMP LEAK DETECTION PROBE
32. OVERFLOW FLAPPER VALVE. PUMPED RECEIPT FLAPPER VALVE SHALL BE RATED FOR PRESSURIZED RECEIPT. GRAVITY RECEIPT LINE NOT SHOWN IN PROFILE VIEW.
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40. 6" REINFORCED CONCRETE
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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

BT-004 DETAILS

SHEET ID

MS506

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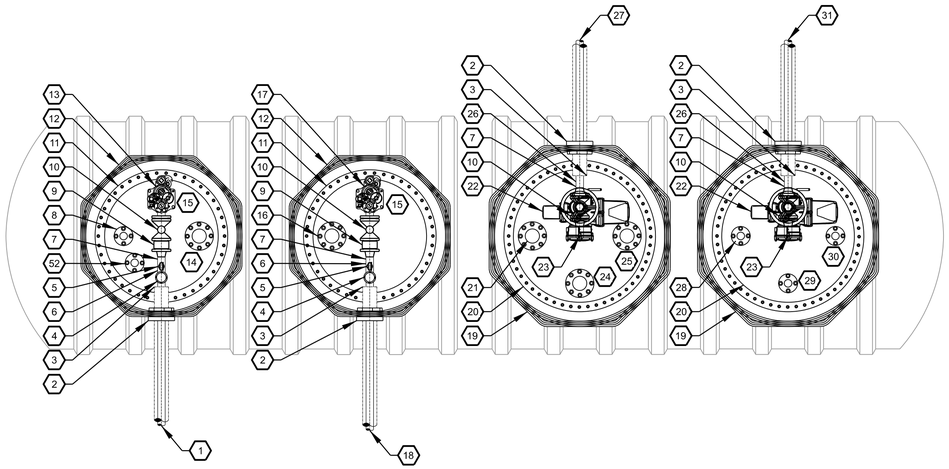
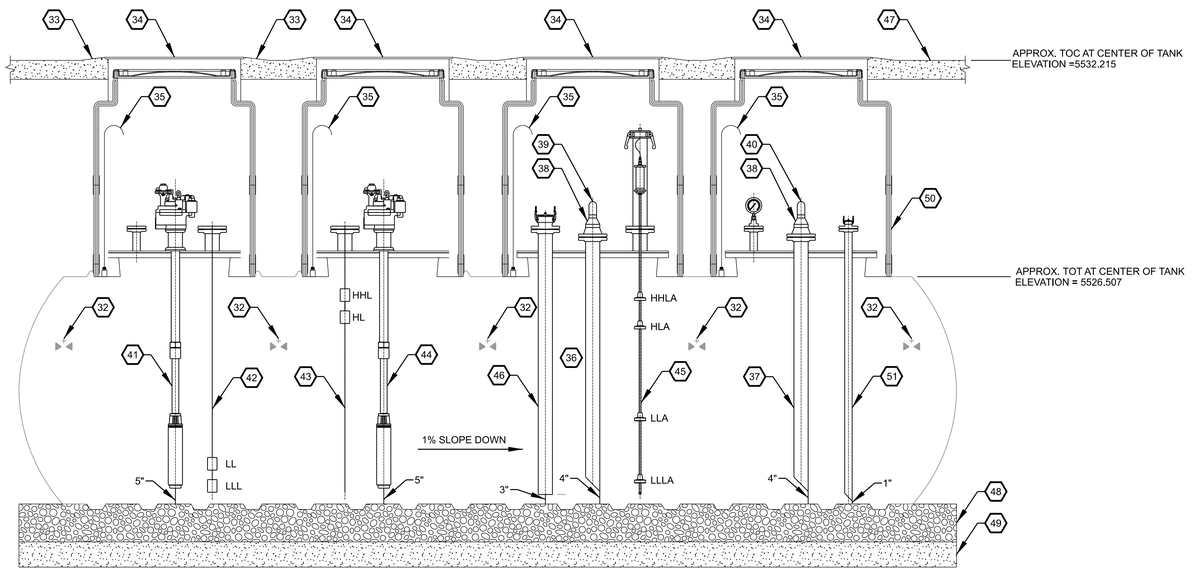


H1 5,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (OT-001) - PLAN VIEW

SCALE: NO SCALE



A1 5,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (OT-001) - PROFILE VIEW

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. PUMP SUCTION PG RANGE SHALL BE -30 TO 60 IN Hg/PSIG. PUMP DISCHARGE PG RANGE SHALL BE 0-300 PSIG.
3. SEE SHEET M-601 FOR TANK SCHEDULES
4. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
5. SEE SHEET M-509 FOR TANK LEVEL ALARM DETAIL
6. EACH TANK WILL BE SLOPED DOWN TO THE WATER DRAW-OFF END AND THE TANK NOZZLES SHALL REMAIN PLUMB WITH ONE ANOTHER DESPITE TANK SLOPE
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8. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL
9. SEE SHEETS M-505, M-506 AND M-507 FOR DOUBLE WALL PIPING INFORMATION AND DETAILS

(XX) SHEET KEYNOTES

1. 2" DOUBLE WALL UNDERGROUND ISSUE PIPING TO DAY TANKS (VIA TRENCH)
2. TANK MANWAY SUMP BOOT SEAL
3. TERMINATION OF DOUBLE WALL PIPING
4. FLOW SWITCH
5. PRESSURE GAUGE
6. 2" STAINLESS STEEL UNDERGROUND ISSUE PIPING
7. LOW POINT DRAIN
8. 2" FLANGED TANK NOZZLE - PRIMARY VENT
9. 2" WAFER CHECK VALVE
10. 2" FLANGED BALL VALVE
11. 42" TANK MANWAY OPENING
12. 48" DOUBLE WALL FIBERGLASS TANK CONTAINMENT SUMP
13. 30GPM ISSUE PUMP (IP-O2)
14. 4" FLANGED TANK NOZZLE - LOW AND LOW-LOW LEVEL SWITCHES
15. 4" NPT TANK NOZZLE
16. 4" FLANGED TANK NOZZLE - HIGH AND HIGH-HIGH LEVEL SWITCHES
17. 30GPM ISSUE PUMP (IP-O1)
18. 2" DOUBLE WALL UNDERGROUND ISSUE PIPING TO DAY TANKS
19. 54" DOUBLE WALL FIBERGLASS TANK CONTAINMENT SUMP
20. 48" TANK MANWAY OPENING
21. 4" FLANGED TANK NOZZLE - TANK GAUGING
22. MOTORIZED VALVE ACTUATOR
23. 4" FLANGED TANK NOZZLE
24. 4" FLANGED TANK NOZZLE - SPARE
25. 4" FLANGED TANK NOZZLE - ATG
26. 2" STAINLESS STEEL UNDERGROUND RECEIPT PIPING
27. 2" DOUBLE WALL UNDERGROUND RECEIPT PIPING FROM BULK TANKS (ISSUE LINE NO.1)
28. 2" FLANGED TANK NOZZLE - CLOCK GAUGE
29. 2" FLANGED TANK NOZZLE - INTERSTITIAL MONITORING PORT
30. 2" FLANGED TANK NOZZLE - WATER DRAW-OFF
31. 2" DOUBLE WALL UNDERGROUND RECEIPT PIPING FROM BULK TANKS (ISSUE LINE NO.2)
32. TANK STRAPS SPACED PER MANUFACTURERS RECOMMENDATION
33. 1" -1½" SLOPE AROUND ALL TANK OPENINGS (TYP.)
34. 42" RAIN TIGHT STEEL MANWAY COVER
35. TANK SUMP LEAK DETECTION PROBE
36. 4" STAINLESS STEEL FILL LINE FROM RECEIPT LINE NO.1
37. 4" STAINLESS STEEL FILL LINE FROM RECEIPT LINE NO.2
38. 2"x4" INCREASER FITTING
39. 2" STAINLESS STEEL RECEIPT PIPING FROM RECEIPT LINE NO.1
40. 2" STAINLESS STEEL RECEIPT PIPING FROM RECEIPT LINE NO.2
41. 30GPM SUBMERSIBLE ISSUE PUMP (IP-O2) TO DAY TANKS
42. LOW AND LOW-LOW LEVEL SWITCHES
43. HIGH AND HIGH-HIGH LEVEL SWITCHES
44. 30GPM SUBMERSIBLE ISSUE PUMP (IP-O1)
46. 4" GAUGING PORT WITH DROP TUBE
47. 6" REINFORCED CONCRETE
48. 12" OF BEDDING MATERIAL BETWEEN TANK BOTTOM AND DEADMAN SLAB. BEDDING MATERIAL SHALL FOLLOW TANK MANUFACTURER RECOMMENDATION.
49. TANK DEADMAN SLAB
50. ALL TANK SUMPS SHALL HAVE A POLYGON SUMP BODY
51. 2" STAINLESS STEEL WATER DRAW-OFF PIPING
52. 2" FLANGED TANK NOZZLE WITH MALE CAMLOCK AND DUST CAP

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MARK	DESCRIPTION	DATE

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
TITLE:
FILENAME: BUCO00102MS502.dwg

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

OT-001 DETAILS

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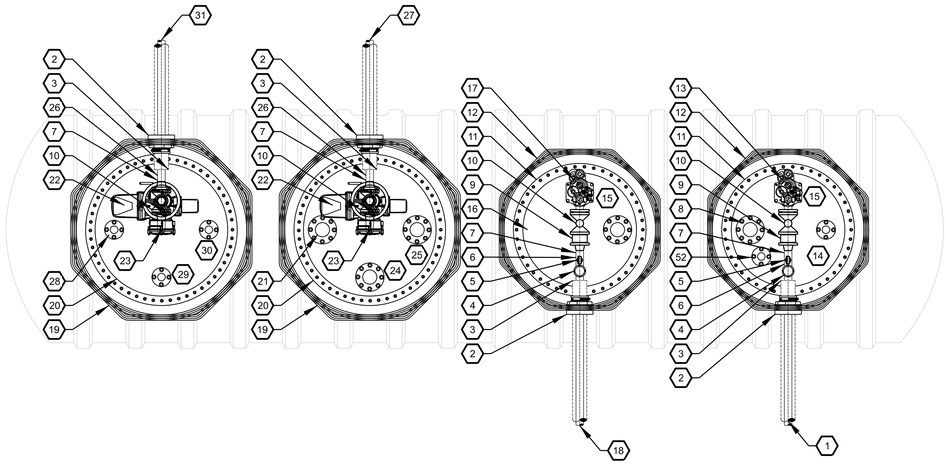
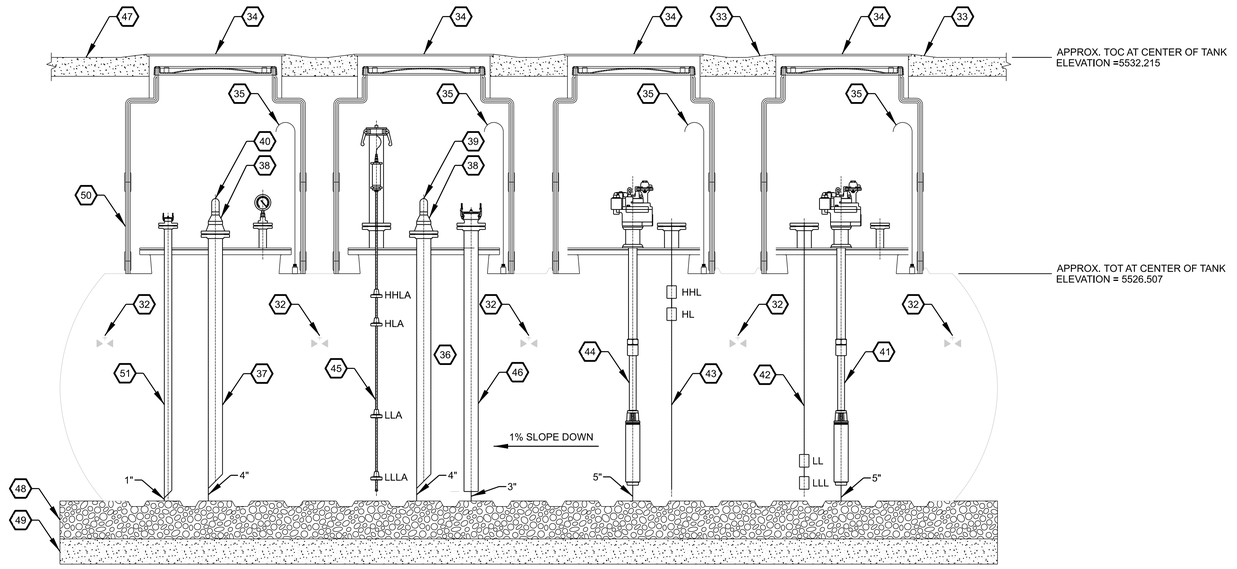


H1 5,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (OT-002) - PLAN VIEW

SCALE: NO SCALE



A1 5,000 GALLON DOUBLE WALL UNDERGROUND FIBERGLASS STORAGE TANK FOR DIESEL (OT-002) - PROFILE VIEW

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. PUMP SUCTION PG RANGE SHALL BE -30 TO 60 IN Hg/PSIG. PUMP DISCHARGE PG RANGE SHALL BE 0-300 PSIG.
3. SEE SHEET M-601 FOR TANK SCHEDULES
4. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
5. SEE SHEET M-509 FOR TANK LEVEL ALARM DETAIL
6. EACH TANK WILL BE SLOPED DOWN TO THE WATER DRAW-OFF END AND THE TANK NOZZLES SHALL REMAIN PLUMB WITH ONE ANOTHER DESPITE TANK SLOPE
7. PROVIDE STRIKER PLATES BENEATH EACH TANK NOZZLE
8. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL
9. SEE SHEETS M-505, M-506 AND M-507 FOR DOUBLE WALL PIPING INFORMATION AND DETAILS

(XX) SHEET KEYNOTES

1. 2" DOUBLE WALL UNDERGROUND ISSUE PIPING TO DAY TANKS
2. TANK MANWAY SUMP BOOT SEAL
3. TERMINATION OF DOUBLE WALL PIPING
4. FLOW SWITCH
5. PRESSURE GAUGE
6. 2" STAINLESS STEEL UNDERGROUND ISSUE PIPING
7. LOW POINT DRAIN
8. 2" FLANGED TANK NOZZLE - PRIMARY VENT
9. 2" WAFER CHECK VALVE
10. 2" FLANGED BALL VALVE
11. 42" TANK MANWAY OPENING
12. 48" DOUBLE WALL FIBERGLASS TANK CONTAINMENT SUMP
13. 30GPM ISSUE PUMP (IP-O3)
14. 4" FLANGED TANK NOZZLE - LOW AND LOW-LOW LEVEL SWITCHES
15. 4" NPT TANK NOZZLE
16. 4" FLANGED TANK NOZZLE - HIGH AND HIGH-HIGH LEVEL SWITCHES
17. 30GPM ISSUE PUMP (IP-O4)
18. 2" DOUBLE WALL UNDERGROUND ISSUE PIPING TO DAY TANKS (VIA TRENCH)
19. 54" DOUBLE WALL FIBERGLASS TANK CONTAINMENT SUMP
20. 48" TANK MANWAY OPENING
21. 4" FLANGED TANK NOZZLE - TANK GAUGING
22. MOTORIZED VALVE ACTUATOR
23. 4" FLANGED TANK NOZZLE
24. 4" FLANGED TANK NOZZLE - SPARE
25. 4" FLANGED TANK NOZZLE - ATG
26. 2" STAINLESS STEEL UNDERGROUND RECEIPT PIPING
27. 2" DOUBLE WALL UNDERGROUND RECEIPT PIPING FROM BULK TANKS (ISSUE LINE NO.2)
28. 2" FLANGED TANK NOZZLE - CLOCK GAUGE
29. 2" FLANGED TANK NOZZLE - INTERSTITIAL MONITORING PORT
30. 2" FLANGED TANK NOZZLE - WATER DRAW-OFF
31. 2" DOUBLE WALL UNDERGROUND RECEIPT PIPING FROM BULK TANKS (ISSUE LINE NO.1)
32. TANK STRAPS SPACED PER MANUFACTURERS RECOMMENDATION
33. 1" -1½" SLOPE AROUND ALL TANK OPENINGS (TYP.)
34. 42" RAIN TIGHT STEEL MANWAY COVER
35. TANK SUMP LEAK DETECTION PROBE
36. 4" STAINLESS STEEL FILL LINE FROM RECEIPT LINE NO.2
37. 4" STAINLESS STEEL FILL LINE FROM RECEIPT LINE NO.1
38. 2"x4" INCREASER FITTING
39. 2" STAINLESS STEEL RECEIPT PIPING FROM RECEIPT LINE NO.2
40. 2" STAINLESS STEEL RECEIPT PIPING FROM RECEIPT LINE NO.1
41. 30GPM SUBMERSIBLE ISSUE PUMP (IP-O3) TO DAY TANKS
42. LOW AND LOW-LOW LEVEL SWITCHES
43. HIGH AND HIGH-HIGH LEVEL SWITCHES
44. 30GPM SUBMERSIBLE ISSUE PUMP (IP-O4) TO DAY TANKS
45. AUTOMATIC TANK GAUGE
46. 4" GAUGING PORT WITH DROP TUBE
47. 6" REINFORCED CONCRETE
48. 12" OF BEDDING MATERIAL BETWEEN TANK BOTTOM AND DEADMAN SLAB. BEDDING MATERIAL SHALL FOLLOW TANK MANUFACTURER RECOMMENDATION.
49. TANK DEADMAN SLAB
50. ALL TANK SUMPS SHALL HAVE A POLYGON SUMP BODY
51. 2" STAINLESS STEEL WATER DRAW-OFF PIPING
52. 2" FLANGED TANK NOZZLE WITH MALE CAMLOCK AND DUST CAP

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CONTRACT NO.:
FILE NUMBER:
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DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
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U.S. ARMY CORPS OF ENGINEERS
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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

OT-002 DETAILS

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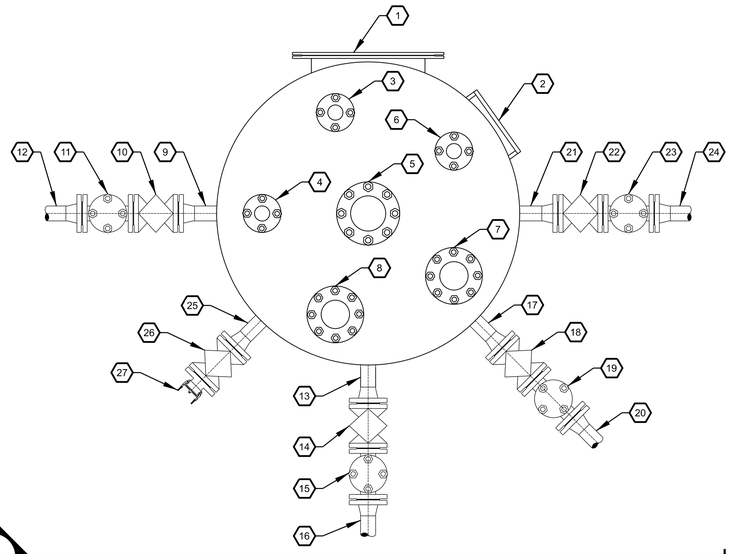

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J1 660 GALLON DAY TANK (DT-001) - PLAN VIEW

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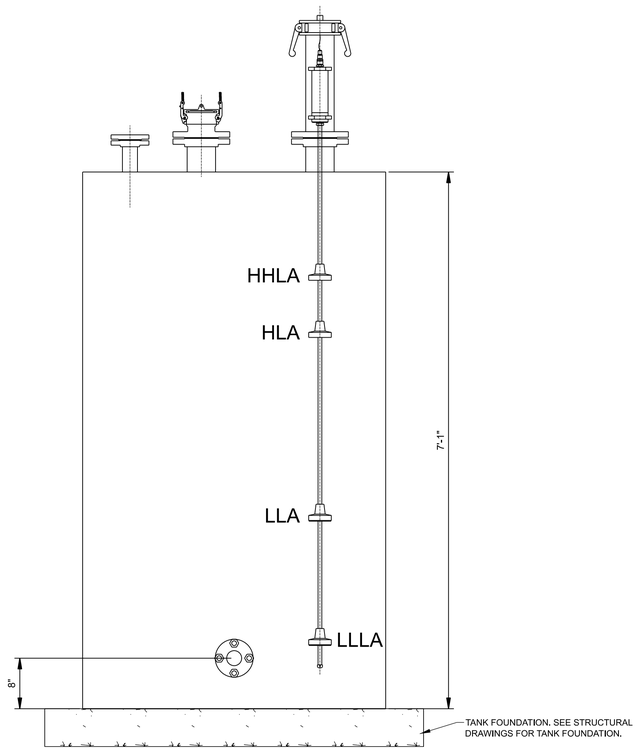

A1 660 GALLON DAY TANK (DT-001) - PROFILE VIEW

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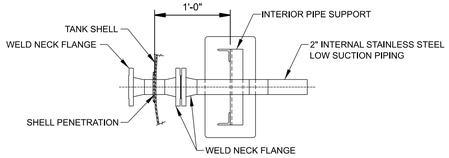

M9 LOW SUCTION TANK NOZZLE - PLAN VIEW

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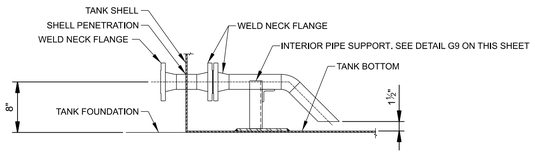
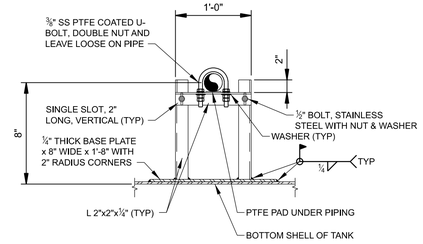


K9 LOW SUCTION TANK NOZZLE - PROFILE VIEW

SCALE: NO SCALE



G9 INTERIOR PIPE SUPPORT

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET M-601 FOR TANK SCHEDULES.
3. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED
4. SEE SHEET M-507 FOR TANK LEVEL ALARM DETAIL.
5. PROVIDE STRIKER PLATES BENEATH EACH TANK NOZZLE.
6. INTERNAL LOW SUCTION PIPING NOT SHOWN IN DAY TANK PLAN VIEW BUT IS SHOWN IN DETAILS M9, K9 AND G9 OF THIS SHEET.
7. ALL TANK NOZZLES ON THE EXTERIOR OF THE TANK SHALL BE 8" FROM BOTTOM OF TANK SHEEL OR TOP OF TANK FOUNDATION TO CENTERLINE OF NOZZLE. ALL EXTERIOR TANK NOZZLES SHALL BE 4" FROM EXTERIOR OF TANK SHEEL TO EDGE OF WELD NECK FLANGE.
8. TANK MANWAY SHALL BE 3'-6" FROM BOTTOM OF TANK SHELL TO MIDDLE OF MANWAY OPENING.
9. ALL TANK NOZZLES ON TOP OF TANK SHALL BE A MINIMUM OF 3" FROM EXTERIOR OF TANK SHELL TO EDGE OF WELD NECK FLANGE.
10. NOT ALL TANK NOZZLES ARE SHOWN IN DAY TANK PROFILE VIEW FOR CLARITY.

(XX) SHEET KEYNOTES

1. 18" TANK MANWAY
2. EXTERNAL LADDER WITH CAGE. DESIGNED BY THE TANK MANUFACTURER.
3. 2" FLANGED TANK NOZZLE - CLOCK GAUGE
4. 2" FLANGED TANK NOZZLE - PRIMARY VENT
5. 5" FLANGED TANK NOZZLE - EMERGENCY VENT
6. 2" FLANGED TANK NOZZLE - HIGH AND LOW LEVEL SWITCHES
7. 4" FLANGED TANK NOZZLE - ATG
8. 4" FLANGED TANK NOZZLE - SPARE
9. 2" FLANGED TANK NOZZLE - RECEIPT LINE
10. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
11. 2" FLANGED CHECK VALVE
12. 2" STAINLESS STEEL RECEIPT PIPING
13. 2" FLANGED TANK NOZZLE - RECEIPT LINE
14. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
15. 2" FLANGED CHECK VALVE
16. 2" STAINLESS STEEL RECEIPT PIPING
17. 2" FLANGED TANK NOZZLE - ISSUE LINE
18. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
19. 2" FLANGED BASKET STRAINER
20. 2" STAINLESS STEEL ISSUE PIPING
21. 2" FLANGED TANK NOZZLE - GENERATOR RETURN LINE
22. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
23. 2" FLANGED CHECK VALVE
24. 2" STAINLESS STEEL GENERATOR RETURN PIPING
25. 2" FLANGED TANK NOZZLE - LOW SUCTION
26. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
27. 2" STAINLESS STEEL CAMLOCK WITH DUST CAP
28. SEE THIS SHEET FOR LOW SUCTION PIPING DETAILS

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
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FILE NUMBER:
FILE NAME: BUCO00102MS502.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

DT-001 DETAILS

SHEET ID
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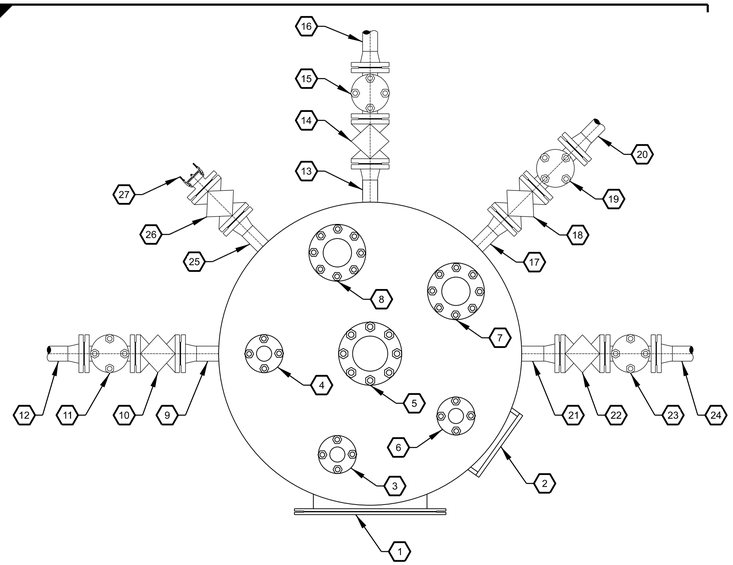

J1 660 GALLON DAY TANK (DT-002) - PLAN VIEW

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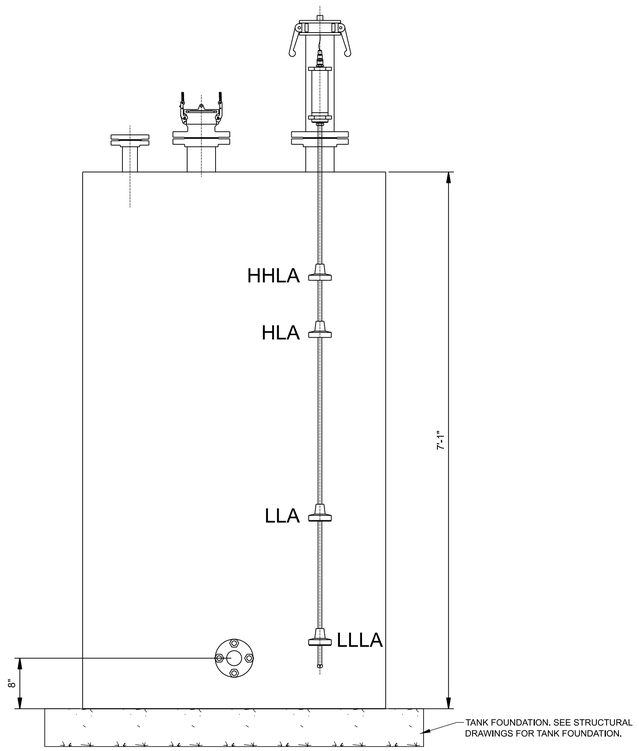

A1 660 GALLON DAY TANK (DT-002) - PROFILE VIEW

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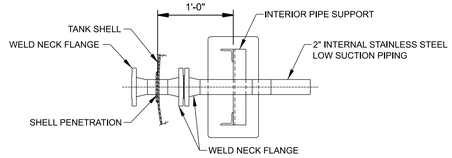
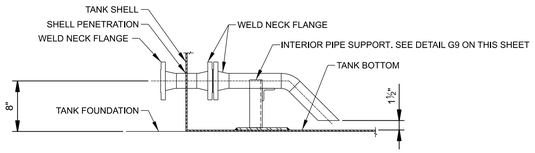


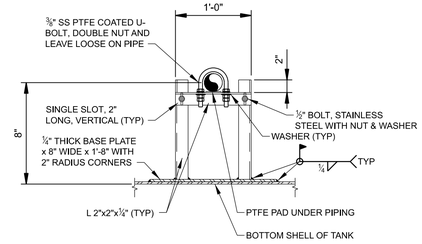
M9 LOW SUCTION TANK NOZZLE - PLAN VIEW

SCALE: NO SCALE



K9 LOW SUCTION TANK NOZZLE - PROFILE VIEW

SCALE: NO SCALE



G9 INTERIOR PIPE SUPPORT

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET M-601 FOR TANK SCHEDULES.
3. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED
4. SEE SHEET M-507 FOR TANK LEVEL ALARM DETAIL.
5. PROVIDE STRIKER PLATES BENEATH EACH TANK NOZZLE.
6. INTERNAL LOW SUCTION PIPING NOT SHOWN IN DAY TANK PLAN VIEW BUT IS SHOWN IN DETAILS M9, K9 AND G9 OF THIS SHEET.
7. ALL TANK NOZZLES ON THE EXTERIOR OF THE TANK SHALL BE 8" FROM BOTTOM OF TANK SHEEL OR TOP OF TANK FOUNDATION TO CENTERLINE OF NOZZLE. ALL EXTERIOR TANK NOZZLES SHALL BE 4" FROM EXTERIOR OF TANK SHEEL TO EDGE OF WELD NECK FLANGE.
8. TANK MANWAY SHALL BE 3'-6" FROM BOTTOM OF TANK SHELL TO MIDDLE OF MANWAY OPENING.
9. ALL TANK NOZZLES ON TOP OF TANK SHALL BE A MINIMUM OF 3" FROM EXTERIOR OF TANK SHELL TO EDGE OF WELD NECK FLANGE.

(XX) SHEET KEYNOTES

1. 18" TANK MANWAY
2. EXTERNAL LADDER WITH CAGE. DESIGNED BY THE TANK MANUFACTURER.
3. 2" FLANGED TANK NOZZLE - CLOCK GAUGE
4. 2" FLANGED TANK NOZZLE - PRIMARY VENT
5. 5" FLANGED TANK NOZZLE - EMERGENCY VENT
6. 2" FLANGED TANK NOZZLE - HIGH AND LOW LEVEL SWITCHES
7. 4" FLANGED TANK NOZZLE - ATG
8. 4" FLANGED TANK NOZZLE - SPARE
9. 2" FLANGED TANK NOZZLE - RECEIPT LINE
10. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
11. 2" FLANGED CHECK VALVE
12. 2" STAINLESS STEEL RECEIPT PIPING
13. 2" FLANGED TANK NOZZLE - RECEIPT LINE
14. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
15. 2" FLANGED CHECK VALVE
16. 2" STAINLESS STEEL RECEIPT PIPING
17. 2" FLANGED TANK NOZZLE - ISSUE LINE
18. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
19. 2" FLANGED BASKET STRAINER
20. 2" STAINLESS STEEL ISSUE PIPING
21. 2" FLANGED TANK NOZZLE - GENERATOR RETURN LINE
22. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
23. 2" FLANGED CHECK VALVE
24. 2" STAINLESS STEEL GENERATOR RETURN PIPING
25. 2" FLANGED TANK NOZZLE - LOW SUCTION
26. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
27. 2" STAINLESS STEEL CAMLOCK WITH DUST CAP
28. SEE THIS SHEET FOR LOW SUCTION PIPING DETAILS

US Army Corps of Engineers®

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DESIGNED BY: M. PETERSON
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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

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POWER INDEPENDENCE, MISSION CONTROL STATION

DT-002 DETAILS

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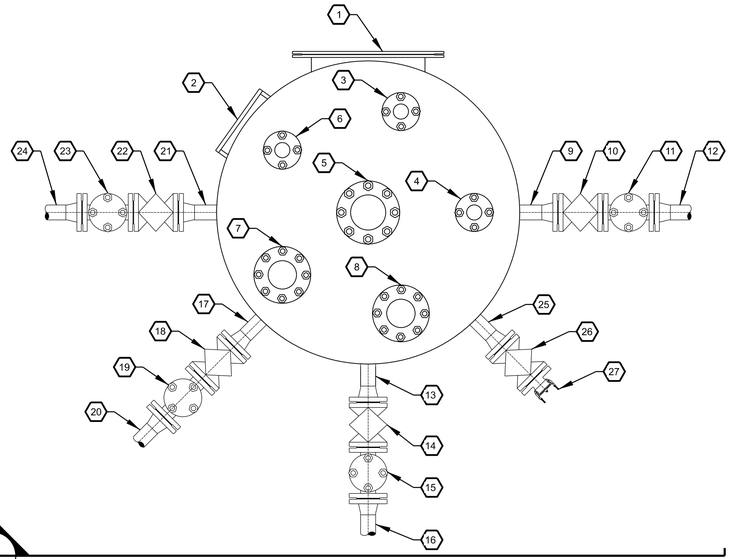

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J1 660 GALLON DAY TANK (DT-003) - PLAN VIEW

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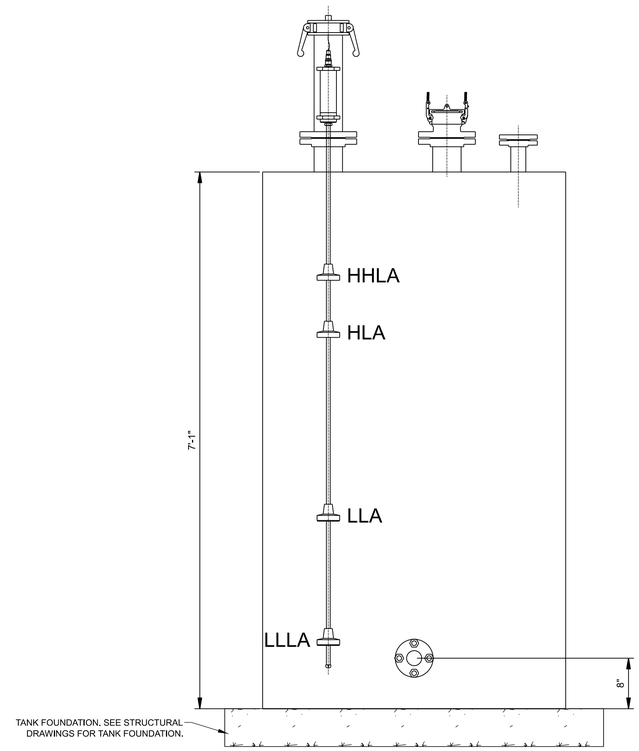

A1 660 GALLON DAY TANK (DT-003) - PROFILE VIEW

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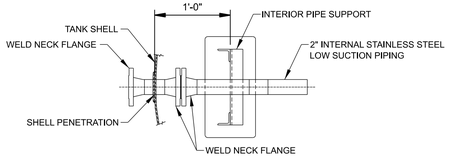

M9 LOW SUCTION TANK NOZZLE - PLAN VIEW

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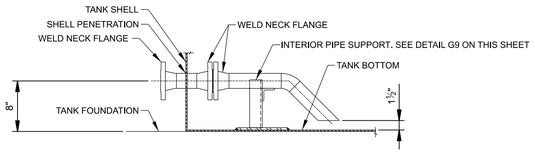

K9 LOW SUCTION TANK NOZZLE - PROFILE VIEW

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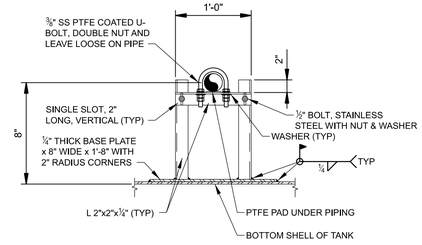

G9 INTERIOR PIPE SUPPORT

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET M-601 FOR TANK SCHEDULES.
3. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED
4. SEE SHEET M-507 FOR TANK LEVEL ALARM DETAIL.
5. PROVIDE STRIKER PLATES BENEATH EACH TANK NOZZLE.
6. INTERNAL LOW SUCTION PIPING NOT SHOWN IN DAY TANK PLAN VIEW BUT IS SHOWN IN DETAILS M9, K9 AND G9 OF THIS SHEET.
7. ALL TANK NOZZLES ON THE EXTERIOR OF THE TANK SHALL BE 8" FROM BOTTOM OF TANK SHEEL OR TOP OF TANK FOUNDATION TO CENTERLINE OF NOZZLE. ALL EXTERIOR TANK NOZZLES SHALL BE 4" FROM EXTERIOR OF TANK SHEEL TO EDGE OF WELD NECK FLANGE.
8. TANK MANWAY SHALL BE 3'-6" FROM BOTTOM OF TANK SHELL TO MIDDLE OF MANWAY OPENING.
9. ALL TANK NOZZLES ON TOP OF TANK SHALL BE A MINIMUM OF 3" FROM EXTERIOR OF TANK SHELL TO EDGE OF WELD NECK FLANGE.

(XX) SHEET KEYNOTES

1. 18" TANK MANWAY
2. EXTERNAL LADDER WITH CAGE. DESIGNED BY THE TANK MANUFACTURER.
3. 2" FLANGED TANK NOZZLE - CLOCK GAUGE
4. 2" FLANGED TANK NOZZLE - PRIMARY VENT
5. 5" FLANGED TANK NOZZLE - EMERGENCY VENT
6. 2" FLANGED TANK NOZZLE - HIGH AND LOW LEVEL SWITCHES
7. 4" FLANGED TANK NOZZLE - ATG
8. 4" FLANGED TANK NOZZLE - SPARE
9. 2" FLANGED TANK NOZZLE - RECEIPT LINE
10. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
11. 2" FLANGED CHECK VALVE
12. 2" STAINLESS STEEL RECEIPT PIPING
13. 2" FLANGED TANK NOZZLE - RECEIPT LINE
14. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
15. 2" FLANGED CHECK VALVE
16. 2" STAINLESS STEEL RECEIPT PIPING
17. 2" FLANGED TANK NOZZLE - ISSUE LINE
18. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
19. 2" FLANGED BASKET STRAINER
20. 2" STAINLESS STEEL ISSUE PIPING
21. 2" FLANGED TANK NOZZLE - GENERATOR RETURN LINE
22. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
23. 2" FLANGED CHECK VALVE
24. 2" STAINLESS STEEL GENERATOR RETURN PIPING
25. 2" FLANGED TANK NOZZLE - LOW SUCTION
26. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
27. 2" STAINLESS STEEL CAMLOCK WITH DUST CAP
28. SEE THIS SHEET FOR LOW SUCTION PIPING DETAILS

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SOLICITATION NO.:	W9128F25RA043
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FILE NAME:	IBUCC000102MS502.dwg

U.S. ARMY CORPS OF ENGINEERS
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

DT-003 DETAILS

SHEET ID

MS511

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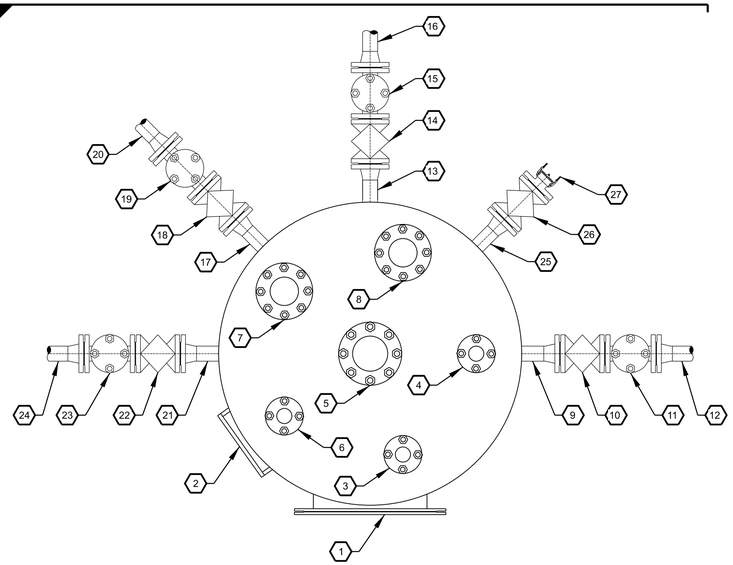
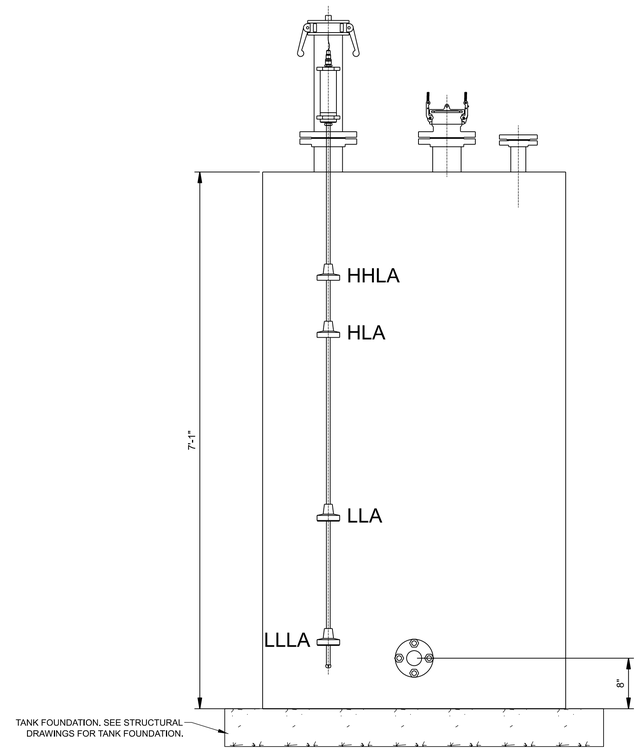
MS512
A1



J1 660 GALLON DAY TANK (DT-004) - PLAN VIEW
SCALE: NO SCALE



A1 660 GALLON DAY TANK (DT-004) - PROFILE VIEW
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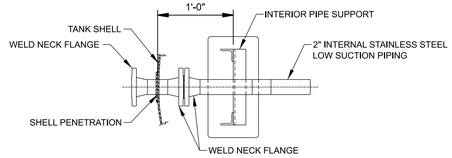

M9 LOW SUCTION TANK NOZZLE - PLAN VIEW
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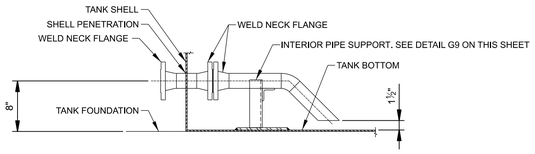

K9 LOW SUCTION TANK NOZZLE - PROFILE VIEW
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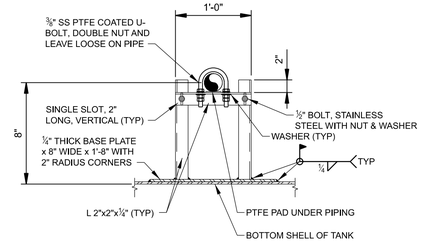

G9 INTERIOR PIPE SUPPORT
SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET M-601 FOR TANK SCHEDULES.
3. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED
4. SEE SHEET M-507 FOR TANK LEVEL ALARM DETAIL.
5. PROVIDE STRIKER PLATES BENEATH EACH TANK NOZZLE.
6. INTERNAL LOW SUCTION PIPING NOT SHOWN IN DAY TANK PLAN VIEW BUT IS SHOWN IN DETAILS M9, K9 AND G9 OF THIS SHEET.
7. ALL TANK NOZZLES ON THE EXTERIOR OF THE TANK SHALL BE 8" FROM BOTTOM OF TANK SHEEL OR TOP OF TANK FOUNDATION TO CENTERLINE OF NOZZLE. ALL EXTERIOR TANK NOZZLES SHALL BE 4" FROM EXTERIOR OF TANK SHEEL TO EDGE OF WELD NECK FLANGE.
8. TANK MANWAY SHALL BE 3'-6" FROM BOTTOM OF TANK SHELL TO MIDDLE OF MANWAY OPENING.
9. ALL TANK NOZZLES ON TOP OF TANK SHALL BE A MINIMUM OF 3" FROM EXTERIOR OF TANK SHELL TO EDGE OF WELD NECK FLANGE.

(XX) SHEET KEYNOTES

1. 18" TANK MANWAY
2. EXTERNAL LADDER WITH CAGE. DESIGNED BY THE TANK MANUFACTURER.
3. 2" FLANGED TANK NOZZLE - CLOCK GAUGE
4. 2" FLANGED TANK NOZZLE - PRIMARY VENT
5. 5" FLANGED TANK NOZZLE - EMERGENCY VENT
6. 2" FLANGED TANK NOZZLE - HIGH AND LOW LEVEL SWITCHES
7. 4" FLANGED TANK NOZZLE - ATG
8. 4" FLANGED TANK NOZZLE - SPARE
9. 2" FLANGED TANK NOZZLE - RECEIPT LINE
10. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
11. 2" FLANGED CHECK VALVE
12. 2" STAINLESS STEEL RECEIPT PIPING
13. 2" FLANGED TANK NOZZLE - RECEIPT LINE
14. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
15. 2" FLANGED CHECK VALVE
16. 2" STAINLESS STEEL RECEIPT PIPING
17. 2" FLANGED TANK NOZZLE - ISSUE LINE
18. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
19. 2" FLANGED BASKET STRAINER
20. 2" STAINLESS STEEL ISSUE PIPING
21. 2" FLANGED TANK NOZZLE - GENERATOR RETURN LINE
22. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
23. 2" FLANGED CHECK VALVE
24. 2" STAINLESS STEEL GENERATOR RETURN PIPING
25. 2" FLANGED TANK NOZZLE - LOW SUCTION
26. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
27. 2" STAINLESS STEEL CAMLOCK WITH DUST CAP
28. SEE THIS SHEET FOR LOW SUCTION PIPING DETAILS

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DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILE NAME: BUCO00102MS502.dwg

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DT-004 DETAILS

SHEET ID
MS512

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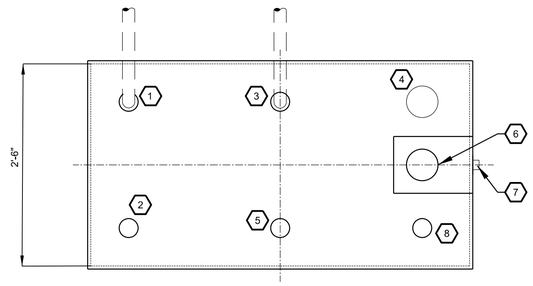
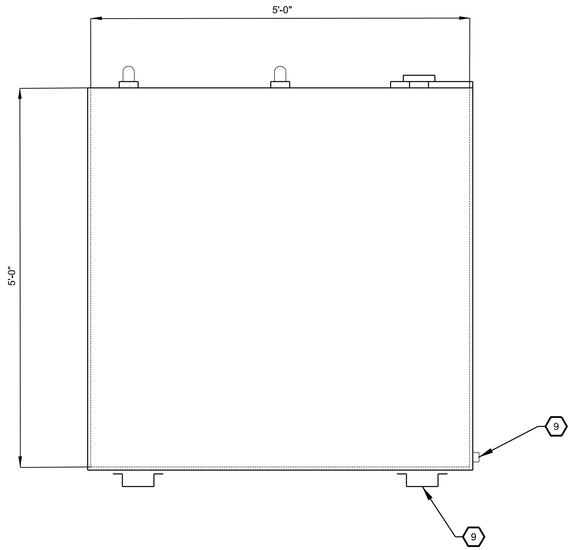


H1 TOP OF 500 GALLON DOUBLE WALL LUBE OIL TANK

SCALE: NO SCALE



A1 500 GALLON DOUBLE WALL LUBE OIL TANK

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. SEE SHEET M-601 FOR TANK SCHEDULES.
3. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED
4. SEE SHEET M-509 FOR TANK LEVEL ALARM DETAIL.
5. PROVIDE STRIKER PLATES BENEATH EACH TANK NOZZLE.

SHEET KEYNOTES

1. 2" THREADED RECEIPT NOZZLE WITH RECEIPT LINE
2. 2" THREADED UNUSED NOZZLE
3. 2" THREADED ISSUE NOZZLE WITH ISSUE LINE
4. 4" PRIMARY VENT
5. 2" THREADED UNUSED NOZZLE
6. 4" INTERSTITIAL EMERGENCY VENT
7. 1/2 " FITTING THROUGH OUTER SHELL WITH BUTTON SITE GLASS
8. 2" THREADED UNUSED NOZZLE
9. 5/8 " GROUNDING HOLE IN SUPPORT
10. 2" HIGH PRESS BROKE LEGS

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LUBE OIL TANK DETAILS

SHEET ID

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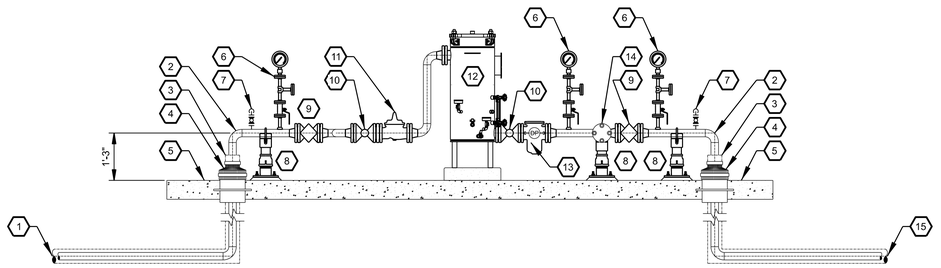

H1 FILTER SHELTER - PROFILE VIEW
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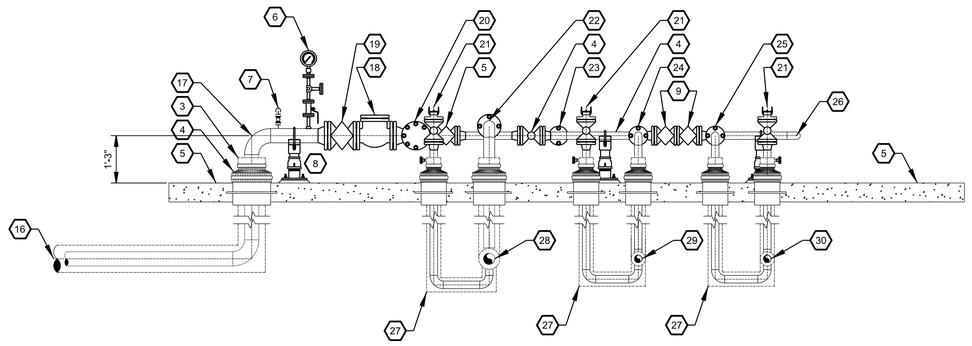

A1 FILTER SHELTER - PROFILE VIEW
SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
3. 6" CURBING NOT SHOW IN PROFILE VIEWS
4. PRESSURE RELIEF PIPING NOT SHOWN IN PROFILE VIEWS

(XX) SHEET KEYNOTES

1. 2" DOUBLE WALL UNDERGROUND ISSUE PIPING FROM BULK STORAGE TANKS TO OPERATIONAL STORAGE TANKS
2. 2" STAINLESS STEEL PIPING
3. TERMINATION OF DOUBLE WALL PIPING
4. ABOVEGROUND / UNDERGROUND TRANSITION
5. 6" REINFORCED CONCRETE - FILTER SHELTER CONTAINMENT PAD
6. PRESSURE GAUGE
7. HIGH POINT VENT
8. PS-2 PIPE SUPPORT
9. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
10. 2" FLANGED BALL VALVE
11. 2" FLANGED FLOW CONTROL VALVE
12. 100 GPM ISSUE FILTER SEPARATOR NO.2
13. 2" FLANGED BASKET STRAINER
14. 2" STAINLESS STEEL ISSUE HEADER
15. 2" DOUBLE WALL UNDERGROUND ISSUE PIPING FROM BT-003
16. 4" DOUBLE WALL RECEIPT LINE NO.2 - FROM TRUCK OFFLOAD
17. 4" STAINLESS STEEL PIPING
18. 4" FLANGED CHECK VALVE
19. 4" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
20. 4" STAINLESS STEEL RECEIPT HEADER
21. LOW POINT DRAIN (SEE DETAIL B9 ON SHEET M-506)
22. 3" STAINLESS STEEL TRANSFER LINE - TO/FROM EXISTING FUEL SYSTEM
23. 2" STAINLESS STEEL ISSUE LINE FROM FILTER SEPARATOR NO.1
24. 2" STAINLESS STEEL TRANSFER LINE NO.1 - TO OPERATIONAL STORAGE TANKS
25. 2" STAINLESS STEEL TRANSFER LINE NO.2 - TO OPERATIONAL STORAGE TANKS
26. 2" STAINLESS STEEL ISSUE LINE FROM FILTER SEPARATOR NO.2
27. 2" DOUBLE WALL LOW POINT DRAIN PIPING
28. 3" DOUBLE WALL TRANSFER LINE - TO/FROM EXISTING FUEL SYSTEM
29. 2" DOUBLE WALL TRANSFER LINE NO.1 - TO OPERATIONAL STORAGE TANKS
30. 2" DOUBLE WALL TRANSFER LINE NO.2 - TO OPERATIONAL STORAGE TANKS

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OMAHA, NE 68102

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FILTER SHELTER PROFILE VIEWS
SHEET 1 OF 2

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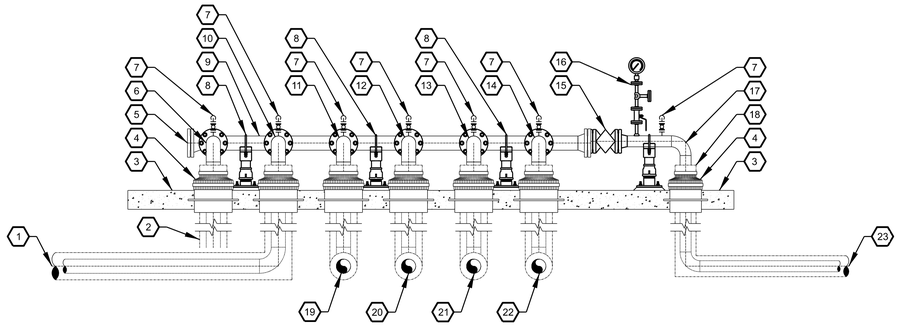

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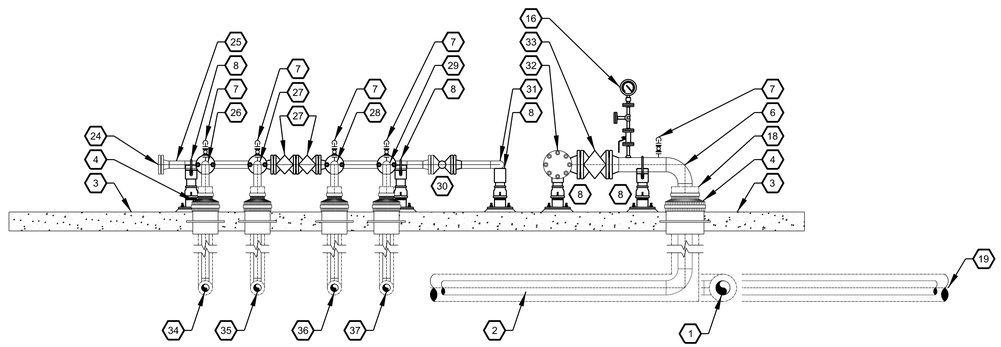

A1 FILTER SHELTER - PROFILE VIEW

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
3. 6" CURBING NOT SHOW IN PROFILE VIEWS
4. PRESSURE RELIEF PIPING NOT SHOWN IN PROFILE VIEWS

(XX) SHEET KEYNOTES

1. 4" DOUBLE WALL RECEIPT LINE TO BT-003
2. 4" DOUBLE WALL RECEIPT LINE TO BT-004
3. 6" REINFORCED CONCRETE - FILTER SHELTER CONTAINMENT PAD
4. ABOVEGROUND / UNDERGROUND TRANSITION
5. 4" STAINLESS STEEL BLIND FLANGE
6. 4" STAINLESS STEEL RECEIPT PIPING TO BT-004
7. HIGH POINT VENT
8. PS-2 PIPE SUPPORT
9. 4" STAINLESS STEEL RECEIPT HEADER
10. 4" STAINLESS STEEL RECEIPT LINE TO BT-003
11. 4" STAINLESS STEEL RECEIPT LINE TO BT-001
12. 4" STAINLESS STEEL RECEIPT LINE TO BT-002
13. 4" STAINLESS STEEL RECEIPT LINE NO.1 FROM BULK OFFLOAD
14. 4" STAINLESS STEEL RECEIPT LINE NO.2 FROM BULK OFFLOAD
15. 3" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
16. PRESSURE GAUGE
17. 3" STAINLESS STEEL TRANSFER LINE - TO/FROM EXISTING FUEL SYSTEM
18. TERMINATION OF DOUBLE WALL PIPING
19. 4" DOUBLE WALL UNDERGROUND RECEIPT LINE TO BT-001
20. 4" DOUBLE WALL UNDERGROUND RECEIPT LINE TO BT-002
21. 4" DOUBLE WALL UNDERGROUND RECEIPT LINE NO.1 FROM BULK OFFLOAD
22. 4" DOUBLE WALL UNDERGROUND RECEIPT LINE NO.2 FROM BULK OFFLOAD
23. 3" DOUBLE WALL UNDERGROUND TRANSFER LINE - TO/FROM EXISTING FUEL SYSTEM
24. 2" STAINLESS STEEL BLIND FLANGE
25. 2" STAINLESS STEEL ISSUE HEADER
26. 2" STAINLESS STEEL ISSUE LINE - FROM BT-003
27. 2" STAINLESS STEEL ISSUE LINE - FROM BT-004
28. 2" STAINLESS STEEL ISSUE LINE - FROM BT-002
29. 2" STAINLESS STEEL ISSUE LINE - FROM BT-001
30. 2" FLANGED BALL VALVE
31. 2" STAINLESS STEEL FILTER SEPARATOR BYPASS LINE
32. 4" STAINLESS STEEL RECEIPT HEADER
33. 4" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE
34. 2" DOUBLE WALL UNDERGROUND ISSUE LINE FROM BT-003
35. 2" DOUBLE WALL UNDERGROUND ISSUE LINE FROM BT-004
36. 2" DOUBLE WALL UNDERGROUND ISSUE LINE FROM BT-002
37. 2" DOUBLE WALL UNDERGROUND ISSUE LINE FROM BT-001
38. 2" FLANGED DOUBLE BLOCK AND BLEED PLUG VALVE

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1616 CAPITOL AVE
OMAHA, NE 68102

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FILTER SHELTER PROFILE VIEWS
SHEET 2 OF 2

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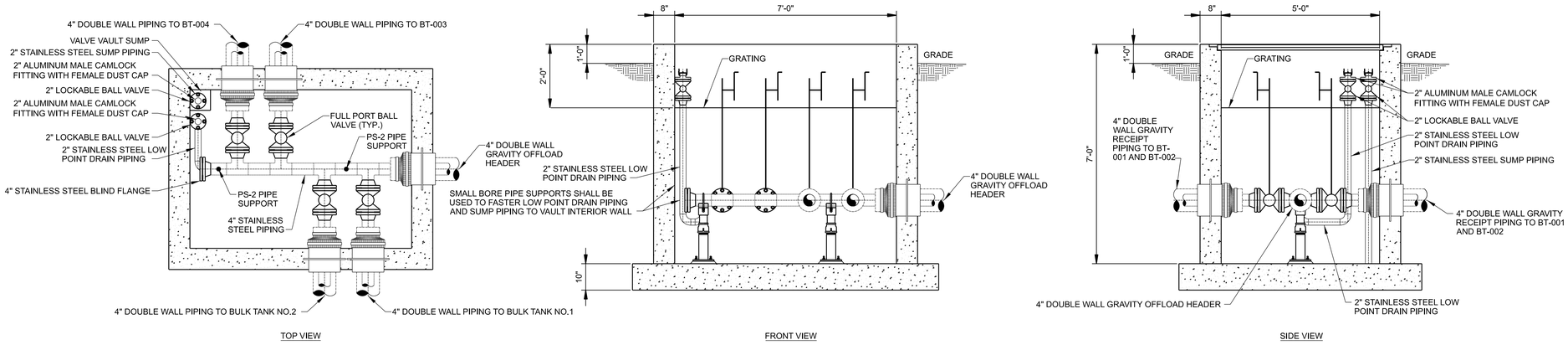

H1 ISOLATION VALVE VAULT DETAIL

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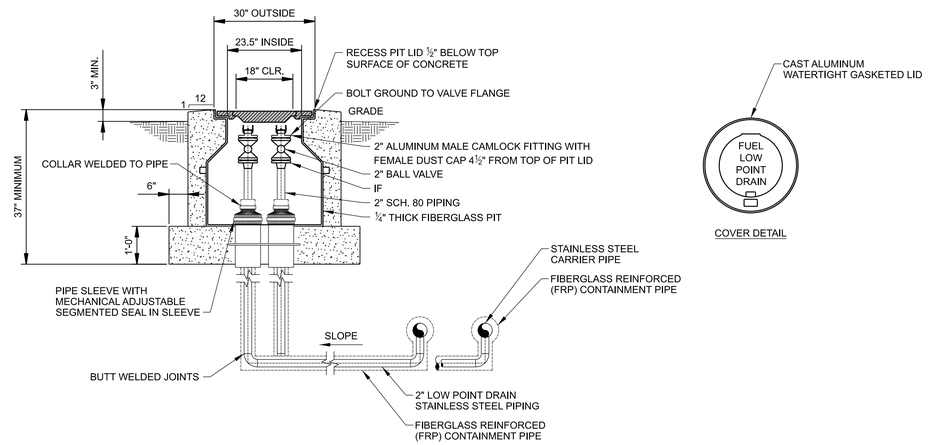

A1 DOUBLE LOW POINT DRAIN DETAIL

SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS.
2. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED.
3. SEE SHEET SS101 FOR STRUCTURAL NOTES AND DETAILS.
4. ALL PITS MUST HAVE LEAK SENSORS.

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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

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ISOLATION VALVE VAULT AND LOW POINT DRAIN DETAIL

SHEET ID

MS516

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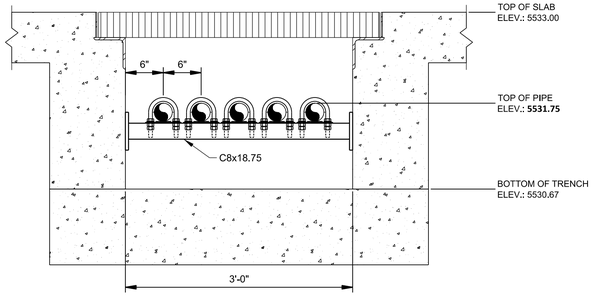

K1 FUEL TRENCH PIPE SUPPORT DETAIL
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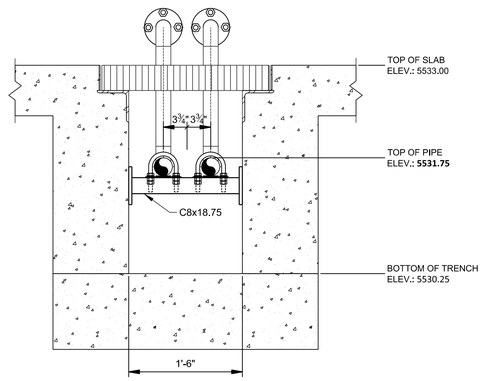

K6 FUEL TRENCH PIPE SUPPORT DETAIL
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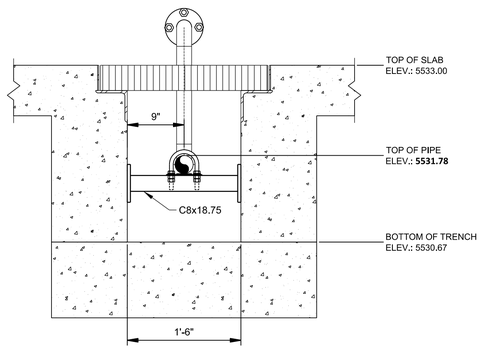

K12 FUEL TRENCH PIPE SUPPORT DETAIL
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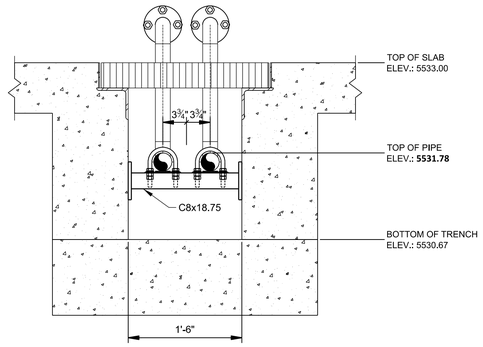

F1 FUEL TRENCH PIPE SUPPORT DETAIL
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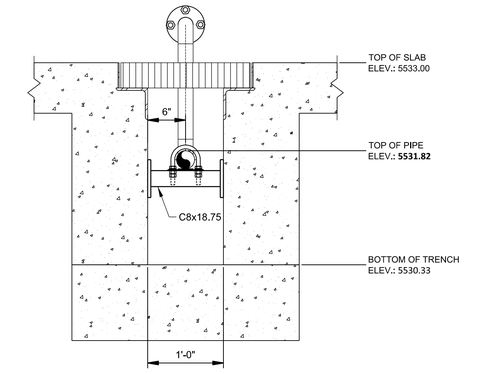

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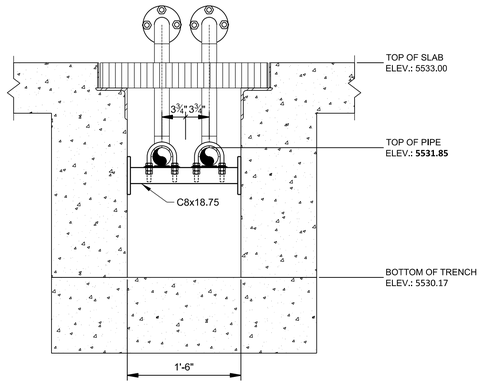

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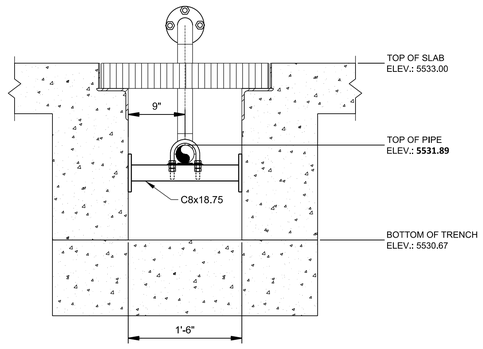

A1 FUEL TRENCH PIPE SUPPORT DETAIL
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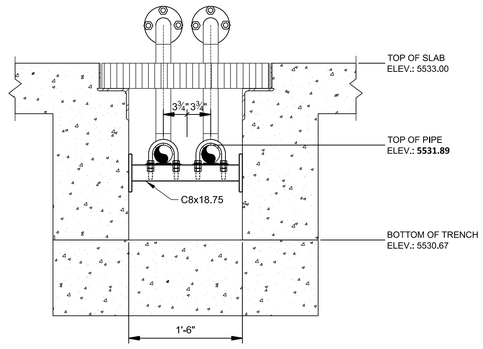
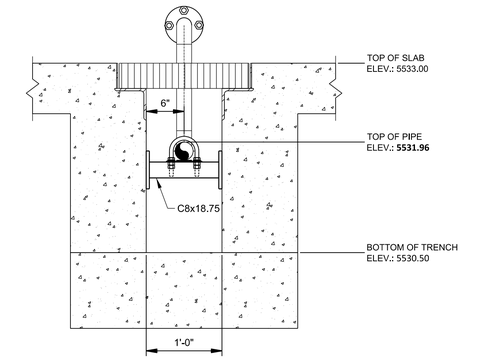


A6 FUEL TRENCH PIPE SUPPORT DETAIL
SCALE: NO SCALE



A12 FUEL TRENCH PIPE SUPPORT DETAIL
SCALE: NO SCALE

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS
2. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED
3. SEE SHEET S-109 FOR PIPE TRENCH LAYOUT AND DETAILS
4. SEE SHEET S-519 FOR TRENCH AND GRATING DETAILS

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M. PETERSON	05/01/2025
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M. PETERSON	W9128F25RA043
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D. SCHEUFFELE	
SUBMITTED BY:	FILE NUMBER:
D. SCHEUFFELE	
SIZE:	FILE NAME:
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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

GENERATOR BUILDING
TRENCH DETAILS
SHEET 1 OF 2

SHEET ID
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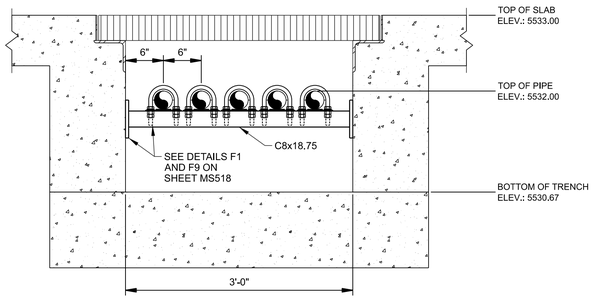

K1 FUEL TRENCH PIPE SUPPORT DETAIL

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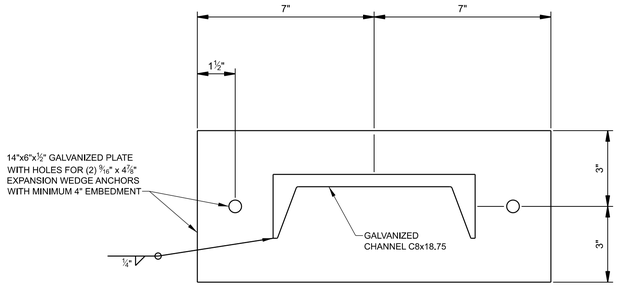
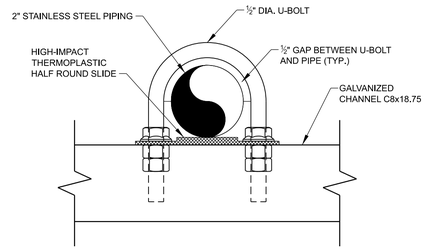
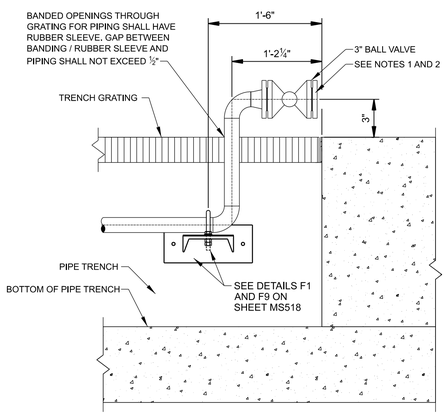




F1 TRENCH PIPE SUPPORT CHANNEL CONNECTION DETAIL

SCALE: NO SCALE



A1 END OF TRENCH PIPE SUPPORT DETAIL

SCALE: NO SCALE

NOTES:
1. MANUFACTURER RECOMMENDED FLEXIBLE HOSE SHALL CONNECT THE GENERATOR ISSUE FUEL PORT TO THE DOWNSTREAM FLANGED SIDE OF BALL VALVE THAT IS ASSOCIATED WITH ITS CORRESPONDING DAY TANKS ISSUE PIPING WHERE THE BLIND FLANGE CURRENTLY RESIDES.
2. MANUFACTURER RECOMMENDED FLEXIBLE HOSE SHALL CONNECT THE GENERATOR RETURN FUEL PORT TO THE DOWNSTREAM FLANGED SIDE OF BALL VALVE THAT IS ASSOCIATED WITH ITS CORRESPONDING DAY TANKS RETURN PIPING WHERE THE BLIND FLANGE CURRENTLY RESIDES.

F9 FUEL TRENCH PIPE SUPPORT CONNECTION DETAIL

SCALE: NO SCALE

NOTES:
1. PROVIDE U-BOLT WITH SEAMLESS NON-METALLIC LOW FRICTION COATING.
2. PROVIDE DOUBLE NUT ON BOTTOM OF U-BOLT.

GENERAL SHEET NOTES

1. SEE M-001 FOR GENERAL NOTES, LEGEND, AND ABBREVIATIONS
2. ALL PIPING SHALL BE STAINLESS STEEL UNLESS OTHERWISE NOTED
3. SEE SHEET S-109 FOR PIPE TRENCH LAYOUT AND DETAILS
4. SEE SHEET S-519 FOR TRENCH AND GRATING DETAILS

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SOLICITATION NO.: W9128F25RA043
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FILE NAME: BUCO00102MS501.dwg

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OMAHA, NE 68102

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GENERATOR BUILDING
TRENCH DETAILS
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ELECTRICAL SITE INSTALLATION LEGEND
APPLIES TO ALL ES100 AND ES400 SHEETS

4S	SECONDARY VOLTAGE ELECTRICAL LINE (DETAIL L1/ES502)
3S	SECONDARY VOLTAGE ELECTRICAL LINE (DETAIL L6/ES502)
2S	SECONDARY VOLTAGE ELECTRICAL LINE (DETAIL G1/ES502)
1SY	SECONDARY VOLTAGE ELECTRICAL LINE (DETAIL A1/ES502)
4P	MEDIUM VOLTAGE ELECTRICAL LINE (DETAIL G6/ES502)
2P	MEDIUM VOLTAGE ELECTRICAL LINE (DETAIL A5/ES502)
1PY	MEDIUM VOLTAGE ELECTRICAL LINE (DETAIL A10/ES502)
E	MEDIUM VOLTAGE ELECTRICAL LINE
ES	SECONDARY ELECTRICAL LINE
COMM	TELECOMMUNICATIONS LINE
ED	ELECTRICAL LINE AND PATHWAY TO BE DEMOLISHED.
	HANDHOLE
	TRANSFORMER
	SWITCH
	POLE MOUNTED LUMINAIRE. SEE EL SERIES SHEETS FOR DETAILS.

ELECTRICAL SITE INSTALLATION GENERAL NOTES:
APPLIES TO ALL ES100 AND ES400 SHEETS

1. CONTRACTOR TO COORDINATE ALL ELECTRICAL UTILITY CONNECTIONS WITH XCEL ENERGY.

2. CONTRACTOR TO CORE PRIOR TO ANY DIGGING AND HAVE ALL UTILITIES MARKED PRIOR TO ANY DIGGING BEING PERFORMED. IF CONTRACTOR SHOULD CUT ANY UTILITY IN THE PROCESS OF DIGGING, THEN THE CONTRACTOR WILL COVER ALL REQUIRED COSTS.

3. REFER TO EP600 SERIES SHEETS FOR FURTHER DETAILS ON CONDUIT AND CONDUCTOR SIZES AND QUANTITIES. WHERE IDENTIFIED ON PLANS, HORIZONTAL DIRECTIONAL DRILLING TO SUPERCEDE ANY IDENTIFIED TRENCHING.

4. FOR B451 CONNECTIONS TO B442, ALL WORK SHALL BE ACCOMPLISHED TO KEEP B442 FACILITY OPERATIONAL 100% OF THE TIME. THE FACILITY IS BASED ON REDUNDANT SOURCES OF POWER WITH A 2N CONFIGURATION. FOLLOW BASE STANDARDS FOR PHASING TO SEQUENCE THE WORK SO THAT EXISTING SYSTEMS REMAIN OPERATIONAL WHILE THE NEW SYSTEMS ARE INSTALLED AND OPERATIONAL, MAINTAINING A MINIMUM OF "N" CONDITIONS. SEE ES404-407 FOR PHASING PLANS.

5. REFER TO ES111 AND ES112 FOR LIGHTING CONTROLS AND DETAILS.

6. COORDINATE ROUTING INSIDE BUILDING WITH EP-SERIES SHEETS.

7. ALL UNDERGROUND CONDUIT INSTALLATION SHALL BE PERFORMED USING OPEN TRENCHING EXCEPT WHERE HORIZONTAL DIRECTIONAL DRILLING IS INDICATED.

8. DEMOLITION OF ELECTRICAL TO INCLUDE REMOVAL OF CONDUIT, CONDUCTORS, AND DUCT BACK.

9. MAINTAIN A MINIMUM OF 12" SEPARATION BETWEEN PARALLEL ROUTINGS OF UNDERGROUND POWER AND TELECOM/SIGNAL DUCTS.

10. ALL WORK ON PHASE 3 SHEET ES406 SHALL NOT COMMENCE UNTIL BUILDING B451 IS COMMISSIONED AND B442 IS POWERED BY B451.

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E.MCNAMARA	05/01/2025
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E.MCNAMARA	W9128F25RA043
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B.ADKINS	
SUBMITTED BY:	FILE NUMBER:
S.LINDGREN	
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1616 CAPITOL AVE
OMAHA, NE 68102

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POWER INDEPENDENCE: MISSION CONTROL STATION

ELECTRICAL
NOTES AND SUPPLEMENTAL LEGEND

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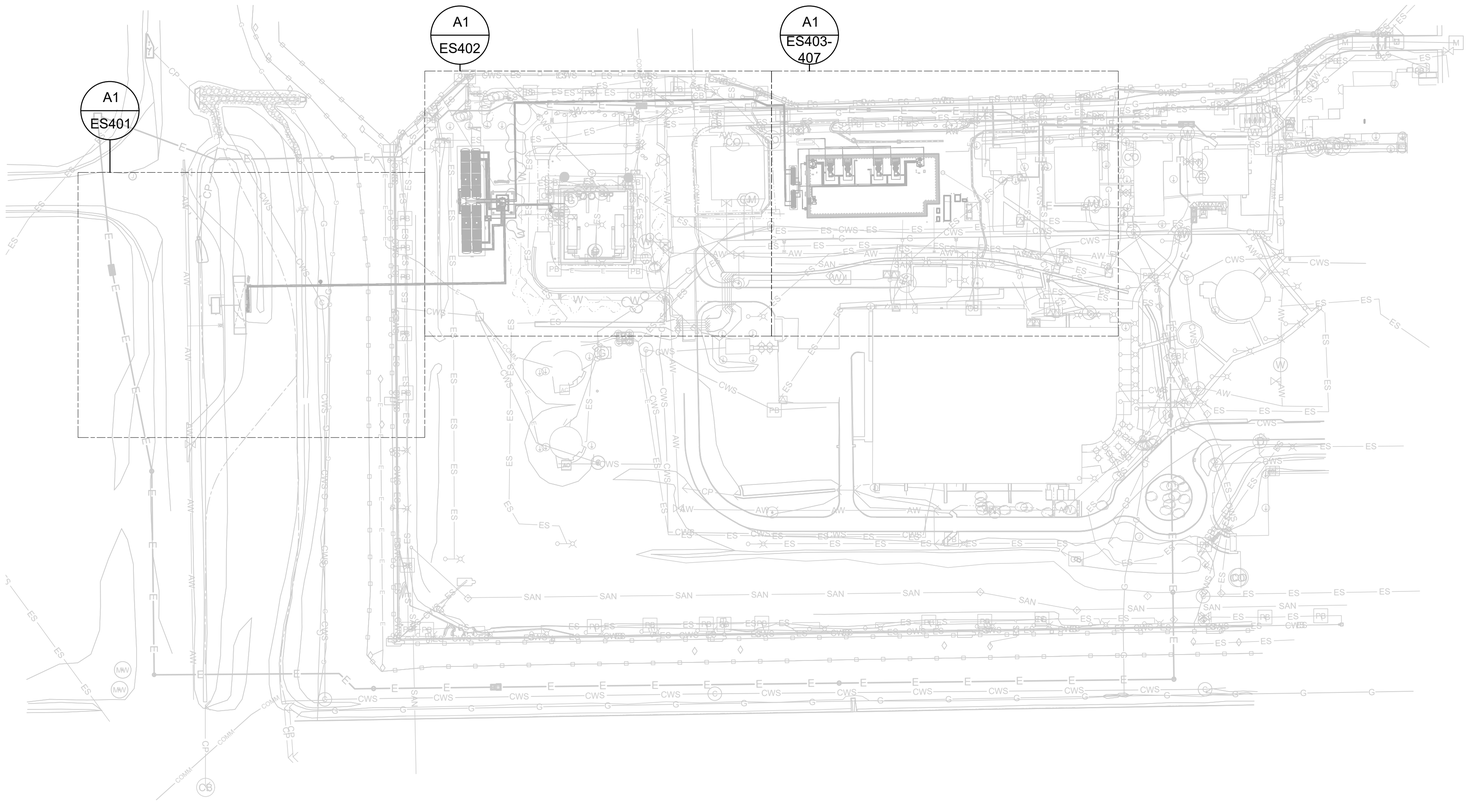

A1 ELECTRICAL SITE PLAN OVERVIEW
1" = 100'-0"

TRUE NORTH

0 100' 200'

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DRAWN BY: E.MCNAMARA
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ELECTRICAL SITE PLAN OVERVIEW

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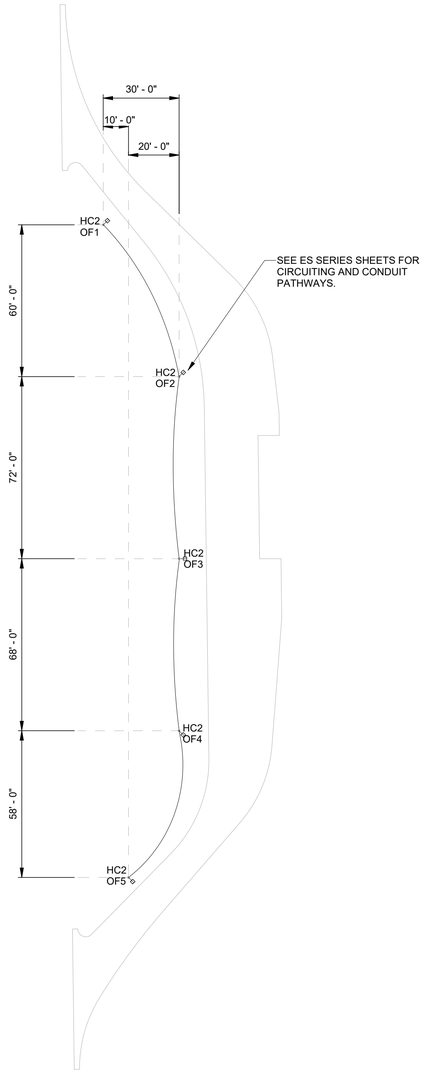
LUMINAIRE SCHEDULE - SITE

LUMINAIRE SYMBOL	QUANTITY NORM	QUANTITY EMER	FIO LLF	TYPE	WATTS	QTY	CCT	MIN. CRI	MAXIMUM POWER	MINIMUM FLUX	VOLTS	MOUNTING	DESCRIPTION	REMARKS
HC2	5	0	0.7	LED	80 W	1	4000 K	70	80 W	9000 lm	277 V	Pole	Pole Mount Luminaire	TYPE III DISTRIBUTION. B4U0G2 MAX BUG RATING.

GENERAL LIGHTING NOTES:
1. QUANTITY PROVIDED FOR INFORMATION ONLY. CONFIRM LUMINAIRE COUNTS ON THE EL SERIES SHEETS.
2. LAMP/FIXTURE LUMEN OUTPUT, DRIVER INPUT WATTAGE, AND DRIVER FACTOR NOT INDICATED ON THIS SCHEDULE MUST COMPLY WITH SPECIFICATION SECTION 26 51 00: INTERIOR LIGHTING.
3. ALL FIXTURES, LAMPS, AND DRIVERS MUST BE RATED FOR STARTING AT ZERO DEGREES FAHRENHEIT UNLESS OTHERWISE NOTED.
4. ALL DRIVERS INCLUDING EMERGENCY DRIVERS MUST BE INTEGRAL TO THE FIXTURE AND SHALL BE FACTORY INSTALLED UNLESS OTHERWISE NOTED.
5. ALL FIXTURES SHALL BE FACTORY PREWIRED WITH HIGH TEMPERATURE WIRE, AND MUST BE COMPLETELY ASSEMBLED AND TESTED PRIOR TO SHIPMENT.
6. FIXTURES MUST BE COMPATIBLE WITH THE CEILING TYPE IN WHICH THEY ARE INSTALLED. RECESSED FIXTURES INSTALLED IN PLASTER CEILINGS MUST INCLUDE PLASTER FRAMES.
7. INDUSTRIAL AND STRIP FIXTURES MOUNTED IN ATTIC SPACES, MECHANICAL/ELECTRICAL ROOMS AND SIMILAR UTILITY EQUIPMENT SPACES MUST BE CHAIN MOUNTED UNLESS OTHERWISE INDICATED AND SHALL BE LOCATED IN CONSULTATION WITH THE CONTRACTING OFFICER'S REPRESENTATIVE TO AVOID INTERFERENCE WITH OR BY OTHER EQUIPMENT.
8. ALL REFERENCES TO SPACING AND MOUNTING HEIGHTS ARE MEASURED FROM THE FIXTURE CENTERLINE UNLESS OTHERWISE NOTED.
9. ALL EMERGENCY AND EXIT FIXTURES MUST BE SELF-TESTING, SELF-DIAGNOSTIC TYPE.
10. DRIVERS LISTED IN LIGHTING FIXTURE SCHEDULES ARE BASED ON 0-10V CONTROL. SHOULD AN ALTERNATIVE CONTROL SYSTEM BE PROVIDED, CONTRACTOR SHALL PROVIDE BALLASTS AND DRIVERS COMPATIBLE WITH THE ALTERNATIVE CONTROL SYSTEM AT NO ADDITIONAL COST TO THE GOVERNMENT.

LEGEND
FIXTURE SYMBOL: THE BASE MARK/TAG SHOWN ON THE PLANS.
FIO LLF: THE LIGHT LOSS FACTOR USED FOR PHOTOMETRIC CALCULATION PURPOSES (FOR INFORMATION ONLY).
LIGHT SOURCE-TYPE: LIGHT SOURCE TECHNOLOGY.
LIGHT SOURCE-WATTS: THE WATTAGE FOR A SINGLE LAMP. WHERE LED IS INDICATED AND THE "LAMPS-QTY" IS 1, THIS VALUE INDICATES THE INPUT POWER FOR THE FIXTURE AS A WHOLE.
LIGHT SOURCE-QTY: THE QUANTITY OF LAMPS IN A SINGLE FIXTURE.
LIGHT SOURCE-CCT: THE NOMINAL CORRELATED COLOR TEMPERATURE OF THE LIGHT SOURCE. SEE SECTIONS 26 51 00 AND 26 56 00 FOR THE "NOMINAL" TOLERANCE.
LIGHT SOURCE-CRI: THE MINIMUM COLOR RENDERING INDEX VALUE OF THE LIGHT SOURCE.
PERFORM. CONSTRAINTS-MAX. POWER: MAXIMUM INPUT POWER FOR A FIXTURE OF A GIVEN SYMBOL.
PERFORM. CONSTRAINTS-MIN. FLUX: MINIMUM INITIAL OUTPUT FLUX FOR A FIXTURE OF A GIVEN SYMBOL.
MIN. EM BATT. INITIAL FLUX: MINIMUM INITIAL OUTPUT FLUX FOR THE DISTRIBUTED EMERGENCY BATTERY OPERATION (SUCH AS EMERGENCY BALLAST OR DRIVER) FOR A FIXTURE OF A GIVEN SYMBOL.
VOLTS: INPUT VOLTAGE FOR A FIXTURE OF A GIVEN SYMBOL.
MOUNTING: MOUNTING TECHNIQUE FOR A FIXTURE OF A GIVEN SYMBOL, UNLESS OTHERWISE NOTED.
MAX. DEPTH: MAXIMUM PERMISSIBLE FIXTURE DEPTH FROM BOTTOM OF FIXTURE TO TOP OF FIXTURE AS INSTALLED.
DESCRIPTION: GENERIC TYPE OF HOUSING, CHARACTERISTICS, AND/OR LIGHT DISTRIBUTION FOR A FIXTURE OF A GIVEN SYMBOL.
REMARKS: ADDITIONAL CHARACTERISTICS CONVEYING FIXTURE REQUIREMENTS FOR A FIXTURE OF A GIVEN SYMBOL.

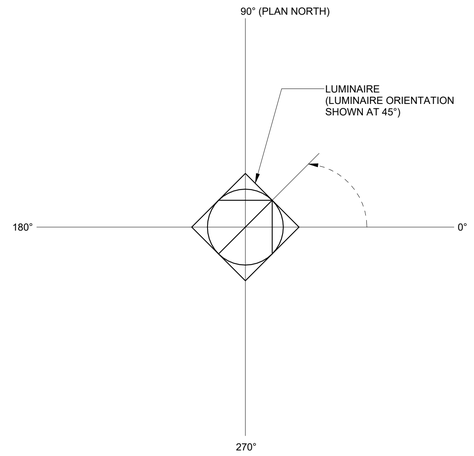


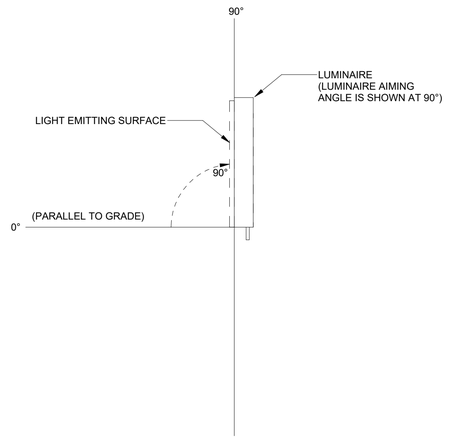
EXTERIOR LUMINAIRE AIMING SCHEDULE

LUMINAIRE SYMBOL	LUMINAIRE IDENTIFICATION	LIGHT POLE IDENTIFICATION	LIGHT POLE HEIGHT	ORIENTATION (DEGREES)	TILT (DEGREES)
HC2	OF1	OF1	18'-0"	45	0
HC2	OF2	OF2	18'-0"	45	0
HC2	OF3	OF3	18'-0"	0	0
HC2	OF4	OF4	18'-0"	315	0
HC2	OF5	OF5	18'-0"	315	0

LEGEND
LUMINAIRE SYMBOL: THE BASE MARK/TAG SHOWN ON THE PLANS. SEE LUMINAIRE SCHEDULE - SITE.
LUMINAIRE IDENTIFICATION: THE UNIQUE IDENTIFIER FOR THE LUMINAIRE INSTANCE ON PLANS.
LIGHT POLE IDENTIFICATION: THE UNIQUE IDENTIFIER FOR THE LIGHT POLE INSTANCE ON PLANS.
LIGHT POLE HEIGHT: THE SPECIFIC POLE HEIGHT AND MOUNTING HEIGHT FOR THE LUMINAIRE OF A LIGHT POLE.
ORIENTATION (DEGREES): DEGREES ROTATED COUNTERCLOCKWISE FROM PLAN EAST.
TILT (DEGREES): ANGLE IN RELATION TO GROUND.

EXTERIOR LIGHTING CONTROLS
1. AUTO ON AT DUSK VIA PHOTOSENSOR.
2. AUTO OFF AT DAWN VIA PHOTOSENSOR.
3. HAND AND OFF FUNCTIONS OF HOA SWITCH TO OVERRIDE AUTO FUNCTIONS. HAND SHALL ENERGIZE LUMINARIES TO 100% OUTPUT.





A1 SITE LIGHTING
1" = 30'-0"

0 15' 30' 60'

PLAN NORTH

A11 LUMINAIRE AIMING HORIZONTAL ORIENTATION
SCALE: NTS

A16 LUMINAIRE AIMING VERTICAL TILT
SCALE: NTS

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EL001.

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DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: LINDSAY PAL
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
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SITE LIGHTING OFFLOAD

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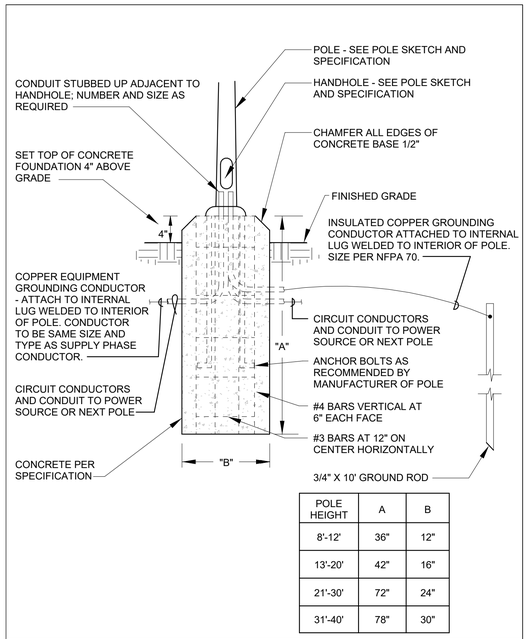
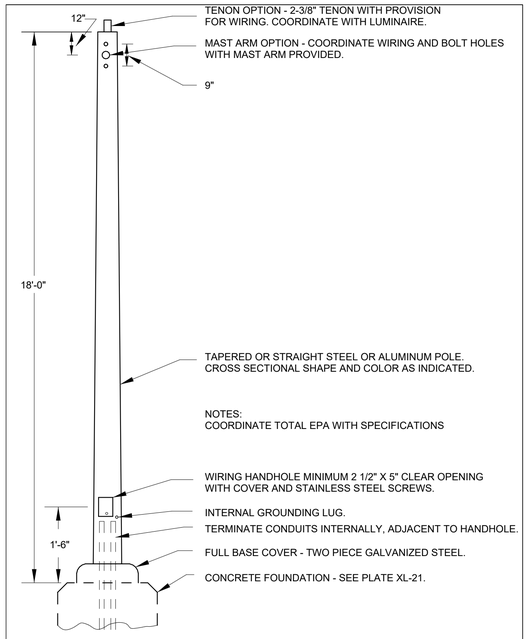


POLE HEIGHT	A	B
8'-12'	36"	12"
13'-20'	42"	16"
21'-30'	72"	24"
31'-40'	78"	30"

ANCHOR BASE POLE FOUNDATION

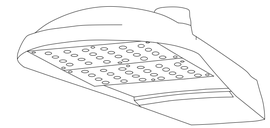
REVISED:	NOVEMBER 2020	LIGHTING PLATE:	XL-21



ANCHOR BASE STEEL/ALUMINUM POLE

REVISED:	NOVEMBER 2020	LIGHTING PLATE:	XL-19NWO

TYPE HC2



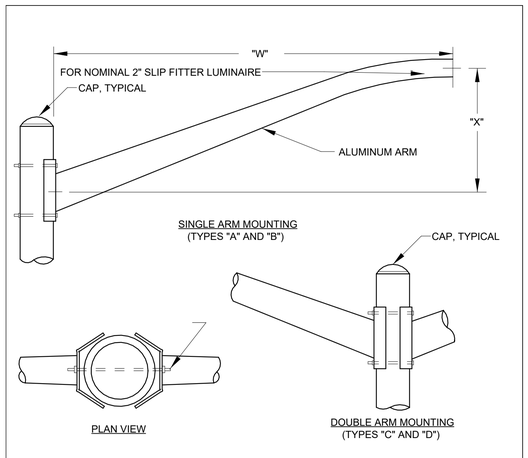
NOTE: THIS SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS. IT IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER OR PREFERENCE.

LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE-CAST ALUMINUM HOUSING WITH POWDER COAT FINISH.
2. OPTICS - INJECTION MOLDED OPTICS WITH TYPE I, II, III, IV, OR V DISTRIBUTIONS. BUG UPLIGHT RATING OF U0, WITH GLARE RATING AS DETERMINED BY LIGHTING ZONE INSTALLED.
3. LIGHT SOURCE - SOLID STATE LEDS, 3000K CCT UON, MINIMUM 70 CRI UON, AND MINIMUM EFFICACY OF 110 LUMENS/WATT UON. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
4. DRIVER - REPLACEABLE, INTEGRAL, HIGH-EFFICIENCY DIMMABLE DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, AND < 20% THD. ON-OFF CONTROL AND FULLY DIMMABLE DOWN TO 10% MINIMUM OR AS INDICATED IN LUMINAIRE SCHEDULE. MEETS ELEVATED 10KV/10KA REQUIREMENTS PER IEEE.
5. CERTIFICATION - UL LISTED FOR WET LOCATION, ROHS COMPLIANT. COMPLIES WITH IES LM79, LM80 AND TM21 TESTING STANDARDS.
6. MOUNTING - ARM-MOUNTED ON POLE.
7. OPTIONS - MOUNTING ARM LENGTH, LIGHT DISTRIBUTION, HOUSE-SIDE SHIELD, PHOTOCELL, INTEGRATED MOTION SENSOR, AND ANSI 7-PIN RECEPTACLE.

LED ROADWAY LUMINAIRE

REVISED:	NOVEMBER 2020	LIGHTING PLATE:	XL-01

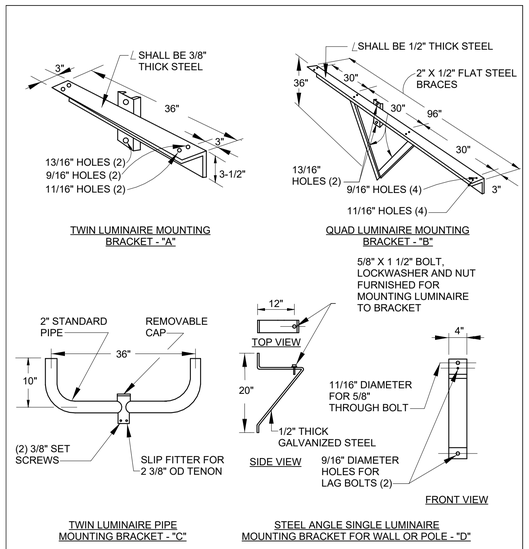


MOUNTING ARM DIMENSIONS		
TYPE	"W"	"X"
A	48"	15"
B	72"	24"
C	48"	15"
D	72"	24"

NOTE: ALL MOUNTING HARDWARE FOR ARMS SHALL BE HOT-DIP GALVANIZED.

LUMINAIRE MOUNTING ARM DETAILS

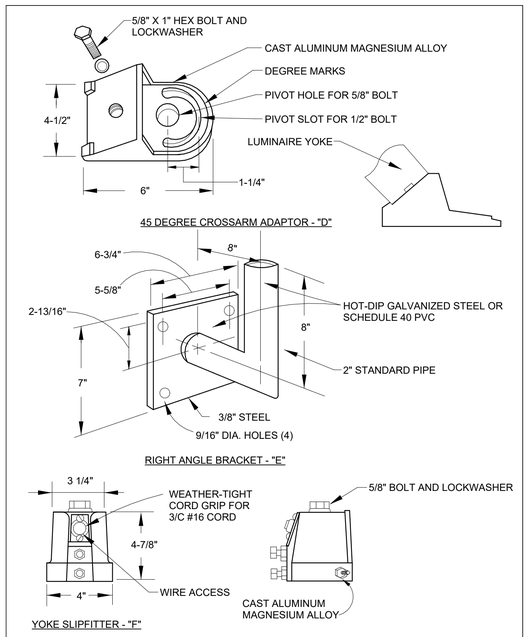
REVISED:	NOVEMBER 2020	LIGHTING PLATE:	XL-24NWO



ALL MATERIAL SHOWN ON THIS SHEET SHALL BE HOT-DIP GALVANIZED. PROVIDE BOLTS AND OTHER HARDWARE AS REQUIRED.

LUMINAIRE MOUNTING BRACKET DETAILS

REVISED:	NOVEMBER 2020	LIGHTING PLATE:	XL-25



LUMINAIRE MOUNTING BRACKET DETAILS

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FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EL001.

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ES112

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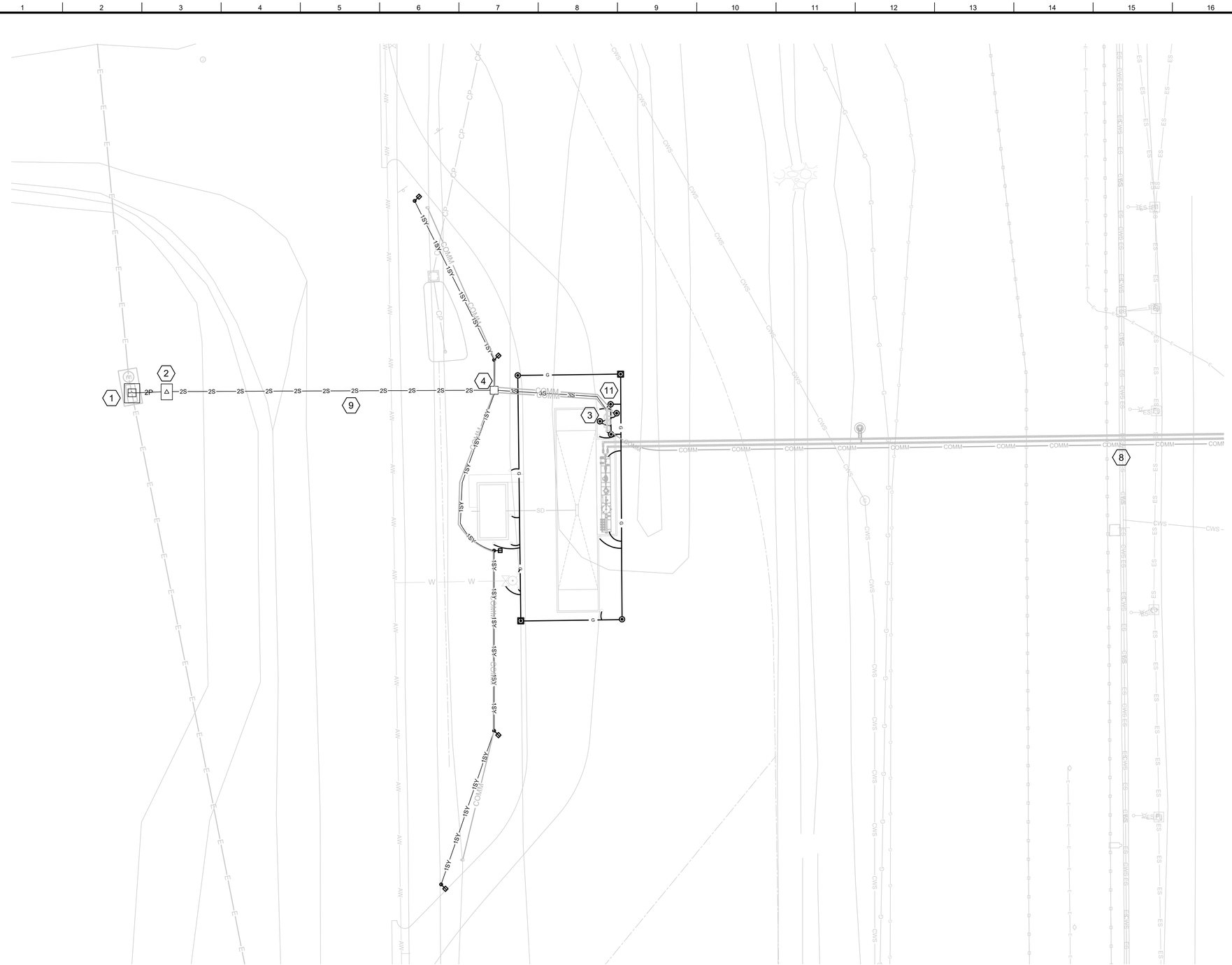


A1 ELECTRICAL SITE PLAN - ENLARGED

1" = 20'-0"

TRUE NORTH

0 20' 40'

GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET ES001 APPLY ON THIS SHEET.
2. GENERAL NOTES AND LEGEND ON SHEET EG001 APPLY ON THIS SHEET.

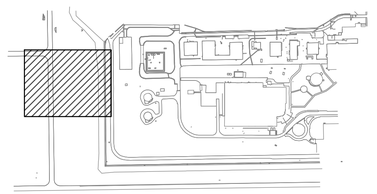
KEY NOTES

1. PROVIDE 15 KV SWITCH WITH TWO SOURCE SWITCHES AND TWO FUSED FEEDER SWITCHES ON TOP OF EXISTING MANHOLE. SEE ES500 DETAIL B1 AND ES501 DETAIL A15.
2. REFER TO TRANSFORMER SOURCE SWITCHES AND TWO FUSED FEEDER SWITCHES ON TOP OF EXISTING MANHOLE. SEE ES500 PAD DETAIL A6 ON SHEET ES501. SEE EP604S FOR ONE-LINE AND EP600 FOR TRANSFORMER SCHEDULES.
3. REFER TO ELEVATION DETAILS ON SHEET EF502.
4. REFER TO DETAILS ON SHEET ES504.
5. "WEST TRUCKS" TEMPORARY POWER PROJECT POWER CONNECTION REPLACEMENT TO BYPASS JUNCTION BOX ON WALL OF B442 AND TIE INTO EXISTING POWER LINES UNDERGROUND IN MANHOLE WEST OF B442. NO CONNECTION DOWNTIME TO OCCUR. COORDINATE WITH BASE. 400A 600V DISCONNECT. 4" SCHEDULE 80 PVC CONDUIT CONCRETE ENCASED. (3) 500 KCMIL AND (1) #2 GROUND.
6. SEE ES404, ES405, ES406, AND ES407 FOR PHASING PLANS.
7. MAINTAIN AREA LIGHTING CONNECTION UNTIL REROUTED. SECURITY LIGHTS REQUIRE CONTINUOUS OPERATION. TEMPORARY LIGHTING SATISFYING AFI 31-101 §8.4.8 TO BE INSTALLED IN THE EVENT OF OPERATION IMPACT. COORDINATE WITH BASE AUTHORITY.
8. MANDATORY HORIZONTAL BORING PATHWAY FOR COMMUNICATION LINES AND FUEL LINES WITH BORING PITS TO BE OFFSET FROM FENCE LINE AT MINIMUM 30FT BOTH INSIDE AND OUTSIDE FENCE LINE.
SEE SPECIFICATION 33 05 23.
9. HORIZONTAL BORING TO OCCUR FOR POWER CONDUCTORS FOR PATH UNDER ROAD. SEE SPECIFICATION 33 05 23.
10. SEE EF SERIES SHEETS FOR DETAILS. SEE EP600 SERIES SHEETS FOR ONE-LINE AND PANEL SCHEDULES.
11. SEE EG602 FOR GROUNDING REQUIREMENTS.

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY:	ISSUE DATE:
E.MCNAMARA	05/01/2025
DRAWN BY:	SOLICITATION NO.:
E. MCNAMARA	W9128F25RA043
CHECKED BY:	CONTRACT NO.:
B. ADKINS	
SUBMITTED BY:	FILE NUMBER:
S. LUNDGREN	
SIZE:	FILENAME:
ANSI D	BUCO00102-ES001-999.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ELECTRICAL SITE PLAN - ENLARGED

SHEET ID

ES401

ADVERTISEMENT

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1:41:49 PM 7/8/2025
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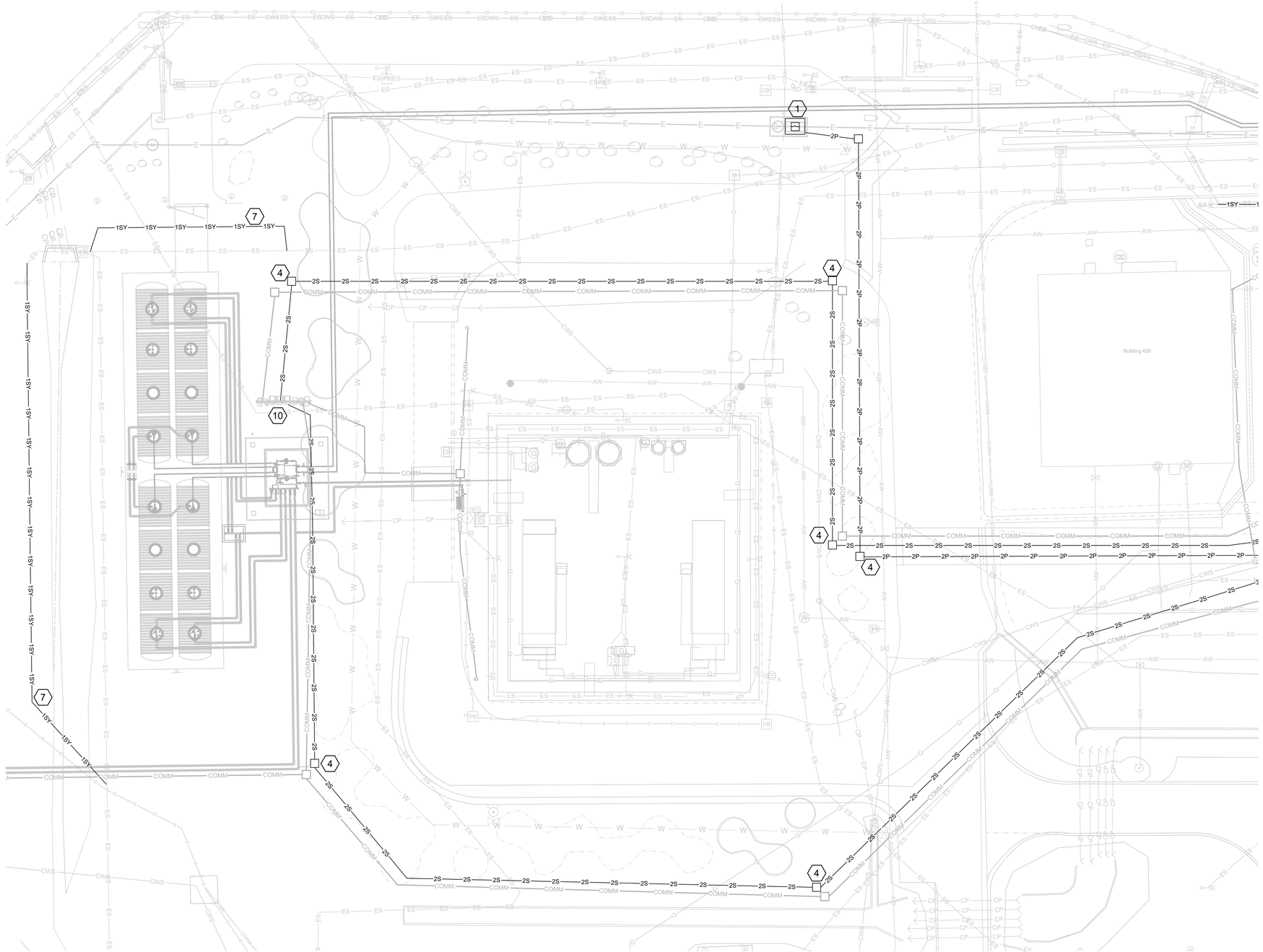


A1 ELECTRICAL SITE PLAN - ENLARGED
1" = 20'-0"

TRUE NORTH

0 20' 40'

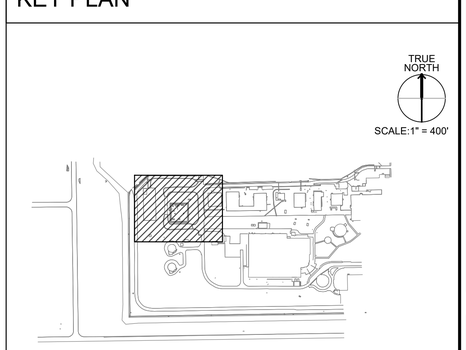
GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET ES001 APPLY ON THIS SHEET.

KEY NOTES

1. PROVIDE 15 KV SWITCH WITH TWO SOURCE SWITCHES AND TWO FUSED FEEDER SWITCHES ON TOP OF EXISTING MANHOLE. SEE ES500 DETAIL B1 AND ES501 DETAIL A15.
2. REFER TO TRANSFORMER SOURCE SWITCHES AND TWO FUSED FEEDER SWITCHES ON TOP OF EXISTING MANHOLE. SEE ES500 PAD DETAIL A6 ON SHEET ES501. SEE EP604S FOR ONE-LINE AND EP600 FOR TRANSFORMER SCHEDULES.
3. REFER TO ELEVATION DETAILS ON SHEET EF502.
4. REFER TO DETAILS ON SHEET ES504.
5. "WEST TRUCKS" TEMPORARY POWER PROJECT POWER CONNECTION REPLACEMENT TO BYPASS JUNCTION BOX ON WALL OF B442 AND TIE INTO EXISTING POWER LINES UNDERGROUND IN MANHOLE WEST OF B442. NO CONNECTION DOWNTIME TO OCCUR. COORDINATE WITH BASE. 400A 600V DISCONNECT. 4" SCHEDULE 80 PVC CONDUIT CONCRETE ENCASED. (3) 500 KCMIL AND (1) #2 GROUND.
6. SEE ES404, ES405, ES406, AND ES407 FOR PHASING PLANS.
7. MAINTAIN AREA LIGHTING CONNECTION UNTIL REROUTED. SECURITY LIGHTS REQUIRE CONTINUOUS OPERATION. TEMPORARY LIGHTING SATISFYING AFI 31-101 §8.4.8 TO BE INSTALLED IN THE EVENT OF OPERATION IMPACT. COORDINATE WITH BASE AUTHORITY.
8. MANDATORY HORIZONTAL BORING PATHWAY FOR COMMUNICATION LINES AND FUEL LINES WITH BORING PITS TO BE OFFSET FROM FENCE LINE AT MINIMUM 30FT BOTH INSIDE AND OUTSIDE FENCE LINE.
SEE SPECIFICATION 33 05 23.
9. HORIZONTAL BORING TO OCCUR FOR POWER CONDUCTORS FOR PATH UNDER ROAD. SEE SPECIFICATION 33 05 23.
10. SEE EF SERIES SHEETS FOR DETAILS. SEE EP600 SERIES SHEETS FOR ONE-LINE AND PANEL SCHEDULES.
11. SEE EG602 FOR GROUNDING REQUIREMENTS.

KEY PLAN



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: E.MCNAMARA
DRAWN BY: E. MCNAMARA
CHECKED BY: B. ADKINS
QA/QC BY: S.LUNDGREN
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCOD0102-ES901-999.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ELECTRICAL SITE PLAN - ENLARGED

SHEET ID
ES402

ADVERTISEMENT

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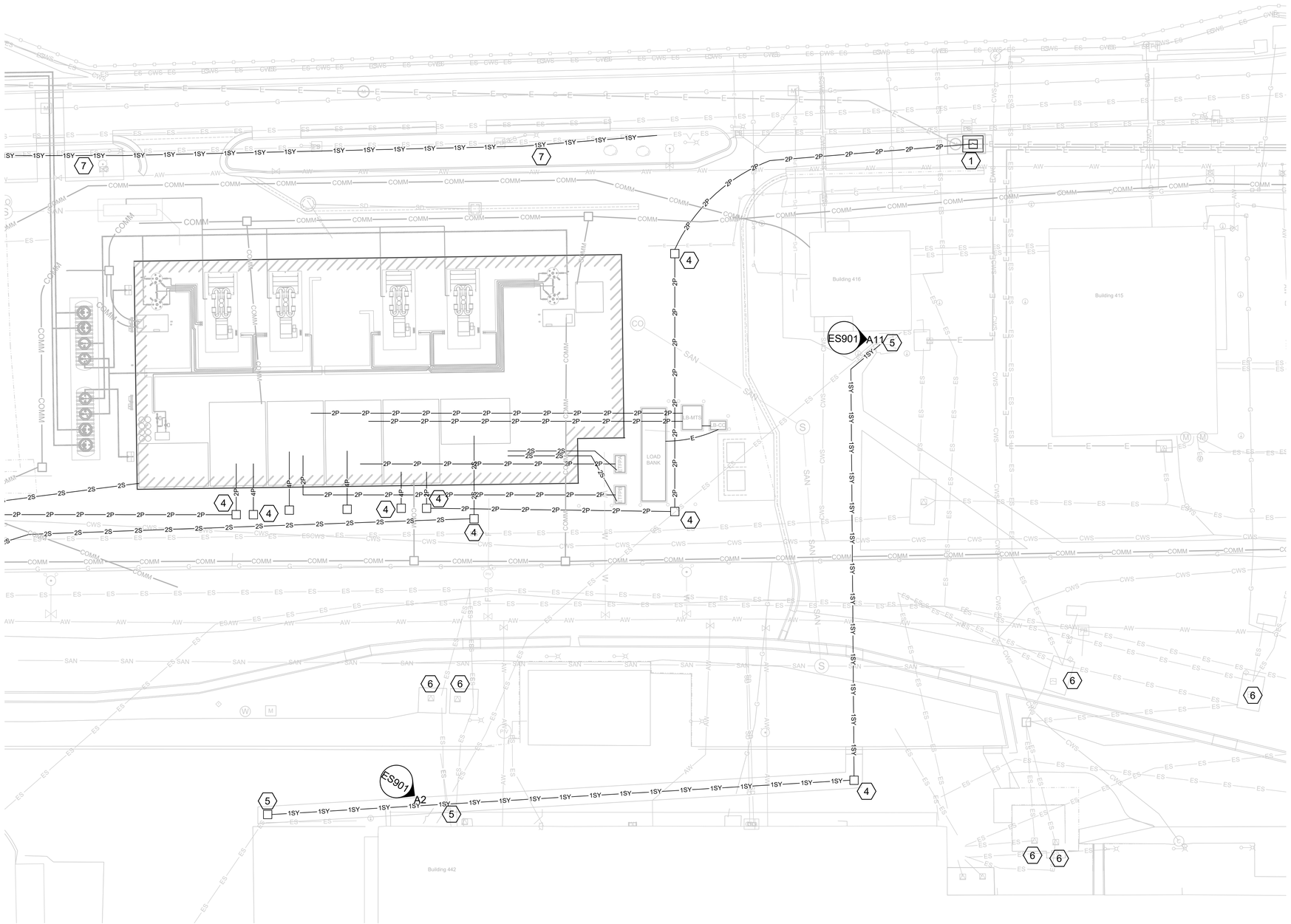

A1 ELECTRICAL SITE PLAN - ENLARGED

1" = 20'-0"

TRUE NORTH

0 20' 40'

GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET ES001 APPLY ON THIS SHEET.
2. POWER CONNECTION TO BUILDING 442 TO HAVE NO DOWNTIME. FOR PHASING PLANS, SEE SHEETS ES404, ES405, AND ES406.

KEY NOTES

1. PROVIDE 15 KV SWITCH WITH TWO SOURCE SWITCHES AND TWO FUSED FEEDER SWITCHES ON TOP OF EXISTING MANHOLE. SEE ES500 DETAIL B1 AND ES501 DETAIL A15.
2. REFER TO TRANSFORMER SOURCE SWITCHES AND TWO FUSED FEEDER SWITCHES ON TOP OF EXISTING MANHOLE. SEE ES500 PAD DETAIL A6 ON SHEET ES501. SEE EP604S FOR ONE-LINE AND EP600 FOR TRANSFORMER SCHEDULES.
3. REFER TO ELEVATION DETAILS ON SHEET EF502.
4. REFER TO DETAILS ON SHEET ES504.
5. "WEST TRUCKS" TEMPORARY POWER PROJECT POWER CONNECTION REPLACEMENT TO BYPASS JUNCTION BOX ON WALL OF B442 AND TIE INTO EXISTING POWER LINES UNDERGROUND IN MANHOLE WEST OF B442. NO CONNECTION DOWNTIME TO OCCUR. COORDINATE WITH BASE. 400A 600V DISCONNECT. 4" SCHEDULE 80 PVC CONDUIT CONCRETE ENCASED. (3) 500 KCMIL AND (1) #2 GROUND.
6. SEE ES404, ES405, ES406, AND ES407 FOR PHASING PLANS.
7. MAINTAIN AREA LIGHTING CONNECTION UNTIL REROUTED. SECURITY LIGHTS REQUIRE CONTINUOUS OPERATION. TEMPORARY LIGHTING SATISFYING AFI 31-101 §8.4.8 TO BE INSTALLED IN THE EVENT OF OPERATION IMPACT. COORDINATE WITH BASE AUTHORITY.
8. MANDATORY HORIZONTAL BORING PATHWAY FOR COMMUNICATION LINES AND FUEL LINES WITH BORING PITS TO BE OFFSET FROM FENCE LINE AT MINIMUM 30FT BOTH INSIDE AND OUTSIDE FENCE LINE.
SEE SPECIFICATION 33 05 23.
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10. SEE EF SERIES SHEETS FOR DETAILS. SEE EP600 SERIES SHEETS FOR ONE-LINE AND PANEL SCHEDULES.
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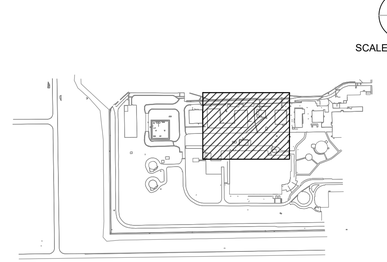
KEY PLAN



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QA/QC BY: S. LUNDGREN
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SOLICITATION NO.: W9128F25RA043
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FILENAME: BUCOD0102-ES901-999.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ELECTRICAL SITE PLAN - ENLARGED

SHEET ID
ES403

ADVERTISEMENT

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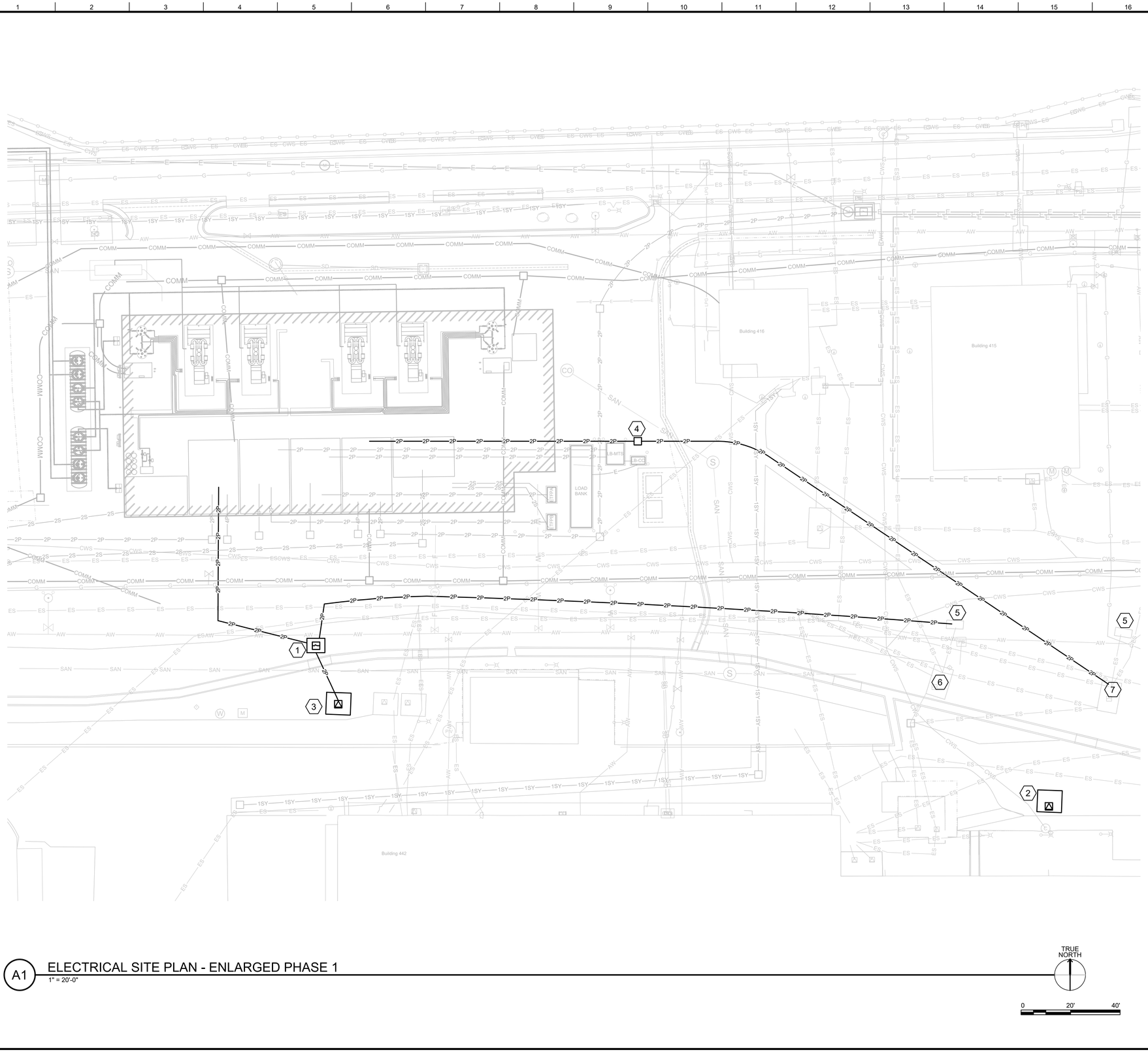


A1 ELECTRICAL SITE PLAN - ENLARGED PHASE 1

1" = 20'-0"

TRUE NORTH

0 20' 40'

GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET ES001 APPLY ON THIS SHEET.

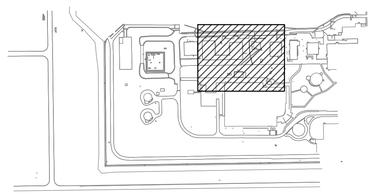
KEY NOTES - PHASE 1

1. PROVIDE 6' X 12'6" X 7 MANHOLE WITH TWO RINGED LIDS. REFER TO DETAIL B1 ON SHEET ES501. ST-RA03 REPLACEMENT. SEE EP600 AND EP601 FOR DETAILS.
2. INSTALL PAD FOR T442B AND INSTALL T442B. SEE EP600 FOR TRANSFORMER DETAILS.
3. INSTALL PAD FOR T442C AND INSTALL T442C. SEE EP600 FOR TRANSFORMER DETAILS.
4. REFER TO DETAILS ON SHEET ES504.
5. EXISTING TEMPORARY GENERATOR CONNECTION.
6. SINGLE END TO SWITCH ST-RA03 USING PROCEDURE ATO-006 TO FEED SWITCHGEAR THROUGH NH-SGA(52-2).
7. DISCONNECT ST-RA04 CONNECTION TO TEMPORARY GENERATOR CONNECTION SC-RA4 FOR CONNECTION TO USA. ONCE ADF-C FEED HAS BEEN DISCONNECTED, RECONNECT SC-RA4 BACK TO WHERE THE ADF-C CONNECTION HAD BEEN ON ST-RA04.

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



US Army Corps of Engineers®

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SUBMITTED BY: S.LUNDGREN
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102-ES901-999.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ELECTRICAL SITE PLAN - ENLARGED PHASE 1

SHEET ID
ES404

ADVERTISEMENT

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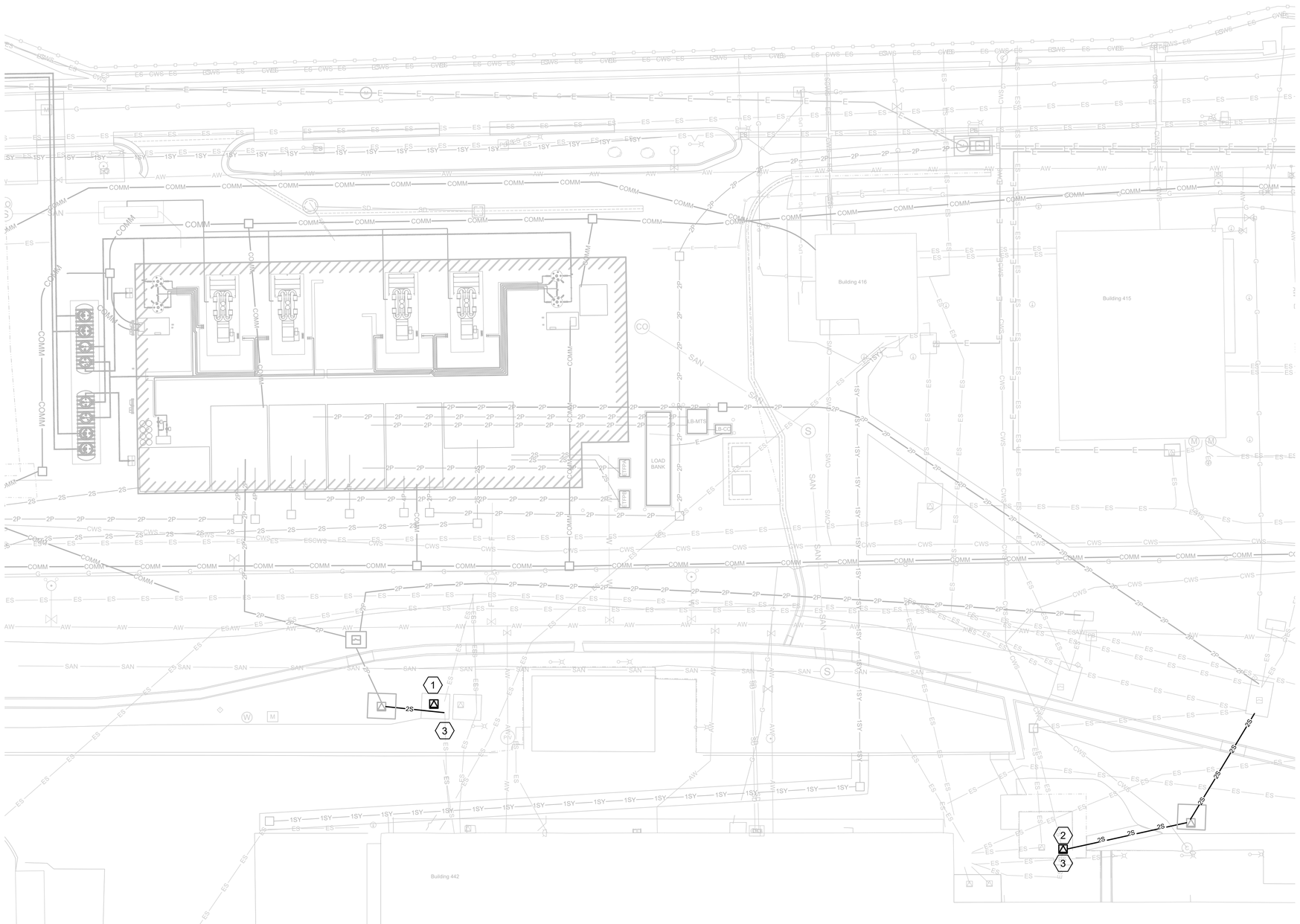


A1 ELECTRICAL SITE PLAN - ENLARGED PHASE 2
1" = 20'-0"

TRUE NORTH

0 20' 40'

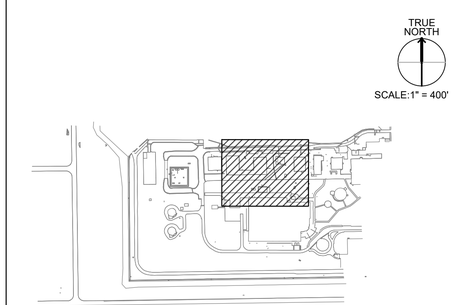
GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET ES001 APPLY ON THIS SHEET.

KEY NOTES - PHASE 2

1. EXISTING TRANSFORMER T442D TO BE DEMOLISHED. PAD TO REMAIN.
2. EXISTING TRANSFORMER T442A TO BE DEMOLISHED. PAD TO REMAIN.
3. EXISTING PATH AND CONDUCTORS INTO B442 TO BE REUSED.

KEY PLAN



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: E.MCNAMARA
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CHECKED BY: B. ADKINS
SUBMITTED BY: S. LINDGREN
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCOD0102-ES901-999.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ELECTRICAL SITE PLAN - ENLARGED PHASE 2

SHEET ID
ES405

ADVERTISEMENT

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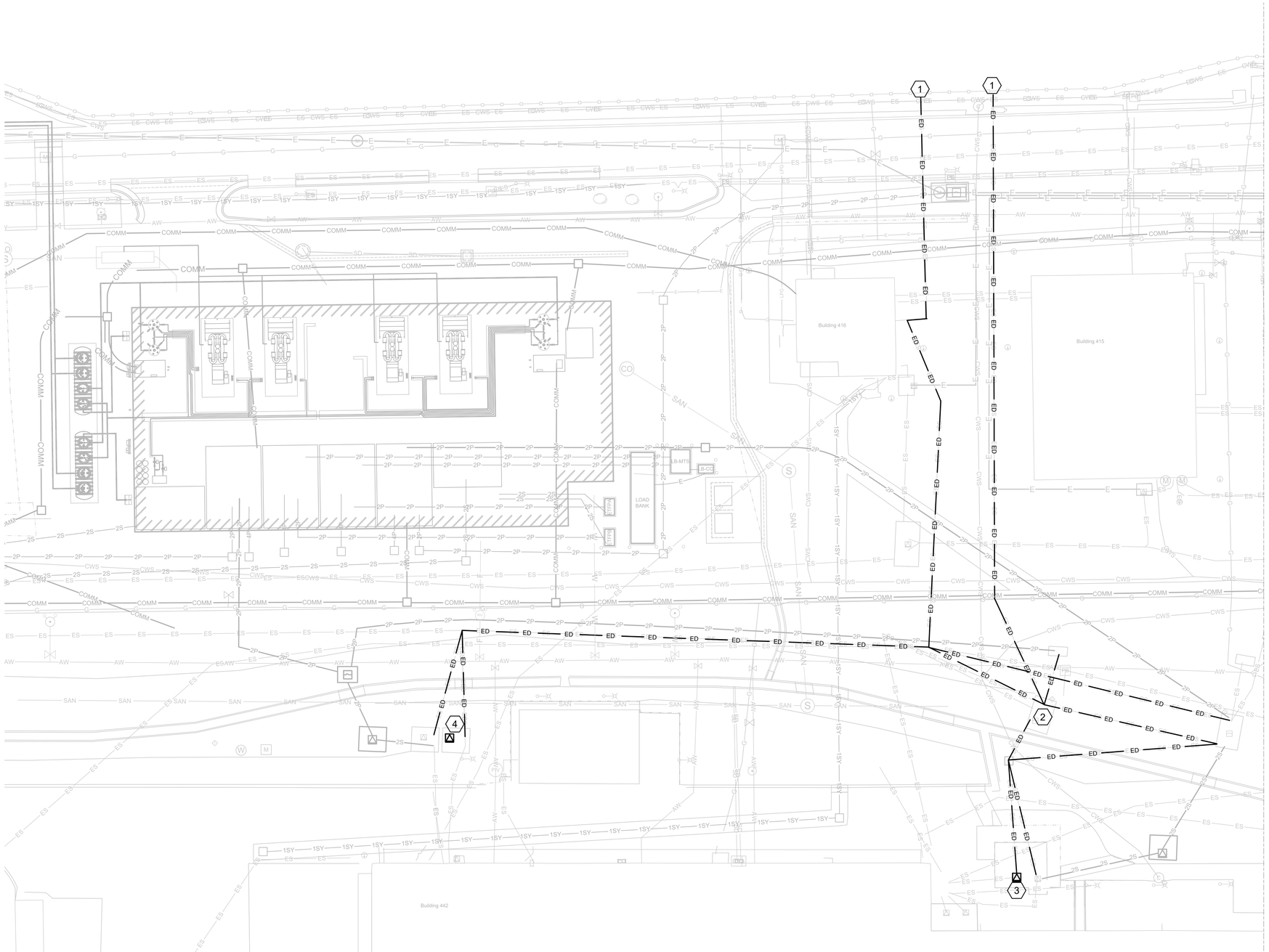


A1 ELECTRICAL SITE PLAN - ENLARGED PHASE 3

1" = 20'-0"

TRUE NORTH

0 20' 40'

GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET ES001 APPLY ON THIS SHEET.

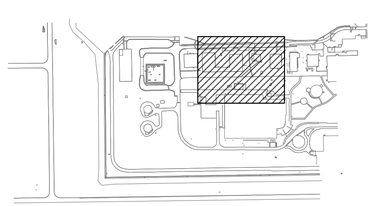
KEY NOTES - PHASE 3

1. FEEDER TO BE DEMOLISHED BACK TO NEXT MANHOLE. FEEDS SHALL NOT BE DISCONNECTED UNTIL AFTER B442 IS POWERED BY B451 AND B451 IS COMMISSIONED.
2. EXISTING PAD AND SWITCH TO BE REMOVED.
3. INSTALL T442A. SEE EP600 SHEET SERIES FOR TRANSFORMER DETAILS.
4. INSTALL T442D. SEE EP600 SHEET SERIES FOR TRANSFORMER DETAILS.

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



US Army Corps of Engineers®

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SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCOD0102-ES901-999.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ELECTRICAL SITE PLAN - ENLARGED PHASE 3

SHEET ID

ES406

ADVERTISEMENT

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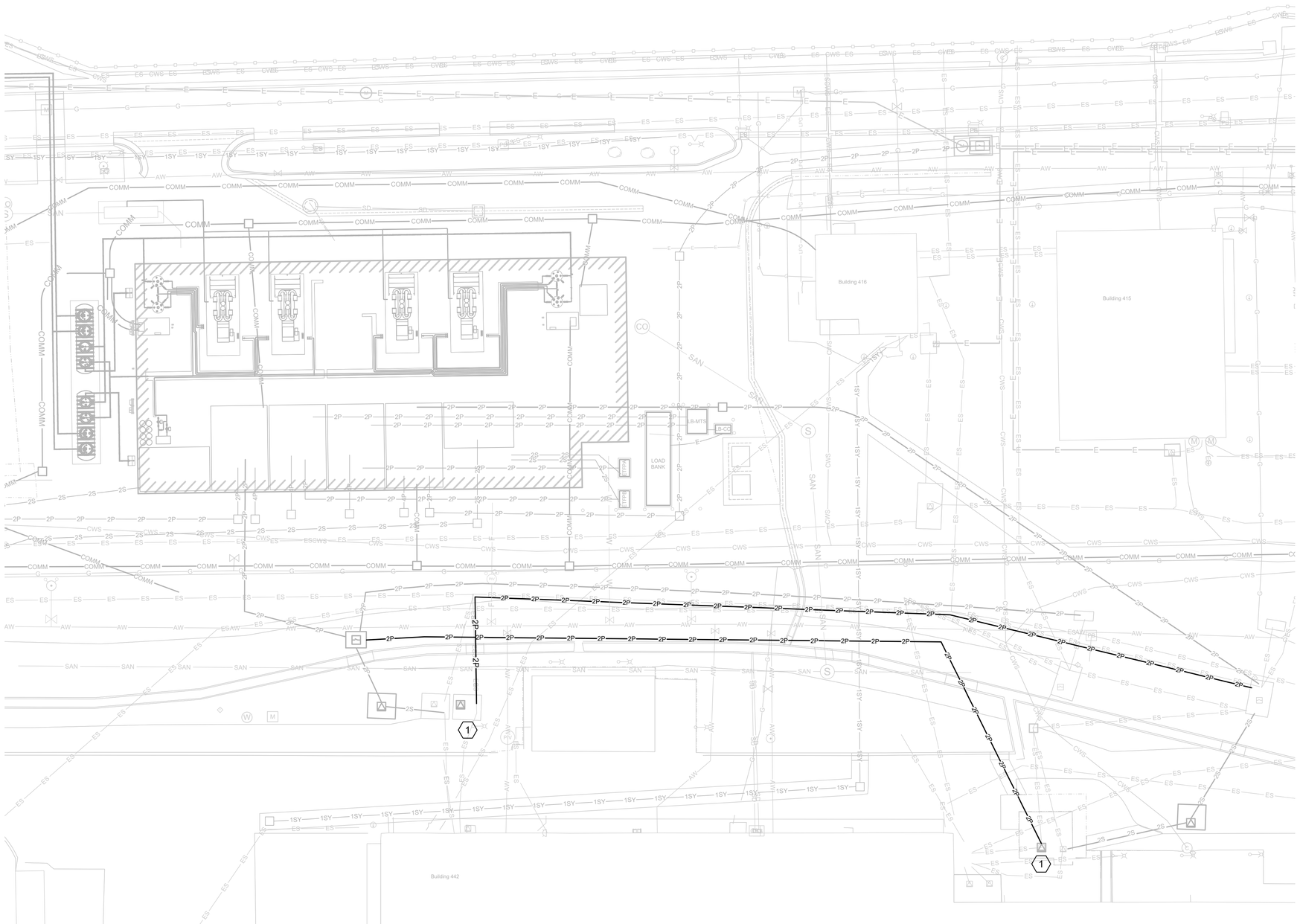


A1 ELECTRICAL SITE PLAN - ENLARGED PHASE 4
1" = 20'-0"

TRUE NORTH

0 20' 40'

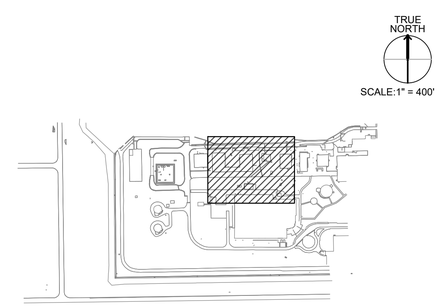
GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET ES001 APPLY ON THIS SHEET.

KEY NOTES - PHASE 4

1. EXISTING PATH AND CONDUCTORS INTO B442 TO BE REUSED.

KEY PLAN



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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ELECTRICAL SITE PLAN - ENLARGED PHASE 4

SHEET ID
ES407

ADVERTISEMENT

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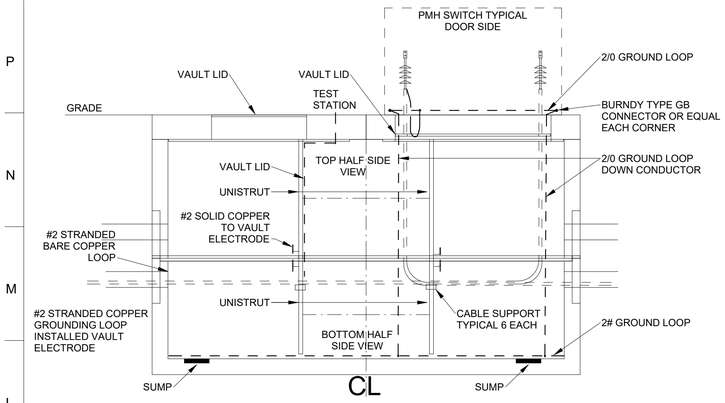
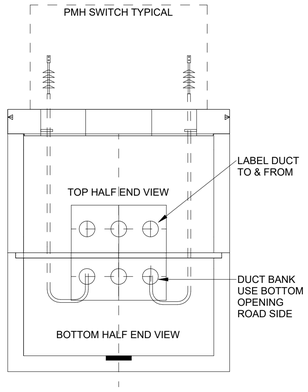
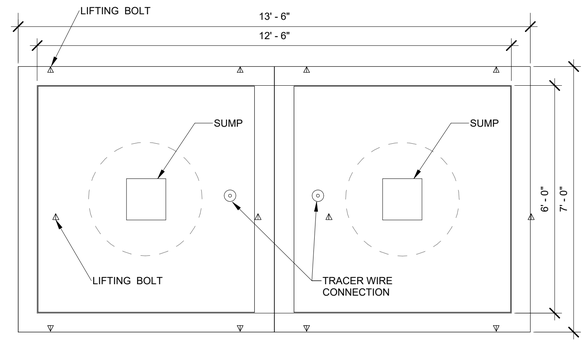
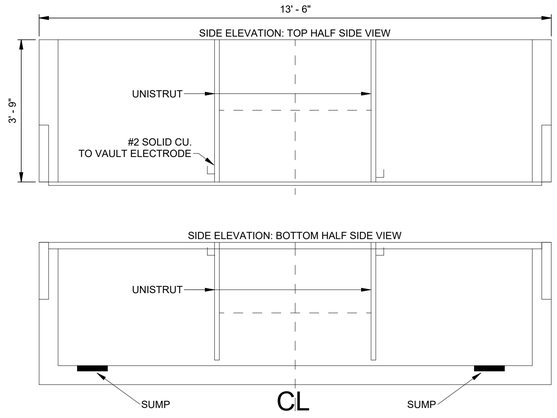


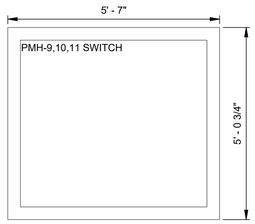


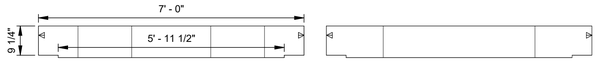


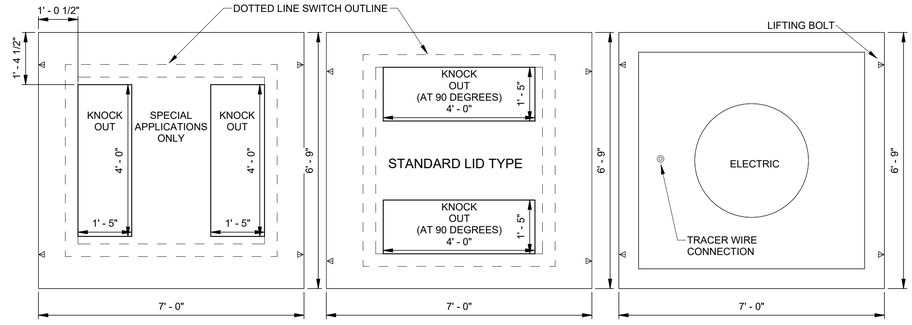


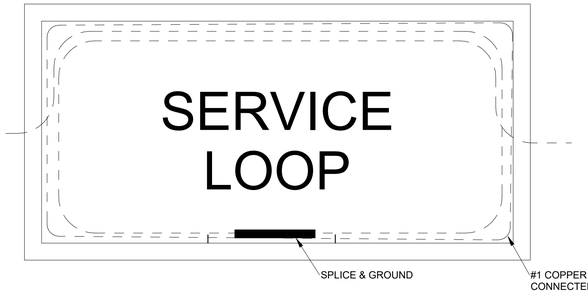
6" WIDE 12'-6" LONG 7' HIGH
VAULT LID OPTIONS

CONTRACTOR TO VERIFY PROPER VAULT LID STYLE AND SIZE TO ENSURE
PAD MOUNTED SWITCH DOORS CAN OPEN FREELY AND SWITCH FITS PROPERLY
ALL KNOCK OUTS MUST BE SAW CUT TO FIT SWITCH OPENING



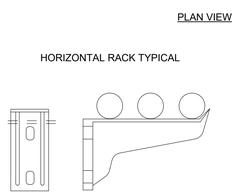




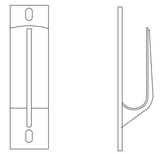


PLAN VIEW

HORIZONTAL RACK TYPICAL

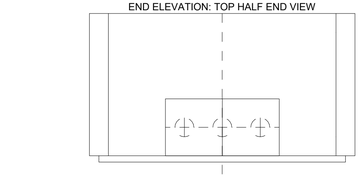


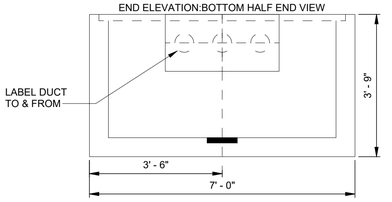
SINGLE SADDLE RACK TYPICAL

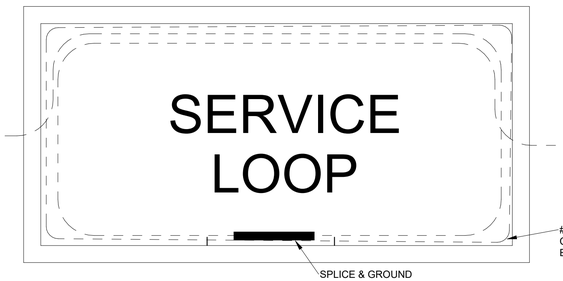


DETAIL "B" - (TYPICAL)
ELECTRICAL PULLING MANHOLE
6' WIDE 12'-6" LONG 7' HIGH

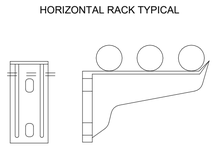
E10 SCALE: NTS



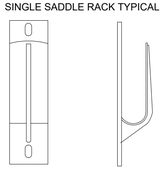




HORIZONTAL RACK TYPICAL



SINGLE SADDLE RACK TYPICAL



DETAIL "A" - (TYPICAL)
ELECTRICAL MANHOLE AND SWITCH
6' WIDE 12'-6" LONG 7' HIGH

B1 SCALE: NTS

NOTES:

1.TWO RINGED MANHOLE LIDS ARE REQUIRED FOR PULL POINT MANHOLES. CONTRACTOR TO VERIFY VAULT LID WILL ACCOMMODATE S&C MODEL PMH9 SWITCH. VAULT LID TO ALLOW PAD-MOUNTED SWITCH DOORS TO OPEN FREELY.

2. NESC RULE 350 BOND ALL ABOVE GROUND METALLIC POWER AND COMMUNICATIONS PEDESTALS THAT ARE SEPARATED BY SIX (6') FEET OR LESS: USE MINIMUM #6 BARE COPPER DIRECT BURIED A MINIMUM 18" BELOW GRADE AND CONNECT TO LID AT SIDE NUTS USING LUG.

3. PROVIDE SERVICE LOOP IN THE CABLE FOR ALL MANHOLES. RACK AND SUPPORT CABLES TO MANHOLE SIDEWALLS AS NEEDED TO SUPPORT CABLES.

4. FIRE TAPE AND LABEL ALL CONDUCTORS WITH PHASE TAPE AND CABLE IDENTIFICATION TAGS.

5. CONTRACTOR SHALL COORDINATE WITH COR TO LABEL ALL CONDUCTORS AND VAULTS ACCORDING TO BASE STANDARD CONVENTIONS.

6. PROVIDE GRADUAL DEPTH CHANGE WITHIN 30 FEET OF MANHOLE TO ENSURE DUCT IS AT PROPER DEPTH FOR ENTRY INTO MANHOLES.

7. DUCTS ENTERING SIDES OF MANHOLES ARE NOT SHOWN ON THE MANHOLE PLAN VIEWS. CONTRACTOR TO PROVIDE ALL CONDUIT PENETRATIONS, STUB-OUTS, ETC. AS REQUIRED BY ELECTRICAL SITE PLANS AND SCHEDULES.

8. ALL LID KNOCK OUTS MUST BE SAW CUT TO FIT PAD-MOUNTED SWITCH OPENINGS.

US Army Corps of Engineers ®

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SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

Date: 6/30/2025 1:20:45 PM
Plot Date:

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ELECTRICAL SITE DETAILS

SHEET ID

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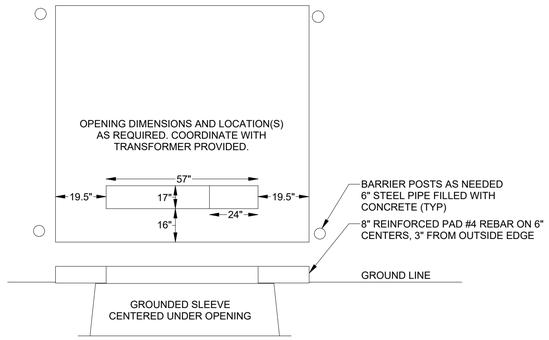
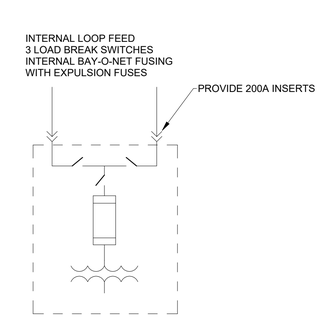
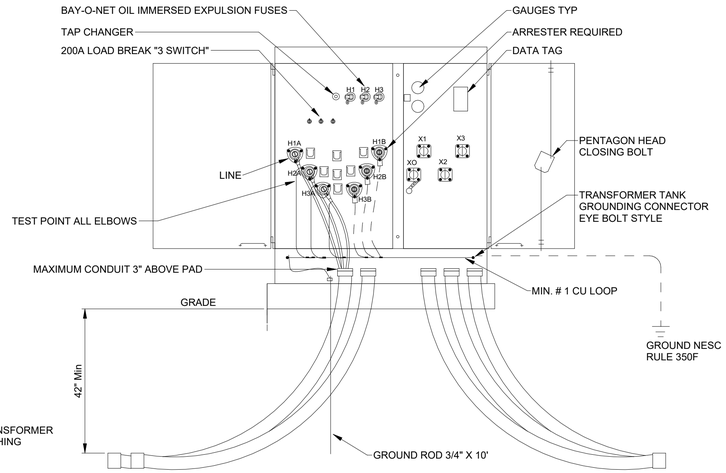
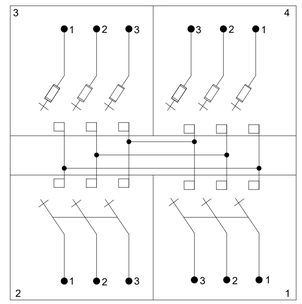


L15 PAD FOR THREE PHASE TRANSFORMER

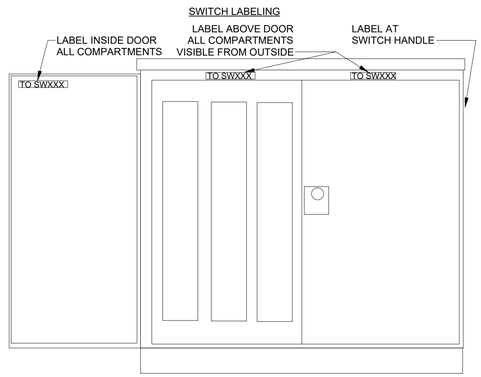
SCALE: NTS

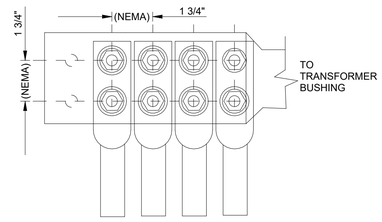


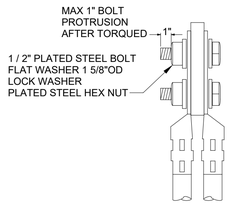


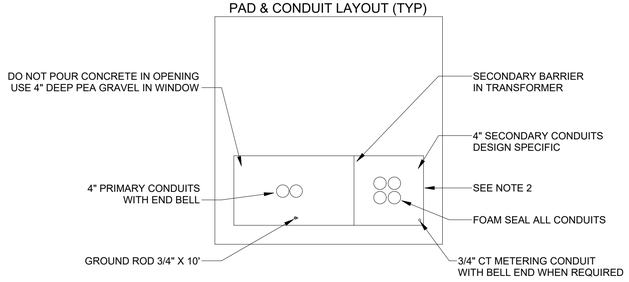


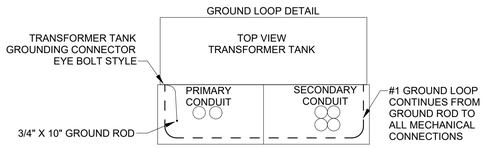
SWITCH LABELING











NOTE:
1. CONTRACTOR TO REUSE EXISTING PAD WHERE INDICATED.
2. PROVIDE 4" OF 3/8" PEA GRAVEL IN TRANSFORMER WINDOW.
3. 8' CLEAR LEVEL WORKING SPACE IN FRONT OF TRANSFORMER.

A6 3 PHASE PAD MOUNTED TRANSFORMER

SCALE: NTS

NOTES:

1. 2 GROUND RODS #2/0 BCU GROUND LOOP TYP BOX PAD, VAULT LID & RETRO FIT, C-CRIMP ALL CONNECTIONS CONNECT ALL FOUR CORNERS WITH APPROVED CONNECTOR.
2. PROVIDE MOUNTING PROVISION FOR BASE MOUNTED SURGE ARRESTERS AT SWITCH & BUSS TERMINALS.
3. PROVIDE INNER BARRIER PANELS SECURED BY RECESSED PENTAHEAD BOLT FOR LIVE FRONT SWITCH.
4. P7 KEY INTERLOCK ARE NOT ALLOWED.
5. PROVIDE SWITCH WITH FAULT INDICATOR WINDOW
6. NESC RULE 350F BOND ALL ABOVE GROUND METALLIC POWER AND COMMUNICATION CASES/PEDESTALS THAT ARE SEPARATED BY 6 FEET FOR LESS. USE #6 BARE COPPER.
7. SWITCH MUST HAVE FULL SERVICE LOOP IN THE PRIMARY CABLE FOR BOX PAD INSTALLATIONS.
8. INSTALL BLACK TEXT ON WHITE BACKGROUND 1/2" LABEL ON THE INSIDE OF THE SWITCH DOOR, OUTSIDE ABOVE SWITCH DOOR AND INSIDE OF ALL SWITCH HANDLE ACCESS POINTS TO IDENTIFY LOAD OR FEEDER.
9. SWITCH GROUND RING AND CABLE TERMINATION SHALL BE INSTALLED IN A MANNER TO ALLOW THE REMOVAL OF THE SWITCH BY UNBOLTING WITHOUT CUTTING ANY CONDUCTORS.

A15 PAD MOUNTED SWITCH

SCALE: NTS

US Army Corps of Engineers ®

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SUBMITTED BY: L.MORTENSEN	
SIZE: ANSI D	

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ELECTRICAL SITE DETAILS

SHEET ID

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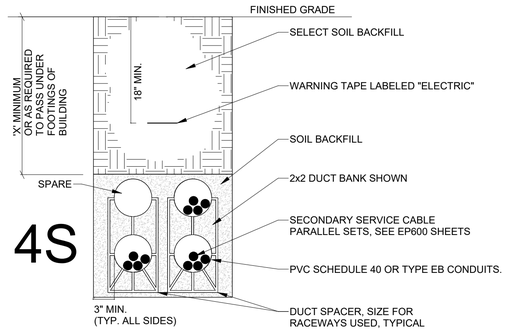
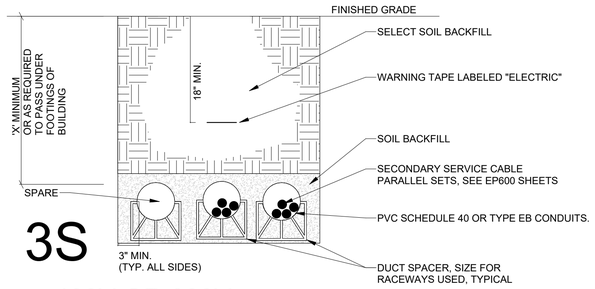


480V OR 208V
DIRECT BURIED DUCT BANK 4S

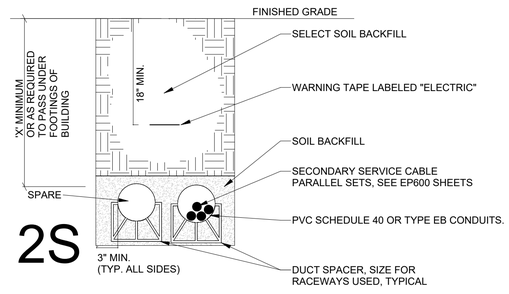
L1 SCALE: NTS



480V OR 208V
DIRECT BURIED DUCT BANK 3S

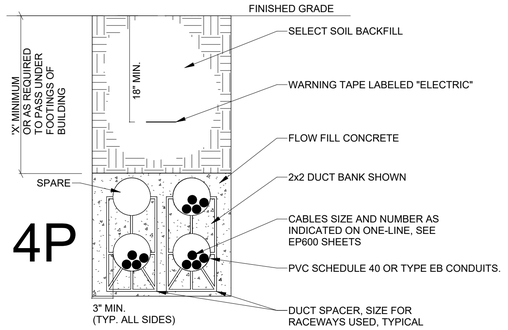
L6 SCALE: NTS

NOTES:
1. SEE COMMUNICATIONS SITE DRAWINGS (TO) FOR NUMBER, SIZES AND LOCATION OF COMMUNICATION CABLES IN UNDERGROUND DUCT BANK.
2. DUCT SPACING SHALL BE MAINTAINED BY USE OF SEPARATORS OR SPACING BLOCKS PLACED NOT MORE THAN 4 FEET APART ON CENTER.
3. WHERE INDICATED, DIG ONE TRENCH FOR UNDERGROUND DUCTS IN LIEU OF TWO SEPARATE TRENCHES FOR POWER DUCTS AND COMMUNICATIONS DUCTS. CONTRACTOR SHALL MAINTAIN A HORIZONTAL SEPARATION OF 3" OF CONCRETE BETWEEN THE POWER DUCTS AND COMMUNICATIONS DUCTS.
4. TO ENSURE DUCT IS AT PROPER DEPTH FOR ENTRY INTO VAULTS OR MANHOLES, BOTTOM OF TRENCH SHALL BE GRADED TO PROVIDE GRADUAL DEPTH CHANGE WITHIN 30 FEET OF MANHOLE OR VAULT.
5. CONTRACTOR SHALL INSTALL REINFORCED CONCRETE DUCTBANK AS SHOWN UNDER ALL ROAD AND RAILROAD CROSSINGS. DUCTBANK IN ALL OTHER AREAS SHALL BE CONCRETE ONLY.
6. ALL REINFORCEMENT SHALL HAVE A CLEAR COVER OF AT LEAST 2 INCHES.
7. ALL NEW DUCTS AND INNERDUCTS SHALL HAVE PRE-LUBRICATED MEASURING PULLING TAPE WITH A MINIMUM BREAKING STRENGTH OF 1,200 LBS SECURED AT EACH END WITH DUCT PLUG.
8. SEE EP601 AND EP602 FOR POWER CONDUCTOR SIZES.
9. PROVIDE COLOR AND TYPE OF TAPE AS SPECIFIED IN PARAGRAPH BURIED WARNING AND IDENTIFICATION TAPE IN SECTION 31 00 00, EARTHWORK.
10. PROMPTLY REPAIR INDICATED UTILITY LINES OR SYSTEMS DAMAGED DURING SITE PREPARATION AND CONSTRUCTION. DAMAGES TO LINES OR SYSTEMS NOT INDICATED, WHICH ARE CAUSED BY CONTRACTOR OPERATIONS, SHALL BE TREATED AS "CHANGES" UNDER THE TERMS OF THE CONTRACT CLAUSES. WHEN CONTRACTOR IS ADVISED IN WRITING OF THE LOCATION OF A NONINDICATED LINE OR SYSTEM, SUCH NOTICE SHALL PROVIDE THAT PORTION OF THE LINE OR SYSTEM WITH "INDICATED" STATUS IN DETERMINING LIABILITY FOR DAMAGES. IN EVERY EVENT, IMMEDIATELY NOTIFY THE CONTRACTING OFFICER OF DAMAGE.
11. PROVIDE UNDERGROUND DUCT AND CONNECTIONS TO EXISTING MANHOLES, HANDHOLES, CONCRETE PADS, AND EXISTING DUCTS AS SPECIFIED IN SECTION 33 71 02 UNDERGROUND ELECTRICAL DISTRIBUTION.
12. PROVIDE RECONDITIONING OF SURFACES AS SPECIFIED IN SECTION 33 71 02 UNDERGROUND ELECTRICAL DISTRIBUTION.
13. MINIMUM PER APPLICABLE DETAIL, NOTE, OR SPECIFICATION REQUIREMENT.
14. SEE EP600 SERIES SHEETS FOR CONDUIT QUANTITY AND SIZES.
15. WHERE "'X' MINIMUM" IS INDICATED, THE FOLLOWING SHOULD APPLY: 'X' = 42 INCHES FOR MEDIUM VOLTAGE DUCT BANKS AND 'X'=24" FOR LOW VOLTAGE DUCT BANKS.



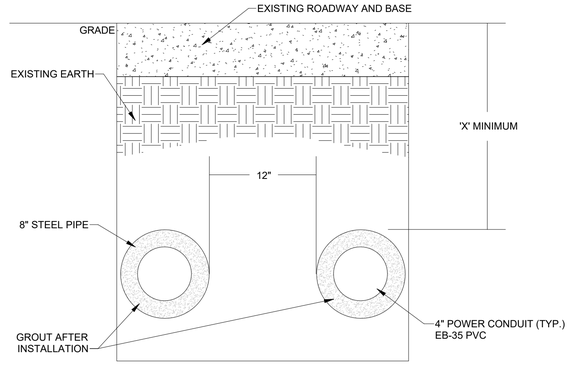
480V OR 208V
DIRECT BURIED DUCT BANK 2S

G1 SCALE: NTS



13.2KV CONCRETE ENCASES DUCTBANK

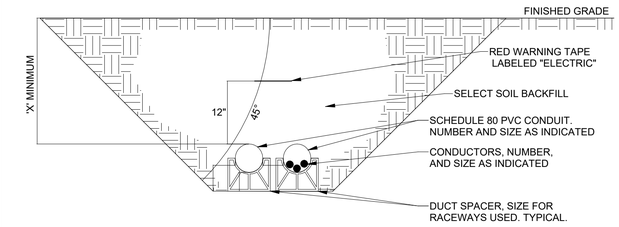
G6 SCALE: NTS



NOTES:
1. CONTRACTOR TO PUMP GROUT INTO 8" PIPE TO ENCASE THE 4" CONDUIT.
2. GROUTING PROCESS TO START WITHIN 6 HOURS OF CONDUIT INSTALLATION, AND BE COMPLETE WITHIN 36 HOURS OF STARTING TO GROUT.
3. ALTERNATE HORIZONTAL DRILLING DETAIL MAY BE USED AT THE CONTRACTOR'S DISCRETION INSTEAD OF THIS DETAIL.
4. POWER CONDUITS CANNOT BE IN THE SAME CASING WITH SIGNAL AND COMMUNICATION DUCTS.
5. IF 5" CONDUIT IS USED THEN A 10" PIPE SHALL STILL BE USED.
6. CONTRACTOR CAN USE A PVC CASING PIPE CASTED OF STEEL; HOWEVER, THE CONCRETE ENCASEMENT AROUND THE CARRIER PIPE MUST BE 3 INCHES.

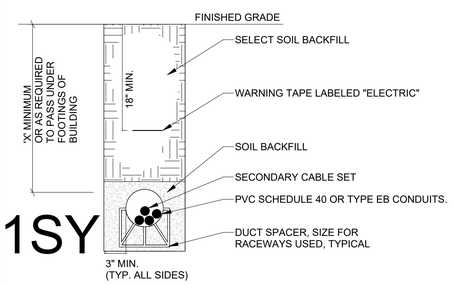
HORIZONTAL DRILLING DETAIL

G15 SCALE: NTS



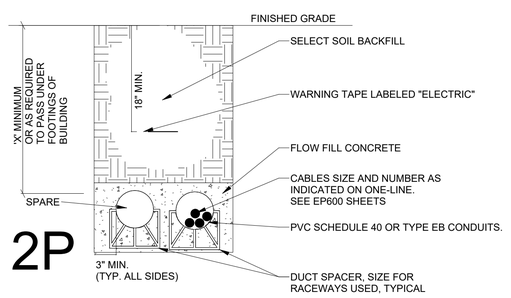
TRENCHING DETAIL

D1 SCALE: NTS



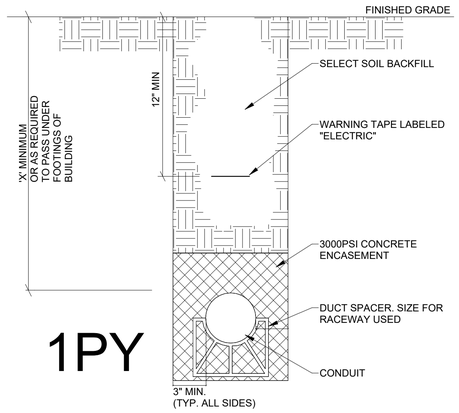
480V OR 208V
DIRECT BURIED DUCT 1SY

A1 SCALE: NTS



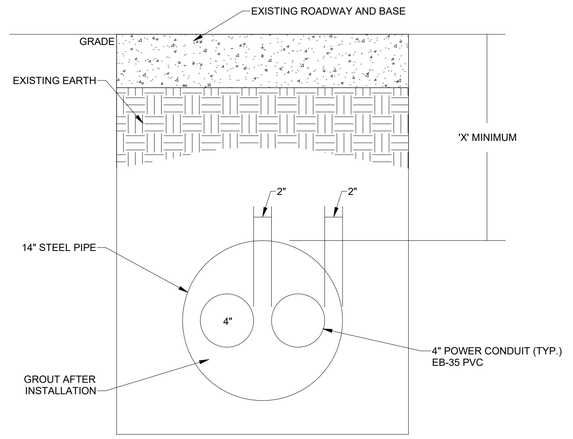
13.2KV CONCRETE ENCASED DUCT BANK

A5 SCALE: NTS



POWER RACEWAY
(1) CONCRETE ENCASED DUCT BANK

A10 SCALE: NTS



NOTES:
1. CONTRACTOR TO PUMP GROUT INTO 14" PIPE TO ENCASE THE 2-4" CONDUITS.
2. GROUTING PROCESS TO START WITHIN 6 HOURS OF CONDUIT INSTALLATION AND BE COMPLETE WITHIN 36 HOURS OF STARTING TO GROUT.
3. DETAIL IS AN ALTERNATE ALLOWABLE INSTALLATION DETAIL TO HORIZONTAL DRILLING DETAIL THIS SHEET. EITHER PROCESS MAY BE USED AT THE CONTRACTOR'S DISCRETION.
4. POWER CONDUITS CANNOT BE IN THE SAME CASING AS SIGNAL AND COMMUNICATION CONDUITS.
5. IF A 5" CONDUIT IS USED THEN USE A 16" STEEL PIPE.
6. CONTRACTOR CAN USE A PVC CASING PIPE CASTED OF STEEL; HOWEVER, THE CONCRETE ENCASEMENT AROUND THE CARRIER PIPE MUST BE 3 INCHES.

ALTERNATE HORIZONTAL DRILLING DETAIL

A15 SCALE: NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: LJWORTH
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

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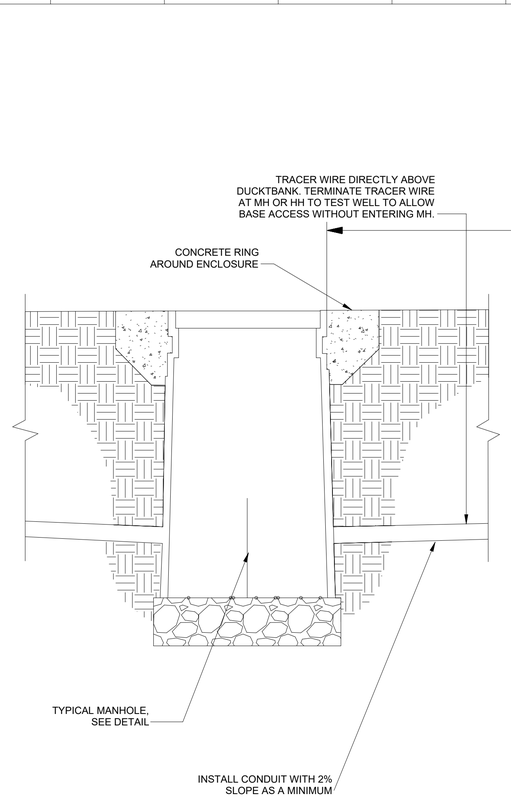
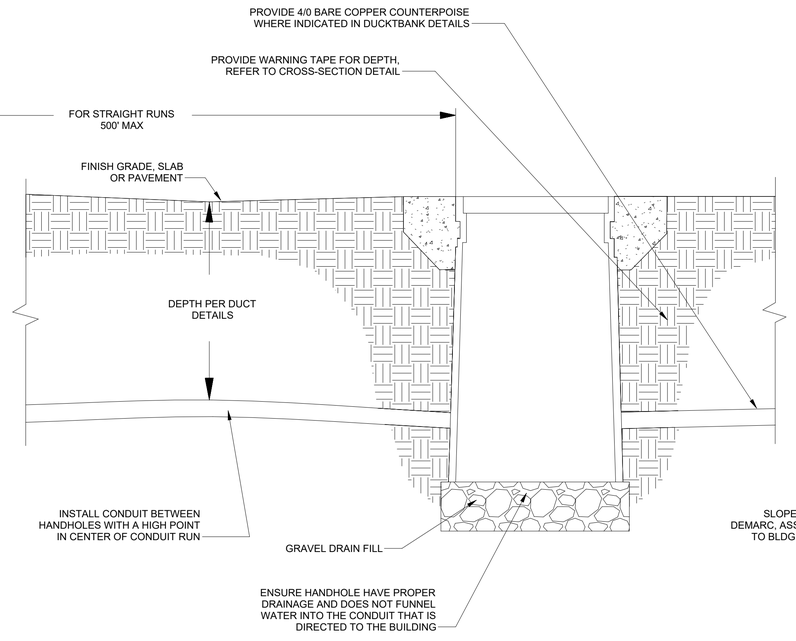
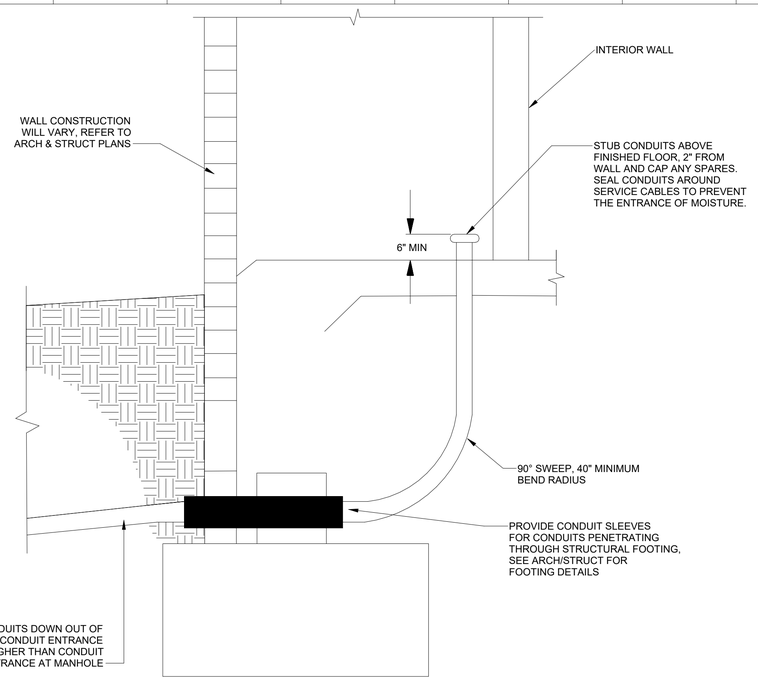
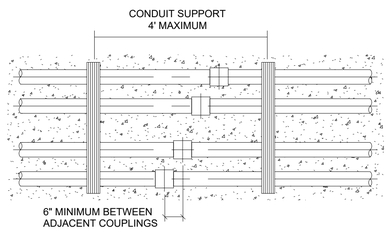






G1 TYPICAL UNDERGROUND CONDUIT SLOPE PROFILE

SCALE: NTS

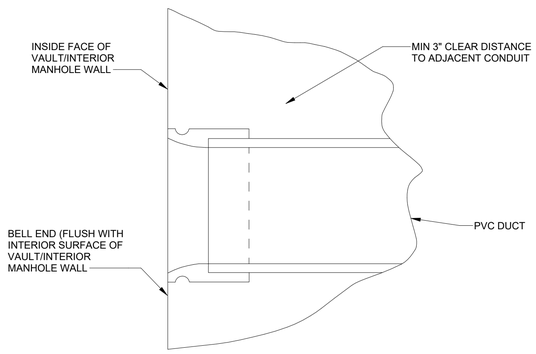


PLAN

DUCTBANK NOTES:
A. FOR SIZE AND NUMBER OF CONDUITS AS WELL AS DUCT BANK FORMATION, SEE PLANS.
B. THE COMMUNICATIONS CONDUIT GROUP SHALL BE SEPARATED FROM THE POWER GROUP ON EITHER LEFT OR RIGHT SIDE AS SHOWN ON PLANS
C. WHERE REQUIRED ON PLANS, CONCRETE COVER ON TOP, BOTTOM AND SIDES SHALL BE 3" MINIMUM

C1 DUCT BANK COUPLINGS AND SUPPORTS SPACING

SCALE: NTS



C5 BELL END DETAIL

SCALE: NTS

NOTES:
1. ALL DUCTBANKS SHALL BE PITCHED TO DRAIN INTO HANDHOLES/MANHOLES.
2. MINIMUM DEPTH FOR ALL DUCT RUNS SHALL BE MEASURED AT CENTERLINE OF RUNS.
3. WHERE DUCT SAG IS UNAVOIDABLE, DUCT MUST BE INSTALLED MINIMUM 42" BELOW FINISH GRADE.
4. SEE APPLICATION-SPECIFIC CONDUIT AND DUCT DETAILS FOR MINIMUM COVER.

A15 TYPICAL MANHOLE/HANDHOLE DUCTBANK RELATION

SCALE: NTS

US Army Corps of Engineers ®

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Plot Date: 6/30/2025 1:20:55 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

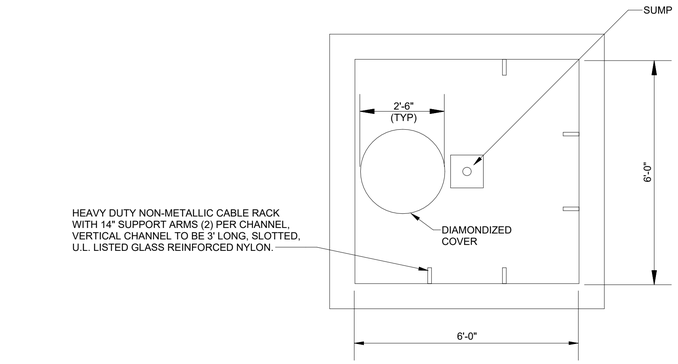
BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

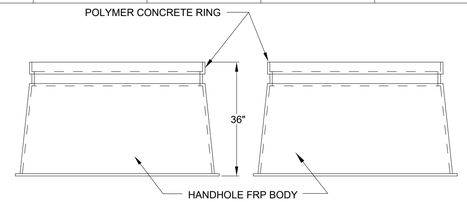
ELECTRICAL SITE DETAILS

SHEET ID

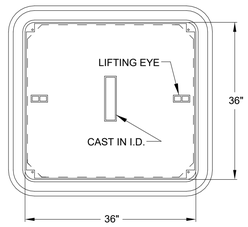
ES503

ADVERTISEMENT



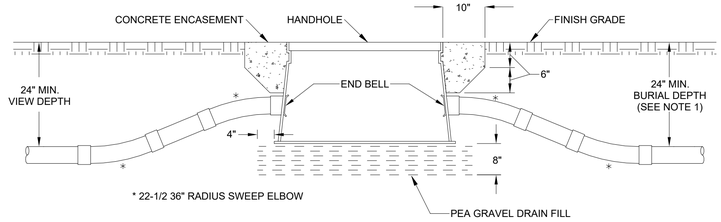


SEE HANDHOLE DETAIL

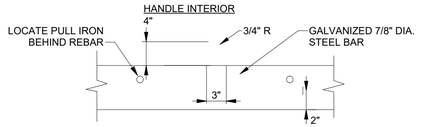


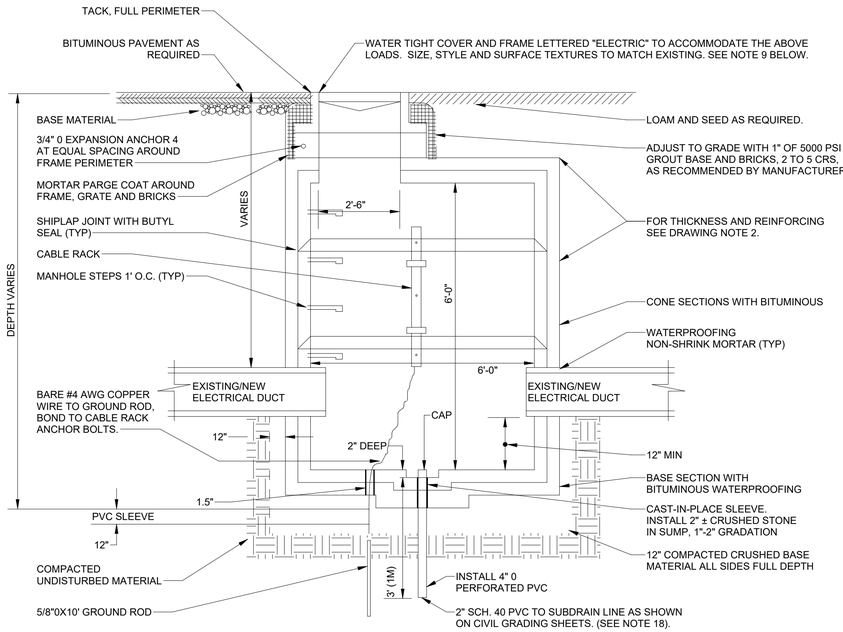
M8 TYPICAL HANDHOLE

SCALE: NTS



NOTES:
1. 24" MINIMUM CONDUIT DEPTH FOR LIGHTING CIRCUITS.
2. HANDHOLES INSTALLED UNDER PAVEMENT SHALL BE AASHTO RATED TO WITHSTAND THE WEIGHT OF A FIRE TRUCK. SEE DETAIL 4 THIS SHEET.





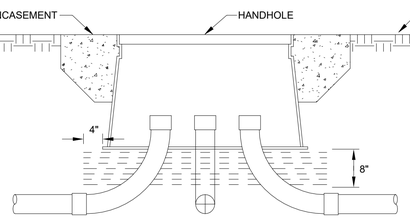
NOTES:
1. THE INSIDE CONE OF ALL MANHOLES MUST ALSO BE NUMBERED.
2. THICKNESS AND REINFORCING OF MANHOLES TOP, WALLS, AND FLOOR TO BE DESIGNED TO ACCOMMODATE A STANDARD FIRETRUCK. CONSULT BUCKLEY BASE CIVIL ENGINEERING FOR THESE LOADS. CONCRETE IS TO BE 5000 PSI AT 28 DAYS MATURITY. STEEL TO BE ASTM A6150 GRADE 60, 60,000 PSI YIELD. MINIMUM WALL THICKNESS MUST BE 5". MINIMUM TOP AND FLOOR THICKNESS MUST BE 8".
3. EACH MANHOLE MUST HAVE THE SINGLE WHEEL LOAD RATING CAST IN THE CONCRETE TOP AND ACCESS LID ASSEMBLY.
4. EACH MANHOLE MUST HAVE THE YEAR OF INSTALLATION CAST IN THE CONCRETE TOP OR THE METAL HATCH.
5. EACH MANHOLE USED FOR AIRFIELD LIGHTING MUST HAVE THE WORDS "AIRFIELD LIGHTING" CAST IN THE TOP OF THE METAL HATCH.
6. EACH MANHOLE USED FOR COMMUNICATIONS MUST HAVE THE WORDS "COMMUNICATIONS" CAST IN THE TOP OF THE METAL HATCH.
7. EACH MANHOLE USED FOR POWER MUST HAVE THE WORDS "ELECTRICAL" CAST ON THE TOP OF THE METAL HATCH.
8. MANHOLE ACCESS LIDS AND LADDER RUNGS MUST BE DESIGNED AND ORIENTATED SO AS TO NOT INTERFERE WITH CABLE RUNS THROUGH THE MANHOLE OR SUMP HOLES.
9. MANHOLE LID SHALL BE DESIGNED TO MEET AASHTO H20 LOADING
10. FRAMES FOR ACCESS LIDS MUST HAVE A GROUND LUG ATTACHED ON THE INSIDE OF THE MANHOLE.
11. ALL CONDUITS MUST BE FILLED WITH CABLE(S) SEALED AROUND THE CABLE WITH DUCT SEAL, UNLESS OTHERWISE DIRECTED.
12. MANHOLE TOPS MUST BE TIED TO THE SIDE WALLS WITH REBAR CAST INTO THE CONCRETE TOPS AND SIDE WALLS. REBAR SHOULD NOT BE EXPOSED.
13. MANHOLES' EXTERIORS MUST BE COATED WITH A WATER SEALANT ON THE BOTTOM AND ALL SIDES.
14. CABLE RACKS MUST BE PLACED ON ALL MANHOLE WALLS. CABLE RACKS MUST BE ABLE TO SUPPORT 300 POUNDS.
15. EACH MANHOLE WILL HAVE A LOW POINT (SLOPED FLOOR) OR A SUMP HOLE. SUMP HOLES MUST HAVE A DRAIN LID. SUMP HOLES MUST NOT PENETRATE THE FLOOR UNLESS TIED TO A DRAIN LINE.
16. THE GROUND ROD IN MANHOLES MUST BE STUBBED UP A MINIMUM OF 6" ABOVE THE FLOOR WITH A GROUND LUG ATTACHED FOR GROUND CONNECTIONS.
17. GROUND CONNECTIONS MADE TO ALL METAL EQUIPMENT IN THE MANHOLE MUST USE A #6 AWG MINIMUM BARE SOLID COPPER CONDUCTOR.
18. THE SOIL GRADE AROUND THE MANHOLES MUST BE 1/2" BELOW THE TOP OF THE MANHOLE AND SLOPED 1/4" PER FOOT AWAY FOR 15 FEET.
19. SEE CIVIL GRADING SHEETS FOR SUBDRAIN GRADING INFORMATION.

B1 TYPICAL PRECAST ELECTRICAL MANHOLE

SCALE: NTS

J8 TYPICAL HANDHOLE ENTRY

SCALE: NTS

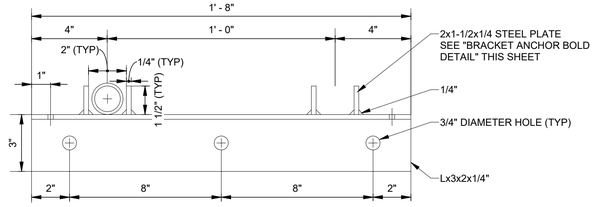


F8 ALTERNATE HANDHOLE ENTRY

SCALE: NTS

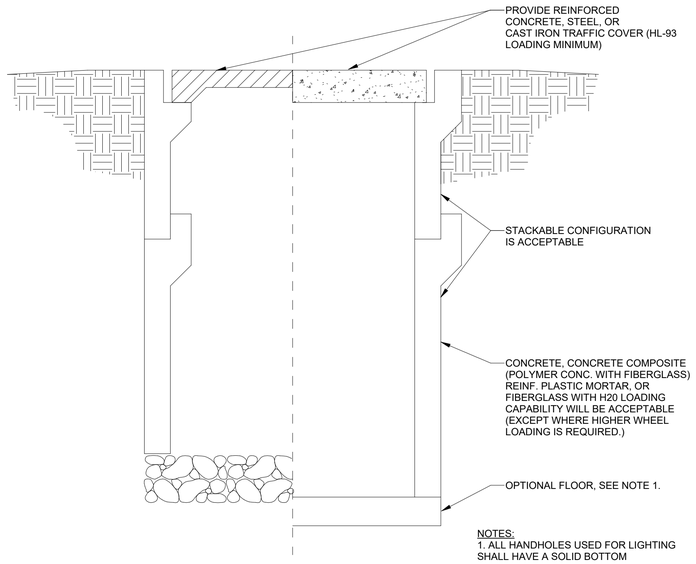
J15 SECTION C-C PULL IRON DETAIL

SCALE: NTS



F15 CABLE SUPPORT BRACKET FRONT VIEW

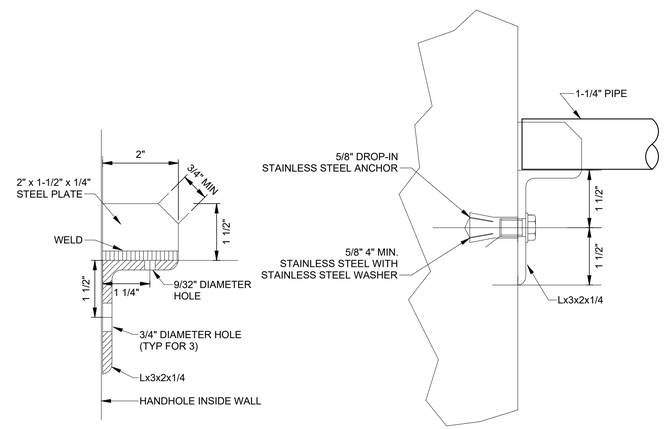
SCALE: NTS



NOTES:
1. ALL HANDHOLES USED FOR LIGHTING SHALL HAVE A SOLID BOTTOM

A8 HANDHOLE DETAIL

SCALE: NTS



A15 CABLE SUPPORT SYSTEM

SCALE: NTS

US Army Corps of Engineers ®

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: LMORGAN
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

Plot Date: 6/30/2025 1:20:59 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE; MISSION CONTROL STATION

ELECTRICAL SITE DETAILS

SHEET ID

ES504

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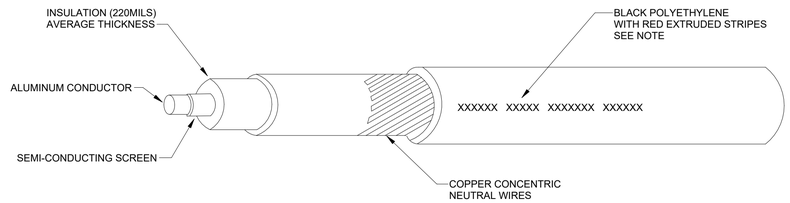


CONDUCTOR: UNCOATED ALUMINUM, CLASS B STRANDED PER ASTM B-231, CONTINUOUS OPERATING TEMPERATURES 105 C, SHORT CIRCUIT RATING 250C WITH EXTRUDED EPR SEMI-CONDUCTING STRAND SHIELD.

INSULATION: ETHYLENE-PROPYLENE (EPR), NOT LESS THAN 220 MILS AVERAGE THICKNESS (200 MILS MINIMUM THICKNESS), 133% INSULATION LEVEL WITH AN EXTRUDED SEMI-CONDUCTING SCREEN. OTHER INSULATION TYPES SHALL NOT BE MIXED WITH EPR.

CONCENTRIC NEUTRAL: BARE COPPER WIRES SPACED UNIFORMLY AROUND INSULATION SCREEN, NUMBER AND SIZE AS SHOWN.

JACKET: BLACK POLYETHYLENE WITH RED EXTRUDED STRIPES. SUNLIGHT RESISTANT. SUITABLE FOR WET LOCATIONS, DRY LOCATIONS, IN CONDUIT, UNDERGROUND DUCT SYSTEMS, DIRECT BURIED, AND AERIAL INSTALLATIONS.

FACTORY TESTS: CABLE TO MEET THE REQUIREMENTS OF NEMA WC-8, AIEC CS6, UL 1072.

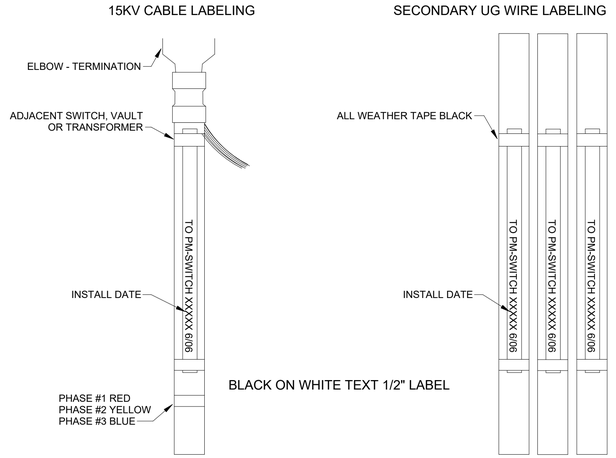
CABLES TO BE PROVIDED WITH DIRECTION TAGS.

SIZE	NUMBER OF STRANDS	AMPACITY	APPROXIMATE DIAMETER OVER INSULATIONS	CU NEUTRAL (NO. X AWG)	MAXIMUM OUTSIDE DIAMETER	CONDUIT
350 (1/3 NEUTRAL)	37	305	1.18 (IN.)	18 X 14	1.52 (IN.)	6"
4/0 (1/3 NEUTRAL)	19	200	1.02 (IN.)	12 X 14	1.33 (IN.)	4"
#2 (FULL NEUTRAL)	7	100	0.78 (IN.)	10 X 14	1.09 (IN.)	2" - 4"

NOTE:
A DURABLE MARKING TO BE PROVIDED ON THE SURFACE OF THE CABLE AT INTERVALS NOT EXCEEDING 24 INCHES. MARKING SHALL INCLUDE MANUFACTURER'S NAME, INSULATION TYPE, CONDUCTOR SIZE, VOLTAGE, INSULATION LEVEL, FOOTAGE, AND DATE OF MANUFACTURE.

J13 15KV CABLE

SCALE: NTS



B13 CABLE LABELING

SCALE: NTS

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DRAWN BY:	E.MCNAMARA
CHECKED BY:	B.ADKINS
SUBMITTED BY:	
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CONTRACT NO.:

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ELECTRICAL SITE DETAILS

SHEET ID

ES505

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A2 CONNECTION AT B442 02OCT2024
SCALE: NTS

A11 CONNECTION AT B416 RT PAD 02OCT2024
SCALE: NTS

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

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CHECKED BY:	B.ADKINS
SUBMITTED BY:	S.JAROSZEWSKI
SIZE:	FILE NAME:
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SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ELECTRICAL SITE FIO

SHEET ID
FIO
ES901

ADVERTISEMENT

A1 TEMPORARY MV POWER LINE

TRUE NORTH

0 80' 160'

NOTES
1. TEMPORARY CONNECTION MV CONDUCTORS TO BE IN 5" PVC-80 CONDUIT WITH (3) 4/0 15kV 133% INSULATION ALUMINUM CONDUCTORS + #2 G CONDUCTORS.
2. DIRECT BURY (OPEN TRENCH) EXCEPT WHERE REQUIRED TO HORIZONTAL DRILL.
3. ESCORTS REQUIRED FOR ALL WORK PERFORMED ON SECURE SIDE OF FENCE, UNLESS WORK IS BEING PERFORMED IN AN ESTABLISHED FREE ZONE IDENTIFIED IN THIS CONTRACT'S DOCUMENTS
4. ALL CONDUITS TO BE BURIED MINIMUM 42" BELOW GRADE.

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E. MCNAMARA	05/01/2025
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E. MCNAMARA	W9128F25RA043
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S. LINDGREN	
SUBMITTED BY:	FILE NUMBER:
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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TEMPORARY MV POWER LINE

SHEET ID

ET100

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TELECOMMUNICATIONS SITE INSTALLATION LEGEND
APPLIES TO ALL TS100 AND TS400 SHEETS

——COMM—— TELECOMMUNICATIONS LINE

☐ HANDHOLE

TELECOMMUNICATIONS SITE INSTALLATION GENERAL NOTES:
APPLIES TO ALL TS100 AND TS400 SHEETS

1. CONTRACTOR TO COORDINATE ALL ELECTRICAL UTILITY CONNECTIONS WITH XCEL ENERGY.

2. CONTRACTOR TO CORE PRIOR TO ANY DIGGING AND HAVE ALL UTILITIES MARKED PRIOR TO ANY DIGGING BEING PERFORMED. IF CONTRACTOR SHOULD CUT ANY UTILITY IN THE PROCESS OF DIGGING, THEN THE CONTRACTOR WILL COVER ALL REQUIRED COSTS.

3. REFER TO SHEET TS601 FOR FURTHER DETAILS ON CONDUIT AND CONDUCTOR SIZES AND QUANTITIES.

4. FOR TELECOMMUNICATIONS SITE LINES REQUIRING HORIZONTAL DRILLING, REFERENCE ES502 FOR REQUIRED DETAILS.

US Army Corps of Engineers®

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SUBMITTED BY: S.LUNDGREN
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102-TS001-999.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

TELECOMMUNICATIONS
NOTES AND SUPPLEMENTAL LEGEND

SHEET ID
TS001

ADVERTISEMENT

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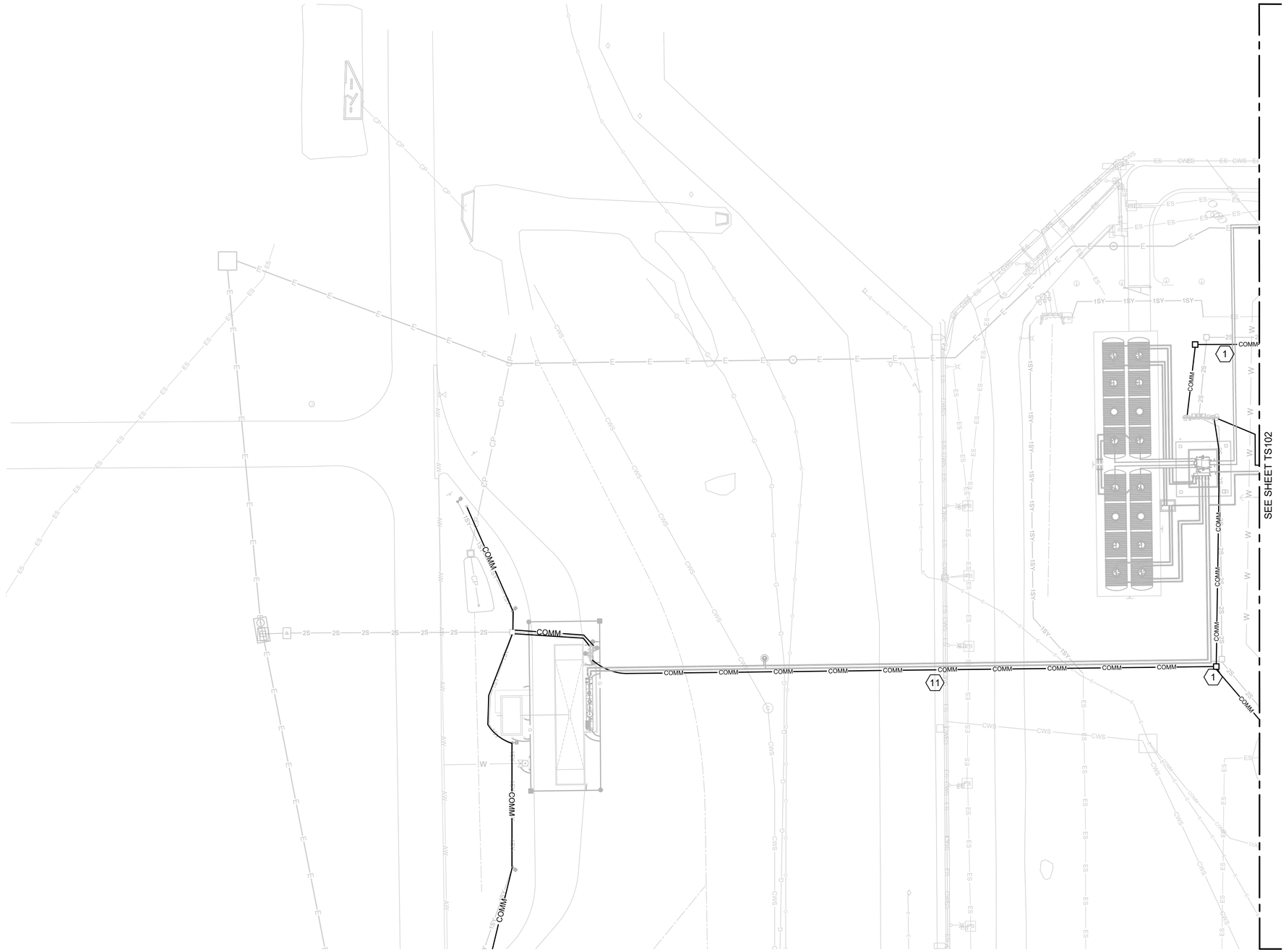


A1 TELECOMMUNICATIONS SITE PLAN - AREA 1
1" = 30'-0"

TRUE NORTH

0 30' 60'

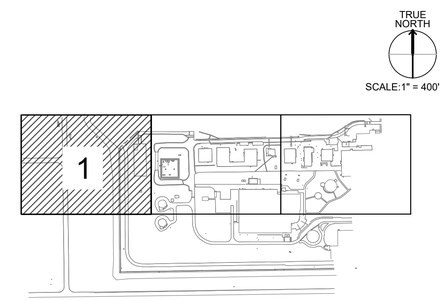
GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET TS001 APPLY ON THIS SHEET.

KEY NOTES

1. SEE DETAIL A6 ON SHEET TS501.
2. MAINTAIN EXISTING COMMUNICATIONS CONNECTION AND COORDINATE DOWNTIME WITH BASE. COMMUNICATIONS LINE TO SPLICE IN AT NEARBY MANHOLE TO CONNECT BACK TO B447.
3. INSTALL AND MAINTAIN FIRE ALARM CONNECTION TO B428 AND CONFIRM OPERABILITY PRIOR TO THE DEMOLITION OF BUILDINGS 417/423/424. CONNECTION POINT INTO B428 IS ABOVE GROUND. FIRE ALARM LINES TO B428 TO BE REMOVED AFTER CONNECTIVE HOMERUN FROM FACP B IN B416 IS RUN AND CONNECTED TO EXISTING FIRE ALARM PANEL IN B428.
4. APPROXIMATE LOCATION OF PIV. FOR FIRE ALARM. SEE FA SERIES SHEETS.
5. COORDINATE WITH USER FOR ENTRY POINT.
6. REUSE EXISTING PATHWAY FROM HERE.
7. ROUTE CONNECTIONS THROUGH EXISTING HANDHOLE.
8. SEE SHEET TS504 FOR HEMP PENETRATION DETAILS.
9. APPROXIMATE LOCATION OF EXISTING FIRE PANEL. CONNECTED TO B428 PANEL A CKT 19.
10. APPROXIMATE LOCATION OF EXISTING TELECOMMUNICATIONS CABINET IN B428.
11. MANDATORY BORING PATHWAY WITH BORING PITS TO BE OFFSET FROM FENCELINE AT MINIMUM 30FT BOTH INSIDE AND OUTSIDE FENCE LINE. SEE ES502 FOR HORIZONTAL DIRECTIONAL DRILLING DETAIL.
12. SEE OSP FOR JACE ROUTING.
13. SEE EF SHEETS.
14. APPROXIMATE LOCATION FOR HMI CONNECTIONS FROM B451. COORDINATION SIZING AND LOCATION WITH COR.
15. INSTALL AND MAINTAIN TELECOMMUNICATIONS CONNECTION TO B428 AND CONFIRM OPERABILITY PRIOR TO THE DEMOLITION OF BUILDINGS 417/423/424.

KEY PLAN



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SUBMITTED BY: S.LINDGREN
SIZE: ANSI D
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SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102-TS001-999.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE - MISSION CONTROL STATION

TELECOMMUNICATIONS SITE PLAN - AREA 1

SHEET ID
TS101

ADVERTISEMENT

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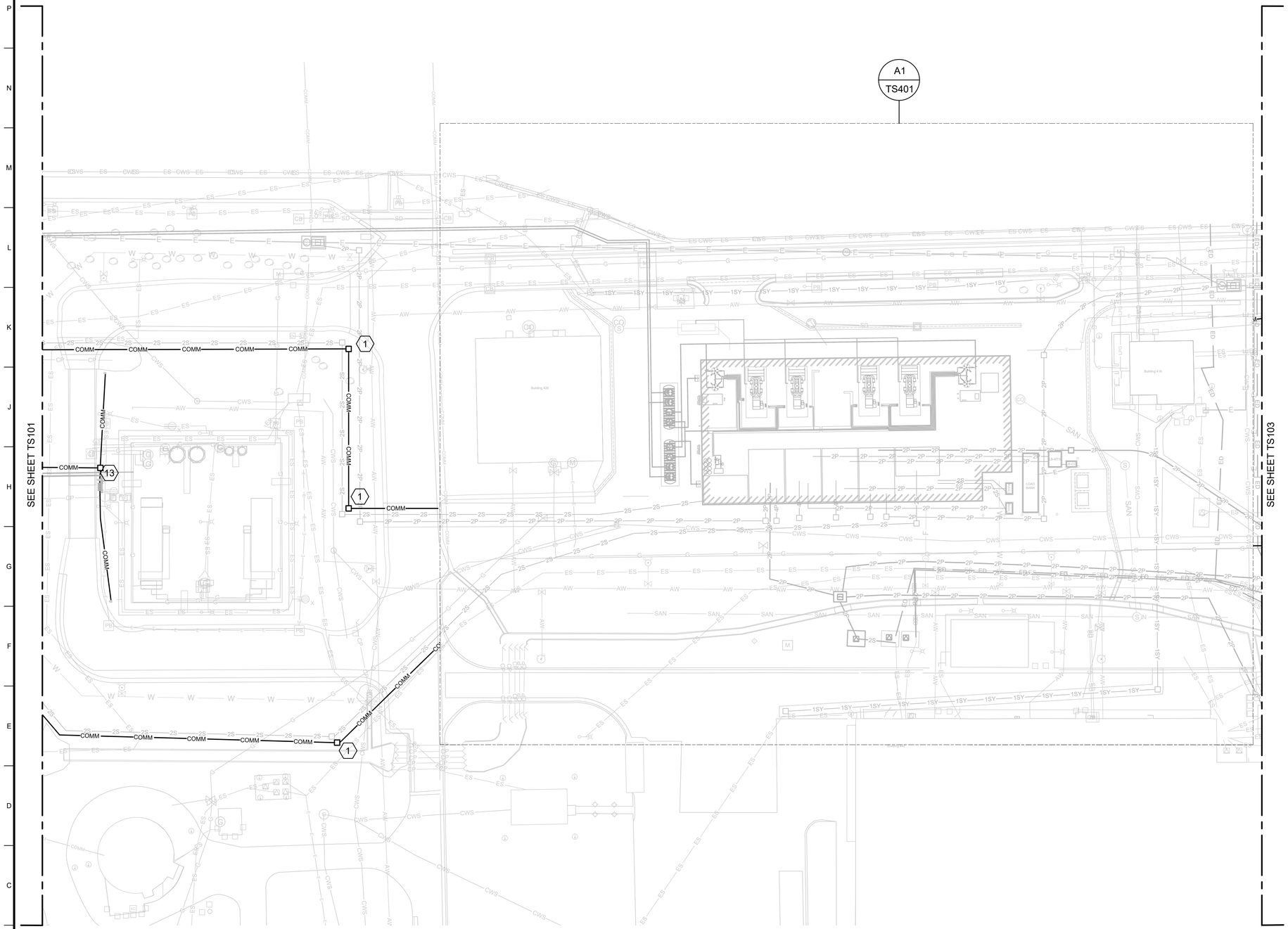

A1 TELECOMMUNICATIONS SITE PLAN - AREA 2
1" = 30'-0"

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET TS001 APPLY ON THIS SHEET.

KEY NOTES

1. SEE DETAIL A6 ON SHEET TS501.
2. MAINTAIN EXISTING COMMUNICATIONS CONNECTION AND COORDINATE DOWNTIME WITH BASE. COMMUNICATIONS LINE TO SPLICE IN AT NEARBY MANHOLE TO CONNECT BACK TO B447.
3. INSTALL AND MAINTAIN FIRE ALARM CONNECTION TO B428 AND CONFIRM OPERABILITY PRIOR TO THE DEMOLITION OF BUILDINGS 417/423/424. CONNECTION POINT INTO B428 IS ABOVE GROUND. FIRE ALARM LINES TO B428 TO BE REMOVED AFTER CONNECTIVE HOMERUN FROM FACP B IN B416 IS RUN AND CONNECTED TO EXISTING FIRE ALARM PANEL IN B428.
4. APPROXIMATE LOCATION OF PIV. FOR FIRE ALARM. SEE FA SERIES SHEETS.
5. COORDINATE WITH USER FOR ENTRY POINT.
6. REUSE EXISTING PATHWAY FROM HERE.
7. ROUTE CONNECTIONS THROUGH EXISTING HANDHOLE.
8. SEE SHEET TS504 FOR HEMP PENETRATION DETAILS.
9. APPROXIMATE LOCATION OF EXISTING FIRE PANEL. CONNECTED TO B428 PANEL A CKT 19.
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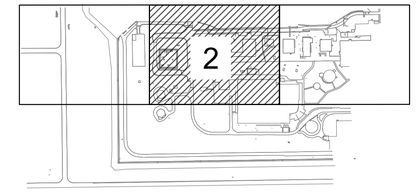
11. MANDATORY BORING PATHWAY WITH BORING PITS TO BE OFFSET FROM FENCELINE AT MINIMUM 30FT BOTH INSIDE AND OUTSIDE FENCE LINE. SEE ES502 FOR HORIZONTAL DIRECTIONAL DRILLING DETAIL.
12. SEE OSP FOR JACE ROUTING.
13. SEE EF SHEETS.
14. APPROXIMATE LOCATION FOR HMI CONNECTIONS FROM B451. COORDINATION SIZING AND LOCATION WITH COR.
15. INSTALL AND MAINTAIN TELECOMMUNICATIONS CONNECTION TO B428 AND CONFIRM OPERABILITY PRIOR TO THE DEMOLITION OF BUILDINGS 417/423/424.

KEY PLAN



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DRAWN BY: E.MCNAMARA	SOLICITATION NO.: W9128F25RA043
CHECKED BY: B.ADKINS	CONTRACT NO.:
SUBMITTED BY: S.LINDGREN	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCOD0102-TS901-999.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

TELECOMMUNICATIONS SITE PLAN - AREA 2

SHEET ID
TS102

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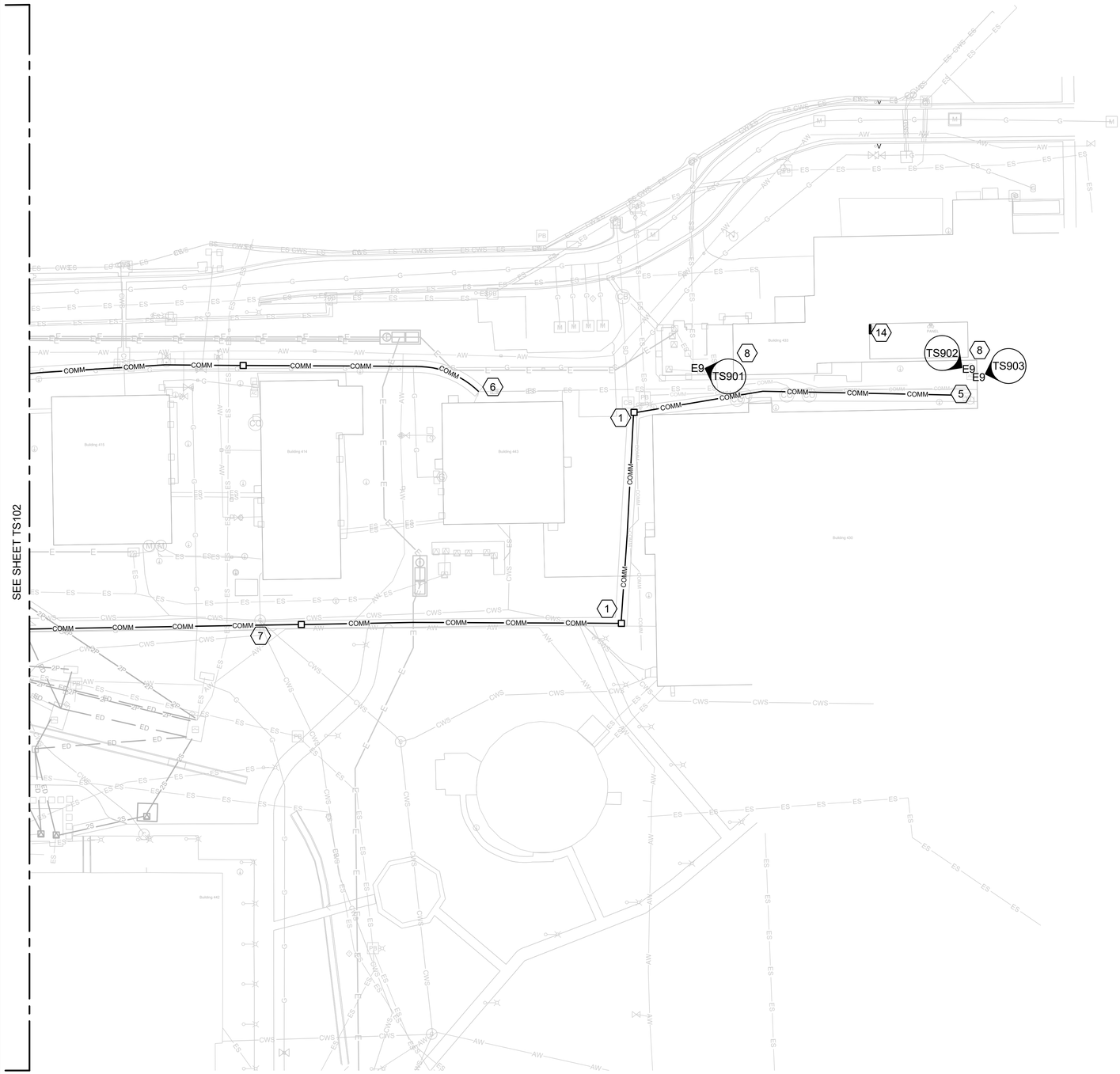


A1 TELECOMMUNICATIONS SITE PLAN - AREA 3
1" = 30'-0"

TRUE NORTH

0 30' 60'

GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET TS001 APPLY ON THIS SHEET.

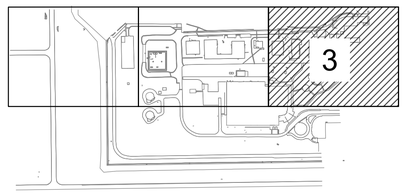
KEY NOTES

1. SEE DETAIL A6 ON SHEET TS501.
2. MAINTAIN EXISTING COMMUNICATIONS CONNECTION AND COORDINATE DOWNTIME WITH BASE. COMMUNICATIONS LINE TO SPLICE IN AT NEARBY MANHOLE TO CONNECT BACK TO B447.
3. INSTALL AND MAINTAIN FIRE ALARM CONNECTION TO B428 AND CONFIRM OPERABILITY PRIOR TO THE DEMOLITION OF BUILDINGS 417/423/424. CONNECTION POINT INTO B428 IS ABOVE GROUND. FIRE ALARM LINES TO B428 TO BE REMOVED AFTER CONNECTIVE HOMERUN FROM FACP B IN B416 IS RUN AND CONNECTED TO EXISTING FIRE ALARM PANEL IN B428.
4. APPROXIMATE LOCATION OF PIV. FOR FIRE ALARM. SEE FA SERIES SHEETS.
5. COORDINATE WITH USER FOR ENTRY POINT.
6. REUSE EXISTING PATHWAY FROM HERE.
7. ROUTE CONNECTIONS THROUGH EXISTING HANDHOLE.
8. SEE SHEET TS504 FOR HEMP PENETRATION DETAILS.
9. APPROXIMATE LOCATION OF EXISTING FIRE PANEL. CONNECTED TO B428 PANEL A CKT 19.
10. APPROXIMATE LOCATION OF EXISTING TELECOMMUNICATIONS CABINET IN B428.
11. MANDATORY BORING PATHWAY WITH BORING PITS TO BE OFFSET FROM FENCELINE AT MINIMUM 30FT BOTH INSIDE AND OUTSIDE FENCE LINE. SEE ES502 FOR HORIZONTAL DIRECTIONAL DRILLING DETAIL.
12. SEE OSP FOR JACE ROUTING.
13. SEE EF SHEETS.
14. APPROXIMATE LOCATION FOR HMI CONNECTIONS FROM B451. COORDINATION SIZING AND LOCATION WITH COR.
15. INSTALL AND MAINTAIN TELECOMMUNICATIONS CONNECTION TO B428 AND CONFIRM OPERABILITY PRIOR TO THE DEMOLITION OF BUILDINGS 417/423/424.

KEY PLAN

TRUE NORTH

SCALE:1" = 400'



US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: S.LINDGREN
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCO00102-TS001-999.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

TELECOMMUNICATIONS SITE PLAN - AREA 3

SHEET ID
TS103

ADVERTISEMENT

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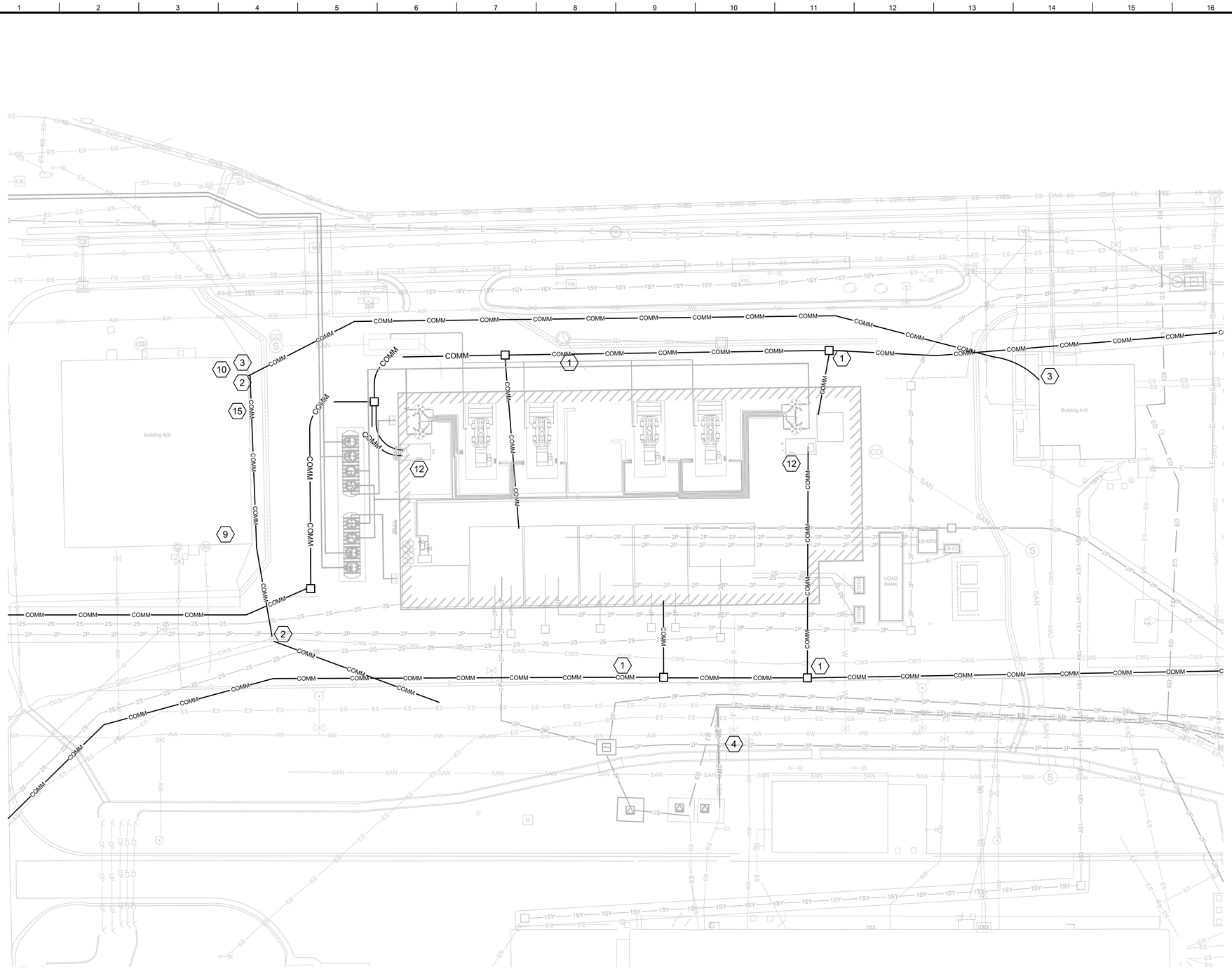

A1 TELECOMMUNICATIONS SITE PLAN - ENLARGED
1" = 20'-0"

TRUE NORTH

0 20' 40'

GENERAL NOTES

1. GENERAL NOTES AND LEGEND ON SHEET TS001 APPLY ON THIS SHEET.

KEY NOTES

1. SEE DETAIL A6 ON SHEET TS501.
2. MAINTAIN EXISTING COMMUNICATIONS CONNECTION AND COORDINATE DOWNTIME WITH BASE. COMMUNICATIONS LINE TO SPLICE IN AT NEARBY MANHOLE TO CONNECT BACK TO B447.
3. INSTALL AND MAINTAIN FIRE ALARM CONNECTION TO B428 AND CONFIRM OPERABILITY PRIOR TO THE DEMOLITION OF BUILDINGS 417/423/424. CONNECTION POINT INTO B428 IS ABOVE GROUND. FIRE ALARM LINES TO B428 TO BE REMOVED AFTER CONNECTIVE HOMERUN FROM FACP B IN B416 IS RUN AND CONNECTED TO EXISTING FIRE ALARM PANEL IN B428.
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12. SEE OSP FOR JACE ROUTING.
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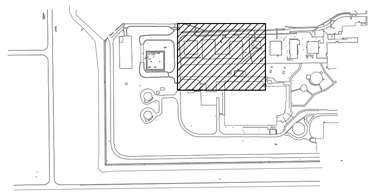
15. INSTALL AND MAINTAIN TELECOMMUNICATIONS CONNECTION TO B428 AND CONFIRM OPERABILITY PRIOR TO THE DEMOLITION OF BUILDINGS 417/423/424.

KEY PLAN



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DESIGNED BY:	ISSUE DATE:
E.MCNAMARA	05/01/2025
DRAWN BY:	SOLICITATION NO.:
E.MCNAMARA	W9128F25RA043
CHECKED BY:	CONTRACT NO.:
B.ADKINS	
SUBMITTED BY:	FILE NUMBER:
S.LUNDGREN	
SIZE:	FILENAME:
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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE; MISSION CONTROL STATION

TELECOMMUNICATIONS
SITE PLAN - ENLARGED

SHEET ID

TS401

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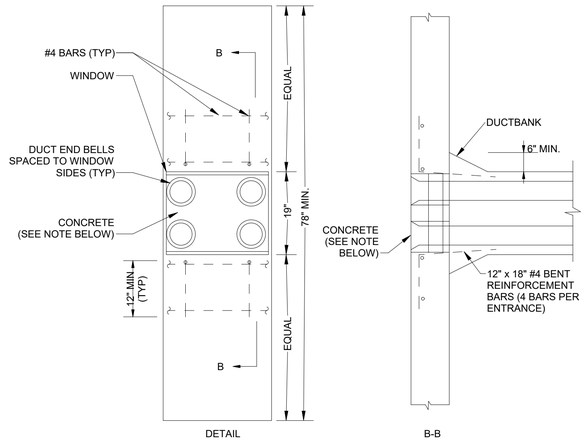
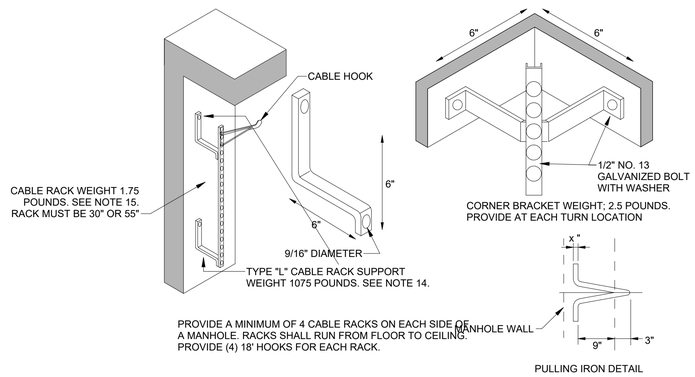


NOTE: WINDOW SHALL BE POURED SOLID WITH DUCT BANK.

K1 DUCTBANK WINDOW DETAIL

SCALE: NTS

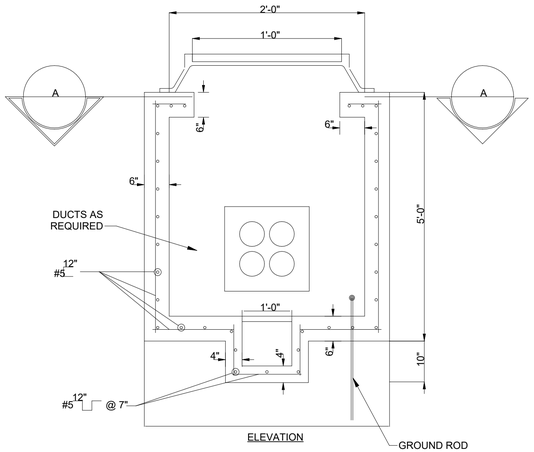


K6 NEW COMMUNICATION MANHOLE HARDWARE AND ACCESSORIES

SCALE: NTS

NEW COMMUNICATIONS MANHOLE/HANDHOLE INSTALLATION NOTES:

1. DEPTH OF COMMUNICATION MANHOLES/HANDHOLES SHALL BE NO LESS THAN 24" OF COVER. MANHOLES/HANDHOLES SHALL BE POSITIONED SO THAT NO DUCT TERMINATORS WILL BE OBSTRUCTED AND WILL ENSURE THAT FUTURE DUCTS SHALL BE EASILY INSTALLED. NEW DUCTS SHALL BE PLACED IN THE LOWEST TERMINATORS. ADDITIONAL DEPTH SHALL BE ADDED AS NECESSARY TO PROVIDE A CLEAR AREA IN FRONT OF THE TERMINATOR BANKS VOID OF ANY OTHER UTILITY CONFLICTS.
2. ALL NEW COMMUNICATION MANHOLES/HANDHOLES SHALL BE AS SHOWN ON THIS SHEET. THE DUCT TERMINATION OPENINGS (SIZE, NUMBER, AND CONFIGURATION) SHALL BE COORDINATED WITH AND APPROVED BY THE BASE NEC (NETWORK ENTERPRISE CENTER) THROUGH THE CONTRACTING OFFICER'S REPRESENTATIVE PRIOR TO ORDERING.
3. THE EXACT LOCATION, ORIENTATION. CABLE RACK (TYP) ATTACHED TO S OR L CABLE RACK SUPPORT
4. CROSSOVERS IN COMMUNICATION MANHOLES/HANDHOLES SHALL NOT BE ALLOWED.
5. DUCTS SHALL EXTEND PERPENDICULAR TO MANHOLE/HANDHOLE WALL FOR A MINIMUM OF 10 FEET BEFORE ANY BENDS WILL BE ALLOWED.
6. MANHOLES/HANDHOLES SHALL BE DESIGNED FOR AASHTO H20 WHEEL AND SOIL LOADING.
7. PROVIDE 3/4"x10' GROUND ROD IN EACH MANHOLE/HANDHOLE TO BE LOCATED IN THE REAR CORNER OPPOSITE THE SIDE TERMINATOR.
8. PULLING IRONS SHALL BE INSTALLED ON EACH WALL.
9. CABLE RACKS SHALL BE INSTALLED THE ENTIRE LENGTH OF THE MANHOLE/HANDHOLE.
10. SEE COMMUNICATIONS MANHOLE FOLD-OUT NOTES, SHEET TS502 FOR DEFINITION OF MANHOLE FOLD-OUT INFORMATION FOR THE NEW COMMUNICATION MANHOLES SHOWN ON THE SITE PLANS.
11. TYPE B MANHOLE FRAME (TYP).
12. PLASTIC DUCT TERMINATORS ARE OPTIONAL FOR MAIN CONDUIT ENTRANCE.
13. THE DUCTS SHALL ENTER THE MANHOLE/HANDHOLE IN THE LOWER PORTION OF THE KNOCKOUT WINDOW TO SIMPLIFY FUTURE CONDUIT ADDITIONS.
14. CABLE RACK SUPPORT (TYP).
15. CABLE RACK (TYP.) ATTACHED TO S OR L CABLE RACK SUPPORT
16. INSTALL A LADDER THAT IS ATTACHED AT THE TOP AND BOTTOM OF MANHOLE/HANDHOLE.
17. BONDING RIBBON SHALL BE INSTALLED IN ALL NEW MANHOLES/HANDHOLES. THE BONDING RIBBON SHALL BE ATTACHED TO ALL RACK ANCHORS AND INSTALLED AROUND THE INTERIOR OF EACH HANDHOLE SO THE SPLICE ENCLOSURE(S) CAN BE BONDED TO IT.
18. VACANT DUCTS SHALL BE SEALED WITH A MECHANICAL, SCREW-TYPE, REUSABLE DUCT PLUG.
19. ALL NEW MANHOLES/HANDHOLES SHALL BE STENCILED WITH A NUMBER DESIGNATED BY THE BASE COMMUNICATIONS SQUADRON. COORDINATE WITH THE COR.
20. CONNECT GROUND ROD TO BONDING RIBBONS.
21. MANHOLE/HANDHOLE GROUND OHM TEST SHALL BE AT 25 OHMS OR LESS.N, AND DUCT TERMINATION USAGE OF EACH COMMUNICATIONS MANHOLE/HANDHOLE SHALL BE COORDINATED AND APPROVED BY THE BASE NEC (NETWORK ENTERPRISE CENTER) THROUGH THE CONTRACTING OFFICER'S REPRESENTATIVE. INSTALLATION OF THE RESPECTIVE MANHOLE/HANDHOLE SHALL NOT COMMENCE PRIOR TO APPROVAL.
22. ALL COMMUNICATIONS MANHOLES SHALL MEET AASHTO H20 LOADING REQUIREMENTS.



NOTES:
1. ALL BARS SHALL BE A NO. 5 ROUND DEFORMED.
2. BARS SHALL BE ON CENTER IN WALLS AND FLOOR.
3. A MINIMUM OF 12" HOOK AT CORNERS AND INTERSECTIONS IS REQUIRED.
4. PULLBOX DESIGNED FOR H-20 LOADING (32,000 LBS. SINGLE AXLE LOAD OVER A 10" x 20" AREA).
5. WALLS AND FLOORS SHALL HAVE BARS AT 7" SPACING.
6. PROVIDE KNOCKOUTS FOR DUCTS ON ALL SIDE OF HANDHOLE.
7. CAST THE LABEL "COMMUNICATIONS" IN THE HANDHOLE LID.
8. HANDHOLES WILL NOT BE INSTALLED IN HARDSTAND OR SHOULDERS.

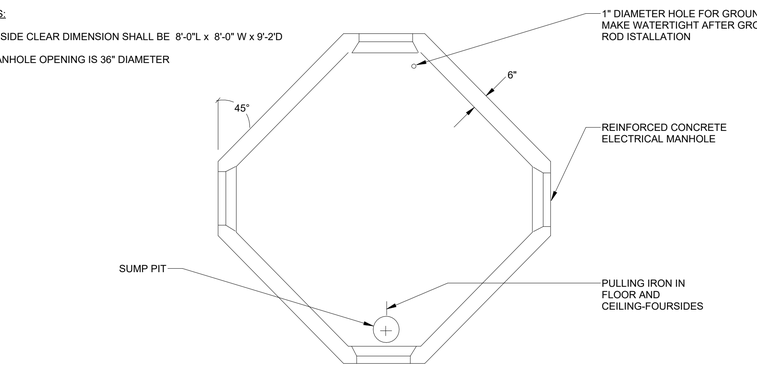
A1 NEW PRECAST COMMUNICATIONS 2x2x5 HANDHOLE

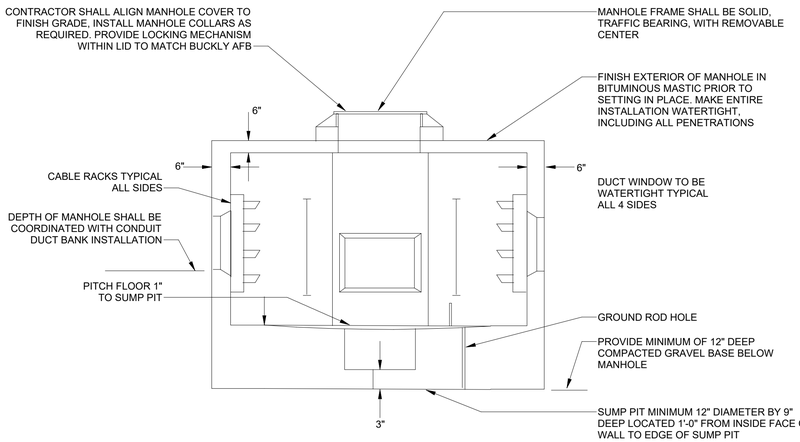
SCALE: NTS

DETAIL NOTES:

1) MINIMUM INSIDE CLEAR DIMENSION SHALL BE 8'-0"L x 8'-0" W x 9'-2"D

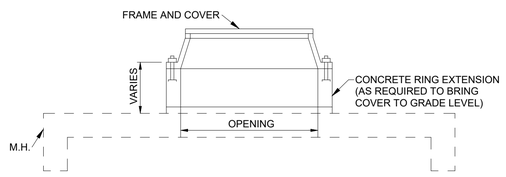
2) TYPICAL MANHOLE OPENING IS 36" DIAMETER





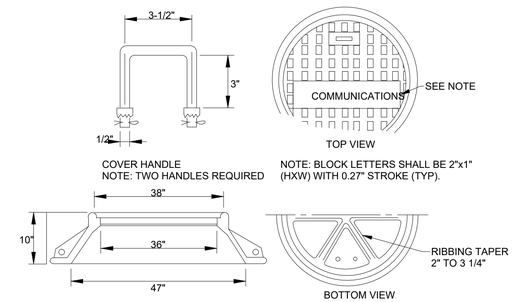
A6 COMMUNICATIONS MANHOLE

SCALE: NTS



F16 NEW COMMUNICATIONS NECK AND MANHOLE DETAIL

SCALE: NTS



A16 NEW COMMUNICATION MANHOLE FRAME AND COVER DETAIL

SCALE: NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: S.BLASER
DRAWN BY: S.BLASER
CHECKED BY: J.COOK
SUBMITTED BY: J.HORCHER
SIZE: ANSI D
FILE NAME: BUC00102_DM_ME.rvt
Date: 6/30/2025 1:22:34 PM
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

TELECOMMUNICATIONS SITE DETAILS

SHEET ID

TS501

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FOLDOUT NOTES:
1. THIS DETAIL GRAPHICALLY DEPICTS A TYPICAL 38Y COMMUNICATION MANHOLE. THE SIDES OF THE MANHOLE HAVE BEEN FOLDED OUT SO THAT THE TERMINATOR BANKS (CONDUIT ENTRANCE WINDOW) IN THE WALLS ARE VISIBLE.

2. UNUSED CONDUIT TERMINATOR. THE CONCRETE ENCASEMENT SHALL NOT OBSTRUCT ACCESS TO THE UNUSED CONDUIT TERMINATORS.

3. CABLE RACK SUPPORT (TYP).

4. 14" CABLE HOOK (TYP).

5. 4" CONCRETE ENCASED PVC CONDUIT AND DUCT PLUG (TYP).

6. BONDING RIBBON. CONNECT INSULATED 6 AWG WIRE WITH GROUNDING CLAMP.

7. SUMP (TYP). PROVIDE DRAINAGE SUMP WITH A PROPERLY SIZED FRENCH DRAIN TO KEEP WATER OUT OF THE MANHOLE.

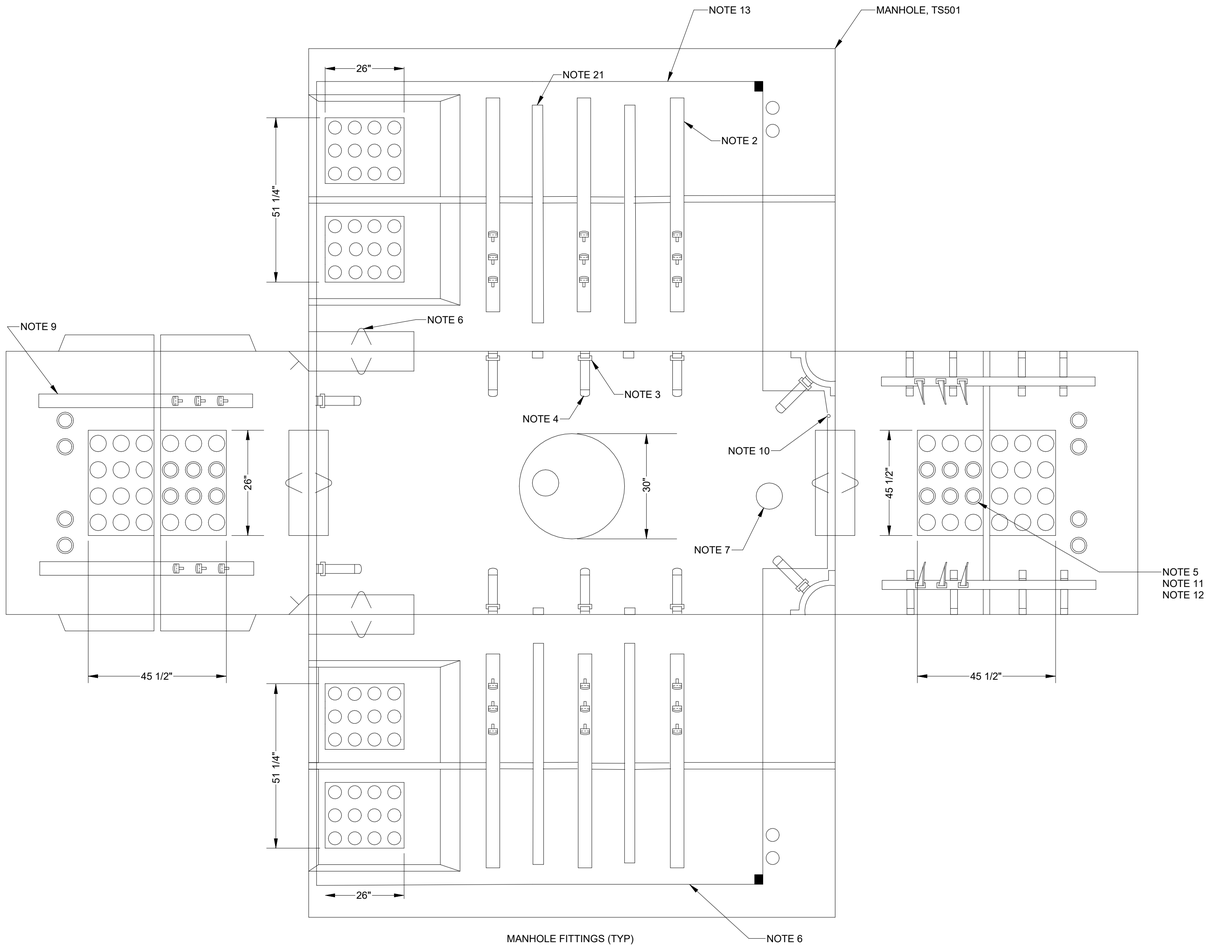
8. VACANT DUCTS SHALL BE SEALED WITH MECHANICAL, SCREW TYPE, REUSABLE DUCT PLUG.

9. CABLE RACK (TYP) ATTACHED DIRECTLY TO WALL.

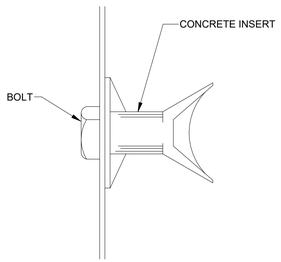
10. 3/4" X 10' COPPER CLAD IRON GROUND ROD WITH 4" STUB (TYP).

11. THE DUCTS SHOULD ENTER THE MANHOLE IN THE LOWER PORTION OF THE KNOCKOUT WINDOW TO SIMPLIFY FUTURE CONDUIT ADDITIONS.

12. THE LARGEST DIAMETER COPPER CABLE SHALL BE PLACED IN THE LOWEST VACANT DUCT.

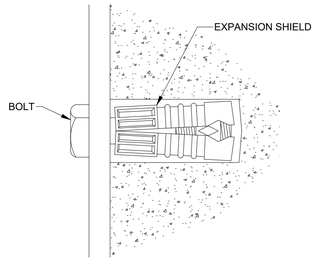


B10 COMPLETE FOLDOUT DETAIL
SCALE: NTS



NOTE: 1/2" X 2 1/2" GALVANIZED MACHINE BOLT AND CONCRETE INSERT (TYP).

B2 CONCRETE INSERT
SCALE: NTS



NOTE: 1/2" X 2 1/2" GALVANIZED MACHINE BOLT AND EXPANSION SHIELD (TYP).

B5 EXPANSION ANCHOR
SCALE: NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfieldsen\Documents\BUCO00102_DM_ME_gfieldsen.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY:	S.BLASER
DRAWN BY:	S.BLASER
CHECKED BY:	J.COOK
SUBMITTED BY:	S.MOORE
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
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TELECOMMUNICATIONS SITE DETAILS

SHEET ID

TS502

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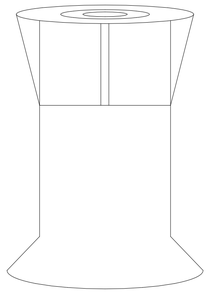
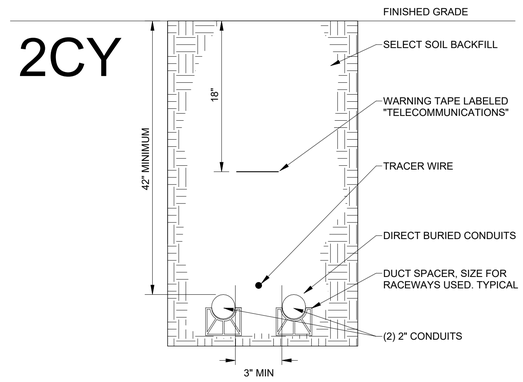
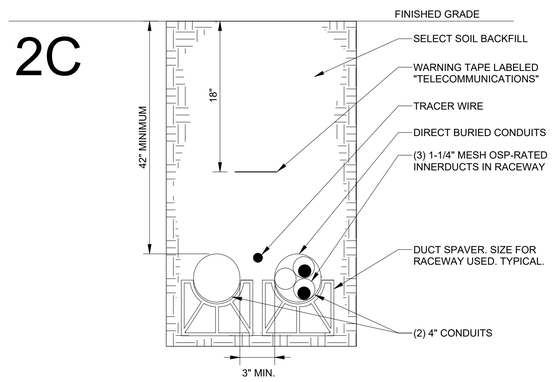


NOTES:
1. CONTRACTOR SHALL PROVIDE A TEST STATION AT EVERY COMM MANHOLE.
2. TOP OF TRACER BOX SHALL BE COLOR CODED ORANGE.

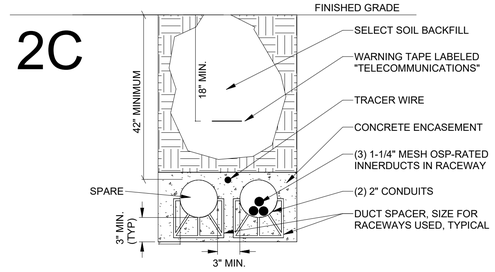
K1 TRACER WIRE ACCESS BOX
SCALE: NTS



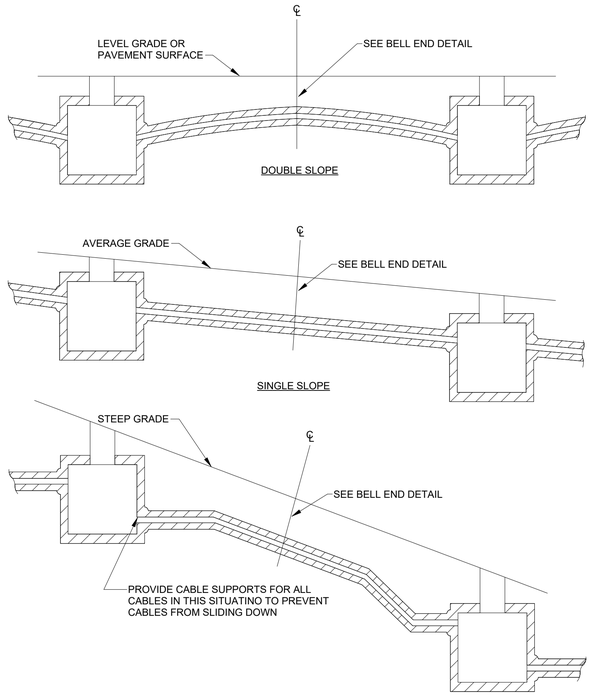
K3 TELECOMMUNICATIONS (2) - 2" SOH 80PVC DIRECT BURIED CONDUIT DUCT BANK
SCALE: NTS



K9 TELECOMMUNICATIONS (2) 4" SOH 80 PVC DIRECT BURIED CONDUIT DUCT BANK
SCALE: NTS

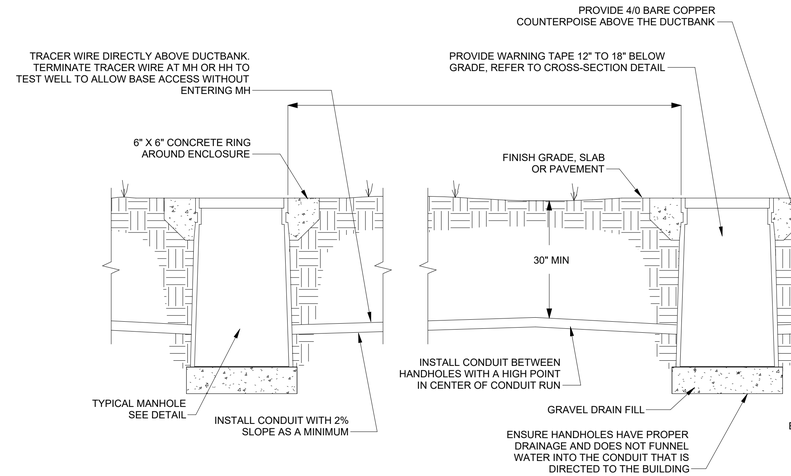


K15 TELECOMMUNICATIONS (2) - 2" SOH 40PVC CONCRETE ENCASED DUCT BANK
SCALE: NTS

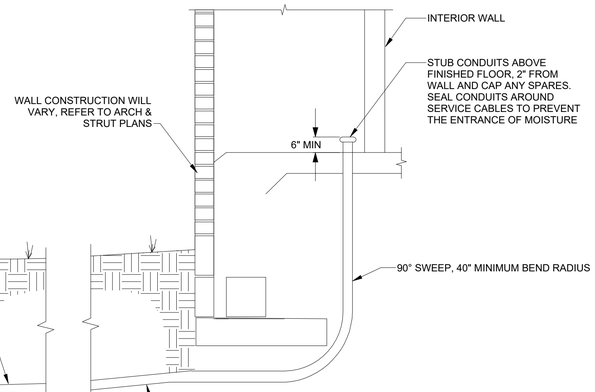


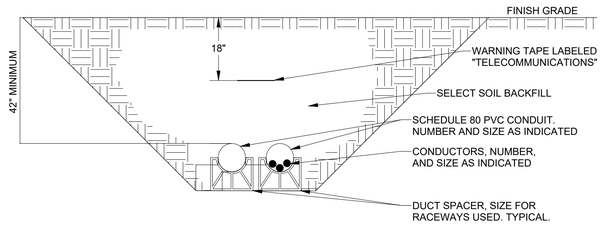
NOTES:
1. ALL DUCTBANKS SHALL BE PITCHED TO DRAIN INTO HANDHOLES/MANHOLES.
2. MINIMUM DEPTH FOR ALL DUCT RUNS SHALL BE MEASURED AT CENTERLINE OF RUNS.
3. WHERE DUCT SAG IS UNAVOIDABLE, DUCT MUST BE INSTALLED MINIMUM 42" BELOW FINISH GRADE.
4. SEE APPLICATION-SPECIFIC CONDUIT AND DUCT DETAILS FOR MINIMUM COVER.

B1 TYPICAL MANHOLE/HANDHOLE DUCTBANK RELATION
SCALE: NTS



D7 TYPICAL UNDERGROUND CONDUIT SLOPE PROFILE
SCALE: NTS





A9 TRENCHING DETAIL
SCALE: NTS

NOTES:
1. SEE COMMUNICATIONS SITE DRAWINGS (TS) FOR NUMBER, SIZES AND LOCATION OF COMMUNICATION CABLES IN UNDERGROUND DUCT BANK.
2. DUCT SPACING SHALL BE MAINTAINED BY USE OF SEPARATORS OR SPACING BLOCKS PLACED NOT MORE THAN 4 FEET APART ON CENTER.
3. WHERE INDICATED, DIG ONE TRENCH FOR UNDERGROUND DUCTS IN LIEU OF TWO SEPARATE TRENCHES FOR POWER DUCTS AND COMMUNICATIONS DUCTS. CONTRACTOR SHALL MAINTAIN A HORIZONTAL SEPARATION OF 3" OF CONCRETE BETWEEN THE POWER DUCTS AND COMMUNICATIONS DUCTS.
4. TO ENSURE DUCT IS AT PROPER DEPTH FOR ENTRY INTO VAULTS OR MANHOLES, BOTTOM OF TRENCH SHALL BE GRADED TO PROVIDE GRADUAL DEPTH CHANGE WITHIN 30 FEET OF MANHOLE OR VAULT.
5. CONTRACTOR SHALL INSTALL CONCRETE DUCTBANK AS SHOWN UNDER ALL PAVEMENT.
6. REFERENCE TN600 IN VOLUME 2 FOR CABLE TYPES AND QUANTITIES, AS WELL AS WHETHER CABLES UTILIZE INNERDUCT.
7. TRACER WIRE SHALL BE MINIMUM 12 AWG INSULATED SOLID COPPER. TERMINATE TRACER WIRE ON A TEST LUG INSIDE THE MAINTENANCE HOLE LIP OR AT THE TEST WELL LOCATED DIRECTLY ADJACENT TO MAINTENANCE HOLE.
8. ALL NEW DUCTS AND INNERDUCTS SHALL HAVE PRE-LUBRICATED MEASURING PULLING TAPE WITH A MINIMUM BREAKING STRENGTH OF 1,200 LBS SECURED AT EACH END WITH DUCT PLUG.
9. PROVIDE RECONDITIONING OF SURFACES AS SPECIFIED IN SECTION 33 71 02 UNDERGROUND ELECTRICAL DISTRIBUTION.
10. PROVIDE COLOR AND TYPE OF TAPE AS SPECIFIED IN PARAGRAPH BURIED WARNING AND IDENTIFICATION TAPE IN SECTION 31 00 00, EARTHWORK.
11. PROMPTLY REPAIR INDICATED UTILITY LINES OR SYSTEMS DAMAGED DURING SITE PREPARATION AND CONSTRUCTION. DAMAGES TO LINES OR SYSTEMS NOT INDICATED, WHICH ARE CAUSED BY CONTRACTOR OPERATIONS, SHALL BE TREATED AS "CHANGES" UNDER THE TERMS OF THE CONTRACT CLAUSES. WHEN CONTRACTOR IS ADVISED IN WRITING OF THE LOCATION OF A NONINDICATED LINE OR SYSTEM, SUCH NOTICE SHALL PROVIDE THAT PORTION OF THE LINE OR SYSTEM WITH "INDICATED" STATUS IN DETERMINING LIABILITY FOR DAMAGES. IN EVERY EVENT, IMMEDIATELY NOTIFY THE CONTRACTING OFFICER OF DAMAGE.
12. PROVIDE UNDERGROUND DUCT AND CONNECTIONS TO EXISTING MANHOLES, HANDHOLES, CONCRETE PADS, AND EXISTING DUCTS AS SPECIFIED IN SECTION 33 71 02 UNDERGROUND ELECTRICAL DISTRIBUTION.

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MARK	DESCRIPTION	DATE

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Plot Date: 6/30/2025 1:22:41 PM

DESIGNED BY: S.BLASER	ISSUE DATE: 05/01/2025
DRAWN BY: S.BLASER	SOLICITATION NO.: W9128F25RA043
CHECKED BY: J.COOK	CONTRACT NO.:
SUBMITTED BY: S.JAROSKA	APPROVED BY:
SIZE: ANSI D	FILE NAME: BUCO00102_DM_ME.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
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TELECOMMUNICATIONS SITE DETAILS

SHEET ID

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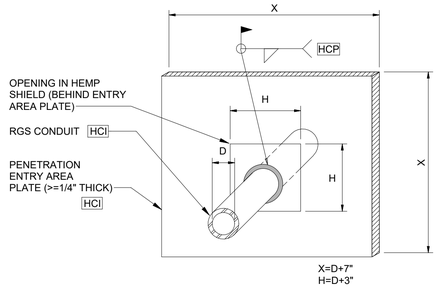
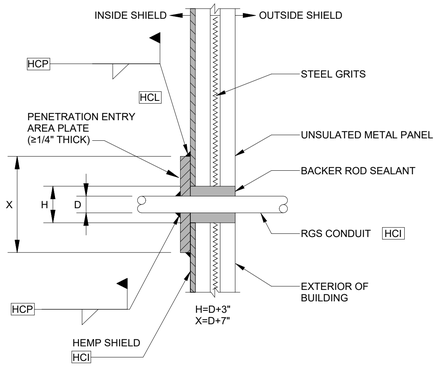
THIS DRAWING DEPICTS HARDNESS CRITICAL ITEMS (HCI's) AND (OR) HARDNESS CRITICAL PROCESSES (HCP's). ALL CHANGES TO OR PROPOSED SUBSTITUTIONS OF HCI's AND (OR) HCP's MUST BE EVALUATED FOR HARDNESS IMPACTS AND APPROVED BY THE CONTRACTING OFFICER.



H1 FILTER-SHIELDED CONDUIT PENETRATION PLATE

SCALE: NTS

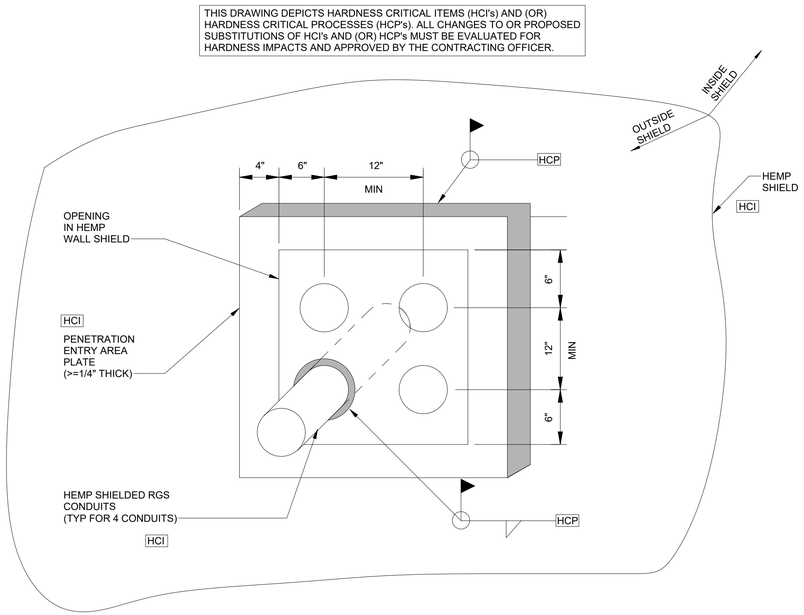
THIS DRAWING DEPICTS HARDNESS CRITICAL ITEMS (HCI's) AND (OR) HARDNESS CRITICAL PROCESSES (HCP's). ALL CHANGES TO OR PROPOSED SUBSTITUTIONS OF HCI's AND (OR) HCP's MUST BE EVALUATED FOR HARDNESS IMPACTS AND APPROVED BY THE CONTRACTING OFFICER.



H10 HEMP SHIELDED CONDUIT HEMP ENCLOSURE PENETRATION

SCALE: NTS

THIS DRAWING DEPICTS HARDNESS CRITICAL ITEMS (HCI's) AND (OR) HARDNESS CRITICAL PROCESSES (HCP's). ALL CHANGES TO OR PROPOSED SUBSTITUTIONS OF HCI's AND (OR) HCP's MUST BE EVALUATED FOR HARDNESS IMPACTS AND APPROVED BY THE CONTRACTING OFFICER.



A1 MULTIPURPOSE HEMP SHIELDED POWER CONDUIT PENETRATIONS OF HEMP SHIELD

SCALE: NTS

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SUBMITTED BY: J.HORSCH
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

Date: 6/30/2025 1:22:44 PM
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TELECOMMUNICATIONS SITE DETAILS HEMP

SHEET ID

TS504

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E9 13.2 FEED BY 433 05FEB2024
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CHECKED BY: J.COOK	SUBMITTED BY: J.HUDSON

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OMAHA, NE 68102

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FIO
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TELECOMMUNICATIONS FIO

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TS902

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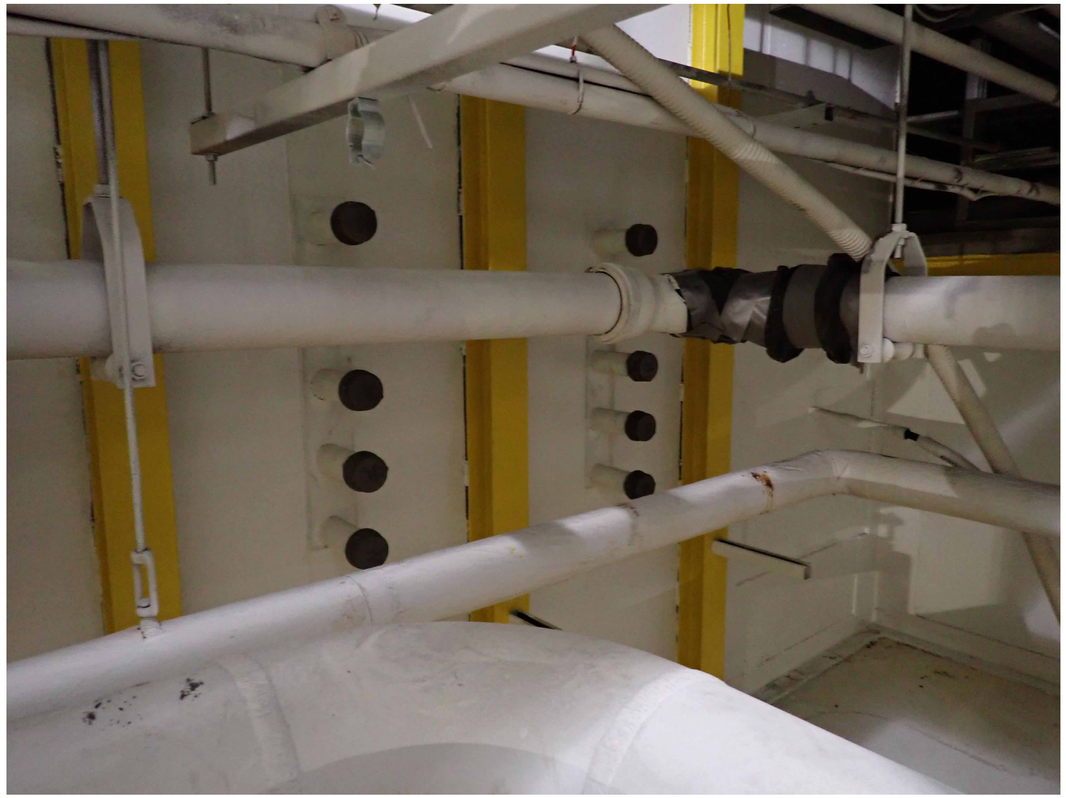

E9 SNAKEPIT 1.1 05FEB2024
SCALE: NTS

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SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

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DRAWN BY: S.BLASER
CHECKED BY: J.COOK
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TELECOMMUNICATIONS FIO

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FIO
TS903

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SUPPLEMENTAL LEGEND:

- VIBRATING HORN, 100dB AT 10 FEET
- RESONATING HORN, 100 dB AT 10 FEET WITH SOUND DISTINCT FROM VIBRATING HORN.
- JUMBO MUSHROOM PUSHBUTTION STATION, 1-NC MOMENTARY CONTACT, MOUNT AT 6' AFF.
- PI # — PRESSURE INDICATING TRANSMITTER
- DP # — DIFFERENTIAL PRESSURE TRANSMITTER
- PS # — PRESSURE SENSOR
- LA — LEVEL ALARM
- S — SOLENOID OPERATOR ON VALVE
- FLEXIBLE CONDUIT
- J — JUNCTION BOX OR CONDULET PER N.E.C.
- R1, C1, J1 — POWER, CONTROL, JUNCTION BOX LABELS PER CONDUIT AND CABLE SCHEDULES
- T — TELEPHONE SYSTEM BELL/STROBE LIGHT
- S — KEYED HAND-AUTO SELECTOR SWITCH AND RUN LIGHT.
- EPDS — EMERGENCY POWER DOWN STATION
- FS — FLOW SWITCH
- MOV — MOTOR OPERATED VALVE
- X X / # # — NEW CABLE DESIGNATION
  - DB DUCTBANK
  - SP SITE POWER
  - ## TWO DIGIT NUMBER PER CABLE SCHEDULE
- EG501 / EG502 — TRENCH DETAIL CALLOUT
- NEW PRIMARY DISTRIBUTION TRANSFORMER (COORDINATE WITH PRIVATE UTILITY)
- G — OUTDOOR GENERATOR SET IN WEATHERPROOF ENCLOSURE
- HH #6 / PB — HANDHOLE/PULLBOX; SEE ELECTRICAL DETAILS
- COPPERCLAD GROUND TEST, SEE GROUND ROD BOX DETAIL #3 ON SHEET EG501
- COPPERCLAD GROUND ROD
- COUNTERPOISE, #4/0 BARE COPPER
- MAIN AND DOWN LIGHTNING PROTECTION CONDUCTOR SIZE PER NFPA 780
- G — #1/0 BARE COPPER OR AS INDICATED
- CABLE TO CABLE GROUNDING CONNECTION DETAIL #2 ON SHEET EG501
- SA — SURGE ARRESTOR
- UF — PVC COATED RS CONDUIT
- XP — HAZARDOUS LOCATION ENCLOSURE
- RVSS — REDUCED VOLTAGE SOLID STATE

SUPPLEMENTAL LEGEND CONTINUED:

- 59 — ELECTRICAL DIAGRAM RELAY. LETTER OR NUMBER IN THE CIRCLE INDICATES THE RELAY DESIGNATION.
- NORMALLY OPEN CONTACTS *
- NORMALLY CLOSED CONTACTS *
- PUSH BUTTON OPEN
- PUSH BUTTON CLOSED
- TWO POSITION SWITCH
- THREE POSITION SWITCH
- LIMIT SWITCH, NORMALLY OPEN
- LIMIT SWITCH, NORMALLY OPEN, HELD CLOSED
- LIMIT SWITCH, NORMALLY CLOSED
- LIMIT SWITCH, NORMALLY CLOSED, HELD OPEN
- TIME DELAY SWITCH, NORMALLY OPEN, TIMED DELAY CLOSED.
- TIME DELAY SWITCH, NORMALLY CLOSED, TIME DELAY OPEN.
- TIME DELAY SWITCH, NORMALLY CLOSED, TIME DELAY CLOSED.
- TIME DELAY SWITCH, NORMALLY OPEN, TIME DELAY OPEN.
- FLOW SWITCH, NORMALLY OPEN, CLOSE ON INCREASE.
- FLOW SWITCH, NORMALLY CLOSED, OPEN ON INCREASE.
- LIQUID LEVEL SWITCH, NORMALLY OPEN, CLOSE ON INCREASE.
- LIQUID LEVEL SWITCH, NORMALLY CLOSED, OPEN ON INCREASE.
- PRESSURE AND VACUUM SWITCH, NORMALLY OPEN, CLOSE ON RISE.
- PRESSURE AND VACUUM SWITCH, NORMALLY CLOSED, OPEN ON RISE.
- TEMPERATURE SWITCH, NORMALLY OPEN, CLOSE ON RISING TEMPERATURE.
- TEMPERATURE SWITCH, NORMALLY CLOSED, OPEN ON RISING TEMPERATURE.
- FOOT SWITCH, NORMALLY OPEN.
- FOOT SWITCH, NORMALLY CLOSED.

*THE STANDARD METHOD OF SHOWING A CONTACT IS BY A SYMBOL INDICATING THE CIRCUIT CONDITION IT PRODUCES WHEN THE ACTUATING DEVICE IS IN THE DEENERGIZED OR NONOPERATED POSITION.

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DESIGNED BY: C.RAISON
DRAWN BY: C.RAISON
CHECKED BY: S.WAGNER
SUBMITTED BY: S.LINDGREN
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9126F25RA043
CONTRACT NO.:
FILE NUMBER:
FILENAME: BUCC000102-EF501-601.dwg

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OMAHA, NE 68102

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SUPPLEMENTAL FUELS
ELECTRICAL LEGEND

SHEET ID
EF001

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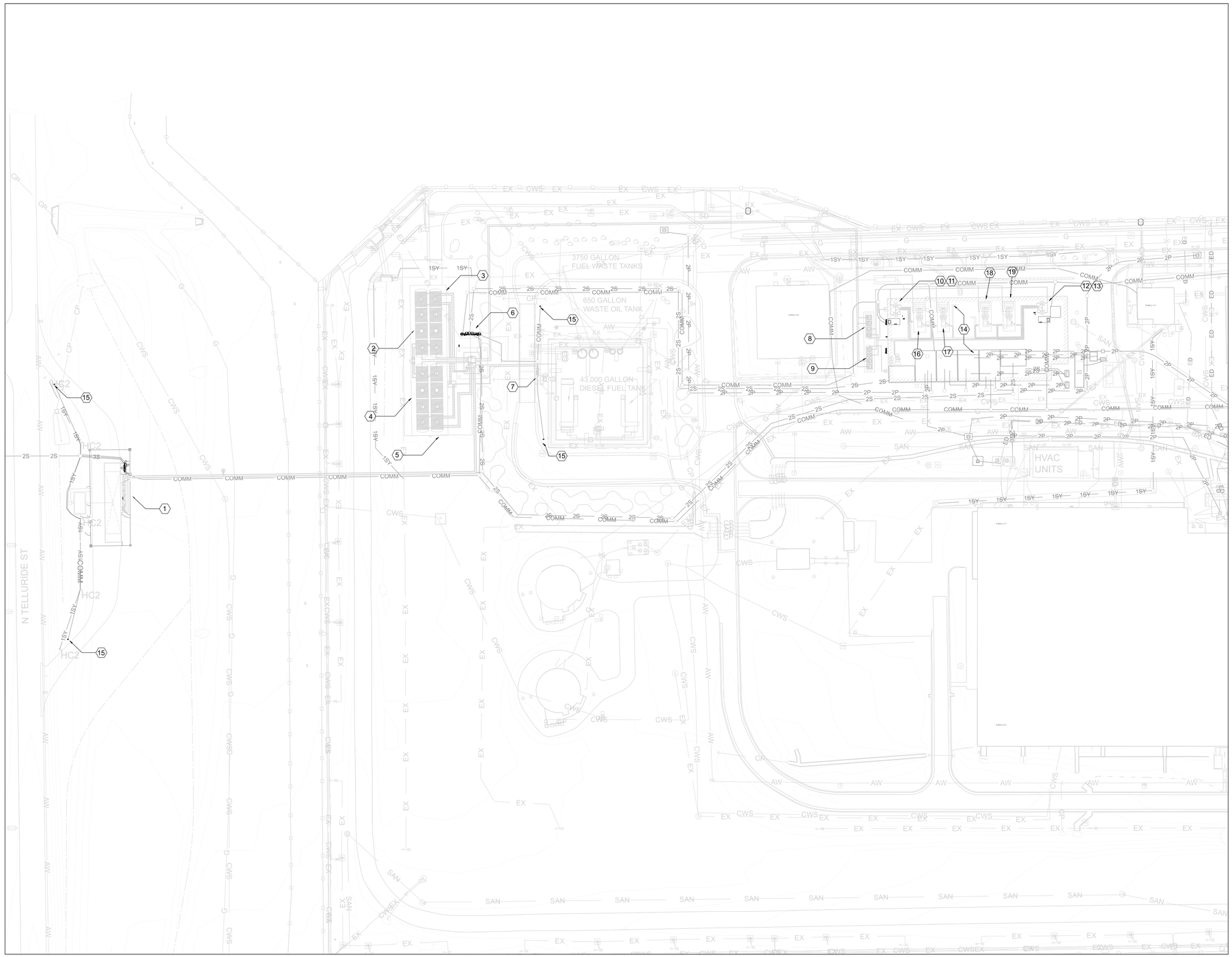


PLAN NORTH

0 50' 100'

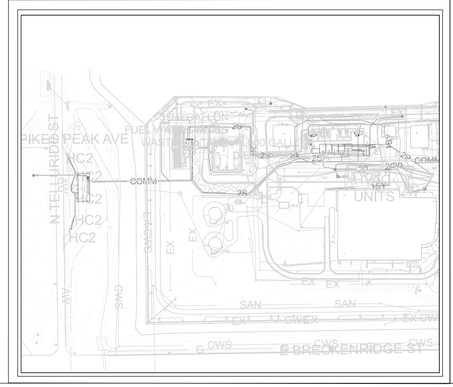
A1 ELECTRICAL FUELING SYSTEM SITE PLAN

SCALE: 1" = 50'

SHEET KEYNOTES

01 - PUMPED TRUCK OFFLOAD
02 - BULK TANK BT-004
03 - BULK TANK BT-003
04 - BULK TANK BT-002
05 - BULK TANK BT-001
06 - FILTER SHELTER EQUIPMENT RISER
07 - GRAVITY TRUCK OFFLOAD
08 - OPERATIONAL TANK OT-N EQUIPMENT RISER
09 - OPERATIONAL TANK OT-S EQUIPMENT RISER
10 - DAY TANK DT-B1
11 - DAY TANK DT-B2
12 - DAY TANK DT-A1
13 - DAY TANK DT-A2
14 - B451
15 - INGRESS/EGRESS REMOTE EFSO STATIONS
16 - GENERATOR GB1
17 - GENERATOR GB2
18 - GENERATOR GA1
19 - GENERATOR GA2

KEY PLAN



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SUBMITTED BY: S. LINDGREN	FILE NUMBER:
SIZE: ANSI D	FILENAME: Elec_Fuel_Base.dwg

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OMAHA, NE 68102

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ELECTRICAL FUELING SYSTEM
SITE PLAN

SHEET ID
EF101

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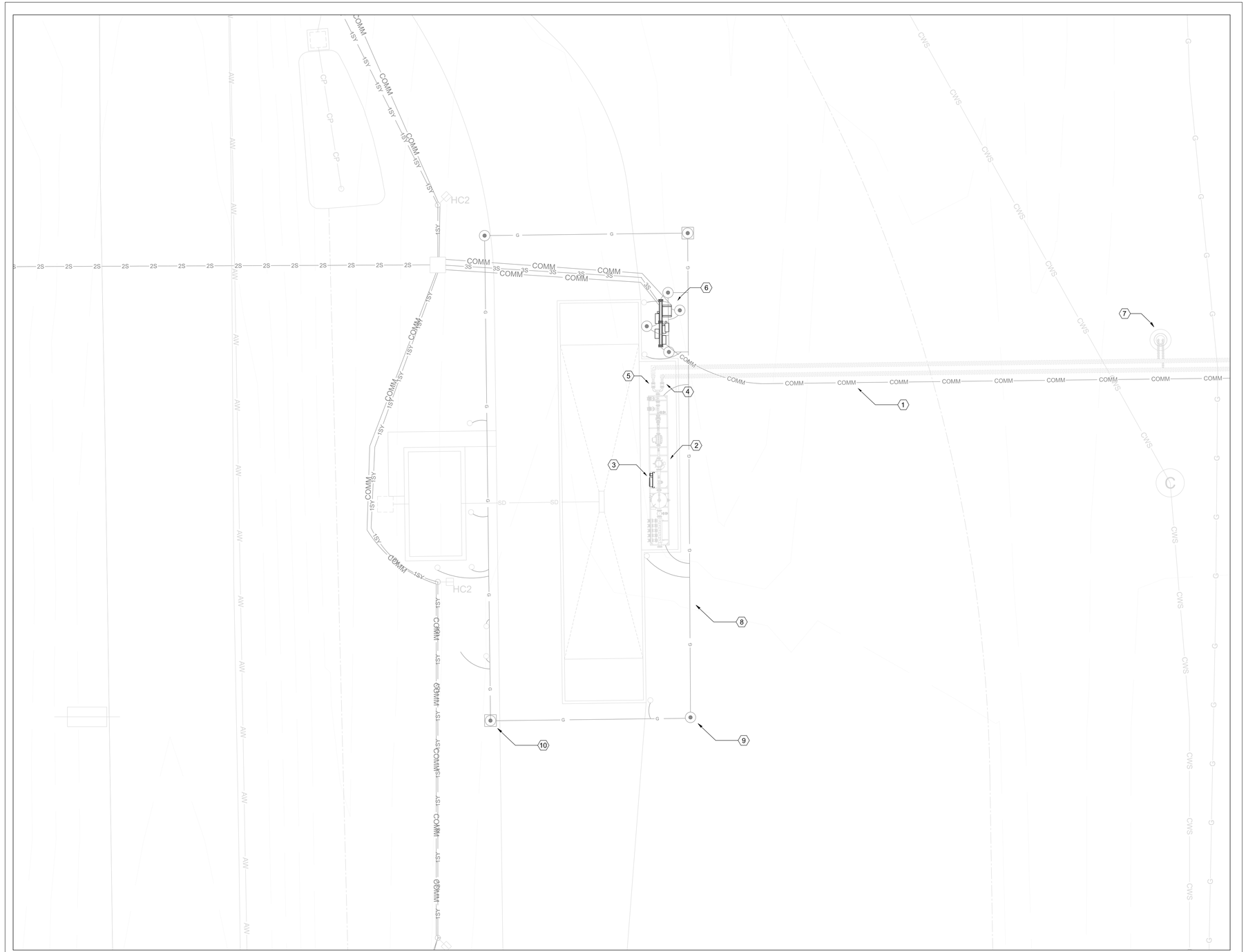


GENERAL SHEET NOTES

01 - SEE SHEET EG502 FOR GROUNDING DETAILS

SHEET KEYNOTES

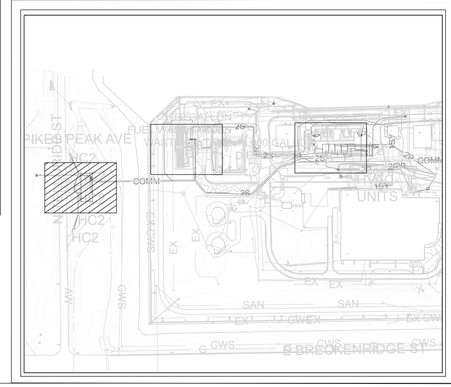
01 - FIBER OPTIC COMMUNICATIONS COMMUNICATIONS RUN
02 - OFFLOAD PUMP OP-1
03 - OFFLOAD FUELING CONTROL PANEL AND GROUND PROVING UNIT
04 - VALVE R11
05 - VALVE R10
06 - FUELING SYSTEM ELECTRICAL EQUIPMENT RISER
07 - RECEIPT LINE NO. 1 AND NO. 2 LOW POINT DRAIN LEAK DET SENSOR
08 - GROUNDING COUNTERPOISE
09 - GROUNDING ROD (TYP.)
10 - GROUNDING TEST WELL (TYP.)

PLAN NORTH

0 10' 20'

A1 TRUCK OFFLOAD ENLARGED SITE PLAN
SCALE: 1" = 10'

KEY PLAN



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SUBMITTED BY: S. LINDGREN	FILE NUMBER:
SIZE: ANSI D	FILENAME: Elec_Fuel_Base.dwg

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TRUCK OFFLOAD ENLARGED SITE PLAN

SHEET ID
EF401

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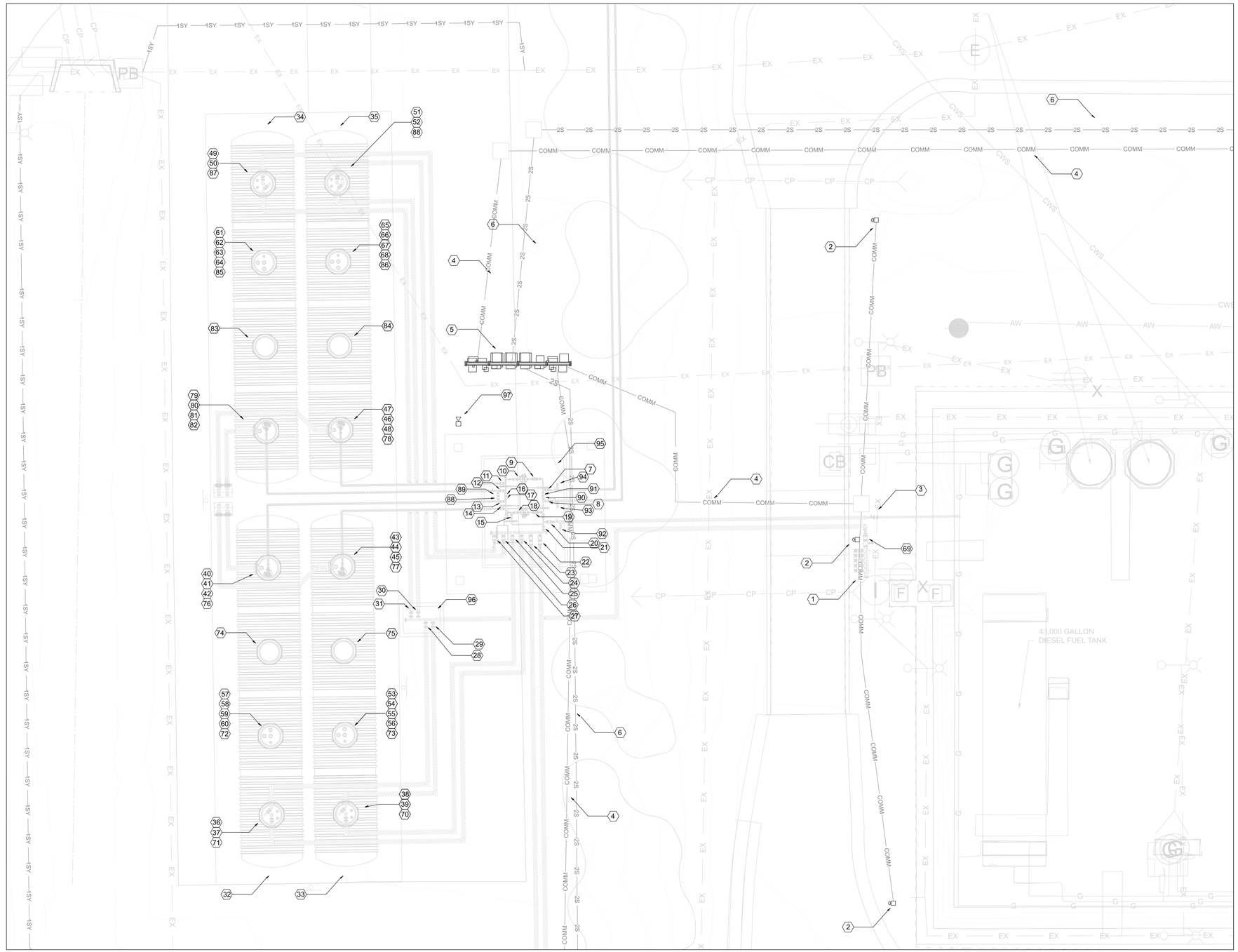
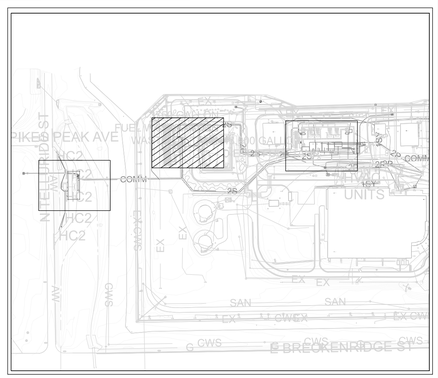


SHEET KEYNOTES

01 - GRAVITY TRUCK OFFLOAD
02 - EFSO PUSHBUTTON STATION
03 - VALVE I19
04 - COMMUNICATIONS RUN
05 - FILTER SHELTER FUELING ELECTRICAL EQUIPMENT RISER. SEE SHEET EF505 FOR ELEVATION.
06 - ELECTRICAL SECONDARY RUN
07 - VALVE I14
08 - VALVE I13
09 - VALVE I12
10 - VALVE I10
11 - VALVE I08
12 - VALVE I07
13 - VALVE I06
14 - VALVE I05
15 - VALVE I15
16 - VALVE I25
17 - VALVE I24
18 - VALVE I09
19 - VALVE I11
20 - VALVE I18
21 - VALVE I16
22 - VALVE R13
23 - VALVE R12
24 - VALVE R14
25 - VALVE R15
26 - VALVE R16
27 - VALVE R17
28 - VALVE R28
29 - VALVE R29
30 - VALVE R30
31 - VALVE R31
32 - TANK BT-002
33 - TANK BT-001
34 - TANK BT-004
35 - TANK BT-003
36 - VALVE R19
37 - VALVE R33
38 - VALVE R18
39 - VALVE R32
40 - PUMP IP-F2
41 - VALVE I01
42 - FLOW SWITCH FS02
43 - PUMP IP-F1
44 - VALVE I02
45 - FLOW SWITCH FS01
46 - FLOW SWITCH FS04
47 - VALVE I03
48 - PUMP IP-F4
49 - VALVE R34
50 - VALVE R20
51 - VALVE R21
52 - VALVE R35
53 - TANK BT-001 ATG PROBE.
54 - TANK BT-001 INDEPENDENT TANK GAUGE PROBE.
55 - TANK BT-001 SUMP LEAK DET SENSOR.
56 - TANK BT-001 INTERSTITIAL LEAK DET SENSOR.
57 - TANK BT-002 ATG PROBE.
58 - TANK BT-002 INDEPENDENT TANK GAUGE PROBE.
59 - TANK BT-002 SUMP LEAK DET SENSOR.
60 - TANK BT-002 INTERSTITIAL LEAK DET SENSOR.
61 - TANK BT-004 ATG PROBE.
62 - TANK BT-004 INDEPENDENT TANK GAUGE PROBE.
63 - TANK BT-004 SUMP LEAK DET SENSOR.
64 - TANK BT-004 INTERSTITIAL LEAK DET SENSOR.
65 - TANK BT-003 ATG PROBE.
66 - TANK BT-003 INDEPENDENT TANK GAUGE PROBE.
67 - TANK BT-003 SUMP LEAK DET SENSOR.
68 - TANK BT-003 INTERSTITIAL LEAK DET SENSOR.
69 - VALVE R27.
70 - TANK BT-001 SUMP 4 LEAK DET SENSOR.
71 - TANK BT-002 SUMP 4 LEAK DET SENSOR.
72 - TANK BT-002 SUMP 3 LEAK DET SENSOR.
73 - TANK BT-001 SUMP 3 LEAK DET SENSOR.
74 - TANK BT-002 SUMP 2 LEAK DET SENSOR.
75 - TANK BT-001 SUMP 2 LEAK DET SENSOR.
76 - TANK BT-002 SUMP 1 LEAK DET SENSOR.
77 - TANK BT-001 SUMP 1 LEAK DET SENSOR.
78 - TANK BT-003 SUMP 1 LEAK DET SENSOR.
79 - PUMP IP-F3.
80 - VALVE I04.
81 - FLOW SWITCH FS03.
82 - TANK BT-004 SUMP 1 LEAK DET SENSOR.
83 - TANK BT-004 SUMP 2 LEAK DET SENSOR.
84 - TANK BT-003 SUMP 2 LEAK DET SENSOR.
85 - TANK BT-004 SUMP 3 LEAK DET SENSOR.
86 - TANK BT-003 SUMP 3 LEAK DET SENSOR.
87 - TANK BT-004 SUMP 4 LEAK DET SENSOR.
88 - VALVE I26.
89 - VALVE I27.
90 - VALVE I28.
91 - VALVE I29.
92 - TRANSFER LINE LOW POINT DRAIN LEAK DET SENSOR.
93 - TRANSFER LINE NO. 1 LOW POINT DRAIN LEAK DET SENSOR.
94 - TRANSFER LINE NO. 2 LOW POINT DRAIN LEAK DET SENSOR.
95 - FILTER SHELTER CONTAINMENT LEAK DET SENSOR
96 - ISOLATION VAULT LEAK DET SENSOR
97 - RESONATING HORN-1

KEY PLAN



A1 BULK STORAGE ENLARGED SITE PLAN
SCALE: 1" = 10'

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AEC_NCS_4_MONO.CTB
G6EDDESM

DESIGNED BY:	C. RAISON
DRAWN BY:	C. RAISON
CHECKED BY:	C. RAISON
QA/QC BY:	R. BARKER
PROJECT MGR BY:	S. LINDGREN
SIZE:	ANSI D
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	Elec_Fuel_Base.dwg

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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

BULK STORAGE ENLARGED SITE PLAN

SHEET ID
EF402

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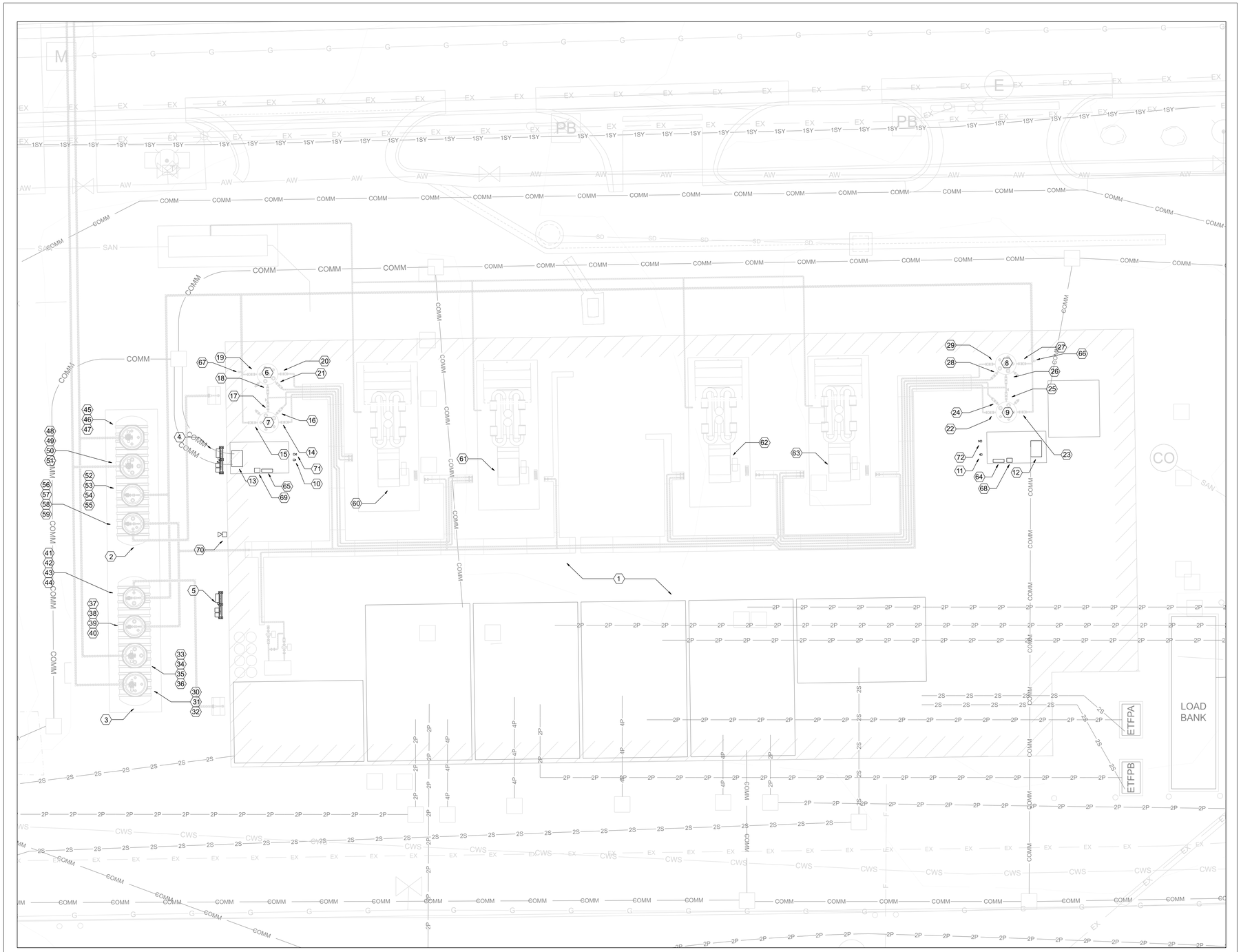
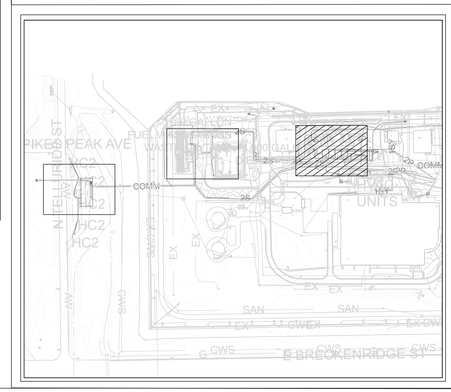


SHEET KEYNOTES

01 - GENERATOR BUILDING 451
02 - OPERATING TANK 1 OT-N
03 - OPERATING TANK 2 OT-S
04 - OT-N ELECTRICAL EQUIPMENT RISER
05 - OT-S ELECTRICAL EQUIPMENT RISER
06 - DAY TANK 1 DT-B1
07 - DAY TANK 2 DT-B2
08 - DAY TANK 3 DT-A1
09 - DAY TANK 4 DT-A2
10 - EFSO-11 STATION
11 - EFSO-12 STATION
12 - PUMP CONTROL PANEL-A (PCP-A)
13 - PUMP CONTROL PANEL-B (PCP-B)
14 - VALVE BV11
15 - VALVE BV10
16 - VALVE BV12
17 - VALVE BV09
18 - VALVE BV05
19 - VALVE BV06
20 - VALVE BV08
21 - VALVE BV07
22 - VALVE BV15
23 - VALVE BV17
24 - VALVE BV16
25 - VALVE BV18
26 - VALVE BV14
27 - VALVE BV13
28 - VALVE BV19
29 - VALVE BV20
30 - VALVE I22
31 - TANK OT-N INTERSTITIAL LEAK DET SENSOR
32 - TANK OT-S SUMP-4 LEAK DET SENSOR
33 - VALVE I23
34 - TANK OT-S ATG PROBE
35 - TANK OT-S LEVEL SWITCH PROBE
36 - TANK OT-S SUMP-3 LEAK DET SENSOR
37 - PUMP IP-O4
38 - VALVE BV04
39 - FLOW SWITCH FS08
40 - TANK OT-S SUMP-2 LEAK DET SENSOR
41 - PUMP IP-O3
42 - VALVE BV03
43 - FLOW SWITCH FS07
44 - TANK OT-S SUMP-1 LEAK DET SENSOR
45 - VALVE I21
46 - TANK OT-N INTERSTITIAL LEAK DET SENSOR
47 - TANK OT-N SUMP-4 LEAK DET SENSOR
48 - VALVE I20
49 - TANK OT-N ATG PROBE
50 - TANK OT-N LEVEL SWITCH PROBE
51 - TANK OT-N SUMP-3 LEAK DET SENSOR
52 - PUMP IP-O1
53 - VALVE BV01
54 - FLOW SWITCH FS05
55 - TANK OT-N SUMP-2 LEAK DET SENSOR
56 - PUMP IP-O2
57 - VALVE BV02
58 - FLOW SWITCH FS06
59 - TANK OT-N SUMP-1 LEAK DET SENSOR
60 - GENERATOR GB1
61 - GENERATOR GB2
62 - GENERATOR GA1
63 - GENERATOR GA2
64 - ATG-FA
65 - ATG-FB
66 - ISSUE LINE LOW POINT DRAIN LEAK DET SENSOR-A
67 - ISSUE LINE LOW POINT DRAIN LEAK DET SENSOR-B
68 - ILAC-A
69 - ILCA-B
70 - RESONATING HORN-2
71 - RESONATING HORN-3
72 - RESONATING HORN-4

KEY PLAN



PLAN NORTH

0 10' 20'

B1 GENERATOR BUILDING ENLARGED SITE PLAN
SCALE: 1" = 10'

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MARK	DESCRIPTION	DATE

P:\09Q4_PROJECTS\BUCC001002\PLAN SETS\01_MODELS\01_SITE\ELEC_FUEL_BASE.DWG
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DESIGNED BY: C. RAISON	ISSUE DATE: 05/01/2025
DRAWN BY: C. RAISON	SOLICITATION NO.: W9128F25RA043
CHECKED BY: C. RAISON	CONTRACT NO.:
QA/QC BY: S. LINDGREN	FILE NUMBER:
SUBMITTED BY: S. LINDGREN	FILENAME: Elec_Fuel_Base.dwg
SIZE: ANSI D	

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
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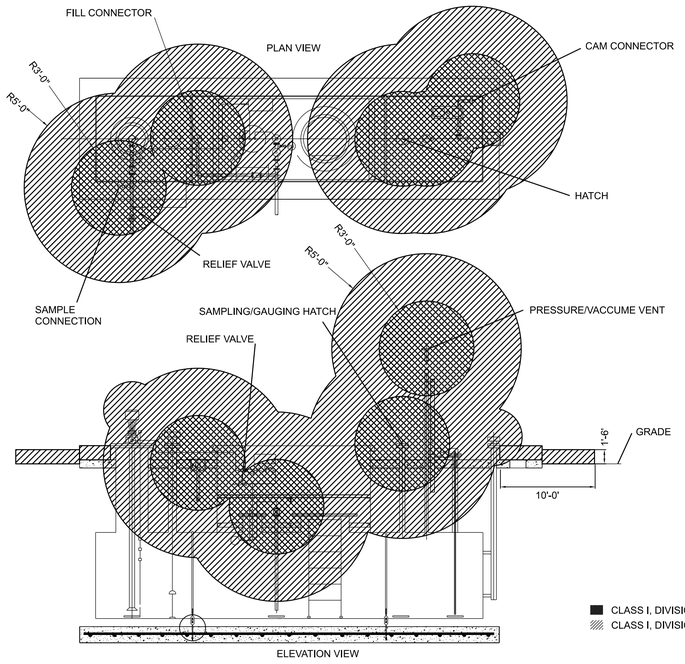
BUCKLEY SFB, COLORADO
POWER INDEPENDENCE - MISSION CONTROL STATION

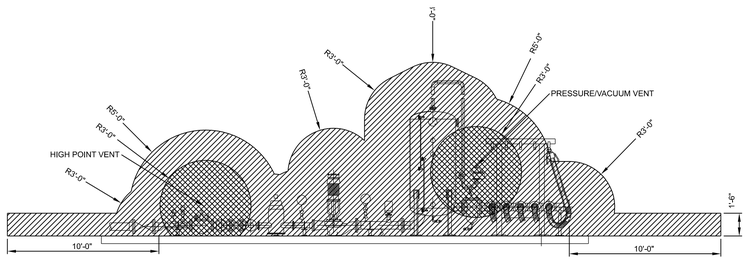
GENERATOR BUILDING ENLARGED SITE PLAN

SHEET ID
EF403

ADVERTISEMENT



H1 UNDERGROUND STORAGE TANK HAZARDOUS AREA PLAN
N.T.S.



C1 OFFLOAD HAZARDOUS AREA ELEVATION
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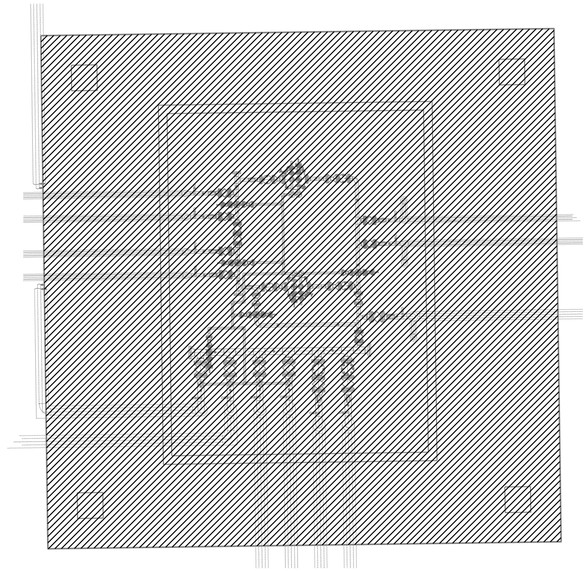
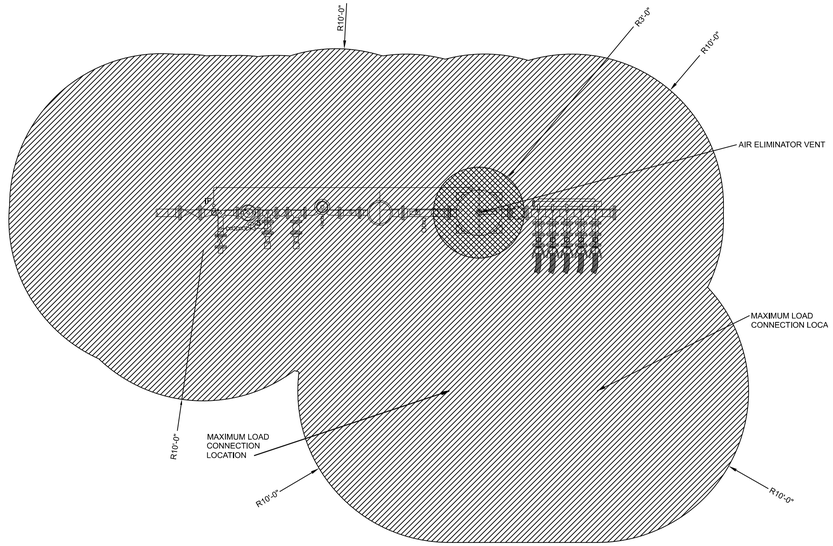


NOTE: THE AREA UNDER THE CANOPY IS CLASS I, DIV II HAZARDOUS LOCATION.

J13 FILTER SHELTER HAZARDOUS AREA PLAN
N.T.S.



C12 OFFLOAD HAZARDOUS AREA PLAN
N.T.S.

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DESIGNED BY:	ISSUE DATE:
C. RAISON	05/01/2025
DRAWN BY:	SOLICITATION NO.:
C. RAISON	W9128F25RA043
CHECKED BY:	CONTRACT NO.:
R. WAGNER	
SUBMITTED BY:	FILE NUMBER:
S. LINDGREN	
SIZE:	FILENAME:
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BUCKLEY SFB, COLORADO
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HAZARDOUS AREA DETAILS

SHEET ID
EF501

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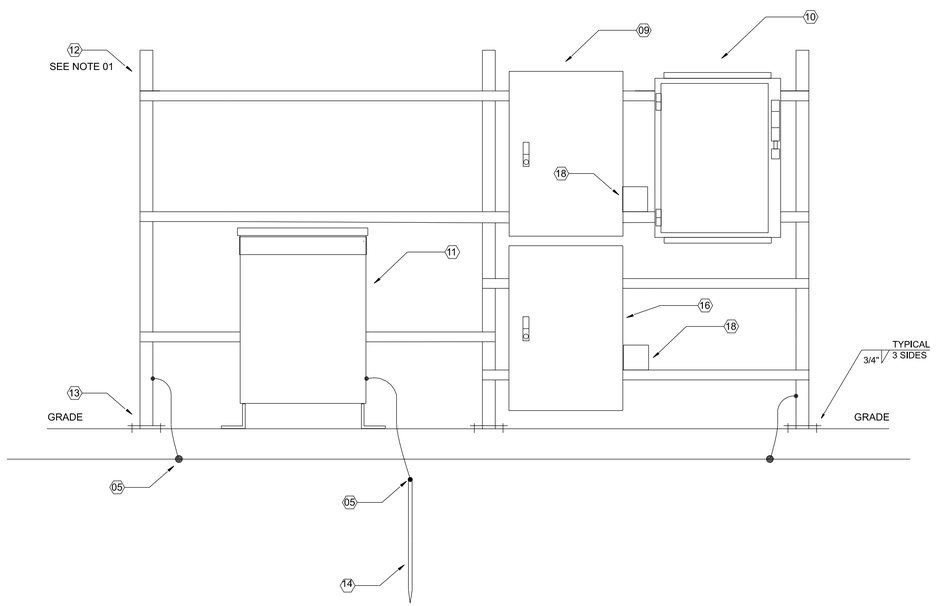
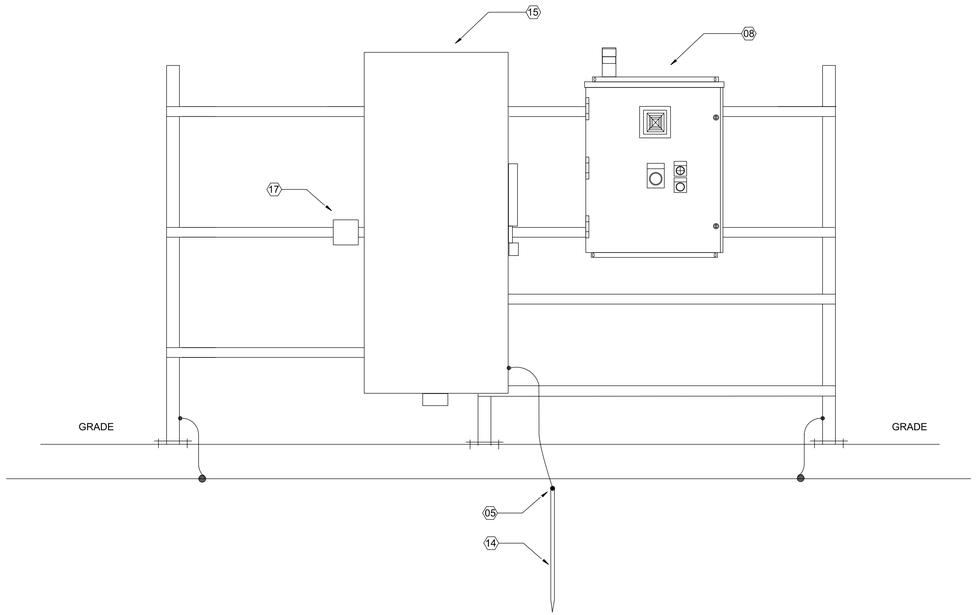


H3 OFFLOAD EQUIPMENT RISER ELEVATION (FRONT)

N.T.S.



B1 OFFLOAD EQUIPMENT RISER ELEVATION (REAR)

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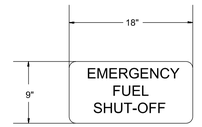
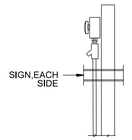


2" RED LETTERS, WHITE FIELD

N12 EFSO SIGNAGE DETAIL

N.T.S.



K12 EFSO STATION DETAIL

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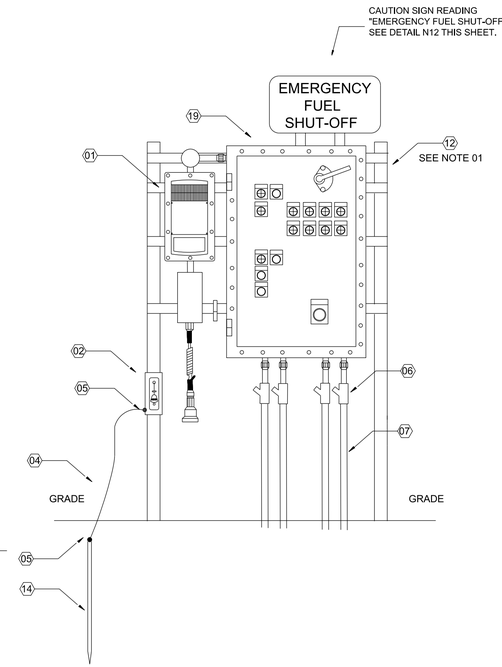

B11 OFFLOAD CONTROL EQUIPMENT RISER DETAIL

N.T.S.

GENERAL SHEET NOTES

01 - CONTRACTOR TO SIZE RISER SUPPORT MEMBERS TO CARRY EQUIPMENT USED
02 - ALL EQUIPMENT RISERS SHALL HAVE (2) PATHS TO GROUND.
03 - EFSO STATION JUMBO MUSHROOM OPERATOR IS 1-NC MOMENTARY CONTACT, WITH "EMERGENCY STOP" LEGEND
04 - ALL CONDUITS ABOVE GRADE AND ALL ELBOWS BELOW GRADE SHALL BE GALVANIZED RIGID STEEL
05 - EQUIPMENT LAYOUT ON EQUIPMENT RISER IS CONCEPTUAL.
06 - EQUIPMENT ENCLOSURES SHALL BE WEATHERPROOF (NEMA 3X)
07 - EQUIPMENT SHALL BE HEATED OR COOLED IN ACCORDANCE WITH MANUFACTURES SPECIFICATIONS
08 - EQUIPMENT RISER GROUNDING SHALL BE IN ACCORDANCE WITH NFPA 780
09 - SEE EP600 SHEET SERIES FOR EQUIPMENT DETAILS
10 - SEE SHEETS EF401 AND EG502 FOR DETAILS

⬡ SHEET KEY NOTES

01 - GROUND PROVING UNIT
02 - MANUAL GROUND REEL, 30' LENGTH
03 - EXOTHERMIC WELD
04 - #1/0 COPPER GROUND CONDUCTOR
05 - EXOTHERMIC WELD
06 - CONDUIT SEALOFF FITTING (TYP.)
07 - 1" CONDUIT (TYP.)
08 - OFFLOAD FIBER CONVERTER PANEL
09 - OLB PANEL
10 - LIGHTING CONTRACTOR PANEL
11 - TRANSFORMER
12 - C4X7.5 CHANNEL, PRIME AND FINISH PAINT
13 - 4-1/2" CONCRETE ANCHORS AND 1/2"X5"X10" BASEPLATE W/ 1" (MIN.) NON-SHRINK GROUT, (TYP.) PRIME AND FINISH PAINT BASEPLATE
14 - 10'X3/4" COPPER CLAD STEEL GROUNDING ROD, COUNTERPOISE, OR GROUND RING AS APPLICABLE
15 - MANUAL TRANSFER SWITCH (MTS)
16 - OHB PANEL, NEMA (3R)
17 - WEATHERPROOF GFCI DUPLEX RECEPTACLE
18 - SURGE PROTECTION DEVICE (SPD)
19 - OFFLOAD CONTROL PANEL

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MARK	DESCRIPTION	DATE

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DESIGNED BY: C. RAISON	ISSUE DATE: 05/01/2025
DRAWN BY: C. RAISON	SOLICITATION NO.: W9128F25RA043
CHECKED BY: B. BAKER	CONTRACT NO.:
APPROVED BY: S. LINDGREN	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCC000102-EF501-601.dwg

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OMAHA DISTRICT
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OFFLOAD ELECTRICAL DETAILS

SHEET ID

EF502

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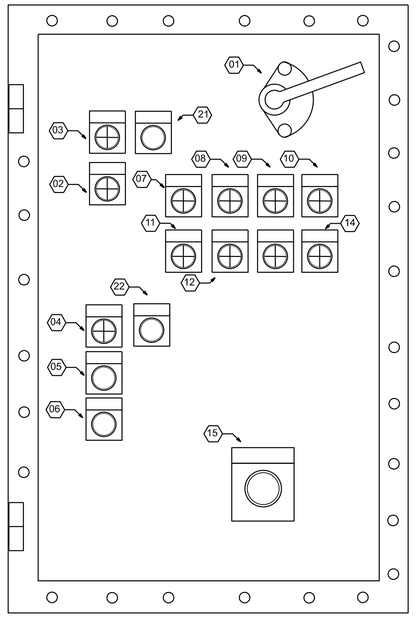
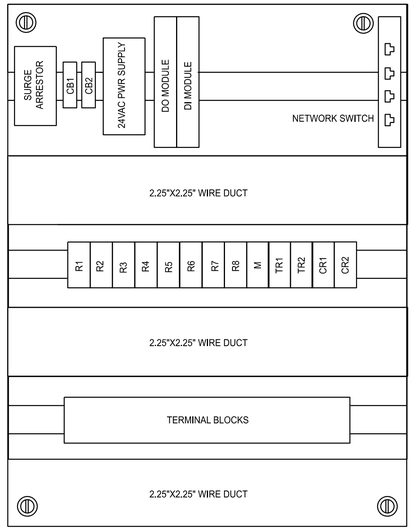


J1 OFFLOAD PUMP CONTROL PANEL ELEVATION
N.T.S.



J5 FIBER CONVERTER PANEL LAYOUT
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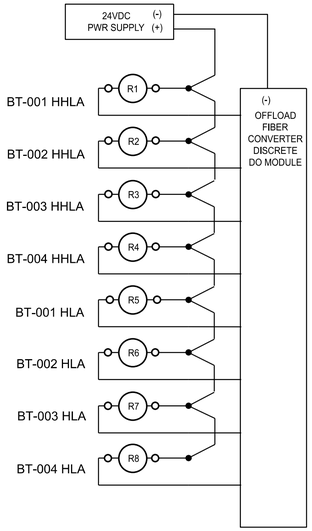

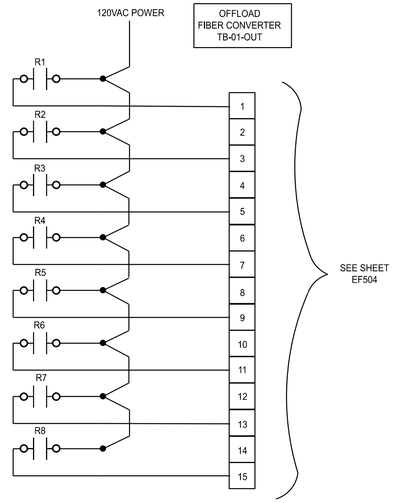

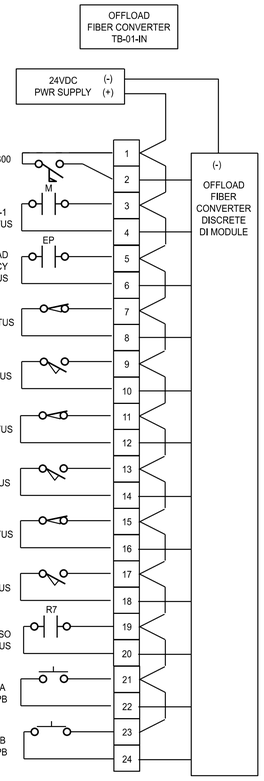

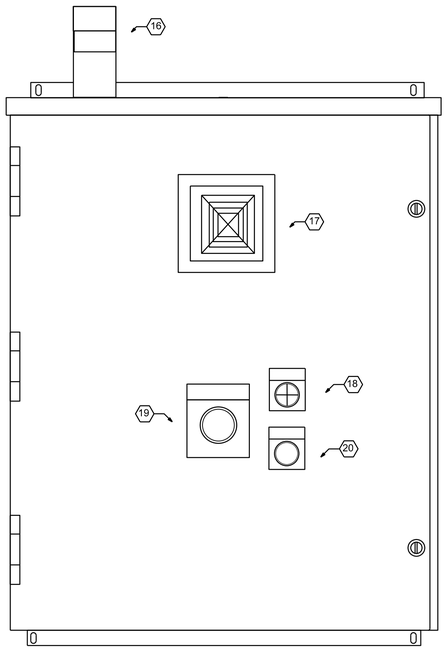

A1 FIBER CONVERTER PANEL ELEVATION
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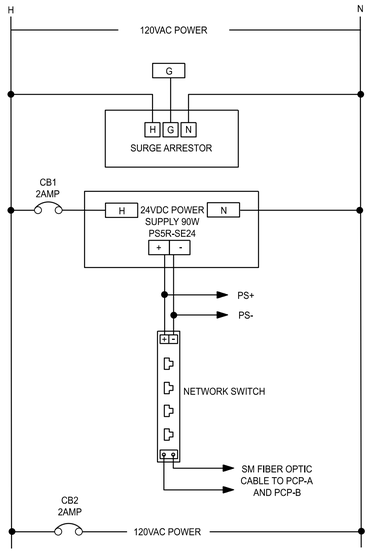

B5 FIBER CONVERTER POWER DISTRIBUTION DIAGRAM
N.T.S.

GENERAL SHEET NOTES

01 - DISCONNECT/STARTER ARE INCORPORATED IN THE PANEL.
02 - OFFLOAD CONTROL PANEL EQUIPMENT/COMPONENT LAYOUT IS CONCEPTUAL
03 - FIBER CONVERTER PANEL EQUIPMENT/COMPONENT LAYOUT IS CONCEPTUAL
04 - FIBER CONVERTER PANEL DIMENSIONS ARE CONCEPTUAL. CONTRACTOR SHALL SIZE THE PANEL TO ACCOMMODATE SYSTEM EQUIPMENT AND COMPONENTS
05 - OFFLOAD CONTROL PANEL DIMENSIONS ARE CONCEPTUAL. CONTRACTOR SHALL SIZE THE PANEL TO ACCOMMODATE SYSTEM EQUIPMENT AND COMPONENTS
06 - OFFLOAD CONTROL PANEL IS LOCATED ON AN EQUIPMENT RISER MOUNTED ON THE OFFLOAD SKID. FOR DETAILS SEE SHEET EF502, B11
07 - FIBER CONVERTER PANEL IS MOUNTED ON THE OFFLOAD EQUIPMENT RISER
08 - ALL ENCLOSURES SHALL BE WEATHERPROOF
09 - ALL ELECTRONIC EQUIPMENT SHALL BE HEATED OR COOLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS
10 - THE OFFLOAD SYSTEM IS CONSIDERED SACRIFICIAL. REDUNDANT I/O CIRCUITS ARE NOT REQUIRED

SHEET KEY NOTES

01 - DISCONNECT SWITCH
02 - NAME PLATE "EMERGENCY CIRCUIT POWER ON" INDICATOR, WHITE INDICATOR LIGHT
03 - NAME PLATE "AE HIGH FLOW", RED INDICATOR LIGHT
04 - NAME PLATE "OP-1 STATUS", GREEN INDICATOR LIGHT
05 - NAME PLATE "OP-1 CALL", MOMENTARY PUSHBUTTON SWITCH
06 - NAME PLATE "OP-1 CANCEL", MOMENTARY PUSHBUTTON SWITCH
07 - NAME PLATE "BT-001 HHLA", RED INDICATOR LIGHT
08 - NAME PLATE "BT-002 HHLA", RED INDICATOR LIGHT
09 - NAME PLATE "BT-003 HHLA", RED INDICATOR LIGHT
10 - NAME PLATE "BT-004 HHLA", RED INDICATOR LIGHT
11 - NAME PLATE "BT-001 HLA", AMBER INDICATOR LIGHT
12 - NAME PLATE "BT-002 HLA", AMBER INDICATOR LIGHT
13 - NAME PLATE "BT-003 HLA", AMBER INDICATOR LIGHT
14 - NAME PLATE "BT-004 HLA", AMBER INDICATOR LIGHT
15 - NAME PLATE "EMERGENCY STOP","EFSO-1, 3" MUSHROOM MOMENTARY CONTACT PUSHBUTTON SWITCH
16 - EFSO STROBE
17 - VIBRATING HORN (70dB AT 10')
18 - NAME PLATE "EFSO ACTIVATED", RED INDICATOR LIGHT
19 - NAME PLATE "EMERGENCY STOP","EFSO-2, 3" MUSHROOM MOMENTARY CONTACT PUSHBUTTON SWITCH
20 - NAME PLATE "ACKNOWLEDGE" MOMENTARY PUSHBUTTON SWITCH
21 - NAME PLATE "TEST", MOMENTARY PUSHBUTTON SWITCH (AE HIGH FLOW)
22 - NAME PLATE "TEST", MOMENTARY PUSHBUTTON SWITCH (OP-1 STATUS)

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DESIGNED BY:	C. RAISON
DRAWN BY:	C. RAISON
CHECKED BY:	P. WAGNER
SUBMITTED BY:	S. LINDGREN
SIZE:	ANSI D
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9126F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	BUCO00102-EF501-601.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
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OFFLOAD PUMP CONTROL PANEL AND FIBER CONVERTER PANEL DETAILS

SHEET ID
EF503

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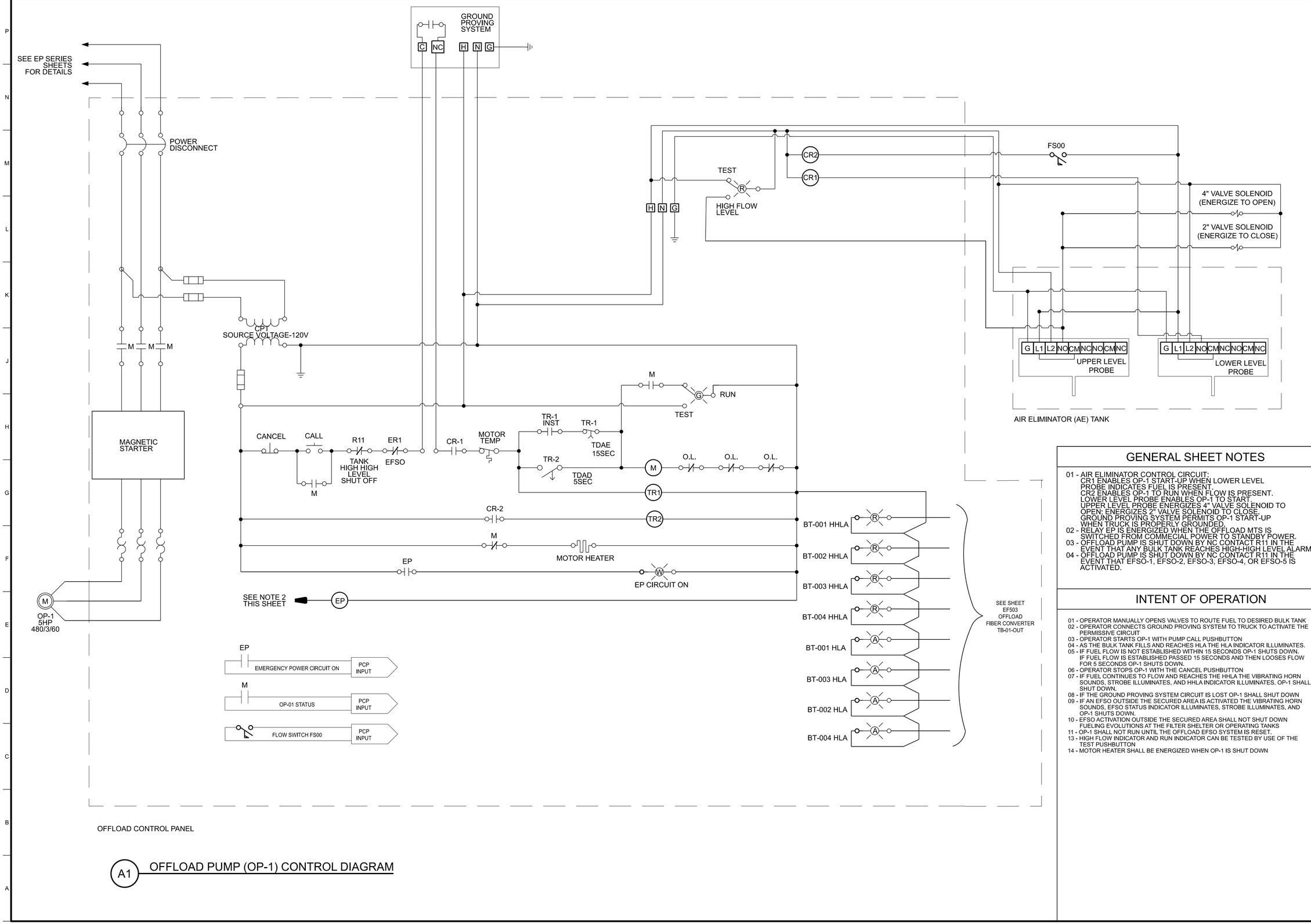

A1 OFFLOAD PUMP (OP-1) CONTROL DIAGRAM

GENERAL SHEET NOTES

01 - AIR ELIMINATOR CONTROL CIRCUIT:
CR1 ENABLES OP-1 START-UP WHEN LOWER LEVEL PROBE INDICATES FUEL IS PRESENT.
CR2 ENABLES OP-1 TO RUN WHEN FLOW IS PRESENT.
LOWER LEVEL PROBE ENABLES OP-1 TO START.
UPPER LEVEL PROBE ENERGIZES 4" VALVE SOLENOID TO OPEN; ENERGIZES 2" VALVE SOLENOID TO CLOSE.
GROUND PROVING SYSTEM PERMITS OP-1 START-UP WHEN TRUCK IS PROPERLY GROUNDED.
02 - RELAY EP IS ENERGIZED WHEN THE OFFLOAD MTS IS SWITCHED FROM COMMECIAL POWER TO STANDBY POWER.
03 - OFFLOAD PUMP IS SHUT DOWN BY NC CONTACT R11 IN THE EVENT THAT ANY BULK TANK REACHES HIGH-HIGH LEVEL ALARM
04 - OFFLOAD PUMP IS SHUT DOWN BY NC CONTACT R11 IN THE EVENT THAT EFSO-1, EFSO-2, EFSO-3, EFSO-4, OR EFSO-5 IS ACTIVATED.

INTENT OF OPERATION

01 - OPERATOR MANUALLY OPENS VALVES TO ROUTE FUEL TO DESIRED BULK TANK
02 - OPERATOR CONNECTS GROUND PROVING SYSTEM TO TRUCK TO ACTIVATE THE PERMISSIVE CIRCUIT
03 - OPERATOR STARTS OP-1 WITH PUMP CALL PUSHBUTTON
04 - AS THE BULK TANK FILLS AND REACHES HLA THE HLA INDICATOR ILLUMINATES.
05 - IF FUEL FLOW IS NOT ESTABLISHED WITHIN 15 SECONDS OP-1 SHUTS DOWN.
IF FUEL FLOW IS ESTABLISHED PASSED 15 SECONDS AND THEN LOOSES FLOW FOR 5 SECONDS OP-1 SHUTS DOWN.
06 - OPERATOR STOPS OP-1 WITH THE CANCEL PUSHBUTTON
07 - IF FUEL CONTINUES TO FLOW AND REACHES THE HHLA THE VIBRATING HORN SOUNDS, STROBE ILLUMINATES, AND HHLA INDICATOR ILLUMINATES. OP-1 SHALL SHUT DOWN.
08 - IF THE GROUND PROVING SYSTEM CIRCUIT IS LOST OP-1 SHALL SHUT DOWN
09 - IF AN EFSO OUTSIDE THE SECURED AREA IS ACTIVATED THE VIBRATING HORN SOUNDS, EFSO STATUS INDICATOR ILLUMINATES, STROBE ILLUMINATES, AND OP-1 SHUTS DOWN.
10 - EFSO ACTIVATION OUTSIDE THE SECURED AREA SHALL NOT SHUT DOWN FUELING EVOLUTIONS AT THE FILTER SHELTER OR OPERATING TANKS
11 - OP-1 SHALL NOT RUN UNTIL THE OFFLOAD EFSO SYSTEM IS RESET.
13 - HIGH FLOW INDICATOR AND RUN INDICATOR CAN BE TESTED BY USE OF THE TEST PUSHBUTTON
14 - MOTOR HEATER SHALL BE ENERGIZED WHEN OP-1 IS SHUT DOWN

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DESIGNED BY:	C. RAISON
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OMAHA DISTRICT
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

OFFLOAD PUMP CONTROL DIAGRAM

SHEET ID
EF504

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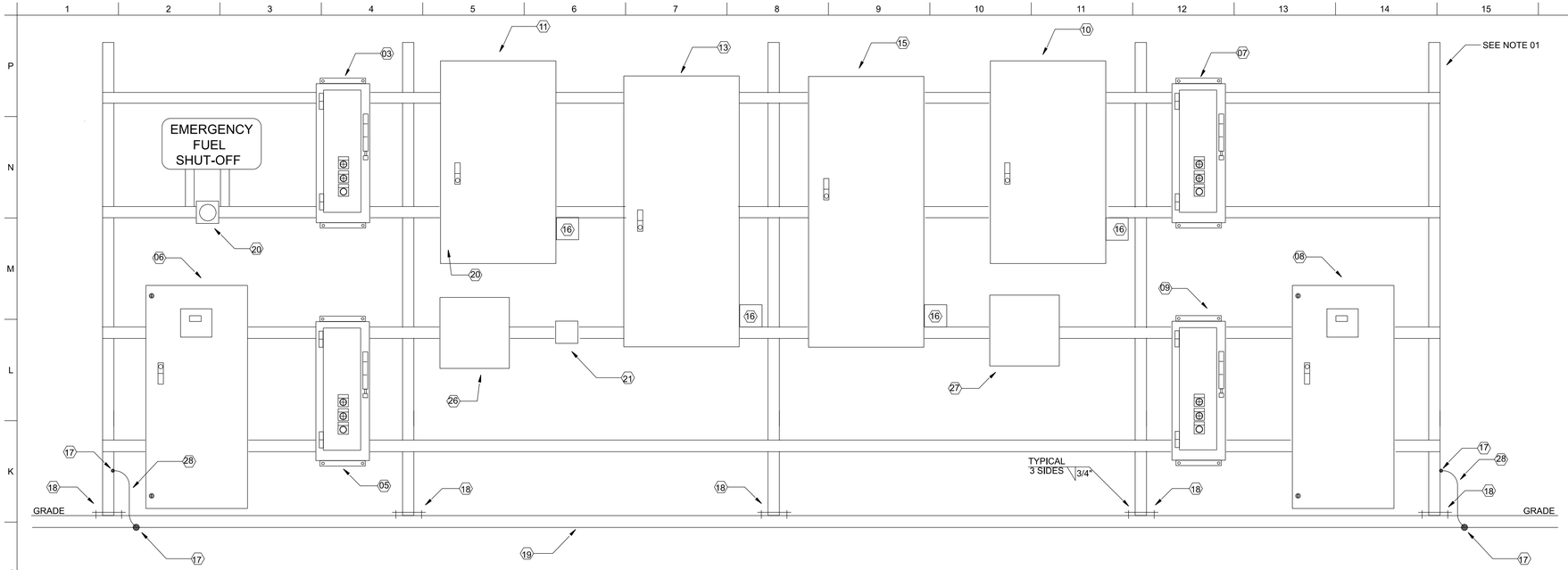
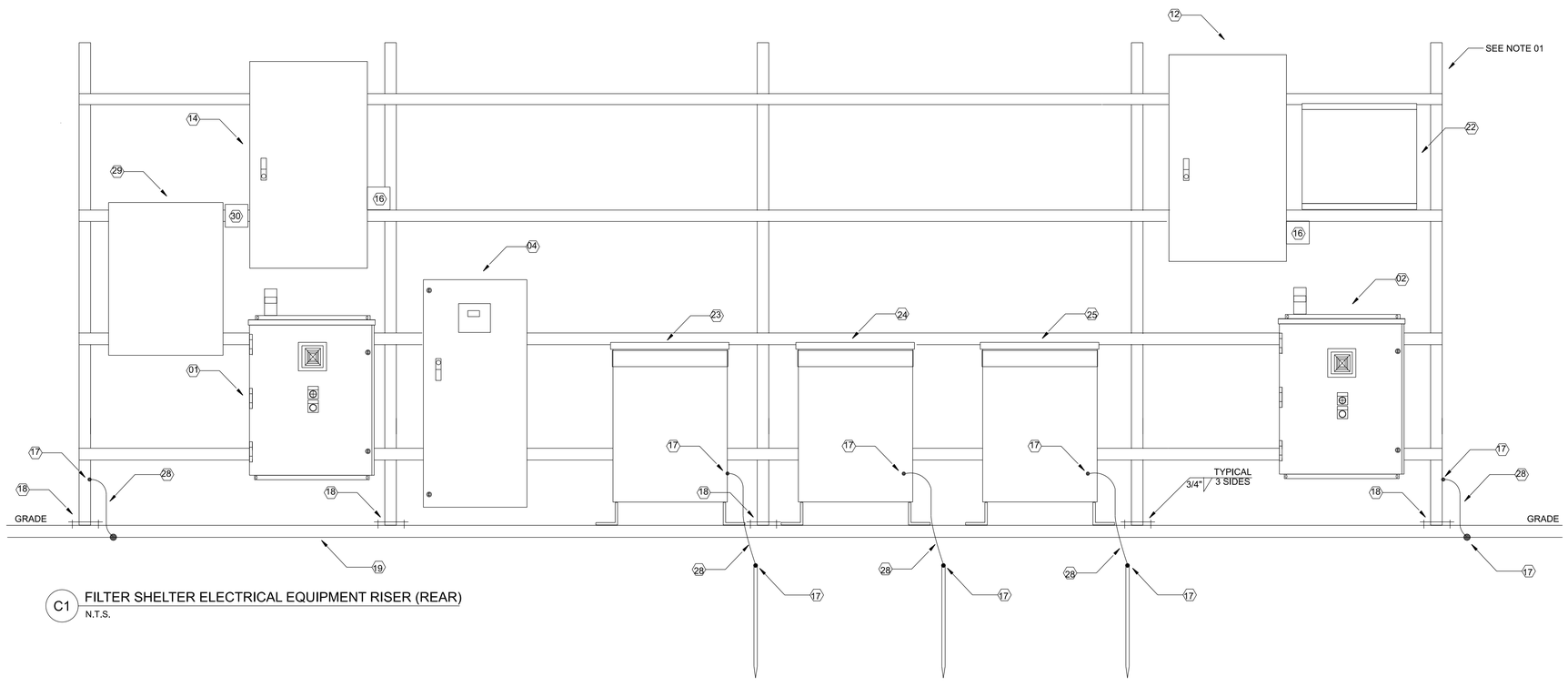


K1 FILTER SHELTER ELECTRICAL EQUIPMENT RISER (FRONT)
N.T.S.



C1 FILTER SHELTER ELECTRICAL EQUIPMENT RISER (REAR)
N.T.S.

GENERAL SHEET NOTES

01 - CONTRACTOR TO SIZE RISER SUPPORT MEMBERS TO CARRY EQUIPMENT USED
02 - ALL EQUIPMENT RISERS SHALL HAVE (2) PATHS TO GROUND
03 - EFSO STATION JUMBO MUSHROOM OPERATOR IS 1-NC MOMENTARY CONTACT, WITH "EMERGENCY STOP" LEGEND
04 - ALL CONDUITS ABOVE GRADE AND ALL ELBOWS BELOW GRADE SHALL BE GALVANIZED RIGID STEEL
05 - EQUIPMENT LAYOUT ON EQUIPMENT RISER IS CONCEPTUAL
06 - EQUIPMENT ENCLOSURES SHALL BE WEATHERPROOF
07 - ELECTRONIC EQUIPMENT SHALL BE HEATED OR COOLED IN ACCORDANCE WITH MANUFACTURES SPECIFICATIONS
08 - EQUIPMENT RISER GROUNDING SHALL BE IN ACCORDANCE WITH NFPA 780
09 - COORDINATE LOCATIONS OF SPDs WITH PANEL SCHEDULE LOCATIONS AS FOUND ON EP600 SHEET SERIES
10 - THE EMERGENCY EYEWASH UNIT IS SELF CONTAINED AND SELF-MONITORS TEMPERATURE TO PREVENT FREEZING, INSTALL PER MANUFACTURER'S SPECIFICATIONS
11 - SEE SHEETS EG603S AND EG502 FOR DETAILS

SHEET KEY NOTES

01 - FILTER SHELTER FIBER CONVERTER PANEL-A
02 - FILTER SHELTER FIBER CONVERTER PANEL-B
03 - IP-F1 CONTROL PANEL
04 - ATS P
05 - IP-F2 CONTROL PANEL
06 - ATS IP-F2
07 - IP-F3 CONTROL PANEL
08 - ATS IP-F3
09 - IP-F4 CONTROL PANEL
10 - PANEL PLA
11 - PANEL PLB
12 - PANEL PH
13 - PANEL PHB
14 - PANEL PL
15 - PANEL PHA
16 - PANEL SPD (TYP.)
17 - EXOTHERMIC WELD (TYP.)
18 - 4-1/2" CONCRETE ANCHORS AND 1/2"x5"x10" BASEPLATE W/ 1" (MIN.) NON-SHRINK GROUT. (TYPICAL) PRIME AND FINISH PAINT BASEPLATE (TYP.)
19 - COUNTERPOISE OR GROUND RING (TYP.)
20 - EFSO-2 PUSHBUTTON
21 - WEATHERPROOF GFCI DUPLEX RECEPTACLE
22 - HEAT TRACE CONTROL
23 - TRANSFORMER PT
24 - TRANSFORMER PTB
25 - TRANSFORMER PTA
26 - ECB IP-F2
27 - ECB IP-F3
28 - GROUNDING CONDUCTOR (TYP.)
29 - EMERGENCY EYEWASH UNIT
30 - WEATHERPROOF GFCI DUPLEX RECEPTACLE (DEDICATED TO EMERGENCY EYEWASH UNIT)

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FILENAME:	BUCO00102-EF501-601.dwg

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DRAWN BY:	C. RAISON
CHECKED BY:	P. WAGNER
SUBMITTED BY:	S. LINDGREN
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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FILTER SHELTER ELECTRICAL EQUIPMENT
RISER ELEVATION

SHEET ID
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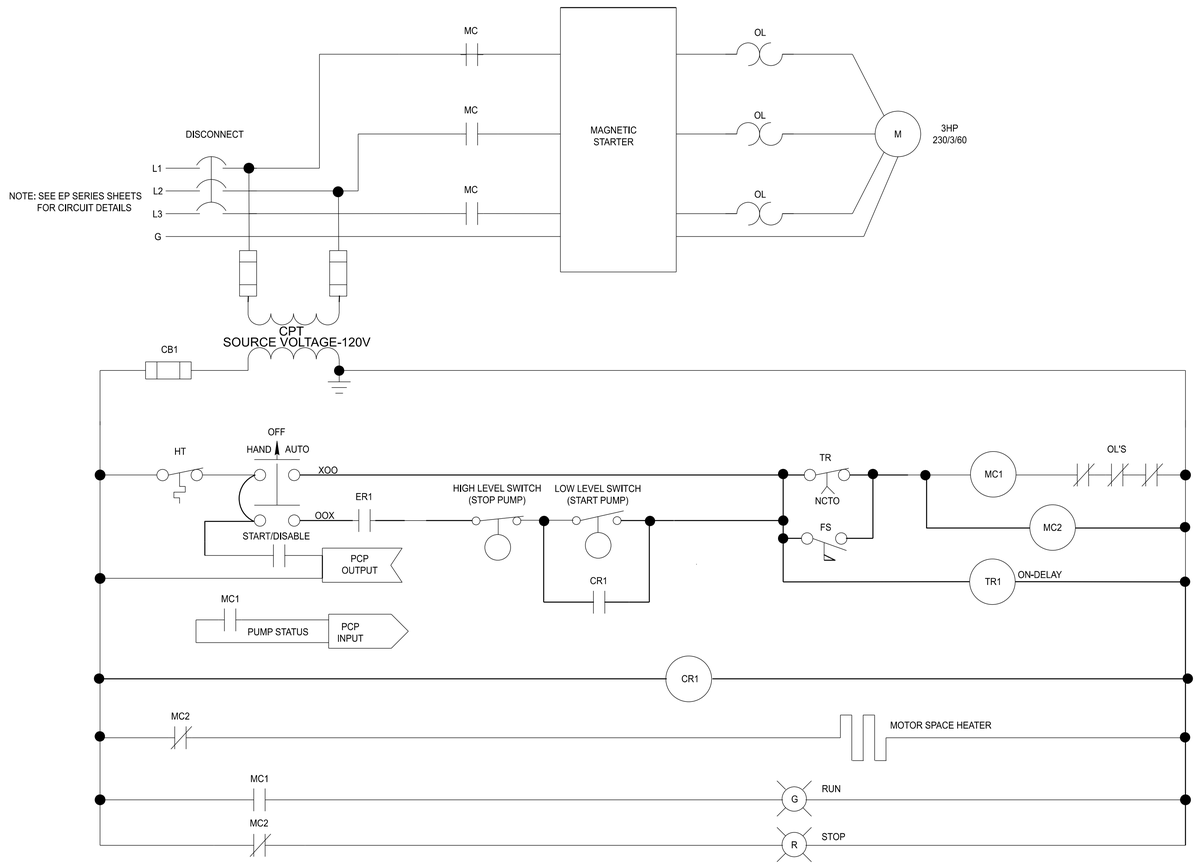
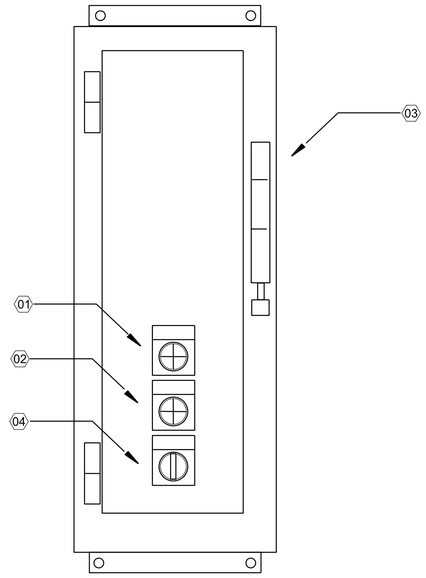


G1 BULK TANK PUMP CONTROL DIAGRAM
N.T.S.



F13 MOTOR STARTER/DISCONNECT ELEVATION
N.T.S.

INTENT OF OPERATION

01 - OPERATING/DAY TANK HIGH LEVEL SWITCHES (STOP) AND LOW LEVEL SWITCHES (START) CONTROL THE OPERATION OF THE BULK AND OPERATING TANK PUMPS
02 - EFSO ACTIVATION SHALL SHUT DOWN ALL PUMPS
03 - HIGH LEVEL (ALARM) SHALL ILLUMINATE HLA INDICATORS AND SOUND THE VIBRATING HORNS
04 - HIGH-HIGH LEVEL (ALARM) SHALL ILLUMINATE HHLA INDICATORS ON THE OFFLOAD CONTROL PANEL, SOUND THE VIBRATING HORNS, AND SHUT DOWN ALL PUMPS
05 - PUMP CONTROL CIRCUITRY IS TO BE INCORPORATED INTO MOTOR STARTER/ DISCONNECT

SHEET KEY NOTES

01 - PUMP STATUS INDICATOR (RUN)
02 - PUNP STATUS INDICATOR (STOP)
03 - ELECTRICAL DISCONNECT
04 - HAND-OFF-AUTO ROTARY (HOA) SWITCH

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BULK TANK CONTROL DIAGRAMS
AND MOTOR STARTER/DISCONNECT ELEVATION

SHEET ID
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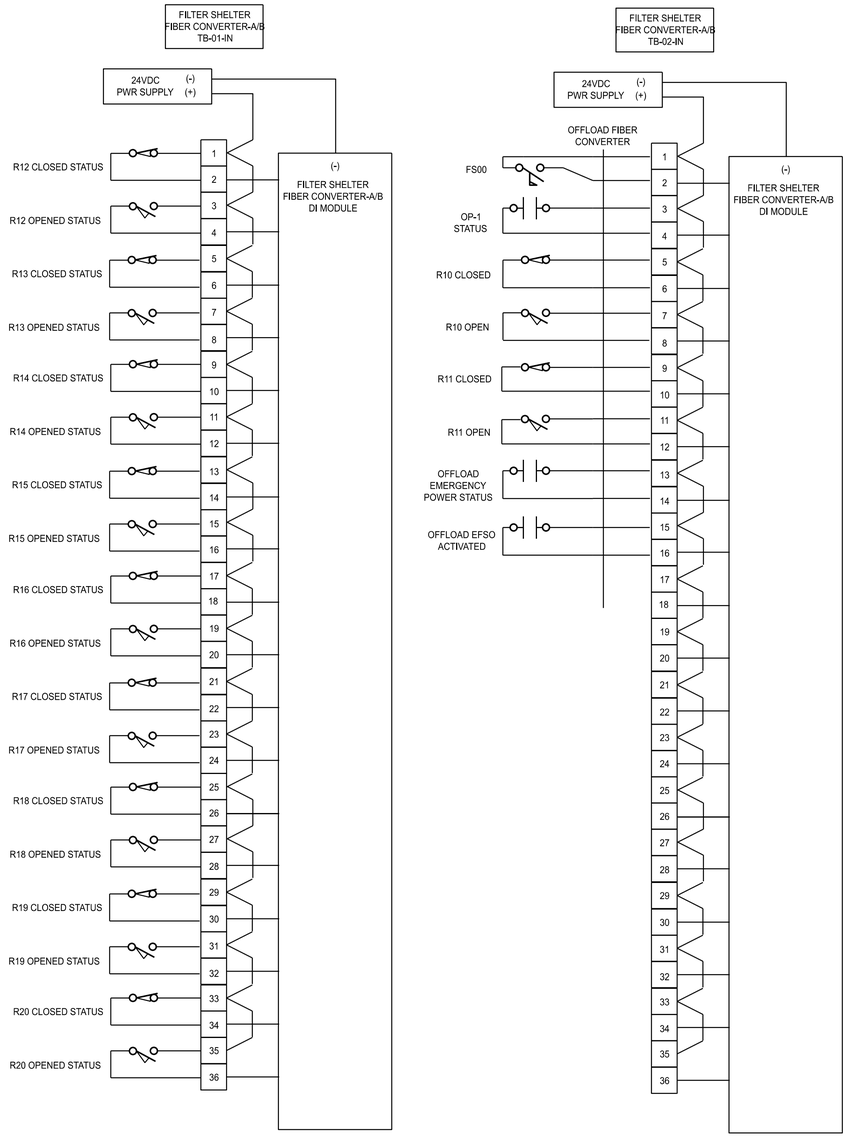

GENERAL SHEET NOTES

01 - EQUIPMENT LATOUT IS CONCEPTUAL
02 - EQUIPMENT ENCLOSURES SHALL BE WEATHERPROOF
03 - EQUIPMENT SHALL BE HEATED OR COOLED IN ACCORDANCE WITH MANUFACTURES SPECIFICATIONS.

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FILTER SHELTER FIBER CONVERTER
PANEL I/O DIAGRAMS
SHEET 1 OF 3

SHEET ID
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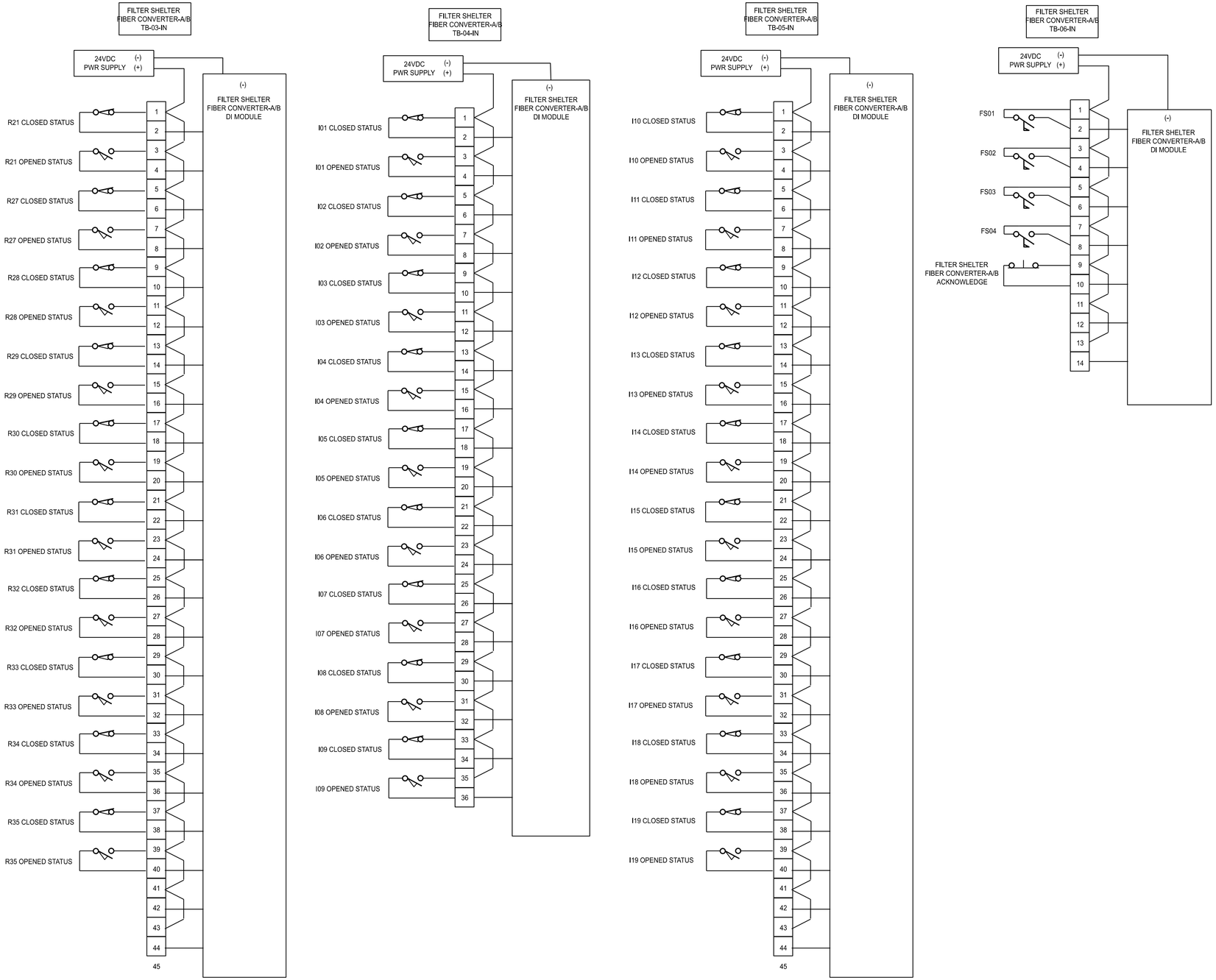

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PANEL I/O DIAGRAMS
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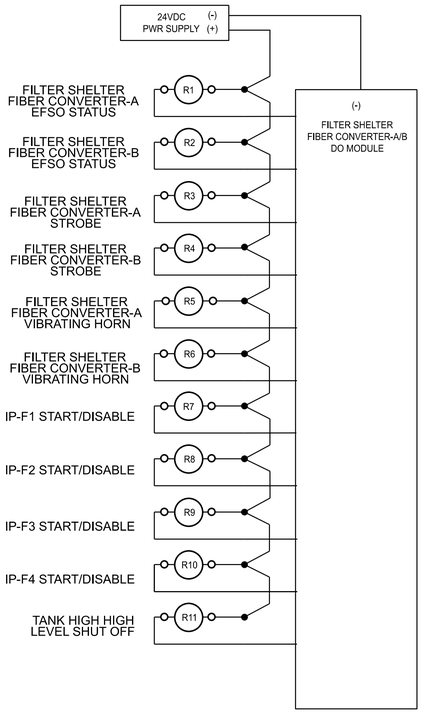

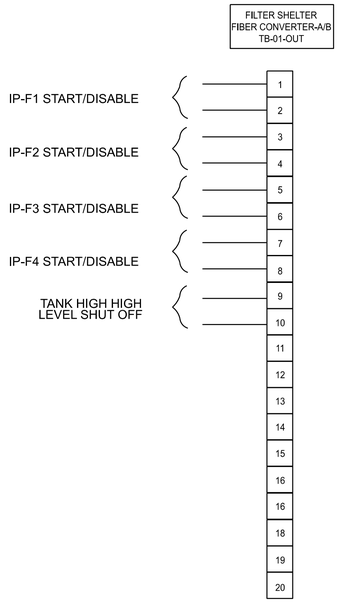

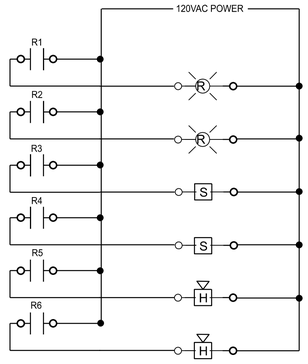

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PANEL DIAGRAMS
SHEET 3 OF 3

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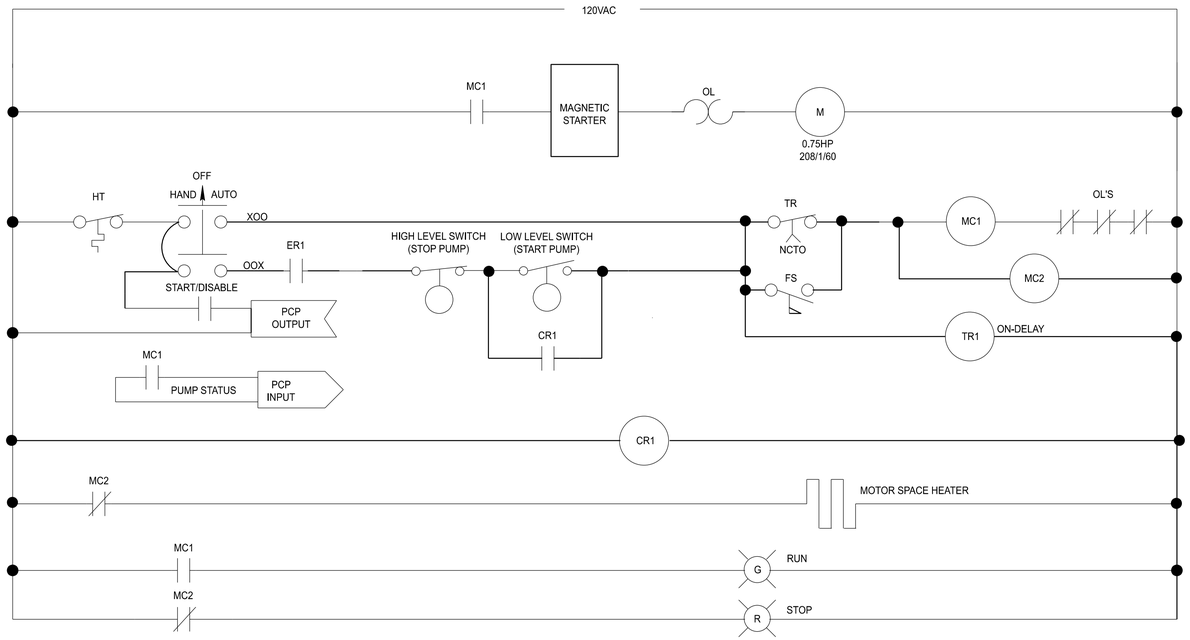
NOTE: SEE EP SERIES SHEETS
FOR CIRCUIT DETAILS



G2 OPERATING TANK PUMP CONTROL DIAGRAM

GENERAL SHEET NOTES

01 - OPERATING/DAY TANK ILA HIGH LEVEL SWITCHES (STOP) AND LOW LEVEL SWITCHES (START) CONTROL THE OPERATION OF THE BULK AND OPERATING TANK PUMPS
02 - EFSO ACTIVATION SHALL SHUT DOWN ALL PUMPS
03 - HIGH LEVEL (ALARM) SHALL ILLUMINATE HLA INDICATORS AND SOUND THE VIBRATING HORNS
04 - HIGH-HIGH LEVEL (ALARM) SHALL ILLUMINATE HHLA INDICATORS ON THE OFFLOAD CONTROL PANEL, SOUND THE VIBRATING HORNS, AND SHUT DOWN ALL PUMPS
05 - PUMP CONTROL CIRCUITRY IS TO BE INCORPORATED INTO MOTOR STARTER/ DISCONNECT
06 - ILA HIGH-HIGH LEVEL SWITCHES SHALL CLOSE ASSOCIATED MOVs.

07 - IF FUEL FLOW IS NOT SENSED BY THE SPECIFIED TIME INTERVAL THE PUMP WILL BE SHUT DOWN. IF FUEL FLOW HAS BEEN ESTABLISHED BY THE SPECIFIED TIME INTERVAL AND FLOW IS THEN LOST THE PUMP WILL BE SHUT DOWN WITHIN THE SPECIFIED TIME INTERVAL.

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OPERATING TANK PUMP CONTROL DIAGRAM

SHEET ID
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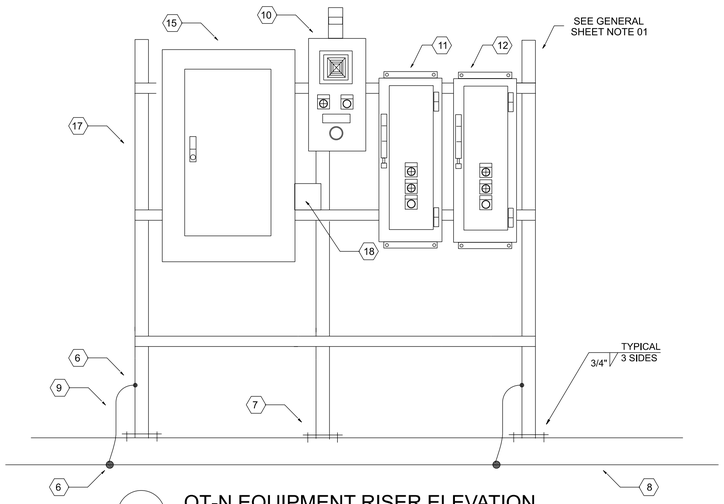
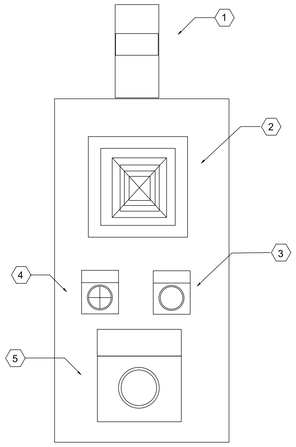


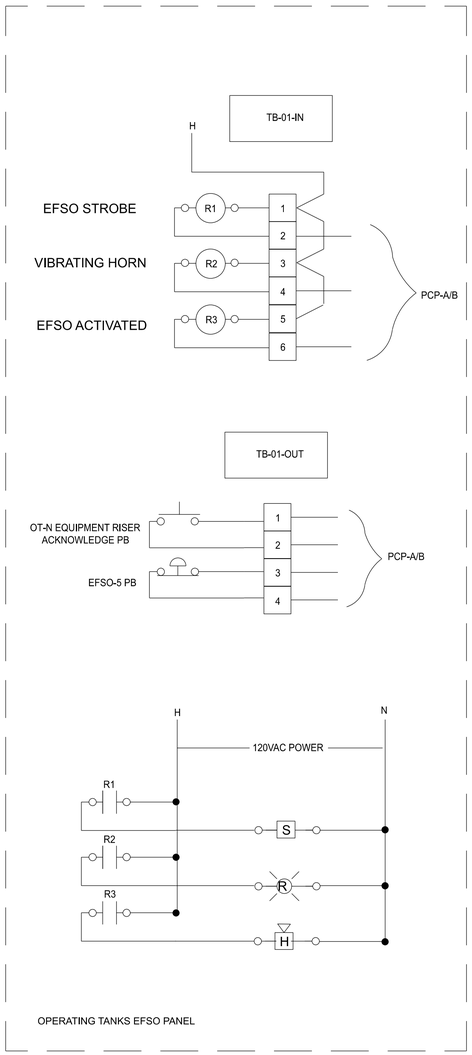
K1 OT-N EQUIPMENT RISER ELEVATION

N.T.S.



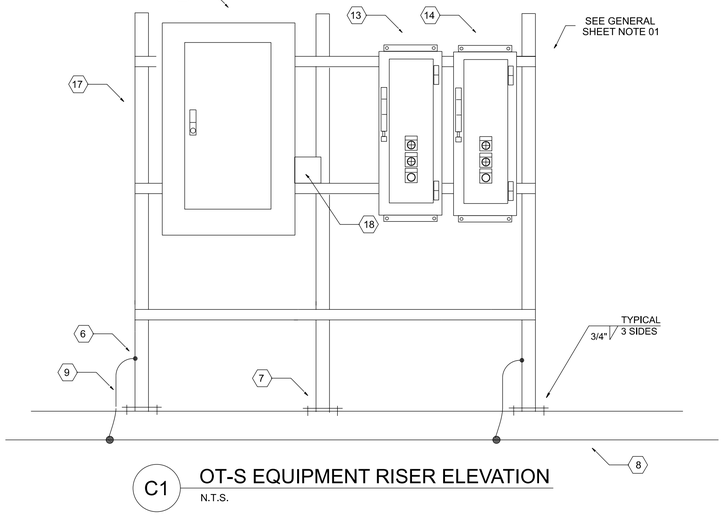
F8 OPERATING TANKS EFSO PANEL ELEVATION

N.T.S.



F11 EFSO CIRCUIT DIAGRAM

N.T.S.



C1 OT-S EQUIPMENT RISER ELEVATION

N.T.S.

GENERAL SHEET NOTES

01 - CONTRACTOR TO SIZE RISER SUPPORT MEMBERS TO CARRY EQUIPMENT USED
02 - ALL EQUIPMENT RISERS SHALL HAVE (2) PATHS TO GROUND.
03 - EFSO STATION JUMBO MUSHROOM OPERATOR IS 1-NC MOMENTARY CONTACT, WITH "EMERGENCY STOP" LEGEND
04 - ALL CONDUITS ABOVE GRADE AND ALL ELBOWS BELOW GRADE SHALL BE GALVANIZED RIGID STEEL
05 - EQUIPMENT LAYOUT ON EQUIPMENT RISER IS CONCEPTUAL
06 - EQUIPMENT ENCLOSURES SHALL BE WEATHERPROOF
07 - ELECTRONIC EQUIPMENT SHALL BE HEATED OR COOLED IN ACCORDANCE WITH MANUFACTURES SPECIFICATIONS
08 - EQUIPMENT RISER GROUNDING SHALL BE IN ACCORDANCE WITH NFPA 780
09 - SEE SHEETS EG001 AND EG502 FOR DETAILS

SHEET KEY NOTES

01 - EFSO STROBE
02 - VIBRATING HORN
03 - ACKNOWLEDGE PUSHBUTTON
04 - EFSO STATUS INDICATOR
05 - EFSO-4 PUSHBUTTON
06 - EXOTHERMIC WELD (TYP.)
07 - 4-1/2" CONCRETE ANCHORS AND 1/2"X5"X10" BASEPLATE W/ 1" (MIN.) NON-SHIRNK GROUT (TYP.) PRIME AND FINISH PAINT BASEPLATE (TYP.)
08 - COUNTERPOISE OR GROUND RING (TYP.) SEE EG SERIES SHEETS
09 - GROUNDING CONDUCTOR (TYP.)
10 - EFSO PANEL
11 - IP-O1 MOTOR STARTER/DISCONNECT
12 - IP-O2 MOTOR STARTER/DISCONNECT
13 - IP-O3 MOTOR STARTER/DISCONNECT
14 - IP-O4 MOTOR STARTER/DISCONNECT
15 - PANEL QHA3
16 - PANEL QHB3
17 - C 4"X7.5" CHANNEL (TYP.), PRIME AND FINISH PAINT
18 - PANEL SPD (TYP.)

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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
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OPERATING TANK EQUIPMENT RISER AND
EFSO ELEVATIONS AND EFSO CIRCUIT DIAGRAM

SHEET ID

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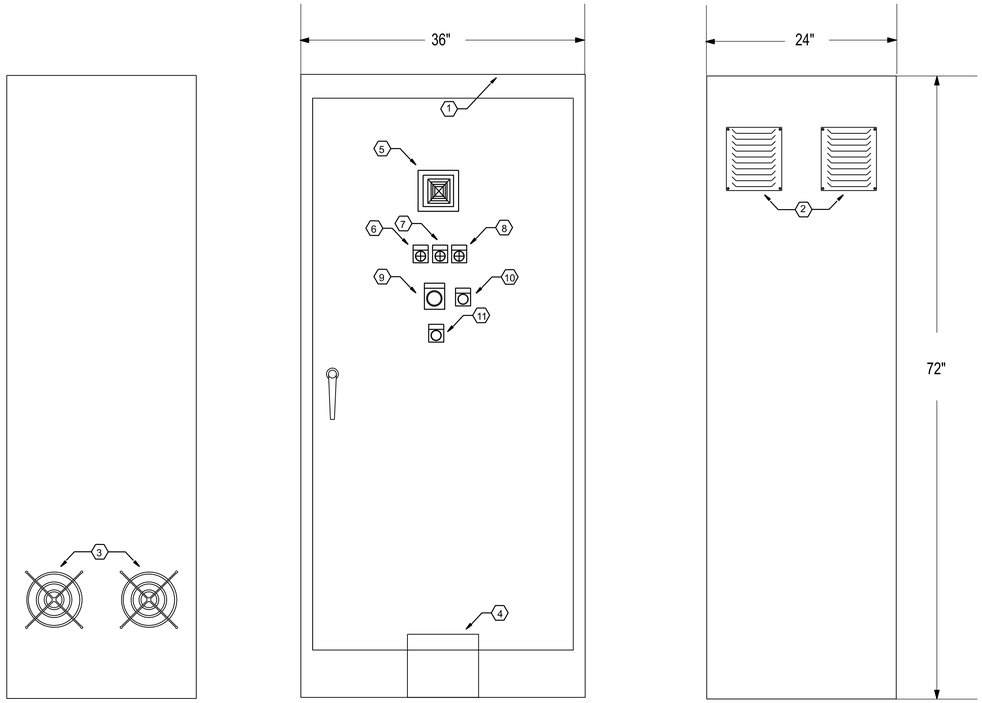


LEFT SIDE VIEW

FRONT VIEW

RIGHT SIDE VIEW

H1 PUMP CONTROL PANEL (PCP) ELEVATION

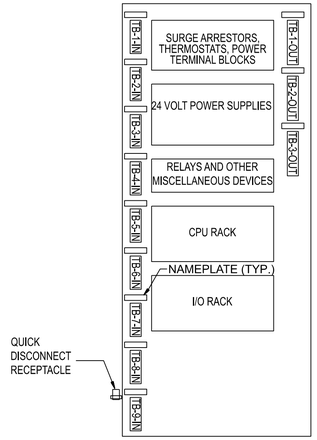
N.T.S.

BT-001 HIGH-HIGH LEVEL (RED)	BT-002 HIGH-HIGH LEVEL (RED)	BT-003 HIGH-HIGH LEVEL (RED)	BT-004 HIGH-HIGH LEVEL (RED)	OT-N HIGH-HIGH LEVEL (RED)	OT-S HIGH-HIGH LEVEL (RED)
BT-001 HIGH LEVEL (WHITE)	BT-002 HIGH LEVEL (WHITE)	BT-003 HIGH LEVEL (WHITE)	BT-004 HIGH LEVEL (WHITE)	OT-N HIGH LEVEL (WHITE)	OT-S HIGH LEVEL (WHITE)
BT-001 LOW LEVEL (WHITE)	BT-002 LOW LEVEL (WHITE)	BT-003 LOW LEVEL (WHITE)	BT-004 LOW LEVEL (WHITE)	OT-N LOW LEVEL (WHITE)	OT-S LOW LEVEL (WHITE)
BT-001 LOW-LOW LEVEL (RED)	BT-002 LOW-LOW LEVEL (RED)	BT-003 LOW-LOW LEVEL (RED)	BT-004 LOW-LOW LEVEL (RED)	OT-N LOW-LOW LEVEL (RED)	OT-S LOW-LOW LEVEL (RED)
DT-B1 HIGH-HIGH LEVEL (RED)	DT-B2 HIGH-HIGH LEVEL (RED)	DT-A1 HIGH-HIGH LEVEL (RED)	DT-A2 HIGH-HIGH LEVEL (RED)	IP-F1 FAILURE (WHITE)	IP-F2 FAILURE (WHITE)
DT-B1 HIGH LEVEL (WHITE)	DT-B2 HIGH LEVEL (WHITE)	DT-A1 HIGH LEVEL (WHITE)	DT-A2 HIGH LEVEL (WHITE)	IP-F3 FAILURE (WHITE)	IP-F4 FAILURE (WHITE)
DT-B1 LOW LEVEL (WHITE)	DT-B2 LOW LEVEL (WHITE)	DT-A1 LOW LEVEL (WHITE)	DT-A2 LOW LEVEL (WHITE)	IP-O1 FAILURE (WHITE)	IP-O2 FAILURE (WHITE)
DT-B1 LOW LOW LEVEL (RED)	DT-B2 LOW LOW LEVEL (RED)	DT-A1 LOW LOW LEVEL (RED)	DT-A2 LOW LOW LEVEL (RED)	IP-O3 FAILURE (WHITE)	IP-O4 FAILURE (WHITE)
PCP-A EMERGENCY POWER CKT ON (WHITE)	PCP-A PLC FAILURE (WHITE)	PCP-A DATA FAILURE (WHITE)	PCP-A HIGH TEMPERATURE (WHITE)	EMERGENCY STOP (RED)	OP-1 FAILURE (WHITE)
PCP-B EMERGENCY POWER CKT ON (WHITE)	PCP-B PLC FAILURE (WHITE)	PCP-B DATA FAILURE (WHITE)	PCP-B HIGH TEMPERATURE (WHITE)	EMERGENCY EYEWASH HEAT FAIL (WHITE)	OWS HIGH LEVEL 1 (WHITE)
OFFLOAD EMERGENCY POWER CKT ON (WHITE)	LEAK DETECTED (WHITE)	SPARE (WHITE)	SPARE (WHITE)	SPARE (WHITE)	OWS HIGH LEVEL 2 (WHITE)

SEE NOTE 2, 3 AND 6

B2 TYPICAL PUMP CONTROL ANNUNCIATOR

N.T.S.



K12 TYPICAL INTERIOR BACKPLANE MOUNTING DETAIL

N.T.S.

TB-X-1-IN
PUMP STATUS

SEE NOTE 1

E9 TYPICAL TERMINAL BLOCK NAMEPLATE

N.T.S.

GENERAL NOTES

01 - FIRST LINE OF TEXT SHALL BE 1/4" HEIGHT AND THE SECOND AND/OR THIRD LINES SHALL BE 1/8" HEIGHT
02 - (WHITE) - WHITE WINDOW WITH BLACK LETTERS
03 - (RED) - RED WINDOW WITH BLACK LETTERS
04 - RED WINDOW ALARMS (CRITICAL) SHALL SOUND THE RESONATING HORNS AND VIBRATING HORNS
05 - CRITICAL ALARMS SHALL STOP ALL PUMPS RUNNING IN AUTOMATIC MODE.
06 - THE ANNUNCIATOR SHOWN IS THE TYPICAL ANALOG VERSION. A PAGE/TAB SHALL BE DEVELOPED FROM THIS EXAMPLE. REFER TO SPECIFICATION 33 09 52
07 - THESE TERMINAL BLOCK CONNECTIONS ARE INTENDED TO SHOW CONNECTIONS TO FIELD DEVICES ONLY. THE PUMP CONTROL PANEL MANUFACTURER MAY REQUIRE SEVERAL MORE TERMINAL BLOCKS FOR CONNECTIONS TO HMI TOUCH SCREEN, HORNS, ETC

SHEET KEY NOTES

01 - FREE STANDING ENCLOSURE
02 - VENTS
03 - FANS
04 - UNITERRUPTIBLE POWER SUPPLY IN CABINET
05 - VIBRATING HORN
06 - WHITE INDICATOR LIGHT WITH LEGEND PLATE "PCP-A ON"
07 - WHITE INDICATOR LIGHT WITH LEGEND PLATE "PCP-B ON"
08 - WHITE INDICATOR LIGHT WITH LEGEND PLATE "EMERGENCY CKT POWER ON"
09 - RED JUMBO MUSHROOM MOMENTARY CONTACT PUSHBUTTON WITH LEGEND PLATE "EMERGENCY STOP"
10 - MOMENTARY CONTACT PUSHBUTTON WITH LEGEND PLATE "ACKNOWLEDGE"
11 - MOMENTARY CONTACT PUSHBUTTON WITH LEGEND PLATE "EFSO RESET"

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PUMP CONTROL PANEL ELEVATION

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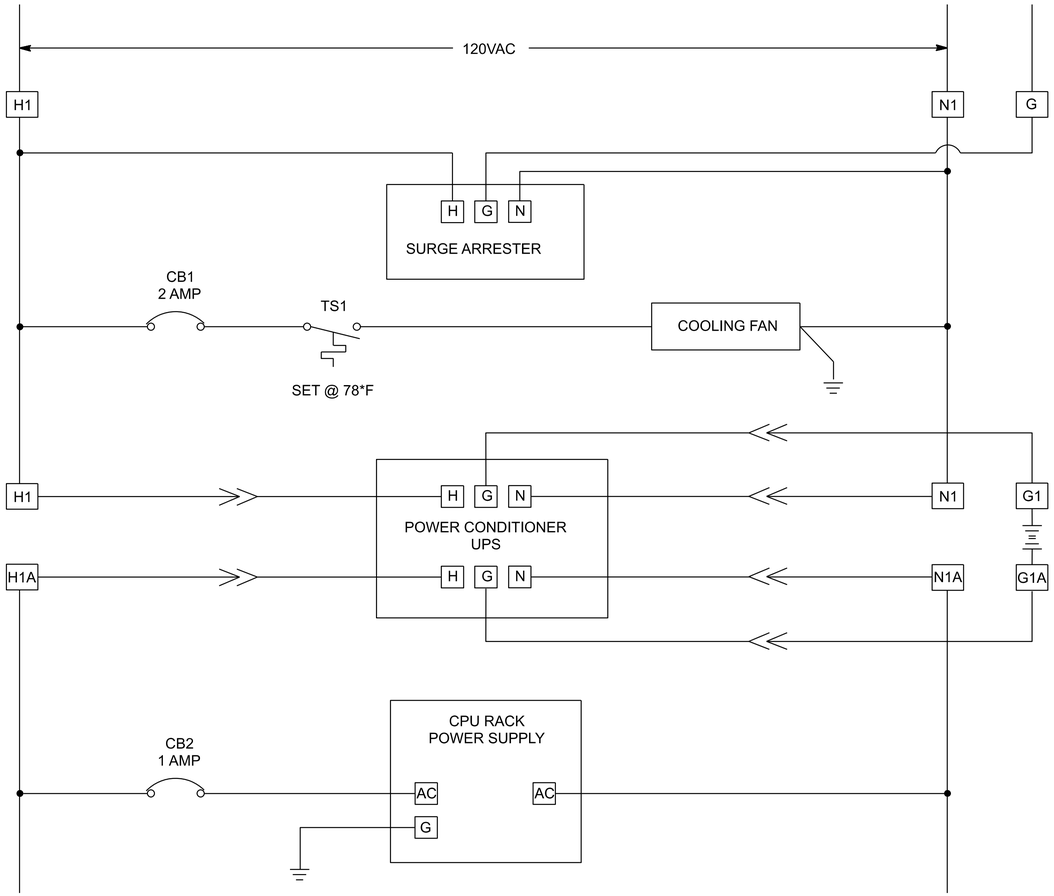

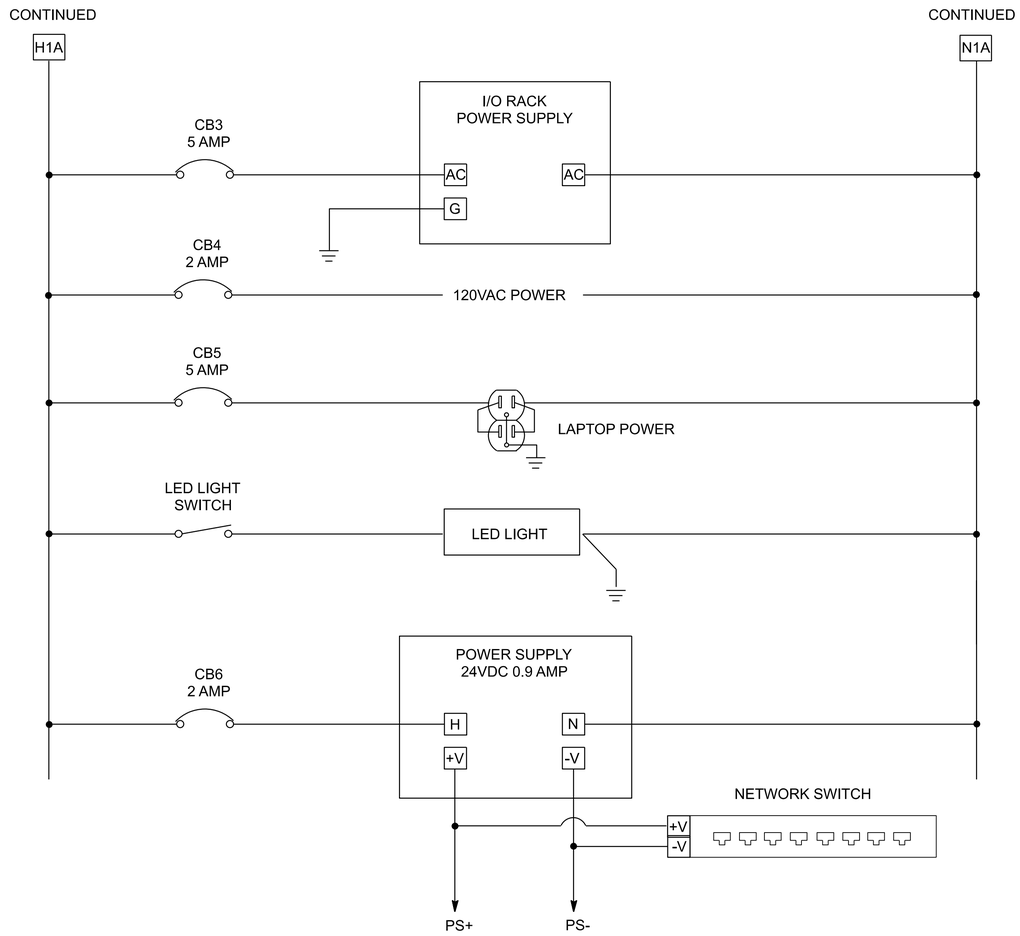

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PUMP CONTROL PANEL POWER DISTRIBUTION DIAGRAM

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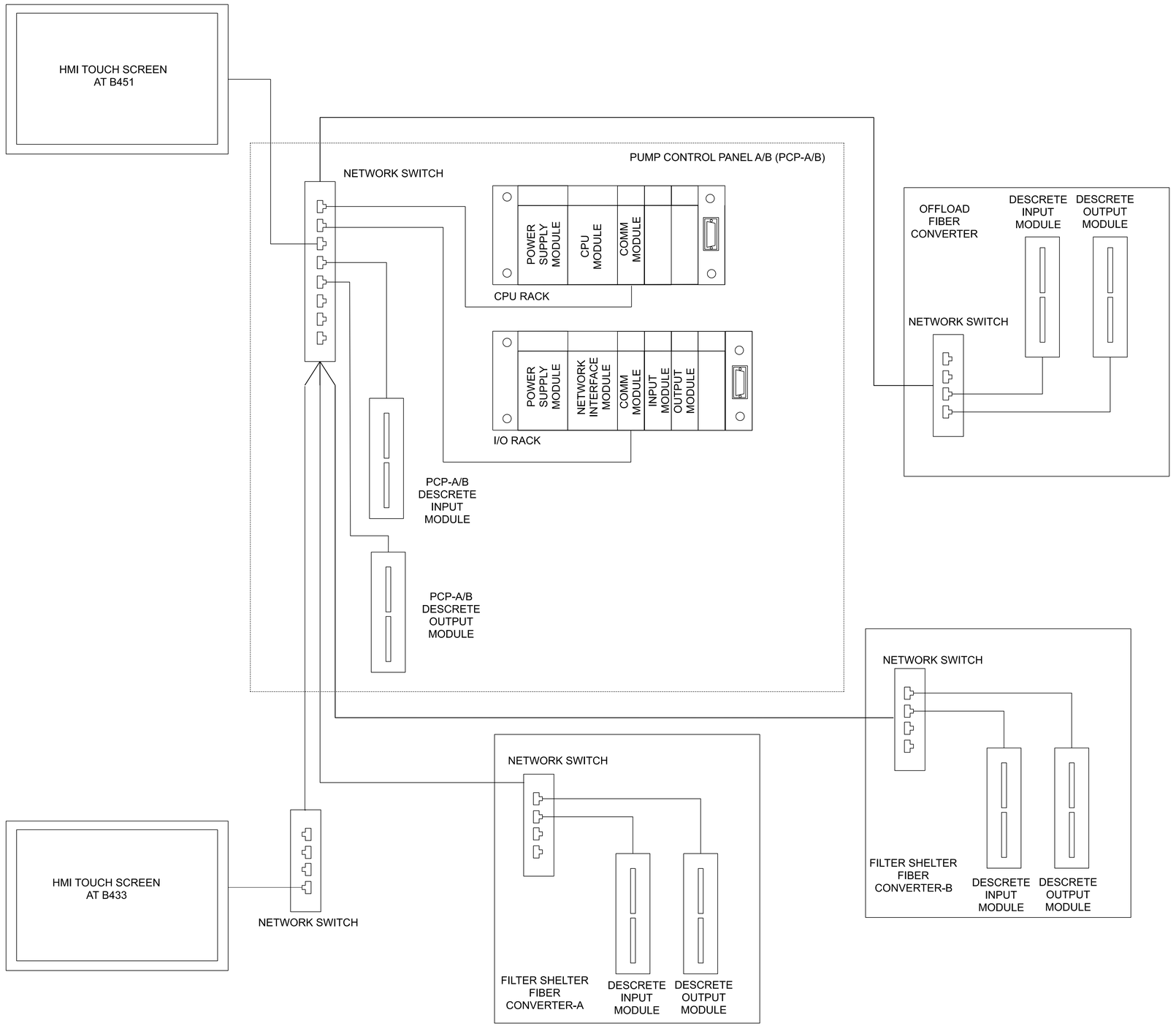

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DRAWN BY: C.RAISON	SOLICITATION NO.: W9128F25RA043
CHECKED BY: J.WAGNER	CONTRACT NO.:
SUBMITTED BY: S.LINDGREN	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCC000102-EF501-601.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

CONTROL SYSTEM DIAGRAM

SHEET ID

EF514

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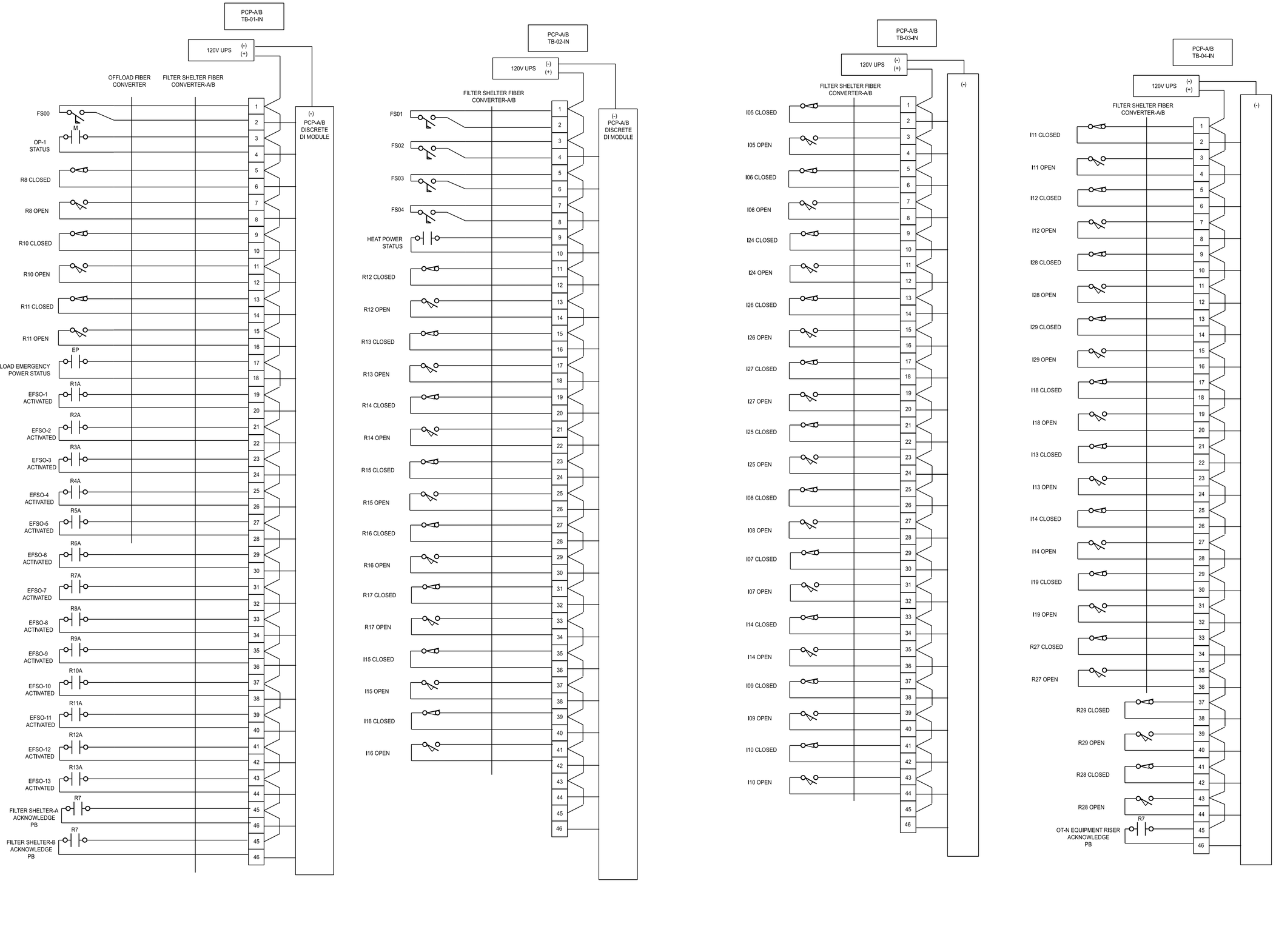

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SOLICITATION NO.:	W9126F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	BUCO00102-EF501-601.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TERMINAL BLOCK CONNECTIONS
(FOR FIELD DEVICES) SHEET 1 OF 3

SHEET ID

EF515

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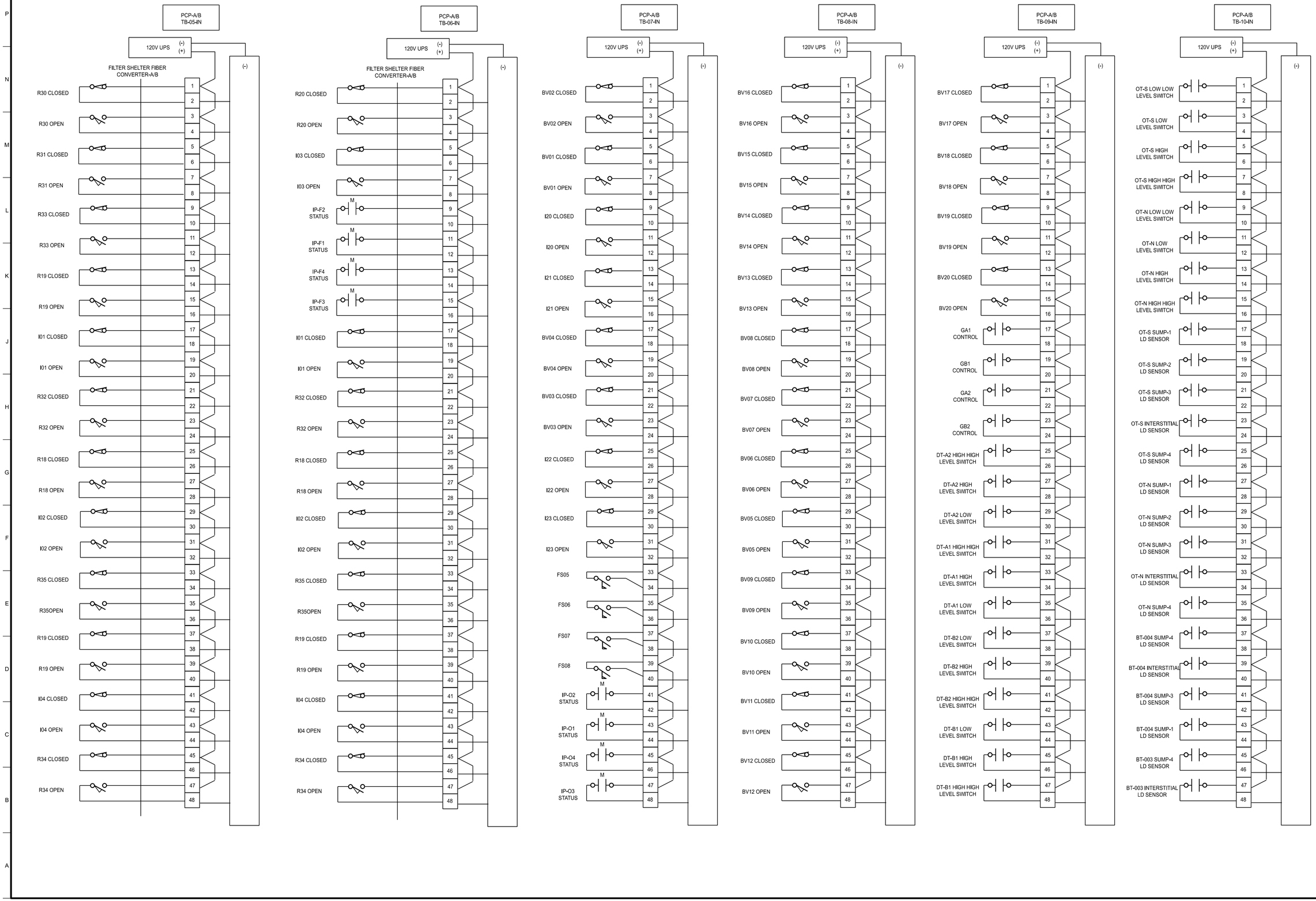

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FILE NUMBER:	
FILENAME:	BUCO00102-EF501-601.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

TERMINAL BLOCK CONNECTIONS (FOR FIELD DEVICES) SHEET 2 OF 3

SHEET ID

EF516

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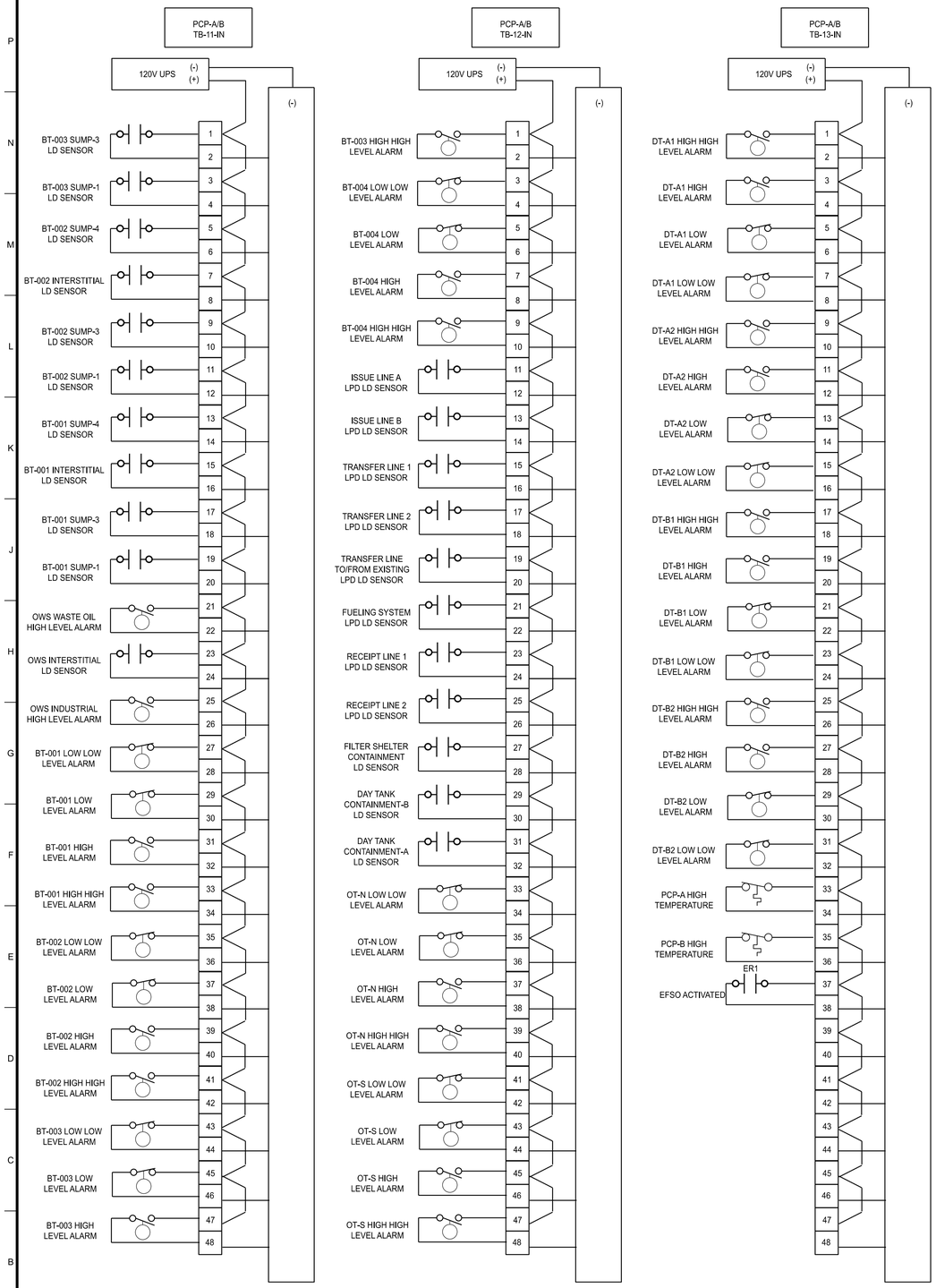

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DRAWN BY: C.RAISON	SOLICITATION NO.: W9126F25RA043
CHECKED BY: P.SWAGNER	CONTRACT NO.:
SUBMITTED BY: S. LINDGREN	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCO00102-EF501-601.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

TERMINAL BLOCK CONNECTIONS
(FOR FIELD DEVICES) SHEET 3 OF 3

SHEET ID
EF517

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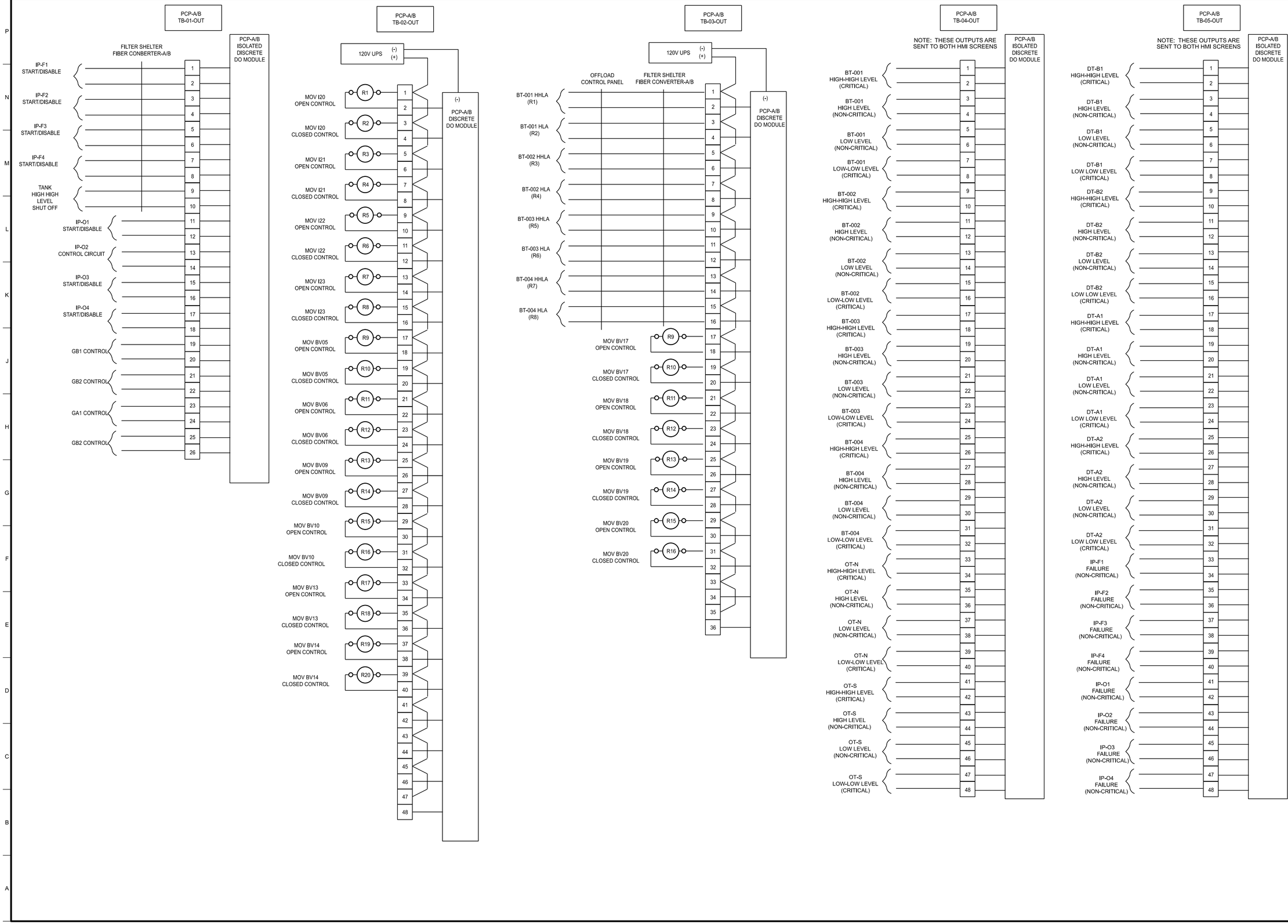

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TERMINAL BLOCK DIAGRAMS
SHEET 1 OF 3

SHEET ID

EF518

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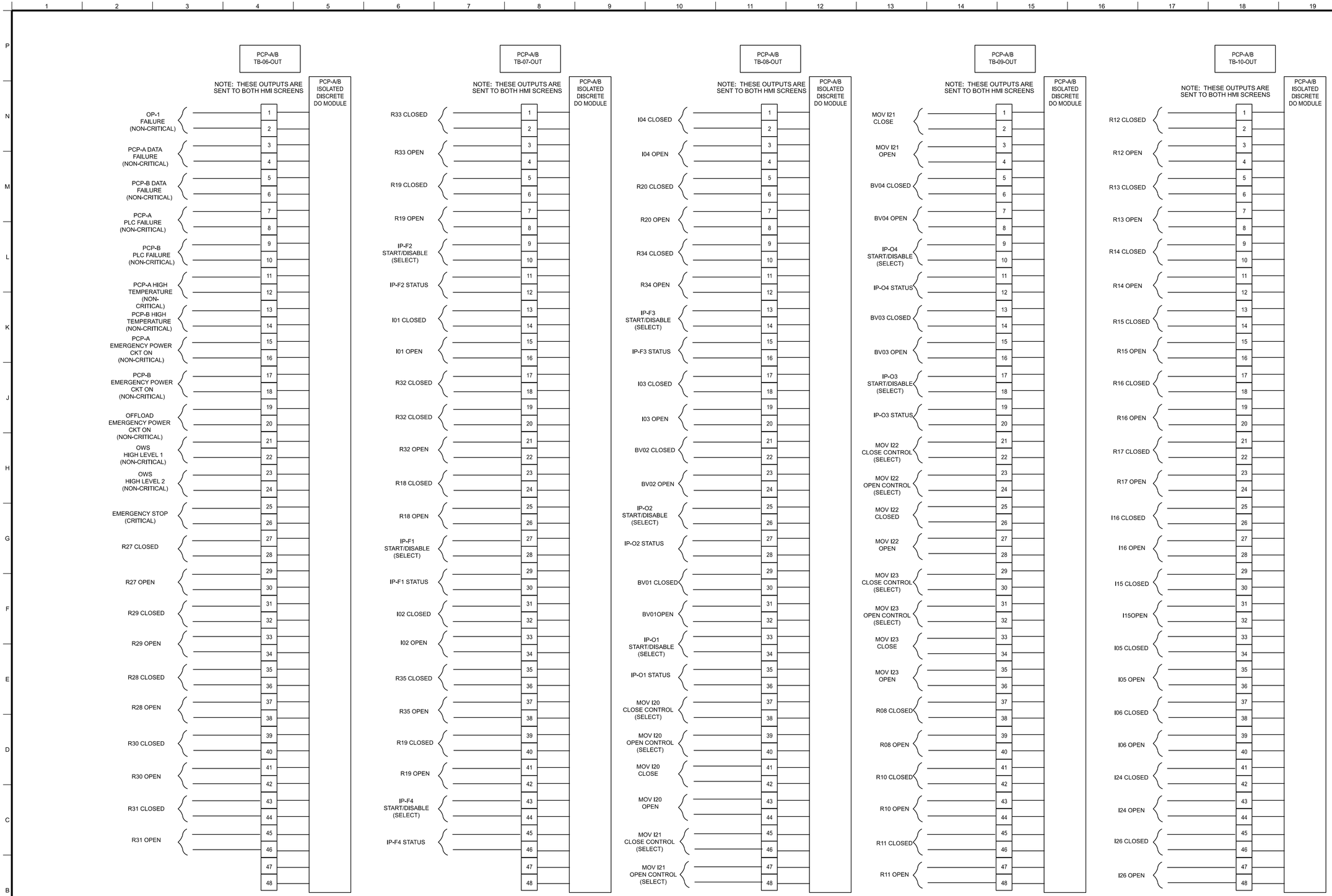

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SUBMITTED BY:	S. LINDGREN
SIZE:	ANSI D
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9126F25RA043
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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TERMINAL BLOCK DIAGRAMS
SHEET 2 OF 3

SHEET ID
EF519

ADVERTISEMENT

PCP-A/B
TB-11-OUT

NOTE: THESE OUTPUTS ARE SENT TO BOTH HMI SCREENS

PCP-A/B ISOLATED DISCRETE DO MODULE

I27 CLOSED	1
	2
I27 OPEN	3
	4
I25 CLOSED	5
	6
I25 OPEN	7
	8
I08 CLOSED	9
	10
I08 OPEN	11
	12
I07 CLOSED	13
	14
I07 OPEN	15
	16
I14 CLOSED	17
	18
I14 OPEN	19
	20
I09 CLOSED	21
	22
I09 OPEN	23
	24
I10 CLOSED	25
	26
I10 OPEN	27
	28
I11 CLOSED	29
	30
I11 OPEN	31
	32
I12 CLOSED	33
	34
I12 OPEN	35
	36
I28 CLOSED	37
	38
I28 OPEN	39
	40
I29 CLOSED	41
	42
I29 OPEN	43
	44
I18 CLOSED	45
	46
I18 OPEN	47
	48

PCP-A/B
TB-12-OUT

NOTE: THESE OUTPUTS ARE SENT TO BOTH HMI SCREENS

PCP-A/B ISOLATED DISCRETE DO MODULE

I13 CLOSED	1
	2
I13 OPEN	3
	4
I14 CLOSED	5
	6
I14 OPEN	7
	8
I19 CLOSED	9
	10
I19 OPEN	11
	12
BV16 CLOSED	13
	14
BV16 OPEN	15
	16
BV15 CLOSED	17
	18
BV15 OPEN	19
	20
MOV BV14 CLOSE CONTROL (SELECT)	21
	22
MOV BV14 OPEN CONTROL (SELECT)	23
	24
MOV BV14 CLOSE	25
	26
MOV BV14 OPEN	27
	28
MOV BV13 CLOSE CONTROL (SELECT)	29
	30
MOV BV13 OPEN CONTROL (SELECT)	31
	32
MOV BV13 CLOSE	33
	34
MOV BV13 OPEN	35
	36
BV08 CLOSED	37
	38
BV08 OPEN	39
	40
BV07 CLOSED	41
	42
BV07 OPEN	43
	44
MOV BV06 CLOSE CONTROL (SELECT)	45
	46
MOV BV06 OPEN CONTROL (SELECT)	47
	48

PCP-A/B
TB-13-OUT

NOTE: THESE OUTPUTS ARE SENT TO BOTH HMI SCREENS

PCP-A/B ISOLATED DISCRETE DO MODULE

MOV BV06 CLOSE	1
	2
MOV BV06 OPEN	3
	4
MOV BV05 CLOSE CONTROL (SELECT)	5
	6
MOV BV05 OPEN CONTROL (SELECT)	7
	8
MOV BV05 CLOSE	9
	10
MOV BV05 OPEN	11
	12
MOV BV09 CLOSE CONTROL (SELECT)	13
	14
MOV BV09 OPEN CONTROL (SELECT)	15
	16
MOV BV09 CLOSE	17
	18
MOV BV09 OPEN	19
	20
MOV BV10 CLOSE CONTROL (SELECT)	21
	22
MOV BV10 OPEN CONTROL (SELECT)	23
	24
MOV BV10 CLOSE	25
	26
MOV BV10 OPEN	27
	28
BV11 CLOSED	29
	30
BV11 OPEN	31
	32
BV12 CLOSED	33
	34
BV12 OPEN	35
	36
MOV BV17 CLOSE CONTROL (SELECT)	37
	38
MOV BV17 OPEN CONTROL (SELECT)	39
	40
MOV BV17 CLOSE	41
	42
MOV BV17 OPEN	43
	44
MOV BV18 CLOSE CONTROL (SELECT)	45
	46
MOV BV18 OPEN CONTROL (SELECT)	47
	48

PCP-A/B
TB-14-OUT

NOTE: THESE OUTPUTS ARE SENT TO BOTH HMI SCREENS

PCP-A/B ISOLATED DISCRETE DO MODULE

MOV BV18 CLOSE	1
	2
MOV BV18 OPEN	3
	4
BV19 CLOSED	5
	6
BV19 OPEN	7
	8
BV20 CLOSED	9
	10
BV20 OPEN	11
	12
EFSO-1 ACTIVATED	13
	14
EFSO-2 ACTIVATED	15
	16
EFSO-3 ACTIVATED	17
	18
EFSO-4 ACTIVATED	19
	20
EFSO-5 ACTIVATED	21
	22
EFSO-6 ACTIVATED	23
	24
EFSO-7 ACTIVATED	25
	26
EFSO-8 ACTIVATED	27
	28
EFSO-9 ACTIVATED	29
	30
EFSO-10 ACTIVATED	31
	32
EFSO-11 ACTIVATED	33
	34
EFSO-12 ACTIVATED	35
	36
EFSO-13 ACTIVATED	37
	38
	39
	40
	41
	42
	43
	44
	45
	46
	47

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SUBMITTED BY:	S. LINDGREN
SIZE:	ANSI D
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	BUCC000102-EF501-601.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TERMINAL BLOCK DIAGRAMS
SHEET 3 OF 3

SHEET ID

EF520

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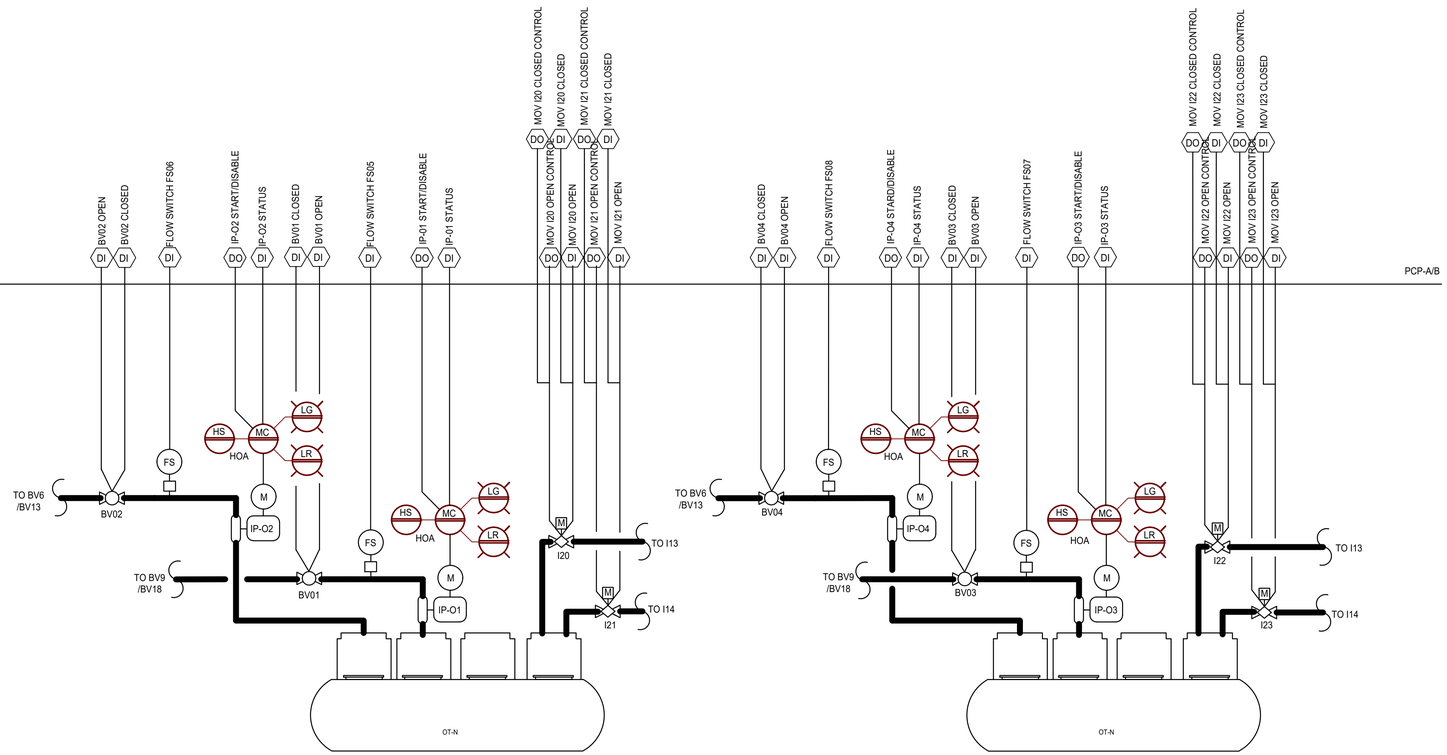

D1 OPERATING TANKS CONTROL SYSTEM I/O DIAGRAM

N.T.S.

GENERAL SHEET NOTES

01 - MOVs SHOWN SHALL BE CONTROLLED CLOSED WITH TANK OT-N OR TANK OT-S HIGH-HIGH LEVEL ALARM
02 - ALL MOVs SHALL BE CONTROLLED CLOSED WITH EFSO ACTIVATION

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CONTRACT NO.:	
FILE NUMBER:	
FILENAME:	BUCC000102-EF501-601.dwg

DESIGNED BY:	C.RAISON
DRAWN BY:	C.RAISON
CHECKED BY:	J.WAGNER
SUBMITTED BY:	S. LINDGREN
SIZE:	ANSI D

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CONTROL SYSTEM I/O
SHEET 1 OF 4

SHEET ID

EF521

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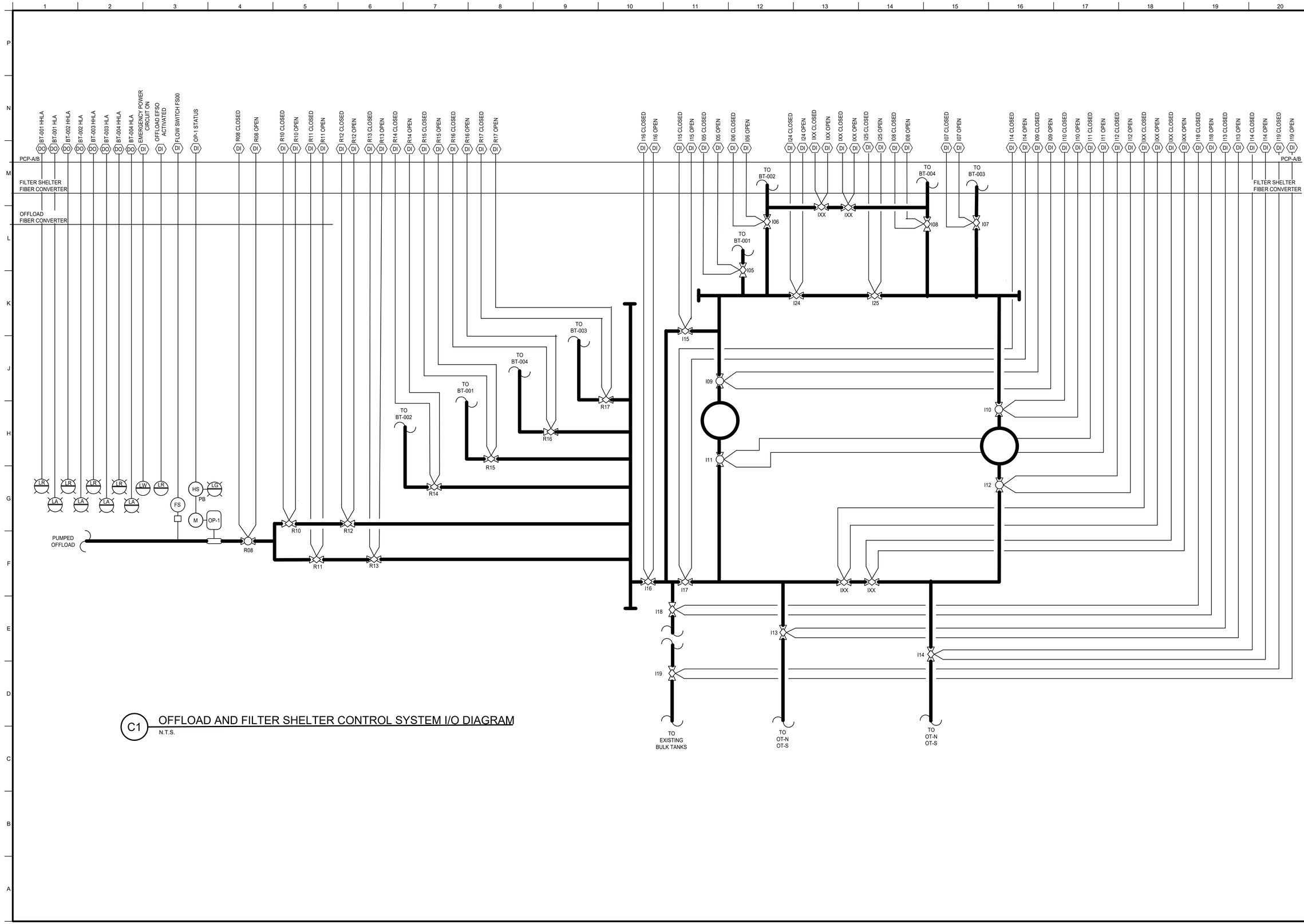

C1 OFFLOAD AND FILTER SHELTER CONTROL SYSTEM I/O DIAGRAM

N.T.S.

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CONTROL SYSTEM I/O
SHEET 2 OF 4

SHEET ID

EF522

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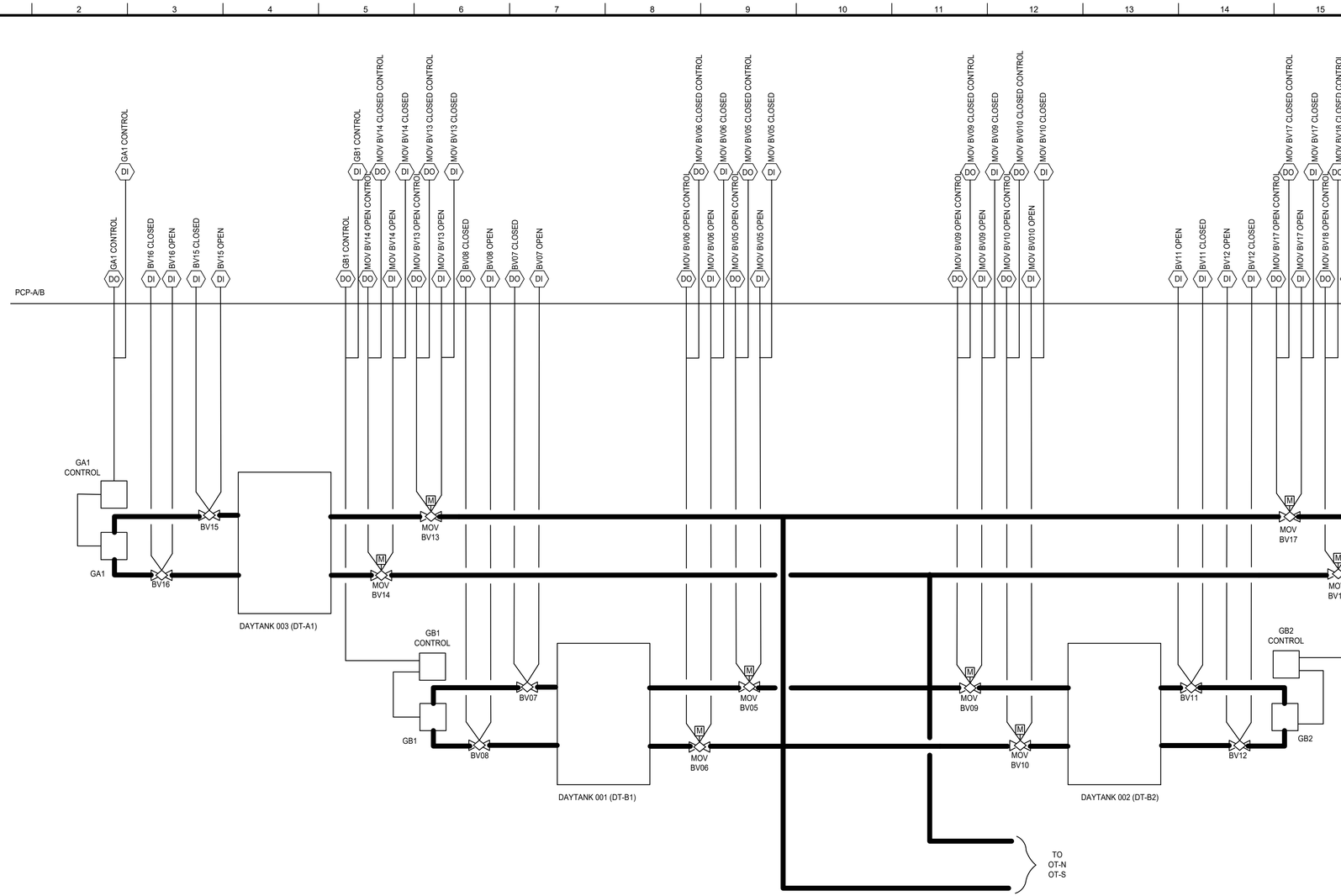

E1 DAY TANKS CONTROL SYSTEM I/O DIAGRAM

N.T.S.

GENERAL SHEET NOTES

01 - AUTOMATIC ENGINE-GENERATOR-SET OPERATION SHALL RECEIVE DATA FROM THE ATG SYSTEM REGARDING DAY TANK FUEL LEVELS. THE INTENT IS FOR THE GENERATOR TO MONITOR THE DAY TANK LOW-LOW AND HIGH-HIGH LEVEL. IF THE GENERATOR RECEIVES A LOW-LOW ALARM OR HIGH-HIGH STATUS FROM THE DAY TANK, THE GENERATOR SHOULD NOT START IN AUTOMATIC OPERATION. FOR DETAILS SEE SHEET EP501

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DRAWN BY: C.RAISON	SOLICITATION NO.: W9128F25RA043
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SUBMITTED BY: S. LINDGREN	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCC000102-EF501-601.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CONTROL SYSTEM I/O
SHEET 3 OF 4

SHEET ID
EF523

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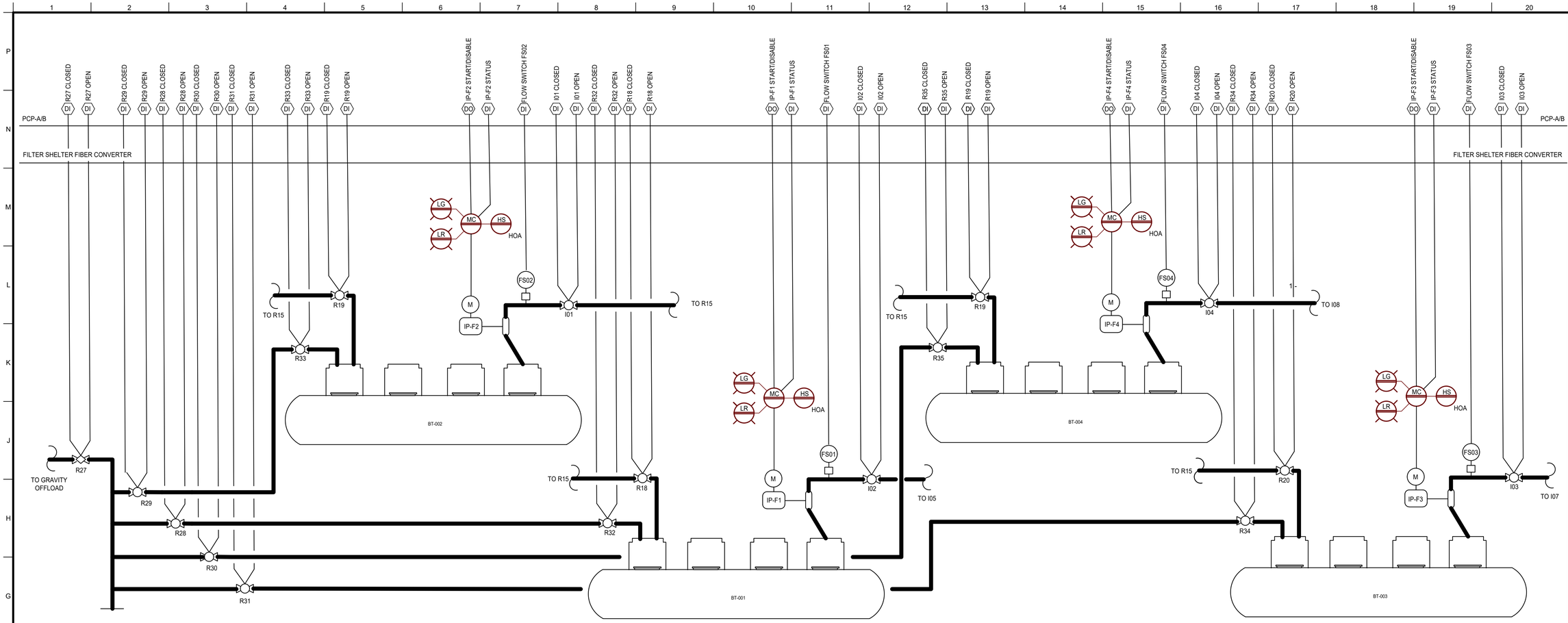

G1 BULK TANKS CONTROL SYSTEM I/O DIAGRAM

N.T.S.

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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

CONTROL SYSTEM I/O
SHEET 4 OF 4

SHEET ID

EF524

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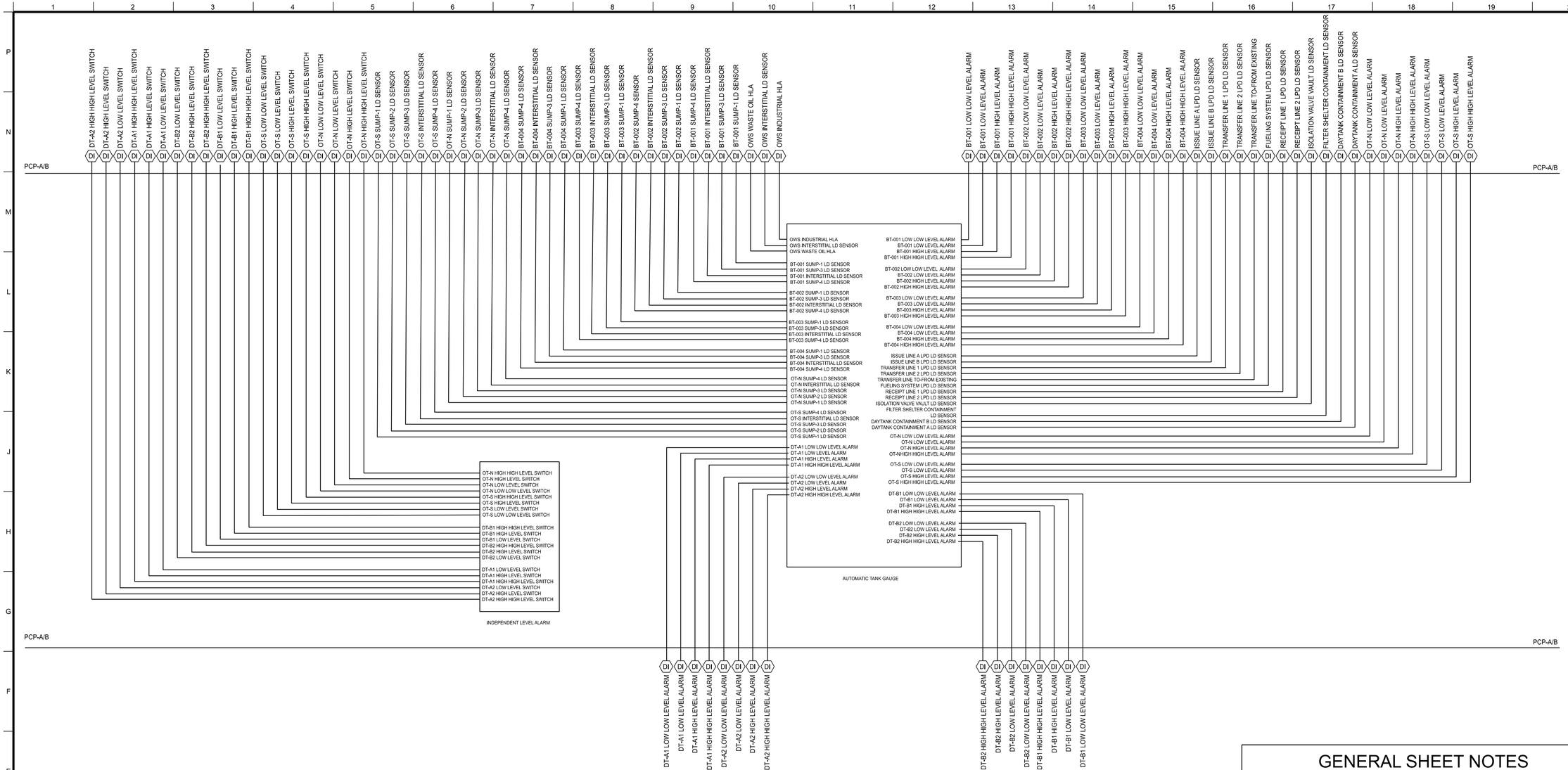

E1 AUTOMATIC TANK GAUGE/INDEPENDENT LEVEL ALARM SYSTEM OUTPUT DIAGRAM

GENERAL SHEET NOTES

01 - AUTOMATIC ENGINE-GENERATOR-SET OPERATION SHALL RECEIVE DATA FROM THE ATG SYSTEM REGARDING DAY TANK FUEL LEVELS. THE INTENT IS FOR THE GENERATOR TO MONITOR THE DAY TANK LOW-LOW AND HIGH-HIGH LEVEL. IF THE GENERATOR RECEIVES A LOW-LOW ALARM OR HIGH-HIGH STATUS FROM THE DAY TANK, THE GENERATOR SHOULD NOT START IN AUTOMATIC OPERATION. FOR DETAILS SEE SHEET EP501
02 - EACH PCP SHALL HAVE A DEDICATED ATG SYSTEM DESIGNATED ATG-FA AND ATG-FB
03 - EACH PCP SHALL HAVE A DEDICATED INDEPENDENT LEVEL ALARM SYSTEM DESIGNATED ILA-A AND ILA-B. THE INDEPENDENT LEVEL ALARM SYSTEM CONTROLS THE OPERATION OF IP-F1, IP-F2, IP-F3, IP-F4, IP-O1, IP-O2, IP-O3, AND IP-O4

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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ATG/ILA SYSTEM OUTPUT DIAGRAM

SHEET ID
EF525

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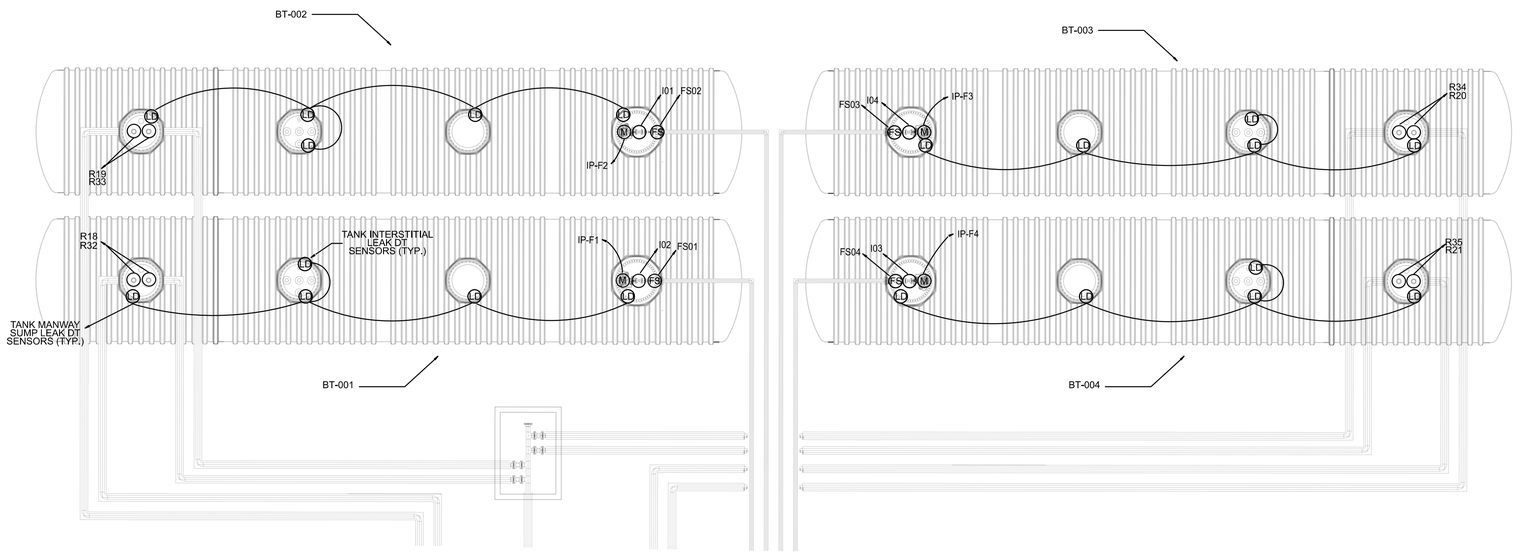

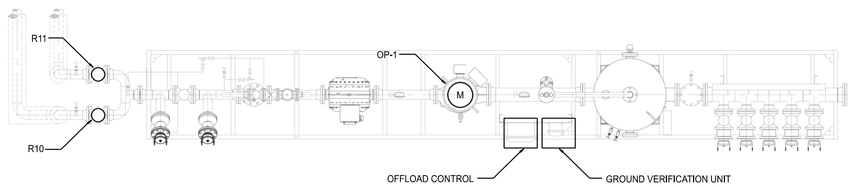

D1 OFFLOAD AND BULK TANK POWER AND CONTROL PLAN

US Army Corps of Engineers®

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CHECKED BY: P. WAGNER	CONTRACT NO.:
SUBMITTED BY: S. LINDGREN	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCO00102-EF501-601.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

OFFLOAD AND BULK TANK
POWER AND CONTROL PLAN

SHEET ID

EF526

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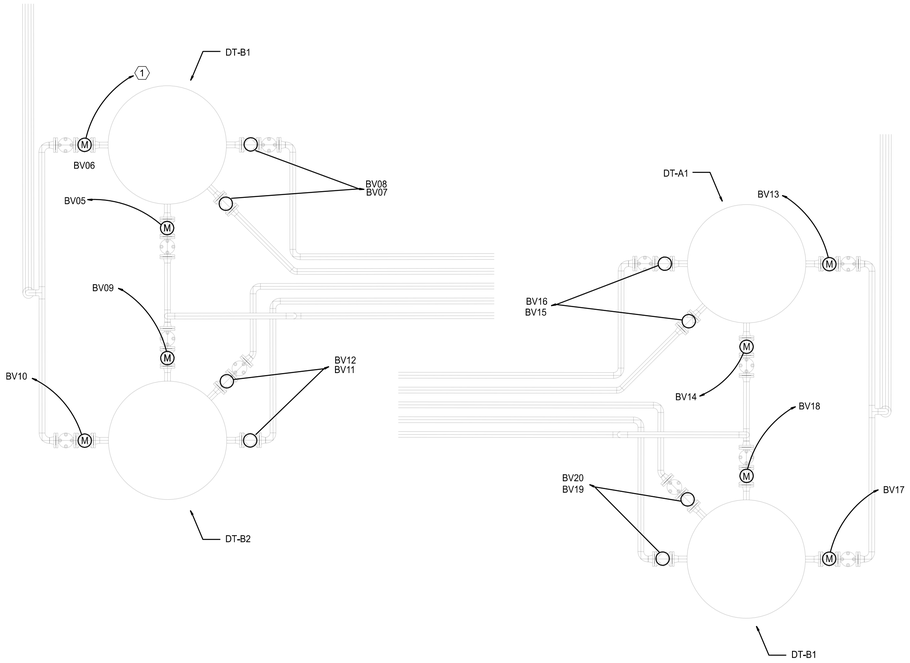

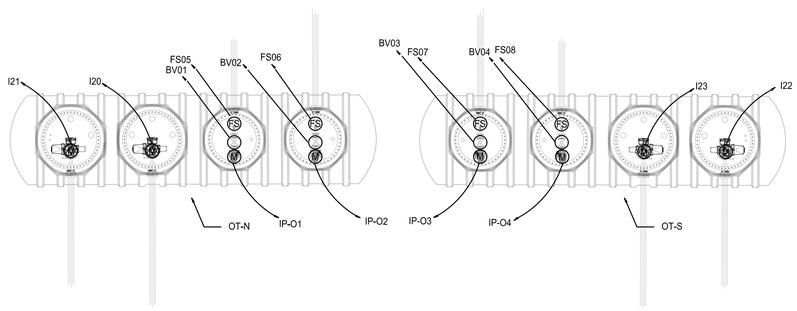

C1 OPERATING AND DAY TANK POWER AND CONTROL PLAN

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MARK	DESCRIPTION	DATE

DESIGNED BY: C.RAISON	ISSUE DATE: 05/01/2025
DRAWN BY: C.RAISON	SOLICITATION NO.: W9128F25RA043
CHECKED BY: P.SWAGNER	CONTRACT NO.:
SUBMITTED BY: S.LINDGREN	FILE NUMBER:
SIZE: ANSI D	FILENAME: BUCC000102-EF501-601.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

OPERATING AND DAY TANK
POWER AND CONTROL PLAN

SHEET ID

EF527

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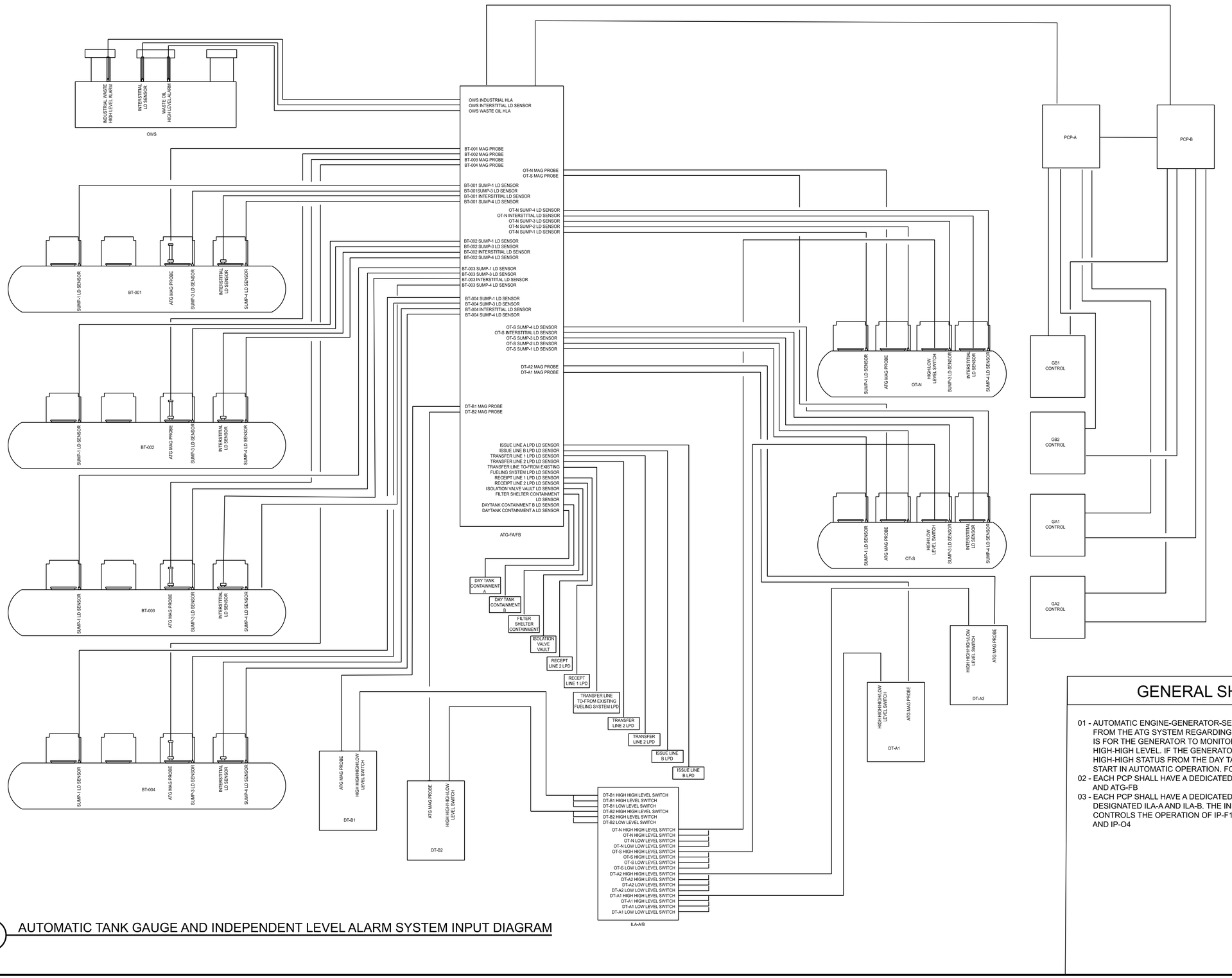

GENERAL SHEET NOTES

01 - AUTOMATIC ENGINE-GENERATOR-SET OPERATION SHALL RECEIVE DATA FROM THE ATG SYSTEM REGARDING DAY TANK FUEL LEVELS. THE INTENT IS FOR THE GENERATOR TO MONITOR THE DAY TANK LOW-LOW AND HIGH-HIGH LEVEL. IF THE GENERATOR RECEIVES A LOW-LOW ALARM OR HIGH-HIGH STATUS FROM THE DAY TANK, THE GENERATOR SHOULD NOT START IN AUTOMATIC OPERATION. FOR DETAILS SEE SHEET EP501
02 - EACH PCP SHALL HAVE A DEDICATED ATG SYSTEM DESIGNATED ATG-FA AND ATG-FB
03 - EACH PCP SHALL HAVE A DEDICATED INDEPENDENT LEVEL ALARM SYSTEM DESIGNATED ILA-A AND ILA-B. THE INDEPENDENT LEVEL ALARM SYSTEM CONTROLS THE OPERATION OF IP-F1, IP-F2, IP-F3, IP-F4, IP-O1, IP-O2, IP-O3, AND IP-O4

A1 AUTOMATIC TANK GAUGE AND INDEPENDENT LEVEL ALARM SYSTEM INPUT DIAGRAM

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ATG/ILA SYSTEM INPUT DIAGRAM

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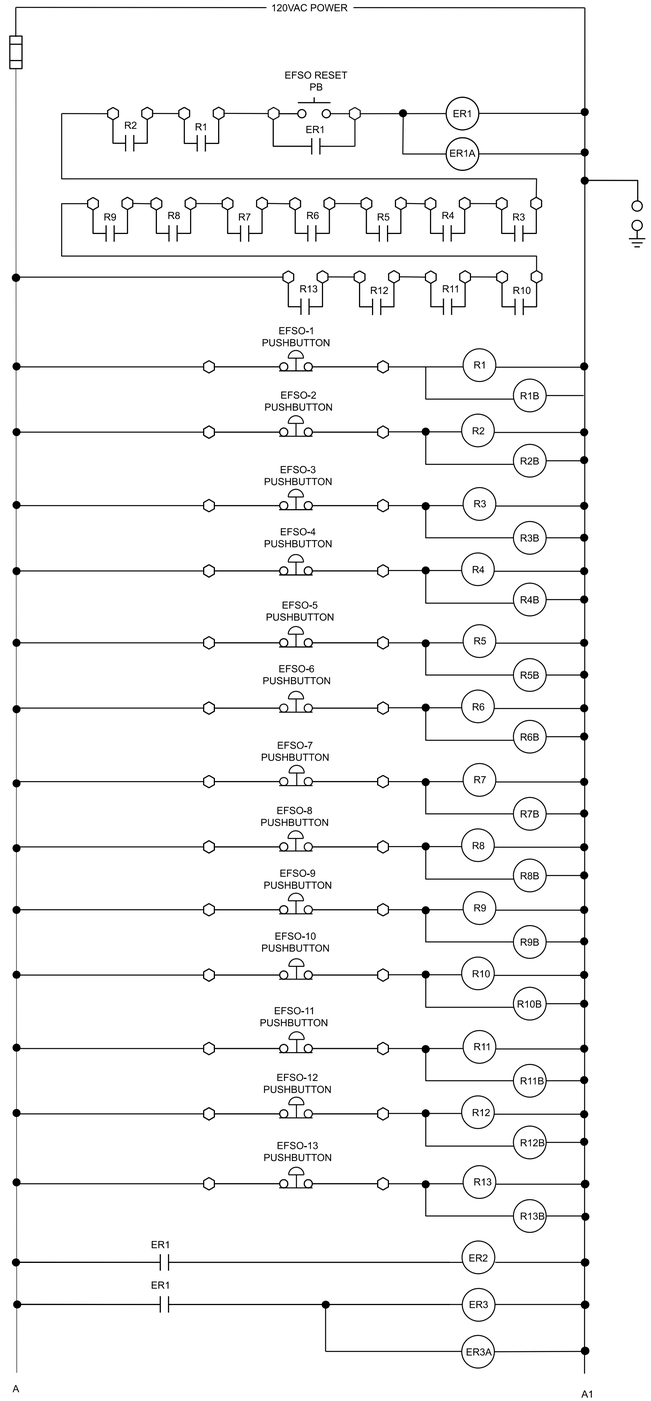
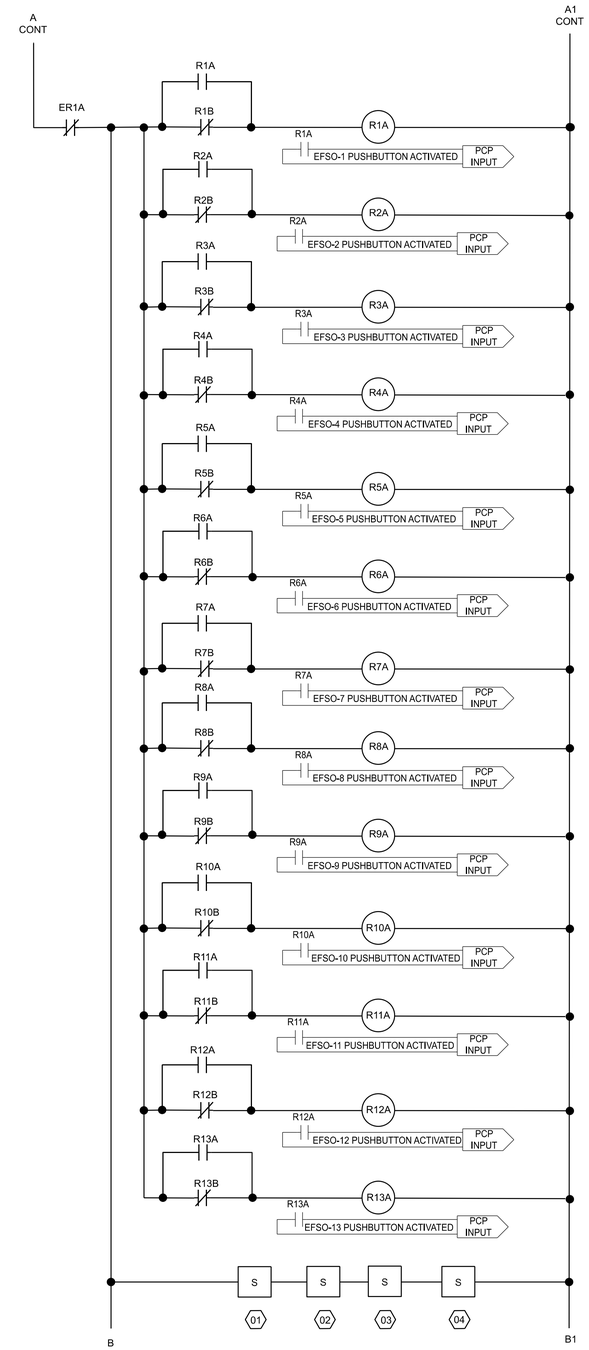
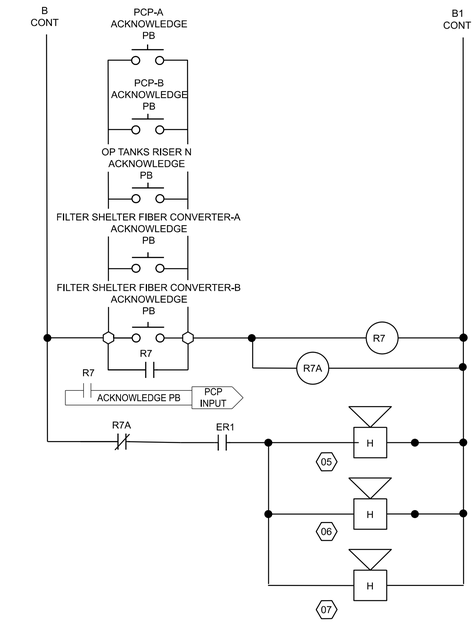
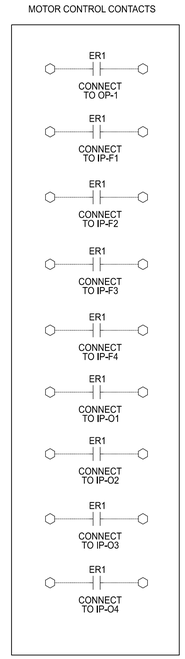


B1 EFSO CONTROL SYSTEM DIAGRAM







GENERAL SHEET NOTES

01 - OFFLOAD EFSO SYSTEM AND EFSO SYSTEM SHALL NOT BE INTEGRATED. OFFLOAD EFSO SYSTEM SHALL SEND AN EFSO STATUS SIGNAL TO THE PCP.
02 - ACKNOWLEDGE PB SHALL CANCEL HORNS AND STROBES SHALL CONTINUE TO FLASH UNTIL EFSO SYSTEM IS MANUALLY RESET

SHEET KEY NOTES

01 - STROBE LOCATED OUTSIDE PUMP CONTROL ROOM A
02 - STROBE LOCATED OUTSIDE PUMP CONTROL ROOM B
03 - STROBE LOCATED AT OT-N EQUIPMENT RISER
04 - STORBE LOCATED AT FILTER SHELTER EQUIPMENT RISER
05 - RESONATING HORN LOCATED ON WEST SIDE OF B451 NEAR OT-N EQUIPMENT RISER
06 - RESONATING HORN LOCATED PUMP CONTROL ROOM A
06 - RESONATING HORN LOCATED PUMP CONTROL ROOM B

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DESIGNED BY: M. MERWALD
DRAWN BY: M. MERWALD
CHECKED BY: J. SWACHER
SUBMITTED BY: S. LINDGREN
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EFSO SYSTEM CONTROL DIAGRAM

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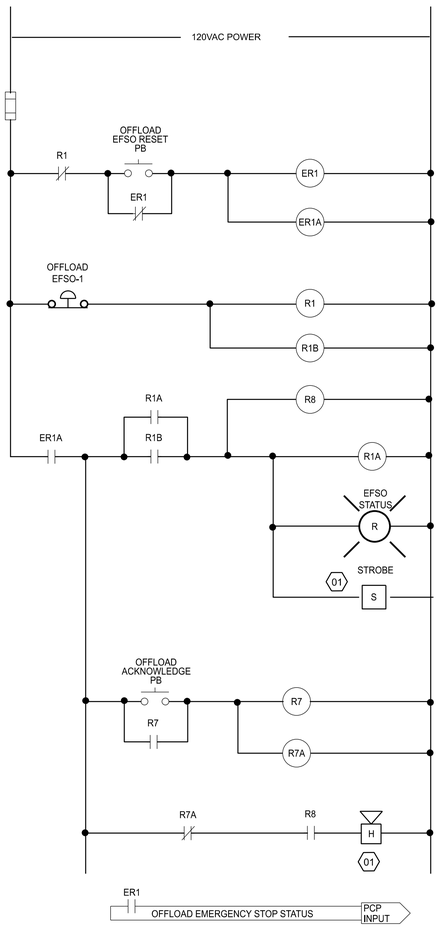
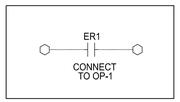


MOTOR CONTROL CONTACTS



EMERGENCY/SAFTEY CIRCUIT DIAGRAM

EFSO SYSTEM SHALL BE FAIL SAFE.
NORMAL OPERATING CONDITION
IS ENERGIZED.

E2 OFFLOAD EFSO SYSTEM CONTROL DIAGRAM

GENERAL SHEET NOTES

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02 - ACKNOWLEDGE PB SHALL CANCEL HORN AND STROBE SHALL CONTINUE TO FLASH UNTIL EFSO SYSTEM IS MANUALLY RESET

SHEET KEY NOTES

01 - VIBRATING HORN HORN AND STROBE ARE LOCATED ON THE OFFLOAD FIBER CONVERTER PANEL-A/B

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OFFLOAD EFSO SYSTEM CONTROL DIAGRAM

SHEET ID
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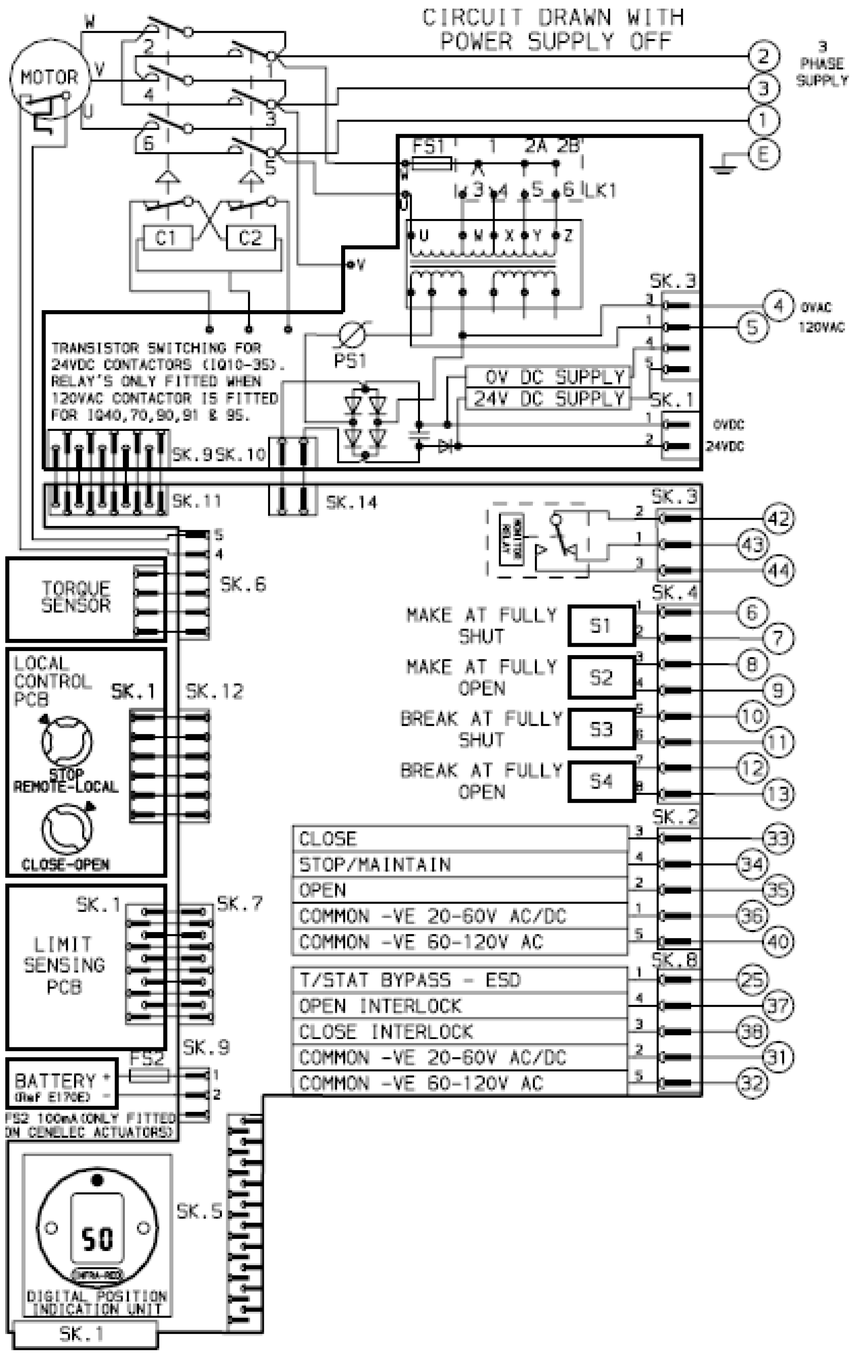

B1 MOTOR OPERATED VALVE DIAGRAM (TYPICAL)

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MOTOR OPERATED VALVE DIAGRAM

SHEET ID

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STRUCTURAL NOTES

A. GENERAL:

1. THESE NOTES AND OTHER DRAWINGS NOTES CONTAINED WITHIN, ARE PROVIDED TO MEET SPECIFIC REQUIREMENTS AND TO SUPPLEMENT CONTRACT SPECIFICATIONS. THESE NOTES NEITHER REPLACE NOR OVERRIDE PROVISIONS AND REQUIREMENTS OF CONTRACT SPECIFICATIONS.
2. SEE CIVIL SHEETS FOR MEAN SEA LEVEL (MSL) ELEVATION OF REFERENCE ELEVATION 0'-0" FOR BUILDING FINISH FLOOR ELEVATION.
3. COORDINATE STRUCTURAL DRAWINGS WITH DRAWINGS FROM OTHER DISCIPLINES.
4. REPORT DISCREPANCIES IN DIMENSIONS ON THE DRAWINGS PRIOR TO BEGINNING WORK IN AREA THAT WILL AFFECTED. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE DRAWINGS OR SPECIFICATIONS, PROVIDE CONSTRUCTION OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR CALLED FOR WITH APPROVAL OF CONTRACTING OFFICER'S REPRESENTATIVE.
5. "TYPICAL" APPLIES NOT ONLY WHERE SPECIFICALLY INDICTED OR REFERENCED, BUT ALSO IN ALL OTHER CASES WHERE THE NATURE OF THE CONSTRUCTION REQUIRES THEIR USE. DETERMINE APPLICABILITY OF TYPICAL DETAILS FROM DESCRIPTIVE TITLES OR FROM THE SIMILARITY OF A CONSTRUCTION CONDITION TO ANOTHER CONDITION WHERE THE DETAIL IS SPECIFICALLY INDICATED OF REFERENCED.
6. DRAWINGS AND SPECIFICATIONS REPRESENT FINISHED STRUCTURE. CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION INCLUDED, BUT NOT LIMITED TO SHORING AND TEMPORARY BRACING. UNDERTAKE ALL NECESSARY MEASURES TO ENSURE SAFETY OF ALL PERSONS AND STRUCTURES AT SITE AND ADJACENT TO SITE.
7. REPRODUCTION OF CONTRACT DRAWINGS SHALL NOT BE USED AS SHOP DRAWINGS.
8. NO PIPES OR DUCTS SHALL BE PLACED IN OR PENETRATE STRUCTURAL MEMBERS UNLESS SPECIFICALLY DESIGNED AND DETAILED.

B. DESIGN CRITERIA:

THE STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE FOLLOWING CODES, GUIDE AND SPECIFICATIONS:

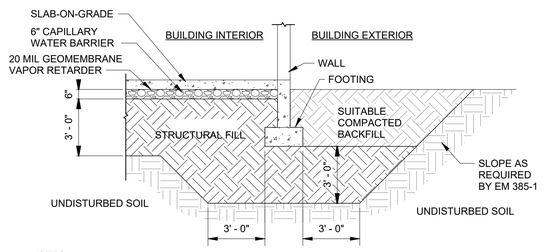
1. INTERNATIONAL BUILDING CODE, 2021
2. UFC 3-301-01, STRUCTURAL ENGINEERING, 2023
3. UFC 3-301-02 DESIGN OF RISK CATEGORY V STRUCTURES, 2023
4. UFC 3-320-06A, CONCRETE FLOOR SLABS SUBJECTED TO HEAVY LOADS, 2005
5. UFC 3-460-01 DESIGN: PETROLEUM FUEL FACILITIES, 2023
6. (PRE-FINAL) BUCKLEY AIR FORCE BASE INSTALLATION FACILITIES STANDARDS (IFS), 2019
7. ASCE 7-16, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2016
8. ACI 318-19, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2019
9. AISC 325, STEEL CONSTRUCTION MANUAL, 15TH EDITION, 2017
10. AISC 360-16, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 2016
11. AISI S100-16, NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS, 2020
12. AISI COLD FORMED STEEL DESIGN MANUAL, 2017
13. TMS 402-16/602-16, BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES, 2016
14. SDI DDM04 DIAPHRAGM DESIGN MANUAL, 4TH EDITION
15. SJI 200-2015, STANDARD SPECIFICATION FOR CJ-SERIES COMPOSITE STEEL JOISTS

C. DESIGN LOADS:

1. RISK CATEGORY: V
2. DEAD LOADS:
   a. ROOF 66 PSF
   b. ROOF SUSPENDED MEP 12 PSF
   c. MEZZANINE 68 PSF
   d. MEZZANINE SUSPENDED MEP 15 PSF
   e. PUMP/TANK ROOM ROOFS 61 PSF
3. LIVE LOADS:
   a. SLAB-ON-GRADE
      GENERATOR AREA 200 PSF
      ADMIN AREA 100 PSF
      AREA ACCESSIBLE BY VEHICLES (INCLUDING TRENCH DRAIN GRATES) - FORKLIFT CATEGORY IV (PER UFC 3-320-06A) WITH AN AXLE LOAD OF 36 KIPS
      NOTE: TRENCH GRATES WITHIN THE ROOMS DAY TANKS A (111), DAY TANKS B (123), EXHAUST TREATMENT A (116B), AND EXHAUST TREATMENT B (116A) ARE NOT DESIGNED TO SUPPORT THIS FORKLIFT LOAD. THE GRATING IN THESE ROOMS ARE DESIGNED FOR 200 PSF.
   b. MEZZANINE 125 PSF
   c. EQUIPMENT PADS
      GENERATORS 69 KIPS
   d. PUMP/TANK ROOMS ROOF DECK 50 PSF
   e. EXHAUST TREATMENT ROOMS ROOF DECK 20 PSF
4. ROOF LIVE LOAD (NON-REDUCIBLE): 20 PSF
5. SNOW LOAD CRITERIA:
   a. GROUND SNOW LOAD, Pg 40 PSF
   b. FLAT-ROOF SNOW LOAD, Pf 50.4 PSF
   c. SLOPED ROOF SNOW LOAD, Ps 50.4 PSF
   d. SNOW IMPORTANCE FACTOR, Is 1.5
   e. SNOW EXPOSURE FACTOR, Ce 1.0
   f. SNOW THERMAL FACTOR, Ct 1.2
   g. ROOF SLOPE FACTOR, Cs 1.0
   h. SEE DIAGRAMS ON S-004 FOR UNBALANCED, DRIFT, AND SLIDING SNOW LOADS
6. WIND LOAD CRITERIA:
   a. BASIC DESIGN WIND SPEED,3-SECOND GUST, V 146 MPH
   b. ALLOWABLE STRESS DESIGN WIND SPEED, V 113 MPH
   c. WIND EXPOSURE CATEGORY C
   d. INTERNAL PRESSURE COEFFICIENTS, GCpi +/- 0.55
   e. DESIGN PRESSURES FOR EXTERIOR COMPONENTS AND CLADDINGS ARE INDICATED ON DRAWINGS S-005.
7. SEISMIC LOADS CRITERIA:
   a. MAPPED SPECTRAL RESPONSE ACCELERATION, Ss 0.192 g
   b. MAPPED SPECTRAL RESPONSE ACCELERATION, S1 0.055 g
   c. SITE CLASS C
   d. ADJUSTED MAPPED SPECTRAL RESPONSE ACCELERATION, SMS 0.251 g
   e. ADJUSTED MAPPED SPECTRAL RESPONSE ACCELERATION, SM1 0.083 g
   f. PER UFC 3-301-02, THE TERMS SMS AND SM1 ARE TO BE USED IN THE PLACE OF SDS AND SD1 WHERE REFERENCED IN THE IBC AND ASCE 7
   g. ANALYTICAL PROCEDURE: MODAL RESPONSE SPECTRUM ANALYSIS
   h. SEISMIC FORCE-RESISTING SYSTEMS:
      ORDINARY STEEL CONCENTRICALLY BRACED FRAME
      ORDINARY STEEL MOMENT FRAME (SEE PLANS FOR MOMENT CONNECTION LOCATIONS)
      ORDINARY REINFORCED CONCRETE SHEAR WALLS
8. CRANE LOADS (REFERENCE SPEC 41 22 13.14)
   a. CRANE CAPACITY 10 KIPS
      HOIST AND TROLLEY WEIGHT 5.0 KIPS
      BRIDGE WEIGHT 16.0 KIPS
      WHEEL BASE 4'-0" TO 12'-0"
      WHEEL LOAD 16.25 KIPS
      LONGITUDINAL FORCE 6.5 KIPS/WHEEL
      BUMPER FORCE 20 KIPS
      LATERAL FORCE 4 KIPS/WHEEL

D. FOUNDATION AND GEOTECHNICAL INFORMATION:

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEERING REPORT SET FORTH BY THE GEOTECHNICAL AND ENGINEERING & SERVICES BRANCH OF THE ARMY CORPS OF ENGINEERS OMAHA DISTRICT.
2. SITE PREPARATION
   a. PROVIDE EXCAVATION, FILL, AND BACKFILL IN ACCORDANCE WITH CONTRACT DRAWINGS, SPECIFICATIONS, AND GEOTECHNICAL ENGINEERING REPORT.
   b. REF. SPECIFICATION SECTION 31 00 00 FOR ADDITIONAL EARTHWORK REQUIREMENTS.
   c. NOTIFY CONTRACTING OFFICER'S REPRESENTATIVE WHEN LOOSE OF SOFT SOILS ARE EXPOSED WHERE SLABS, MATS, OR FOOTINGS ARE TO BE PLACED SO THAT A DETERMINATION MAY BE MADE REGARDING IMPROVEMENT OF THIS POTENTIALLY UNDESIRABLE CONDITION.
3. SOIL PROPERTIES:
   a. UNIT WEIGHT 120 PCF
   b. FROST PENETRATION 52 INCHES
   c. MINIMUM DEPTH TO BOTTOM OF FOOTINGS
      HEATED STRUCTURES 36 INCHES
      UNHEATED STRUCTURES 43 INCHES
4. SLAB, MAT, AND FOOTING DESIGN PARAMETERS
   a. MODULUS OF SUBGRADE REACTION (ON COMPACTED ENGINEERED FILL) 150 PCI
   b. ALLOWABLE NET BEARING PRESSURE (ON COMPACTED ENGINEERED FILL) 2500 PSF
   c. CONCRETE-SOIL COEFFICIENT OF FRICTION 0.3
   d. MINIMUM STABILITY FACTORS OF SAFETY (0.6DL + 0.6WL)
      OVERTURNING 1.0
      UPLIFT 1.0
      SLIDING 1.0
5. WHEN WORKING NEAR EXISTING OR NEW CONSTRUCTION, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO NOT UNDERMINE, DISTURB, DAMAGE, OR CAUSE CONSIDERABLE MOVEMENT, CRACKING, OR SETTLEMENT OF THE ADJACENT CONSTRUCTION IN ANY WAY.
6. THE CONTRACTOR SHALL EMPLOY A SOIL TESTING LAB AGENCY TO INSPECT ALL FOUNDATION SUBGRADE AND ENSURE THAT IT MEETS THE STATED ALLOWABLE SOIL BEARING CAPACITY.
7. SUBGRADE SHALL BE INSPECTED AND APPROVED BY THE CONTRACTOR'S QUALITY CONTROL AND THE CONTRACTING OFFICER'S REPRESENTATIVE PRIOR TO PLACING CONCRETE. ANY SUBGRADE NOT MEETING THE NET ALLOWABLE BEARING CAPACITY OF 2500 PSF SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER
8. ALL EXCAVATION SHALL BE PERFORMED SO THAT THE SITE AND AREA IMMEDIATELY SURROUNDING THE SITE WHICH AFFECTS CONSTRUCTION OPERATIONS WILL BE CONTINUALLY AND EFFECTIVELY DRAINED. THE CONTRACTOR SHALL PROVIDE DRAINAGE AND DE-WATERING AS REQUIRED TO ENSURE THAT ALL FOOTING EXCAVATIONS ARE ACCOMPLISHED WITH SUBGRADE SOIL REMAINING DRY AND FIRM UNTIL AFTER FOOTINGS ARE PLACED AND BACKFILLED. REMOVAL OF SURFACE WATER, GROUNDWATER AND ANY PERCHED WATER CONDITIONS THAT MIGHT BE ENCOUNTERED DURING EXCAVATIONS SHALL BE ACCOMPLISHED BY APPROVED MEANS.
9. DO NOT PLACE FOUNDATION CONCRETE ON FROZEN OR SATURATED SUBGRADE.
10. ENSURE THAT EARTH-FORMED FOOTINGS CONFORM TO THE SHAPE, LINES, AND THICKNESS INDICATED ON THE FOUNDATION PLAN, SECTIONS, AND FOOTING SCHEDULES. EXCAVATION WIDTHS SHALL BE A MINIMUM OF 4" GREATER THAN DIMENSIONS INDICATED.
11. DO NOT INSTALL FOUNDATIONS UNTIL FOUNDATION WORK HAS BEEN COORDINATED WITH ADJACENT UNDERGROUND UTILITIES.
12. A MINIMUM OF 3'-0" OF OVER-EXCAVATION IS REQUIRED, SEE DETAIL BELOW. REFER TO THE SPECIFICATION FOR PLACEMENT OF FILL UNDER FOUNDATIONS, FILL PRE-CONSOLIDATION REQUIREMENTS, AND FILL REQUIRED PROPERTIES
13. EXCAVATIONS SHALL NOT EXTEND WITHIN 10 FEET OF THE FOOTINGS OF ADJACENT STRUCTURES. IF SUCH EXCAVATION IS REQUIRED, TEMPORARY SUPPORT OF EXCAVATION OR UNDERPINNING OF EXISTING STRUCTURES WILL BE REQUIRED. THE DESIGN OF ANY SHORING OR TEMPORARY SUPPORT OF EXCAVATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBMIT ANY SUCH PLANS TO THE GOVERNMENT FOR APPROVAL PRIOR TO COMMENCING WORK.



NOTES:
1. REFER TO SPECIFICATION SECTION 31 00 00 EARTHWORK FOR DEFINITION OF STRUCTURAL FILL.
2. ALL FOOTINGS AND SLABS ON GRADE SHALL BEAR ON A MINIMUM OF 3 FEET OF STRUCTURAL FILL.
3. INTERIOR STRIP FOOTINGS AND ISOLATED FOOTINGS ARE SIMILAR TO THIS DETAIL.

FOUNDATION OVER-EXCAVATION

E. STEEL CONSTRUCTION:

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL AND DESIGN OF CONNECTIONS SHALL BE IN ACCORDANCE WITH ANSI/AISC 360-16, "SPECIFICATION OR STRUCTURAL STEEL BUILDINGS" AND ANIS/AISC 303-16 "CODE OF STANDARD PRACTICE FOR BUILDING AND BRIDGES".
2. UNLESS OTHERWISE NOTED, STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE ABOVE-LISTED AISC SPECIFICATION AND THE FOLLOWING:
   a. ROLLED WIDE FLANGE SHAPES ASTM A992, GRADE B, 50 KSI
   b. HSS HOLLOW SHAPES (RECTANGULAR) ASTM A500, GRADE C, 50 KSI
   c. HSS HOLLOW SHAPES (ROUND) ASTM A500, GRADE C, 46 KSI
   d. CHANNELS, ANGLES, AND OTHER HOT ROLLED SHAPES ASTM A36
   e. PLATES ASTM A572, GRADE 50
   f. STRUCTURAL PIPE ASTM A53, GRADE B
   g. HIGH STRENGTH BOLTS ASTM F3125, GRADE A490-N
   h. ANCHOR RODS ASTM F1554, GRADE 55 S1
   i. WELDED STEEL ANCHOR STUDS, TYPE B ASTM A108
3. WELDING SHALL CONFORM TO AWS D1.1. WELDING ELECTRODES SHALL CONFORM TO E70XX. ALL WELDING TO BE DONE BY AMERICAN WELDING SOCIETY (AWS) CERTIFIED WELDERS. CURRENT AWS CERTIFICATIONS SHALL BE AVAILABLE AT THE JOB SITE FOR REVIEW BY THE OWNER'S REPRESENTATIVE.
4. FIELD CUTTING FOR THE STRUCTURAL STEEL MEMBERS SHALL NOT BE PERMITTED. BOLT HOLES SHALL NOT BE CUT OR ENLARGED BY FLAME CUTTING IN THE FIELD.
5. ALL FIELD-BOLTED SHEAR CONNECTIONS SHALL BE SNUG TIGHT BEARING-TYPE CONNECTIONS (U.N.O), THREADS INCLUDED IN THE SHEAR PLANE.
6. UNLESS INDICATED OTHERWISE, ALL BOLTED CONNECTIONS SHALL BE 3/4 INCH DIAMETER ASTM F3125 GRADE A490-N. ALL BOLT SPACING SHALL BE 3" AND ALL BOLT EDGE DISTANCES SHALL BE 1 1/2" MINIMUM UNLESS OTHERWISE INDICATED ON THE CONTRACT DRAWINGS.
7. STRUCTURAL STEEL SHALL BE PAINTED OR GALVANIZED PER SPECIFICATIONS. EXTERIOR STEEL EXPOSED TO THE ENVIRONMENT SHALL BE HOT DIPPED GALVANIZED.
8. ALL COLUMN BASE PLATES. PROVISION SHALL BE MADE FOR ALL ANCHOR RODS TO BE RIGIDLY HELD IN POSITION TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT. ANCHOR RODS SHALL NOT BE TIGHTENED UNTIL THE CONCRETE COMPRESSIVE STRENGTH REACHES 0.75 TIMES f'c (28 DAY COMPRESSIVE STRENGTH).
9. PORTIONS OF THE STRUCTURE ARE NOT SELF SUPPORTING DURING ERECTION; FOR GRAVITY AS WELL AS LATERAL LOADS. PROVIDE ANY TEMPORARY BRACING TO PROVIDE A LATERAL SUPPORT OF THE BUILDING AND INDIVIDUAL ELEMENTS UNTIL PERMANENT FRAME AND DECK ARE COMPLETELY INSTALLED.
10. STRUCTURAL STEEL SHALL NOT BE RELEASED FOR FABRICATION UNTIL THE PRECAST CONCRETE WALL PANEL SHOP DRAWINGS HAVE BEEN APPROVED AND THE FINAL WALL PANEL THICKNESS VERIFIED.

F. REINFORCED CONCRETE:

1. ALL CAST-IN-PLACE CONCRETE SHALL ATTAIN THE FOLLOWING PROPERTIES:
   a. MINIMUM 28-DAY COMPRESSIVE STRENGTH (f'c)
      • INTERIOR SLAB-ON-GRADE 4000 PSI
      • ALL OTHER CONCRETE 4500 PSI
   b. MAX WATER/CEMENT RATIO 0.40
   c. MAX WATER SOLUBLE CHLORIDE ION IN CONCRETE (% BY WEIGHT OF CEMENT) 1.0
   d. NORMAL WEIGHT DENSITY 140 PCF TO 150 PCF
2. CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
   a. DEFORMED BARS (NOT WELDED) ASTM A615, GR. 60 KSI
   b. TIES ASTM A615, GR. 60 KSI
   c. WELDED WIRE REINFORCEMENT ASTM A1064
3. ALL CONCRETE OPERATIONS AND REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE LATEST ACI AND CRSI STANDARDS. REINFORCEMENT BARS SHALL HAVE FABRICATION TOLERANCES IN ACCORDANCE WITH ACI 315. SHOP FABRICATE REINFORCING BARS WHICH ARE INDICATED TO BE BENT OR HOOKED.
4. WELDED WIRE FABRIC (WWF) SHALL BE SHEET-TYPE WWF. SHEET LAPS SHALL BE TIED AND LAPPED ONE FULL MESH SPACING PLUS 2".
5. NO CALCIUM CHLORIDE OR OTHER DELETERIOUS SALTS ARE PERMITTED IN CONCRETE. NO ALUMINUM EMBEDMENTS ARE PERMITTED.
6. A MINIMUM OF TWO BAR DIAMETERS SHALL BE PLACED BETWEEN PARALLEL REINFORCEMENT STEEL BARS.
7. CONCRETE COVER FOR NONPRESTRESSED CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS:
   a. CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND 3 IN
   b. EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
      • #5 OR SMALLER 1.5 IN
      • #6 OR LARGER 2 IN
   c. SLABS, JOISTS, AND WALLS NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND
      • #11 OR SMALLER 3/4 IN
      • #14 OR #18 2.5 IN
   d. BEAMS, COLUMNS, PEDESTALS, AND TENSION TIES NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND 1.5 IN
8. PROVIDE 1/2" THICK PRE-MOLDED JOINT FILLER MATERIAL WHERE SLABS ON GRADE ABUT WALLS.
9. ALL CONCRETE IS REINFORCED UNLESS SPECIFICALLY CALLED OUT AS UNREINFORCED. REINFORCE ALL CONCRETE NOT OTHERWISE SHOWN WITH SAME STEEL AS IN SIMILAR SECTIONS OR AREAS.
10. ALL EMBEDDED ITEMS SHALL BE PROPERLY PLACED, ACCURATELY POSITIONED AND MAINTAINED SECURELY IN PLACE PRIOR TO AND DURING CONCRETE PLACEMENT.
11. NO CONCRETE SHALL BE PLACED UNTIL THE CONTRACTING OFFICER'S REPRESENTATIVE HAS INSPECTED AND APPROVED ALL EMBEDDED WORK, INCLUDE REINFORCEMENT.
12. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4" OR AS INDICATED.
13. ALL ADJOINING SURFACES NOT CAST MONOLITHICALLY SHALL BE INTENTIONALLY ROUGHENED TO 1/4" AMPLITUDE AT EXISTING CONCRETE SURFACE FOR THE ENTIRE INTERSECTING SURFACE. APPLY BONDING AGENT TO EXISTING CONCRETE PRIOR TO PLACING NEW CONCRETE.
14. ALUMINUM SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION AND ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.
15. CONTRACTOR SHALL COORDINATE SLAB-ON-GRADE JOINT REQUIREMENTS WITH SLAB-ON-GRADE CONSTRUCTION SEQUENCING. CONTRACTOR SHALL SUBMIT JOINT LAYOUT ON REINFORCING SHOP DRAWING SUBMITTAL FOR APPROVAL.
16. SEE SPECIFICATION 03 30 00 CAST-IN-PLACE CONCRETE FOR ADDITIONAL REQUIREMENTS INCLUDING FLOOR SLABS SEALER/HARDENER, SLAB FLATNESS, AND FINISHES.
17. CONCRETE REINFORCEMENT CENTER-CENTER SPACING (S) IS AS DEFINED BELOW.

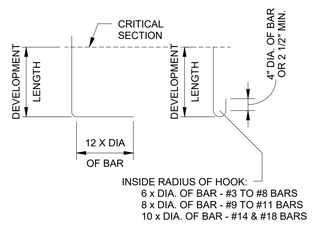
- LAPPED REINF.

18. CONCRETE REINFORCING STEEL SHALL BE CONTINUOUS UNLESS OTHERWISE INDICATED. CONTINUOUS REINFORCEMENT SHALL BE SPLICED WHERE REQUIRED AS SHOWN IN THE TABLES BELOW UNLESS NOTED OTHERWISE. ONE REINFORCEMENT BAR AT A TIME IS TO BE SPLICED AND THE SPLICING SHOULD BE STAGGERED. THESE DEVELOPMENT AND SPLICE LENGTHS SHALL NOT APPLY IF ANY OF THE FOLLOWING CONDITIONS OCCUR
   a. $f'_c < 4{,}500$ PSI
   b. $f_y > 60{,}000$ PSI
   c. CONCRETE COVER IS NOT MET
   d. LIGHT WEIGHT CONCRETE IS USED,
   e. THE REINFORCEMENT IS EPOXY COATED

BAR SIZE	DEVELOPMENT AND SPLICE LENGTHS			
	DEVELOPMENT LENGTH		SPLICE LENGTH	
	OTHER	TOP*	OTHER	TOP*
#3	1'-1"	1'-5"	1'-5"	1'-10"
#4	1'-5"	1'-11"	1'-11"	2'-5"
#5	1'-10"	2'-4"	2'-3"	3'-0"
#6	2'-2"	2'-10"	2'-10"	3'-7"
#7	3'-2"	4'-1"	4'-1"	5'-3"
#8	3'-7"	4'-8"	4'-8"	6'-0"
#9	4'-0"	5'-3"	5'-3"	6'-9"
#10	4'-6"	5'-10"	5'-10"	7'-8"

*TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE.

BAR SIZE	DEVELOPMENT LENGTH OF HOOKED BARS
	LENGTH OR MIN. EMBEDMENT
#3	6"
#4	6"
#5	8"
#6	10"
#7	1'-0"
#8	1'-3"
#9	1'-6"
#10	1'-9"



G. PRECAST CONCRETE WALL:

1. PRECAST CONCRETE WALL PANELS SHALL BE INSULATED STRUCTURAL PANELS OF THE THICKNESS SHOWN ON THE ARCHITECTURAL DRAWINGS. ANY CHANGES IN THICKNESS SHALL BE REVIEWED AND APPROVED BY THE GOVERNMENT. CHANGES WILL GENERALLY NOT BE ALLOWED UNLESS ABSOLUTELY NECESSARY.
2. THE PRECAST WALL PANELS SHALL BE DESIGNED FOR THE WIND AND SEISMIC LOADS ON THE BUILDING. THE PRECAST WALL PANELS SHALL NOT TRANSFER IN PLANE SHEAR TO THE STRUCTURE UNLESS SHOWN OTHERWISE.
3. THE PRECAST WALL PANEL SUPPLIER SHALL BE RESPONSIBLE FOR THE DESIGN AND DETAILING OF ALL EMBEDDED PLATES, CONNECTIONS BETWEEN PRECAST WALL PANELS, AND ANCHORAGE TO THE FOUNDATION IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF ACI 318.
4. THE LOCATION AND INSTALLATION OF PRECAST WALL PANEL ANCHORAGE AND ERECTION BRACING SHALL BE COORDINATED WITH OTHER TRADES. THE PRECAST WALL PANELS SHALL NOT BE PUT IN PLACE UNTIL THE STEEL STRUCTURE HAS BEEN PLACED. THE PRECAST WALL PANELS WILL REQUIRE BRACING UNTIL THE CONCRETE DECK SLABS HAVE BEEN CONSTRUCTED AND THE CONCRETE HAS CURED FOR A MINIMUM OF SEVEN DAYS.
5. CONCRETE FOR PRECAST WALL PANELS SHALL HAVE A MINIMUM 28 DAY CONCRETE STRENGTH OF 5,000 PSI.
6. PRECAST PANELS SHALL BE REINFORCED AND MAY BE EITHER PRESTRESSED OR NON-PRESTRESSED.
7. PRECAST WALL PANEL SUPPLIER SHALL COORDINATE ALL EMBEDDED PLATES WITH ARCHITECTURAL FEATURES SUCH AS AWNING OR LIGHT FIXTURES.
8. ALL FOOTINGS WERE DESIGNED WITH NO MOMENT TRANSFER FROM THE PRECAST WALL PANELS INTO THE FOOTINGS.
9. SEE SPECIFICATION SECTION 03 45 00 PRECAST CONCRETE FOR ADDITIONAL INFORMATION.

H. COLD FORMED STEEL FRAMING:

1. COLD FORMED STEEL FRAMING SHALL CONFORM TO AISI S100 AND THE AISI COLD FORMED STEEL DESIGN MANUAL.
2. THE COLD FORMED STEEL MEMBER DEPTHS SHALL BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS.
3. THE COLD FORMED WALL FRAMING SHALL BE DESIGNED TO RESIST THE SEISMIC LOADS AND A MINIMUM LATERAL WALL PRESSURE OF 15 PSF.
4. THE COLD FORMED STEEL FRAMING SHALL BE DESIGNED TO INCLUDE JAMBS AND HEADERS FOR DOOR PENETRATIONS. IF STEEL HEADERS OR JAMBS ARE DETERMINED TO BE REQUIRED, THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE AND DESIGN STEEL MEMBERS AND SUBMIT THEM TO THE GOVERNMENT FOR APPROVAL.
5. THE EXHAUST TREATMENT ROOM CEILING/ROOF SHALL BE SUPPORTED BY COLD FORMED STEEL FRAMING THAT CAN SUPPORT A LIVE LOAD OF 20 PSF.
6. PROVIDE SHOP DRAWINGS AND DESIGN CALCULATIONS THAT ARE STAMPED BY A PROFESSIONAL ENGINEER IN A STATE OR TERRITORY WITH EXPERIENCE DESIGNING COLD FORMED STEEL FRAMING.
7. REFER TO SPECIFICATION SECTION 05 40 00 FOR ADDITIONAL REQUIREMENTS.

I. STEEL JOISTS:

1. STEEL JOISTS SHALL CONFORM TO THE 2015 STANDARD SPECIFICATIONS, WEIGHT TABLES, AND BRIDGING TABLES FOR CJ-SERIES COMPOSITE STEEL JOISTS.
2. STEEL JOISTS SHOWN ON PLANS ARE DIAGRAMMATIC ONLY. MEMBER SIZE, CONFIGURATION, DETAILS, AND CONNECTIONS ARE THE RESPONSIBILITY OF THE JOIST ENGINEER. STEEL JOIST FRAMING SHOP DRAWINGS COMPLETE WITH CALCULATIONS, ARE TO BE SIGNED AND SEALED BY THE JOIST ENGINEER AND SUBMITTED FOR REVIEW AND APPROVAL.
3. DESIGNATION OF CJ-SERIES JOISTS SHALL BE AS FOLLOWS
   EXAMPLE: 16CJ448/220/60 [##] WHERE...
   "16" - JOIST DEPTH
   "448" - TOTAL LRFD FACTORED LOAD IN PLF
   "220" - TOTAL UNFACTORED LOAD IN PLF
   "60" - UNFACTORED COMPOSITE DEAD LOAD IN PLF
   "##" - NUMBER OF STUDS ALONG JOIST LENGTH
4. JOIST BRIDGING SIZE AND LOCATIONS SHALL BE DETERMINED BY THE JOIST SUPPLIER/ENGINEER. COORDINATE WITH MECHANICAL AND ELECTRICAL TO AVOID CONFLICTS. BRIDGING SHALL NOT CONNECT TO PRECAST WALL PANELS OR THE MAIN BUILDINGS STRUCTURAL FRAMING MEMBERS.
5. THE STEEL JOIST LOCATIONS AND SEAT HEIGHT SHALL BE AS SHOWN ON THE CONTRACT PLANS.
6. APPLICABLE MEZZANINE JOIST FRAMING SHALL BE DESIGNED FOR THE VIBRATION FROM THE SUPPPLY FANS IN ACCORDANCE WITH SJI TECHNICAL DIGEST 5 VIBRATION OF STEEL JOIST - CONCRETE FLOORS (2015).

H. COMPOSITE DECK NOTES:

1. SEE S-600 FOR STEEL DECK NOTES.

J. SPECIAL INSPECTIONS NOTES:

1. SEE SPECIFICATION SECTION 01 45 35 FOR SPECIAL INSPECTION REQUIREMENTS.
2. SEE S-002 AND S-003 FOR THE SCHEDULE OF SPECIAL INSPECTIONS AND STATEMENT OF SPECIAL INSPECTIONS.

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STRUCTURAL NOTES

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SCHEDULE OF SPECIAL INSPECTIONS (SEE SPECIFICATION 01 45 35)

INSPECTION DEFINITIONS:

- PERFORM: PERFORM THESE TASKS FOR EACH WELD, FASTENER OR BOLTED CONNECTION, AND NOTED VERIFICATION.
- OBSERVE: OBSERVE THESE ITEMS RANDOMLY DURING THE COURSE OF EACH WORK DAY TO INSURE THAT APPLICABLE REQUIREMENTS ARE BEING MET. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS AT CONTRACTOR'S RISK.
- DOCUMENT: DOCUMENT, WITH A REPORT, THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THIS IS IN ADDITION TO ANY OTHER REPORTS REQUIRED IN THE SPECIAL INSPECTIONS GUIDE SPECIFICATION.
- CONTINUOUS: CONSTANT MONITORING OF IDENTIFIED TASKS BY A SPECIAL INSPECTOR OVER THE DURATION OF PERFORMANCE OF SAID TASKS.
- PERIODIC: SPECIAL INSPECTION BY A SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED.

A. STRUCTURAL - STEEL - WELDING SECTION

STEEL INSPECTION PRIOR TO WELDING (IBC 2021 1705.2.1, AISC 360-16: TABLE C N5.4-1)		
TASK	INSPECTION TYPE	DESCRIPTION
1. VERIFY THAT THE WELDING PROCEDURES SPECIFICATION (WPS) IS AVAILABLE	PERFORM	
2. VERIFY MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES ARE AVAILABLE	PERFORM	
3. VERIFY MATERIAL IDENTIFICATION	PERFORM	TYPE AND GRADE
4. WELDER IDENTIFICATION SYSTEM	PERFORM	THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.
5. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)	OBSERVE	· JOINT PREPARATION · DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) · CLEANLINESS (CONDITION OF STEEL SURFACES) · TACKING (TACK WELD QUALITY AND LOCATION) · BACKING TYPE AND FIT (IF APPLICABLE)
6. CONFIGURATION AND FINISH OF ACCESS HOLES	OBSERVE	
7. FIT-UP OF FILLET WELDS	OBSERVE	· DIMENSIONS (ALIGNMENT, GAPS AT ROOT) · CLEANLINESS (CONDITION OF STEEL SURFACES) · TACKING (TACK WELD QUALITY AND LOCATION)
STEEL INSPECTION DURING WELDING (IBC 2018 1705.2.1, AISC 360-16: TABLE C N5.4-2)		
8. USE OF QUALIFIED WELDERS	PERFORM	WELDING BY WELDERS, WELDING OPERATORS, AND TACK WELDERS WHO ARE QUALIFIED IN CONFORMANCE WITH REQUIREMENTS.
9. CONTROL AND HANDLING OF WELDING CONSUMABLES	OBSERVE	· PACKAGING · ELECTRODE ATMOSPHERIC EXPOSURE CONTROL
10. NO WELDING OVER CRACKED TACK WELDS	OBSERVE	
11. ENVIRONMENTAL CONDITIONS	OBSERVE	· WIND SPEED WITHIN LIMITS · PRECIPITATION AND TEMPERATURE
12. WELDING PROCEDURES SPECIFICATION FOLLOWED	OBSERVE	· SETTINGS ON WELDING EQUIPMENT · TRAVEL SPEED · SELECTED WELDING MATERIALS · SHIELDING GAS TYPE/FLOW RATE · PREHEAT APPLIED · INTERPASS TEMPERATURE MAINTAINED (MIN./MAX.) · PROPER POSITION (F, V, H, OH) · INTERMIX OF FILLER METALS AVOIDED
13. WELDING TECHNIQUES	OBSERVE	· INTERPASS AND FINAL CLEANING · EACH PASS WITHIN PROFILE LIMITATIONS · EACH PASS MEETS QUALITY REQUIREMENTS
STEEL INSPECTION AFTER WELDING (IBC 2021 1705.2.1, AISC 360-16: TABLE C N5.4-3)		
14. WELDS CLEANED	OBSERVE	
15. SIZE, LENGTH, AND LOCATION OF ALL WELDS	PERFORM	SIZE, LENGTH, AND LOCATION OF ALL WELDS CONFORM TO THE REQUIREMENTS OF THE DETAIL DRAWINGS.
16. WELDS MEET VISUAL ACCEPTANCE CRITERIA	PERFORM & DOCUMENT	· CRACK PROHIBITION · WELD/BASE-METAL FUSION · CRATER CROSS SECTION · WELD PROFILES · WELD SIZE · UNDERCUT · POROSITY
17. ARC STRIKES	PERFORM	
18. K-AREA	PERFORM	WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS.
19. BACKING REMOVED, WELD TABS REMOVED AND FINISHED, AND FILLET WELDS ADDED WHERE REQUIRED	PERFORM	
20. REPAIR ACTIVITIES	PERFORM & DOCUMENT	
21. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	PERFORM	

B. STRUCTURAL - STEEL - BOLTING SECTION

STEEL INSPECTION PRIOR TO BOLTING - (IBC 2021 1705.2.1, AISC 360-16: TABLE C N5.6-1)		
TASK	INSPECTION TYPE	DESCRIPTION
1. MANUFACTURE'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	PERFORM	
2. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	OBSERVE	
3. PROPER FASTENERS SELECTED FOR JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	OBSERVE	
4. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	OBSERVE	
5. CONNECTING ELEMENTS, INCLUDING APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	OBSERVE	
6. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS, AND OTHER FASTENER COMPONENTS	OBSERVE	
STEEL INSPECTION DURING BOLTING (IBC 2021 1705.2.1, AISC 360-16: TABLE C N5.6-2)		
7. FASTENER ASSEMBLIES OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	OBSERVE	
8. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING OPERATION	OBSERVE	
9. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	OBSERVE	
10. BOLTS ARE PRETENSIONED IN ACCORDANCE WITH RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	OBSERVE	
STEEL INSPECTION AFTER BOLTING (IBC 2021 1705.2.1, AISC 360-16: TABLE C N5.6-3)		
11. DOCUMENT ACCEPTANCE OR REJECTION OF ALL BOLTED CONNECTIONS	DOCUMENT	

C. STRUCTURAL - STEEL - NONDESTRUCTIVE TESTING SECTION

NONDESTRUCTIVE TESTING OF WELDED JOINTS (IBC 2021 1705.2.1, AISC 360-16: SECTION N5.5)		
TASK	INSPECTION TYPE	DESCRIPTION
1. USE OF QUALIFIED NONDESTRUCTIVE TESTING PERSONNEL	PERFORM	VISUAL WELD INSPECTION AND NONDESTRUCTIVE TESTING (NDT) SHALL BE CONDUCTED BY PERSONNEL QUALIFIED IN ACCORDANCE WITH AWS D1.8 CLAUSE 7.2
2. WELDED JOINTS SUBJECT TO FATIGUE	OBSERVE	DYE PENETRANT TESTING (DT) AND ULTRASONIC TESTING (UT) SHALL BE PERFORMED ON 100% OF WELDED JOINTS IDENTIFIED ON CONTRACT DRAWINGS AS BEING SUBJECT TO FATIGUE.
3. WELD TAB REMOVAL SITES	OBSERVE	AT THE END OF WELDS WHERE WELD TABS HAVE BEEN REMOVED, MAGNETIC PARTICLE TESTING SHALL BE PERFORMED ON THE SAME BEAM-TO-COLUMN JOINTS RECEIVING UT

D. STRUCTURAL - STEEL - COMPOSITE CONSTRUCTION

COMPOSITE CONSTRUCTION PRIOR TO PLACING CONCRETE (IBC 2021 1705.2.1, AISC 360-16)		
TASK	INSPECTION TYPE	DESCRIPTION
1. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	PERFORM	
2. MATERIAL IDENTIFICATION OF REINFORCING STEEL (TYPE/GRADE)	OBSERVE	
3. DETERMINATION OF CARBON EQUIVALENT FOR REINFORCING STEEL OTHER THAN ASTM A706	OBSERVE	
4. PROPER REINFORCING STEEL SIZE, SPACING, CLEARANCES, SUPPORT, AND ORIENTATION.	OBSERVE	
5. REINFORCING STEEL HAS NOT BEEN REBENT IN THE FIELD.	OBSERVE	
6. REQUIRED REINFORCING STEEL CLEARANCES HAVE BEEN PROVIDED	OBSERVE	
7. REINFORCING STEEL HAS BEEN TIED AND SUPPORTED AS REQUIRED	OBSERVE	
8. COMPOSITE MEMBER HAS REQUIRED SIZE	OBSERVE	

E. STRUCTURAL - COLD-FORMED METAL DECK - PLACEMENT SECTION

METAL DECK INSPECTION PRIOR TO DECK PLACEMENT (SDI QA/QC-2017, APPENDIX 1, TABLE 1.1)		
TASK	INSPECTION TYPE	DESCRIPTION
1. VERIFY COMPLIANCE OF MATERIALS (DECK AND ALL DECK ACCESSORIES) WITH CONSTRUCTION DOCUMENTS, INCLUDING PROFILES, MATERIAL PROPERTIES, AND BASE METAL THICKNESS	PERFORM	
2. DOCUMENT ACCEPTANCE OR REJECTION OF DECK AND DECK ACCESSORIES	DOCUMENT	
METAL DECK INSPECTION DURING DECK PLACEMENT (SDI QA/QC-2017, APPENDIX 1, TABLE 1.2)		
3. VERIFY COMPLIANCE OF DECK AND ALL DECK ACCESSORIES INSTALLATION WITH CONSTRUCTION DOCUMENTS	PERFORM	
4. VERIFY DECK MATERIALS ARE REPRESENTED BY THE MILL CERTIFICATIONS THAT COMPLY WITH THE CONSTRUCTION DOCUMENTS	PERFORM	
5. DOCUMENT ACCEPTANCE OR REJECTION OF INSTALLATION OF DECK AND DECK ACCESSORIES	DOCUMENT	
METAL DECK INSPECTION AFTER DECK PLACEMENT (SDI QA/QC-2017, APPENDIX 1, TABLE 1.3)		
6. WELDING PROCEDURE SPECIFICATION (WPS) AVAILABLE	PERFORM	
7. MANUFACTURES CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	OBSERVE	
8. MATERIAL IDENTIFICATION (TYPE/GRADE)	OBSERVE	
9. CHECK WELDING EQUIPMENT	OBSERVE	

F. STRUCTURAL - COLD-FORMED METAL DECK - WELDING SECTION

METAL DECK INSPECTION DURING WELDING (SDI QA/QC-2011, APPENDIX 1, TABLE 1.4)		
TASK	INSPECTION TYPE	DESCRIPTION
1. USE OF QUALIFIED WELDERS	OBSERVE	
2. CONTROL AND HANDLING OF WELDING CONSUMABLES	OBSERVE	
3. ENVIRONMENTAL CONDITIONS (WIND SPEED, MOISTURE, TEMPERATURE)	OBSERVE	
4. WPS FOLLOWED	OBSERVE	
METAL DECK INSPECTION AFTER WELDING (SDI QA/QC-2011, APPENDIX 1, TABLE 1.5)		
5. VERIFY SIZE AND LOCATION OF WELDS, INCLUDING SUPPORT, SIDELAP, AND PERIMETER WELDS.	PERFORM	
6. WELDS MEET VISUAL ACCEPTANCE CRITERIA	PERFORM	
7. VERIFY REPAIR ACTIVITIES	PERFORM	
8. DOCUMENT ACCEPTANCE OR REJECTION OF WELDS	PERFORM	

G. STRUCTURAL - COLD-FORMED METAL DECK - FASTENING SECTION

METAL DECK INSPECTION BEFORE MECHANICAL FASTENING (SDI QA/QC-2011, APPENDIX 1, TABLE 1.6)		
TASK	INSPECTION TYPE	DESCRIPTION
1. MANUFACTURER INSTALLATION INSTRUCTIONS AVAILABLE FOR MECHANICAL FASTENERS	OBSERVE	
2. PROPER TOOLS AVAILABLE FOR FASTENER INSTALLATION	OBSERVE	
METAL DECK INSPECTION DURING MECHANICAL FASTENING (SDI QA/QC-2011, APPENDIX 1, TABLE 1.7)		
3. FASTENERS ARE POSITIONED AS REQUIRED	OBSERVE	
4. FASTENERS ARE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS	OBSERVE	
METAL DECK INSPECTION AFTER MECHANICAL FASTENING (SDI QA/QC-2011, APPENDIX 1, TABLE 1.8)		
5. CHECK SPACING, TYPE, AND INSTALLATION OF SUPPORT FASTENERS	PERFORM	
6. CHECK SPACING, TYPE, AND INSTALLATION OF SIDELAP FASTENERS	PERFORM	
7. CHECK SPACING, TYPE, AND INSTALLATION OF PERIMETER FASTENERS	PERFORM	
8. VERIFY REPAIR ACTIVITIES	PERFORM	
9. DOCUMENT ACCEPTANCE OR REJECTION OF MECHANICAL FASTENERS	DOCUMENT	

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H. STRUCTURAL - STEEL - OTHER INSPECTIONS

OTHER STEEL INSPECTIONS (IBC 2021 1705.2.1, AISC 360-16: TABLE J8-1 AND J10-1)		
TASK	INSPECTION TYPE	DESCRIPTION
1. ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL	PERFORM	VERIFY THE DIAMETER, GRADE, TYPE, AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT PRIOR TO PLACEMENT OF CONCRETE.
2. FABRICATED STEEL OR ERECTED STEEL FRAME	OBSERVE	VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS, SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.

I. STRUCTURAL - CONCRETE CONSTRUCTION

CONCRETE CONSTRUCTION, INCLUDING COMPOSITE DECK (IBC 2021 TABLE 1705.3 (ACI 318 REFERENCES NOTED IN IBC TABLE)		
TASK	INSPECTION TYPE	DESCRIPTION
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	OBSERVE	VERIFY PRIOR TO PLACING CONCRETE THAT REINFORCING IS OF SPECIFIED TYPE, GRADE AND SIZE; THAT IT IS FREE OF OIL, DIRT AND UNACCEPTABLE RUST; THAT IT IS LOCATED AND SPACED PROPERLY; THAT HOOKS, BENDS, TIES, STIRRUPS AND SUPPLEMENTAL REINFORCEMENT ARE PLACED CORRECTLY; THAT LAP LENGTHS, STAGGER AND OFFSETS ARE PROVIDED; AND THAT ALL MECHANICAL CONNECTIONS ARE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS AND/OR EVALUATION REPORT.
2. REINFORCING BAR WELDING	OBSERVE	· VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706 · INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16" IN ACCORDANCE WITH AWS D1.4
3. ALL OTHER WELDING	CONTINUOUS	VISUALLY INSPECT ALL WELDS IN ACCORDANCE WITH AWS D1.4
4. CAST IN PLACE ANCHORS AND POST INSTALLED DRILLED ANCHORS (DOWNWARD INCLINED)	OBSERVE	VERIFY PRIOR TO PLACING CONCRETE THAT CAST IN PLACE ANCHORS AND POST INSTALLED DRILLED ANCHORS HAVE PROPER EMBEDMENT, SPACING AND EDGE DISTANCE.
5. POST-INSTALLED ADHESIVE ANCHORS IN HORIZONTAL OR UPWARD INCLINED ORIENTATIONS	CONTINUOUS & DOCUMENT	· INSPECT AS REQUIRED PER APPROVED ICC-ES REPORT · VERIFY THAT INSTALLER IS CERTIFIED FOR INSTALLATION OF HORIZONTAL AND OVERHEAD INSTALLATION APPLICATIONS · INSPECT PROOF LOADING AS REQUIRED BY THE CONTRACT DOCUMENTS (IBC TABLE 1705.3,4)
6. VERIFY USE OF REQUIRED MIX DESIGN	OBSERVE	VERIFY THAT ALL MIXES USED COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS (IBC TABLE 1705.3,5)
7. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	CONTINUOUS	AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TEST VERIFY THESE TESTS ARE PERFORMED BY QUALIFIED TECHNICIANS.
8. INSPECT CONCRETE AND/OR SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	CONTINUOUS	VERIFY PROPER APPLICATION TECHNIQUES ARE USED DURING CONCRETE CONVEYANCE AND DEPOSITING AVOIDS SEGREGATION OR CONTAMINATION. VERIFY THAT CONCRETE IS PROPERLY CONSOLIDATED.
9. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUE	OBSERVE	INSPECT CURING, COLD WEATHER PROTECTION, AND HOT WEATHER PROTECTION PROCEDURES.
10. PRE-STRESSED CONCRETE	CONTINUOUS	VERIFY APPLICATION OF PRESTRESSING FORCES AND GROUTING OF BONDED PRESTRESSING TENDONS.
11. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS	OBSERVE	
12. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	OBSERVE	
13. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	OBSERVE	

J. STRUCTURAL - OPEN-WEB STEEL JOISTS

OPEN-WEB STEEL JOISTS AND JOIST GIRDERS (IBC 2021 TABLE 1705.2.3)		
TASK	INSPECTION TYPE	DESCRIPTION
1. INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS	OBSERVE	· END CONNECTIONS - WELDED OR BOLTED · BRIDGING - HORIZONTAL AND DIAGONAL

K. GEOTECHNICAL - SOILS INSPECTION SECTION

SOILS INSPECTION (IBC 1705.6)		
TASK	INSPECTION TYPE	DESCRIPTION
1. MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	OBSERVE	
2. EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	OBSERVE	
3. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	CONTINUOUS	
4. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	OBSERVE	DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL VERIFY THAT PROPER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT

L. FIRE PROTECTION - MASTIC AND INTUSMESCENT COATINGS SECTION

MASTIC AND INTUSMESCENT FIRE-RESISTANT COATINGS (IBC 2021 1705.16)		
TASK	INSPECTION TYPE	DESCRIPTION
1. INSPECT ACCORDING TO AWCI 12-B AND THE CONTRACT DOCUMENTS	OBSERVE	INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH AWCI 12-B, STANDARD PRACTICE FOR THE TESTING AND INSPECTION OF FIELD APPLIED THIN FILM INTUMESCENT FIRE-RESISTIVE MATERIALS.

M. FIRE PROTECTION - FIRE RESISTANT PENETRATIONS AND JOINTS

FIRE RESISTANT PENETRATION AND JOINTS (IBC 2021 1705.18)		
TASK	INSPECTION TYPE	DESCRIPTION
1. INSPECTIONS OF PENETRATION FIRESTOP SYSTEMS CONDUCTED IN ACCORDANCE WITH ASTM E 2174.	OBSERVE	
2. INSPECTIONS OF FIRE-RESISTANT JOINT SYSTEMS CONDUCTED IN ACCORDANCE WITH ASTM E 2393	OBSERVE	

N. FIRE PROTECTION - SMOKE CONTROL

SMOKE CONTROL (IBC 2021 1705.19)		
TASK	INSPECTION TYPE	DESCRIPTION
1. VERIFY DEVICE LOCATIONS AND PERFORM LEAKAGE TESTING	OBSERVE	PERFORM DURING ERECTION OF DUCTWORK AND PRIOR TO CONCEALMENT
2. PRESSURE DIFFERENCE TESTING, FLOW MEASUREMENTS AND DETECTION AND CONTROL VERIFICATION	OBSERVE	PERFORM PRIOR TO OCCUPANCY AND AFTER SUFFICIENT COMPLETION

O. PLUMBING, MECHANICAL, ELECTRICAL - DESIGNATED SEISMIC SYSTEMS

PLUMBING, MECHANICAL, AND ELECTRICAL - DESIGNATED SEISMIC SYSTEMS (IBC 2021 1705.13.6)		
TASK	INSPECTION TYPE	DESCRIPTION
1. CHECK ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY AND STANDBY POWER SYSTEMS	PERIODIC	CHECK FOR GENERAL CONFORMANCE
2. CHECK INSTALLATION AND ANCHORAGE OF PIPING DESIGNATED TO CARRY HAZARDOUS MATERIALS AND THEIR ASSOCIATED MECHANICAL UNITS	PERIODIC	CHECK FOR GENERAL CONFORMANCE
3. CHECK INSTALLATION AND ANCHORAGE OF VIBRATION ISOLATION SYSTEMS WHERE THE CONSTRUCTION DOCUMENTS REQUIRE A NOMINAL CLEARANCE OF 1/4" OR LESS BETWEEN SUPPORT FRAMING AND RESTRAINT	PERIODIC	CHECK FOR GENERAL CONFORMANCE
4. VERIFY CLEARANCE BETWEEN FIRE SPRINKLER PIPING AND SURROUNDING MECHANICAL EQUIPMENT, INCLUDING DUCTWORK, PIPING AND THEIR STRUCTURAL SUPPORTS	PERIODIC	CHECK FOR MINIMUM CLEARANCES NOTED IN ASCE 7 13.2.3 OR A NOMINAL CLEARANCE OF NOT LESS THAN 3 IN.

PROJECT: BUCKLEY POWER INDEPENDENCE	
LOCATION: BUCKLEY AFB, CO	
PROJECT #:	
DATE:	
STATEMENT OF SPECIAL INSPECTIONS	
PROJECT SEISMIC DESIGN CATEGORY:	**C**
PROJECT RISK CATEGORY:	**V**
PROJECT DESIGN WIND SPEED (MPH):	**146**
NUMBER OF STORIES:	**1.0**
STRUCTURE HEIGHT ABOVE GRADE (FT):	**29.9**
HAZARDOUS OCCUPANCY OR ATTACHED TO SUCH?	**NO** GROUP H OCCUPANCIES
SPECIAL INSPECTOR OF RECORD (SIOR) A SPECIAL INSPECTOR OF RECORD (SIOR) **IS** REQUIRED (PER UFGS 01 45 35, SECTION 1.3.8)	
SIOR NAME (REGISTERED PROFESSIONAL):	CONTRACTOR TO PROVIDE PRIOR TO CONSTRUCTION START
PROFESSIONAL REGISTRATION NUMBER:	
CONSULTING FIRM NAME (IF ANY):	
SIOR OFFICE AND MOBILE PHONE NUMBER:	

LATERAL FORCE RESISTING SYSTEM (LFRS)
2021 IBC 1704.3.2 and 1704.3.3
FOLLOWING IS A LISTING OF CRITICAL ELEMENTS OF THE MAIN WIND/SEISMIC FORCE-RESISTING SYSTEM FOR THIS STRUCTURE. CAREFULLY INSPECT THESE ELEMENTS AS PART OF THE ROLES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR (REFERENCE THE SCHEDULE OF SPECIAL INSPECTIONS FOR INSPECTION CHECKLISTS).

VERTICAL LFRS ELEMENTS	NOTES
ORDINARY STEEL CONCENTRIC BRACED FRAME ORDINARY STEEL MOMENT FRAME ORDINARY REINFORCED CONCRETE SHEAR WALLS	SUPPORTS ROOF AND EXTERIOR WALLS SUPPORTS ROOF AND EXTERIOR WALLS SUPPORTS MEZZANINE AND PUMP/TANK ROOM ROOFS
HORIZONTAL LFRS ELEMENTS	**NOTES**
METAL ROOF DECK W/ CONCRETE & FASTENING SYSTEM	ROOF, MEZZANINE, AND PUMP/TANK ROOM ROOFS

DESIGNATED SEISMIC SYSTEMS (DSS)
(2021 IBC 1705.13.3) (ASCE 7-16, 13.2.2, C13.2.2) (UFC 3-301-1, 2-5.3)
NON-STRUCTURAL 'DESIGNATED SEISMIC SYSTEMS' (DSS) MUST REMAIN OPERABLE AND CONTAIN HAZARDOUS SUBSTANCES FOLLOWING A DESIGN EARTHQUAKE. ACCORDINGLY, ALL DESIGNATED SEISMIC SYSTEMS MUST BE LISTED BELOW AND MUST BE CERTIFIED BY THE MANUFACTURER TO REMAIN BOTH OPERABLE AND/OR TO CONTAIN HAZARDOUS SUBSTANCES AFTER A DESIGN EARTHQUAKE PER UFC 3-301-01, SECTION 3-6.2. SUBMIT SAID CERTIFICATES OF COMPLIANCE TO THE CONTRACTING OFFICER FOR EACH DSS AFTER THEY HAVE BEEN REVIEWED AND ACCEPTED BY THE EOR/DOR.
ADDITIONALLY, THE BELOW LISTED DESIGNATED SEISMIC SYSTEMS MUST BE CAREFULLY INSPECTED BY THE SPECIAL INSPECTOR ACCORDING TO THE REQUIREMENTS NOTED IN THE SCHEDULE OF SPECIAL INSPECTIONS, SECTION AA.

ELECTRICAL DESIGNATED SEISMIC SYSTEMS (DSS) REQUIRING A CERTIFICATE OF COMPLIANCE
1. SEE SPC 26 05 48 "SEISMIC PROTECTION FOR ELECTRICAL EQUIPMENT"
MECHANICAL/PLUMBING DESIGNATED SEISMIC SYSTEMS (DSS) REQUIRING A CERTIFICATE OF COMPLIANCE
1. SEE SPC 23 05 48.19 "SEISMIC BRACING FOR HVAC"
OTHER DESIGNATED SEISMIC SYSTEMS (DSS) REQUIRING A CERTIFICATE OF COMPLIANCE
1. FIRE SPRINKLER SYSTEM
2. SEE SPC 13 48 73 "SEISMIC CONTROL FOR MISCELLANEOUS EQUIPMENT"

FINAL WALK DOWN INSPECTION AND REPORT
(UFC 3 301 01 SECTION 2-5.4)
DESIGNATED SEISMIC SYSTEMS SHALL RECEIVE A FINAL WALK-DOWN INSPECTION BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. ADDITIONALLY, BECAUSE THE PROJECT IS A RISK CATEGORY V PROJECT, THE NON-STRUCTURAL COMPONENT DESIGN REVIEW PANEL MUST ALSO PARTICIPATE IN THE DSS WALK DOWN INSPECTION.

FINAL WALK DOWN REPORT, PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, MUST INCLUDE:
1. RECORD OBSERVATIONS OF FINAL WALK DOWN INSPECTION
2. DOCUMENT THAT INSPECTIONS WERE PERFORMED IN ACCORDANCE WITH THE SCHEDULE OF SPECIAL INSPECTIONS
3. DOCUMENT THAT ALL DESIGNATED SEISMIC SYSTEMS ARE INSTALLED ACCORDING TO CONSTRUCTION/MANUFACTURER DOCUMENT REQUIREMENTS, AND THAT COMPLIANCE CERTIFICATES HAVE BEEN COLLECTED (UFC 03 301 01, 3-6.2, 13.2.2.2).

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SUBMITTED BY: S. BRINTNALL
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
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SCHEDULE AND STATEMENT OF SPECIAL INSPECTIONS

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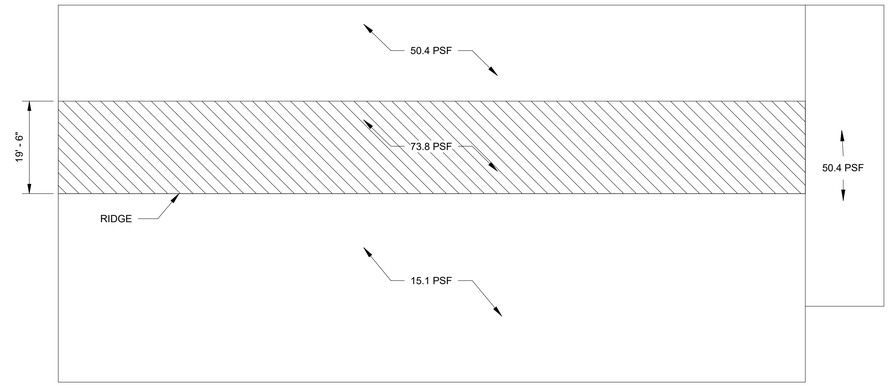

NOTE: MIRRORING THE UNBALANCED SNOW LOAD SHOWN ABOVE ACROSS THE RIDGE SHALL ALSO BE CONSIDERED

PLAN NORTH

G12 UNBALANCED SNOW LOAD

N.T.S.

PLAN NORTH

A12 SNOW DRIFT ON LOWER ROOF

NTS

SNOW LOAD NOTES:

1. SLOPED ROOF SNOW LOAD IS 50.4 PSF. A BALANCED SNOW LOAD WITH THE SLOPED ROOF SNOW LOAD ON THE ENTIRE ROOF SHALL BE CONSIDERED.
2. RAIN ON SNOW SURCHARGE NEED NOT BE CONSIDERED.

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SNOW LOADS

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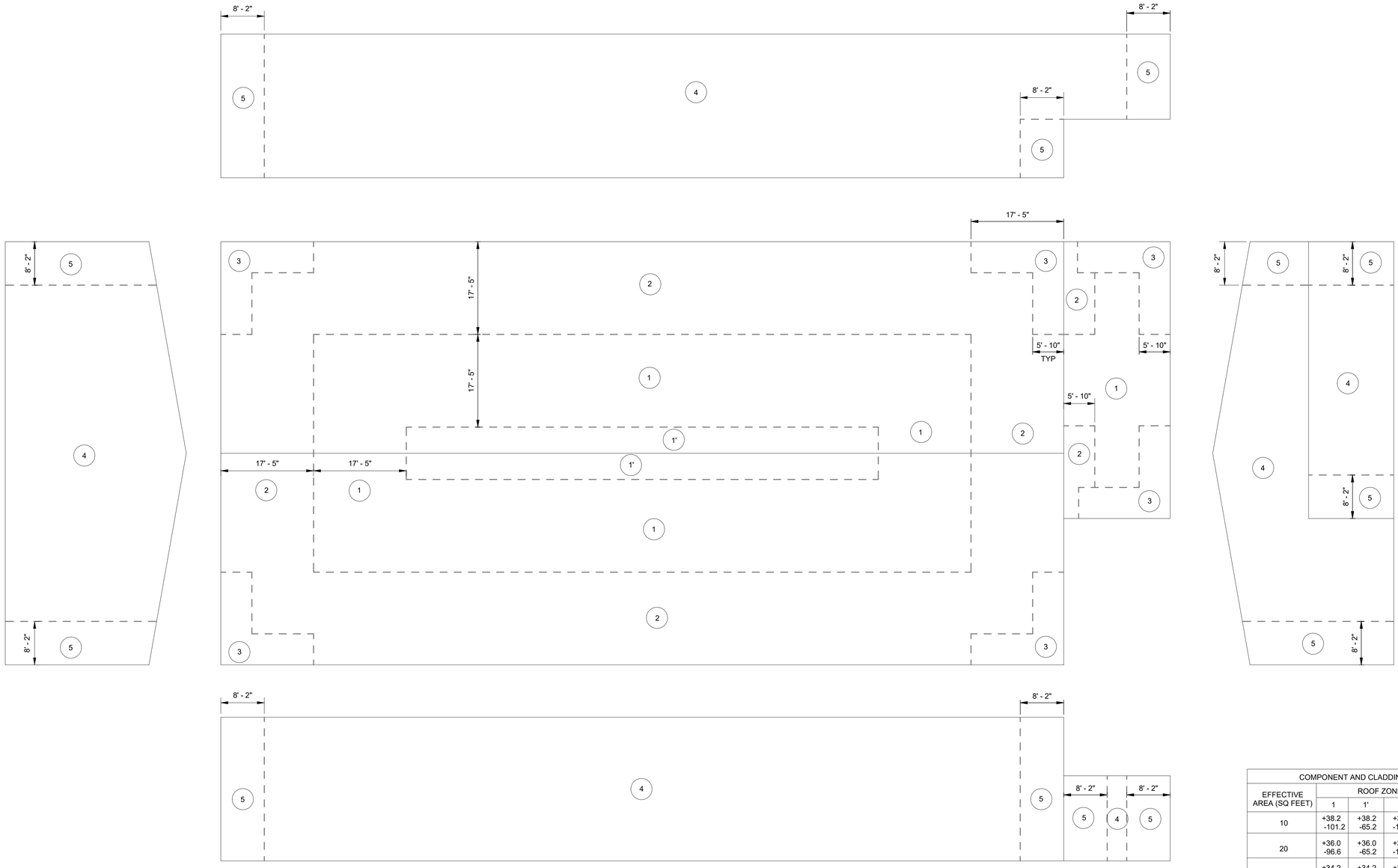

COMPONENT AND CLADDING PRESSURES (PSF)						
EFFECTIVE AREA (SQ FEET)	ROOF ZONES				WALL ZONES	
	1	1'	2	3	4	5
10	+38.2 -101.2	+38.2 -65.2	+38.2 -128.1	+38.2 -168.6	+69.7 -74.2	+69.7 -87.7
20	+36.0 -96.6	+36.0 -65.2	+36.0 -121.4	+36.0 -155.1	+67.4 -71.9	+67.4 -83.2
50	+34.2 -87.7	+34.2 -65.2	+34.2 -111.9	+34.2 -137.1	+65.2 -69.7	+65.2 -77.8
100	+33.7 -83.2	+33.7 -65.2	+33.7 -105.7	+33.7 -121.5	+61.6 -65.2	+61.6 -71.9
200	+33.7 -78.7	+33.7 -58.5	+33.7 -105.7	+33.7 -105.7	+59.8 -63.4	+59.8 -64.3
500	+33.7 -69.7	+33.7 -50.8	+33.7 -87.6	+33.7 -87.6	+56.2 -60.7	+56.2 -60.7
1000	+33.7 -69.7	+33.7 -42.7	+33.7 -87.6	+33.7 -87.6	+56.2 -60.7	+56.2 -60.7

COMPONENTS AND CLADDING NOTES:

1. WIND PRESSURES SHOWING IN THE TABLE CORRESPOND TO WIND PRESSURE DIAGRAMS SHOWN ABOVE. INTERPOLATING BETWEEN TRIBUTARY AREA IS PERMITTED.
2. WIND PRESSURES SHOWN SHALL BE USED IN CONJUNCTION WITH LOAD COMBINATIONS SPECIFIED IN SECTIONS 2.3 AND 2.4 OF ASCE 7-16
3. ALL WIND LOADS WERE CALCULATED FROM ASCE 7-16 USING THE DESIGN WIND SPEED (SEE SHEET S-001)
4. POSITIVE NUMBERS ARE TOWARDS THE SURFACE AND NEGATIVE NUMBERS ARE AWAY FROM THE SURFACE.
5. TRIBUTARY AREA GREATER THAN 700 SF MAY BE DESIGNED USING THE MAIN WIND FORCE RESISTING SYSTEM (MWFRS) PROVISIONS FROM ASCE 7-16, SECTION 30.2.3

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COMPONENT AND CLADDING WIND LOADS

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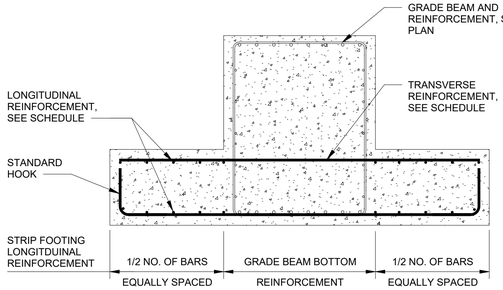


L4 TYP STRIP FOOTING REINFORCEMENT AT GRADE BEAM

NTS

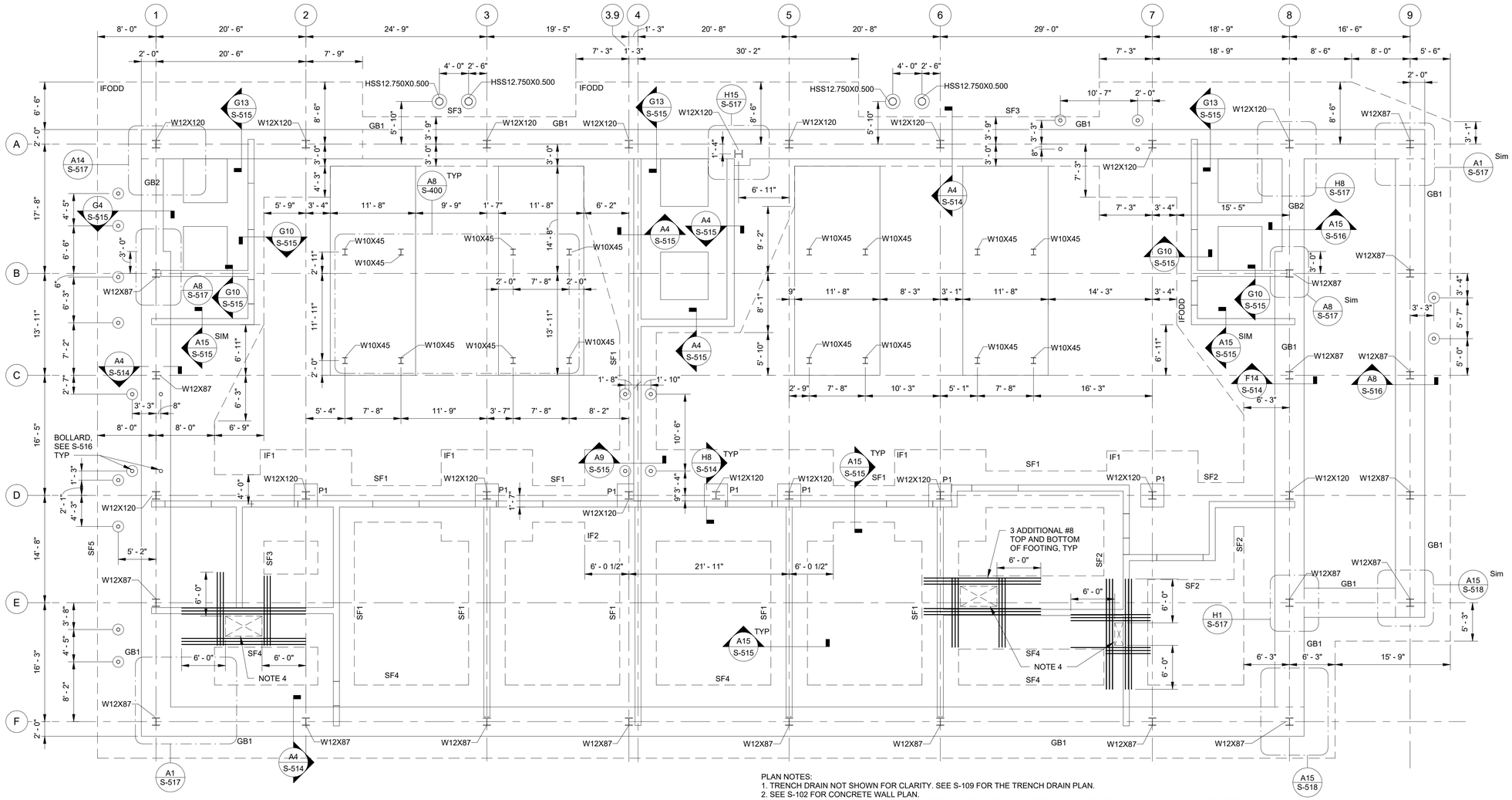
PEDESTAL ("P") SCHEDULE						
MARK	TOP ELEVATION	WIDTH	DEPTH	VERTICAL REINFORCEMENT	TYP STIRRUPS	NOTES
P1	-8"	3' - 2"	3' - 2"	(24) #7	#4 @ 8" O.C.	SEE H3/S-514

GRADE BEAM ("GB") SCHEDULE				
MARK	WIDTH	TOP ELEVATION	BOTTOM ELEVATION	NOTES
GB1	4' - 0"	-8"	-5' - 8"	SEE A16/S-514
GB2	3' - 0"	-8"	-5' - 8"	SEE A11/S-514

ISOLATED FOOTING ("IF") SCHEDULE						
MARK	TOP ELEVATION	THICKNESS	WIDTH	LENGTH	TOP REINFORCEMENT	BOTTOM REINORCEMENT
IF1	-3' - 8"	2' - 0"	12' - 6"	12' - 6"	#6 @ 10" O.C.	#8 @ 10" O.C.
IF2	-3' - 8"	2' - 0"	12' - 6"	34' - 0"	#6 @ 10" O.C.	#7 @ 10" O.C.
IFODD	-3' - 8"	2' - 0"	<varies>	<varies>	#6 @ 10" O.C.	#7 @ 10" O.C.

STRIP FOOTING ("SF") SCHEDULE					
MARK	TOP ELEVATION	WIDTH	THICKNESS	LONGITUDINAL REINFORCEMENT	TRANSVERSE REINFORCEMENT
SF1	-3' - 8"	5' - 0"	2' - 0"	(6) #6 T&B	#6 @ 7" O.C. T&B. SEE NOTE 3
SF2	-3' - 8"	6' - 0"	2' - 0"	(8) #6 T&B	#6 @ 7" O.C. T&B. SEE NOTE 3
SF3	-3' - 8"	6' - 9"	2' - 0"	(8) #6 T&B, SEE NOTE 2	#6 @ 7" O.C. T&B. SEE NOTE 3
SF4	-3' - 8"	10' - 0"	2' - 0"	(10) #6 T&B, SEE NOTE 2	#6 @ 7" O.C. T&B. SEE NOTE 3
SF5	-3' - 8"	16' - 0"	2' - 0"	(20) #6 T&B, SEE NOTE 2	#6 @ 7" O.C. T&B. SEE NOTE 3

STRIP FOOTING SCHEDULE NOTES:
1. REINFORCING SHOWN SHALL CONTINUE THROUGH THE EXTENT OF FOUNDATION ELEMENTS AT THE ENDS OF THE STRIP FOOTINGS.
2. SEE DETAIL ON THIS SHEET FOR PLACEMENT OF LONGITUDINAL REINFORCEMENT IN STRIP FOOTINGS PLACED AT GRADE BEAMS. FOR OTHER LOCATIONS, REINFORCEMENT SHALL BE EQUALLY SPACED.
3. PRIVDE STANDARD HOOKS AT BOTH ENDS OF THE BOTTOM LAYER OF TRANSVERSE REINFORCEMENT.



PLAN NOTES:
1. TRENCH DRAIN NOT SHOWN FOR CLARITY. SEE S-109 FOR THE TRENCH DRAIN PLAN.
2. SEE S-102 FOR CONCRETE WALL PLAN.
3. PROVIDE WATERSTOPS IN ALL CONSTRUCTION JOINTS IN THE CONCRETE WALLS, GRADE BEAMS, AND FOOTING FOR BOTH DAY TANK PITS AND AND THE EXHAUST TREATMENT TANK PIT.
4. COORDINATE FIELD VERIFY DIMENSIONS OF ELECTRICAL CONDUIT PENETRATIONS THROUGH THE FOOTING. PENETRATION DIMENSIONS SHALL BE VERIFIED PRIOR FINAL APPROVAL OF THE REINFORCEMENT SHOP DRAWINGS. DO NOT PLACE FOUNDATION UNTIL FINAL LOCATION OF BLOCKOUT HAS BEEN DETERMINED AND APPROVED BY THE GOVERNMENT. ADDITIONAL TIES IN FOOTINGS AT CONDUIT LOCATIONS MAY BE REQUIRED BY THE EOR BASED ON FINAL PENETRATION DIMENSIONS.

A3 FOUNDATION PLAN

1/8" = 1'-0"

PLAN NORTH

0 4' 8' 16'

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MARK	DESCRIPTION	DATE

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CHECKED BY:	W. BOECK
S. DRAWING NO.	S-100
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FOUNDATION PLAN

SHEET ID

S-100

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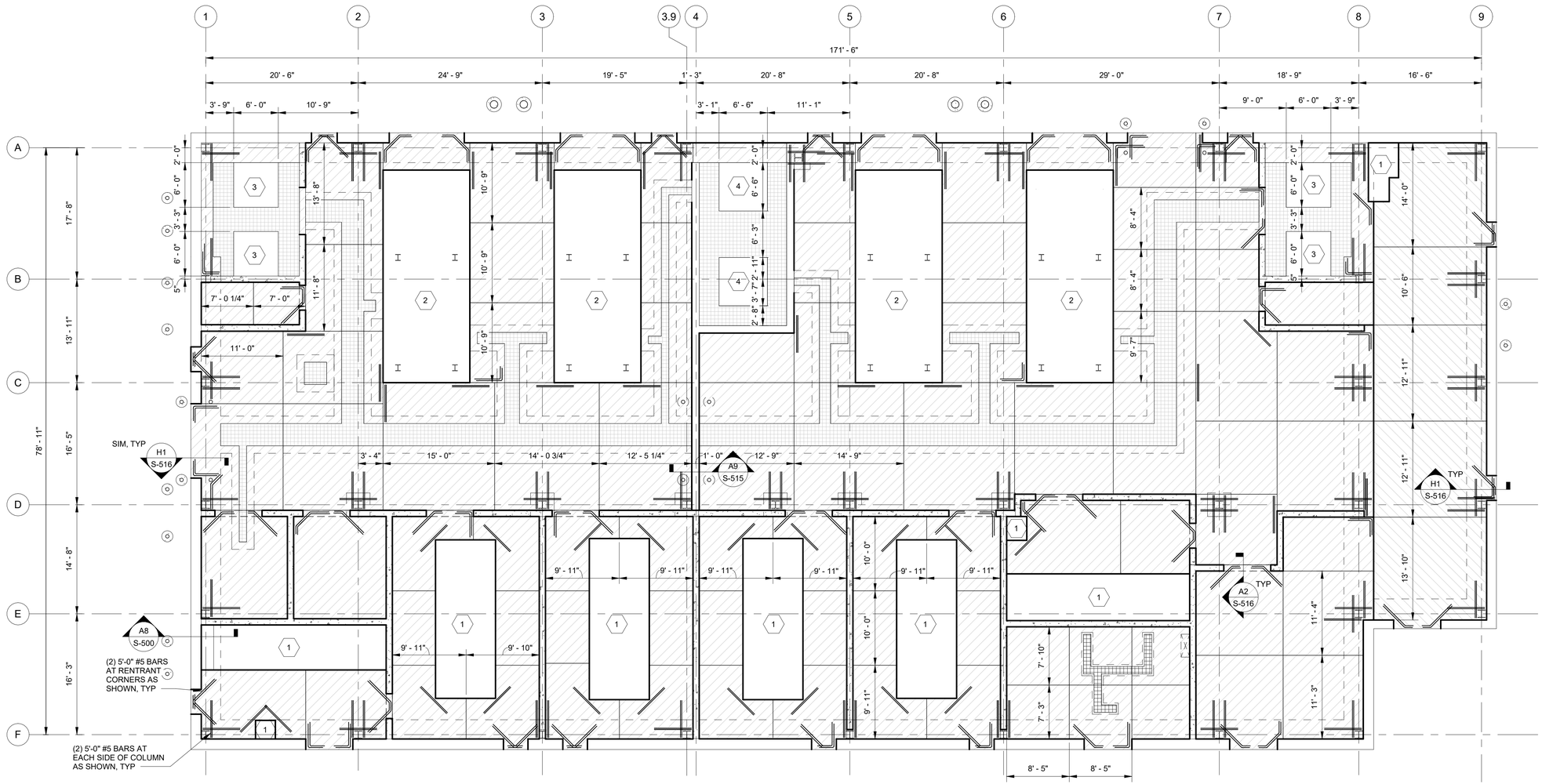
SLAB-ON-GRADE KEY:

- 8" THICK WITH #5 @ 10" O.C.E.W., SEE M8/S-500
- 5" THICK WITH #3 @ 10" O.C.E.W., SEE M8/S-500
- 1 - 1'-4" THICK EQUIPMENT PAD, SEE A14/S-500
- 2 - 5'-0" THICK GENERATOR PAD, SEE A1/S-500
- 3 - 6'-0" X 6'-0" DAY TANK CONCRETE PADS, SEE E1/S-500
- 4 - 6'-6" X 6'-6" DEF BULK TANK CONCRETE PADS, SEE E1/S-500
- METAL GRATING, SEE S-109
- CONTRACTION JOINT (SEE NOTE BELOW)
- 1/2" EXPANSION JOINT

NOTE: CONTRACTOR SHALL SUBMIT REQUESTS TO THE GOVERNMENT FOR APPROVAL OF ANY CONTRACTION JOINT THEY WISH TO MAKE AS A CONSTRUCTION JOINT LOCATIONS. DO NOT SUBSTITUTE CONTRACTION JOINTS FOR CONSTRUCTION JOINTS THAT ARE LOCATED IN THE SLAB DIRECTLY ABOVE A GRADE BEAM.



NOTES:
1. CONCRETE EQUIPMENT PAD SIZES ARE APPROXIMATE AND SHALL BE COORDINATED WITH MECHANICAL AND ELECTRICAL SHEETS.
2. REINFORCEMENT SHOWN IS IN ADDITION TO TYPICAL REINFORCEMENT.

PLAN NORTH

0 4' 8' 16'

A3 SLAB-ON-GRADE PLAN
1/8" = 1'-0"

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SLAB-ON-GRADE AND EQUIPMENT PAD PLAN

SHEET ID

S-101

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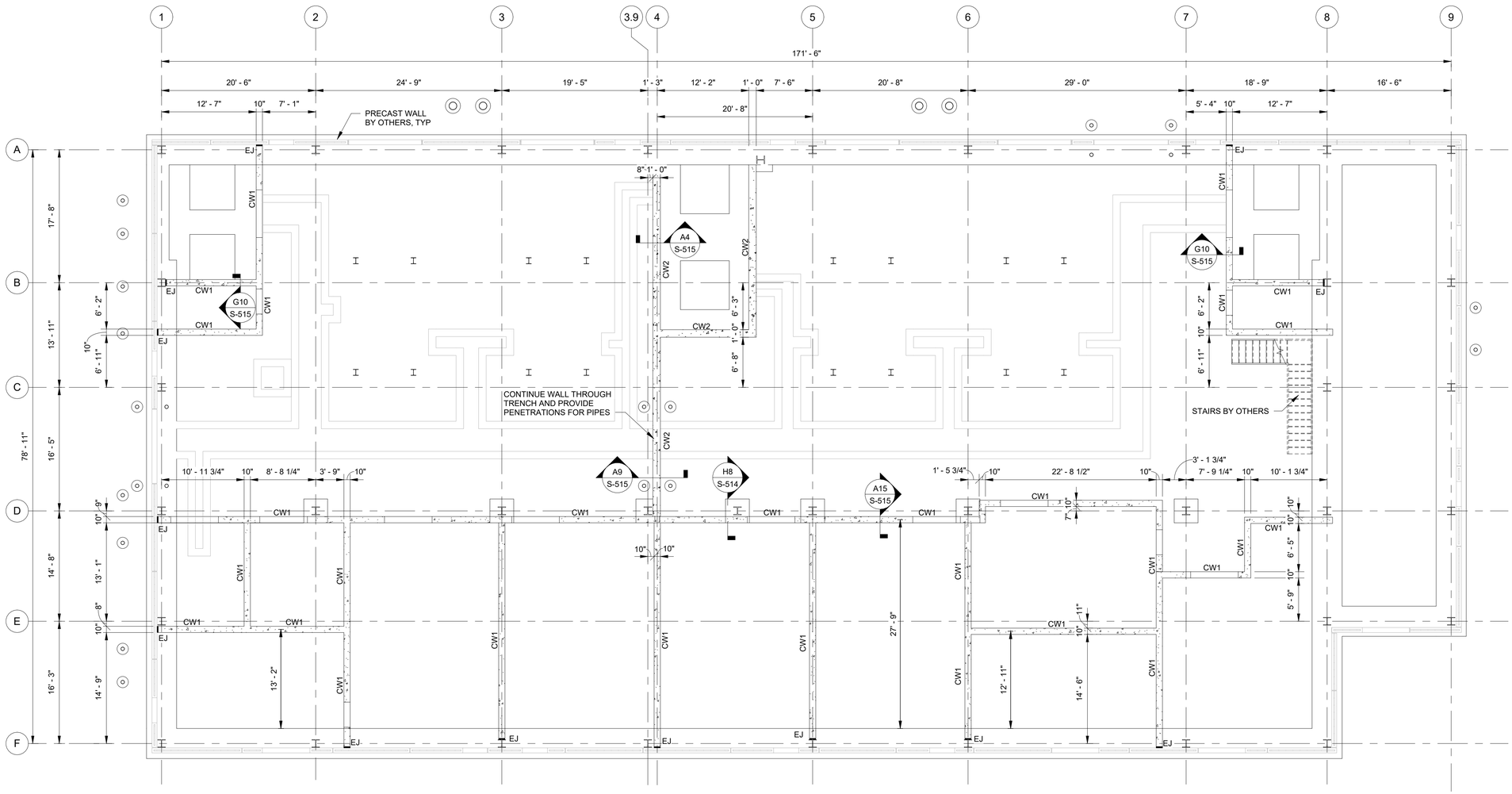
CONCRETE WALL ("CW") SCHEDULE					
MARK	THICKNESS	TOP ELEVATION	BASE ELEVATION	VERTICAL REINFORCEMENT	HORIZONTAL REINFORCEMENT
CW1	10"	12' - 7"	-3' - 8"	#5 @ 8" O.C.E.F.	#4 @ 16" O.C.E.F.
CW2	12"	0' - 0"	-3' - 8"	#5 @ 8" O.C.E.F.	#4 @ 12" O.C.E.F.



CONCRETE WALL NOTES:
1. ALL EXPANSION JOINTS SHALL BE 2".

PLAN NORTH

0 4' 8' 16'

A4 CONCRETE WALL PLAN

1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY:	E. HENIN
DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	S. BUTTRESS
SIZE:	ANSI D
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SOLICITATION NO.:	W9128F25RA043
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FILE NAME:	BUCO00102_DM_S.rvt

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OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

CONCRETE WALL PLAN

SHEET ID

S-102

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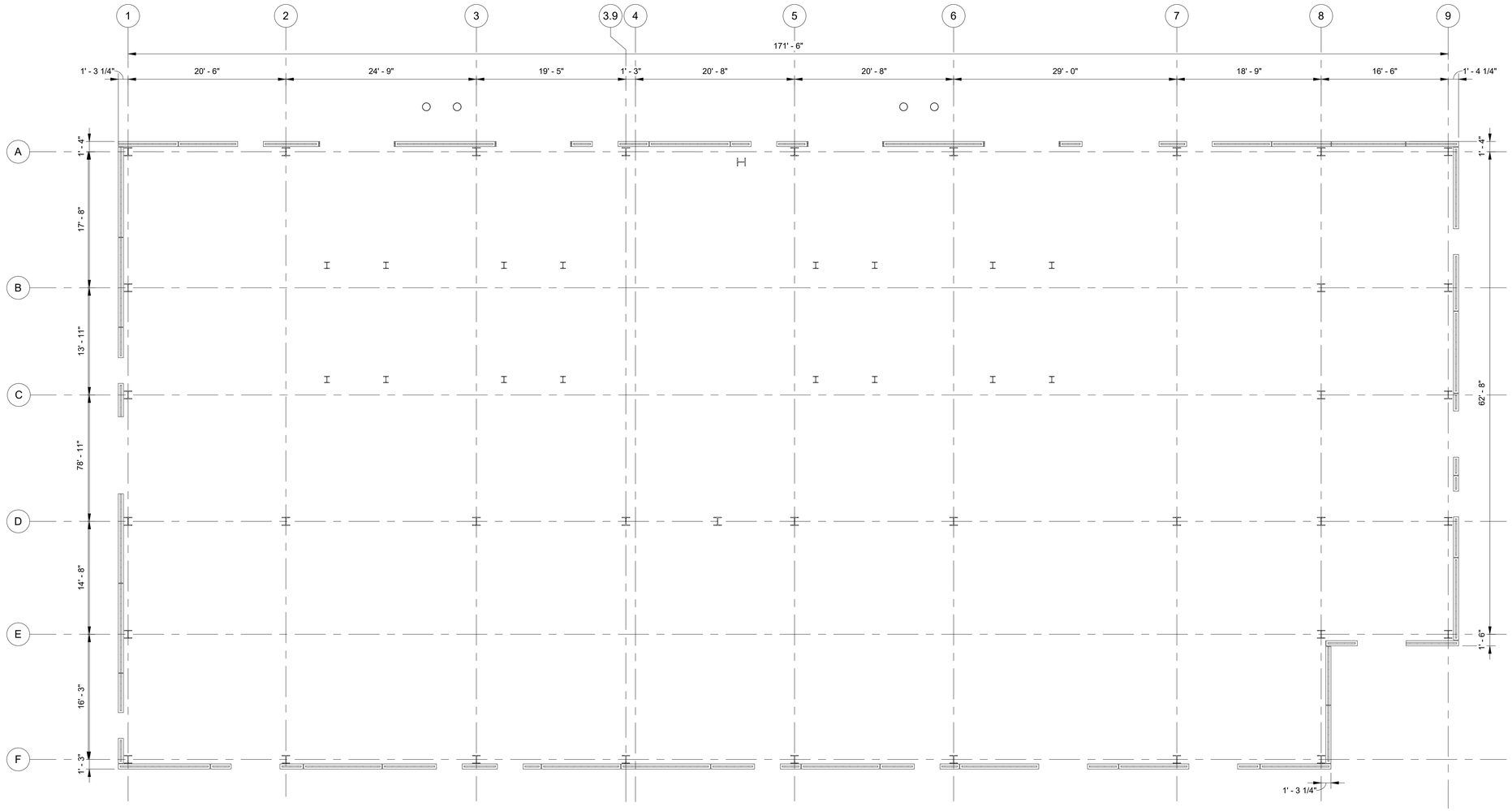

NOTES:
1 PRECAST WALL PANELS ARE BY OTHERS. COORDINATE DIMENSIONS AND OPENINGS WITH ARCHITECTURE.
2. SEE NOTES ON S-001 FOR ADDITIONAL REQUIREMENTS.

PLAN NORTH

A4 PRECAST WALL PLAN
1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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CONTRACT NO.:

DESIGNED BY: E. HENIN	ISSUE DATE: 05/01/2025
DRAWN BY: J. OSBORN	SOLICITATION NO.: W9128F25RA043
CHECKED BY: W. BOECK	CONTRACT NO.:
S. DENNIG	
SIZE: ANSI D	FILE NAME: BUCO00102_DM_S.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
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OMAHA, NE 68102

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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

PRECAST WALL PLAN

SHEET ID
S-103

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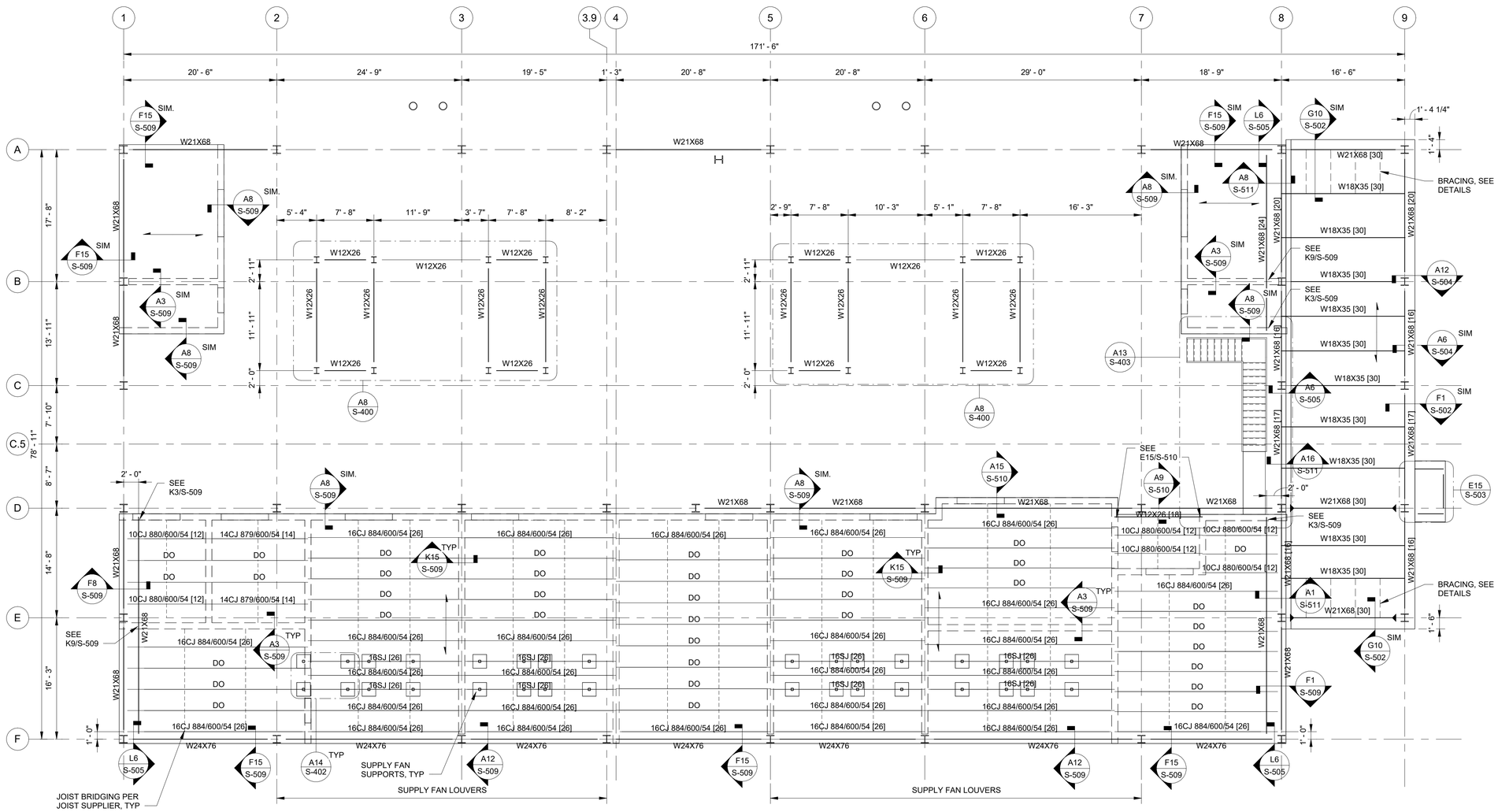

PLAN NOTES:
1. STEEL JOISTS ARE TO BE EQUALLY SPACED AS SHOWN WITH THE NUMBER OF JOISTS SHOWN OR AT A MAX SPACING OF 3'-0" O.C.
2. PROVIDE SPECIALTY JOISTS ("SJ") DIRECTLY BENEATH SUPPLY FAN SUPPORTS AS SHOWN.
3. "DO" IS AN ABBREVIATION FOR DITTO.

A4 MEZZANINE AND LOW ROOF FRAMING PLAN

1/8" = 1'-0"

PLAN NORTH

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\G6C0XJEO\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_S_G6C0XJEO.rvt

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CHECKED BY: W. BOECK
S. DRAWING SIZE: ANSI D
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SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_S.rvt

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MEZZANINE AND LOW ROOF FRAMING PLAN

SHEET ID

S-104

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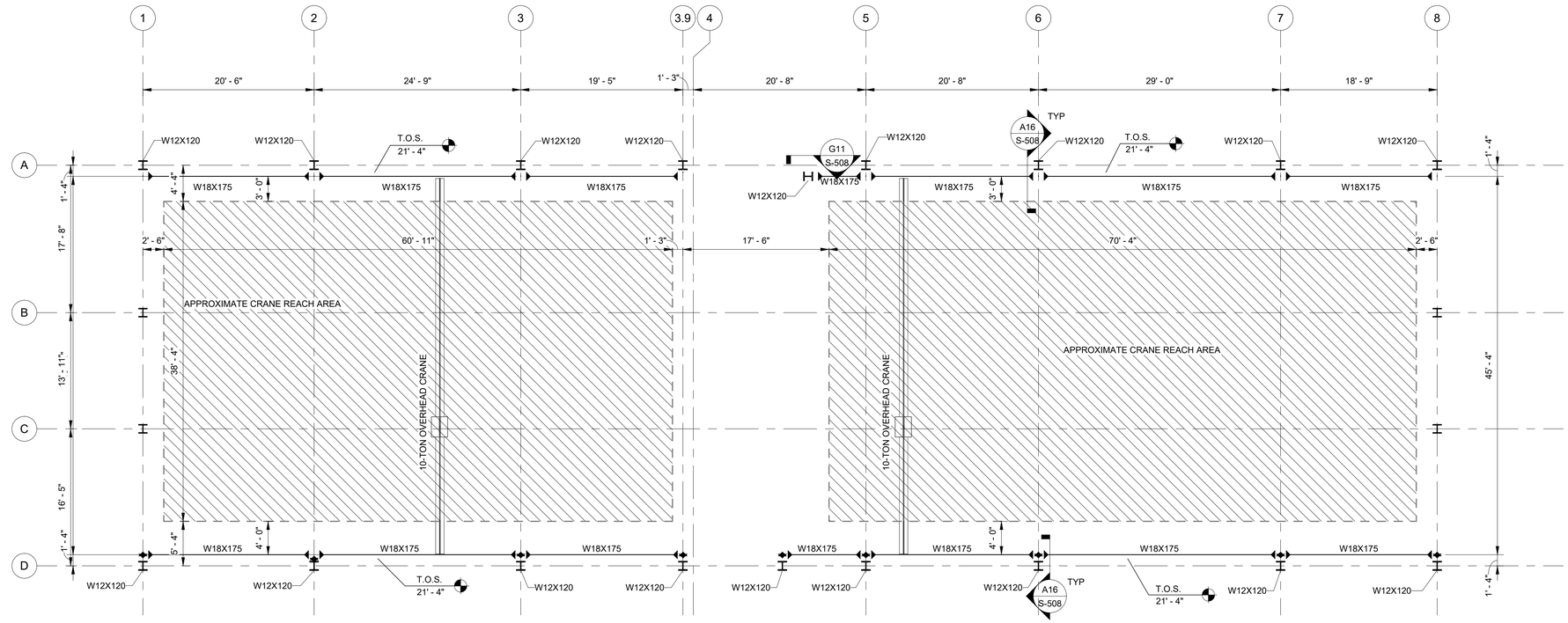

A4 CRANE FRAMING PLAN

1/8" = 1'-0"

PLAN NORTH

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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CONTRACT NO.:	
DESIGNED BY:	E. HENIN
DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	S. DEMITRIS
SIZE:	ANSI D
FILE NAME:	BUCO00102_DM_S.rvt

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OMAHA, NE 68102

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CRANE FRAMING PLAN

SHEET ID

S-105

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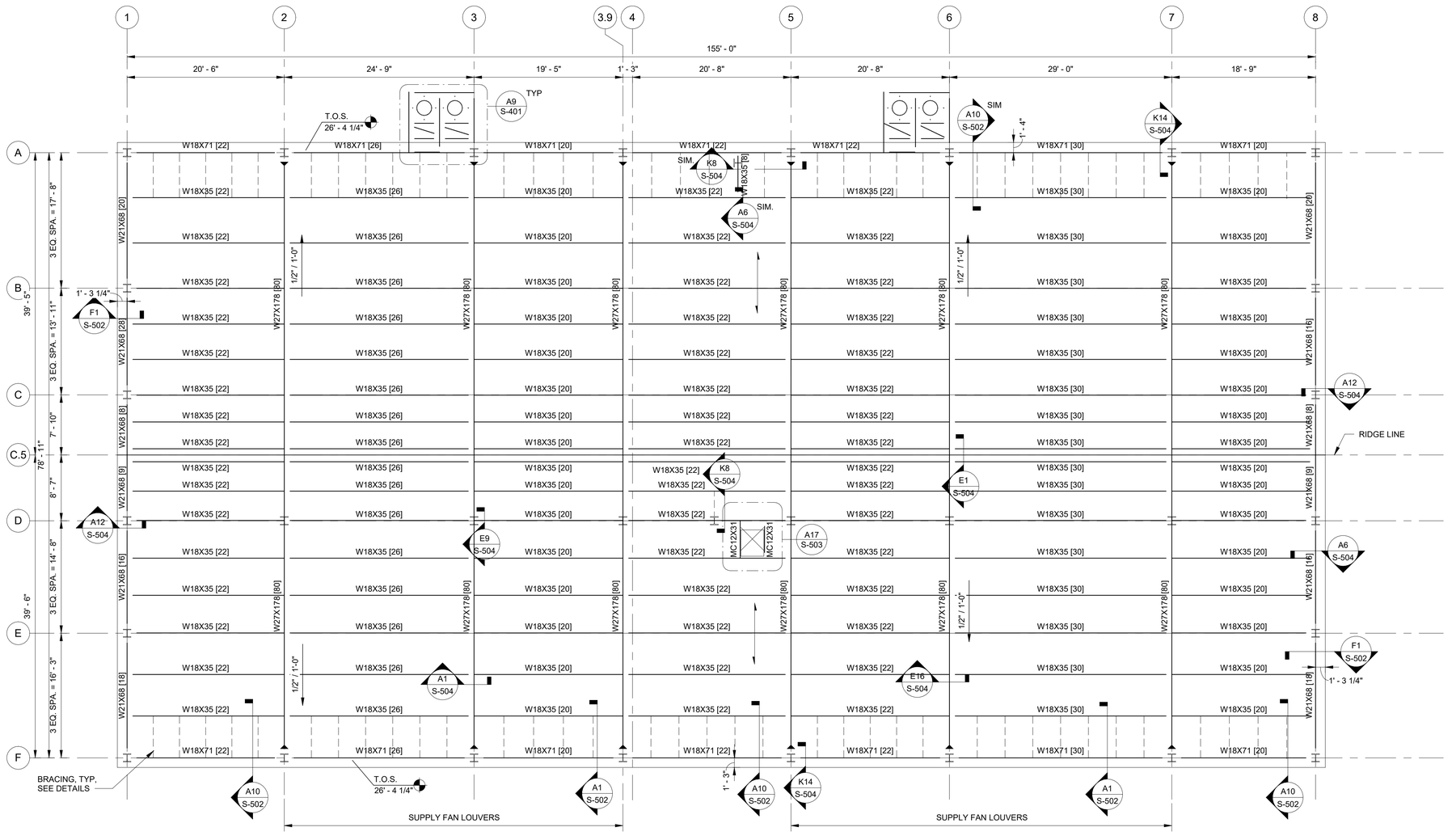

A4 ROOF FRAMING PLAN

1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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ISSUE DATE: 05/01/2025
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CONTRACT NO.:

DESIGNED BY:	E. HENIN
DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	S. ZIEGLER
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BUCKLEY SFB, COLORADO
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ROOF FRAMING PLAN

SHEET ID

S-106

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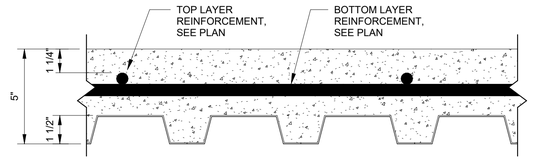
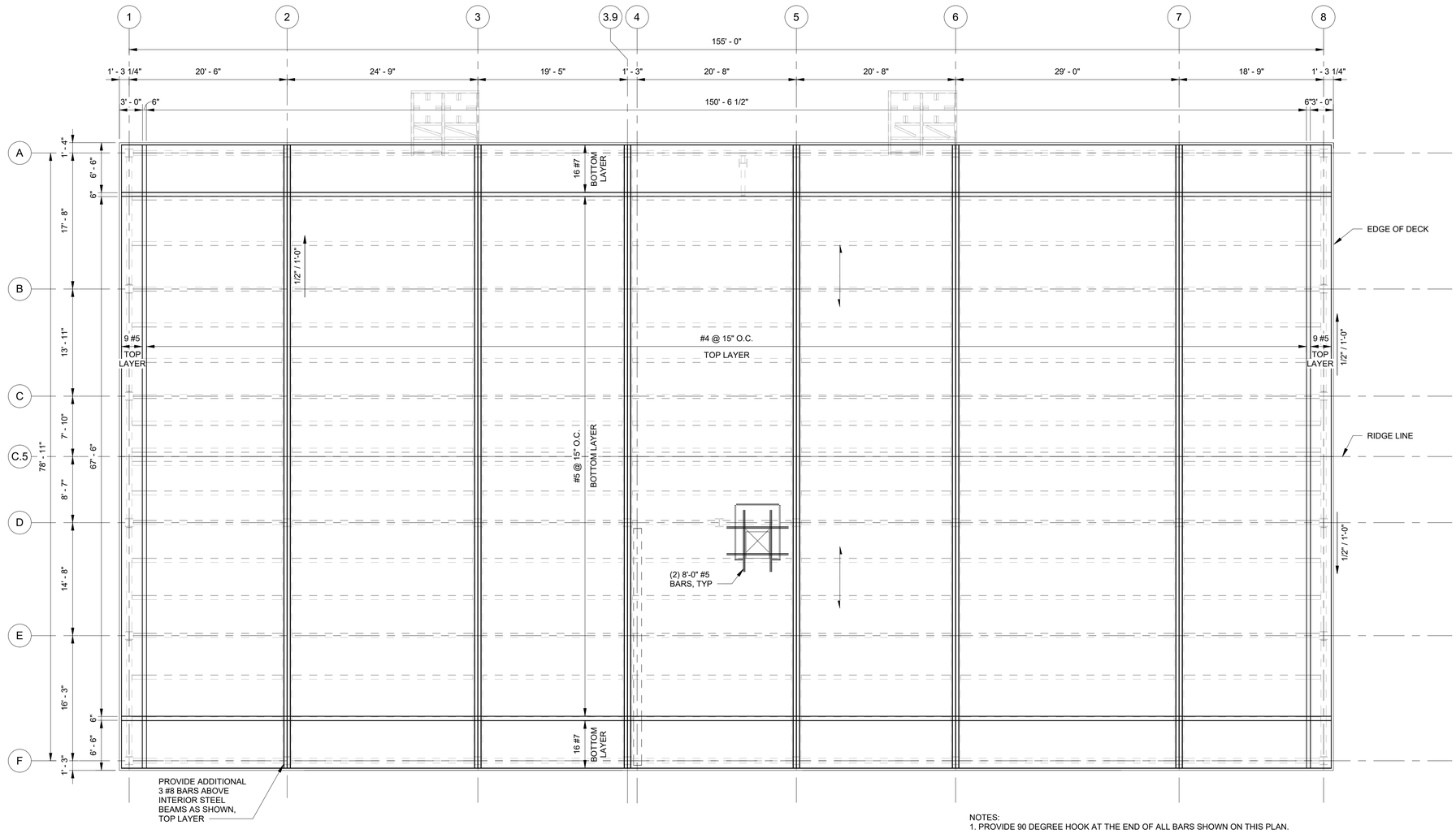


M15 TYP ROOF DECK
3" = 1'-0"



NOTES:
1. PROVIDE 90 DEGREE HOOK AT THE END OF ALL BARS SHOWN ON THIS PLAN.

PLAN NORTH

A4 ROOF DECK REINFORCEMENT PLAN
1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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Plot Date: 5/5/2025 10:49:26 AM

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DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	S. DERRING
SIZE:	FILE NAME:
ANSI D	BUCC000102_DM_S.rvt

ISSUE DATE: 05/01/2025
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CONTRACT NO.:

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OMAHA DISTRICT
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ROOF DECK REINFORCEMENT PLAN

SHEET ID
S-107

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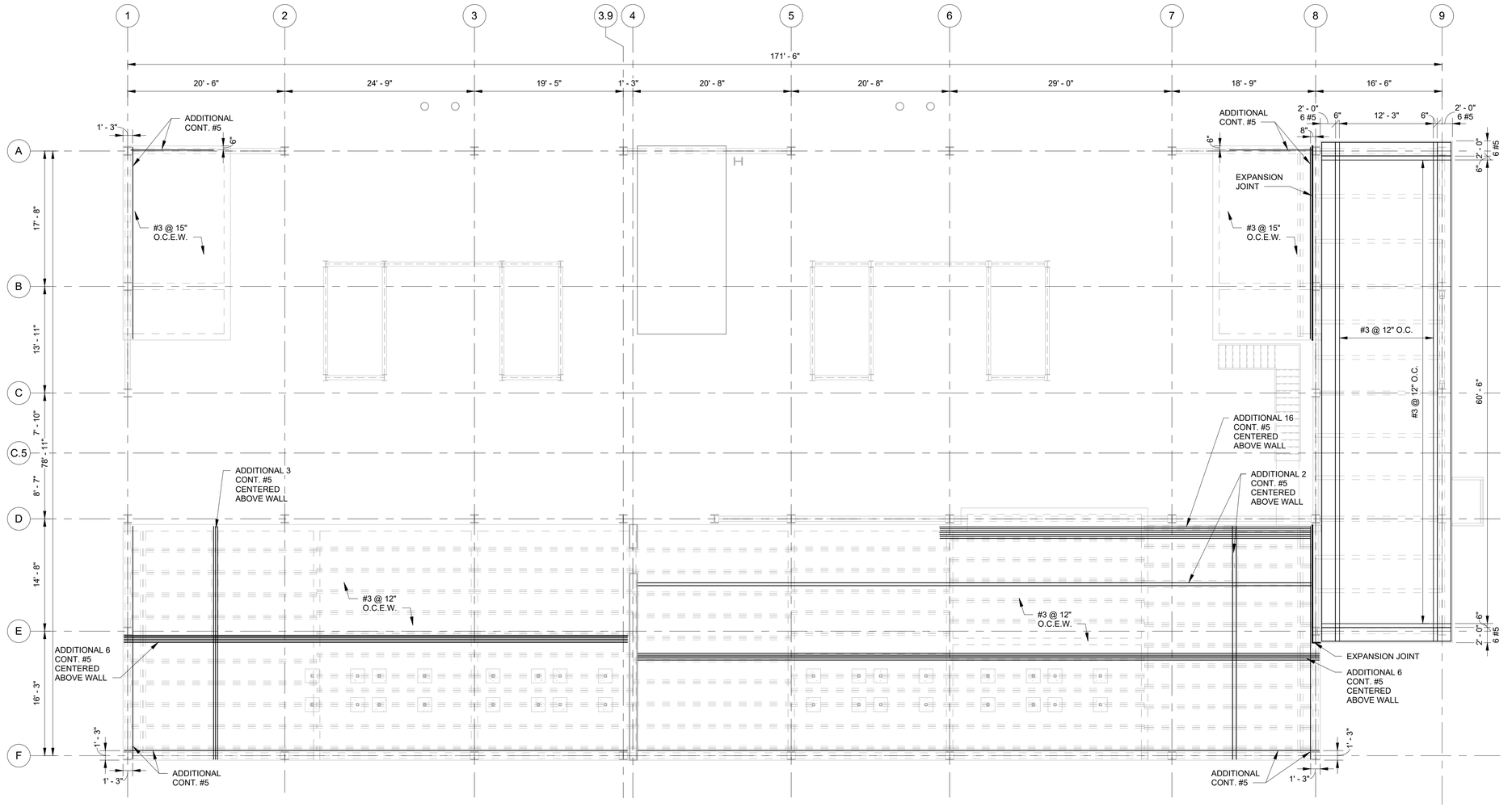

NOTES:
1. PROVIDE 90 DEGREE HOOK AT THE END OF ALL BARS SHOWN ON THIS PLAN.

MEZZANINE AND LOW ROOF ROOF DECK REINFORCEMENT PLAN

A3

1/8" = 1'-0"

PLAN NORTH

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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Plot Date: 5/5/2025 10:49:27 AM

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SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NAME:	BUCO00102_DM_S.rvt

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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
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MEZZANINE AND LOW ROOF DECK REINFORCEMENT PLAN

SHEET ID

S-108

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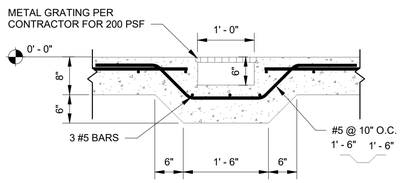
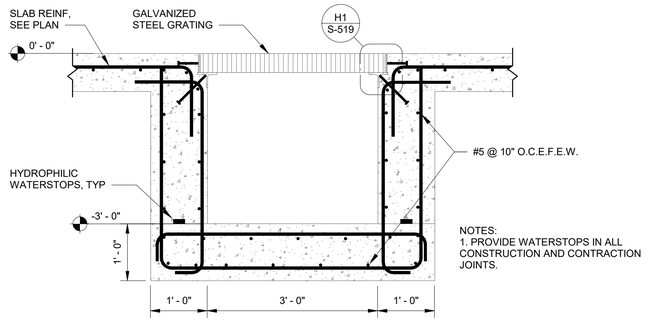


NOTE: THE FIRE PUMP ROOM TRENCH METAL GRATING DETAIL IS CONCEPTUAL AND SHALL BE PER THE CONTRACTOR.

L6 FIRE PUMP ROOM TRENCH

3/4" = 1'-0"

0 0.5' 1' 2' 3'



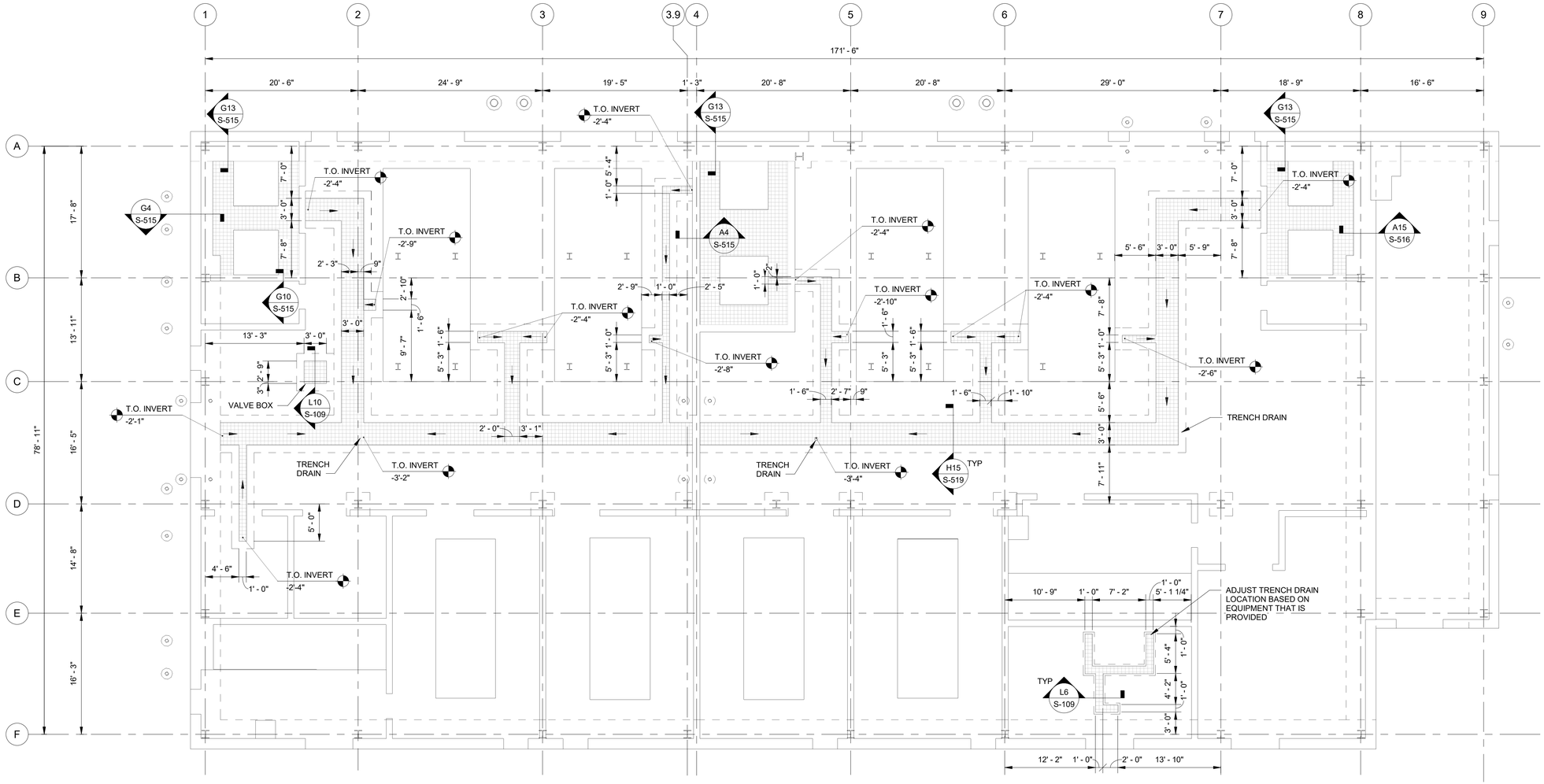
NOTES:
1. PROVIDE WATERSTOPS IN ALL CONSTRUCTION AND CONTRACTION JOINTS.

L10 VALVE BOX SECTION

NTS

0 0.5' 1' 2' 3'

STEEL GRATING NOTES (EXCLUDING FIRE PUMP ROOM TRENCH):
1. GRATING SHALL BE TYPE 22-W-4 HEAY DUTY CARBON STEEL GRATING WITH GALVANIZED FINISH. FABRICATED BY WELDING HEAVY DUTY CROSS BARS PERPENDICULAR TO HEAVY DUTY MAIN BEARING BARS.
   - MAIN BEARING BAR SPACING: 1-3/8" ON CENTER
   - MAIN BEARING BAR THICKNESS: 3/8"
   - MAIN BEARING BAR DEPTH: 4" ON CENTER
   - CROSS BAR SPACING: 4" ON CENTER
2. TOP OF MAIN BARS ARE TO BE SMOOTH WITH SPRAY-ON TRACTION SURFACE. SPRAY ON SURFACE MUST BE QUALIFIED AS HIGH TRACTION BY EITHER ANSI A137.1 B101.3 TESTING.



NOTES:
1. ARROWS REPRESENT TRENCH DRAIN INVERT SLOPE DIRECTION. THE TRENCH DRAIN INVERTS PROVIDED ARE DESIGNED TO PROVIDE A MINIMUM SLOPE OF 1/8" PER FOOT.
2. THE TRENCH DRAIN INVERT SHALL SLOPE TOWARDS THE TRENCH DRAINS AS SHOWN.

A3 TRENCH DRAIN PLAN

1/8" = 1'-0"

PLAN NORTH

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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Plot Date: 7/2/2025 10:56:40 AM

DESIGNED BY:	ISSUE DATE:
E. HENIN	05/01/2025
DRAWN BY:	SOLICITATION NO.:
J. OSBORN	W9128F25RA043
CHECKED BY:	CONTRACT NO.:
W. BOX	
SUBMITTED BY:	
S. DENNING	FILE NAME: BUCO00102_DM_S.rvt
SIZE: ANSI D	

US ARMY CORPS OF ENGINEERS
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TRENCH PLAN

SHEET ID

S-109

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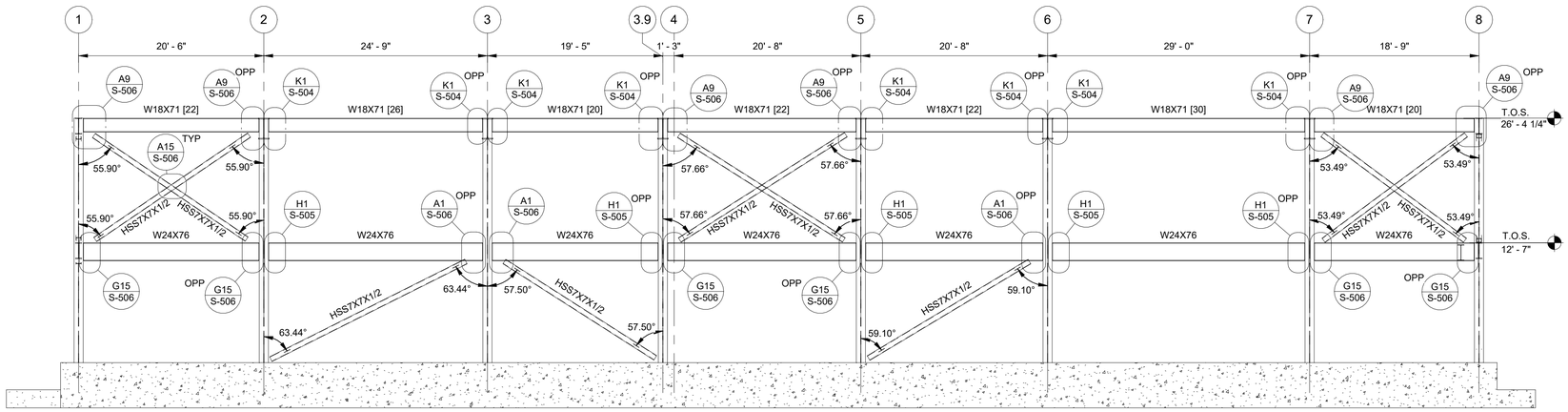
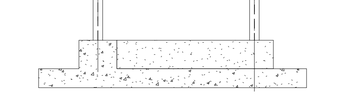


F1 SOUTH WALL FRAMING

1/8" = 1'-0"

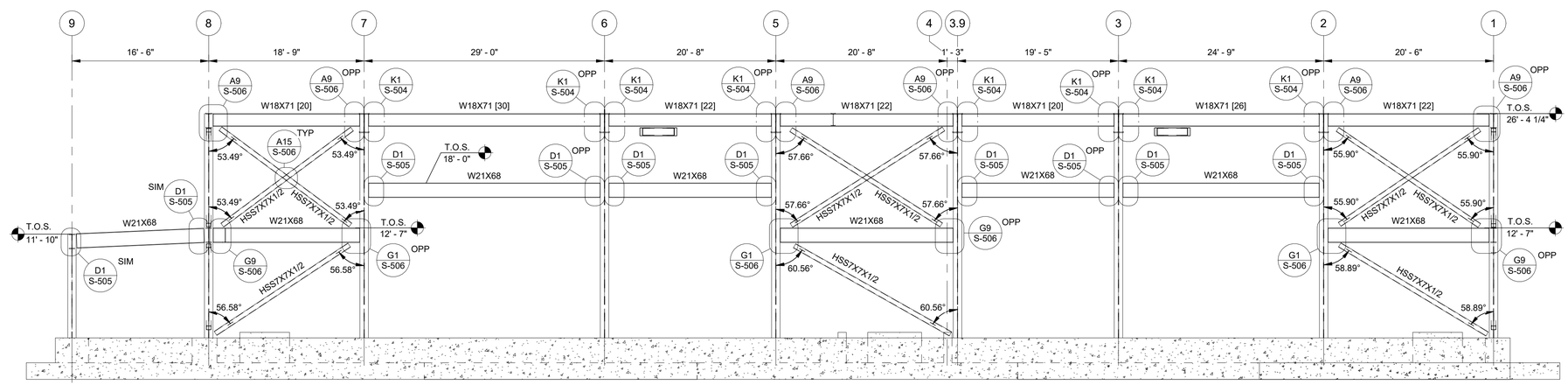
0 4' 8' 16'



F16 GRID E FRAMING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



A5 NORTH WALL FRAMING

1/8" = 1'-0"

0 4' 8' 16'

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1616 CAPITOL AVE
OMAHA, NE 68102

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SUBMITTED BY:	S. DENNING
SIZE:	ANSI D
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

STEEL ELEVATIONS

SHEET ID

S-200

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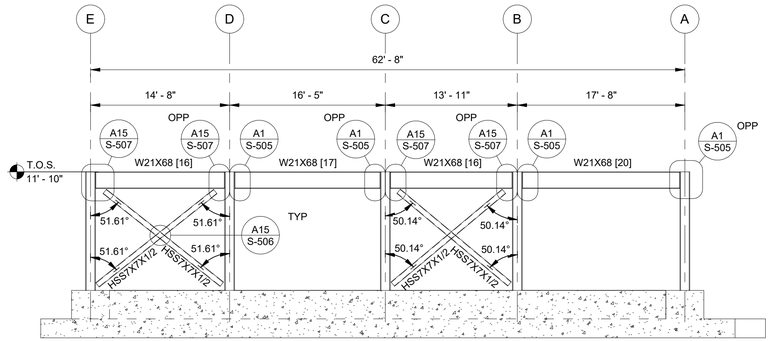
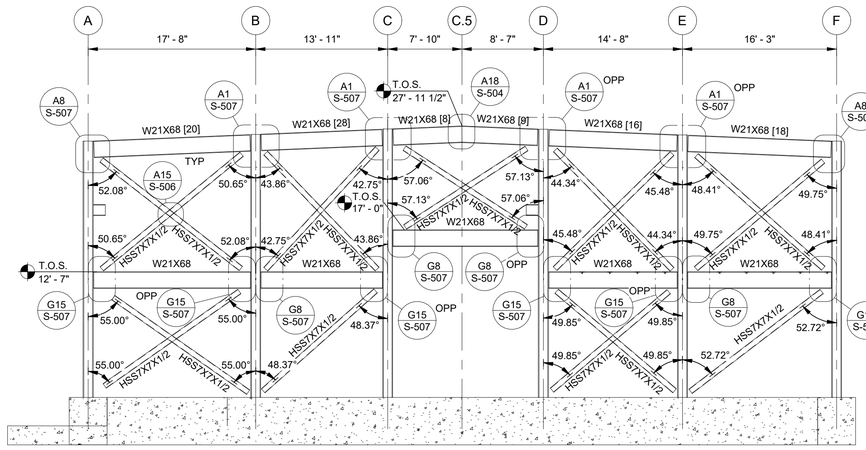


L14 EAST WALL FRAMING

1/8" = 1'-0"

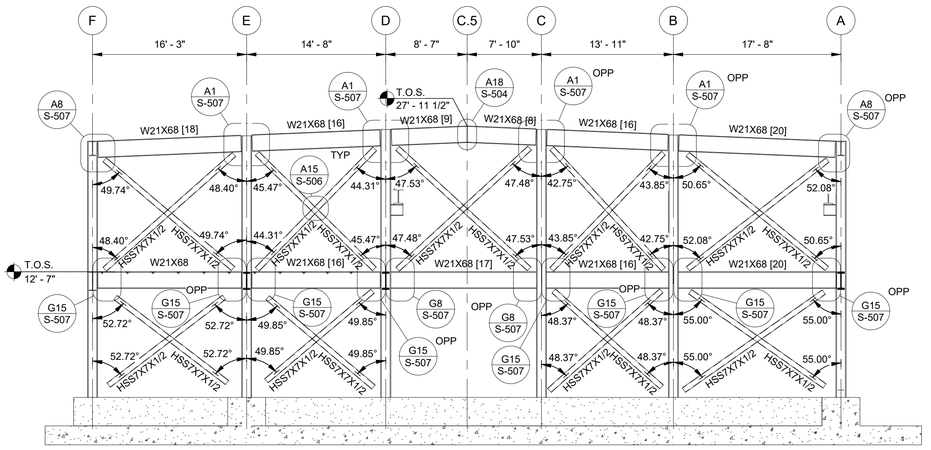
0 4' 8' 16'



F3 WEST WALL FRAMING

1/8" = 1'-0"

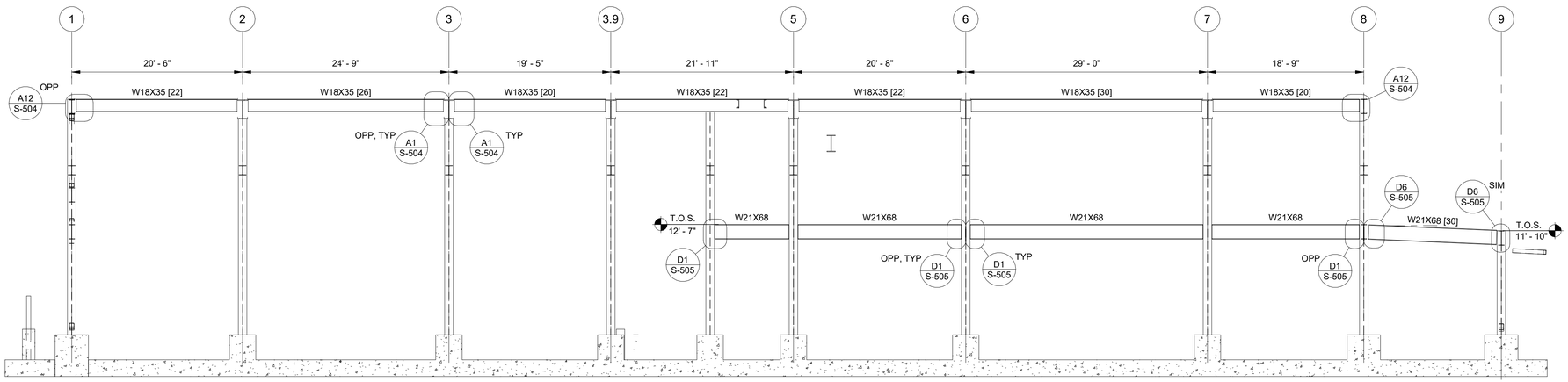
0 4' 8' 16'



F12 GRID 8 FRAMING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



A5 GRID D FRAMING ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

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DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	S. DENNING
SIZE:	ANSI D
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OMAHA DISTRICT
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

STEEL ELEVATIONS

SHEET ID

S-201

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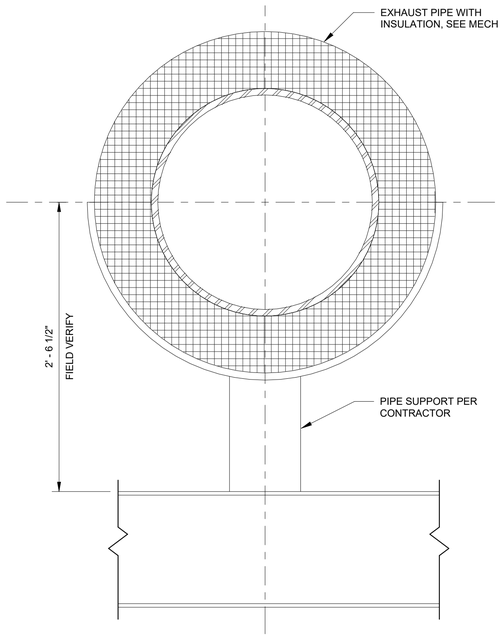
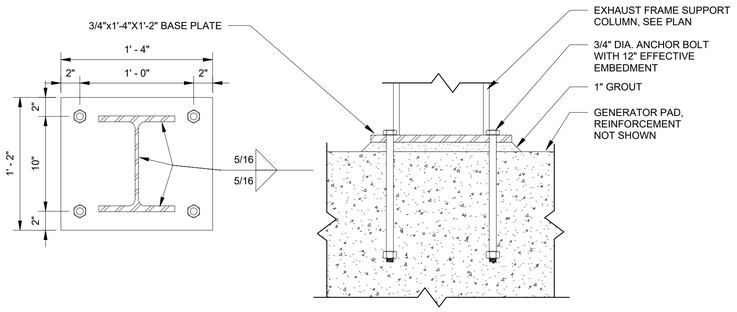


H4 EXHAUST PIPE SUPPORT DETAIL

1 1/2" = 1'-0"

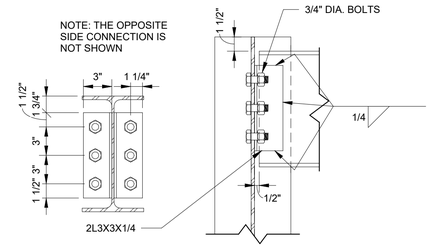
0 0.25' 0.5' 1' 1.5'



J10 W10X45 BASE PLATE

1 1/2" = 1'-0"

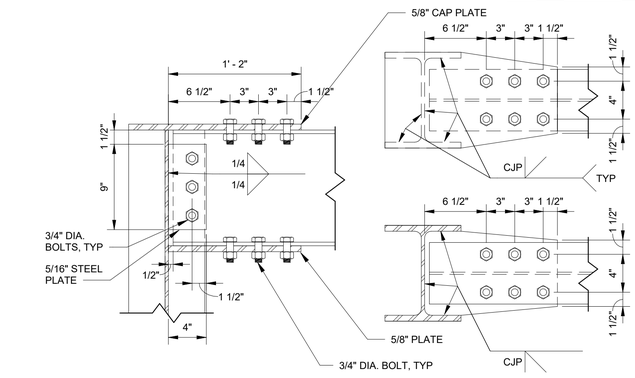
0 0.25' 0.5' 1' 1.5'



J16 SC - W12X26 TO W10X45 WEB

1 1/2" = 1'-0"

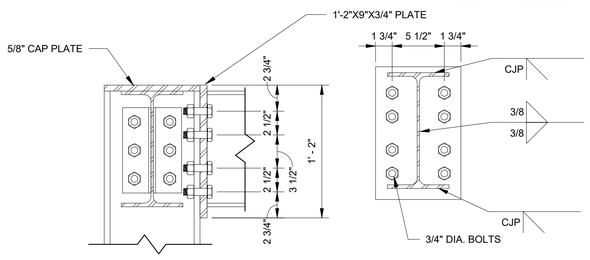
0 0.25' 0.5' 1' 1.5'



D3 MC2A - W12X26 TO W10X45 WEB

1 1/2" = 1'-0"

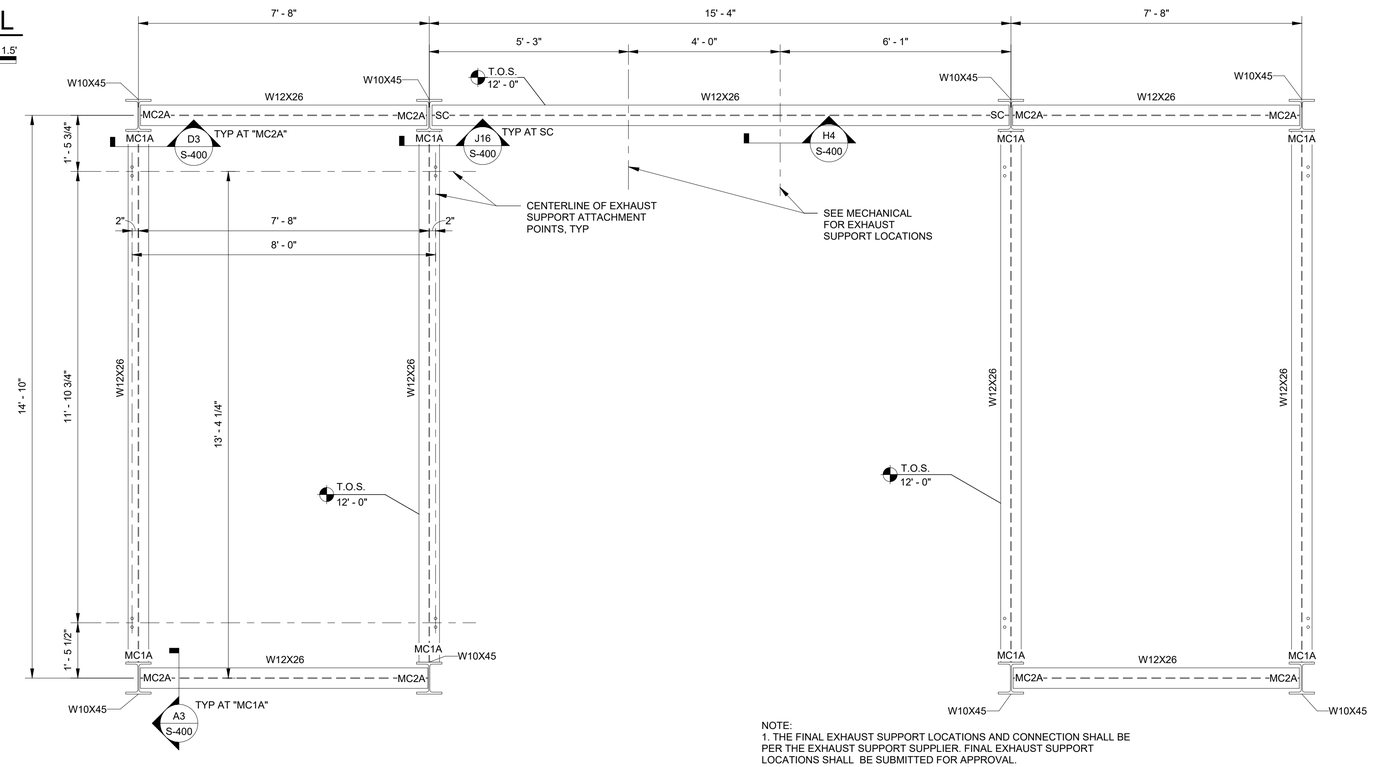
0 0.25' 0.5' 1' 1.5'



A3 MC1A - W12X26 TO W10X45 FLANGE

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A8 EXHAUST SCR BOX SUPPORT FRAMING

1/2" = 1'-0"

0 1' 2' 4'

US Army Corps of Engineers ®

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: BUCO00102_DM_S.rvt

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OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

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POWER INDEPENDENCE, MISSION CONTROL STATION

EXHAUST SCR BOX SUPPORT FRAMING

SHEET ID

S-400

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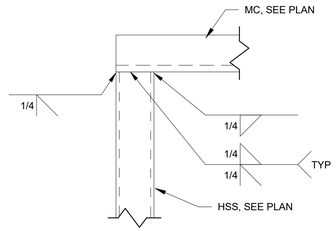
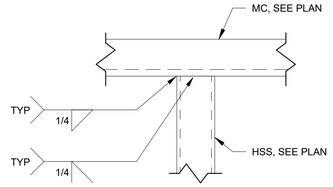


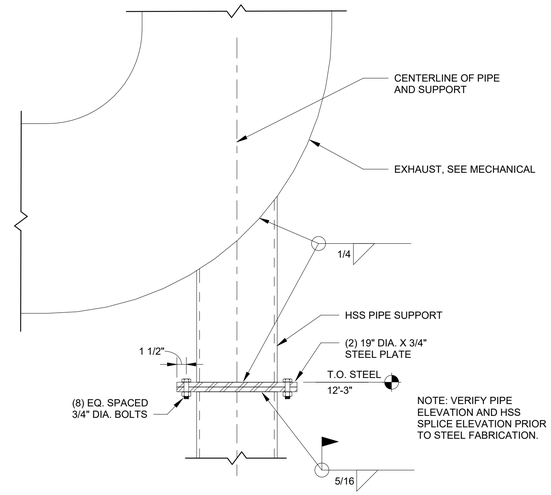
M4 HSS TO CHANNEL 2

1 1/2" = 1'-0"



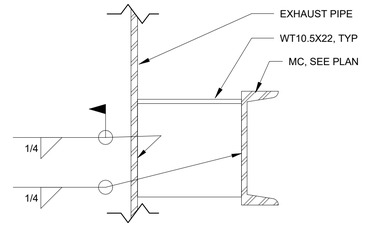
M7 HSS TO CHANNEL 1

1 1/2" = 1'-0"



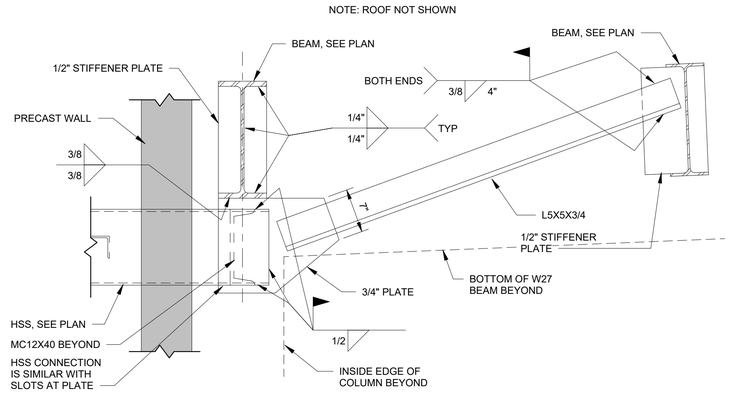
H11 EXHAUST SUPPORT & SPLICE

1" = 1'-0"



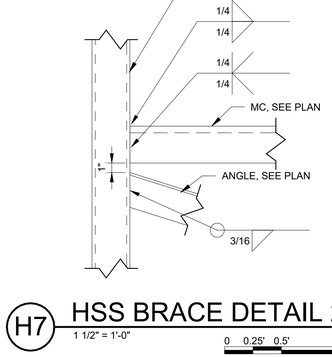
L16 EXHAUST STACK TO CHANNEL

1 1/2" = 1'-0"



G1 CHANNEL TO STRUCTURE CONNECTION

1" = 1'-0"

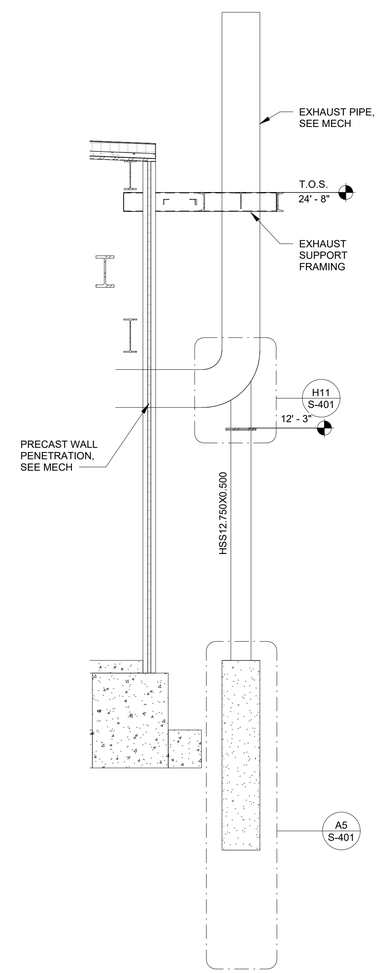


H7 HSS BRACE DETAIL 2

1 1/2" = 1'-0"

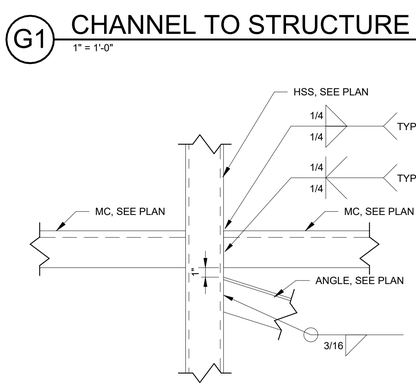
A9 EXHAUST SUPPORT FRAMING

3/4" = 1'-0"



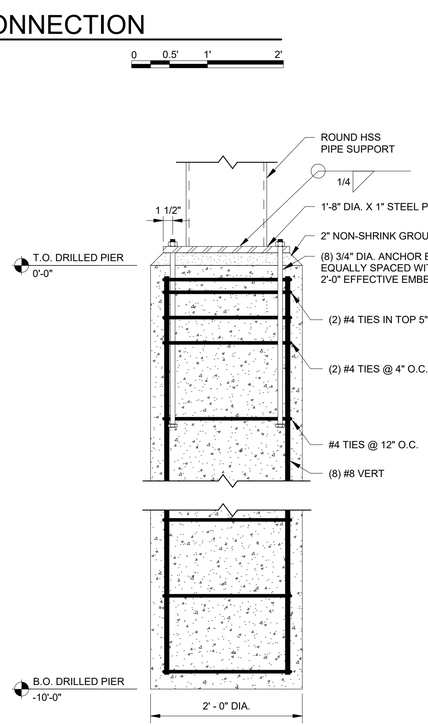
A17 EXTERIOR EXHAUST SUPPORT

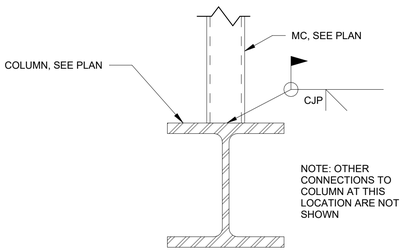
1/4" = 1'-0"



D1 HSS BRACE DETAIL 1

1 1/2" = 1'-0"





A1 CHANNEL TO COLUMN

1 1/2" = 1'-0"

A5 EXHAUST SUPPORT DRILLED PIER

1" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\GEOX\EO\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_S_GEOX-EO.rvt

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY: S. DEMING
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_S.rvt

Plot Date: 5/5/2025 10:49:37 AM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

EXTERIOR EXHAUST SUPPORT FRAMING

SHEET ID

S-401

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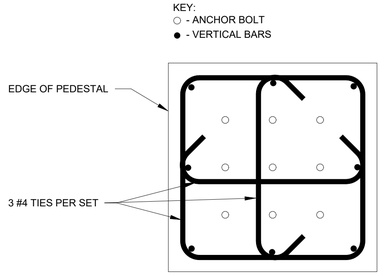
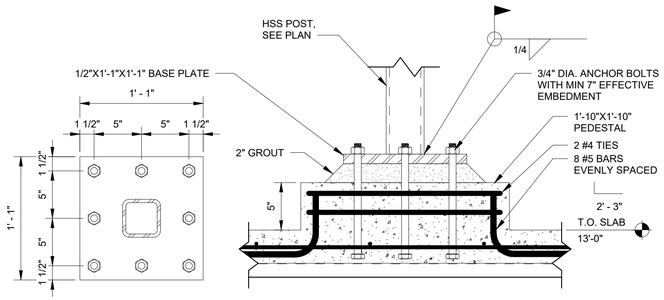
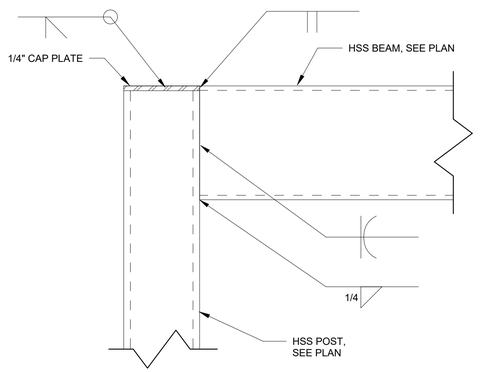


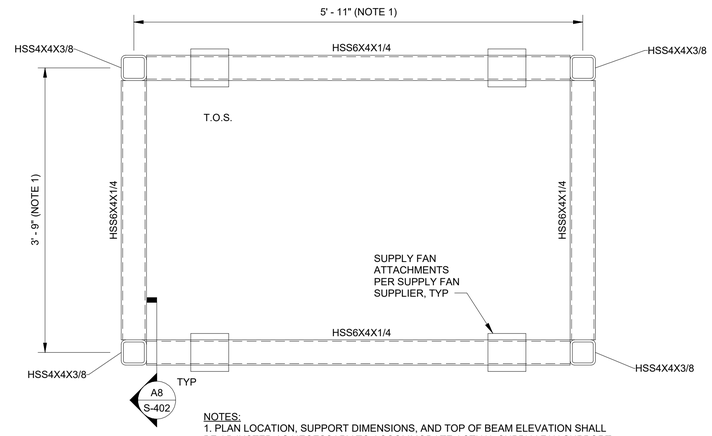
F10 BASE TIES
1 1/2" = 1'-0"
0 0.25' 0.5' 1' 1.5'



F15 HSS BASE PLATE
1 1/2" = 1'-0"
0 0.25' 0.5' 1' 1.5'



A8 HSS BEAM TO HSS POST CONNECTION
3" = 1'-0"
0 0.125' 0.25' 0.5' 0.75'



NOTES:
1. PLAN LOCATION, SUPPORT DIMENSIONS, AND TOP OF BEAM ELEVATION SHALL BE ADJUSTED AS NECESSARY TO ACCOMMODATE ACTUAL SUPPLY FAN SUPPORT LOCATIONS. SUBMIT FINAL DIMENSIONS TO THE GOVERNMENT FOR APPROVAL.

A14 SUPPLY FAN SUPPORT FRAMING
1" = 1'-0"
0 0.5' 1' 2'

US Army Corps of Engineers ®

MARK:	DESCRIPTION	DATE

File Path: C:\Users\G6CDXJEO\OneDrive - US Army Corps of Engineers\Documents\BUCC000102_DM_S_G6CDXJEO.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY:
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: BUCC000102_DM_S.rvt

Plot Date: 5/5/2025 10:49:38 AM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

SUPPLY FAN SUPPORT FRAMING

SHEET ID

S-402

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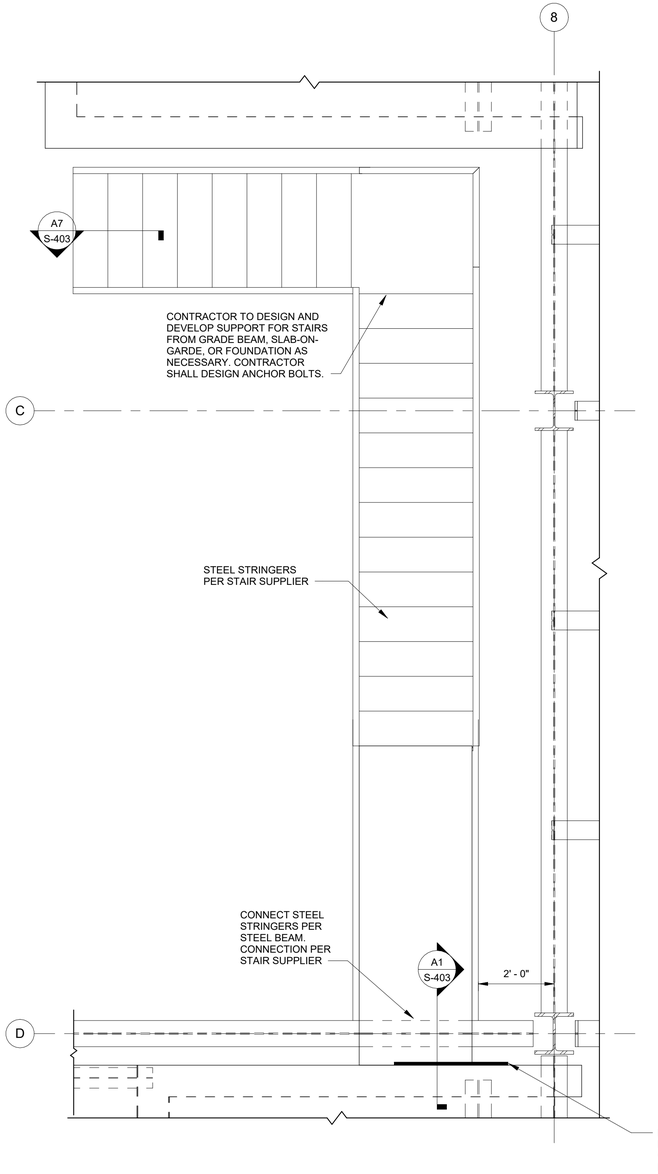
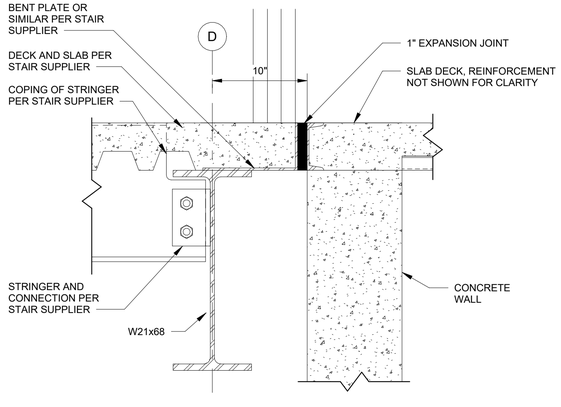


A13 STAIR PLAN

1/2" = 1'-0"

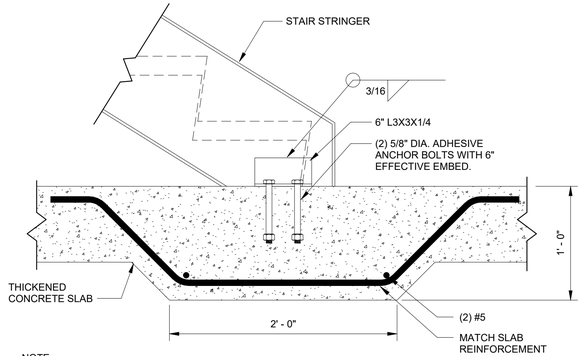
0 1' 2' 4'



A1 STAIRS TO MEZZANINE

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



NOTE:
1. SLAB REINFORCEMENT NOT SHOWN.
2. THIS DETAIL IS CONCEPTUAL ONLY AND SHALL BE DESIGNED BY THE STAIR SUPPLIER AND CONTRACTOR.

A7 STAIR STRINGER TO FOOTING

1 1/2" = 1'-0"

0 1' 2' 4'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\GKDXJEO\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_S_GKDXJEO.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY: S. BENTING
SIZE: ANSI D
FILE NAME: BUCO00102_DM_S.rvt

Plot Date: 5/5/2025 10:49:39 AM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

STAIR PLAN AND DETAILS

SHEET ID

S-403

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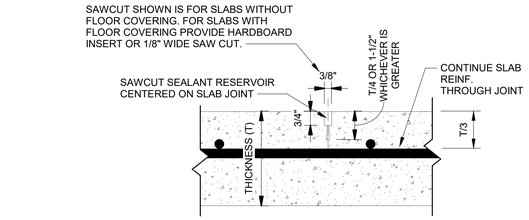
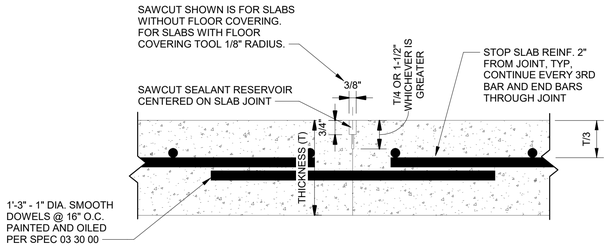


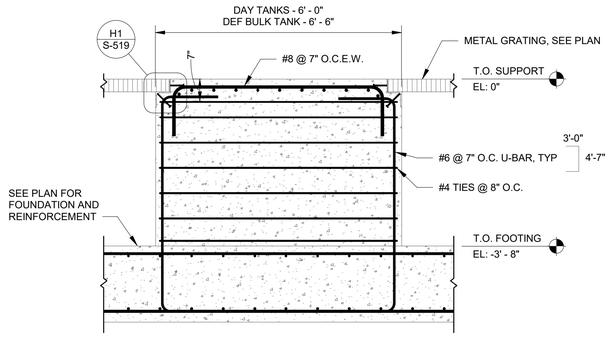
M1 SLAB-ON-GRADE CONTRACTION JOINT

NTS



J1 SLAB-ON-GRADE CONSTRUCTION JOINT

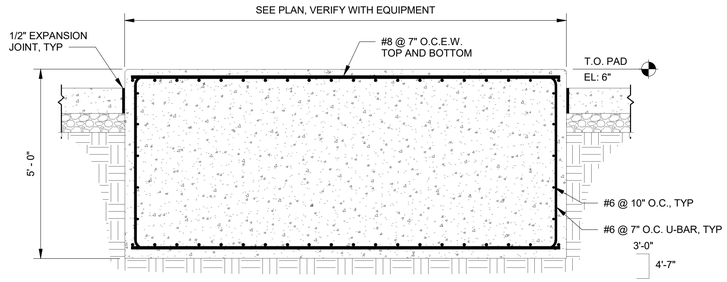
NTS



E1 DAY TANK AND DEF BULK TANK PADS

1/2" = 1'-0"

0 1' 2' 4'

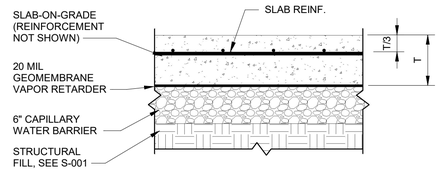


GENERATOR PAD NOTES:
1. DIMENSIONS OF GENERATOR MAT FOUNDATION TO BE VERIFIED BY THE CONTRACTOR WHEN EQUIPMENT IS SELECTED AND APPROVED. MINIMUM EDGE DISTANCE MUST BE 1'-0" FOR GENERATOR ANCHOR BOLTS AND 9" MINIMUM FOR ALL OTHER ANCHOR BOLTS UNLESS OTHERWISE NOTED.
2. GENERATOR AND ASSOCIATED EQUIPMENT ANCHORAGE TO BE PROVIDED BY CONTRACTOR AS A DELEGATED DESIGN BASED ON FINAL APPROVED EQUIPMENT DRAWINGS. REFER TO EQUIPMENT SPECIFICATION FOR ADDITIONAL INFORMATION.

A1 GENERATOR PAD

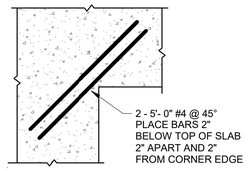
1/2" = 1'-0"

0 1' 2' 4'



M8 SLAB-ON-GRADE BASE

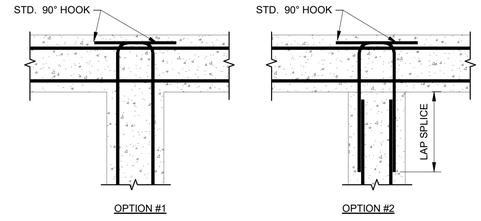
NTS



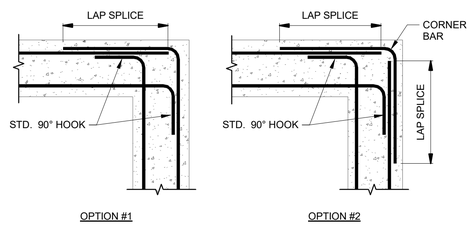
NOTE: REINFORCEMENT SHOWN IS IN ADDITION TO TYPICAL SLAB REINFORCEMENT. BEND BARS AS NEEDED TO PROVIDE FULL LENGTH.

K8 RE-ENTRANT CORNER

NTS



INTERSECTIONS

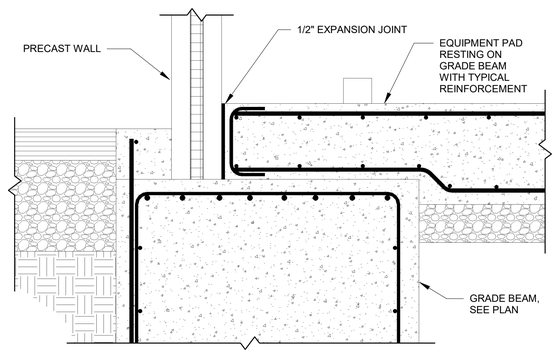


CORNERS

NOTES:
1. VERTICAL REINFORCEMENT NOT SHOWN.
2. UNLESS NOTED OTHERWISE THE CONTRACTOR HAS THE OPTION OF REINFORCING CORNERS AND INTERSECTIONS WITH THE ASSOCIATED OPTION #1 OR OPTION #2.
3. ALL SURFACES AT CONSTRUCTION JOINTS SHALL BE INTENETIONALLY ROUGHENED TO A DEPTH OF 1/4".

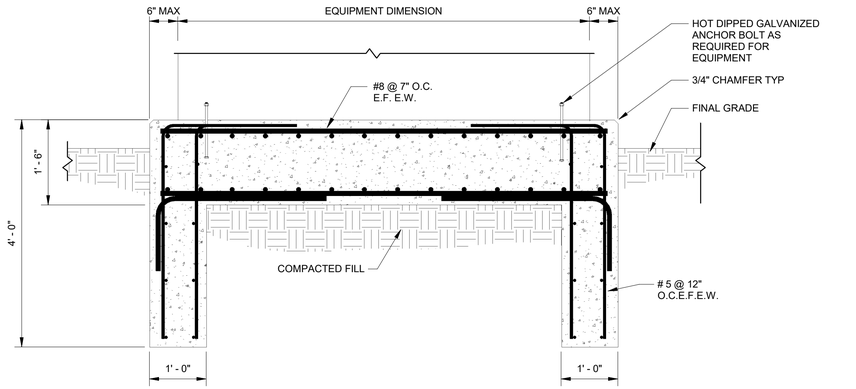
E8 TYPICAL WALL REINF. DETAILS

NTS



A8 TYP EQUIPMENT PAD AT GRADE BEAM

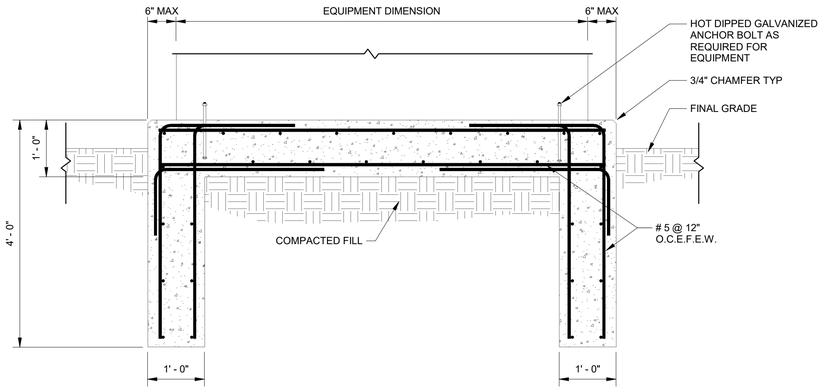
NTS



NOTES:
1. SEE MECHANICAL, ELECTRICAL, AND CIVIL SHEETS FOR LOCATION OF THE EXTERIOR LOAD BANK PAD.
2. THE PLAN DIMENSIONS OF EQUIPMENT BASES AND THEIR ANCHOR BOLT LOCATIONS, SIZES, EMBEDMENT, AND PROJECTIONS SHALL SUIT THE REQUIREMENTS OF THE APPROVED EQUIPMENT FURNISHED.
3. ALL SURFACES AT CONSTRUCTION JOINTS SHALL BE ITENETIONALLY ROUGHENED TO A DEPTH OF 1/4".

K13 EXTERIOR LOAD BANK EQUIPMENT PAD

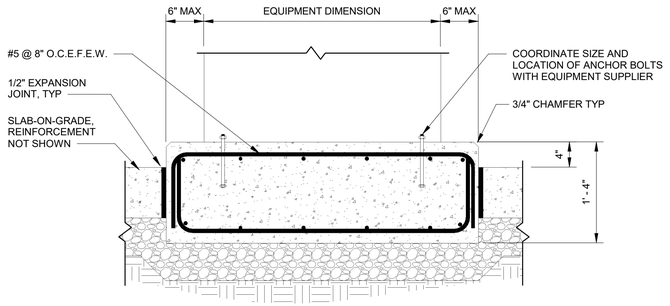
NTS



NOTES:
1. SEE MECHANICAL, ELECTRICAL, AND CIVIL SHEETS FOR LOCATION OF EQUIPMENT PADS.
2. THE PLAN DIMENSIONS OF EQUIPMENT BASES AND THEIR ANCHOR BOLT LOCATIONS, SIZES, EMBEDMENT, AND PROJECTIONS SHALL SUIT THE REQUIREMENTS OF THE APPROVED EQUIPMENT FURNISHED.
3. ALL SURFACES AT CONSTRUCTION JOINTS SHALL BE INTENETIONALLY ROUGHENED TO A DEPTH OF 1/4".

E14 TYP EXTERIOR EQUIPMENT PAD

NTS



NOTES:
1. SEE MECHANICAL, ELECTRICAL, AND CIVIL SHEETS FOR LOCATION OF EQUIPMENT.
2. THE PLAN DIMENSIONS OF EQUIPMENT BASES AND THEIR ANCHOR BOLT LOCATIONS, SIZES, EMBEDMENT, AND PROJECTIONS SHALL SUIT THE REQUIREMENTS OF THE APPROVED EQUIPMENT FURNISHED.
3. THIS DETAIL SHALL NOT BE USED FOR THE GENERATOR PADS.
4. NOTCH EQUIPMENT PAD AT GRADE BEAM INTERFERENCES AS NECESSARY.

A14 TYPICAL INTERIOR EQUIPMENT PAD

NTS

US Army Corps of Engineers ®

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BECK
SUBMITTED BY: S. DENNING
SIZE: ANSI D
FILE NAME: BUCO00102_DM_S.rvt

Plot Date: 5/8/2025 10:00:29 AM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

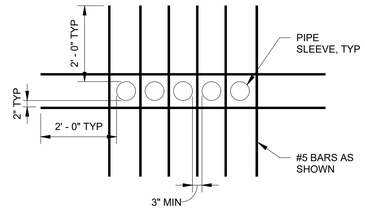
BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TYPICAL CONCRETE DETAILS

SHEET ID

S-500

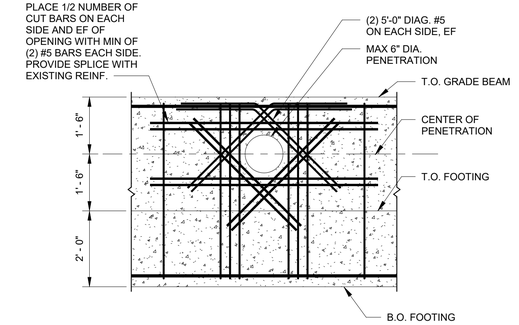
ADVERTISEMENT



NOTES:
1. WHERE CLEAR SPACING BETWEEN ADJACENT SLEEVES IS LESS THAN 3", THE SLEEVE GROUP SHALL BE TREATED AS AN EQUIVALENT RANTANGULAR OPENING.
2. WHERE CLEAR SPACING BETWEEN ADJACENT SLEEVES IS GREATER THAN 3", SCHEDULED BAR REINFORCEMENT SHALL BE OFFSET AS REQUIRED TO MISS SLEEVES.
3. REINFORCEMENT SHOWN IS ADDITIONAL TO TYPICAL SLAB REINFORCEMENT.
4. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND SIZE OF SLEEVES.
5. ISOLATED PIPE SLEEVES THAT ARE SMALLER THAN 5" AND DO NOT INTERRUPRT REINFORCING DO NOT REQUIRE THE USE OF THIS DETAIL.
6. THIS DETAIL SHOULD NOT BE USED FOR OPENING GROUPS WITH DIAMETERS LARGER THAN 12".

J15 TYP SLAB PIPE SLEEVE PENETRATION

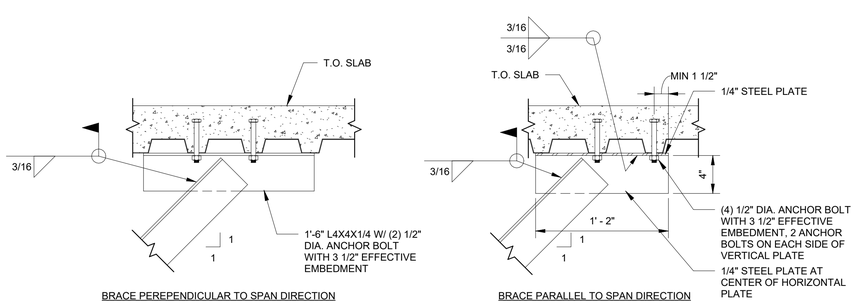
NTS



E15 TYP GRADE BEAM PENETRATION

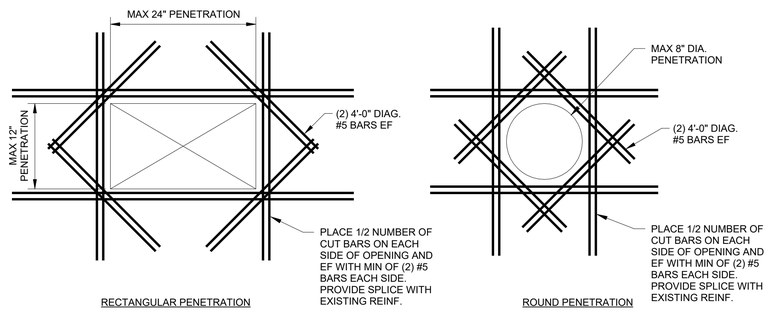
1/2" = 1'-0"

0 1' 2' 4'



A6 TYP BRACE TO COMPOSITE DECK

NTS



A13 TYP SLAB-ON-GRADE OR CONCRETE WALL PENETRATION

NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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Plot Date: 5/5/2025 10:49:41 AM

ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
DESIGNED BY:	E. HENIN
DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	S. DENNIS
SIZE:	ANSI D
FILE NAME:	BUCO00102_DM_S.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TYPICAL CONCRETE DETAILS

SHEET ID

S-501

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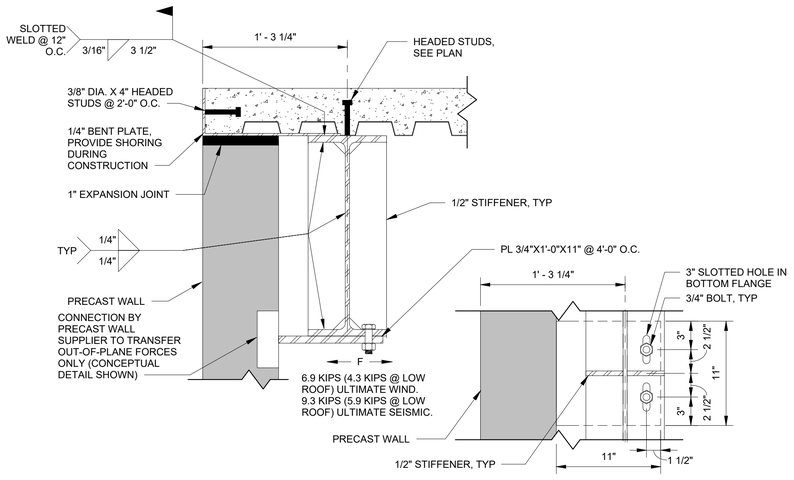


F1 ROOF EDGE DETAIL B

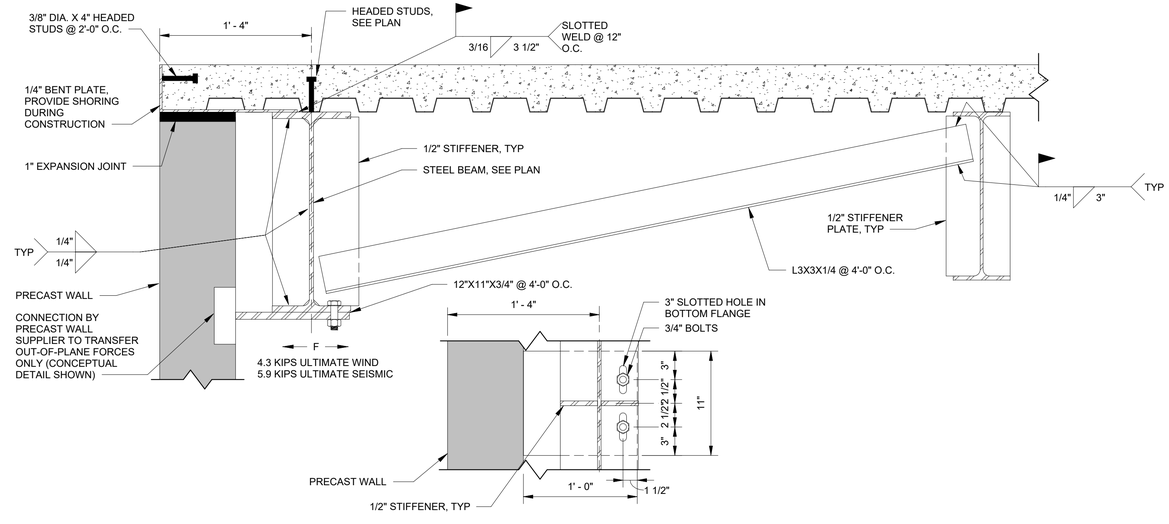
1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

A1 ROOF EDGE DETAIL AT LOUVER

1 1/2" = 1'-0"

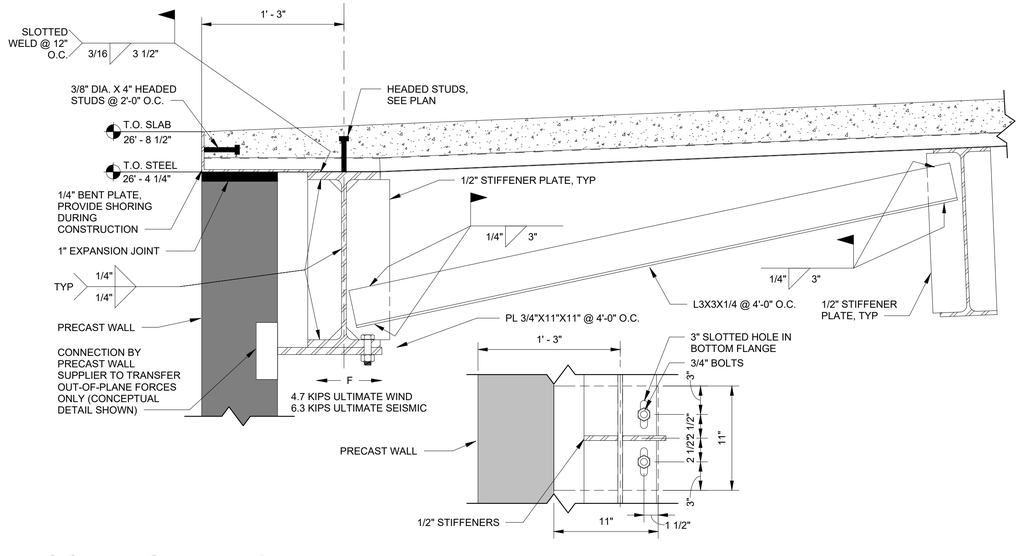
0 0.25' 0.5' 1' 1.5'



G10 ROOF EDGE DETAIL C

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A10 ROOF EDGE DETAIL A

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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Plot Date: 5/5/2025 10:49:43 AM

DESIGNED BY: E. HENIN	ISSUE DATE: 05/01/2025
DRAWN BY: J. OSBORN	SOLICITATION NO.: W9128F25RA043
CHECKED BY: W. BOECK	CONTRACT NO.:
SUBMITTED BY: S. DENNING	
SIZE: ANSI D	FILE NAME: BUC000102_DM_S.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ROOF DETAILS

SHEET ID

S-502

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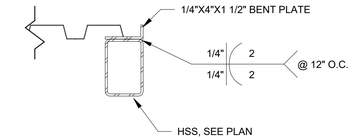
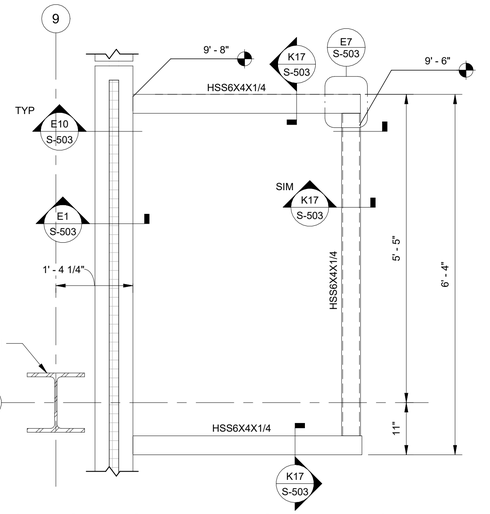
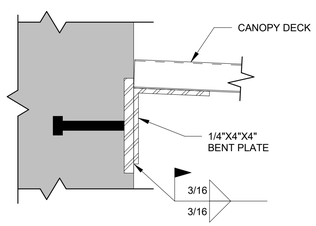
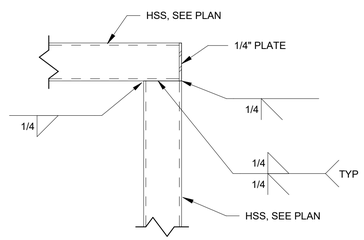


K17 DECK ON HSS
1 1/2" = 1'-0"

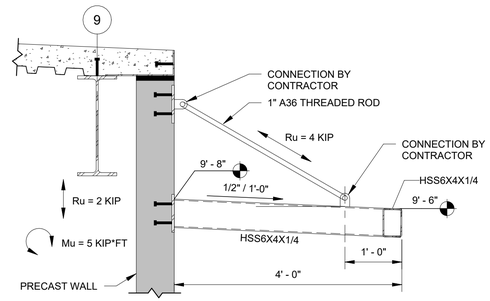




E1 PRECAST SUPPORTING DECK
3" = 1'-0"

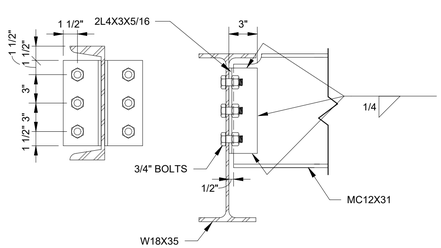


E7 HSS TO HSS
1 1/2" = 1'-0"

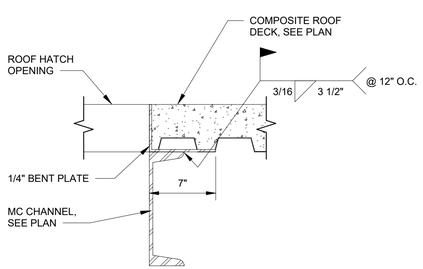


E10 CANOPY ROOF SECTION
3/4" = 1'-0"

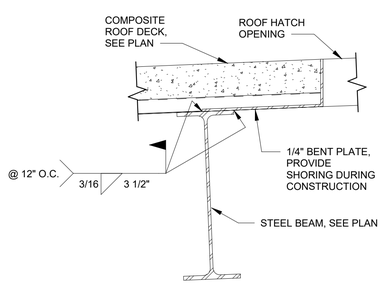
E15 CANOPY OVERHANG ENLARGED PLAN
3/4" = 1'-0"



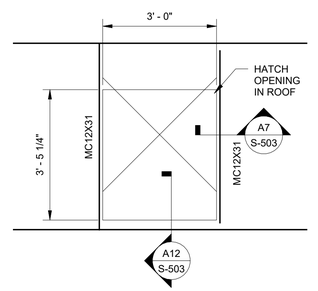
A1 MC12X31 TO W18X35
1 1/2" = 1'-0"



A7 HATCH EDGE DETAIL B
1 1/2" = 1'-0"



A12 HATCH EDGE DETAIL A
1 1/2" = 1'-0"



A17 HATCH FRAMING
1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\GBOXJEO\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_S_GBOXJEO.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
S. DENNING
SIZE: ANSI D
FILE NAME: BUCO00102_DM_S.rvt

Plot Date: 5/6/2025 7:56:54 AM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ROOF DETAILS

SHEET ID
S-503

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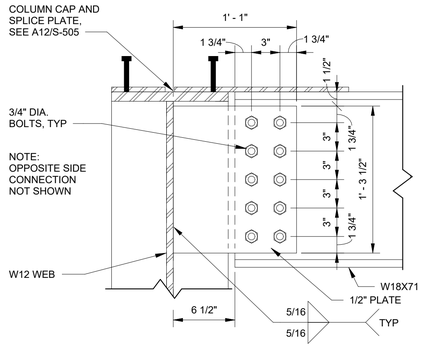
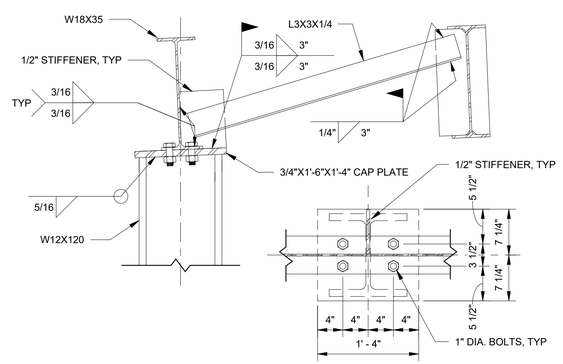


K1 W18X71 TO COLUMN WEB

1 1/2" = 1'-0"

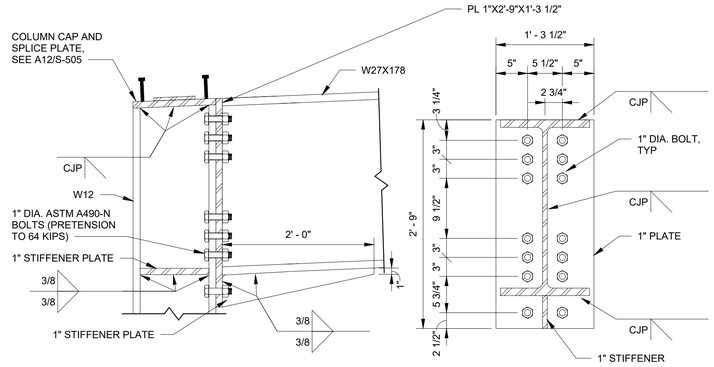
0 0.25' 0.5' 1' 1.5'



K8 W18X35 ON INTERIOR COLUMN

1" = 1'-0"

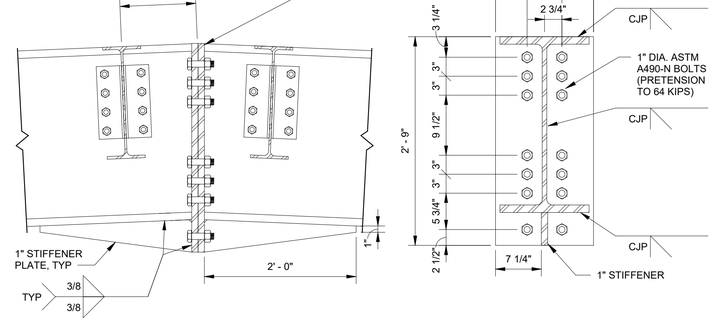
0 0.5' 1' 2'



K14 W27X178 TO COLUMN FLANGE

1" = 1'-0"

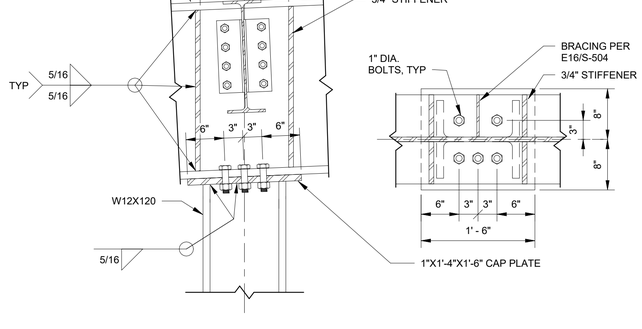
0 0.5' 1' 2'



E1 W27X178 RIDGE SPLICE

1" = 1'-0"

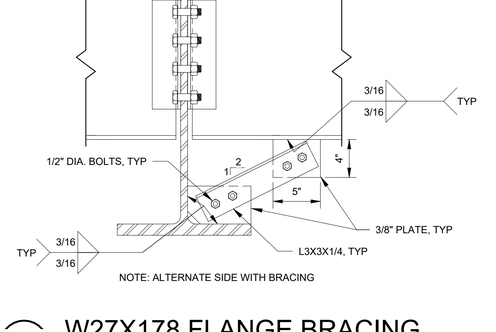
0 0.5' 1' 2'



E9 W27X178 ON INTERIOR COLUMN

1" = 1'-0"

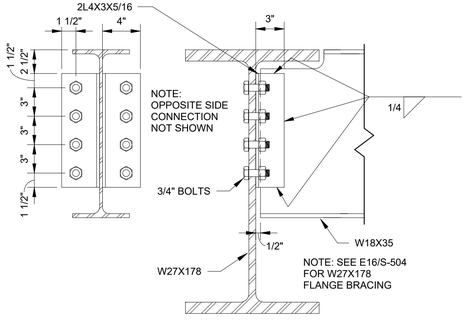
0 0.25' 0.5' 1' 1.5'



E16 W27X178 FLANGE BRACING

1 1/2" = 1'-0"

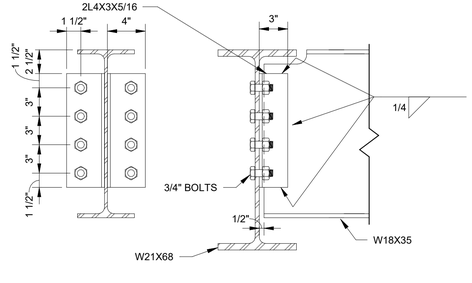
0 0.25' 0.5' 1' 1.5'



A1 W18X35 TO W27X178

1 1/2" = 1'-0"

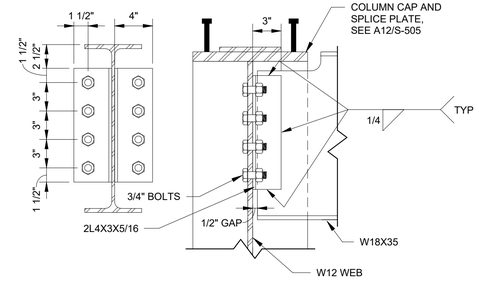
0 0.25' 0.5' 1' 1.5'



A6 W18X35 TO W21X68

1 1/2" = 1'-0"

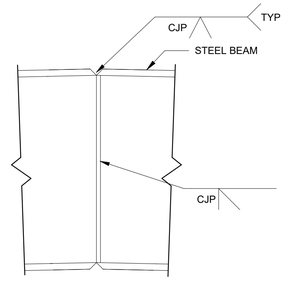
0 0.25' 0.5' 1' 1.5'



A12 W18X35 TO COLUMN WEB

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A18 RIDGE SPLICE

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\GBOX\EO\OneDrive - US Army Corps of Engineers\Documents\BUC000102_DM_S_GBOX.EO.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY:

SIZE: ANSI D
FILE NAME: BUC000102_DM_S.rvt
Plot Date: 5/5/2025 10:49:47 AM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

STEEL DETAILS

SHEET ID

S-504

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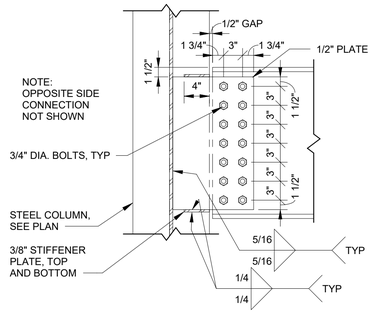
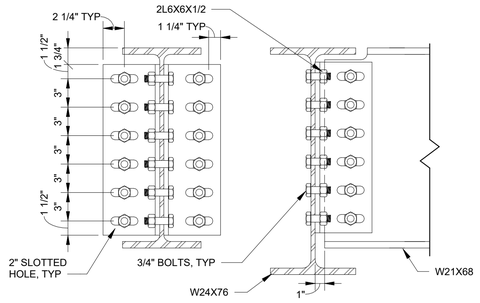


H1 W24X76 TO WEB

1" = 1'-0"

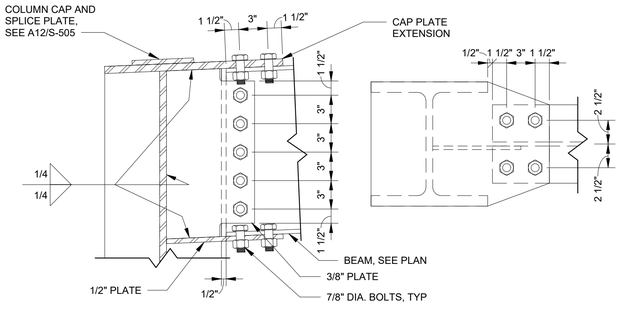
0 0.5' 1' 2'



L6 W21X68 TO W24X76

1 1/2" = 1'-0"

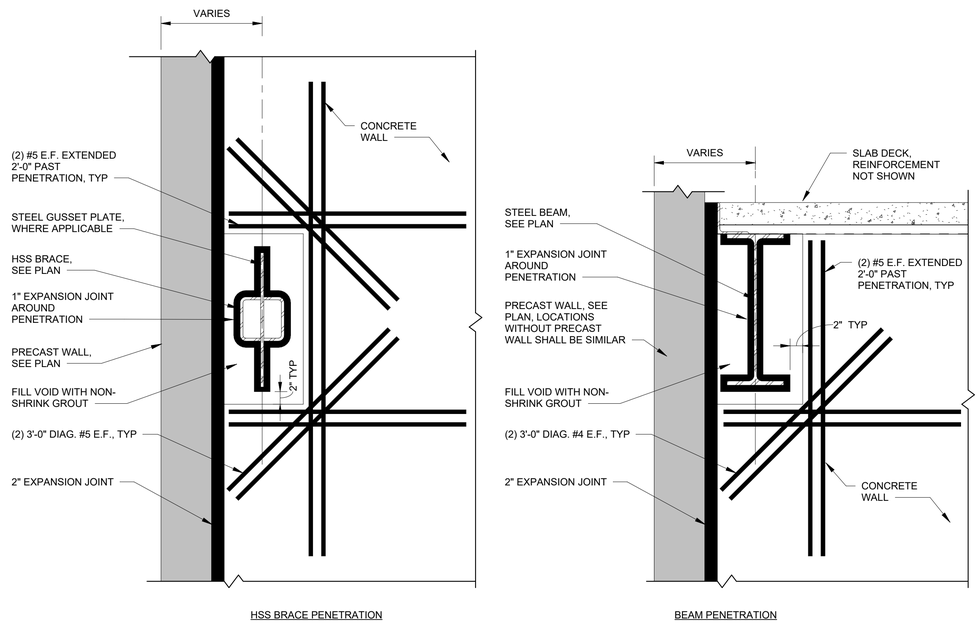
0 0.25' 0.5' 1' 1.5'



H6 W21X68 TO WEB W/ CAP (MOMENT)

1 1/2" = 1'-0"

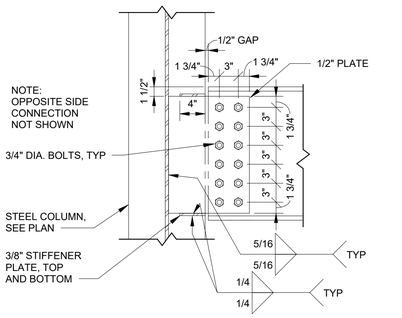
0 0.25' 0.5' 1' 1.5'



NOTES:
1. TYPICAL WALL REINFORCEMENT IS NOT SHOWN. REINFORCEMENT SHOWN IS IN ADDITION TO TYPICAL REINFORCEMENT.
2. USE THESE DETAILS AT ALL PENETRATIONS UNLESS NOTED OTHERWISE.

H12 TYPICAL CONCRETE WALL PENETRATION

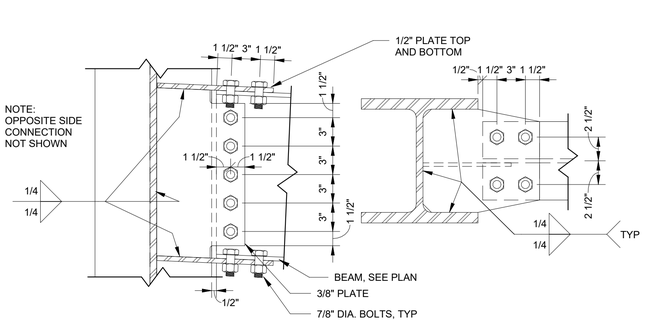
NTS



D1 W21X68 TO WEB

1" = 1'-0"

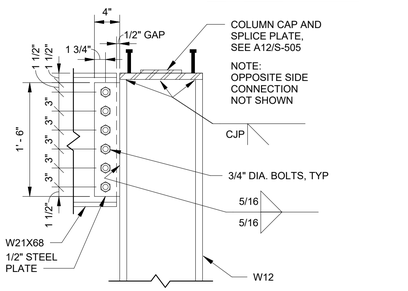
0 0.5' 1' 2'



D6 W21X68 TO WEB (MOMENT)

1 1/2" = 1'-0"

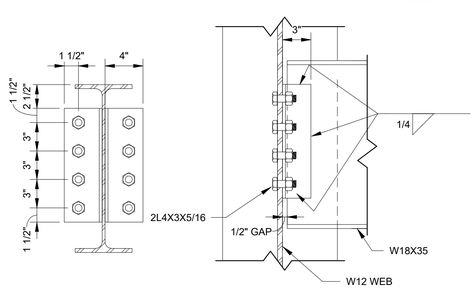
0 0.25' 0.5' 1' 1.5'



A1 W21X68 TO FLANGE

1" = 1'-0"

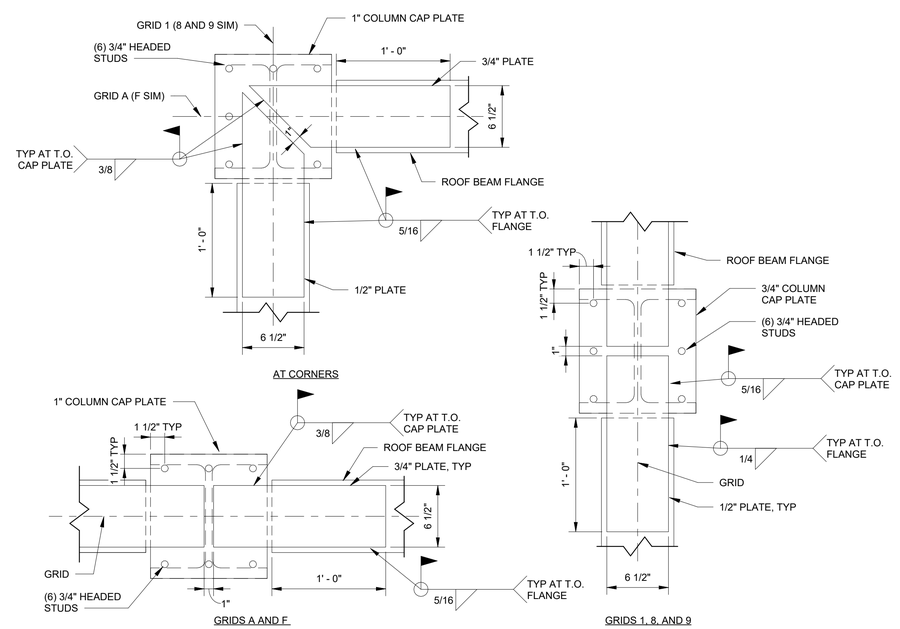
0 0.5' 1' 2'



A6 W18X35 TO COLUMN WEB AT LOW ROOF

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A12 COLUMN CAP AND SPLICE PLATES

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\G6CDOJEO\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_S_G6CDOJEO.rvt

Plot Date: 5/5/2025 10:49:49 AM

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY: S. DEMING
SIZE: ANSI D
FILE NAME: BUCO00102_DM_S.rvt
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

STEEL DETAILS

SHEET ID

S-505

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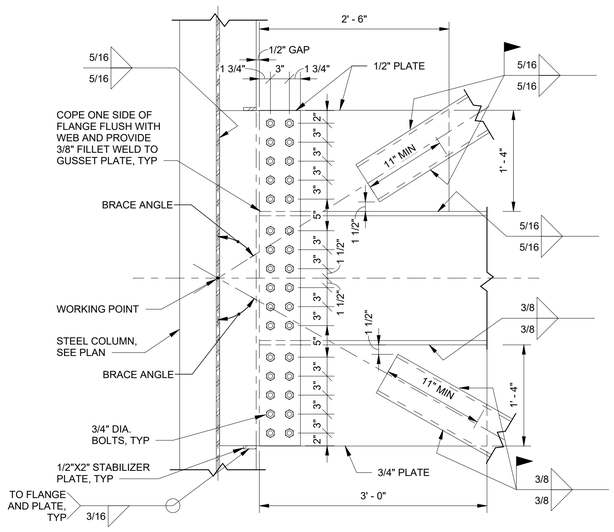
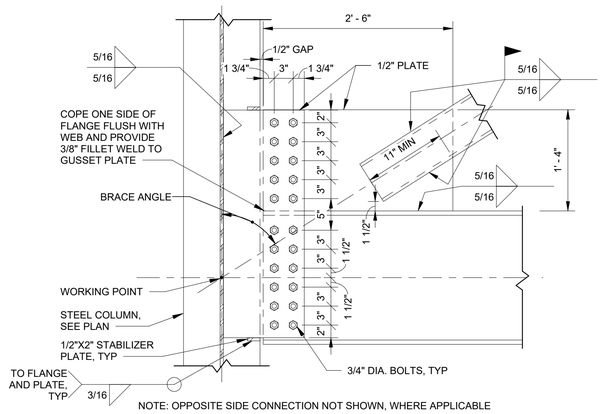


NOTE: OPPOSITE SIDE CONNECTION NOT SHOWN, WHERE APPLICABLE

G1 W21X68 TO WEB W/ DOUBLE BRACE

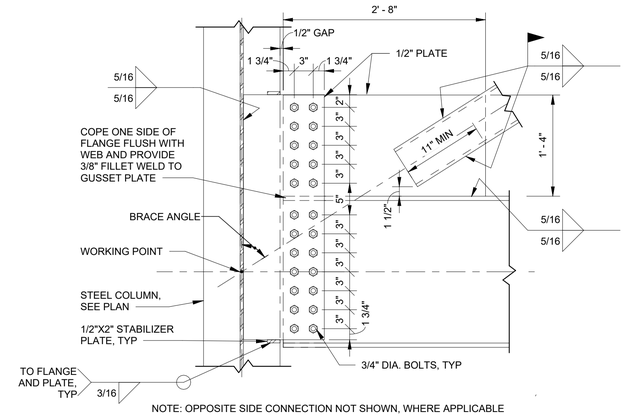
1" = 1'-0"



NOTE: OPPOSITE SIDE CONNECTION NOT SHOWN, WHERE APPLICABLE

G9 W21X68 TO WEB W/ UPWARD BRACE

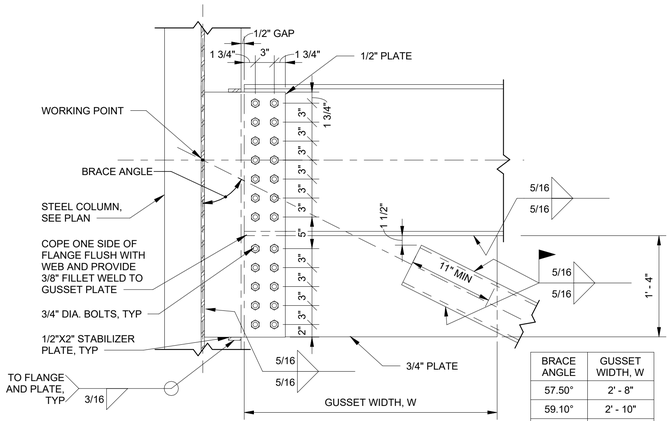
1" = 1'-0"



NOTE: OPPOSITE SIDE CONNECTION NOT SHOWN, WHERE APPLICABLE

G15 W24X76 TO WEB W/ UPWARD BRACE

1" = 1'-0"

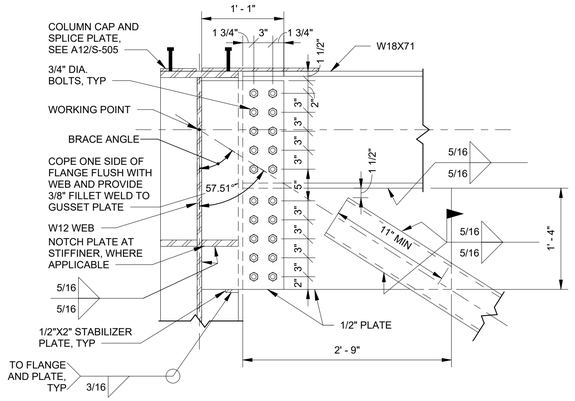


BRACE ANGLE	GUSSET WIDTH, W
57.50°	2' - 8"
59.10°	2' - 10"
63.44°	3' - 4"

NOTE: OPPOSITE SIDE CONNECTION NOT SHOWN, WHERE APPLICABLE

A1 W24X76 TO WEB W/ DOWNWARD BRACE

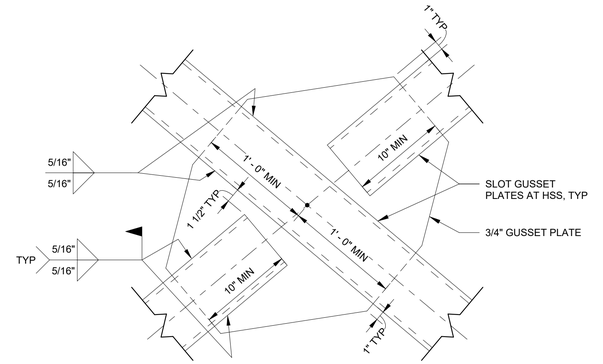
1" = 1'-0"



NOTE: OPPOSITE SIDE CONNECTION NOT SHOWN, WHERE APPLICABLE

A9 W18X71 TO WEB W/ BRACE

1" = 1'-0"



NOTE: DETAIL WILL NEED TO BE ADJUSTED BASED ON CROSSBRACE ANGLE TO FIT THE DIMENSIONS SHOWN.

A15 HSS CROSS BRACE DETAIL

1 1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\GKOXJEO\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_S_GKOXJEO.rvt

Plot Date: 5/5/2025 10:49:52 AM

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY: S. DENNING
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9126F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_S.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

STEEL DETAILS

SHEET ID

S-506

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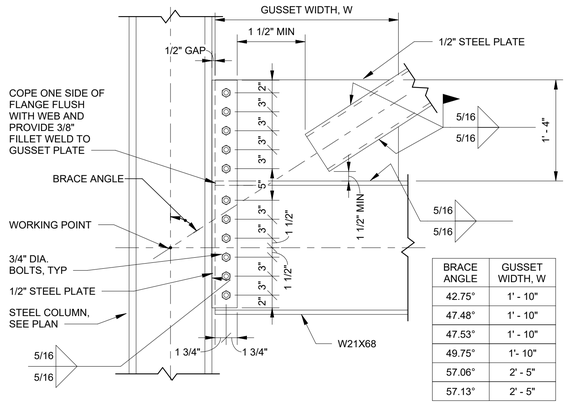
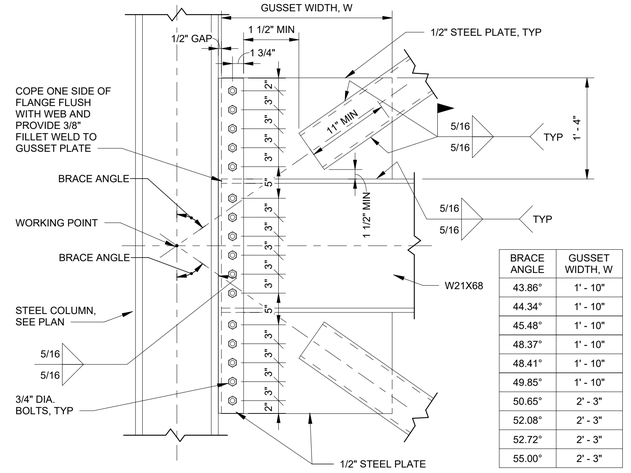


BRACE ANGLE	GUSSET WIDTH, W
42.75°	1' - 10"
47.48°	1' - 10"
47.53°	1' - 10"
49.75°	1'- 10"
57.06°	2' - 5"
57.13°	2' - 5"

G8 W21X68 TO FLANGE W/ UPWARD BRACE

1" = 1'-0"

0 0.5' 1' 2'

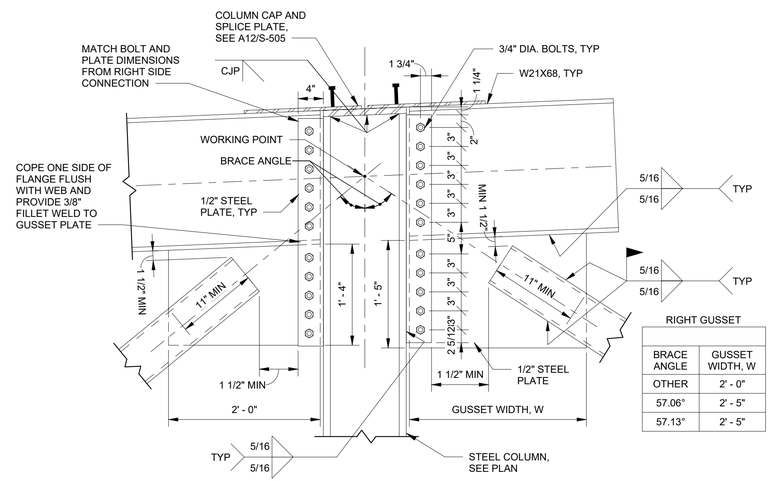


BRACE ANGLE	GUSSET WIDTH, W
43.86°	1' - 10"
44.34°	1' - 10"
45.48°	1' - 10"
48.37°	1' - 10"
48.41°	1' - 10"
49.85°	1' - 10"
50.65°	2' - 3"
52.08°	2' - 3"
52.72°	2' - 3"
55.00°	2' - 3"

G15 W21X68 TO FLANGE W/ DOUBLE BRACE

1" = 1'-0"

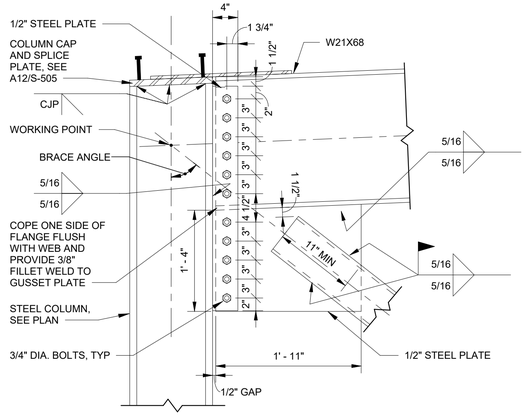
0 0.5' 1' 2'



A1 SLOPED W21X68 TO FLANGE W/ BRACE - DETAIL 2

1" = 1'-0"

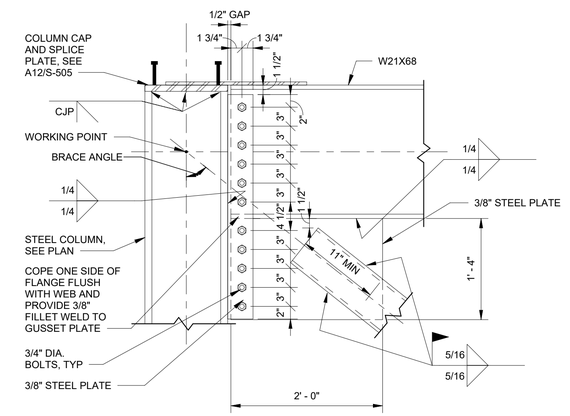
0 0.5' 1' 2'



A8 SLOPED W21X68 TO FLANGE W/ BRACE - DETAIL 1

1" = 1'-0"

0 0.5' 1' 2'



A15 W21X68 TO FLANGE W/ BRACE - LOW ROOF

1" = 1'-0"

0 0.5' 1' 2'

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DESIGNED BY:	ISSUE DATE:
E. HENIN	05/01/2025
DRAWN BY:	SOLICITATION NO.:
J. OSBORN	W9128F25RA043
CHECKED BY:	CONTRACT NO.:
W. BOECK	
SUBMITTED BY:	
DANIEL D	
SIZE:	FILE NAME:
ANSI D	BUCC000102_DM_S.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

STEEL DETAILS

SHEET ID

S-507

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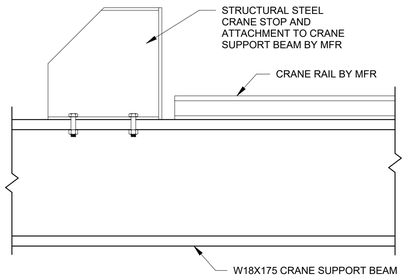
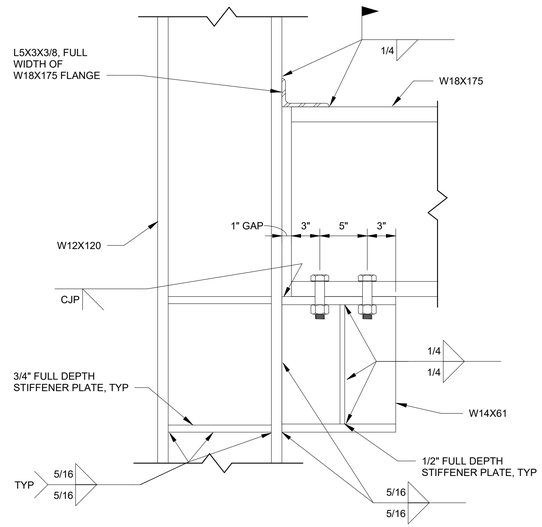


G6 CRANE STOP CONCEPTUAL DETAIL

1" = 1'-0"

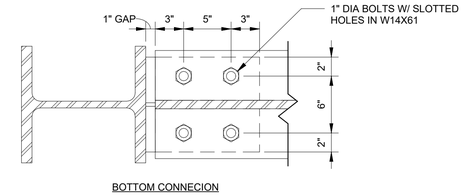
0 0.5' 1' 2'



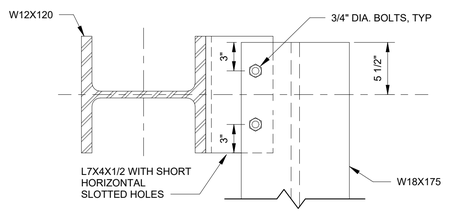
G11 W18X175 TO W12X120

1 1/2" = 1'-0"

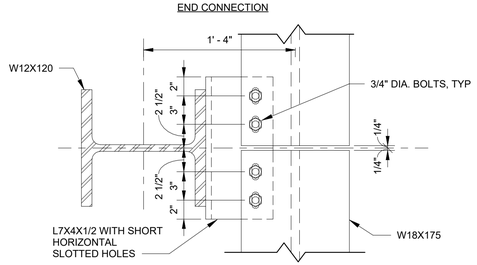
0 0.25' 0.5' 1' 1.5'



BOTTOM CONNECION



END CONNECTION



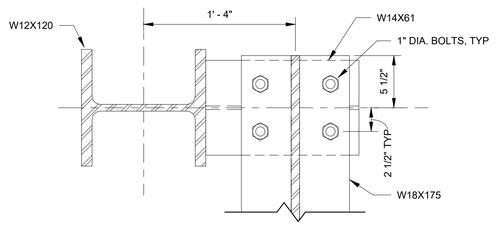
INTERMEDIATE CONNECTION

NOTE: CRANE RAIL NOT SHOWN FOR CLARITY

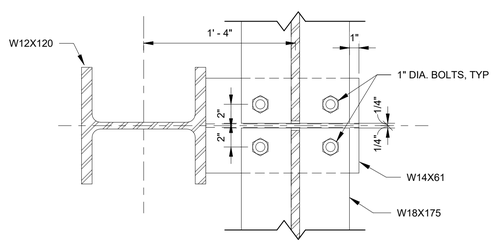
A4 CRANE BRACKET TO W12X120 DETAIL B

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



END CONNECTION



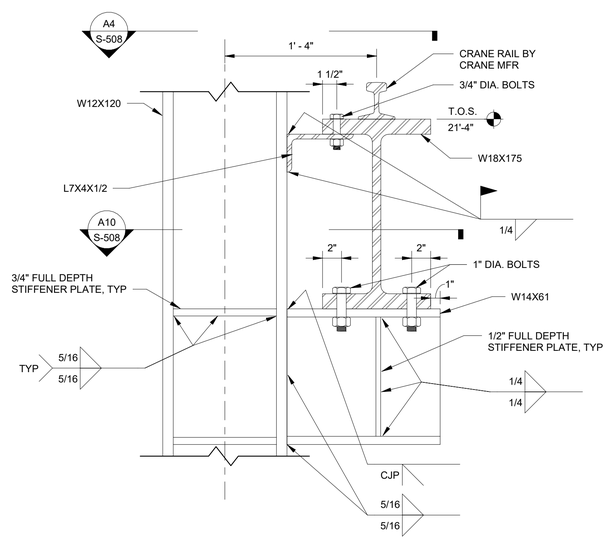
INTERMEDIATE CONNECTION

NOTES:
1. CRANE RAIL NOT SHOWN FOR CLARITY
2. SHORT SLOTTED BOLT HOLES MAY BE PROVIDED AT THE EAST END OF THE RUNWAY BEAM TO FACILITATE CONSTRUCTION.

A10 CRANE BRACKET TO W12X120 DETAIL A

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A16 CRANE BRACKET TO W12X120 SECTION

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

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CONTRACT NO.:

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY: S. DENNING

FILE NAME: BUCO00102_DM_S.rvt
SIZE: ANSI D

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OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

CRANE SUPPORT DETAILS

SHEET ID

S-508

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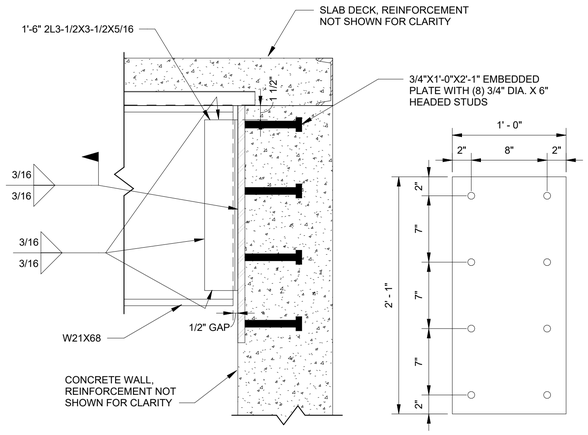
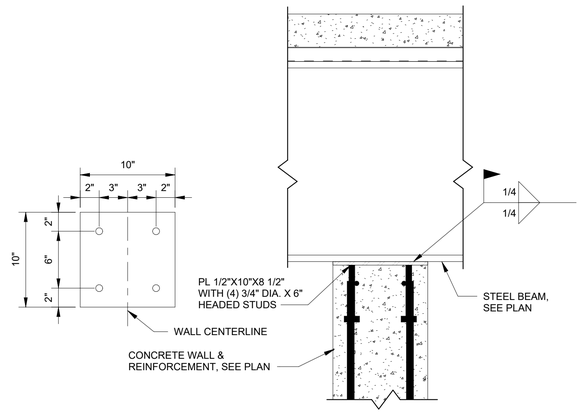


K3 W21X68 TO CONCRETE WALL

1 1/2" = 1'-0"

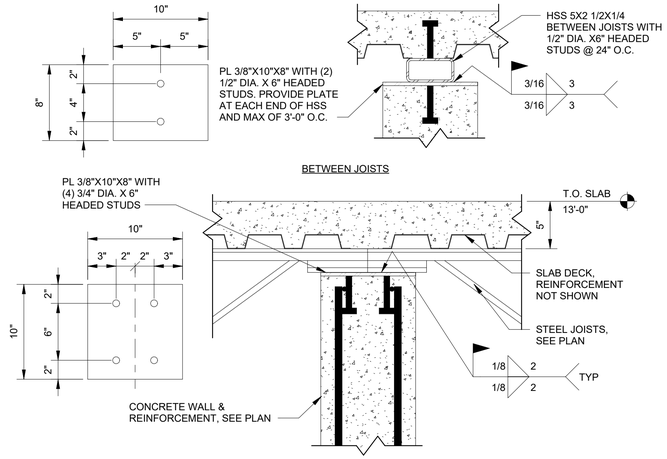
0 0.25' 0.5' 1' 1.5'



K9 BEAM SPANNING OVER CONCRETE WALL

1 1/2" = 1'-0"

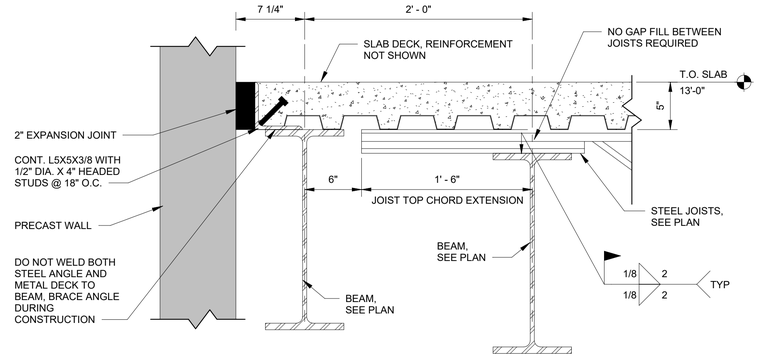
0 0.25' 0.5' 1' 1.5'



K15 JOIST BEARING ON CONCRETE WALL

1 1/2" = 1'-0"

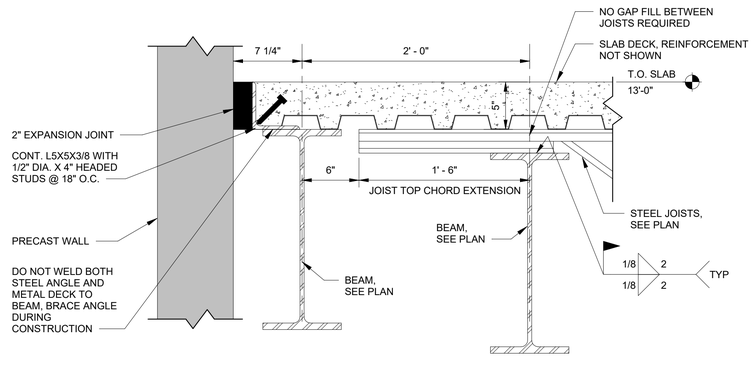
0 0.25' 0.5' 1' 1.5'



F1 DECK SLAB AT PRECAST WALL DETAIL 3

1 1/2" = 1'-0"

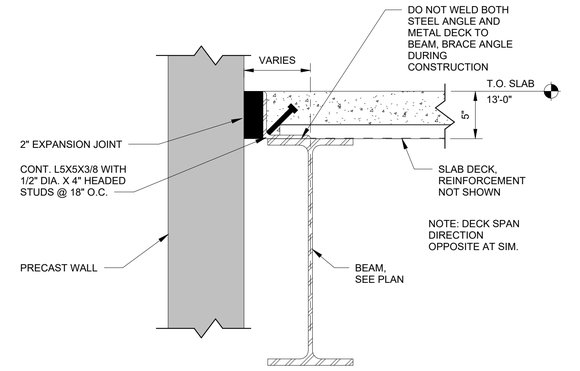
0 0.25' 0.5' 1' 1.5'



F8 DECK SLAB AT PRECAST WALL DETAIL 2

1 1/2" = 1'-0"

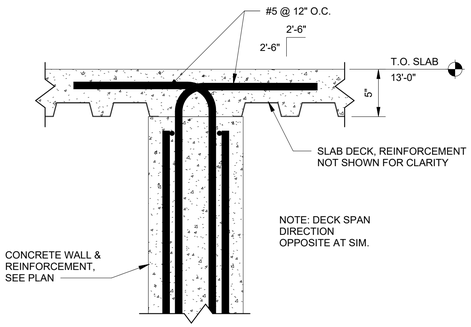
0 0.25' 0.5' 1' 1.5'



F15 DECK SLAB AT PRECAST WALL DETAIL 1

1 1/2" = 1'-0"

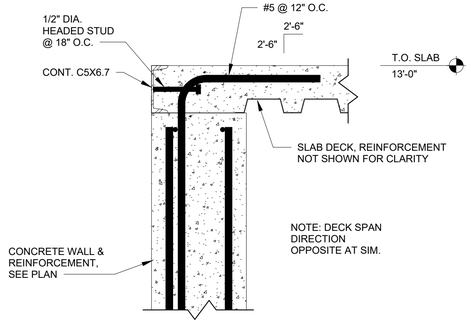
0 0.25' 0.5' 1' 1.5'



A3 DECK AT INTERIOR WALL

1 1/2" = 1'-0"

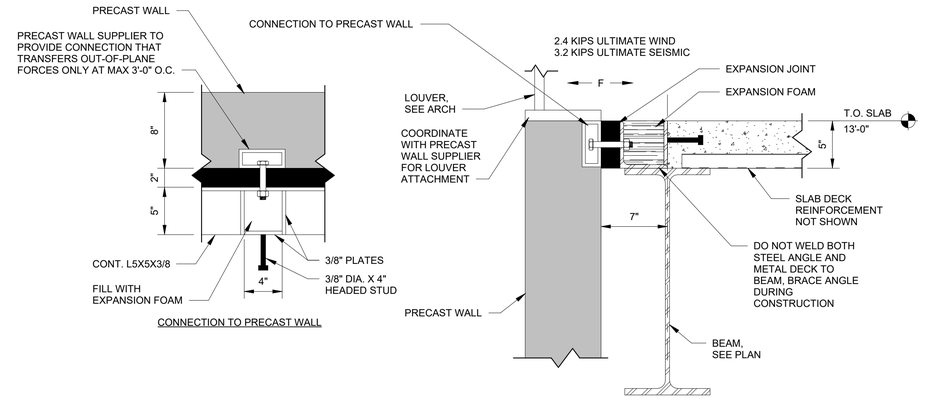
0 0.25' 0.5' 1' 1.5'



A8 DECK AT PERIMETER WALL

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A12 DECK SLAB AT LOUVER DETAIL

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

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DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	S. ZENG
SIZE:	ANSI D
FILE NAME:	BUCO00102_DM_S.rvt
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OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

MEZZANINE DETAILS

SHEET ID

S-509

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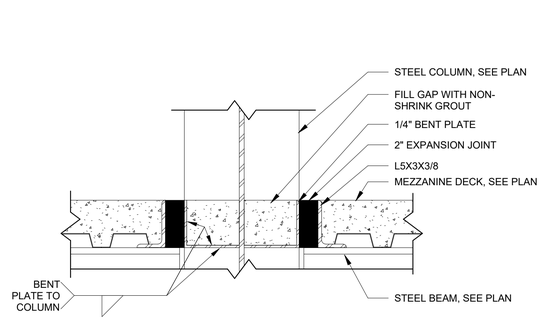
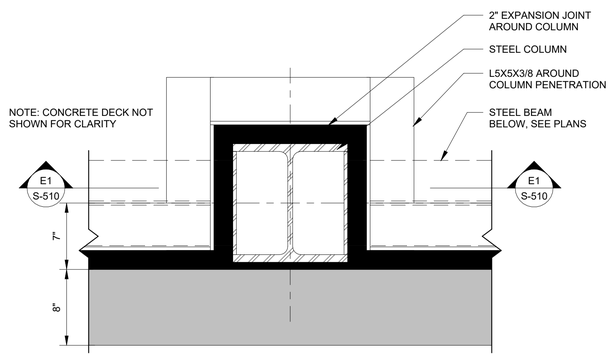


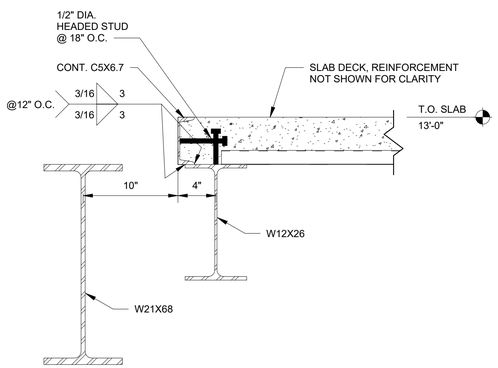
TYP COLUMN PENETRATION THROUGH MEZZANINE DETAIL 2

E1 — 1 1/2" = 1'-0" — 0 0.25' 0.5' 1' 1.5'



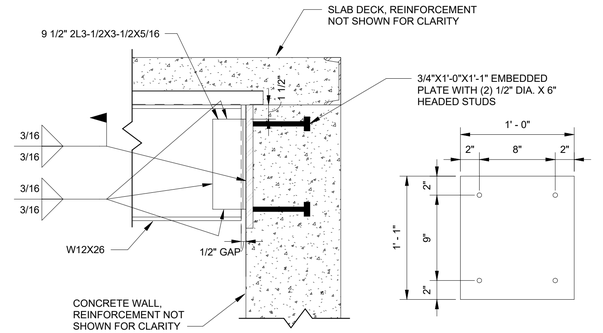
TYP COLUMN PENETRATION THROUGH MEZZANINE DETAIL 1

A1 — 1 1/2" = 1'-0" — 0 0.25' 0.5' 1' 1.5'



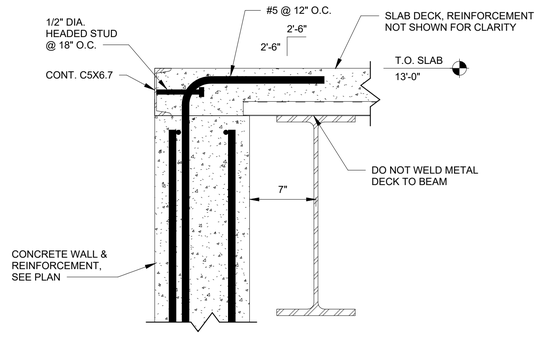
DECK EDGE AT W12X26

A9 — 1 1/2" = 1'-0" — 0 0.25' 0.5' 1' 1.5'



W12X26 TO CONCRETE WALL

E15 — 1 1/2" = 1'-0" — 0 0.25' 0.5' 1' 1.5'



DECK EDGE AT DISTRO A

A15 — 1 1/2" = 1'-0" — 0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

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DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY:
DRAWING #:
SIZE: ANSI D
FILE NAME: BUCO00102_DM_S.rvt
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SOLICITATION NO.: W9128F25RA043
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MEZZANINE DETAILS

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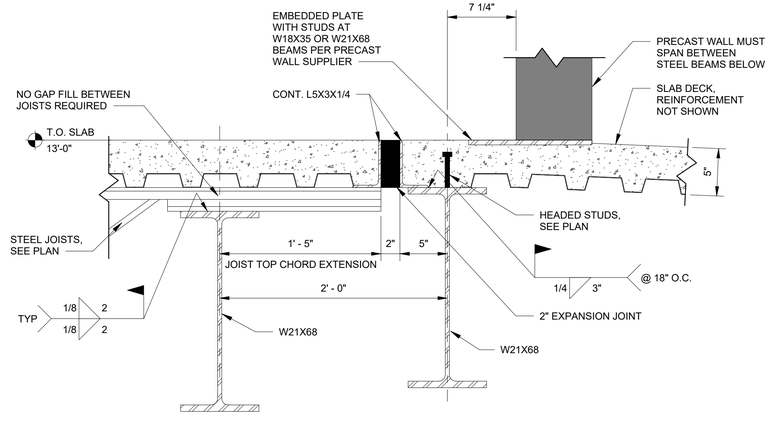
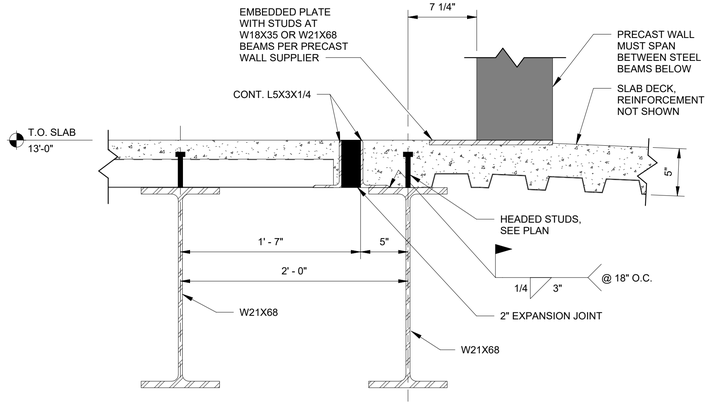


A1 LOW ROOF AT PRECAST WALL DETAIL 3

1 1/2" = 1'-0"

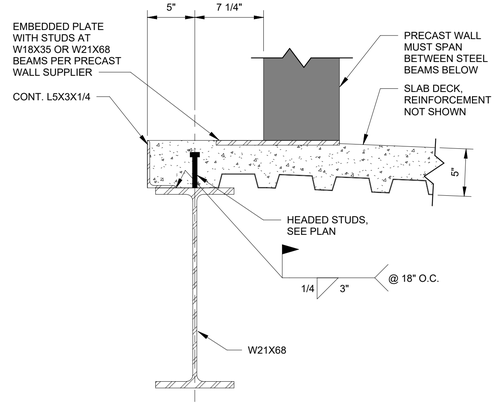
0 0.25' 0.5' 1' 1.5'



A8 LOW ROOF AT PRECAST WALL DETAIL 2

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'



A16 LOW ROOF AT PRECAST WALL DETAIL 1

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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E. HENIN	05/01/2025
DRAWN BY:	SOLICITATION NO.:
J. OSBORN	W9128F25RA043
CHECKED BY:	CONTRACT NO.:
W. BUECK	
SUBMITTED BY:	
S. DENTINO	
SIZE:	FILE NAME:
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

LOW ROOF DETAILS

SHEET ID

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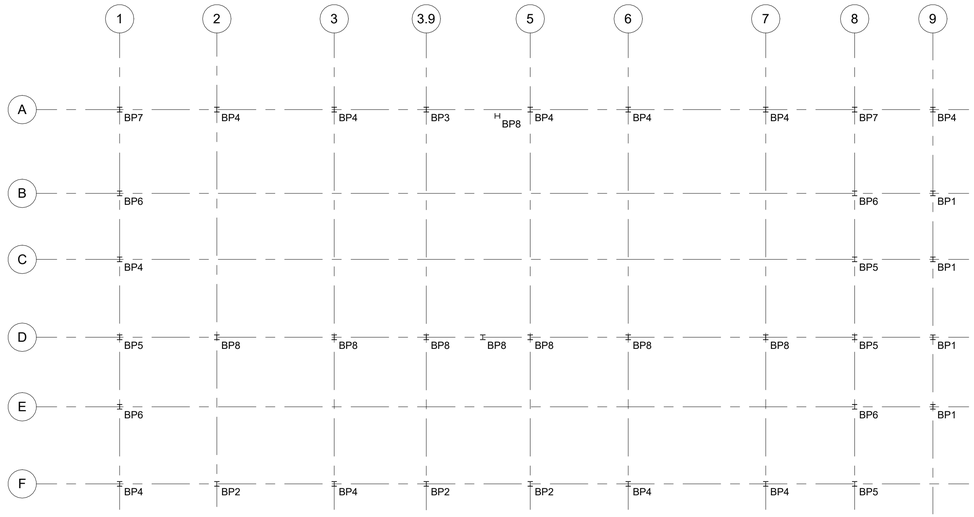
STRUCTURAL COLUMN SCHEDULE				
COLUMN LOCATION	MEMBER	APPROXIMATE BASE ELEVATION	APPROXIMATE TOP ELEVATION	BASE PLATE MARK
A(-1' - 4")-5(-6' - 11")	W12X120	-8"	24' - 10 7/8"	BP8
A-1	W12X120	-8"	26' - 4 1/4"	BP7
A-2	W12X120	-8"	26' - 4 1/4"	BP4
A-3	W12X120	-8"	26' - 4 1/4"	BP4
A-3.9	W12X120	-8"	26' - 4 1/4"	BP3
A-5	W12X120	-8"	26' - 4 1/4"	BP4
A-6	W12X120	-8"	26' - 4 1/4"	BP4
A-7	W12X120	-8"	26' - 4 1/4"	BP4
A-8	W12X120	-8"	26' - 4 1/4"	BP7
A-9	W12X87	-8"	11' - 10"	BP4
B-1	W12X87	-8"	27' - 0 3/4"	BP6
B-8	W12X87	-8"	27' - 0"	BP6
B-9	W12X87	-8"	11' - 10"	BP1
C-1	W12X87	-8"	27' - 7 5/8"	BP4
C-8	W12X87	-8"	27' - 7"	BP5
C-9	W12X87	-8"	11' - 10"	BP1
D-1	W12X120	-8"	27' - 7 1/4"	BP5
D-2	W12X120	-8"	25' - 3 1/8"	BP8
D-3	W12X120	-8"	25' - 3 1/8"	BP8
D-3.9	W12X120	-8"	25' - 3 1/8"	BP8
D-5	W12X120	-8"	25' - 3 1/8"	BP8
D-5(-10' - 0")	W12X120	-8"	26' - 1 5/8"	BP8
D-6	W12X120	-8"	25' - 3 1/8"	BP8
D-7	W12X120	-8"	25' - 3 1/8"	BP8
D-8	W12X120	-8"	27' - 7"	BP5
D-9	W12X87	-8"	11' - 10"	BP1
E-1	W12X87	-8"	27' - 0 1/8"	BP6
E-8	W12X87	-8"	26' - 11"	BP6
E-9	W12X87	-8"	11' - 10"	BP1
F-1	W12X87	-8"	26' - 4 1/4"	BP4
F-2	W12X87	-8"	26' - 4 1/4"	BP2
F-3	W12X87	-8"	26' - 4 1/4"	BP4
F-3.9	W12X87	-8"	26' - 4 1/4"	BP2
F-5	W12X87	-8"	26' - 4 1/4"	BP2
F-6	W12X87	-8"	26' - 4 1/4"	BP4
F-7	W12X87	-8"	26' - 4 1/4"	BP4
F-8	W12X87	-8"	26' - 4 1/4"	BP5

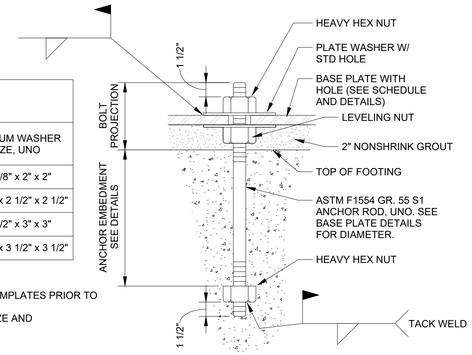
NOTES:
1. COLUMN SCHEDULE DOES NOT INCLUDE EXHAUST SUPPORTS AND SUPPLY FAN SUPPORTS.
2. TOP OF COLUMN ELEVATIONS AT ROOF LEVEL NEED TO BE VERIFIED DUE TO ROOF SLOPE. THE TOP OF ELEVATIONS PROVIDED NEEDS TO BE ADJUSTED FOR THE COLUMN CAP PLATES AND THE SLOPED TOP OF COLUMN.
3. THE BASE OF THE COLUMN ELEVATIONS WILL NEED TO BE ADJUSTED TO ACCOUNT FOR THE THICKNESS OF THE BASE PLATE AND GROUT. THE TOP OF COLUMN ELEVATIONS WILL NEEED TO BE ADJUSTED TO ACCOUNT FOR CAP PLATES AND SLOPES.



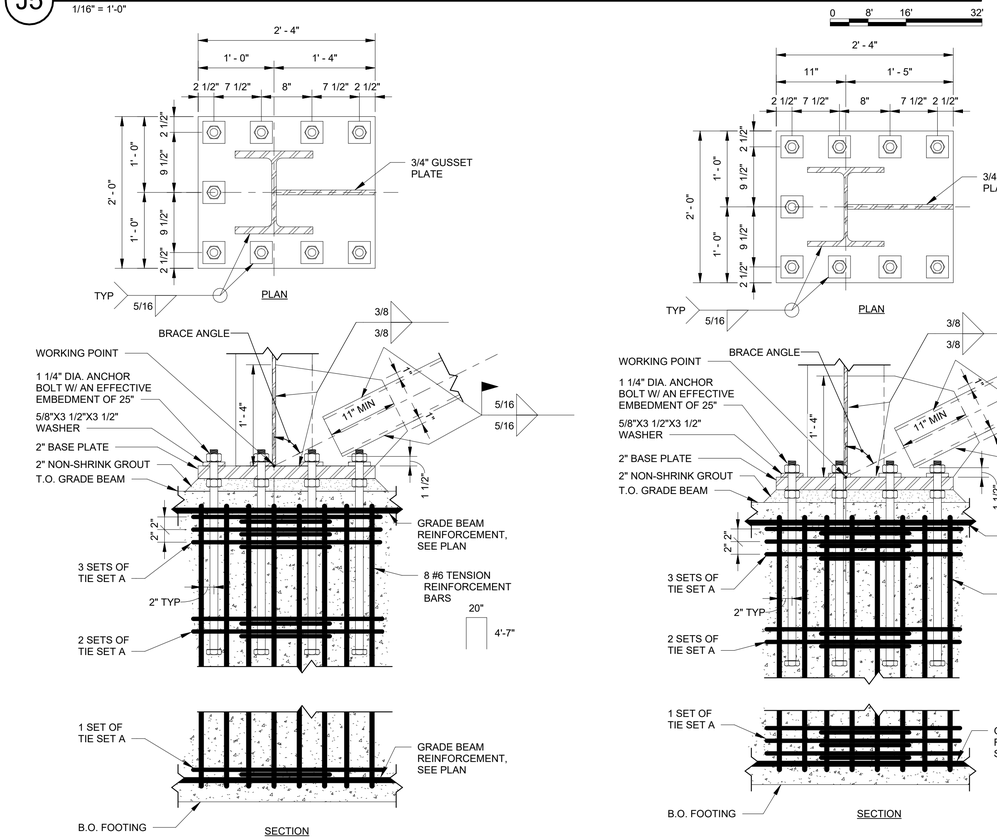
BASE PLATE NOTES:
1. BASE PLATE DETAILS MUST BE ROTATED TO MATCH THE COLUMN AND BRACE ORIENTATIONS ON THE PLANS.
2. ALL ANCHOR BOLTS SHALL BE HEAVY HEX HEAD ASTM F1554 GR. 55 UNLESS NOTED OTHERWISE.

BASE PLATE HOLE DIAMETER TABLE		
ANCHOR ROD DIAMETER	HOLE DIA. IN BASE PLATE	MINIMUM WASHER SIZE, UNO
3/4"	1 5/16"	PL 3/8" x 2" x 2"
7/8"	1 9/16"	PL 3/8" x 2 1/2" x 2 1/2"
1"	1 7/8"	PL 1/2" x 3" x 3"
1 1/4"	2 1/8"	PL 5/8" x 3 1/2" x 3 1/2"

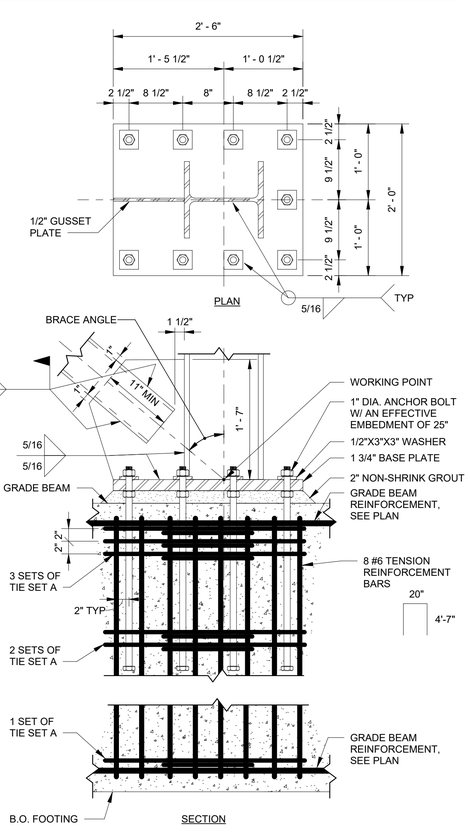
NOTES:
1.SET AND SECURE ANCHOR RODS WITH TEMPLATES PRIOR TO PLACING CONCRETE.
2.SEE COLUMN SCHEDULE FOR COLUMN SIZE AND CORRESPONDING BASE PLATE MARK.



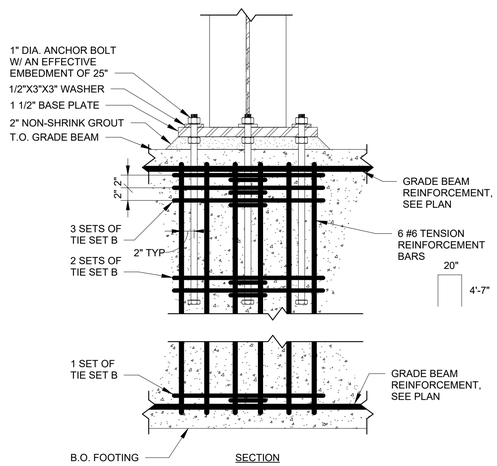
J5 BASE PLATE PLAN
1/16" = 1'-0"



J14 ANCHOR BOLT DETAIL
NTS



A1 BASE PLATE 4 (BP4)
1" = 1'-0"



0 0.5' 1' 2'

A5 BASE PLATE 3 (BP3)
1" = 1'-0"

0 0.5' 1' 2'

A11 BASE PLATE 2 (BP2)
1" = 1'-0"

0 0.5' 1' 2'

A16 BASE PLATE 1 (BP1)
1" = 1'-0"

0 0.5' 1' 2'

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MARK	DESCRIPTION	DATE

File Path: C:\Users\GKOXJEO\OneDrive - US Army Corps of Engineers\Documents\BUC000102_DM_S_GKOXJEO.rvt

ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
DESIGNED BY:	E. HENIN
DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	S. DEMETRIO
SIZE:	ANSI D
FILE NAME:	BUC000102_DM_S.rvt

Plot Date: 5/5/2025 10:50:02 AM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

BASE PLATE DETAILS

SHEET ID
S-512

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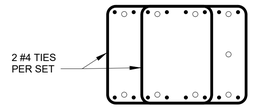
KEY:
- ○ - ANCHOR BOLT
- • - TENSION ANCHORAGE BAR



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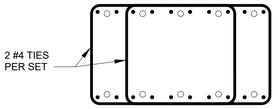

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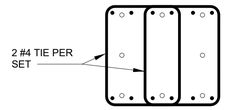

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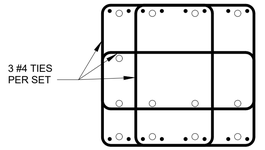
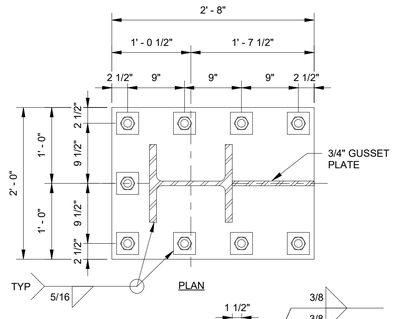


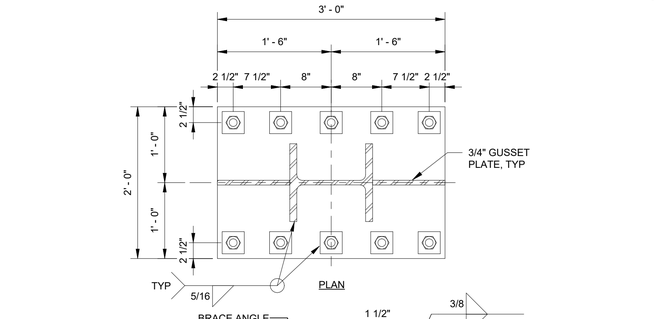
TIE SET D

J15 TIES FOR BASE PLATES
NTS



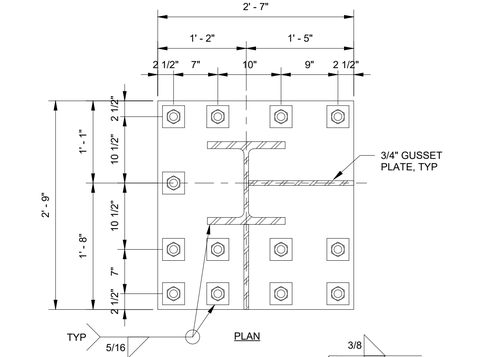
A16 BASE PLATE 5 (BP5)
1" = 1'-0"

0 0.5' 1' 2'



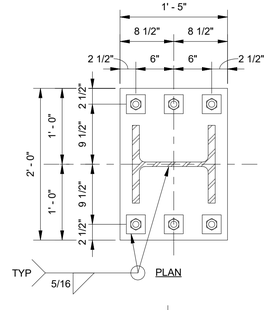
A10 BASE PLATE 6 (BP6)
1" = 1'-0"

0 0.5' 1' 2'



A5 BASE PLATE 7 (BP7)
1" = 1'-0"

0 0.5' 1' 2'



A1 BASE PLATE 8 (BP8)
1" = 1'-0"

0 0.5' 1' 2'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY:
SIZE: ANSI D
FILE NAME: BUC000102_DM_S.rvt
Plot Date: 5/5/2025 10:50:04 AM
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

BASE PLATE DETAILS

SHEET ID
S-513

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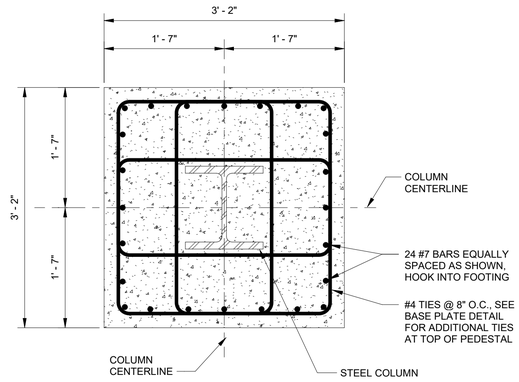
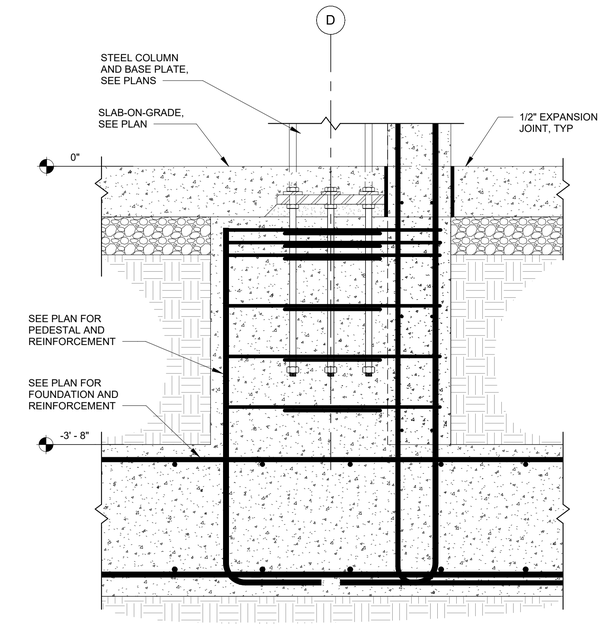


H3 PEDESTAL - P1

1" = 1'-0"

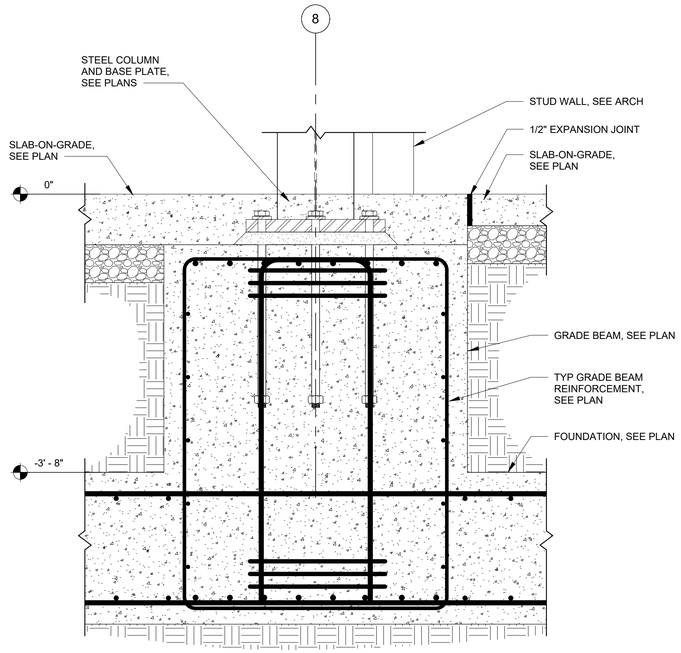
0 0.5' 1' 2'



H8 PEDESTAL AT CONCRETE WALL DETAIL

1" = 1'-0"

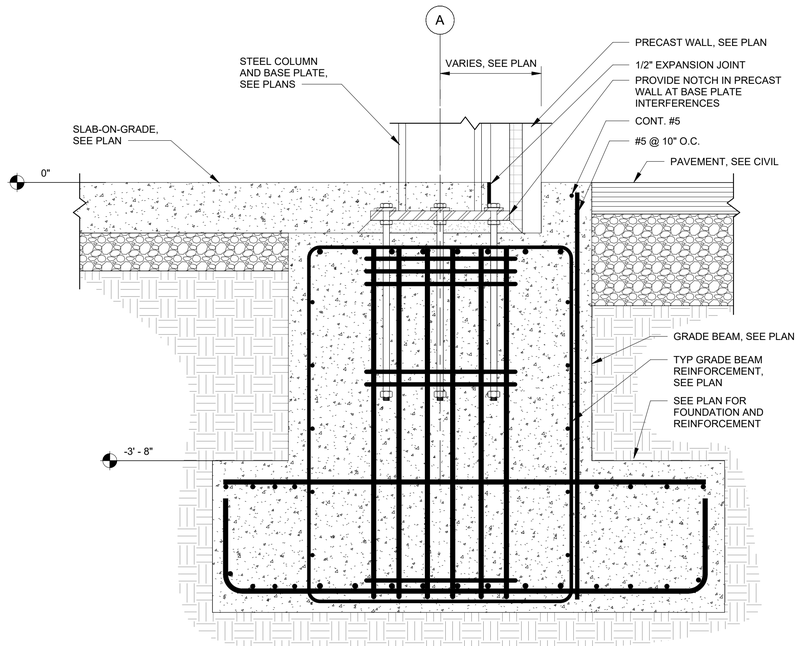
0 0.5' 1' 2'



F14 COLUMN FOUNDATION DETAIL AT GRID 8

1" = 1'-0"

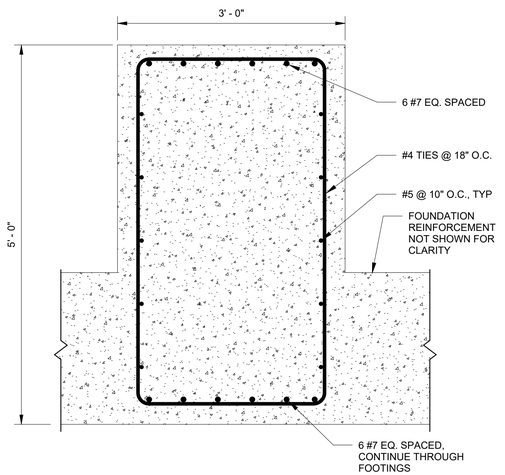
0 0.5' 1' 2'



A4 TYPICAL FOUNDATION DETAIL

1" = 1'-0"

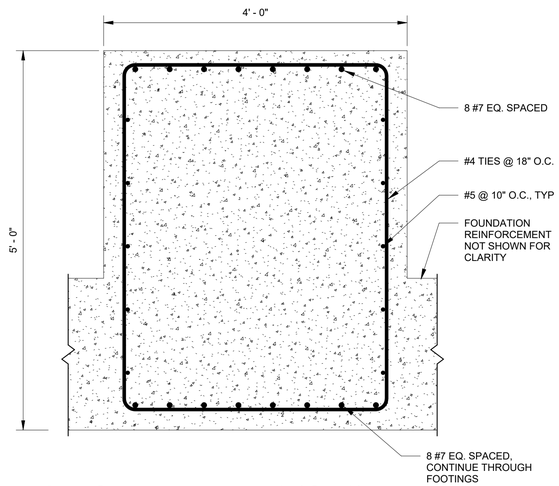
0 0.5' 1' 2'



A11 GRADE BEAM 2 (GB2)

1" = 1'-0"

0 0.5' 1' 2'



A16 GRADE BEAM 1 (GB1)

1" = 1'-0"

0 0.5' 1' 2'

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DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	DENVER
SIZE:	ANSI D
FILE NAME:	BUCO00102_DM_S.rvt
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

FOUNDATION DETAILS

SHEET ID

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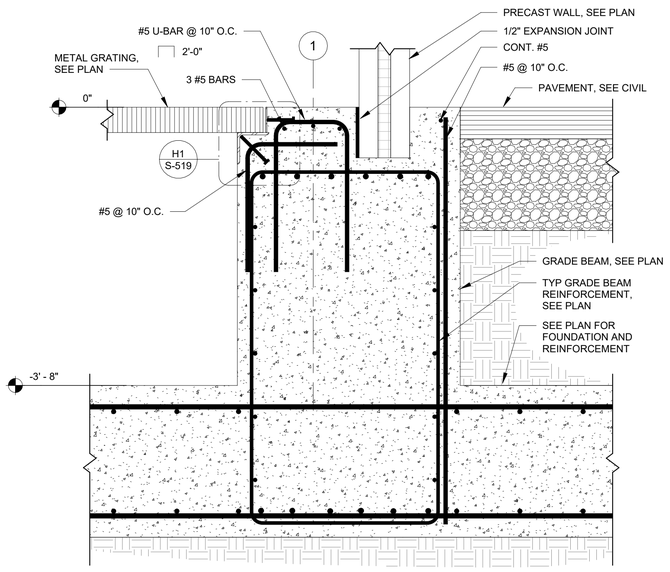
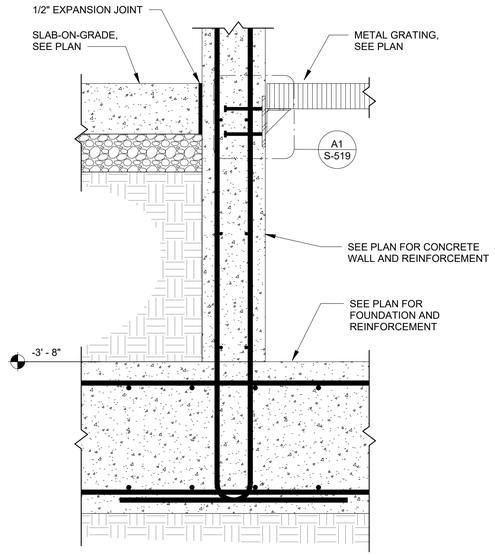
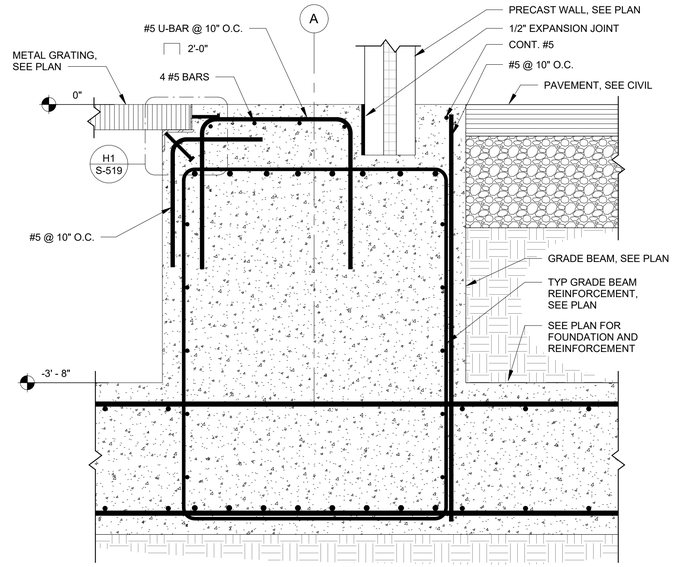


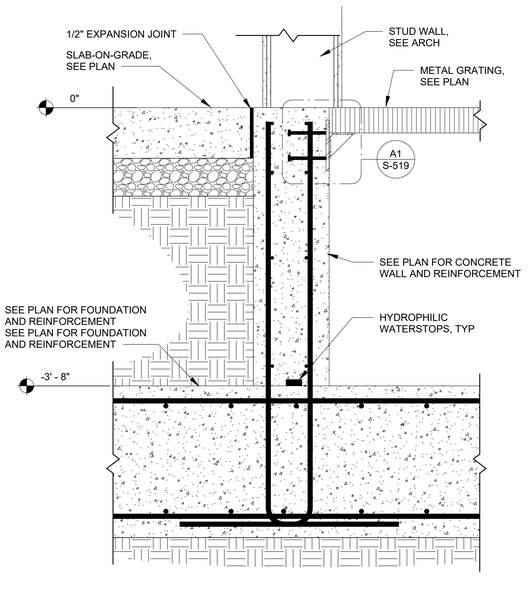
G4 DAY TANKS B PIT AT GRADE BEAM GB2
1" = 1'-0"



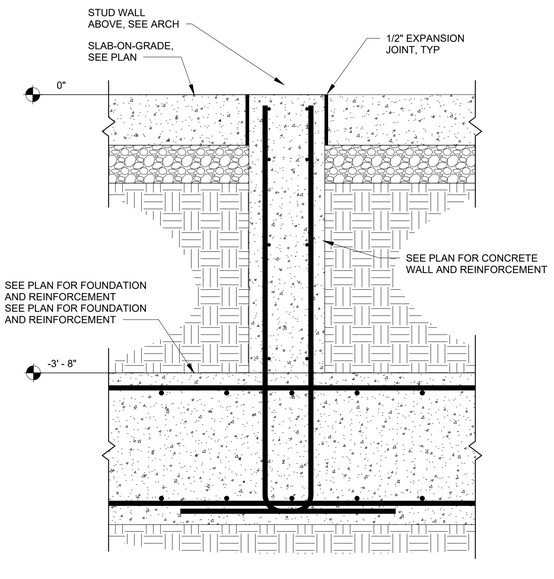
G10 DAY TANK PIT WALL
1" = 1'-0"



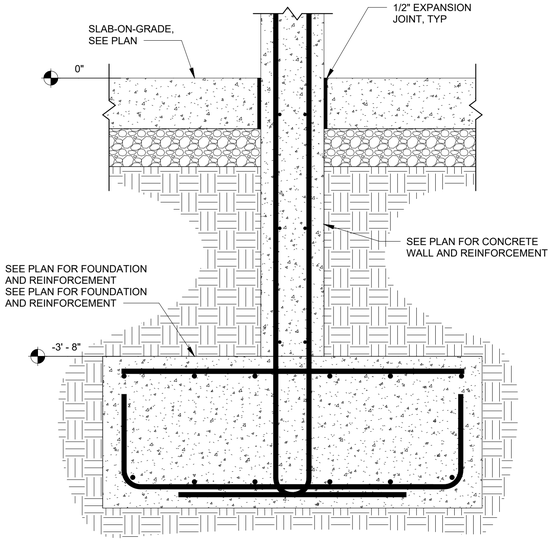
G13 PIT AT GRADE BEAM
1" = 1'-0"



A4 EXHAUST TREATMENT PIT WALL
1" = 1'-0"



A9 TYP CONCRETE STEM WALL FOUNDATION
1" = 1'-0"



A15 TYPICAL CONCRETE WALL FOUNDATION
1" = 1'-0"

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File Path: C:\Users\GBDOUEO\OneDrive - US Army Corps of Engineers\Documents\BUC00102_DM_S_GBDOUEO.rvt

DESIGNED BY:	E. HENIN
DRAWN BY:	J. OSBORN
CHECKED BY:	W. BUECK
SUBMITTED BY:	S. BENTING
SIZE:	ANSI D
FILE NAME:	BUC00102_DM_S.rvt
Plot Date:	5/5/2025 10:50:08 AM

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FOUNDATION DETAILS

SHEET ID
S-515

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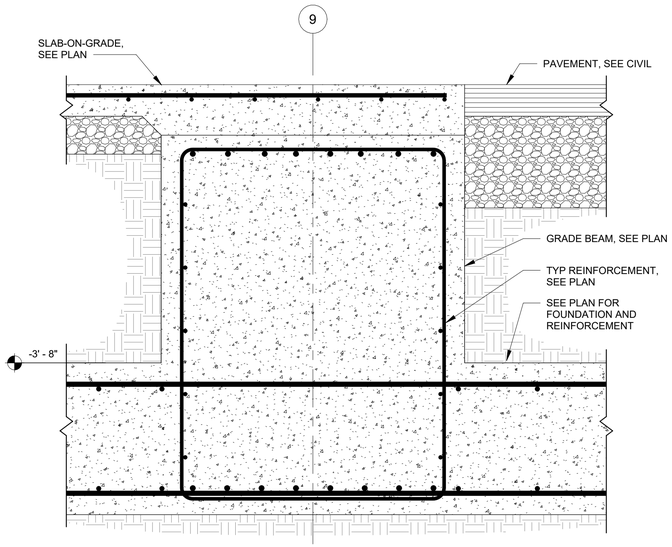
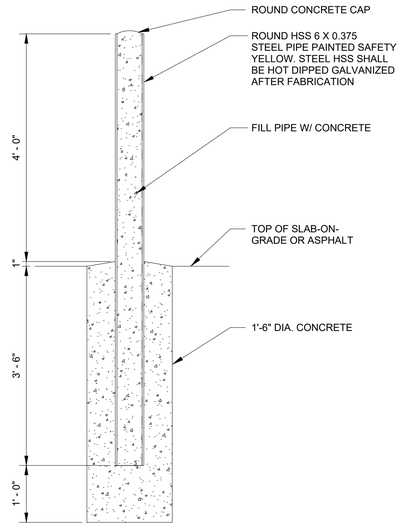


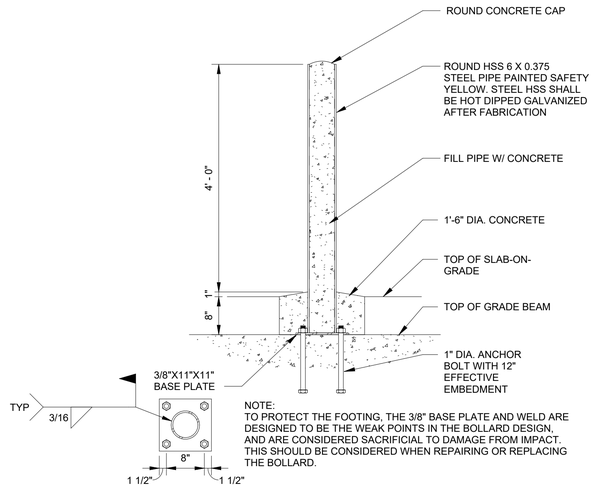
H1 DOORWAY TRANSITION AT GRADE BEAM

1" = 1'-0"



H7 TYP BOLLARD (NOT ON FOOTING)

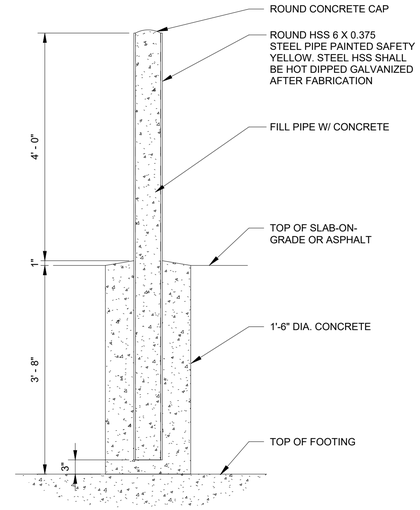
3/4" = 1'-0"



NOTE:
TO PROTECT THE FOOTING, THE 3/8" BASE PLATE AND WELD ARE DESIGNED TO BE THE WEAK POINTS IN THE BOLLARD DESIGN, AND ARE CONSIDERED SACRIFICIAL TO DAMAGE FROM IMPACT. THIS SHOULD BE CONSIDERED WHEN REPAIRING OR REPLACING THE BOLLARD.

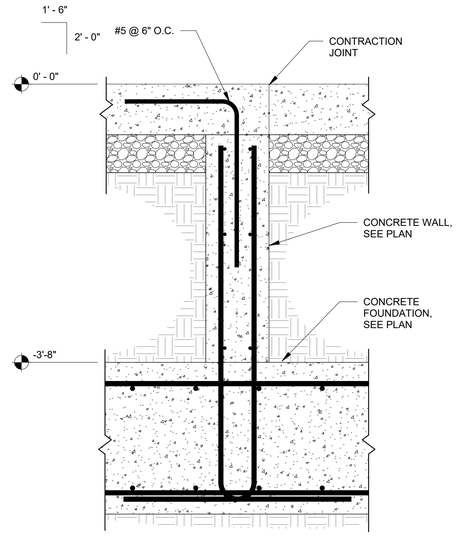
H8 TYP BOLLARD ON GRADE BEAM

3/4" = 1'-0"



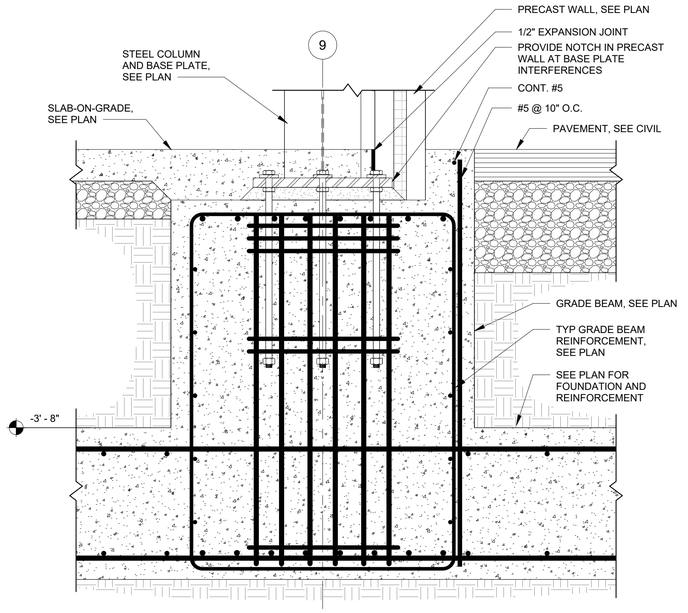
H16 TYP BOLLARD ON FOOTING

3/4" = 1'-0"



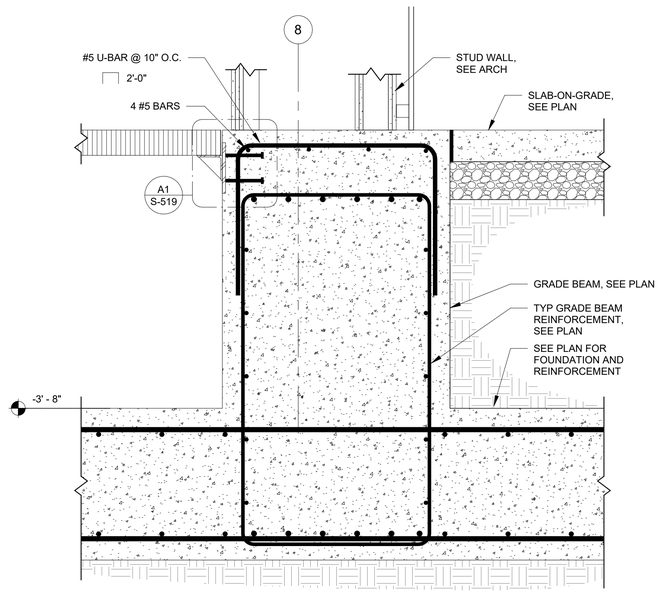
A2 SLAB AT DOOR IN CONCRETE WALL

1" = 1'-0"



A8 TYPICAL FOUNDATION DETAIL AT ADMIN

1" = 1'-0"



A15 DAY TANKS A PIT AT GRADE BEAM GB2

1" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\GBODUKE\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_S_GBODUKE.rvt

DESIGNED BY:	E. HENIN
DRAWN BY:	J. OSBORN
CHECKED BY:	W. BODECK
SUBMITTED BY:	S. ZIEMNIO
SIZE:	FILE NAME:
ANSI D	BUCO00102_DM_S.rvt

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FOUNDATION DETAILS

SHEET ID

S-516

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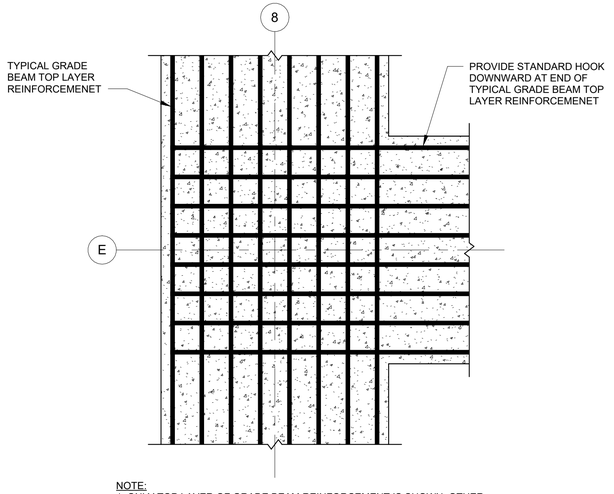
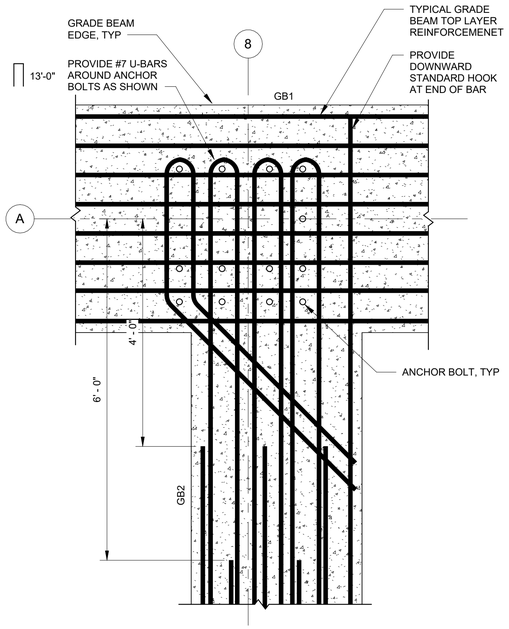


NOTE:
1. ONLY TOP LAYER OF GRADE BEAM REINFORCEMENT IS SHOWN. OTHER REINFORCEMENT IS STILL REQUIRED.
2. THIS REINFORCEMENT DETAIL ONLY APPLIES TO THE LOCATIONS SPECIFIED.

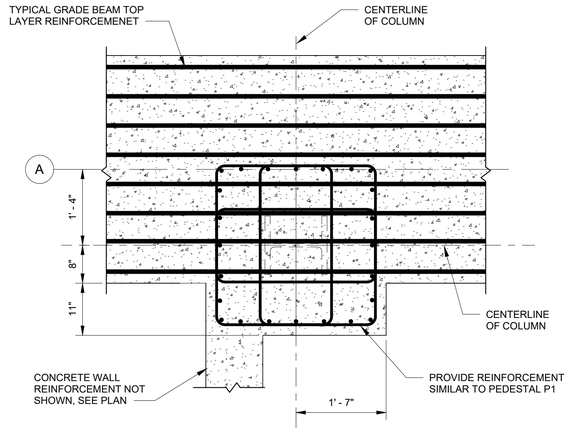
H1 GRADE BEAM REINFORCEMENT - GRID E.8

3/4" = 1'-0"



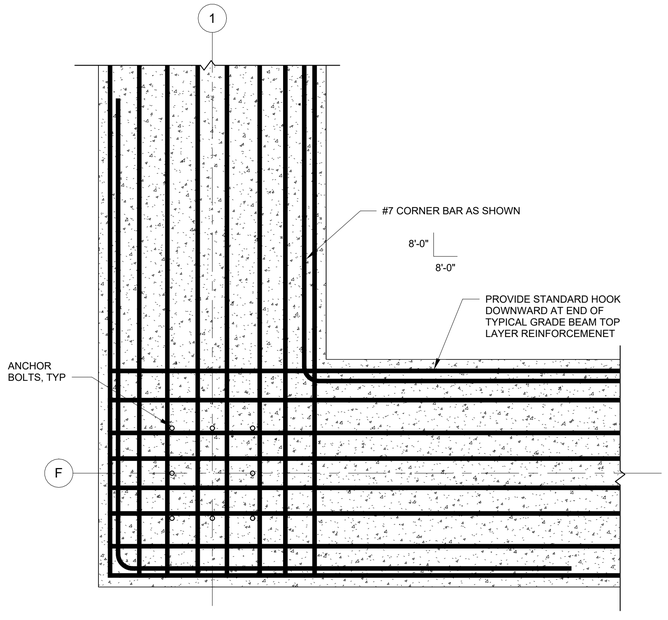
H8 GRADE BEAM REINFORCEMENT - GRID A.8

3/4" = 1'-0"



H15 GRADE BEAM BUMPOUT - NEAR GRID A.5

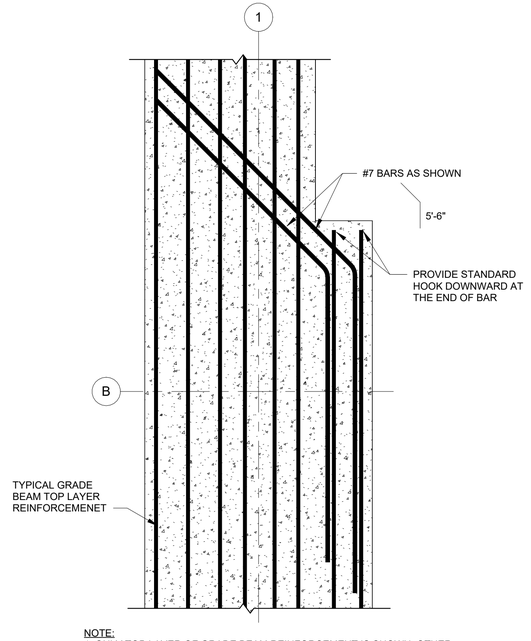
3/4" = 1'-0"



NOTE:
1. ONLY TOP LAYER OF GRADE BEAM REINFORCEMENT IS SHOWN. OTHER REINFORCEMENT IS STILL REQUIRED.
2. THIS REINFORCEMENT DETAIL ONLY APPLIES TO THE LOCATIONS SPECIFIED.

A1 GRADE BEAM REINFORCEMENT - GRID F.1

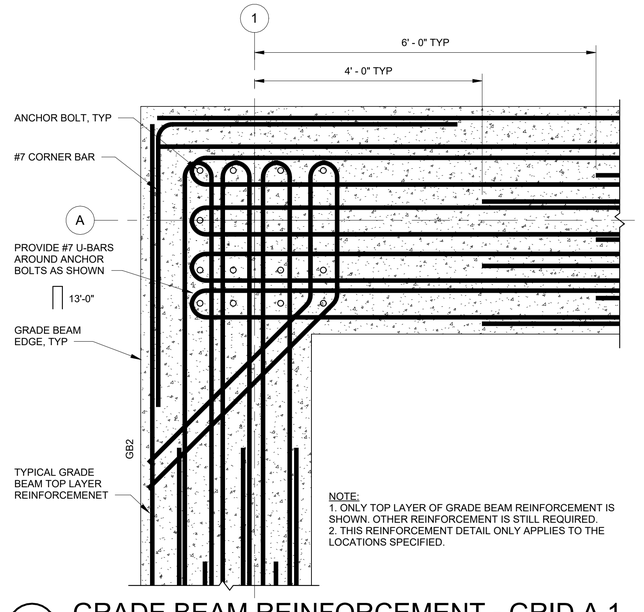
3/4" = 1'-0"



NOTE:
1. ONLY TOP LAYER OF GRADE BEAM REINFORCEMENT IS SHOWN. OTHER REINFORCEMENT IS STILL REQUIRED.
2. THIS REINFORCEMENT DETAIL ONLY APPLIES TO THE LOCATIONS SPECIFIED.

A8 GRADE BEAM REINFORCEMENT - GRID B.1

3/4" = 1'-0"



NOTE:
1. ONLY TOP LAYER OF GRADE BEAM REINFORCEMENT IS SHOWN. OTHER REINFORCEMENT IS STILL REQUIRED.
2. THIS REINFORCEMENT DETAIL ONLY APPLIES TO THE LOCATIONS SPECIFIED.

A14 GRADE BEAM REINFORCEMENT - GRID A.1

3/4" = 1'-0"

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DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	S. DEHNING
SIZE:	FILE NAME:
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SOLICITATION NO.: W9128F25RA043
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

GRADE BEAM INTERSECTION REINFORCEMENT

SHEET ID

S-517

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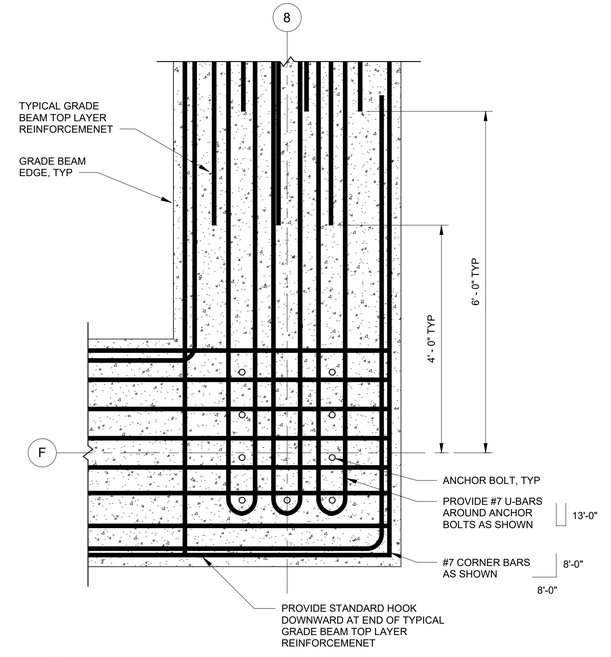

NOTE:
1. ONLY TOP LAYER OF GRADE BEAM REINFORCEMENT IS SHOWN. OTHER REINFORCEMENT IS STILL REQUIRED.
2. THIS REINFORCEMENT DETAIL ONLY APPLIES TO THE LOCATIONS SPECIFIED.

A15 GRADE BEAM REINFORCEMENT - GRID F.8

3/4" = 1'-0"

0 0.5' 1' 2' 3'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\GKDXJEO\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_S_GKDXJEO.rvt

Plot Date: 5/5/2025 10:50:12 AM

DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BUECK
SUBMITTED BY: S. DEWING
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_S.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

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POWER INDEPENDENCE, MISSION CONTROL STATION

GRADE BEAM INTERSECTION REINFORCEMENT

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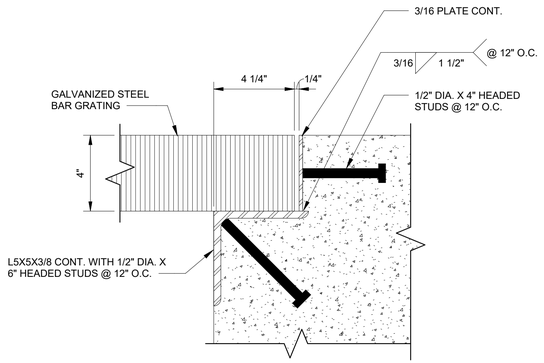
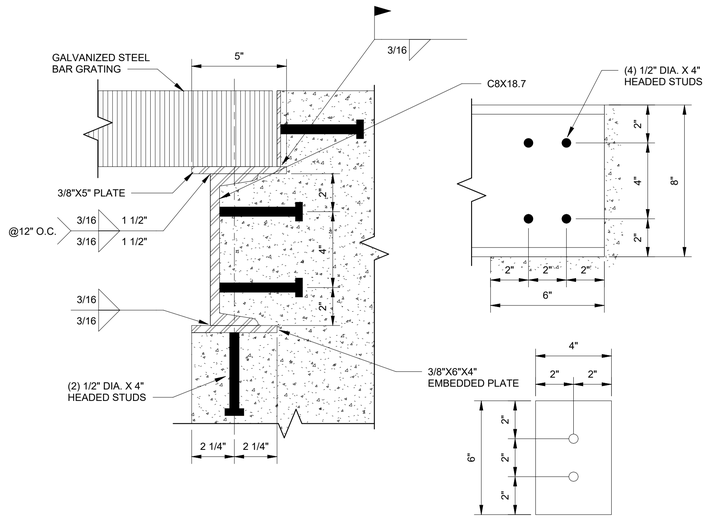


H1 TYP GRATING AT SLAB OR PAD

3" = 1'-0"

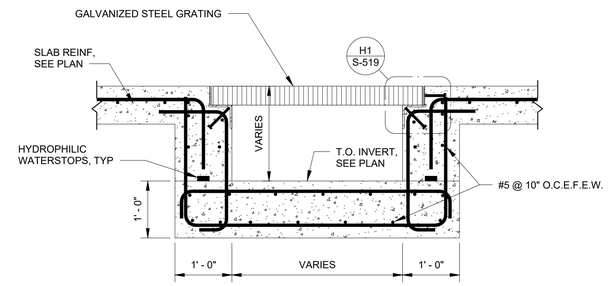
0 0.125' 0.25' 0.5' 0.75'



H7 CHANNEL POCKET SECTION

3" = 1'-0"

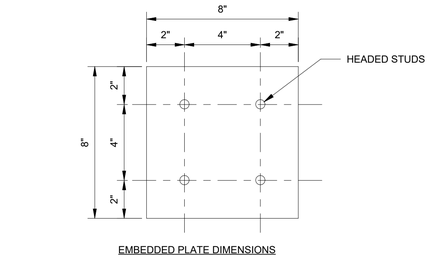
0 0.125' 0.25' 0.5' 0.75'



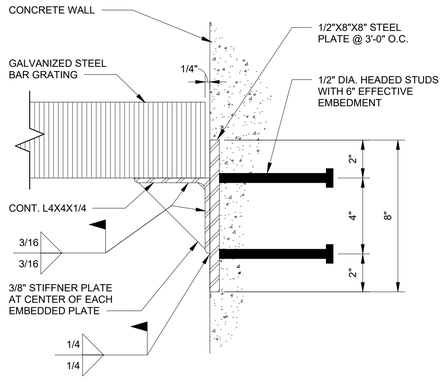
NOTES:
1. PROVIDE WATERSTOPS IN ALL CONSTRUCTION AND CONTRACT JOINTS IN TRENCH DRAIN.

H15 TRENCH SECTION

NTS



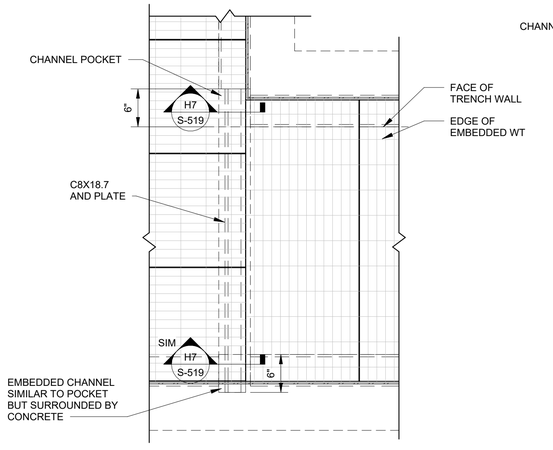
EMBEDDED PLATE DIMENSIONS



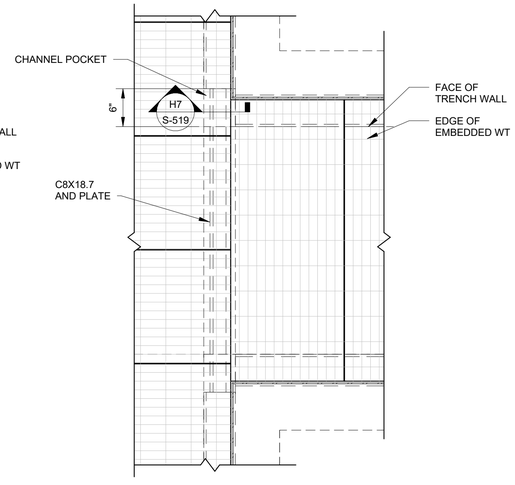
A1 TYP GRATING AT WALL

3" = 1'-0"

0 0.125' 0.25' 0.5' 0.75'



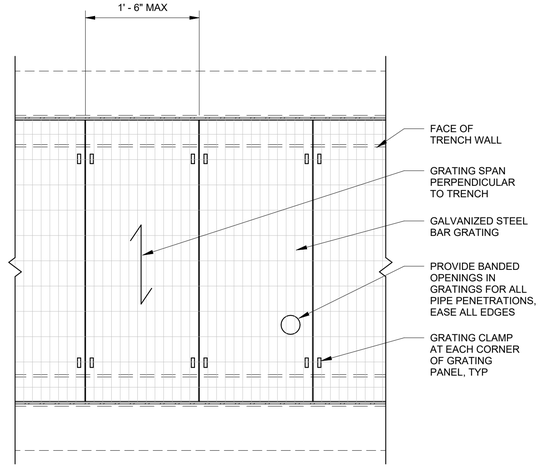
CORNER



INTERSECTION

A6 GRATING AT CORNER OR INTERSECTION

NTS



A15 TYPICAL DETAIL AT TRENCH BAR GRATING

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US Army Corps of Engineers ®

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DESIGNED BY:	E. HENIN
DRAWN BY:	J. OSBORN
CHECKED BY:	W. BDECK
SUBMITTED BY:	S. DENNING
SIZE:	FILE NAME:
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CONTRACT NO.:

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OMAHA DISTRICT
1616 CAPITOL AVE.
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TRENCH AND GRATING DETAILS

SHEET ID

S-519

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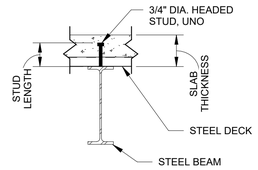
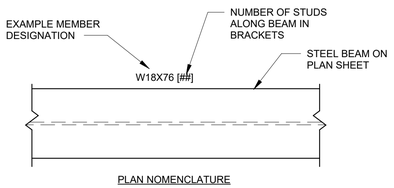
SLAB THICKNESS	STUD LENGTH
6" OR GREATER	5"
5" OR 5 1/2"	4"
4" OR 4 1/2"	3"

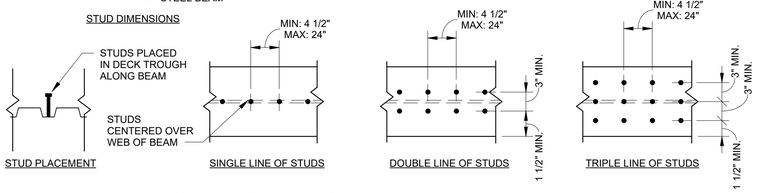


STUD DIMENSIONS



PLAN NOMENCLATURE

NOTE: MULTIPLE LINES OF STUDS SHALL BE PLACED ONLY WHEN THERE ARE MORE STUDS THAN NUMBER OF DECK TROUGHS ALONG A BEAM. WHERE MULTIPLE LINES ARE NECESSARY, THE STUDS SHALL BE PLACED SUCH THAT THEY ARE PLACED AS EVENLY AS POSSIBLE ALONG THE LENGTH OF THE BEAM.



STUD PLACEMENT | SINGLE LINE OF STUDS | DOUBLE LINE OF STUDS | TRIPLE LINE OF STUDS

NOTE: ALL HEADED SHEAR STUDS SHALL BE FIELD INSTALLED.

H1 TYPICAL SHEAR CONNECTOR DETAILS

NTS

COMPOSITE DECK NOTES:

1. COMPOSITE DECKS SHALL BE DESIGNED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE SPECIFICATIONS OF THE STEEL DECK INSTITUTE (SDI).

2. STEEL DECKS SHALL BE SHOP PRIMED ON BOTTOM SURFACES ONLY. THE SHOP PRIMER COATING SHALL BE COMPATIBLE WITH THE FIELD INTUMESCENT COATINGS.

3. PROVIDE ALL RIDGE PLATES, VALLEY PLATES, SUMP PANS, POUR STOPS, AND ALL OTHER ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION IN ACCORDANCE WITH THE DECK MANUFACTURER'S RECOMMENDATIONS.

4. CONTRACTOR SHALL COORDINATE OPENINGS IN COMPOSITE DECK WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS PRIOR TO DECK PLACEMENT.

5. COMPOSITE DECK HANGAR TAB LOADS SHALL NOT EXCEED 60 LBS PER HANGAR TAB. LOADS SHALL BE DISTRIBUTED SUCH THAT THE TRIBUTARY LOAD DOES NOT EXCEED 5 PSF. MECHANICAL EQUIPMENT SHALL NOT BE HUNG FROM THE COMPOSITE DECK.

6. PROVIDE DECK CONSTRUCTION THAT IS LISTED AND CONFORMS TO THE UL FIRE RESISTANCE DIRECTORY AND BUILDING MATERIALS DIRECTORY, SEE ARCHITECTURAL.

7. TEMPORARY SHORING OF STEEL DECK SHALL NOT BE USED UNLESS APPROVED BY THE CONTRACTING OFFICER.

8. SEE STRUCTURAL PLANS FOR HEADED STUD LOCATIONS.

9. THE ROOF METAL DECK CAN SUPPORT A CONSTRUCTION LIVE LOAD OF 25 PSF.

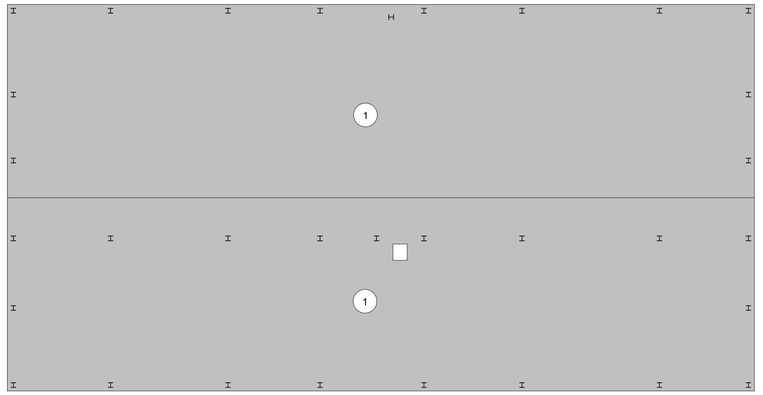
10. METAL DECK MUST BE INSTALLED IN TWO OR THREE SPANS. SINGLE SPANS ARE NOT ALLOWED.

DECK FASTENING SCHEDULE

DIAPHRAGM NO.	DIAPHRAGM DESCRIPTION	FASTENERS		
		PERPENDICULAR CONNECTIONS TO SUPPORTS	SIDELAP AND SIDE SUPPORT CONNECTIONS PER SPAN	END CONDITION
1	ROOFS	36/3 5/8" DIA. PUDDLE WELDS	(2) #10 TEK SCREWS	LAPPED
2	MEZZANINE	36/3 5/8" DIA. PUDDLE WELDS	#10 TEK SCREWS @ 24" MAX	LAPPED
3	PUMP/TANK ROOFS	36/3 5/8" DIA. PUDDLE WELDS	(2) #10 TEK SCREWS	LAPPED
4	CANOPY ROOF	36/4 5/8" DIA. PUDDLE WELDS	(4) #10 TEK SCREWS	LAPPED

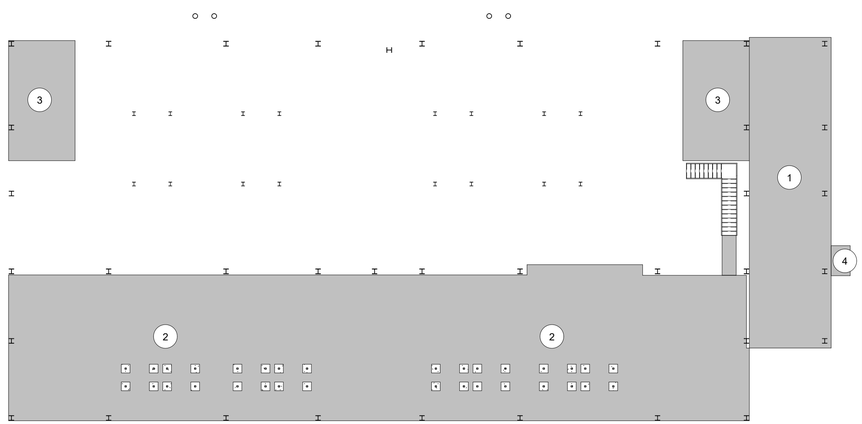
COMPOSITE DECK SCHEDULE

DECK NO.	DESCRIPTION	DECK DESIGNATION	CONCRETE TOPPING THICKNESS	TOTAL THICKNESS	TOPPING REINF.	STEEL DECK PROPERTIES EXCLUDING CONCRETE TOPPING							
						DECK THICKNESS	YIELD STRENGTH	DECK WIDTH	DEFLECTION LIMIT	POSITIVE MOMENT OF INERTIA	NEGATIVE MOMENT OF INERTIA	POSITIVE ELASTIC SECTION MODULUS	NEGATIVE ELASTIC SECTION MODULUS
1	ROOFS	1.5 VL 18 GA.	3 1/2"	5"	SEE PLANS	0.0478 INCHES	50 KSI	36 INCHES	L/240	0.277 IN^4/FT	0.290 IN^4/FT	0.306 IN^3/FT	0.318 IN^3/FT
2	MEZZANINE	1.5 VL 18 GA.	3 1/2"	5"	SEE PLANS	0.0478 INCHES	50 KSI	36 INCHES	L/360	0.277 IN^4/FT	0.290 IN^4/FT	0.306 IN^3/FT	0.318 IN^3/FT
3	PUMP/TANK ROOFS	3 VLI 16 GA.	2"	5"	SEE PLANS	0.0598 INCHES	50 KSI	36 INCHES	L/240	1.580 IN^4/FT	1.580 IN^4/FT	1.013 IN^3/FT	1.013 IN^3/FT
4	CANOPY ROOF	1.5B 16 GA.	NA	1.5"	NA	0.0598 INCHES	50 KSI	36 INCHES	L/240	0.367 IN^4/FT	0.367 IN^4/FT	0.393 IN^3/FT	0.402 IN^3/FT



F13 HIGH ROOF COMPOSITE DECK PLAN

NTS



A13 MEZZANINE AND LOW ROOF COMPOSITE DECK PLAN

NTS

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ISSUE DATE:	05/01/2025
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CONTRACT NO.:	
DESIGNED BY:	E. HENIN
DRAWN BY:	J. OSBORN
CHECKED BY:	W. BOECK
SUBMITTED BY:	S. DENNING
SIZE:	ANSI D
FILE NAME:	BUCO00102_DM_S.rvt
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

COMPOSITE DECK SCHEDULE

SHEET ID

S-600

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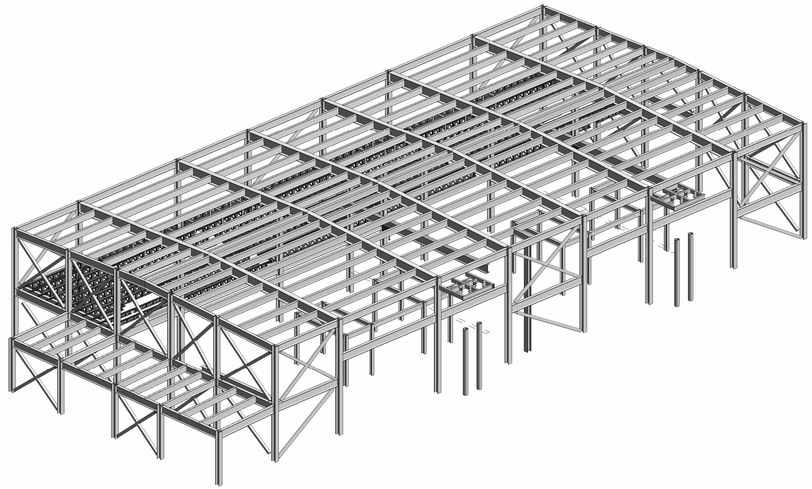
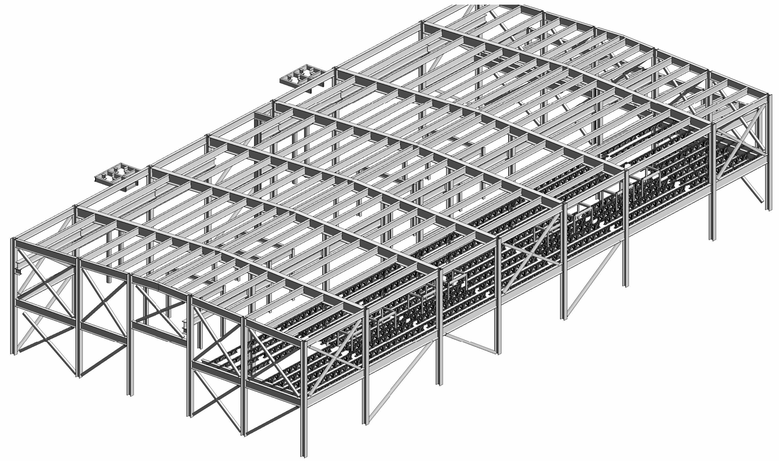


G5 STEEL 3D ISOMETRIC FROM PLAN NE
NTS



G12 STEEL 3D ISOMETRIC FROM PLAN SW
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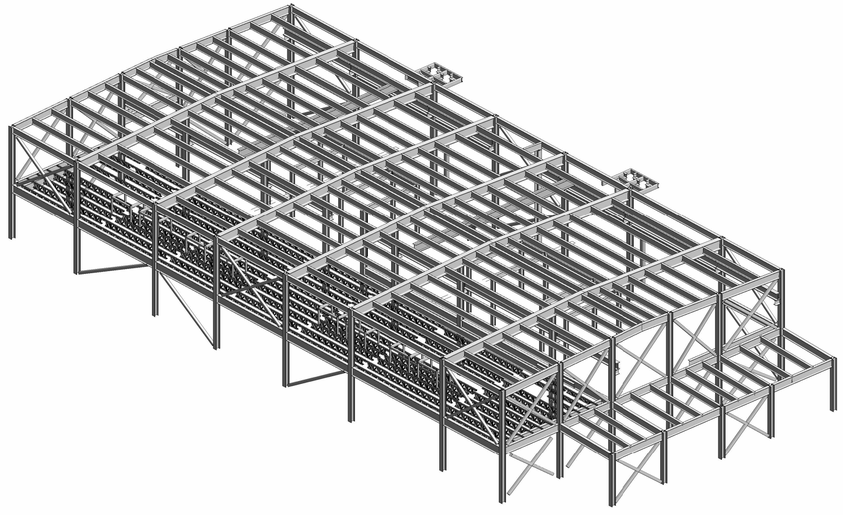

A5 STEEL 3D ISOMETRIC FROM PLAN NW
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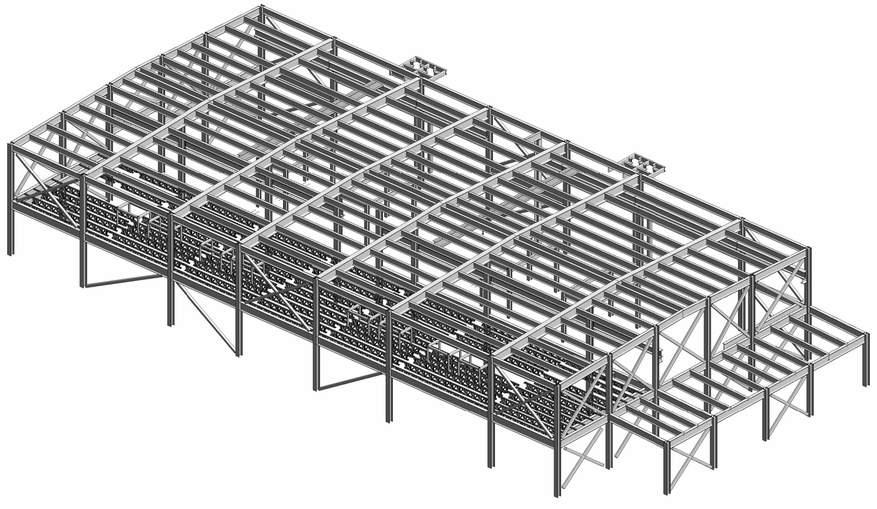

A12 STEEL 3D ISOMETRIC FROM PLAN SE
NTS

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DESIGNED BY: E. HENIN
DRAWN BY: J. OSBORN
CHECKED BY: W. BOECK
SUBMITTED BY: S. ZIEMNIAK
SIZE: ANSI D
FILE NAME: BUCO00102_DM_S.rvt
ISSUE DATE: 05/01/2025
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

3D VIEWS

SHEET ID

S-900

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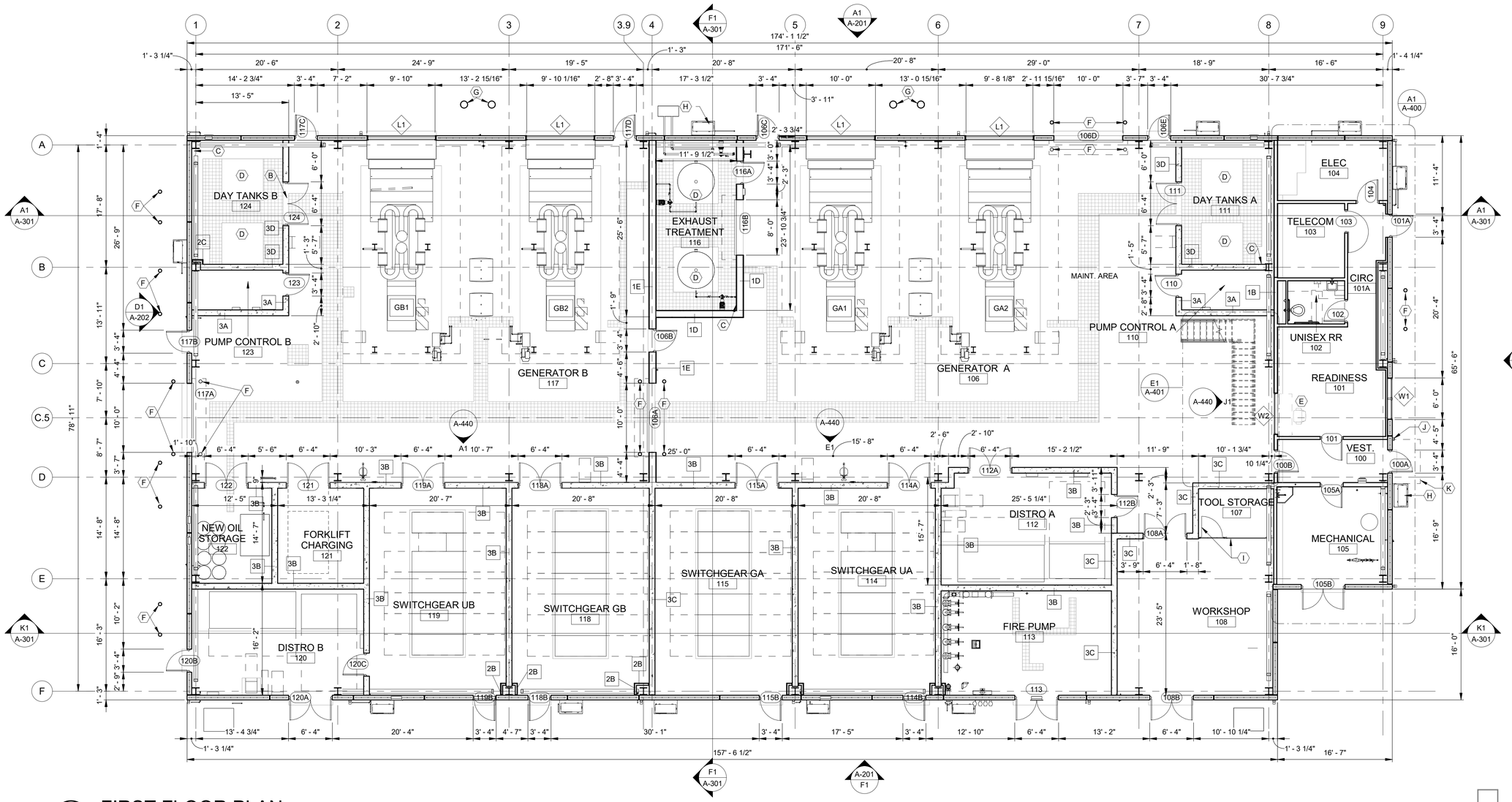
PLAN KEYNOTE	
MARK	REMARKS
A	ENSURE FUEL TRENCH DRAINS TO PLAN WEST
B	CAST IN PLACE STEM WALL TO SEPARATE FIRE RATED COMPARTMENTS IN FUEL TRENCH
C	METAL GRATING TO EXTEND TO EDGE OF INTERIOR WALL
D	COORDINATE TANK LOCATION WITH REMOVABLE METAL GRATING
E	FURNITURE IS FOR REFERENCE ONLY AND NOT INCLUDED IN CONTRACT
F	CONC. BOLLARD (SEE A16/A-603)
G	STACK SUPPORTS. SEE STRUCTURAL.
H	MECH. EQUIPMENT. SEE MECHANICAL
I	WIRE MESH ENCLOSURE AND GATE. SEE SPECS.
J	KNOX BOX NEAR MAIN ENTRANCE. COORDINATE EXACT LOCATION WITH THE FIRE DEPARTMENT.
K	OUTLINE OF ENTRANCE CANOPY ABOVE.

ROOM SCHEDULE		
NAME	NUMBER	AREA
VEST.	100	101 SF
READINESS	101	238 SF
CIRC	101A	84 SF
UNISEX RR	102	51 SF
TELECOM	103	104 SF
ELEC	104	147 SF
MECHANICAL	105	236 SF
GENERATOR A	106	3777 SF
TOOL STORAGE	107	77 SF
WORKSHOP	108	524 SF
PUMP CONTROL A	110	101 SF
DAY TANKS A	111	214 SF
DISTRO A	112	394 SF
FIRE PUMP	113	378 SF
SWITCHGEAR UA	114	597 SF
SWITCHGEAR GA	115	598 SF
EXHAUST TREATMENT	116	288 SF
GENERATOR B	117	2935 SF
SWITCHGEAR GB	118	594 SF
SWITCHGEAR UB	119	596 SF
DISTRO B	120	395 SF
FORKLIFT CHARGING	121	171 SF
NEW OIL STORAGE	122	164 SF
PUMP CONTROL B	123	80 SF
DAY TANKS B	124	245 SF



PLAN NORTH

KEY PLAN

B451

0 4' 8' 16'

A1 FIRST FLOOR PLAN

1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DRAWN BY: J. KAITANY
CHECKED BY: B. GORUP
SUBMITTED BY: B. GORUP
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25R0043
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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

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POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102
FIRST FLOOR PLAN

SHEET ID
A-101

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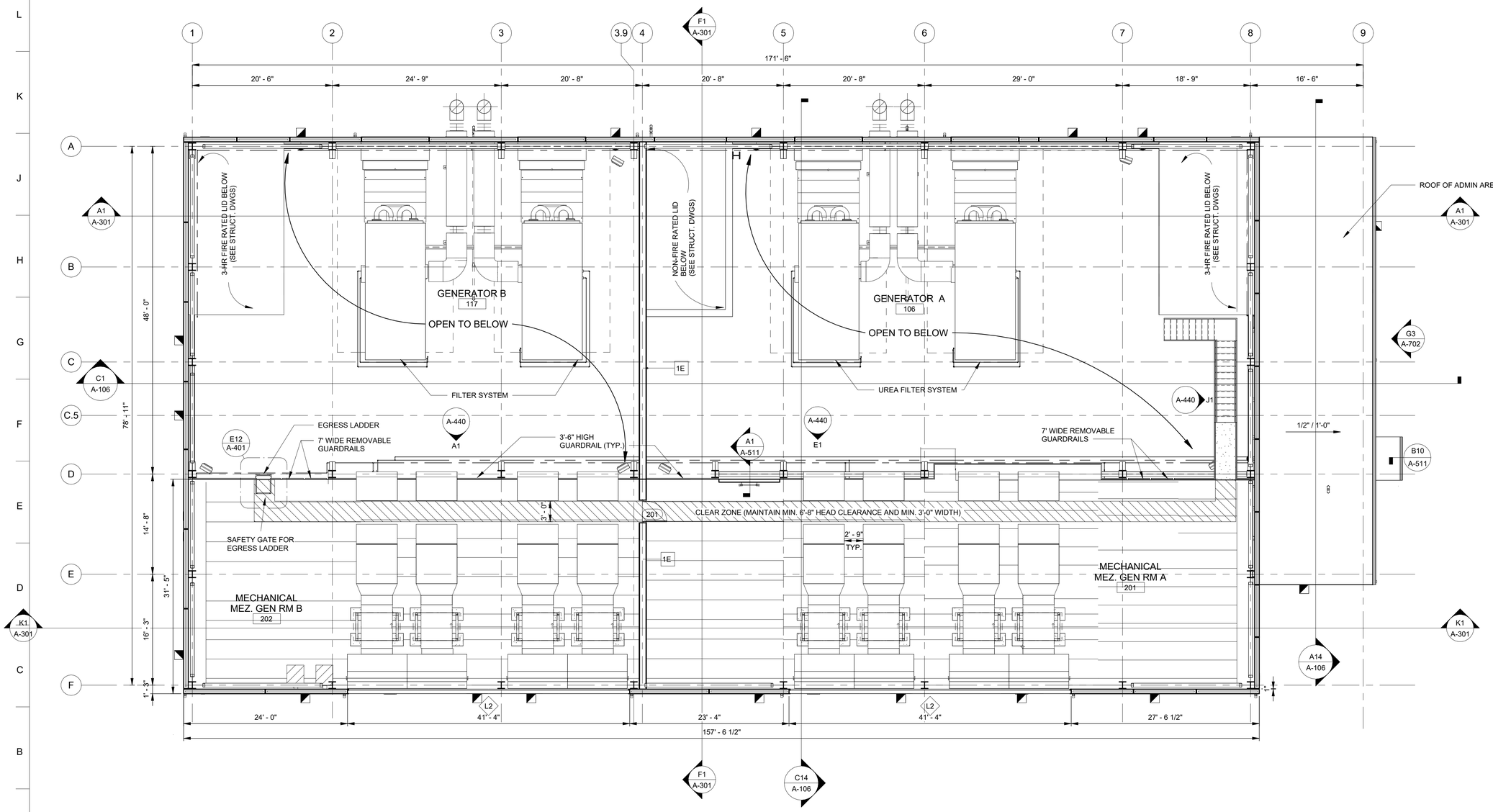

A1 MEZZANINE FLOOR PLAN

1/8" = 1'-0"

US Army Corps of Engineers ®

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CHECKED BY: B. GORUP
SUBMITTED BY: B. GORUP
SIZE: ANSI D
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCC000102

MEZZANINE FLOOR PLAN

PLAN NORTH

KEY PLAN

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0 4' 8' 16'

SHEET ID

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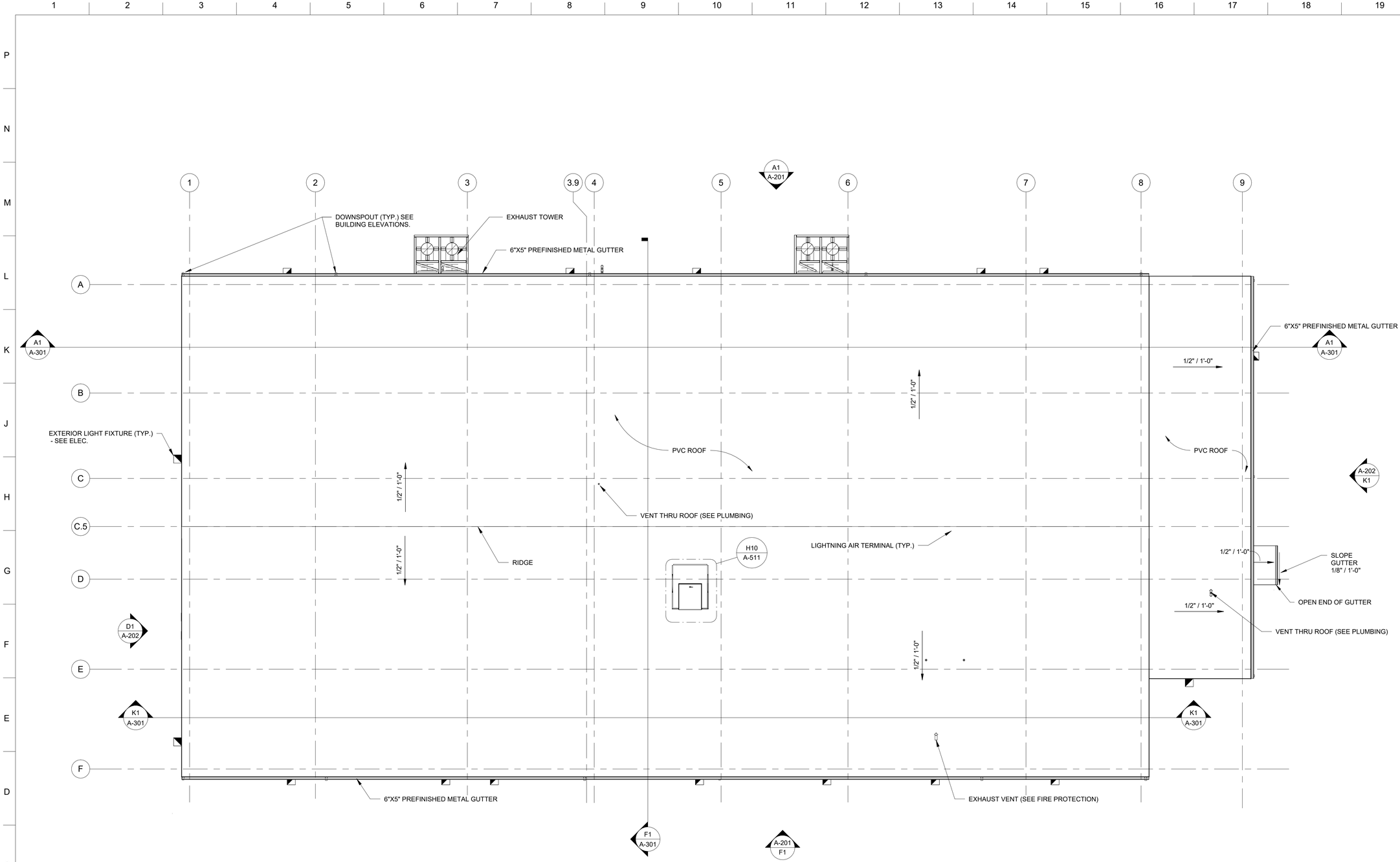
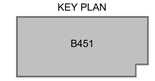


A1 ROOF PLAN
1/8" = 1'-0"

PLAN NORTH

KEY PLAN



0 4' 8' 16'

US Army Corps of Engineers ®

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CHECKED BY: B. GORUP
SUBMITTED BY:
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FILE NAME: BUCO00102_DM_AI.rvt
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OMAHA DISTRICT
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BUCO00102
ROOF PLAN

SHEET ID
A-103

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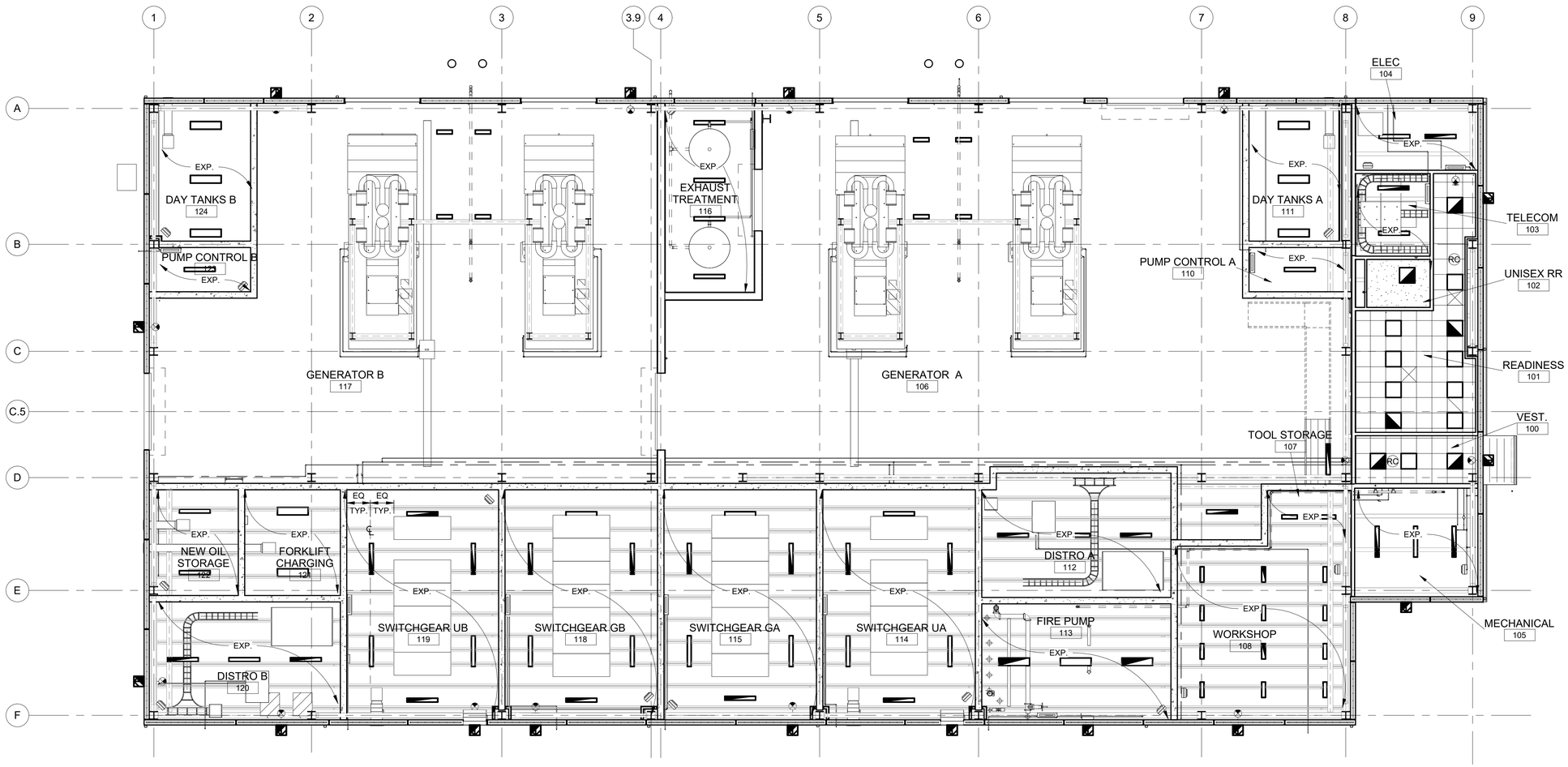
REFLECTED CEILING PLAN LEGEND

ARCHITECTURAL	MECHANICAL/FIRE PROTECTION	ELECTRICAL
101 ROOM NUMBER	SUPPLY AIR DIFFUSER (SEE MECHANICAL)	WALL-MOUNTED BOX LIGHT - SEE ELECTRICAL
XXX'-X" SPOT ELEVATION	RETURN AIR GRILL OR EXHAUST GRILL (SEE MECHANICAL)	1X4 TROFFER - SURFACE MOUNTED - SEE ELECTRICAL
PAINTED GYPSUM BOARD CEILING	CEILING VENT	2X2 TROFFER - ATC MOUNTED - SEE ELECTRICAL
2X2 SUSPENDED ATC CEILING	SMOKE DETECTOR - SEE ELECTRICAL	2X4 TROFFER - ATC MOUNTED - SEE ELECTRICAL
FIRE RATED GWB LID	CEILING MOUNTED EXIT LIGHT (SEE ELECTRICAL)	WALL-MOUNTED EXTERIOR LIGHT FIXTURE - SEE ELECTRICAL
EXP. EXPOSED TO STRUCTURE	WALL MOUNTED EXIT LIGHT (SEE ELECTRICAL)	RECESSED CAN LIGHT - SEE ELECTRICAL
	RETURN AIR GRILL - SIZE VARIES - SEE MECHANICAL	PENDANT LIGHT - SEE ELECTRICAL
	SUPPLY AIR GRILL - SIZE VARIES - SEE MECHANICAL	EXTERIOR WALL MOUNTED LIGHT FIXTURE (SEE ELECTRICAL)
		CABLE TRAY (SEE ELECTRICAL)
		CIRCULAR INDUSTRIAL DOWNLIGHT (SEE ELECTRICAL)
		EXIT SIGN - SEE ELECTRICAL



PLAN NORTH

KEY PLAN

B451

0 4' 8' 16'

A1 FIRST FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfeisty\Box\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_AI_gfeisty96.rvt

Plot Date: 5/5/2025 3:51:37 PM

DESIGNED BY: K. JARVIS	ISSUE DATE: 05/01/2025
DRAWN BY: J. KAITANY	SOLICITATION NO.: W9128F25RA043
CHECKED BY: B. GORUP	CONTRACT NO.:
SUBMITTED BY: B. GORUP	
SIZE: ANSI D	FILE NAME: BUCO00102_DM_AI.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102

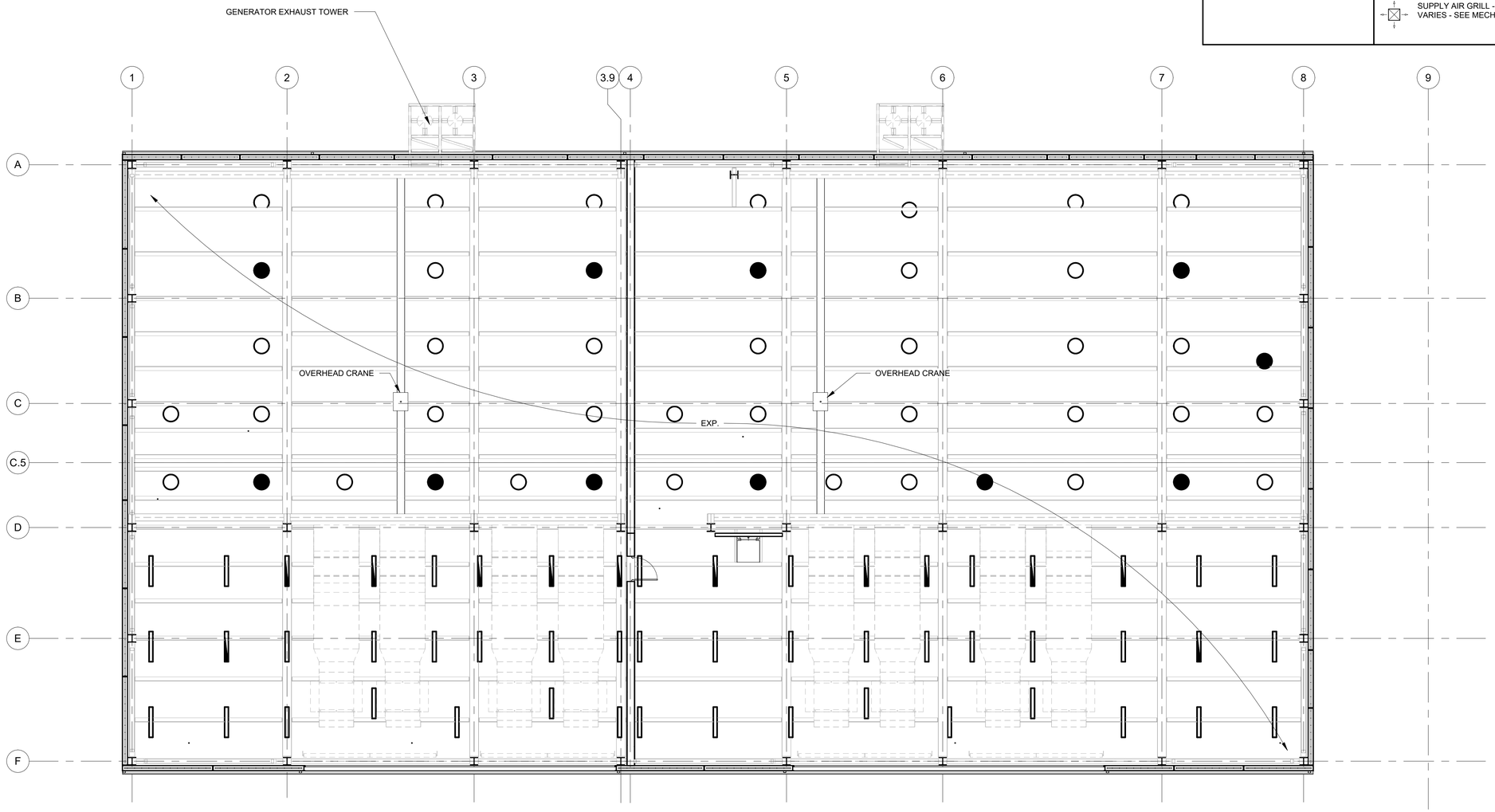
FIRST FLOOR REFLECTED CEILING PLAN

SHEET ID

A-104

ADVERTISEMENT

REFLECTED CEILING PLAN LEGEND		
ARCHITECTURAL	**MECHANICAL/FIRE PROTECTION**	**ELECTRICAL**
101 ROOM NUMBER	SUPPLY AIR DIFFUSER (SEE MECHANICAL)	WALL-MOUNTED BOX LIGHT - SEE ELECTRICAL
XXX'-X" SPOT ELEVATION	RETURN AIR GRILL OR EXHAUST GRILL (SEE MECHANICAL)	1X4 TROFFER - SURFACE MOUNTED - SEE ELECTRICAL
PAINTED GYPSUM BOARD CEILING	CEILING VENT	2X2 TROFFER - ATC MOUNTED - SEE ELECTRICAL
2X2 SUSPENDED ATC CEILING	SMOKE DETECTOR - SEE ELECTRICAL	2X4 TROFFER - ATC MOUNTED - SEE ELECTRICAL
FIRE RATED GWB LID	CEILING FAN - SEE ELECTRICAL	WALL-MOUNTED EXTERIOR LIGHT FIXTURE - SEE ELECTRICAL
TUBULAR DAYLIGHTING DEVICE IN CEILING	CEILING MOUNTED EXIT LIGHT (SEE ELECTRICAL)	RECESSED CAN LIGHT - SEE ELECTRICAL
TUBULAR DAYLIGHTING DEVICE IN EXPOSED CEILING	WALL MOUNTED EXIT LIGHT (SEE ELECTRICAL)	PENDANT LIGHT - SEE ELECTRICAL
EXP. EXPOSED TO STRUCTURE	RETURN AIR GRILL - SIZE VARIES - SEE MECHANICAL	EXTERIOR WALL MOUNTED LIGHT FIXTURE (SEE ELECTRICAL)
	SUPPLY AIR GRILL - SIZE VARIES - SEE MECHANICAL	CABLE TRAY (SEE ELECTRICAL)
		CIRCULAR INDUSTRIAL DOWNLIGHT (SEE ELECTRICAL)
		EXIT SIGN - SEE ELECTRICAL



PLAN NORTH

KEY PLAN

B451

0 4' 8' 16'

A1 MEZZANINE REFLECTED CEILING PLAN

1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jjarvis\jk\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_AI_jjarvis.rvt

Plot Date: 5/5/2025 3:51:38 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

DESIGNED BY:	ISSUE DATE:
K. JARVIS	05/01/2025
DRAWN BY:	SOLICITATION NO.:
J. KAITANY	W9128F25RA043
CHECKED BY:	CONTRACT NO.:
B. GORUP	
SUBMITTED BY:	
B. GORUP	
SIZE:	FILE NAME:
ANSI D	BUCO00102_DM_AI.rvt

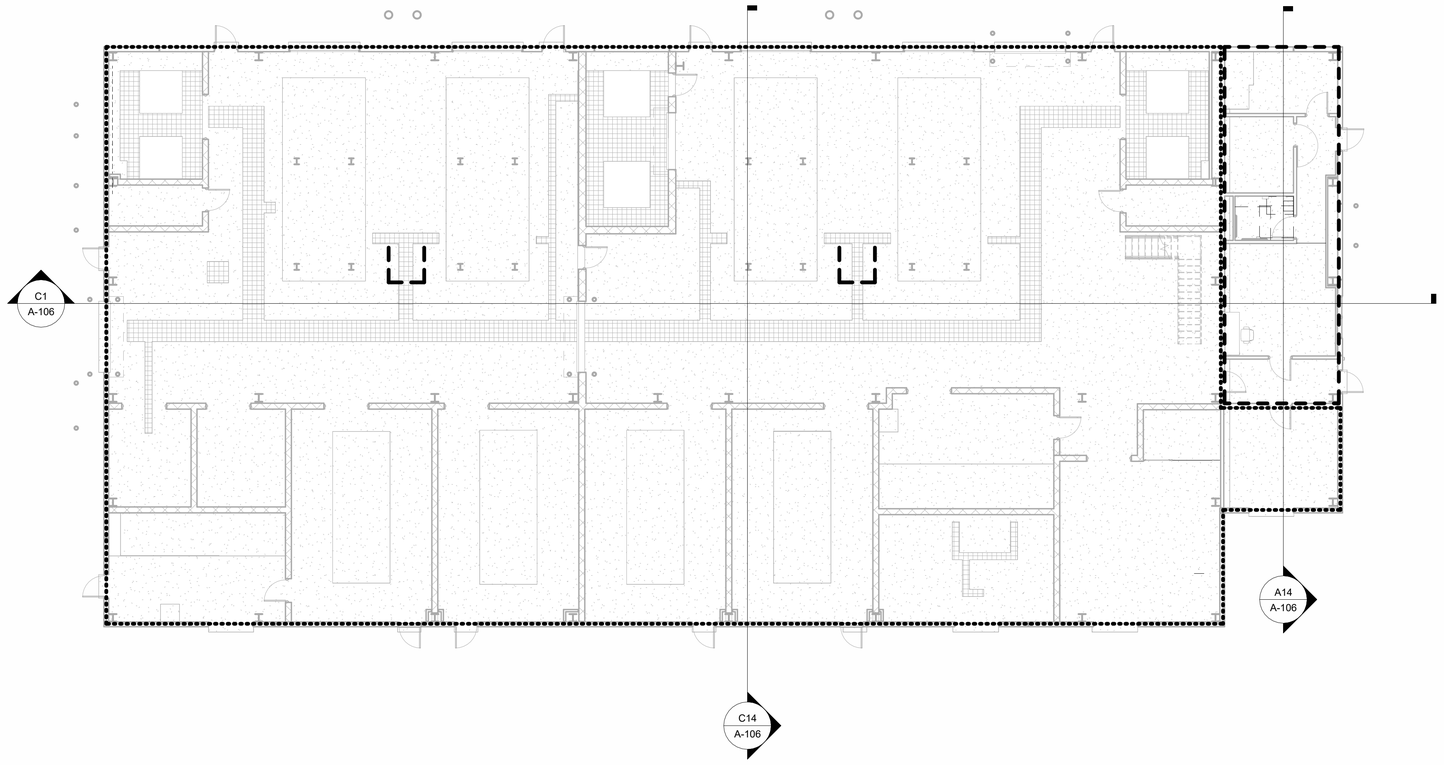
BUCKLEY SFB, COLORADO
POWER INDEPENDENCE - MISSION CONTROL STATION
BUCO00102

MEZZANINE REFLECTED CEILING PLAN

SHEET ID

A-105

ADVERTISEMENT



G1 AIR BARRIER PLAN

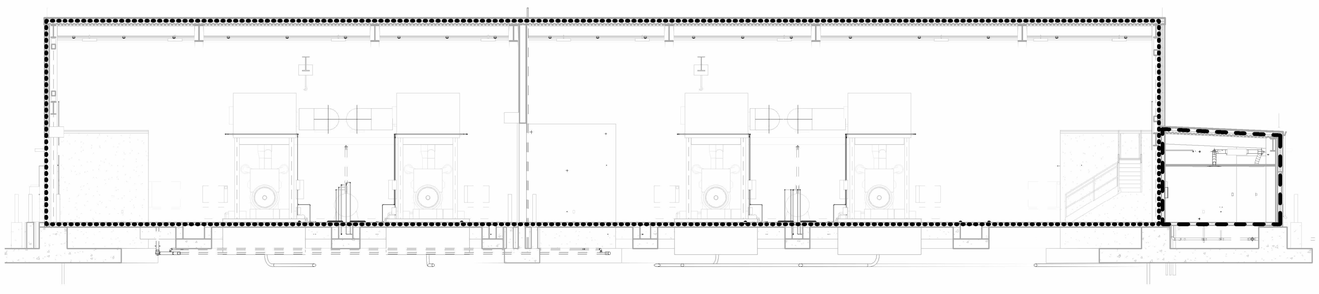
3/32" = 1'-0"

GENERAL NOTES:

1. AIR BARRIER TESTING IS NOT REQUIRED IN THIS FACILITY.
2. SEE SPECIFICATION 07 27 10 FOR MORE INFORMATION.

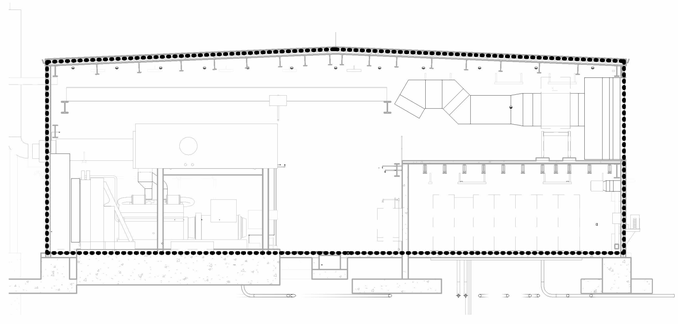
AIR BARRIER BOUNDARIES LEGEND

- ADMINISTRATION AIR BARRIER AREA
- INDUSTRIAL AIR BARRIER AREA



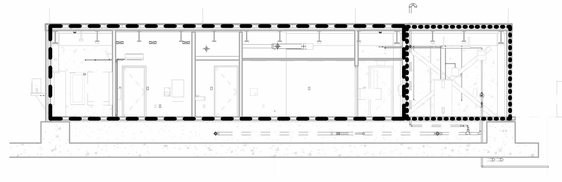
C1 EAST-WEST AIR BARRIER SECTION

3/32" = 1'-0"



C14 NORTH-SOUTH AIR BARRIER SECTION 1

3/32" = 1'-0"



A14 NORTH-SOUTH AIR BARRIER SECTION 2

3/32" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jjfleck\jfl\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_AI_jjfleck\jfl.rvt

DESIGNED BY: K. JARVIS	ISSUE DATE: 05/01/2025
DRAWN BY: J. KAITANY	SOLICITATION NO.: W9128F25RA043
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SIZE: ANSI D	FILE NAME: BUCO00102_DM_AI.rvt

Plot Date: 5/5/2025 3:51:42 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102

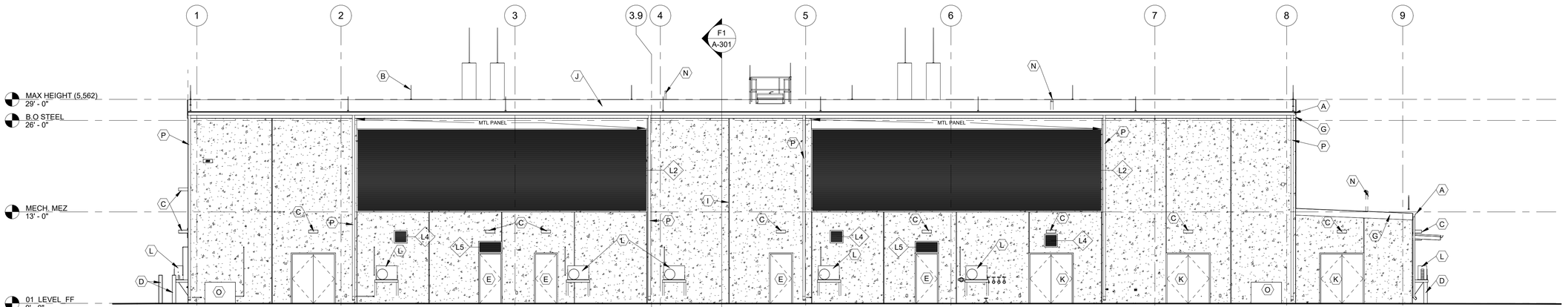
AIR BARRIER PLAN & SECTIONS

SHEET ID

A-106

ADVERTISEMENT

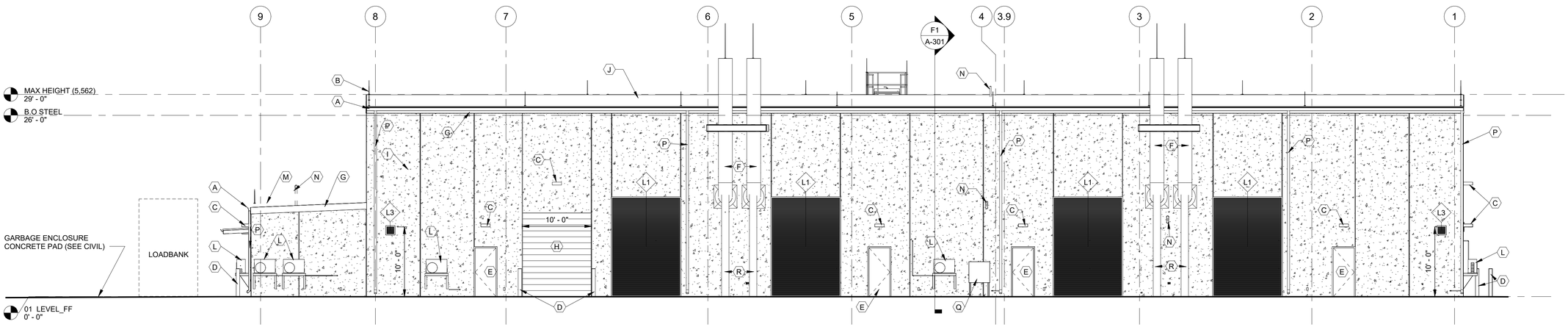
ELEVATION KEYNOTES	
MARK	REMARKS
A	6" x 5" PREFINISHED MTL GUTTER
B	LIGHTNING AIR TERMINAL. TYP. (SEE ELEC.)
C	EXTERIOR LIGHTING, CENTERED ON OPENING. TYP. (SEE ELEC.)
D	CONC. BOLLARD (SEE A16/A-605)
E	7' x 3' INSULATED HOLLOW MTL DOOR, PAINTED (TYP.)
F	GENERATOR EXHAUST TOWER (SEE MECH.)
G	PREFINISHED MTL FASCIA PANELS
H	INSULATED OH COILING DOOR
I	EXPANSION JOINT IN PRECAST CONCRETE PANELS, TYP. (SEE D1/A-530 FOR DETAIL)
J	PVC MEMBRANE W/ COVERBOARD OVER 6" (R-30) RIGID INSULATION, ON CONCRETE COMPOSITE DECK
K	7' x 6' INSULATED HOLLOW MTL DOOR, PAINTED (TYP.)
L	WALL HUNG HEAT PUMPS (SEE MECH.)
M	FENCE STYLE, TWO PIPE SNOW RETENTION DEVICES @ 20" O.C
N	VENT OR EXHAUST PENETRATION (SEE MECH.)
O	HEAT PUMP (SEE MECH.)
P	3" x 4" PREFINISHED MTL DOWNSPOUT
Q	HEATED ENCLOSURE AROUND DEF FILL CONNECTIONS (SEE MECH.)
R	STEEL SUPPORT COLUMN FOR EXHAUST TOWER (SEE STRUCT.)



F1 SOUTH ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



A1 NORTH ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jkeivip6\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_AI_gilkeivip6.rvt

Plot Date: 5/5/2025 3:51:48 PM

DESIGNED BY: K. JARVIS	ISSUE DATE: 05/01/2025
DRAWN BY: J. KAITANY	SOLICITATION NO.: W9126F25RA043
CHECKED BY: B. GORUP	CONTRACT NO.:
SUBMITTED BY: B. GORUP	
SIZE: ANSI D	FILE NAME: BUCO00102_DM_AI.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102

NORTH AND SOUTH ELEVATIONS

SHEET ID

A-201

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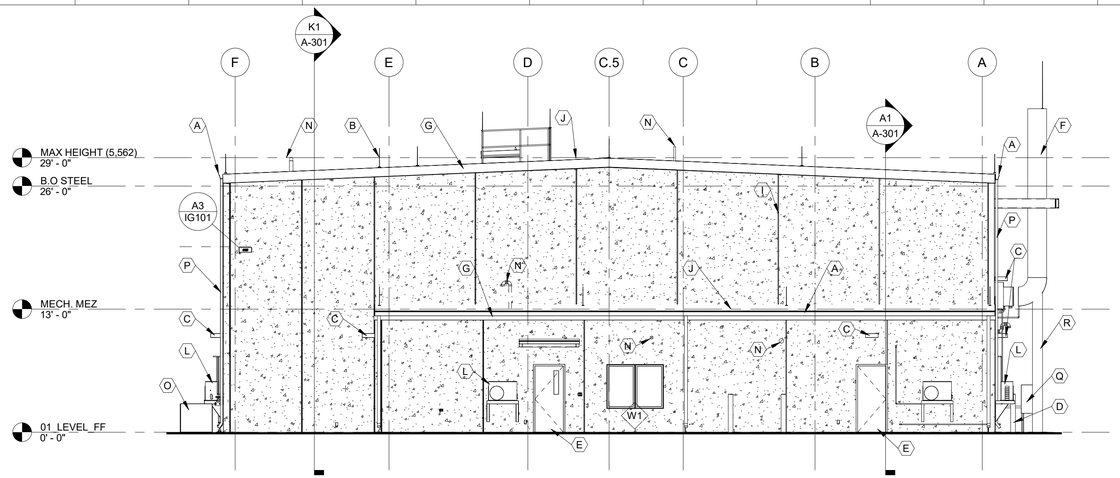
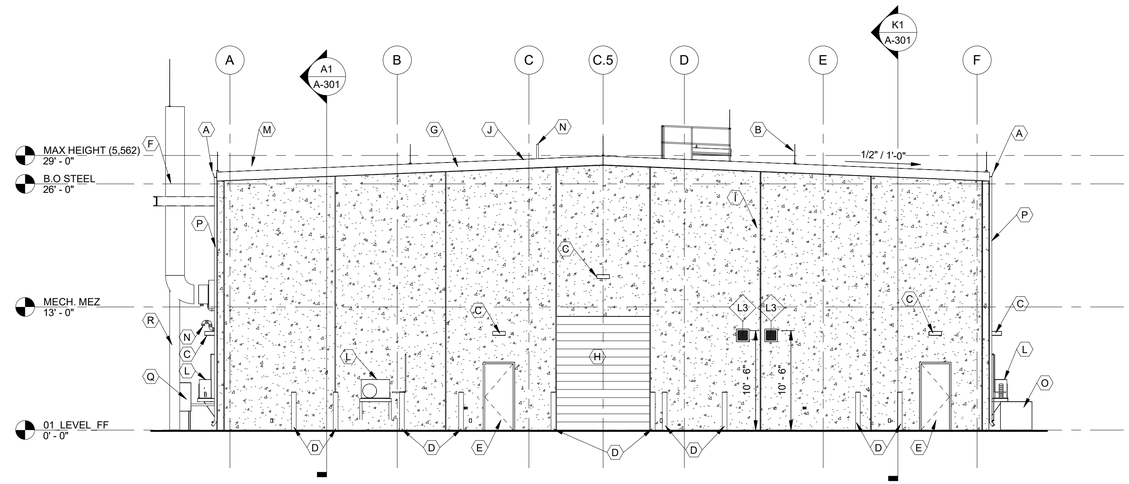


K1 EAST ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

ELEVATION KEYNOTES	
MARK	REMARKS
A	6" x 5" PREFINISHED MTL GUTTER
B	LIGHTNING AIR TERMINAL. TYP. (SEE ELEC.)
C	EXTERIOR LIGHTING, CENTERED ON OPENING. TYP. (SEE ELEC.)
D	CONC. BOLLARD (SEE A16/A-605)
E	7 'x 3' INSULATED HOLLOW MTL DOOR, PAINTED (TYP.)
F	GENERATOR EXHAUST TOWER (SEE MECH.)
G	PREFINISHED MTL FASCIA PANELS
H	INSULATED OH COILING DOOR
I	EXPANSION JOINT IN PRECAST CONCRETE PANELS, TYP. (SEE D1/A-530 FOR DETAIL)
J	PVC MEMBRANE W/ COVERBOARD OVER 6" (R-30) RIGID INSULATION, ON CONCRETE COMPOSITE DECK
K	7' x 6' INSULATED HOLLOW MTL DOOR, PAINTED (TYP.)
L	WALL HUNG HEAT PUMPS (SEE MECH.)
M	FENCE STYLE, TWO PIPE SNOW RETENTION DEVICES @ 20" O.C
N	VENT OR EXHAUST PENETRATION (SEE MECH.)
O	HEAT PUMP (SEE MECH.)
P	3" x 4" PREFINISHED MTL DOWNSPOUT
Q	HEATED ENCLOSURE AROUND DEF FILL CONNECTIONS (SEE MECH.)
R	STEEL SUPPORT COLUMN FOR EXHAUST TOWER (SEE STRUCT.)



D1 WEST ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jjdelaglio\Desktop\Archive - US Army Corps of Engineers\Documents\BUCO00102_DM_AI_jjdelaglio5.rvt

Plot Date: 6/30/2025 4:13:21 PM

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DRAWN BY: J. KAITANY
CHECKED BY: B. GORUP
SUBMITTED BY: B. GORUP
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_AI.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102

EAST AND WEST ELEVATIONS

SHEET ID

A-202

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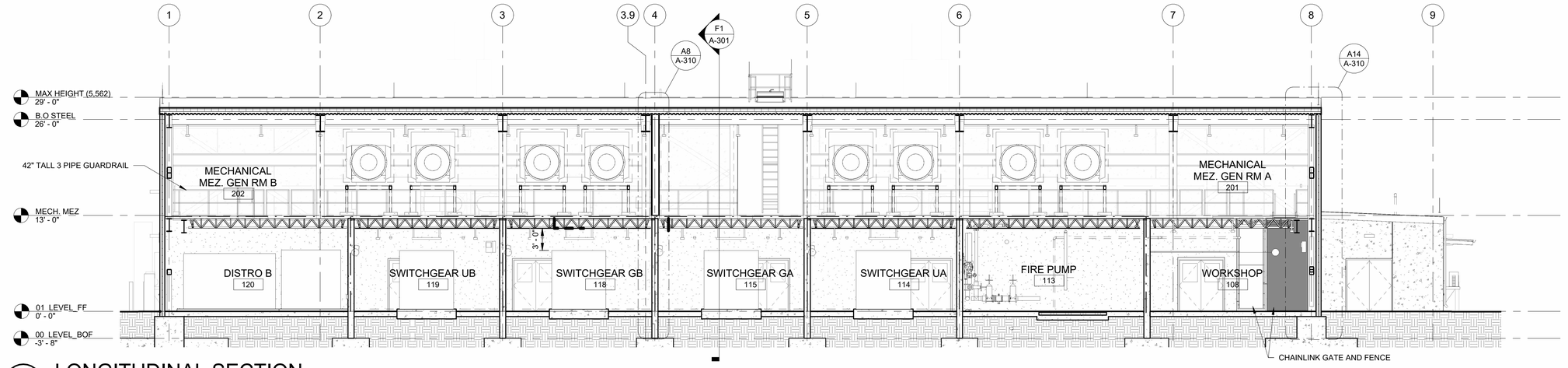
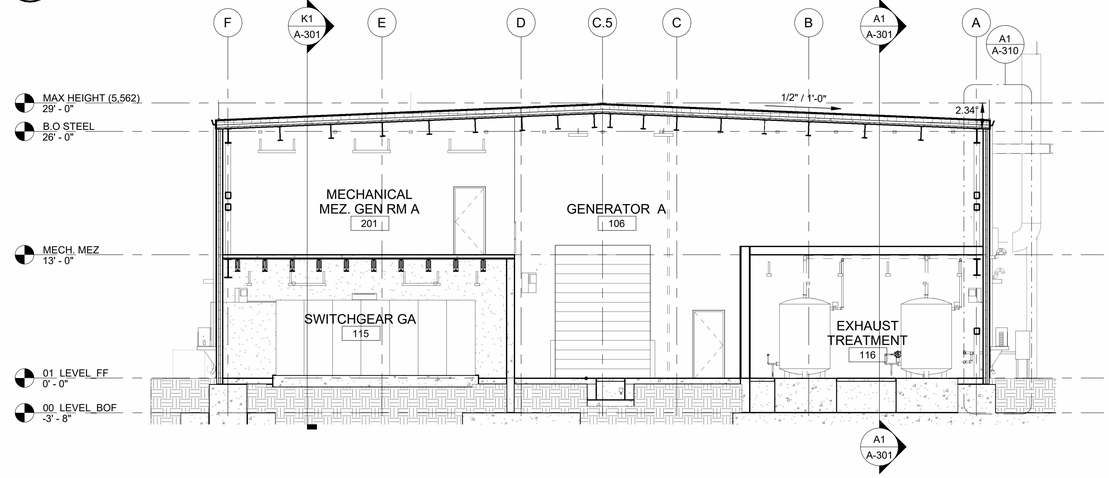


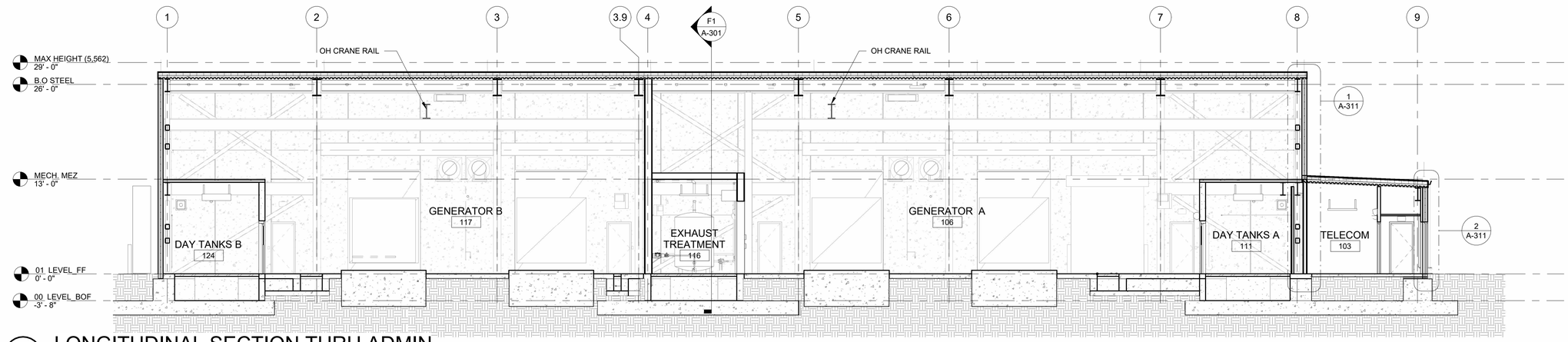
K1 LONGITUDINAL SECTION

1/8" = 1'-0"



F1 SECTION THROUGH GENERATOR BAY

1/8" = 1'-0"



A1 LONGITUDINAL SECTION THRU ADMIN

1/8" = 1'-0"

0 4' 8' 16'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gillesdy\edit\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_AI_gillesdy66.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: K. JARVIS
DRAWN BY: J. KAITANY
CHECKED BY: B. GORUP
SUBMITTED BY: B. GORUP
SIZE: ANSI D
FILE NAME: BUCO00102_DM_AI.rvt

Plot Date: 5/5/2025 3:54:34 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102

BUILDING SECTIONS

SHEET ID

A-301

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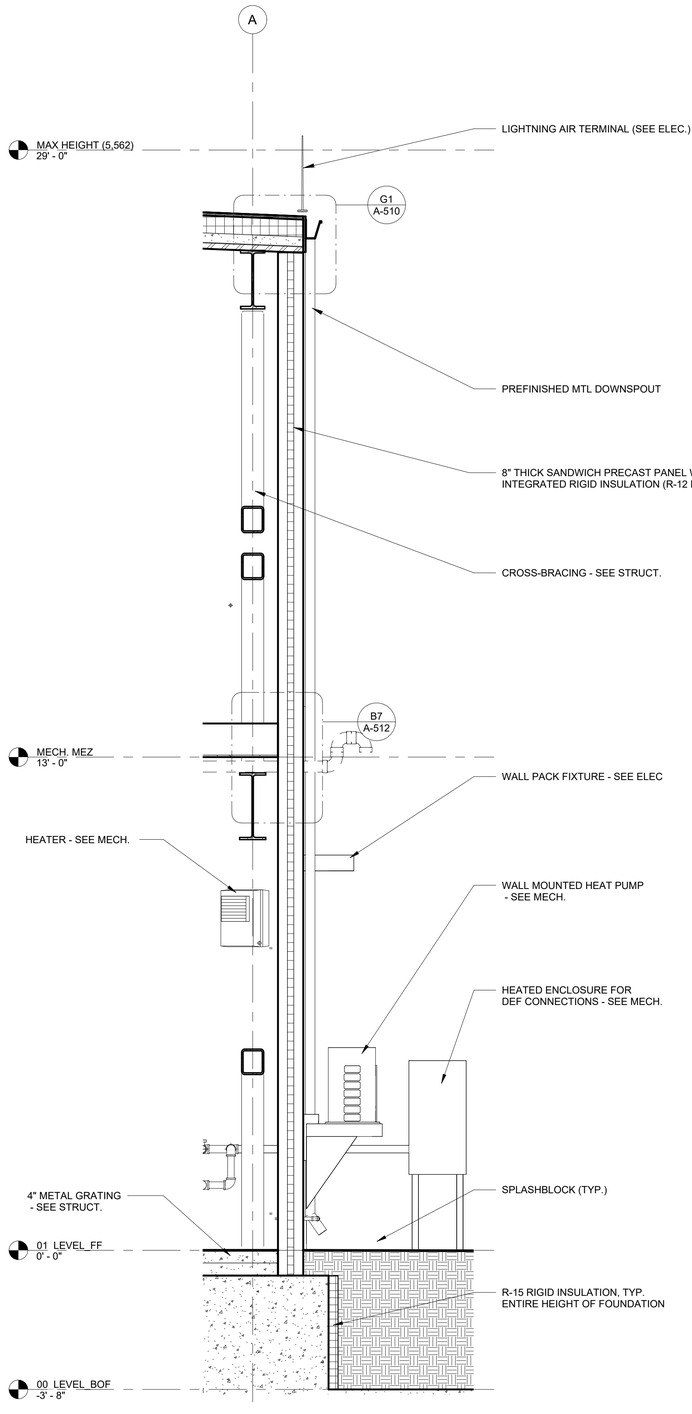
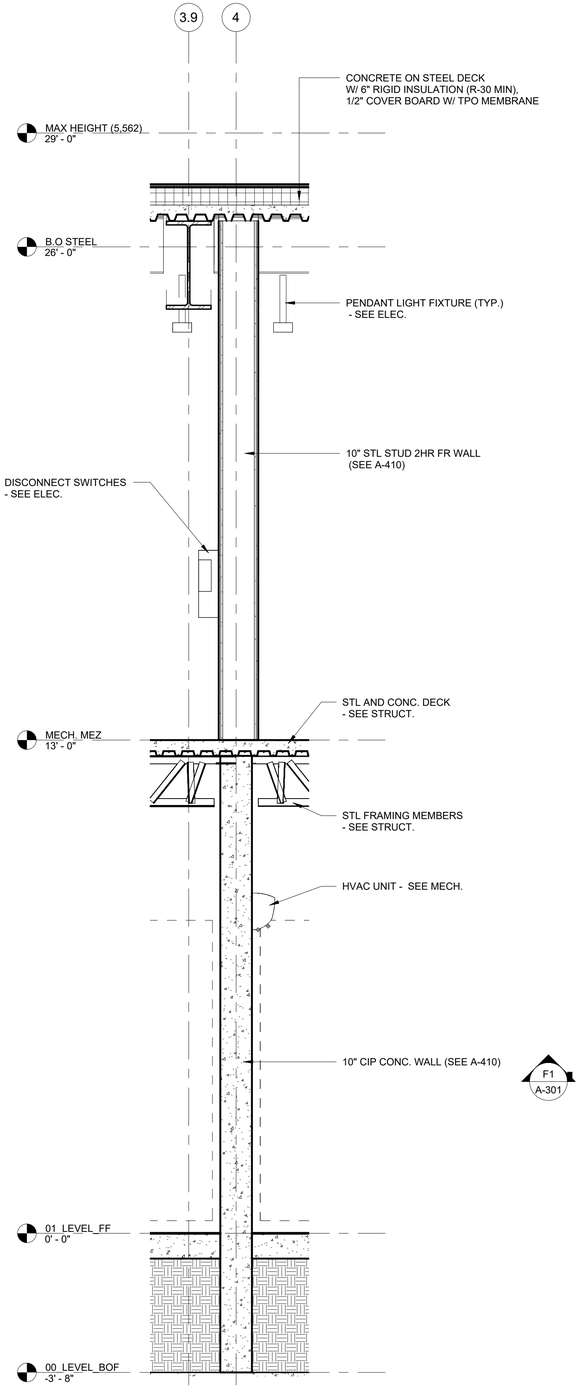


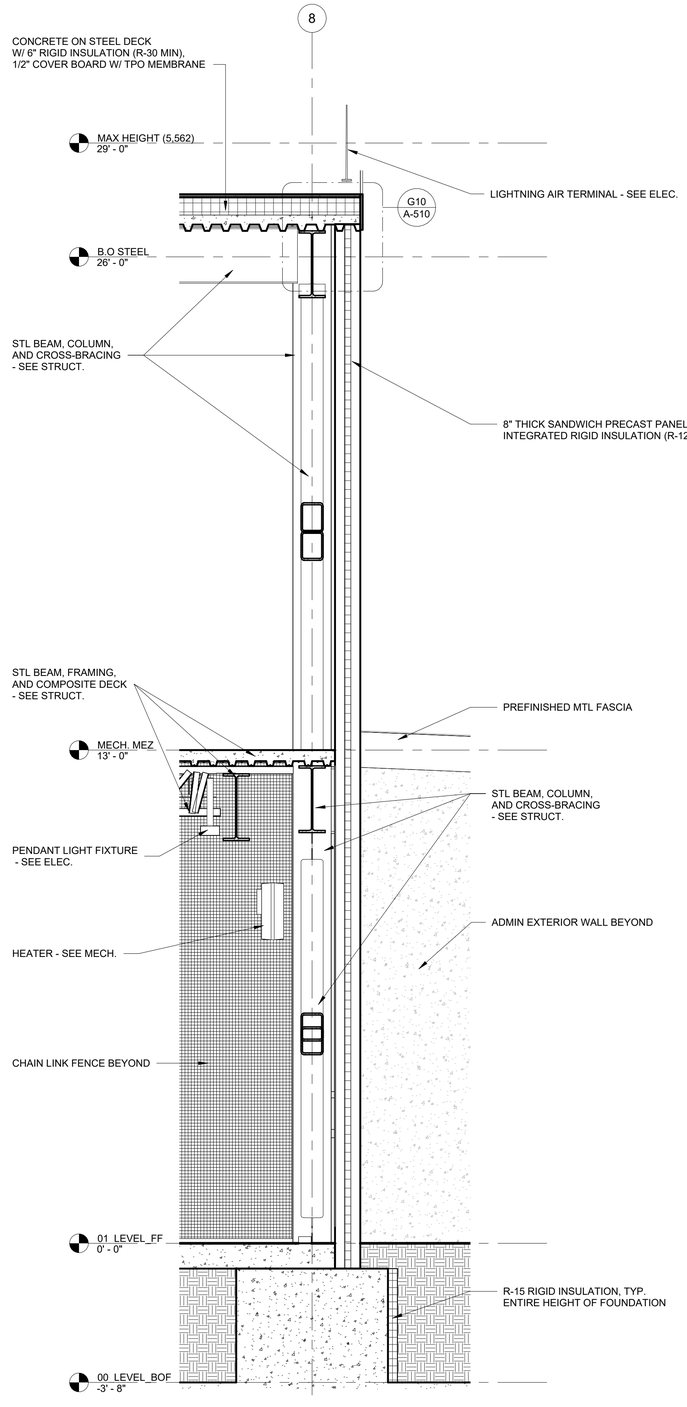
A1 WALL SECTION - PRECAST AT LOUVER

1/2" = 1'-0"



A8 WALL SECTION @ FIRE SEPARATION

1/2" = 1'-0"



A14 WALL SECTION - HIGHBAY

1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jjfleck\jfleck@OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_AI_jjfleck.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
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CHECKED BY: B. GORUP
SUBMITTED BY:
BID/BUILT
SIZE: ANSI D
FILE NAME: BUCO00102_DM_AI.rvt

Plot Date: 5/5/2025 3:52:02 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102

WALL SECTIONS

SHEET ID

A-310

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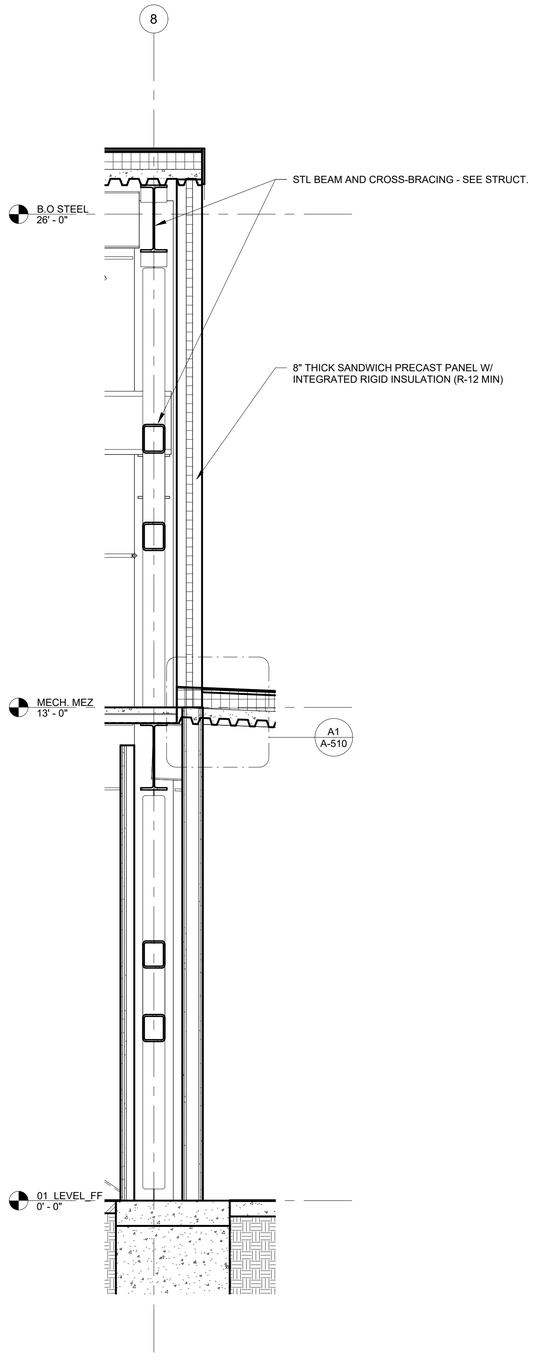
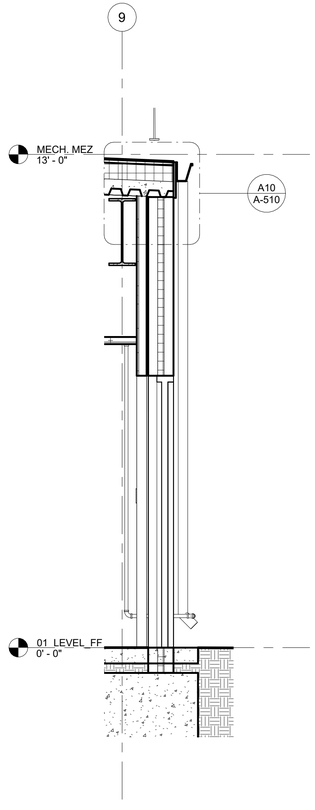


1 ADMIN WEST WALL SECTION
1/2" = 1'-0"



2 ADMIN EAST WALL SECTION
1/2" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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CONTRACT NO.:

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SUBMITTED BY: B. GORUP
SIZE: ANSI D
FILE NAME: BUCO00102_DM_AI.rvt

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102
WALL SECTIONS

SHEET ID
A-311

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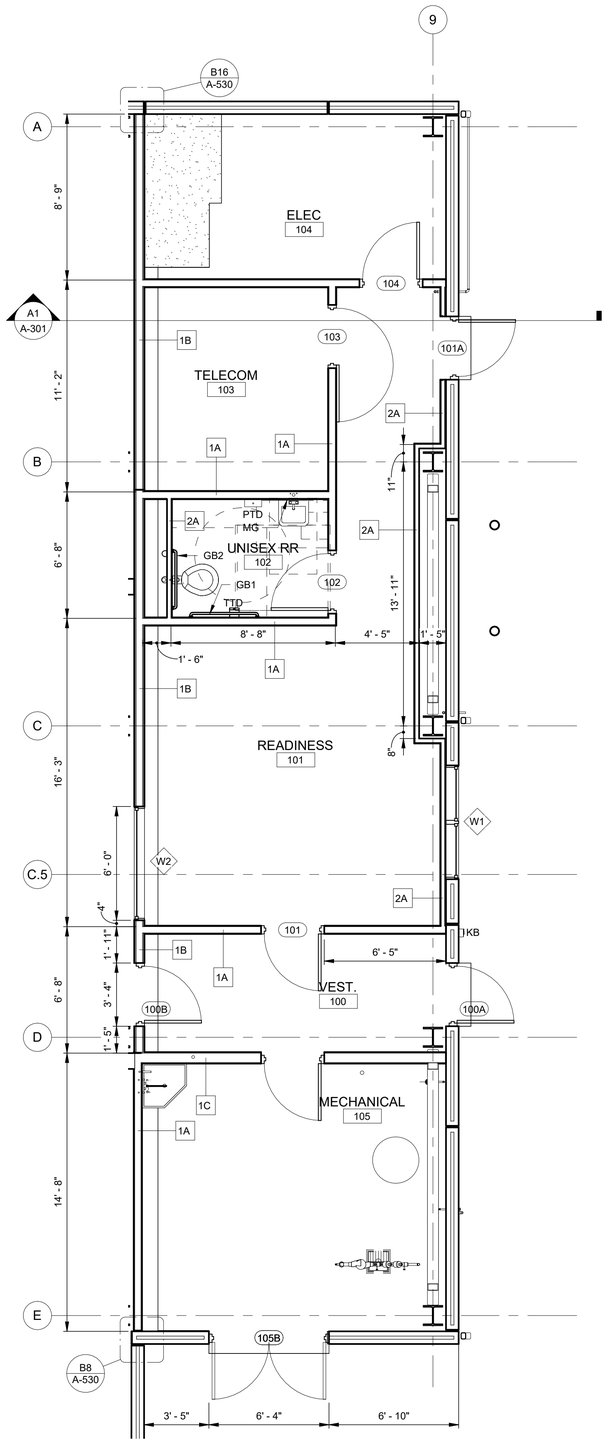
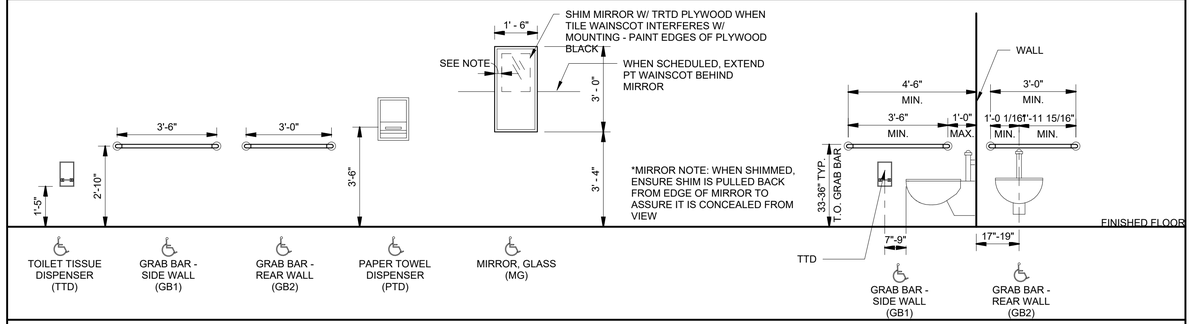
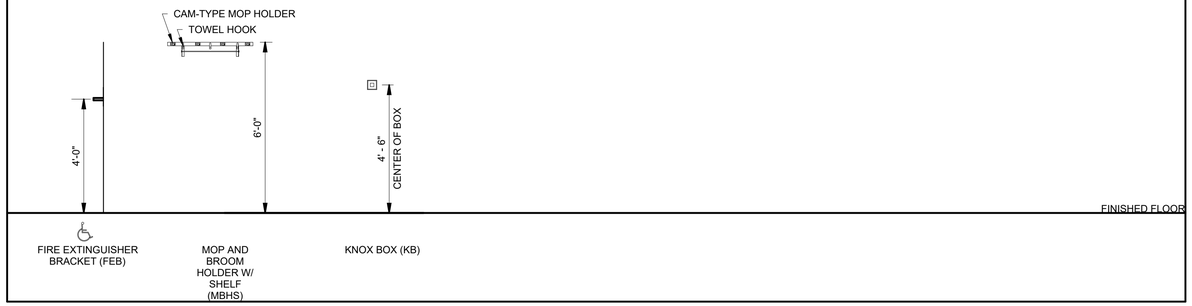


A1 ENLARGED PLAN
1/4" = 1'-0"

TOILET ACCESSORIES LEGEND



BUILDING ACCESSORIES LEGEND



PLAN NORTH

0 2' 4' 8'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfeidy80\OneDrive - US Army Corps of Engineers\Documents\BUC000102_DM_AI_gfeidy80.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: K. JARVIS
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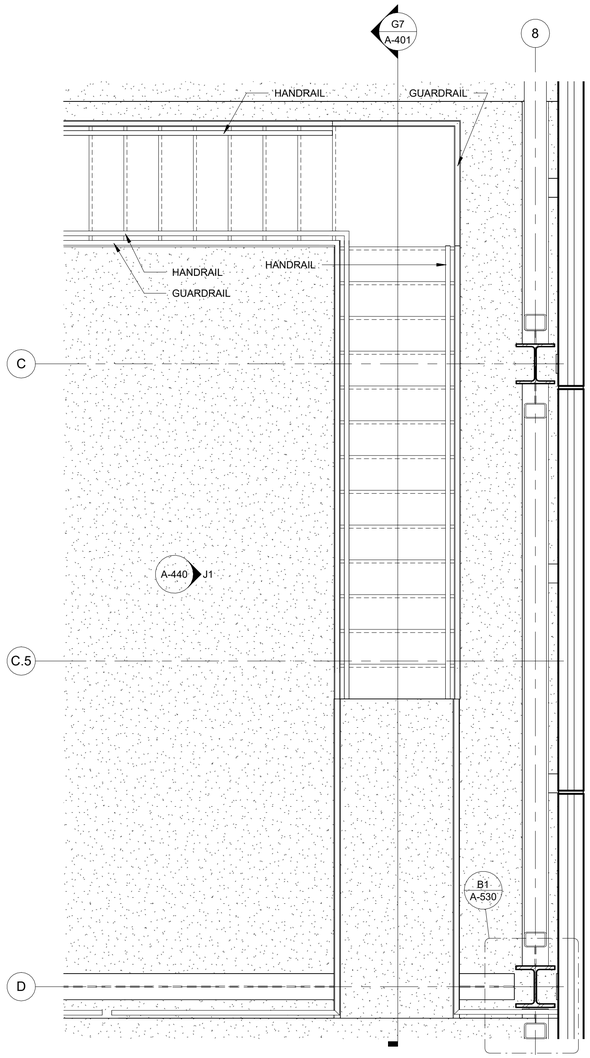
CHECKED BY: B. GORUP
SUBMITTED BY: B. GORUP
SIZE: ANSI D
FILE NAME: BUC000102_DM_AI.rvt
Plot Date: 5/5/2025 3:52:04 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

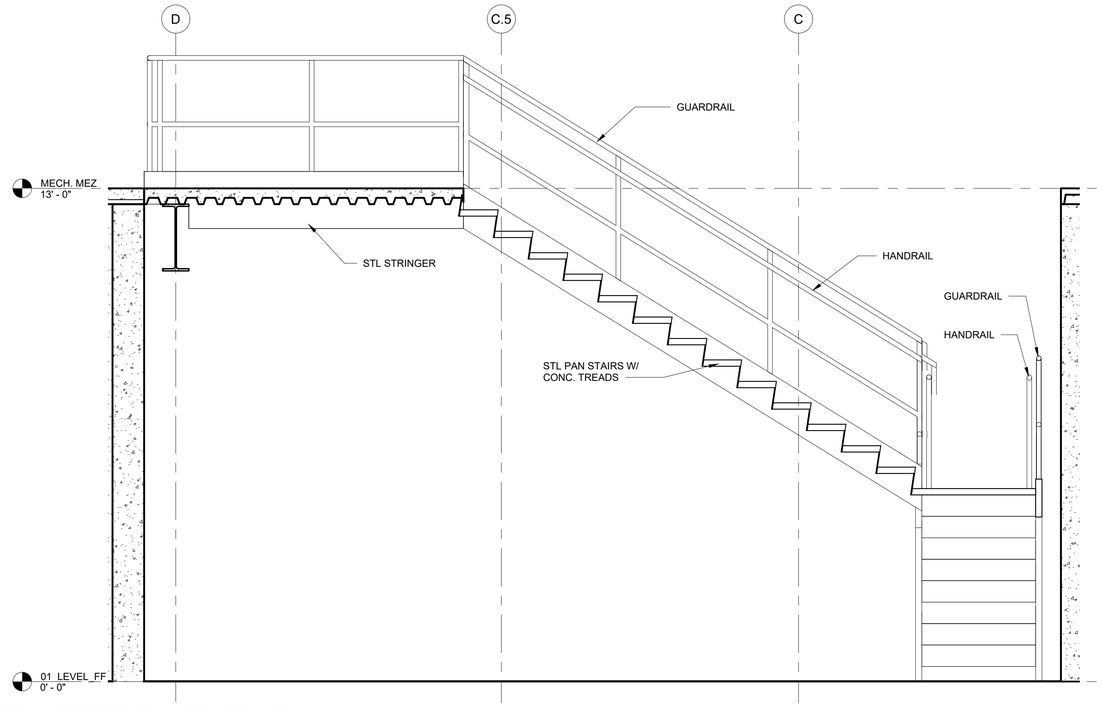
BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUC000102
ENLARGED PLANS

SHEET ID
A-400

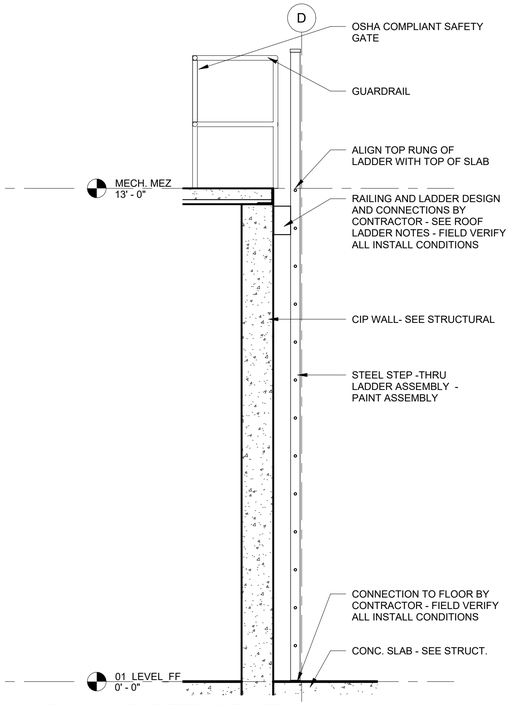
ADVERTISEMENT



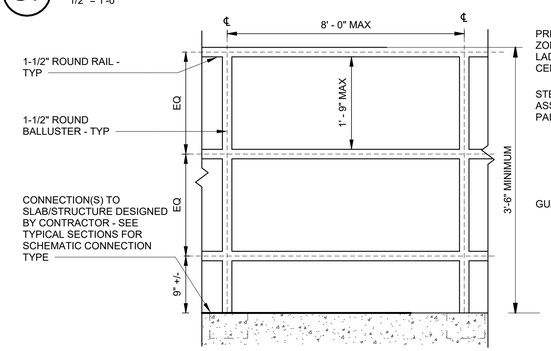
E1 ENLARGED STAIR PLAN
1/2" = 1'-0"



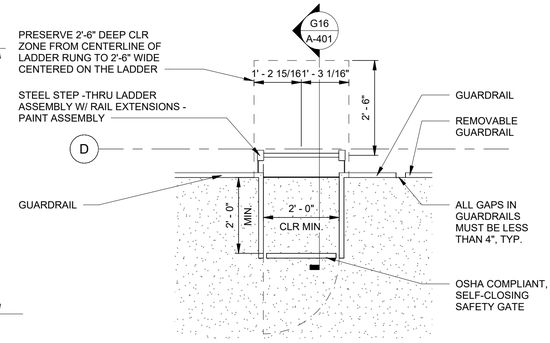
G7 SECTION @ STAIR
1/2" = 1'-0"



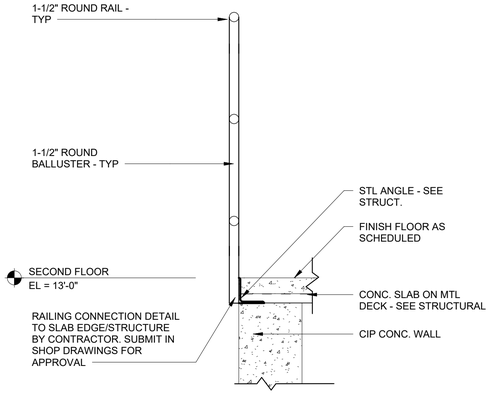
G16 LADDER SECTION
1/2" = 1'-0"



E7 TYP GUARDRAIL ELEVATION
1" = 1'-0"



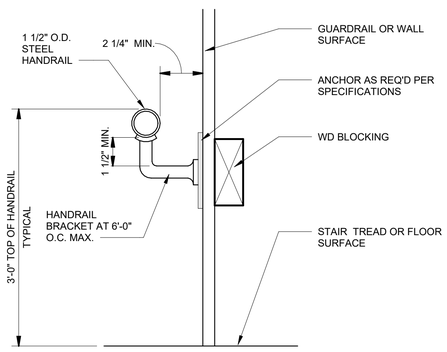
E12 LADDER PLAN
1/2" = 1'-0"



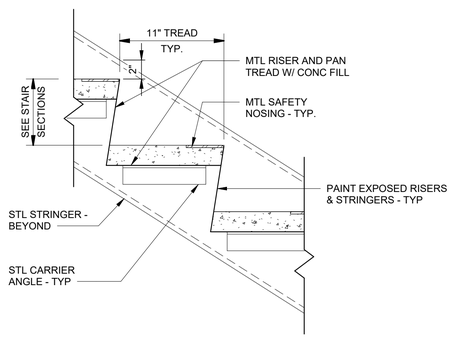
C16 TYP RAILING @ WALL
1" = 1'-0"

GUARDRAIL, HANDRAIL, AND STAIR NOTES:

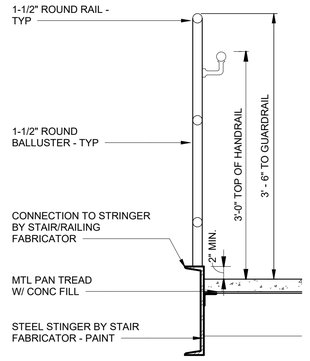
1. CONNECTION DETAILS SHALL BE BY GUARDRAIL FABRICATOR. PROVIDE BRACKETS, FASTENERS, AND BLOCKING AS REQ'D.
2. GUARDRAIL ASSEMBLIES SHALL BE DESIGNED IN ACCORDANCE WITH OSHA 1910.29 AND AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION.
3. PAINT ENTIRE GUARDRAIL, HANDRAIL, AND STAIR ASSEMBLY, EXCEPT FOR CONCRETE STAIR TREADS AND NOSINGS.
4. FIELD VERIFY STRUCTURAL CONDITIONS AND CRITICAL DIMENSIONS PRIOR TO FABRICATION AND INSTALLATION OF GUARDRAIL, HANDRAIL, AND STAIR ASSEMBLIES.



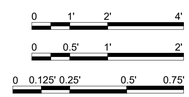
A1 TYP HANDRAIL DETAIL
3" = 1'-0"



A7 TYP STAIR TREAD AND RISER
1 1/2" = 1'-0"



A12 TYP RAILING SECTION @ STRINGER
1" = 1'-0"



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STAIR & LADDER DETAILS

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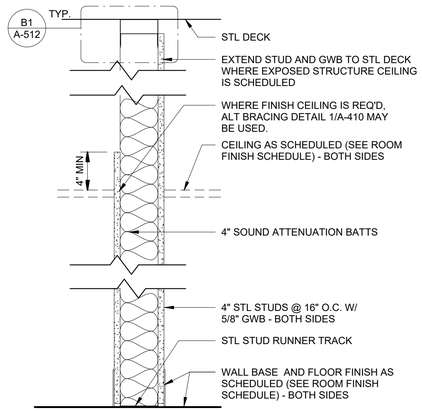
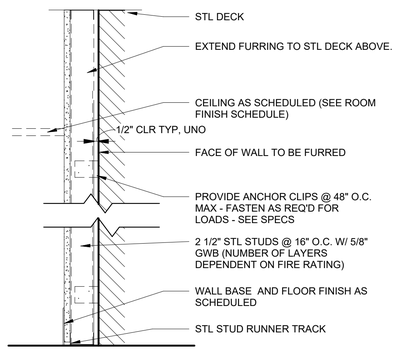


STEEL STUD PARTITION 1

SCALE: NTS

NOT FIRE-RATED	1A
2-HR FIRE RATED PARTITION (UL U419)	1B
USE 6" STL STUD IN LIEU OF 4" STL STUD, NOT FIRE RATED	1C
USE 10" STL STUD IN LIEU OF 4" STL STUD, NOT FIRE RATED	1D
USE 10" STL STUD IN LIEU OF 4" STL STUD, 2-HR FIRE RATED (UL U419)	1E
3-HR FIRE RATED (UL U419)	1F

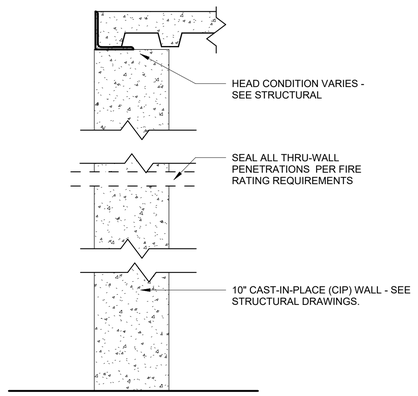


STEEL STUD FURRED PARTITION 2

SCALE: NTS

NOT FIRE-RATED - 1 LAYER OF GWB AND FULL BATT INSULATION	2A
2-HR FIRE RATED SHAFT WALL (FURRING) - 2 LAYERS OF GWB (UL U419)	2B
3-HR FIRE RATED SHAFT WALL (FURRING) - 3 LAYERS OF GWB (UL U419)	2C

NOTE:
1. FOR GWB CEILING, BUTT JOIN GWB AT WALL, CONTINUE MTL STUDS 6" BEYOND UPPER FACE OF CEILING.



CAST-IN-PLACE PARTITION 3

SCALE: NTS

NOT RATED	3A
1-HR FIRE RATED PARTITION	3B
2-HR FIRE RATED PARTITION	3C
3-HR FIRE RATED PARTITION	3D

NOTE:
FIRE RATINGS WILL ONLY AFFECT PENETRATION REQUIREMENTS AS THE WALL IS ESSENTIALLY THE SAME REGARDLESS OF THE FIRE RATING.

GENERAL NOTES:

1. ALL STUD GAGES LISTED ARE MINIMUMS. ALL STUD WALL SYSTEMS SHALL COMPLY WITH PERFORMANCE REQUIREMENTS SET FORTH IN THE SPECIFICATIONS.
2. SEE "F" SHEETS FOR FIRE RATED WALLS. UL LISTINGS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL UTILIZE THE RATED SYSTEM APPROPRIATE FOR EACH WALL CONDITION IN COMPLIANCE WITH THE MINIMUM PERFORMANCE REQUIREMENTS SET FORTH IN THE DRAWINGS AND SPECIFICATIONS. WHERE FIRE RATED WALLS ARE REQUIRED, USE RATED HEAD, PENETRATION AND ENCLOSURE DETAILS AS SHOWN IN THE DESIGN DRAWINGS. WHERE SOUND RATED WALL COINCIDES WITH A FIRE RATED WALL SHOWN ON "F" SHEETS, FIRE-RATED DETAILING SHALL TAKE PRECEDENCE.
3. SEE A-7XX SHEETS FOR PRECAST PANEL TYPES.
4. FOR WALLS TO RECEIVE PORCELAIN TILE, STEEL STUDS SHALL BE 20 GA MINIMUM. PROVIDE 5/8" GLASS-MAT GYPSUM BOARD IN LIEU OF GYPSUM BOARD, FULL HEIGHT OF WALL. SEE SPECIFICATIONS FOR TCNA TILE APPLICATION METHOD.
5. STAGGER "BACK TO BACK" JUNCTION BOXES BY ONE STUD CAVITY MINIMUM IN SOUND AND FIRE RATED WALLS. COMPLY WITH APPLICABLE UL ASSEMBLY REQUIREMENTS IN FIRE-RATED WALLS. SEE A-412 FOR SOUND RATED JUNCTION BOX DETAIL.
6. IN THE ABSENCE OF DETAILS, THE FOLLOWING PRIORIES SHALL EXIST FOR WALL TYPE INTERSECTIONS: (1) EXTERIOR WALLS SHALL BE CONTINUOUS OVER ALL INTERIOR WALL TYPES. (2) INTERIOR FIRE AND SECURITY WALLS SHALL BE CONTINUOUS OVER ALL SOUND AND FURRED WALLS. (3) SOUND WALLS SHALL BE CONTINUOUS OVER ALL FURRED WALLS. SEEK CLARIFICATION FROM THE DOR IN THE EVENT OF CONFLICTS IN THESE PRIORITIES.

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SUBMITTED BY: B. GORUP	
SIZE: ANSI D	FILE NAME: BUCO00102_DM_AI.rvt

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PARTITION TYPES

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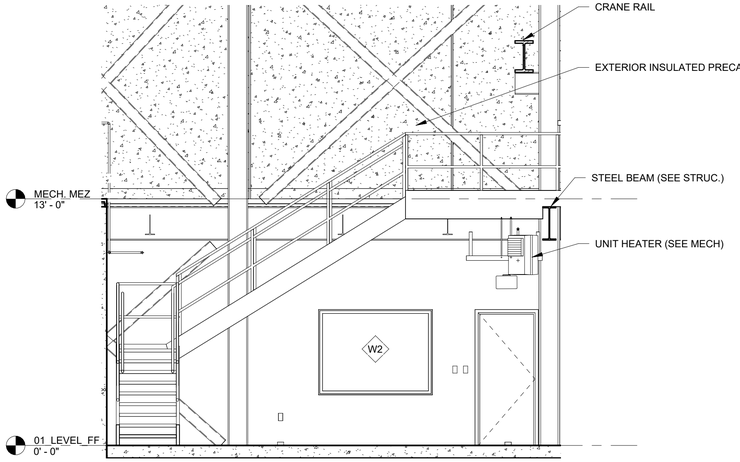
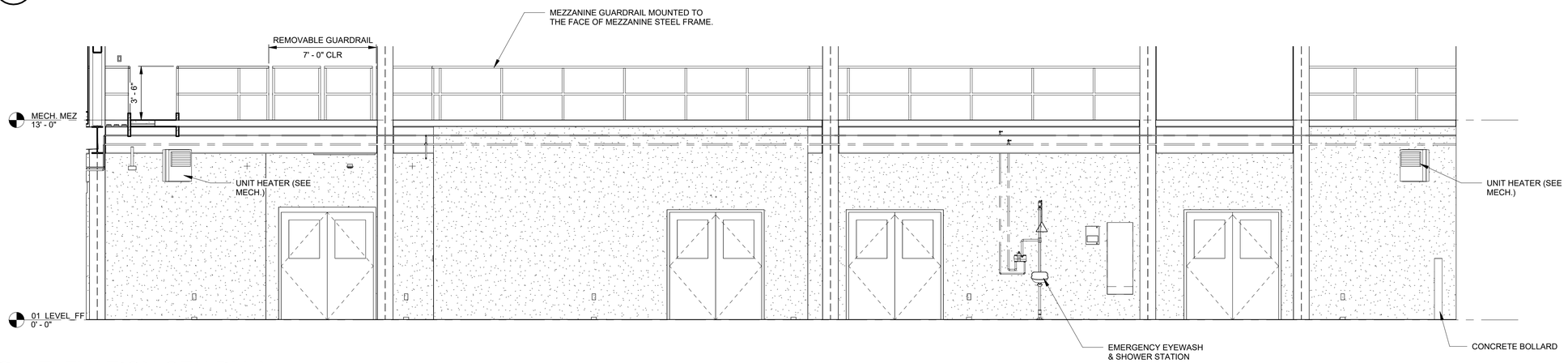


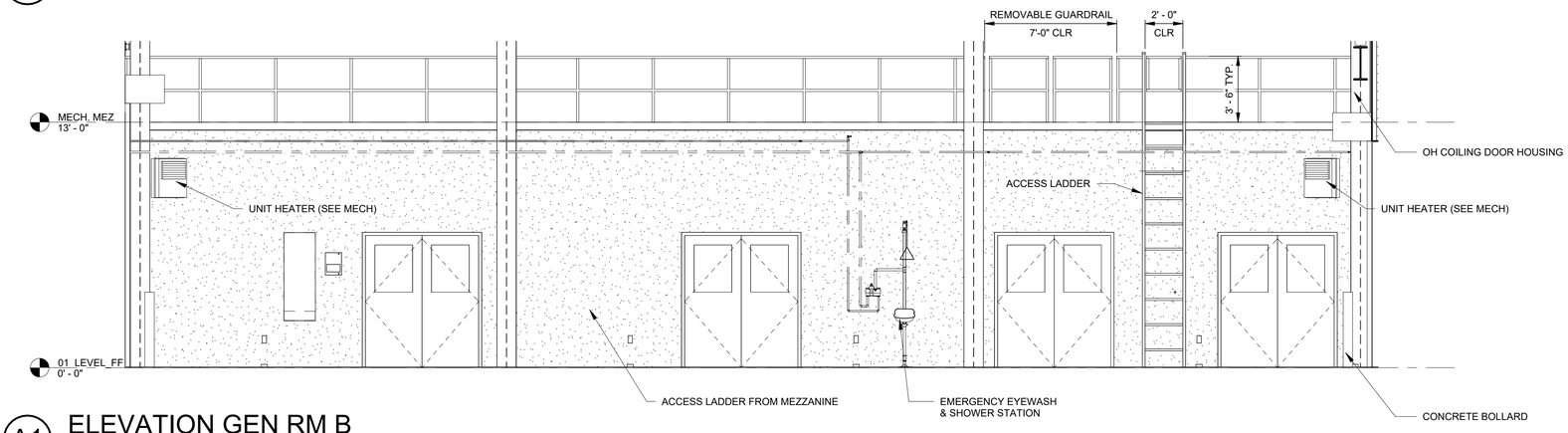
J1 ELEVATION TO READINESS

1/4" = 1'-0"



E1 ELEVATION GEN RM A

1/4" = 1'-0"



A1 ELEVATION GEN RM B

1/4" = 1'-0"

0 2' 4' 8'

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SUBMITTED BY: B. GORUP
SIZE: ANSI D
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OMAHA, NE 68102

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INTERIOR ELEVATIONS

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A-440

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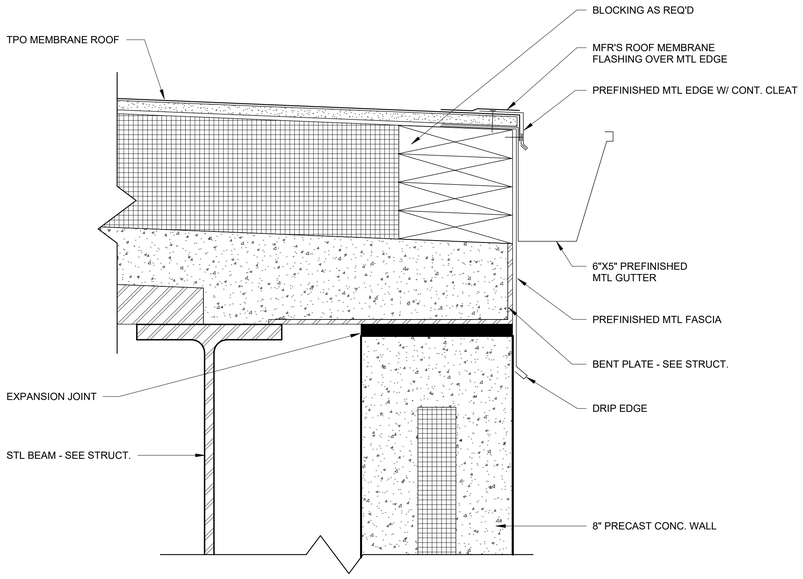
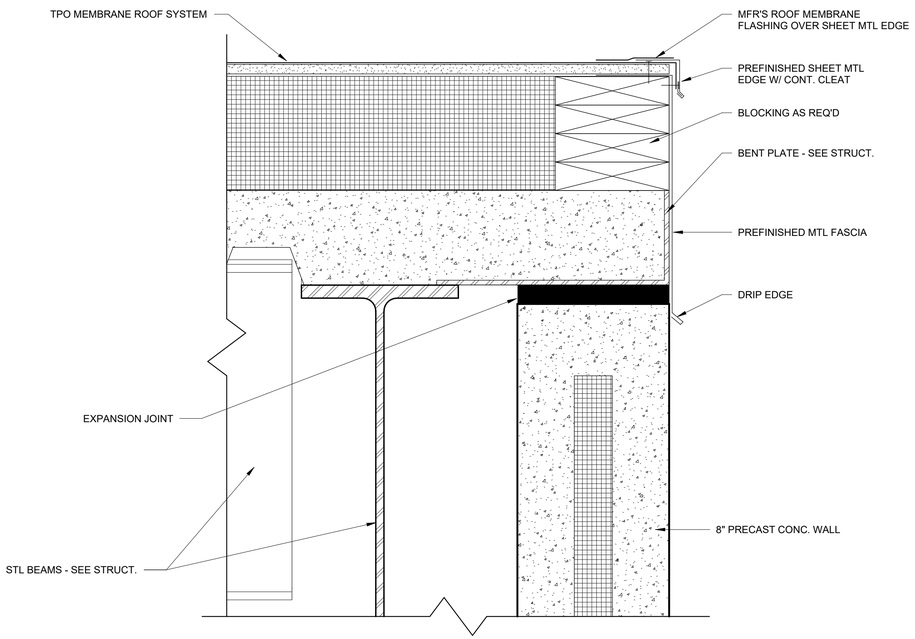


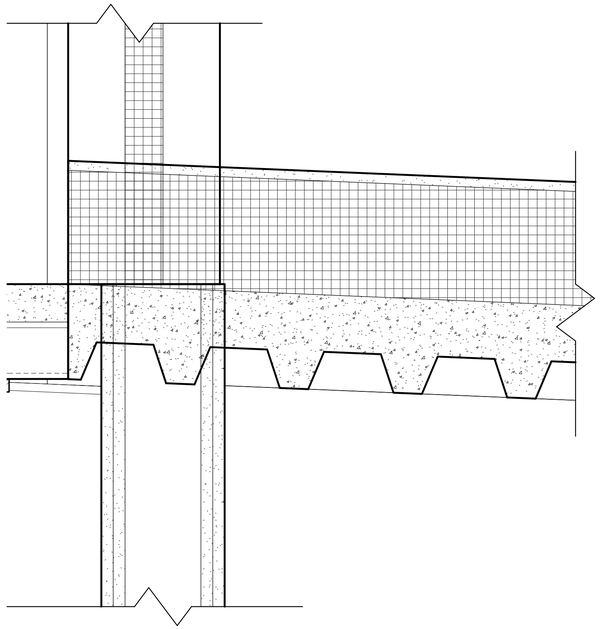
G1 ROOF EAVE DETAIL

3" = 1'-0"



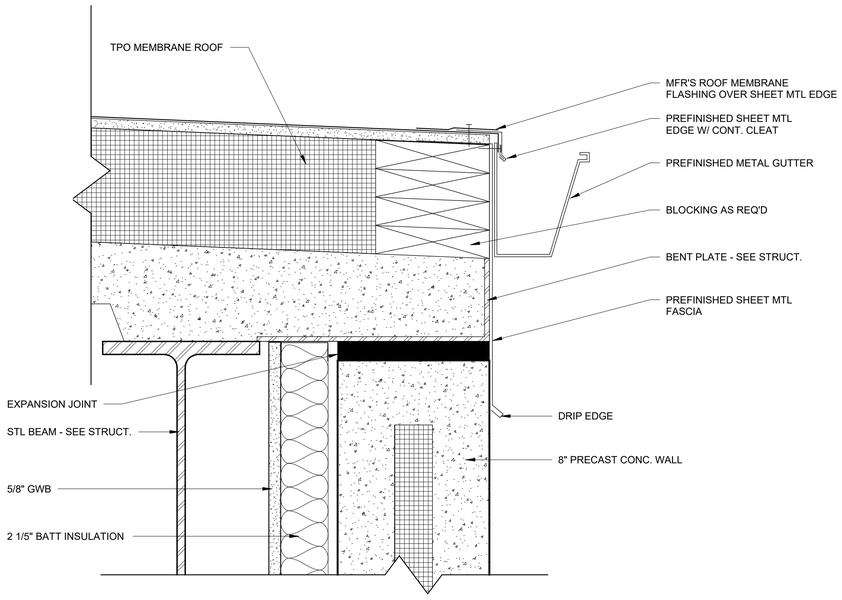
G10 ROOF RAKE EDGE DETAIL

3" = 1'-0"



A1 ADMIN ROOF CONNECTION DETAIL

3" = 1'-0"



A10 ADMIN EAVE DETAIL

3" = 1'-0"

0 0.125' 0.25' 0.5' 0.75'

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ROOF DETAILS

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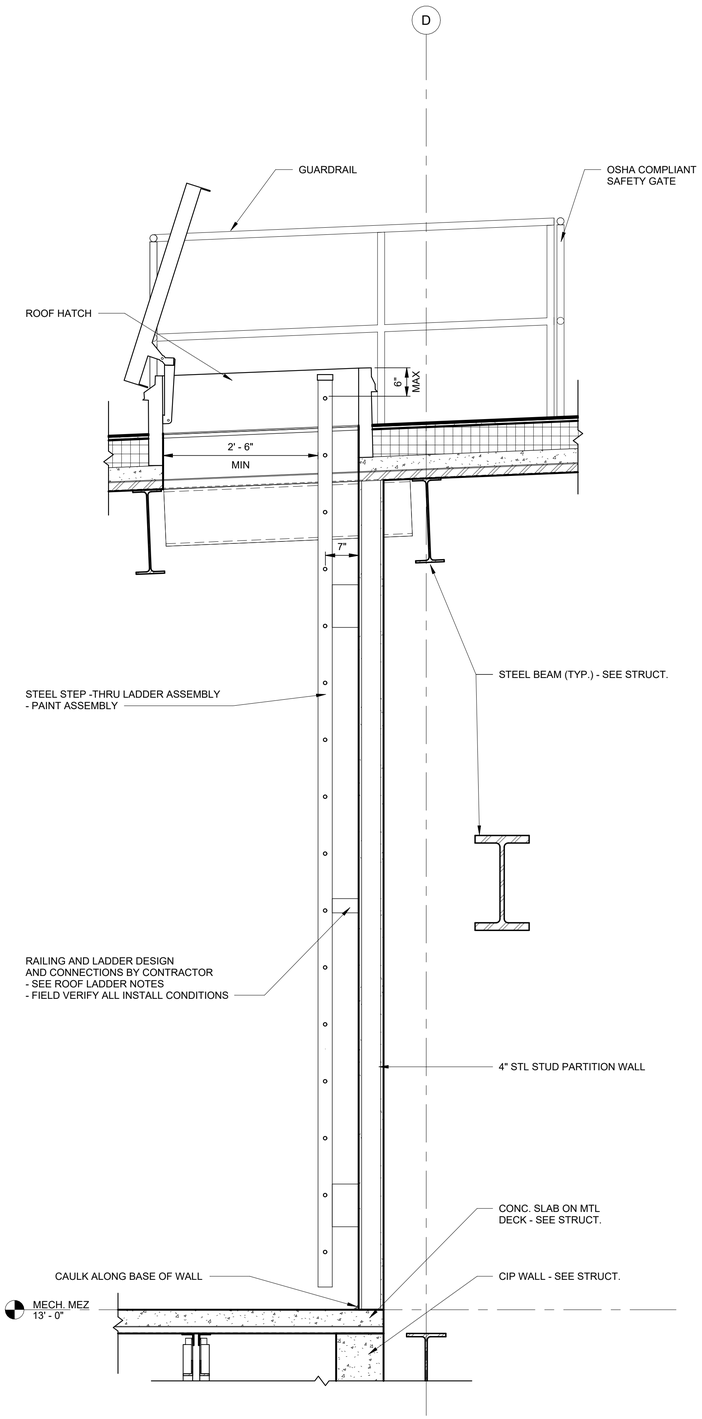
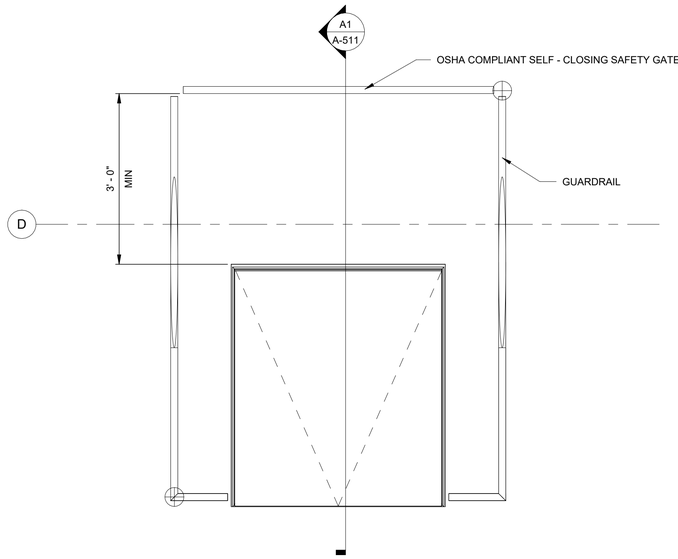
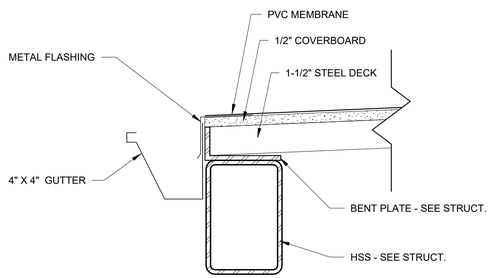


A1 SECTION THRU ROOF HATCH
3/4" = 1'-0"



H10 ROOF HATCH PLAN
3/4" = 1'-0"



B10 ENTRANCE CANOPY EAVE DETAIL
3" = 1'-0"

0 0.5' 1' 2' 3'

0 0.125' 0.25' 0.5' 0.75'

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BUCC000102
ROOF DETAILS

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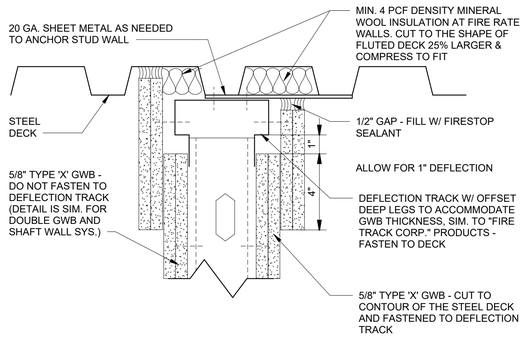
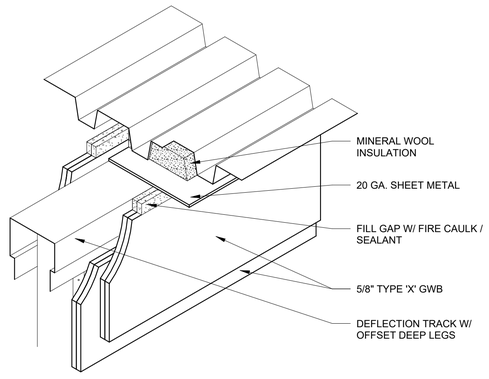


TOP OF WALL PARALLEL TO STEEL DECK FLUTES - ABOVE

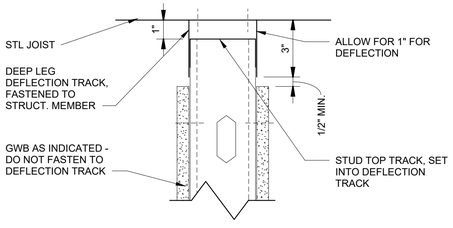


TOP OF WALL PARALLEL TO STEEL DECK FLUTES

TOP OF WALL PARALLEL TO STEEL DECK FLUTES

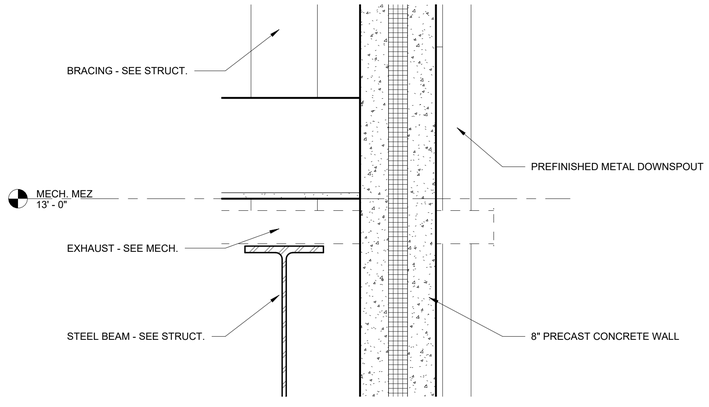
G4 FIRE SEPARATION WALL @ ROOF DECK DETAIL

3" = 1'-0"



B1 TYP NON-RATED WALL HEAD DETAIL

3" = 1'-0"



B7 EXHAUST TREATMENT CEILING DETAIL

1 1/2" = 1'-0"

0 0.25' 0.5' 1' 1.5'

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BUCO00102

SECTION DETAILS

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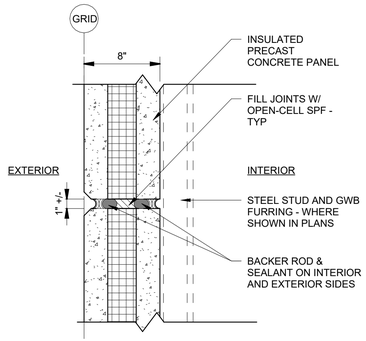
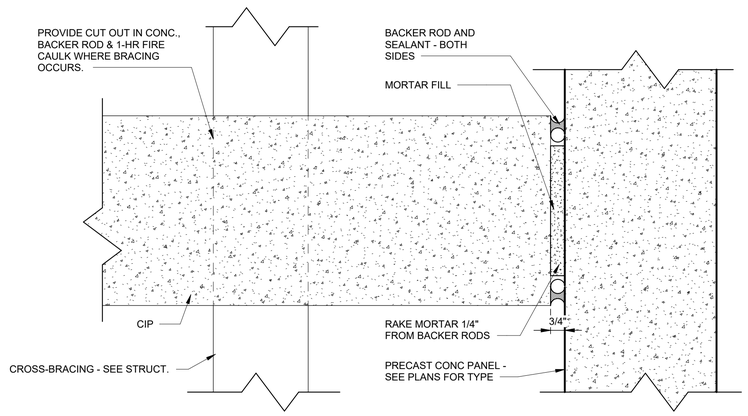


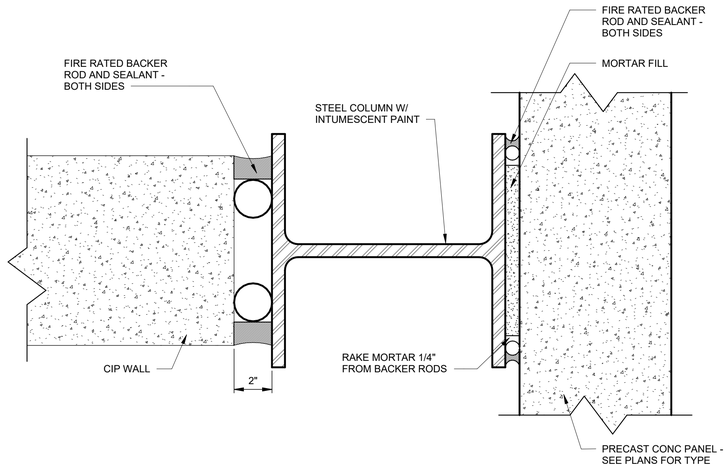
K1 TYPICAL PRECAST PANEL JOINT

1 1/2" = 1'-0"



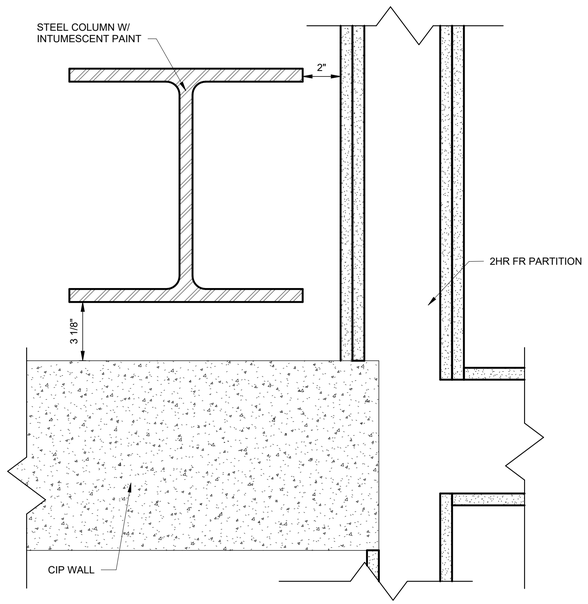
J6 CIP CONTROL JOINT @ PRECAST DETAIL

3" = 1'-0"



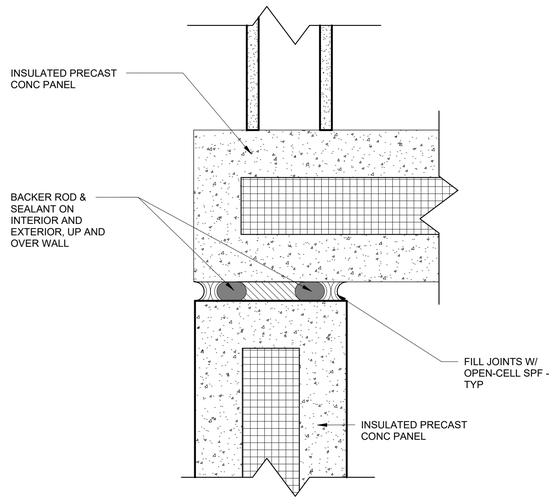
J14 CIP CONTROL JOINT @ COLUMN DETAIL

3" = 1'-0"



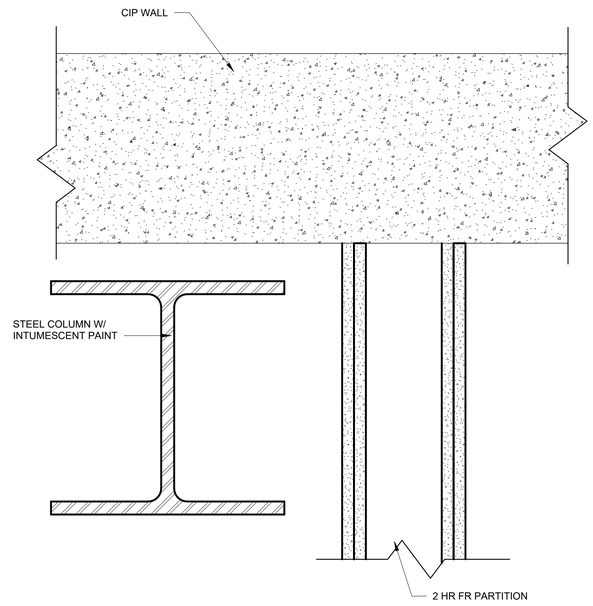
B1 CIP @ COLUMN AND 2HR WALL DETAIL

3" = 1'-0"



B8 PRECAST PANEL JOINT @ CORNER DETAIL

3" = 1'-0"



B16 CIP JOINT @ PARTITION DETAIL

3" = 1'-0"

0 0.25' 0.5' 1' 1.5'

0 0.125' 0.25' 0.5' 0.75'

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OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102
WALL DETAILS

SHEET ID

A-530

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ROOM FINISH SCHEDULE

ROOM NO	ROOM NAME	WALL FINISH				BASE FINISH				FLOOR	CEILING		NOTES & REMARKS (SEE NOTES)
		NORTH	EAST	SOUTH	WEST	NORTH	EAST	SOUTH	WEST	FINISH	FINISH	HEIGHT	
100	VEST.	PNT	PNT	PNT	PNT	RB	RB	RB	RB	CONC-H	ACT	8'-0"	
101	READINESS	PNT	PNT	PNT	PNT	RB	RB	RB	RB	RT	ACT	8'-0"	
101A	CIRC												
101B	CIRCULATION	PNT	PNT	PNT	PNT	RB	RB	RB	RB	RT	ACT	8'-0"	
102	UNISEX RR	PT	PT	PT	PT	--	--	--	--	PT	GWB/PNT	8'-0"	
103	TELECOM	PLYWD	PNT	PLYWD	PLYWD	RB	RB	RB	RB	CONC-H	EXP	EXP	APPLY PLYWOOD FINISH OVER GYP. BD. AS REQUIRED BY THE WALL TYPE.
104	ELEC	CONC	CONC	PNT	PNT	--	--	RB	RB	CONC-H	EXP	EXP	
105	MECHANICAL	PNT	CONC	CONC	PNT	RB	--	--	RB	CONC-H	EXP	EXP	
106	GENERATOR A	CONC	CONC/PNT	CONC	PNT	--	RB	--	RB	CONC-H	EXP	EXP	PAINT GYP. BD. WALLS ONLY, NOT CONC. PROVIDE RUBBER BASE ON GYP. BD. WALLS ONLY
107	TOOL STORAGE	CONC	CONC	WM	CONC	--	--	--	--	CONC-H	EXP	EXP	
108	WORKSHOP	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	EXP	
110	PUMP CONTROL A	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	13' -0"	
111	DAY TANKS A	CONC	CONC	CONC	CONC	--	--	--	--	GRT/ CONC-H	EXP	13' -0"	EXPOSED STRUCTURAL STEEL, INCLUDING DECK, IS TO BE PAINTED WITH 3-HOUR RATED INTUMESCENT PAINT.
112	DISTRO A	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	EXP	
113	FIRE PUMP	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	EXP	
114	SWITCHGEAR UA	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	EXP	
115	SWITCHGEAR GA	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	EXP	
116	EXHAUST TREATMENT	CONC	PNT	PNT	CONC	--	--	--	--	GRT/ CONC-H	GWB/PNT	13' -0"	PROVIDE 5/8" GWB ON TOP AND BOTTOM OF STL STUD CEILING
117	GENERATOR B	CONC	PNT	CONC	CONC	--	RB	--	--	CONC-H	EXP	EXP	PAINT GYP. BD. WALLS ONLY, NOT CONC. PROVIDE RUBBER BASE ON GYP. BD. WALLS ONLY
118	SWITCHGEAR GB	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	EXP	
119	SWITCHGEAR UB	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	EXP	
120	DISTRO B	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	EXP	
121	FORKLIFT CHARGING	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	VARIES	
122	NEW OIL STORAGE	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	VARIES	
123	PUMP CONTROL B	CONC	CONC	CONC	CONC	--	--	--	--	CONC-H	EXP	13' -0"	
124	DAY TANKS B	CONC	CONC	CONC	CONC	--	--	--	--	GRT/ CONC-H	EXP	13' -0"	EXPOSED STRUCTURAL STEEL, INCLUDING DECK, IS TO BE PAINTED WITH 3-HOUR RATED INTUMESCENT PAINT.
201	MECHANICAL MEZ. GEN RM A	--	CONC/PNT	CONC	PNT	--	RB	--	RB	CONC-H	EXP	EXP	PAINT GYP. BD. WALLS ONLY, NOT CONC. PROVIDE RUBBER BASE ON GYP. BD. WALLS ONLY
202	MECHANICAL MEZ. GEN RM B	--	PNT	CONC	CONC	--	RB	--	--	CONC-H	EXP	EXP	

GENERAL NOTES:

1. PAINT ALL STEEL DECK CEILINGS WITH 2-HOUR, FIRE-RATED INTUMESCENT PAINT, INCLUDING ALL STEEL DECKS ABOVE FINISHED CEILINGS. SEE 07 81 00 FOR DETAILS AND COLOR.
2. PAINT ALL STRUCTURAL STEEL, I.E. COLUMNS, BEAMS, JOISTS, ETC. WITH 2-HOUR, FIRE-RATED INTUMESCENT PAINT. SEE 07 81 00 FOR DETAILS AND COLOR.
3. CEILING HEIGHTS/ELEVATIONS IDENTIFIED IN ROOM FINISH SCHEDULE ARE HEIGHTS ABOVE THEIR RESPECTIVE FINISHED FLOORS.
4. ALL PRECAST CONCRETE WALLS SHALL BE LEFT UNPAINTED UNLESS NOTED OTHERWISE IN THE ROOM FINISH SCHEDULE, DRAWINGS, OR SPECIFICATIONS.
5. REFER TO 09 06 00 SCHEDULES FOR FINISHES FOR COLOR SELECTIONS.

ROOM FINISH SCHEDULE LEGEND

ACT	ACOUSTICAL CEILING TILE
CONC	CONCRETE
CONC-H	CONCRETE-HARDENED FINISH
EXP	EXPOSED STRUCTURE
GRT	GRATING
PNT	PAINT
PLYWD	PLYWOOD
PT	PORCELAIN TILE
RB	RESILIENT BASE
RT	RUBBER TILE
WM	WIRE MESH

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MARK	DESCRIPTION	DATE

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SUBMITTED BY: B. GORUP
SIZE: ANSI D
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102
ROOM FINISH SCHEDULE

SHEET ID
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DOOR SCHEDULE

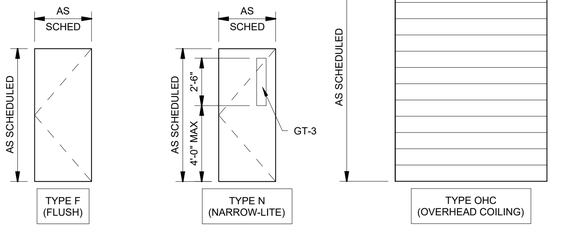
DOOR NO.	TYPE	DOOR SIZE WIDTH	SIZE HEIGHT	SIZE THICKNESS	DOOR FINISH	DOOR MATERIAL	FIRE RATING	FRAME TYPE	FRAME MATERIAL	FRAME DETAILS HEAD	FRAME DETAILS JAMB	FRAME DETAILS SILL	HARDWARE	COMMENTS:
100A	N	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
100B	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	90 MIN	A	HM				HW-4	INTERIOR DOOR, INSULATED
101	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-6	
101A	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
102	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-7	
103	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-5	180 DEGREE SWING
104	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-5	
105A	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-6	
105B	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-2	
106A	OHC	10' - 0"	14' - 0"	0' - 3"	PAINT	STL	90 MIN	MFR	STL					ELECTRIC OPERATION, UNINSULATED
106B	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	90 MIN	A	HM				HW-4	
106C	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
106D	OHC	10' - 0"	12' - 0"	0' - 3"	PAINT	STL		MFR	HM	E1/A-604	A1/A-604	C9/A-604		ELECTRIC OPERATION, INSULATED
106E	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
108A	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	90 MIN	A	HM				HW-3	
108B	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-2	
110	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-4	
111	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	120 MIN	A	HM				HW-5	
112A	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	45 MIN	A	HM				HW-3	
112B	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	45 MIN	A	HM				HW-2	
113	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-2	
114A	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	45 MIN	A	HM				HW-3	
114B	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
115A	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	45 MIN	A	HM				HW-3	
115B	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
116A	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-4	
116B	OHC	8' - 0"	10' - 0"	0' - 3"	PAINT	STL		MFR	HM					MANUAL OPERATION, UNINSULATED
117A	OHC	10' - 0"	12' - 0"	0' - 3"	PAINT	STL		MFR	HM	E1/A-604	A1/A-604	C9/A-604		ELECTRIC OPERATION, INSULATED
117B	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
117C	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
117D	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
118A	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	45 MIN	A	HM				HW-3	
118B	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
119A	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	45 MIN	A	HM				HW-3	
119B	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
120A	46	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-2	
120B	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-1	
120C	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	45 MIN	A	HM				HW-4	
121	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	45 MIN	A	HM				HW-3	
122	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	45 MIN	A	HM				HW-3	
123	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	-	A	HM				HW-4	
124	F	6' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	120 MIN	A	HM				HW-3	
201	F	3' - 0"	7' - 0"	0' - 1 3/4"	PAINT	STL	90 MIN	A	HM				HW-4	

GENERAL NOTES (APPLIES TO ALL DOORS):

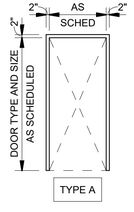
1. ALL EXTERIOR HM DOORS SHALL BE INSULATED. INSULATE EXTERIOR HM FRAMES WITH SPRAY POLYURETHANE FOAM.
2. SEE SPECIFICATION 08 71 00 "DOOR HARDWARE" FOR HARDWARE SCHEDULE.
3. AT DOUBLE DOORS WHERE INACTIVE LEAF IS IDENTIFIED, THE LEFT DOOR PANEL IN THE DIRECTION OF EGRESS OR THE RIGHT DOOR PANEL IN THE DIRECTION OF ENTRY SHALL BE TREATED AS THE ACTIVE LEAF.
4. EXTERIOR DOORS ARE COMPONENT OF THE BUILDING AIR BARRIER ASSEMBLY. EXTERIOR DOOR ASSEMBLIES SHALL CONFORM TO AIR INFILTRATION REQUIREMENTS SPECIFIED.

GLASS TYPES:

GT-3 1/2" CLEAR LAMINATED PANE



DOOR TYPES



FRAME TYPES

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US ARMY CORPS OF ENGINEERS
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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102
DOOR SCHEDULES

SHEET ID
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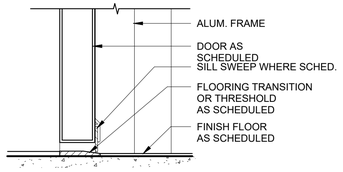
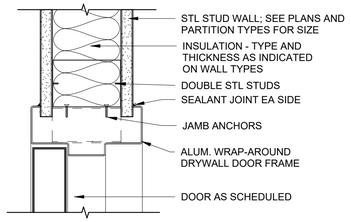
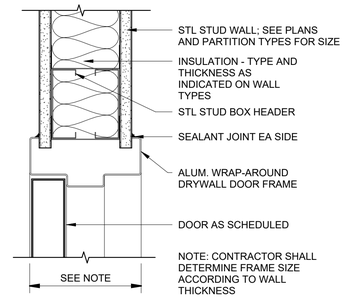


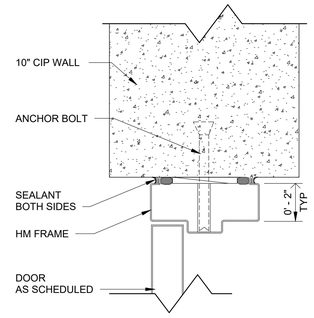
M1 DOOR SILL
3" = 1'-0"



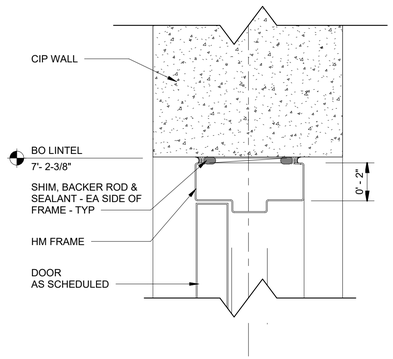
M5 DOOR JAMB
3" = 1'-0"



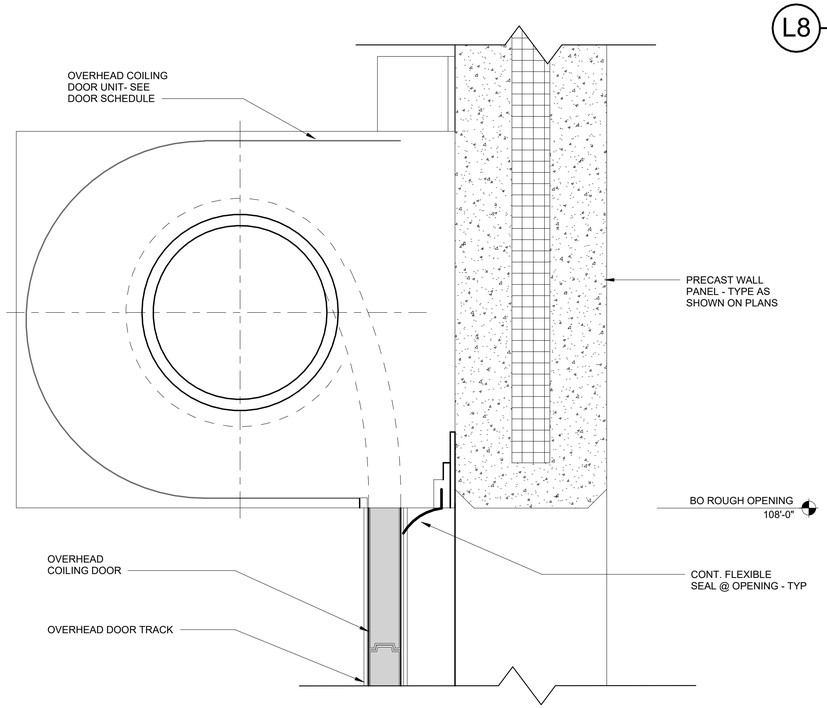
L8 DOOR HEAD
3" = 1'-0"



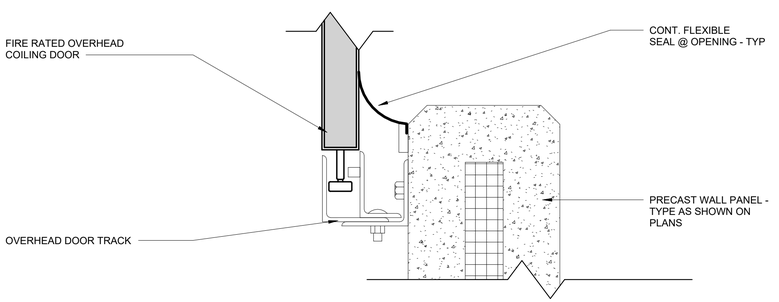
L11 DOOR JAMB @ INTERIOR CIP
3" = 1'-0"



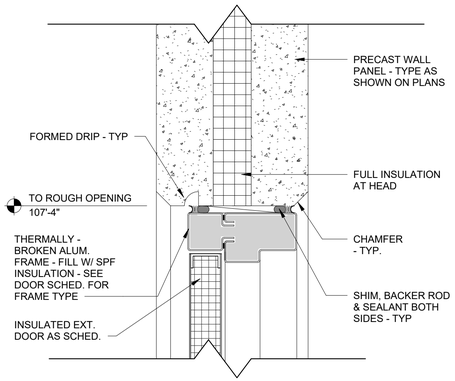
L16 DOOR HEAD @ INTERIOR CIP
3" = 1'-0"



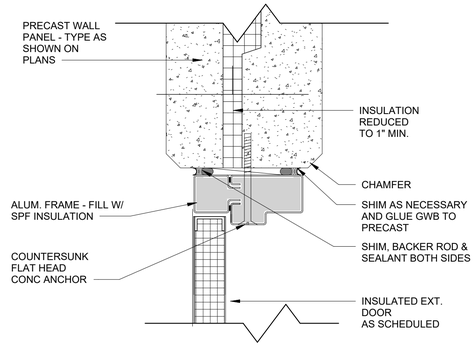
E1 COILING OHD HEAD @ PRECAST
3" = 1'-0"



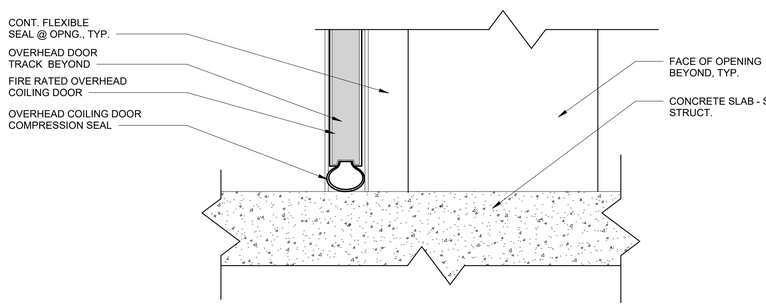
A1 COILING OHD JAMB @ PRECAST
3" = 1'-0"



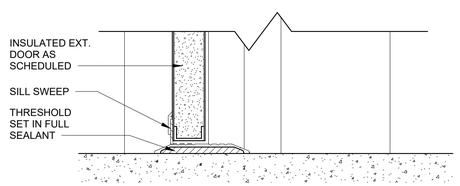
G9 PRECAST EXTERIOR DOOR HEAD DETAIL
3" = 1'-0"



G16 PRECAST EXTERIOR JAMB DETAIL
3" = 1'-0"



C9 COILING OHD SILL @ PRECAST
3" = 1'-0"



C17 PRECAST EXTERIOR DOOR SILL DETAIL
3" = 1'-0"

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J. KAITANY	W9128F25RA043
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B. GORUP	
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OMAHA DISTRICT
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DOOR DETAILS

SHEET ID

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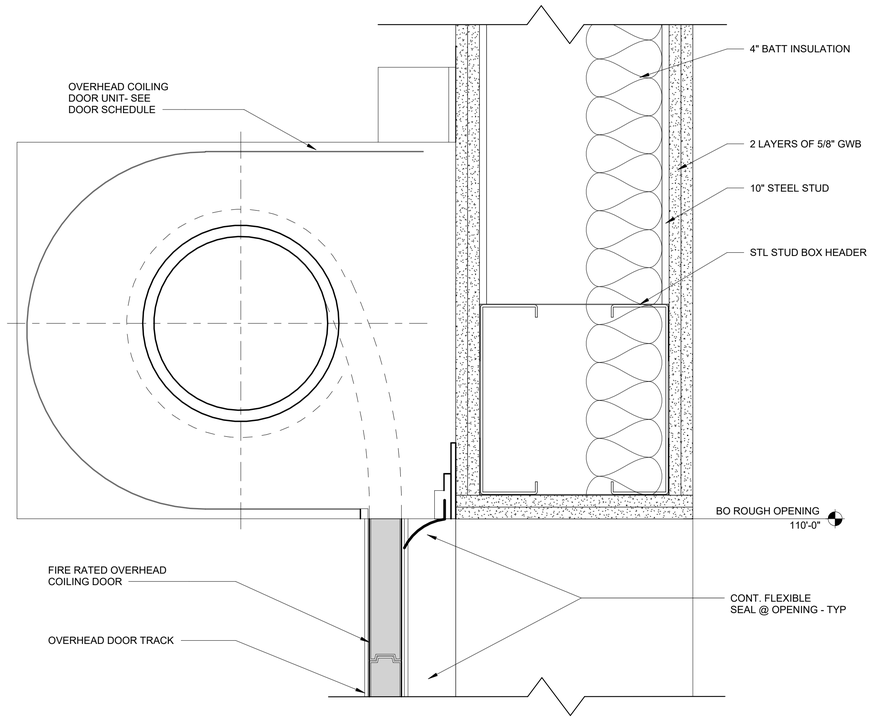
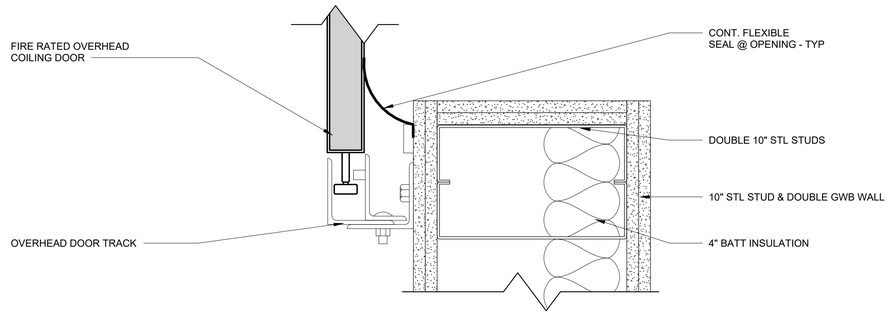


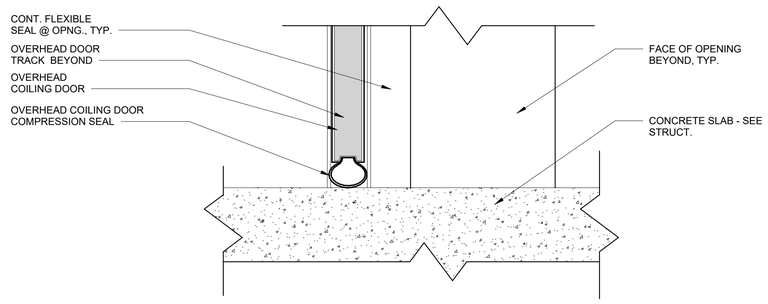
G1 COILING OHD HEAD @ 10" STL STUD WALL

3" = 1'-0"



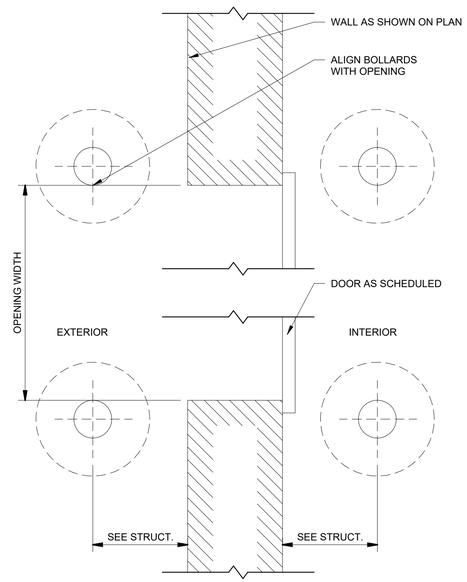
L10 COILING OHD JAMB @ 10" STL STUD WALL

3" = 1'-0"



G10 COILING OHD SILL @ 10" STL STUD WALL

3" = 1'-0"



SEE STRUCTURAL DRAWINGS FOR FOOTING DETAIL AND DIMENSIONS

A16 BOLLARD DETAIL

1" = 1'-0"

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OMAHA DISTRICT
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DOOR DETAILS

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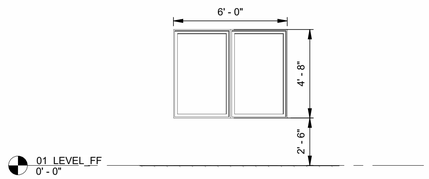
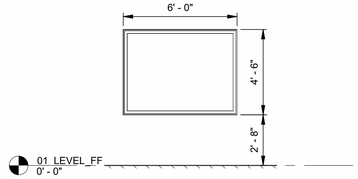
WINDOW SCHEDULE

MARK	R.O. WIDTH	R.O. HEIGHT	FRAME FINISH	FRAME MATERIAL	GLAZING TYPE	GLAZING THICKNESS	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	HEAD HEIGHT	REMARKS (SEE NOTES BELOW)
W1	3' - 0"	4' - 8"	PAINT	ALUM.	GT-1	1"	F15/A-605	F8/A-605	F1/A-605	7' - 2"	
W2	6' - 0"	4' - 6"	PAINT	ALUM.	GT-2	1"	F15/A-605	A8/A-605	F1/A-605	7' - 2"	



L1 TYPE W1 ELEVATION
1/4" = 1'-0"



L6 TYPE W2 ELEVATION
1/4" = 1'-0"

GLASS TYPES:

GT-1 1" INSULATED, LOW-E, TINTED, BLAST RESISTANT (LAMINATED) GLAZING UNIT (EXTERIOR 1/4" TINTED, TEMPERED, LOW-E PANE + 1/2" ARGON-FILLED AIRSPACE + 1/4" INTERIOR CLEAR LAMINATED PANE)

GT-2 CLEAR GLASS, 90 MINUTES FIRE-RATED

GENERAL WINDOW SCHED. NOTES:

1. ALL DIMENSIONS FOR WINDOWS SHALL BE FIELD VERIFIED PRIOR TO ORDERING WINDOWS.
2. GLAZING TYPE THICKNESSES ARE NOMINAL. PROVIDE GLAZING UNIT THICKNESS APPROPRIATE FOR THE DESIGN LOADS AND CONDITIONS.
3. SEE SPECIFICATION 08 81 00 GLAZING FOR FINISH AND GLAZING TINT REQUIREMENTS.
4. ALL UNITIZED ALUMINUM WINDOWS SHALL COMPLY WITH SPECIFICATION 08 44 00 CURTAIN WALL AND GLAZED ASSEMBLIES.
5. EXTERIOR WINDOWS ARE COMPONENT OF THE BUILDING AIR BARRIER ASSEMBLY. EXTERIOR WINDOW ASSEMBLIES SHALL CONFORM TO AIR INFILTRATION REQUIREMENTS SPECIFIED.
6. PROVIDE FIRE RATED WINDOW ASSEMBLIES AT FIRE RATED AND SMOKE RATED WALLS.

WINDOW TYPES

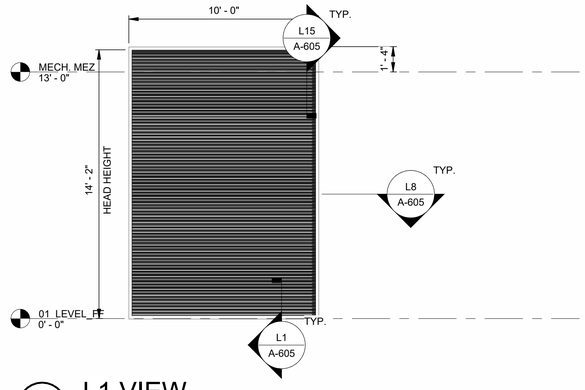
0 2' 4' 8'

LOUVER SCHEDULE

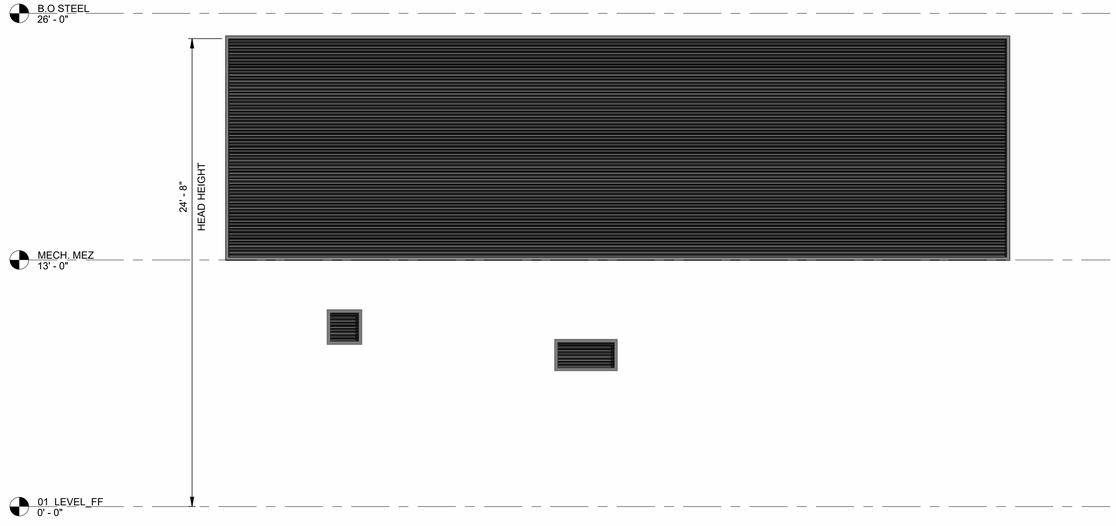
COUNT	MARK	R.O. WIDTH	R.O. HEIGHT	FRAME FINISH	FRAME MATERIAL	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	REMARKS (SEE NOTES)
4	L1	9' - 8"	14' - 0"	PAINT	ALUM.	L15/A-605	L8/A-605	L1/A-605	
2	L2	41' - 0"	11' - 6"	PAINT	ALUM.	L15/A-605	L8/A-605	L1/A-605	
4	L3	1' - 0"	1' - 0"	PAINT	ALUM.	L15/A-605	L8/A-605	L1/A-605	
3	L4	1' - 6"	1' - 6"			L15/A-605	L8/A-605	L1/A-605	
2	L5	3' - 0"	1' - 4"						

GENERAL LOUVER SCHED. NOTES:

1. BLANK OUT AND INSULATE ANY AREA OF LOUVER NOT BACKED BY A DUCT/DAMPER. SEE MECHANICAL DRAWINGS AND SPECIFICATIONS.
2. PROVIDE BIRD SCREENS BEHIND ALL LOUVERS.
3. ALL LOUVERS TO BE STORM PROOF AND TO HAVE A MINIMUM FREE AREA OF 50%, REFER TO MECH SPEC FOR REQUIRED FREE AREA.

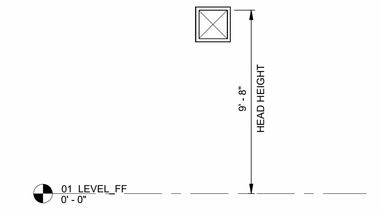


B1 L1 VIEW
1/4" = 1'-0"



B7 L2 VIEW
1/4" = 1'-0"

B17 L3 VIEW
1/4" = 1'-0"



F17 L4 VIEW
1/4" = 1'-0"

LOUVER TYPES

0 2' 4' 8'

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jjfleisch\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_DM_AI_jjfleisch.rvt

Plot Date: 5/5/2025 3:52:18 PM

DESIGNED BY: K. JARVIS
DRAWN BY: J. KAITANY
CHECKED BY: B. GORUP
SUBMITTED BY: B. GORUP
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_AI.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102
WINDOW AND LOUVER TYPES

SHEET ID
A-604

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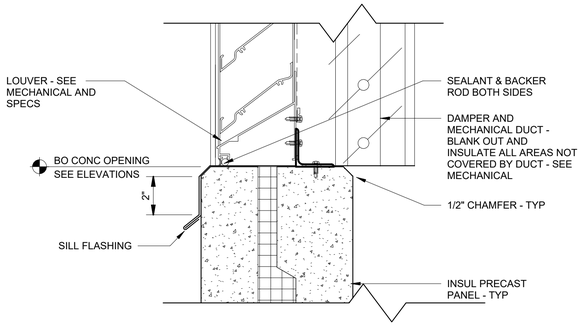
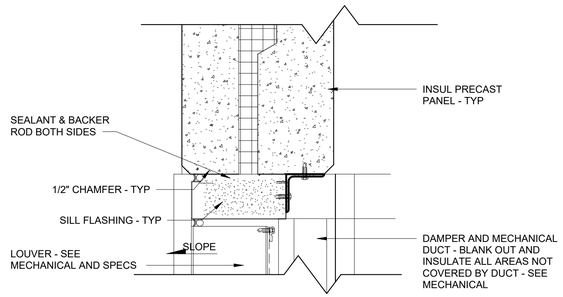


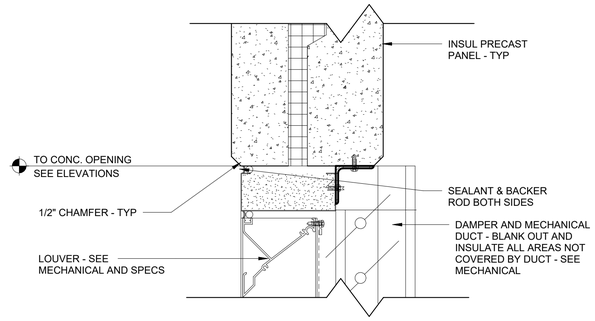
L1 LOUVER SILL @ EXTERIOR WALL

3" = 1'-0"



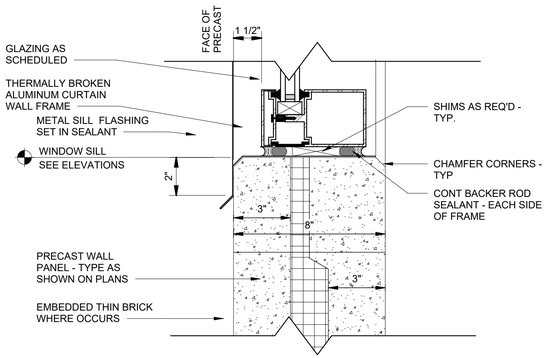
L8 LOUVER JAMB @ EXTERIOR WALL

3" = 1'-0"



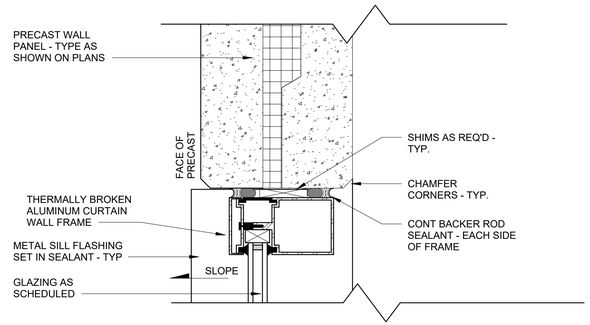
L15 LOUVER HEAD @ EXTERIOR WALL

3" = 1'-0"



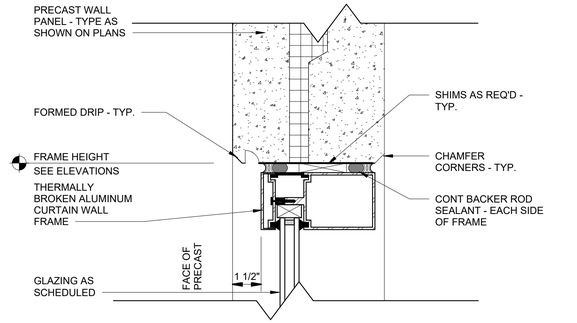
F1 WINDOW SILL DETAIL @ EXT PRECAST

3" = 1'-0"



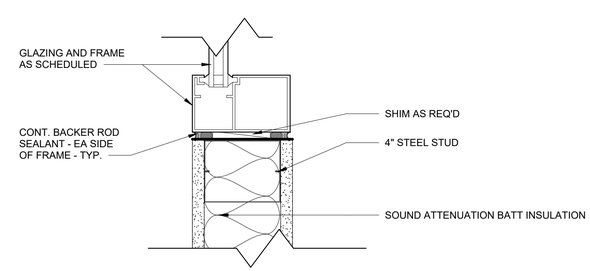
F8 WINDOW JAMB DETAIL @ EXT PRECAST

3" = 1'-0"



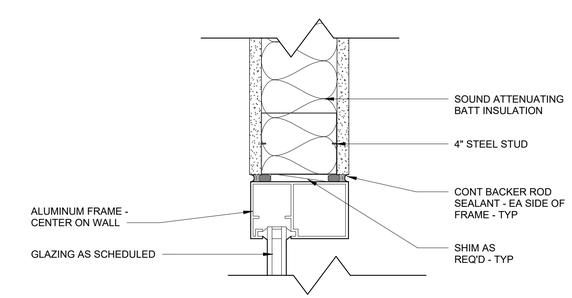
F15 WINDOW HEAD DETAIL @ EXT PRECAST

3" = 1'-0"



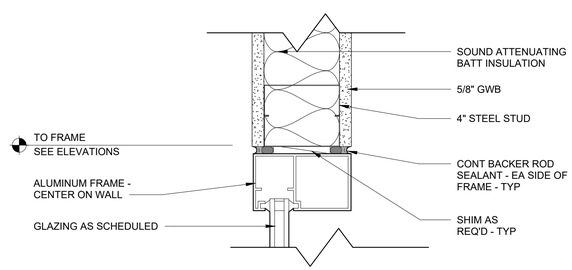
A1 WINDOW SILL DETAIL @ INT WALL

3" = 1'-0"



A8 WINDOW JAMB DETAIL @ INT WALL

3" = 1'-0"



A15 WINDOW HEAD DETAIL @ INT WALL

3" = 1'-0"

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MARK	DESCRIPTION	DATE

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ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
DESIGNED BY:	K. JARVIS
DRAWN BY:	J. KAITANY
CHECKED BY:	B. GORUP
SUBMITTED BY:	S. DUTTLE
SIZE:	ANSI D
FILE NAME:	BUCO00102_DM_AI.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
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BUCO00102

WINDOW AND LOUVER DETAILS

SHEET ID

A-605

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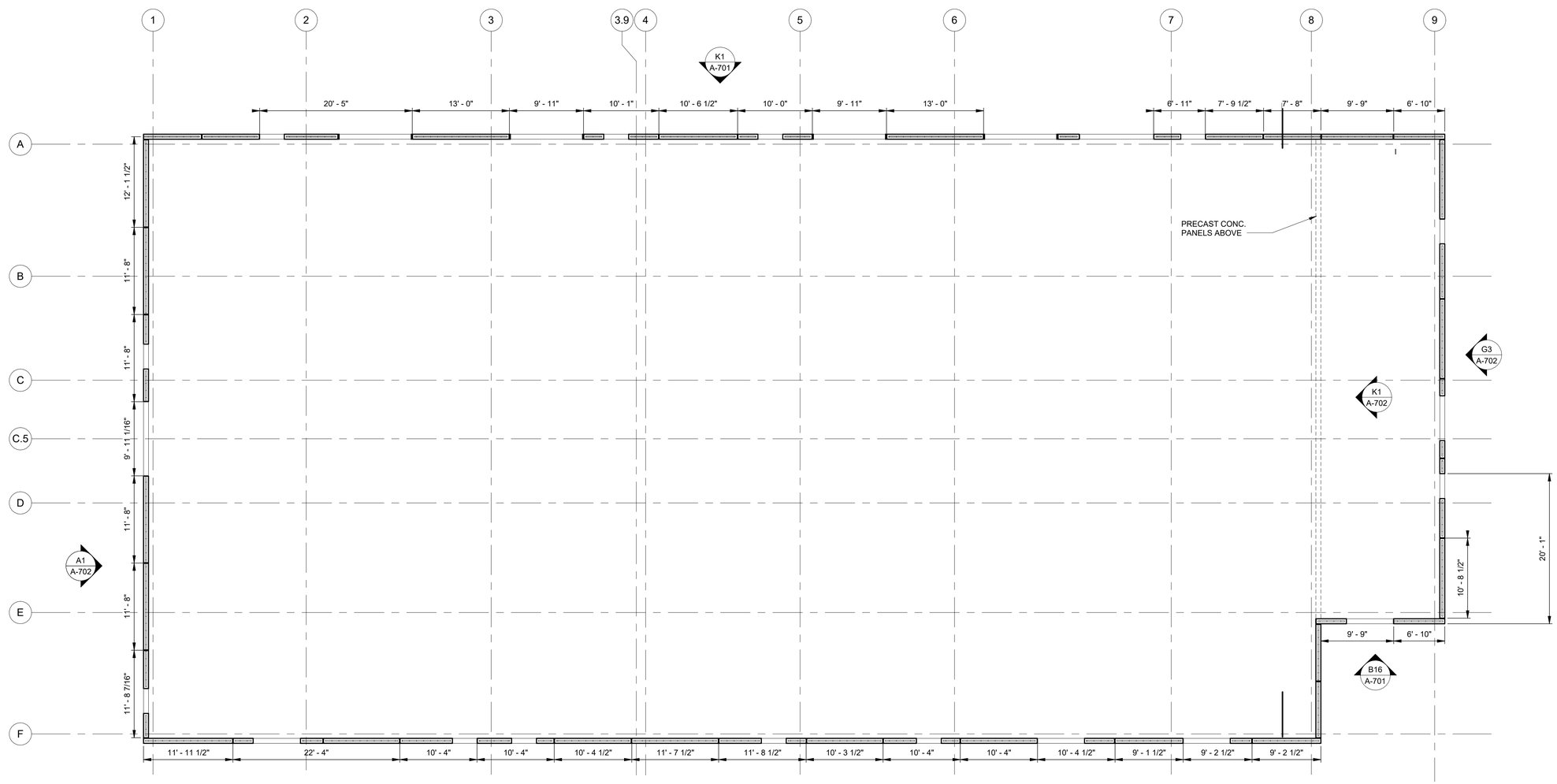


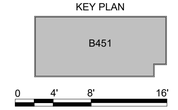
B1 PRECAST PLAN

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH

KEY PLAN



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MARK	DESCRIPTION	DATE

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Plot Date: 5/5/2025 3:52:20 PM

ISSUE DATE: 05/01/2025

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CONTRACT NO.:

DESIGNED BY: K. JARVIS

DRAWN BY: J. KAITANY

CHECKED BY: B. GORUP

SUBMITTED BY: B. GORUP

SIZE: ANSI D

FILE NAME: BUCO00102_DM_AI.rvt

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OMAHA DISTRICT
1616 CAPITOL AVE
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
BUCO00102

COMPOSITE PRECAST CONCRETE PANEL PLAN

SHEET ID

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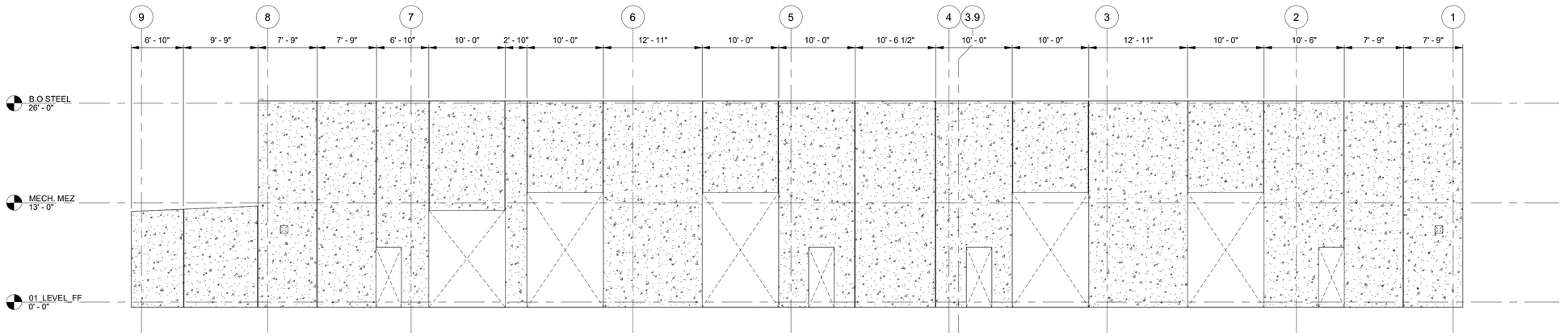
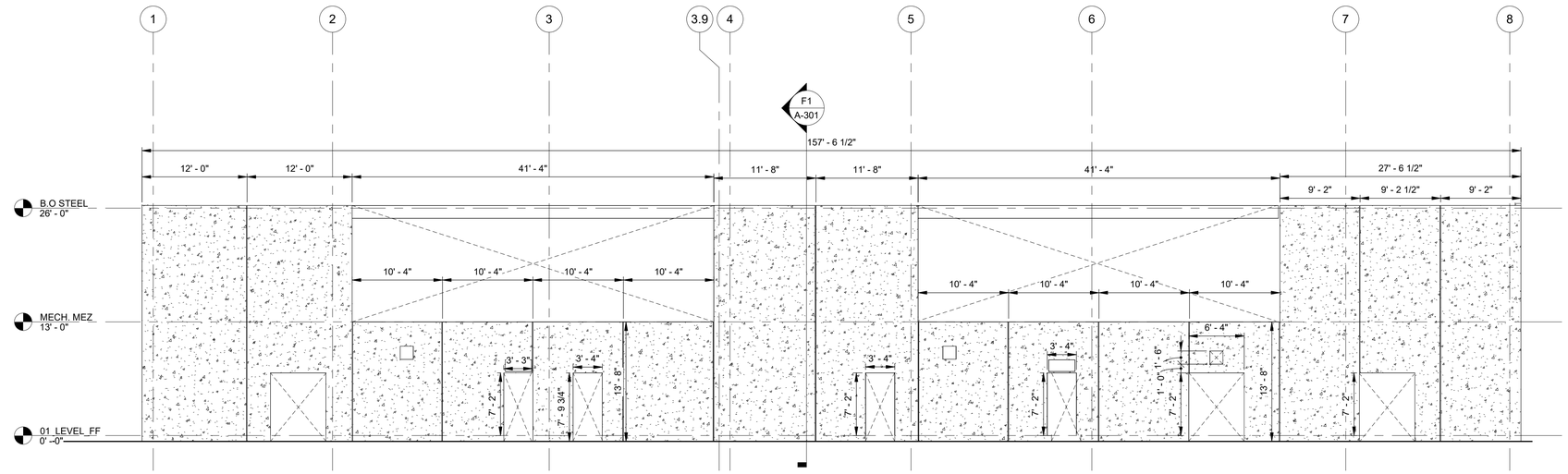


K1 GRID A PRECAST ELEVATION

1/8" = 1'-0"

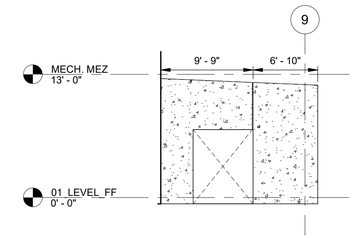
0 4' 8' 16'



D1 GRID F PRECAST ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



B16 GRID E PRECAST ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

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MARK	DESCRIPTION	DATE

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J. KAITANY	W9128F25RA043
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B. GORUP	
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PRECAST PANEL ELEVATIONS

SHEET ID

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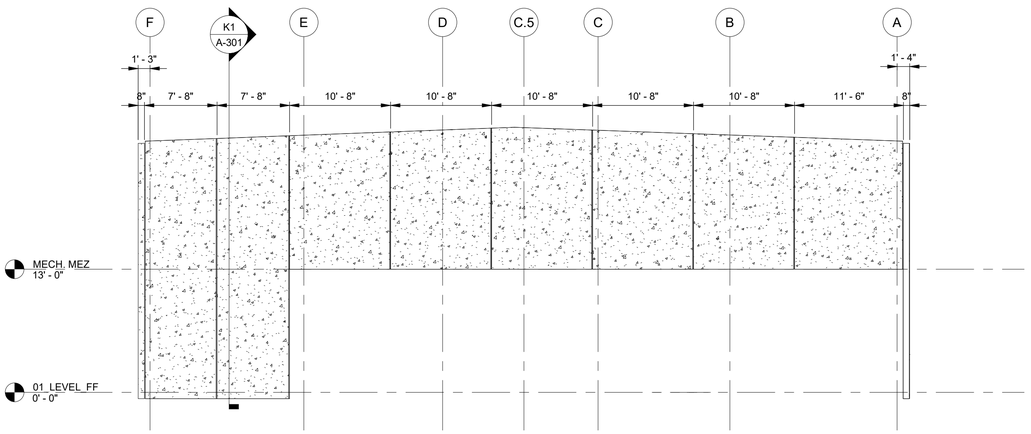
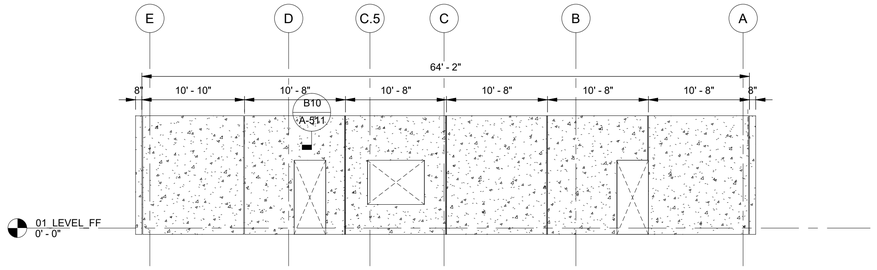


K1 GRID 8 PRECAST ELEVATION

1/8" = 1'-0"

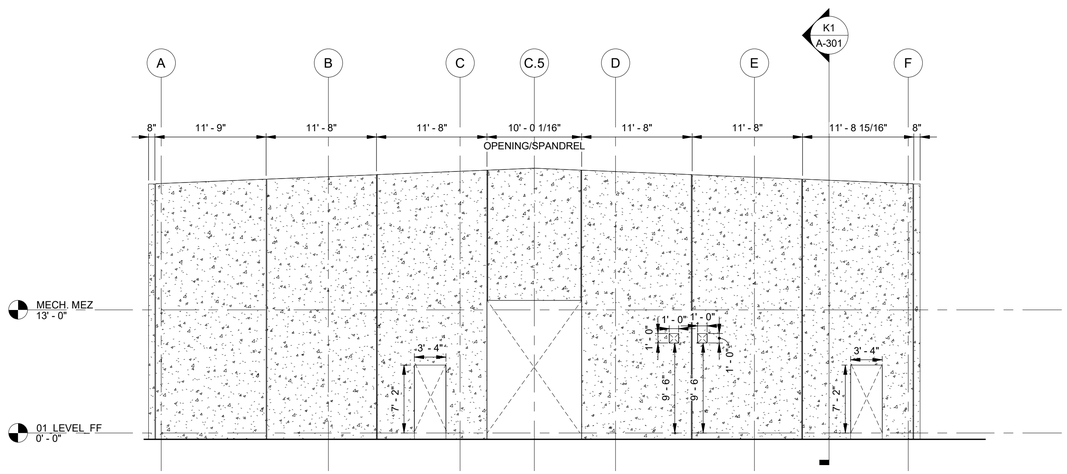
0 4' 8' 16'



G3 GRID 9 PRECAST ELEVATION

1/8" = 1'-0"

0 4' 8' 16'



A1 GRID 1 PRECAST ELEVATION

1/8" = 1'-0"

0 4' 8' 16'

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MARK	DESCRIPTION	DATE

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DRAWN BY: J. KAITANY
CHECKED BY: B. GORUP
SUBMITTED BY: B. GORUP
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_A1.rvt

US ARMY CORPS OF ENGINEERS
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PRECAST PANEL ELEVATIONS

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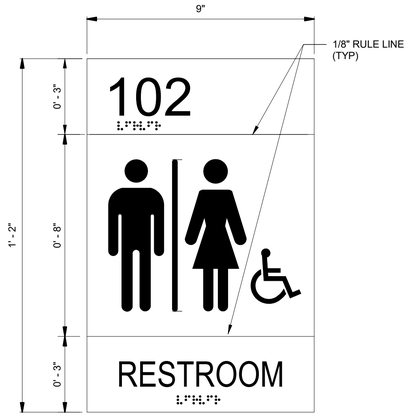
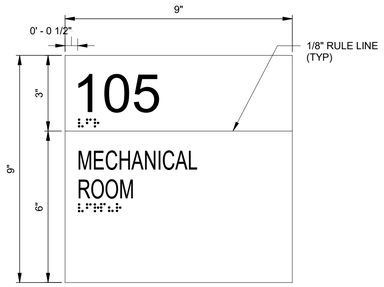


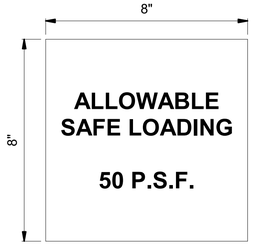
SIGN TYPE - DWM

NOTE: PROVIDE WHEELCHAIR SYMBOL ONLY AT RESTROOMS WITH GRAB BARS.



SIGN TYPE - A

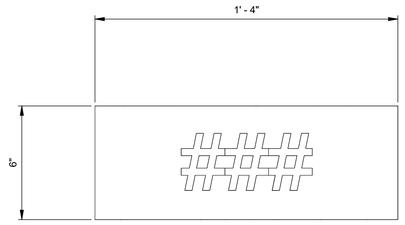
SIGN TYPE - E



SIGN TYPE - G1

SIGN TYPE - G2

SIGN TYPE - E1



A3 EXTERIOR BUILDING NUMBER SIGN

3" = 1'-0"

0 0.125' 0.25' 0.5' 0.75'

BUILDING NUMBER SIGN NOTES:

1. FONT: TREBUCHET MS - BOLD
2. MATERIAL: .080 ALUMINUM - REFLECTIVE
3. QTY. 2
4. COORDINATE EXACT LOCATION WITH CES.

GENERAL SIGNAGE NOTES:

1. SEE SPECIFICATION 10 14 00.20 INTERIOR SIGNAGE FOR PLACEMENT SCHEDULE AND MORE INFORMATION.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: C. GILBERT
DRAWN BY: C.GILBERT
CHECKED BY: C. GILBERT
SUBMITTED BY: B. GORUP
SIZE: ANSI D
FILE NAME: BUCO00102_DM_AI.rvt

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

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POWER INDEPENDENCE: MISSION CONTROL STATION
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SIGNAGE TYPICALS

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SUPPLEMENTAL FIRE ALARM LEGEND

FACP	FIRE ALARM CONTROL PANEL
RSCP	RELEASING SERVICE FIRE ALARM CONTROL PANEL
JPCP	JOCKEY PUMP CONTROL PANEL
FARPS	FIRE ALARM REMOTE POWER SUPPLY. QUANTITY SHOWN ARE APPROXIMATIONS FOR SPACE ALLOCATIONS. COORDINATE FINAL QUANTITY WITH SECTION 28 31 70.
ACU	MASS NOTIFICATION AUTONOMOUS CONTROL UNIT
FAA	REMOTE FIRE ALARM ANNUNCIATOR PANEL
FAT	FIRE ALARM TRANSCEIVER
LOC	REMOTE LOCAL OPERATING CONSOLE WITH MICROPHONE AND SWITCHES.
FA MAP	FIRE ALARM MAP
CS MAP	CONTAINMENT SYSTEM MAP
F	MANUAL FIRE ALARM PULL STATION (HANGAR BAY PULL STATIONS SHALL HAVE TAMPER COVER)
	HVAC SHUTDOWN SWITCH. LOCATED EITHER IN OR ADJACENT TO LOC.
?#	SMOKE DETECTOR. THE LETTER "I" OR "P". IF PRESENT, STIPULATES IONIZATION OR PHOTOELECTRIC TYPE. "U" STIPULATES UNDER RAISED ACCESS FLOOR. "D" STIPULATES A DUCT TYPE SMOKE DETECTOR. WHERE DUCT DETECTORS ARE SHOWN IN PAIRS, LOCATIONS ARE IN SUPPLY AND RETURN DUCTS. A SINGLE DETECTOR WOULD BE INSTALLED IN THE SUPPLY DUCT IF THE LOCATION IS NOT OTHERWISE INDICATED.
RTS	REMOTE TEST STATION WITH INDICATOR LIGHT FOR EACH DUCT SMOKE DETECTOR. LOCATE AT 4'-0" AFF.
TEXT	LED TEXT SIGN. INSTALL LED TEXT DISPLAY OVER OR IMMEDIATELY ADJACENT TO DOOR. LED TEXT SIGNS SHALL BE MOUNTED AS CLOSE TO THE SAME HEIGHT AS THE AUDIBLE/VISUAL NOTIFICATION DEVICES AS POSSIBLE.
CR	HEAT DETECTOR. UNDIFFERENTIATED SYMBOL INDICATES FIXED-TEMPERATURE OR COMBINATION F.T. AND RATE OF RISE TYPE, SEE SPECIFICATION 21 13 18. "CR" INDICATES COMPENSATED RATE ("RATE ANTICIPATION") TYPE WITH TUBULAR SENSING ELEMENT REQUIRED. TEMPERATURE RATING AND SPACING AS INDICATED IN SPECIFICATION 21 13 18. APPROXIMATE LOCATIONS ON PLANS ACCOUNT FOR STANDARD 25'-0" LISTED SPACING (FURTHER REDUCED BY APPLICATION FOR BEAM CONDITIONS AND CEILING HEIGHT CONDITIONS AS INDICATED); ADJUST AS REQUIRED BY DETECTOR-SPECIFIC LISTED SPACING. "H" INDICATES 190F DETECTOR. ALL OTHERS TO BE RATED FOR 135F.
CO	CARBON MONOXIDE DETECTOR.
H	HYDROGEN GAS DETECTOR
HS	HYDROCARBON SENSOR
LD	INTERSTITIAL SPACE LEAK DETECTOR
LS	LEVEL SENSOR
TG	DIGITAL TANK GAUGE
	TAMPER SWITCH
	FLOW SWITCH
PS	SUPERVISORY PRESSURE SWITCH
SOV	AUTOMATIC FLOW VALVE/RELEASING SOLENOID (DV: DELUGE VALVE)
WFI H	WATER FLOW INDICATOR HORN/STROBE AT FIRE DEPARTMENT CONNECTION
	MANUAL VALVE (FURNISHED UNDER OTHER SECTIONS).
	ELECTRICALLY-ACTUATED CONTROL VALVE (CV)
S C	FIRE ALARM/MASS NOTIFICATION SPEAKER/STROBE, WALL MOUNTED. "A"=AMBER, "B"=BLUE, AND "C"=CLEAR.
S C	FIRE ALARM/MASS NOTIFICATION SPEAKER/STROBE, CEILING OR PENDANT MOUNTED. "C"=CLEAR.
C	FIRE ALARM/MASS NOTIFICATION STROBE, WALL MOUNTED. "B"=BLUE, "C"=CLEAR, AND "R"=RED.
C	FIRE ALARM/MASS NOTIFICATION STROBE, CEILING OR PENDANT MOUNTED. "C"=CLEAR.
S F	SPEAKER, WALL MOUNTED. "F"=FIRE ALARM/MASS NOTIFICATION, "C"=CLEAN AGENT.
S F	SPEAKER, CEILING OR PENDANT MOUNTED. "F"=FIRE ALARM/MASS NOTIFICATION, "C"=CLEAN AGENT.
	LOUDSPEAKER, CEILING OR PENDANT MOUNTED.
WP	WALL MOUNTED LOUDSPEAKER. SUBSCRIPT "WP" INDICATES RATED FOR WEATHERPROOF (OUTDOOR) LOCATIONS.
C	FIRE ALARM/MASS NOTIFICATION SPEAKER/STROBE IN WEATHERPROOF ENCLOSURE, WALL MOUNTED. "C"=CLEAR.
C	FIRE ALARM/MASS NOTIFICATION STROBE IN WEATHERPROOF ENCLOSURE, WALL MOUNTED. "C"=CLEAR.
R/O/Y	CONTAINMENT SYSTEM VISUAL NOTIFICATION DEVICE IN WEATHERPROOF ENCLOSURE, WALL MOUNTED. "R"=RED, "O"=ORANGE, "Y"=YELLOW, "G"=GREEN.
C	FIRE ALARM/MASS NOTIFICATION SPEAKER/STROBE IN WEATHERPROOF ENCLOSURE, CEILING OR PENDANT MOUNTED. "C"=CLEAR.
C	FIRE ALARM/MASS NOTIFICATION STROBE IN WEATHERPROOF ENCLOSURE, CEILING OR PENDANT MOUNTED. "C"=CLEAR.
	FIRE ALARM/MASS NOTIFICATION SPEAKER IN WEATHERPROOF ENCLOSURE, WALL MOUNTED.
IR	OPTICAL FIRE DETECTOR.
CM	ADDRESSABLE CONTROL MODULE
R	ADDRESSABLE CONTROL RELAY MODULE
M	ADDRESSABLE MONITOR MODULE
ISO	ISOLATION
	FIRE ALARM ANTENNA. SEE FA501 FOR ANTENNA INFORMATION.
HE	HARSH ENVIRONMENT DEVICE AND BACKBOX
WP	WEATHERPROOF DEVICE AND BACKBOX
X	HAZARDOUS RATED. REFERENCE SHEET E-101 FOR CLASSIFICATION.
<SYS.> K	KEY-OPERATED SUPERVISED DISCONNECT SWITCH
T#	TEMPERATURE SENSOR. SEE SPECIFICATION 28 31 70 "TEMPERATURE MONITORING". "L" = LOW TEMPERATURE SENSOR "H" = HIGH TEMPERATURE SENSOR
VC	MANUAL VALVE CLOSE MUSHROOM PUSHBUTTON STATION.
	NFPA 72 §17.6.3.3.1.2: SOLID BEAM CONDITION GREATER THAN 4" BUT NOT EXCEEDING 18" FROM CEILING REQUIRING TWO-THIRDS OF THE LISTED SPACING AT RIGHT ANGLES TO THE DIRECTION OF BEAM TRAVEL.
	NFPA 72 §17.6.3.3.1.3: SOLID BEAM CONDITION GREATER THAN 18" CREATING A SEPARATE DETECTION ZONE.

GENERAL NOTES - FA100 THROUGH FA400 SHEETS

A	PROVIDE BACKBOX AT EACH MANUAL STATION, INITIATING/DETECTION DEVICE, HORN, SPEAKER, STROBE, AND SPEAKER/STROBE LOCATION.
B	FINAL DEVICE LOCATIONS MUST BE COORDINATED PRIOR TO INSTALLATION TO AVOID CONFLICTS WITH ELEMENTS FROM OTHER TRADES.
C	EXTERIOR BUILDING-MOUNTED DEVICES AND EQUIPMENT MUST BE WIRED FROM WITHIN THE BUILDING AND MUST CONFORM TO THE INTERIOR WIRING STANDARDS DESCRIBED IN SECTION 26 20 00. NO CIRCUITS FOR EXTERIOR BUILDING-MOUNTED EQUIPMENT AND DEVICES MAY BE SURFACE MOUNTED ON THE BUILDING EXTERIOR.
D	PROVIDE POWER LIMITED CIRCUITS.
E	PROVIDE MULTIPLE INITIATING DEVICE CIRCUITS AND SIGNALING LINE CIRCUITS SO THAT FAILURE OF ONE CIRCUIT DOES NOT CAUSE THE FACILITY TO LOSE OVER 50% OF ITS CAPABILITIES PER FLOOR.
F	THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING NECESSARY POWER SUPPLIES, BATTERIES, BOOSTERS, ETC. ANNUNCIATOR(S) ARE TO OPERATE ON 24VDC POWER FROM FACP. ADJUST PANELS DEDICATED FOR FIRE ALARM AS NECESSARY FOR EQUIPMENT PROVIDED AND MAINTAIN BALANCED LOADING OF THE PANEL PHASES. PROVIDE SIGNAL BOOSTERS AS NECESSARY TO COMPENSATE FOR VOLTAGE DROP DUE TO SIZE OF BUILDING AND LENGTH OF CIRCUITS. SIGNAL BOOSTERS MUST BE PROVIDED WITH BATTERY BACKUP OF THE SAME DURATION AS REQUIRED FOR THE FIRE ALARM SYSTEM (SEE SPECIFICATION 28 31 70) AND MUST BE RATED FOR THE ENVIRONMENTAL CONDITION IDENTIFIED ON THE E-100 SHEETS. SPARE CIRCUITS HAVE BEEN PROVIDED ON POWER PANELS DEDICATED TO FIRE ALARM EQUIPMENT.
G	THESE DOCUMENTS DEPICT A PERFORMANCE LEVEL ENGINEERING DESIGN LAYOUT TO BE UTILIZED AS GUIDANCE FOR THE PLANNING OF THE FIRE ALARM AND RELEASING SERVICE CONTROL SYSTEMS BY THE CONTRACTOR. LAYOUT IS GENERIC AND NOT MANUFACTURER-SPECIFIC. SCHEMATIC DRAWING IS INCOMPLETE WITH SOME DEVICES NOT SHOWN OR SEVERAL DEVICES REPRESENTING MORE. PROVIDE COMPLETE DOCUMENTS FOR REVIEW AND APPROVAL FROM THE ENGINEER AND AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION. INCLUDE IN THE SHOP DRAWINGS AND CALCULATIONS ANY ADDITIONAL EQUIPMENT NECESSARY, INCLUDING INITIATING DEVICES AND NOTIFICATION APPLIANCES, TO PROVIDE A COMPLETE INSTALLATION. PROVIDE DEVICES NOT SHOWN FOR A COMPLETE FUNCTIONAL SYSTEM LIMITED TO ADDRESSABLE MONITOR MODULES FOR ALL DEVICES THAT DO NOT HAVE ADDRESS AND CONTROL MODULES TO CONTROL AUXILIARY FUNCTIONS. PROVIDE A COMPLETE FIRE ALARM SYSTEM AND PREACTION RELEASE AND CONTROL SYSTEM CONTRACTOR DESIGNED AND INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND AMENDMENTS INCLUDING BUT NOT LIMITED TO UFC 3-600-01, NFPA 70, NFPA 72, NFPA 101, SPECIFICATION 21 13 13, SPECIFICATION 21 13 18, SPECIFICATION 28 31 70, AND THESE DRAWINGS.
H	FOR CONFLICTS BETWEEN THE SPECIFICATION AND THE DRAWINGS, FOLLOW THE SPECIFICATION. WHERE THE DRAWINGS EXCEED REQUIREMENTS OF THE SPECIFICATION, FOLLOW THE DRAWINGS.
I	SPEAKERS MUST BE CONNECTED TO TRANSMIT FIRE ALARM NOTIFICATION SIGNAL. SPEAKER QUANTITY AND SPACING MAY VARY WITH THE REQUIREMENTS OF THE MANUFACTURER SELECTED.
J	CONNECTIONS AND SPLICES MUST BE MADE USING TERMINAL BOXES.
K	JUNCTION BOXES, BACKBOXES, AND CONDUITS MUST BE SURFACE MOUNTED ON PRECAST, CONCRETE, AND CONCRETE BLOCK WALLS AND STEEL MEMBERS. JUNCTION BOXES, BACKBOXES, AND CONDUITS MUST BE RECESS MOUNTED ON GYPSUM WALLS. COORDINATE WITH ARCHITECTURAL SHEETS.
L	PENETRATION OPENINGS THROUGH AIR BARRIERS MUST COMPLY WITH THE BUILDING AIR BARRIER REQUIREMENTS. CORRECT ALL PENETRATIONS WHICH ARE DETERMINED DEFICIENT DURING TESTING. SEE ARCHITECTURE SHEETS FOR AIR BARRIER TESTING BOUNDARIES. SEE ARCHITECTURE FOR SEALING PENETRATIONS.
M	WHERE SHOWN, DIMENSIONS ON FIRE ALARM DRAWINGS ARE PRELIMINARY FOR PLANNING AND BIDDING PURPOSES. CONTRACTOR IS RESPONSIBLE FOR FINAL LOCATIONS, QUANTITIES, AND SPACING TO SATISFY OF APPLICABLE CODES, STANDARDS, UFCs, AND OTHER REQUIREMENTS IDENTIFIED IN THE CONTRACT DOCUMENTS.
N	COORDINATE THE FINAL LOCATIONS OF ELECTRICAL/FIRE ALARM PANELS, CONTROLLERS, DISCONNECTS, SWITCHES, RECEPTACLES, ETC., WITH FINAL FIRE PROTECTION EQUIPMENT LAYOUT.
O	COORDINATE RECESS MOUNTING OF CONDUIT, BACKBOXES, DEVICES, AND EQUIPMENT WITH OTHER TRADES.
P	ALL CEILING CONDITIONS ARE SLOPED LESS THAN 30 DEGREES WITH RESPECT TO DETECTOR SPACING AS RELATED TO NFPA 72 §17.6.3.4.1.
Q	BASIS OF DESIGN SHOWN ASSUMES CENTRALIZED BATTERIES AT THE SPECIFICALLY-IDENTIFIED FACP LOCATION TO SUPPORT ALL FUNCTIONS. IF SEPARATE BATTERY LOCATION(S) IS(ARE) ADDITIONALLY REQUIRED, PROVIDE ADDITIONAL SMOKE DETECTOR(S).
R	ALL ELECTRICAL EQUIPMENT, FIRE ALARM PANELS, CONTROLLERS, DISCONNECTS, SWITCHES, AND JUNCTION BOXES INSTALLED WITHIN THE FIRE PUMP ROOM (113) SHALL BE RATED NEMA 2 AT A MINIMUM.
S	FIRE ALARM MANUAL PULL STATIONS ARE TO BE PLACED AT LOCATIONS WHERE INDIVIDUALS EXIT A GIVEN ZONE PROTECTED BY A DISTINCT PREACTION WATER RISER IN ADDITION TO LOCATIONS OTHERWISE REQUIRING A MANUAL STATION.

(#) KEYNOTES - FA100 THROUGH FA400 SHEETS

1	STEADY TONE WATERFLOW INDICATOR. WEATHERPROOF HORN STROBE STAYS ACTIVE UNTIL WATER FLOW STOPS. MOUNT 96" A.F.G.
2	COORDINATE LOCATION OF POST INDICATOR VALVE AND TAMPER SWITCH WITH ES SERIES SHEETS.
3	SEE SPECIFICATION 28 31 70 FOR ADDITIONAL ANTENNA MOUNTING DETAILS.
4	ENTIRETY OF SPACE FOR DETECTION PLACEMENT PURPOSES IS CONSIDERED TO BE NFPA 72 §3.3.40.3 SMOOTH CEILING.
5	PROJECTION OF BEAM PLUS CONTINUOUS GAP OF LESS THAN 0'-4" FROM CEILING SURFACE (NFPA 72 §3.3.40.2) CREATES AN JOISTS A BEAM CONDITION GREATER THAN 18 INCHES (NFPA 72 §17.6.3.3.1.3 THRESHOLD).
6	JOISTS ARE OF OPEN CONSTRUCTION TYPE SATISFYING NFPA 72 §3.3.40.3 SMOOTH CEILING CONSTRUCTION CONDITIONS.
7	PUMP CONTROLLER MONITOR MODULES INTERFACE WITH FIRE ALARM CONTROL SYSTEM.
8	NITROGEN GENERATOR MONITOR MODULES INTERFACE WITH FIRE ALARM CONTROL SYSTEM.
9	KEY-OPERATED SUPERVISED DISCONNECT SWITCH. REFERENCE SECTION 28 31 70 "SOLENOID DISCONNECT SWITCHES" AND FA500 SERIES SHEETS.
10	MONITOR TAMPER AND WATER FLOW SWITCHES AND CONTROL THE SOLENOIDS/CONTROL VALVES FOR HANGAR BAY PRE-ACTION SPRINKLER SYSTEM. VERIFY QUANTITY AND LOCATIONS WITH FIRE PROTECTION SYSTEM INSTALLER.
11	APPROXIMATE LOCATION AT WHICH THE "CEILING HEIGHT" FOR DETECTOR SPACING PURPOSES CHANGES FROM THE FIRST FLOOR FINISHED FLOOR LEVEL (NORTH) TO THE MEZZANINE FINISHED FLOOR LEVEL (SOUTH). DETECTORS ON EACH SIDE OF THIS LINE OF DEMARCATION SHALL BE SPACED BASED ON THEIR RESPECTIVE CEILING HEIGHT REDUCTION COMBINED WITH THE BEAM CONDITIONS IDENTIFIED TO FURTHER REDUCE SPACING, AND DETECTORS SHALL BE LOCATED WITHIN 1/2 DISTANCE OF THAT RESULTANT 'S' VALUE RELATIVE TO THIS DEMARCATION LINE.
12	CONTROL MODULE TO ACTUATE LOUVERS OPEN DURING DIESEL FIRE PUMP OPERATION.
13	RELAY MODULES FOR AUTOMATIC LIGHTING CONTROL DEVICE FOR EVACUATION HOLD-ON OVERRIDE. COORDINATE EXACT LOCATION WITH INSTALLED LIGHTING CONTROL DEVICE.
14	LINE OF DEMARCATION BETWEEN THE "A#" AND "B#" SIDE COMPARTMENTS.
15	PROVIDE A CONTROL MODULE TO SHUNT TRIP THE CIRCUIT BREAKER ASSOCIATED WITH THE EQUIPMENT TAG IDENTIFIED.
16	SPACE IS A SOURCE FOR THE EFSO SIGNAL FROM PUMP CONTROL SYSTEM TO FIRE ALARM CONTROL PANEL. COORDINATE WITH PUMP CONTROLS PROVIDER FOR INTERFACE REQUIREMENTS.
17	RELAY MODULE FOR INTERCOMPUBLIC ADDRESS SPEAKER OVERRIDE TO MUTE. COORDINATE EXACT LOCATION WITH INSTALLED CONTROLLER/AMPLIFIER
18	BATTERY SYSTEM HYDROGEN DETECTOR TO INTERFACE WITH HVAC CONTROL SYSTEM FOR ACTIVATION OF EXHAUST SYSTEM AND REPORT TO CENTRAL STATION (COMPLY WITH IFC-2024 §1207.6.1.2).
19	PROVIDE CONTROL MODULE TO CLOSE FIRE-RATED OVERHEAD COILING DOOR PER FACP MATRIX. COORDINATE WITH SPECIFICATION SECTION 08 33 23.
20	LINE OF DEMARCATION BETWEEN THE "A#" AND "B#" SIDE COMPARTMENTS.
40	DETECTOR SPACING TO BE BASED ON 0.40S BASED ON NFPA 72 T17.6.3.5.1 FOR SPACE CEILING HEIGHT CONDITIONS.
77	DETECTOR SPACING TO BE BASED ON 0.77S BASED ON NFPA 72 T17.6.3.5.1 FOR SPACE CEILING HEIGHT CONDITIONS.
84	DETECTOR SPACING TO BE BASED ON 0.84S BASED ON NFPA 72 T17.6.3.5.1 FOR SPACE CEILING HEIGHT CONDITIONS.
A1	DETECTORS IN THIS SPACE ARE (OR MANUAL STATION AS APPLICABLE IS) ASSOCIATED WITH ACTUATION OF THE PREACTION ZONE 'A1' FIRE WATER RISER CONTROL DEVICE.
A2	DETECTORS IN THIS SPACE ARE (OR MANUAL STATION AS APPLICABLE IS) ASSOCIATED WITH ACTUATION OF THE PREACTION ZONE 'A2' FIRE WATER RISER CONTROL DEVICE.
B1	DETECTORS IN THIS SPACE ARE (OR MANUAL STATION AS APPLICABLE IS) ASSOCIATED WITH ACTUATION OF THE PREACTION ZONE 'B1' FIRE WATER RISER CONTROL DEVICE.
B2	DETECTORS IN THIS SPACE ARE (OR MANUAL STATION AS APPLICABLE IS) ASSOCIATED WITH ACTUATION OF THE PREACTION ZONE 'B2' FIRE WATER RISER CONTROL DEVICE.
M	SEE MEZZANINE PLAN FOR REQUIREMENTS ASSOCIATED WITH THIS AREA.
W	MANUAL STATION IS ASSOCIATED WITH THE FIRE ALARM CONTROL PANEL.

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SUBMITTED BY: S.MORRIS
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FIRE ALARM GENERAL NOTES AND SUPPLEMENTAL LEGEND

SHEET ID

FA001

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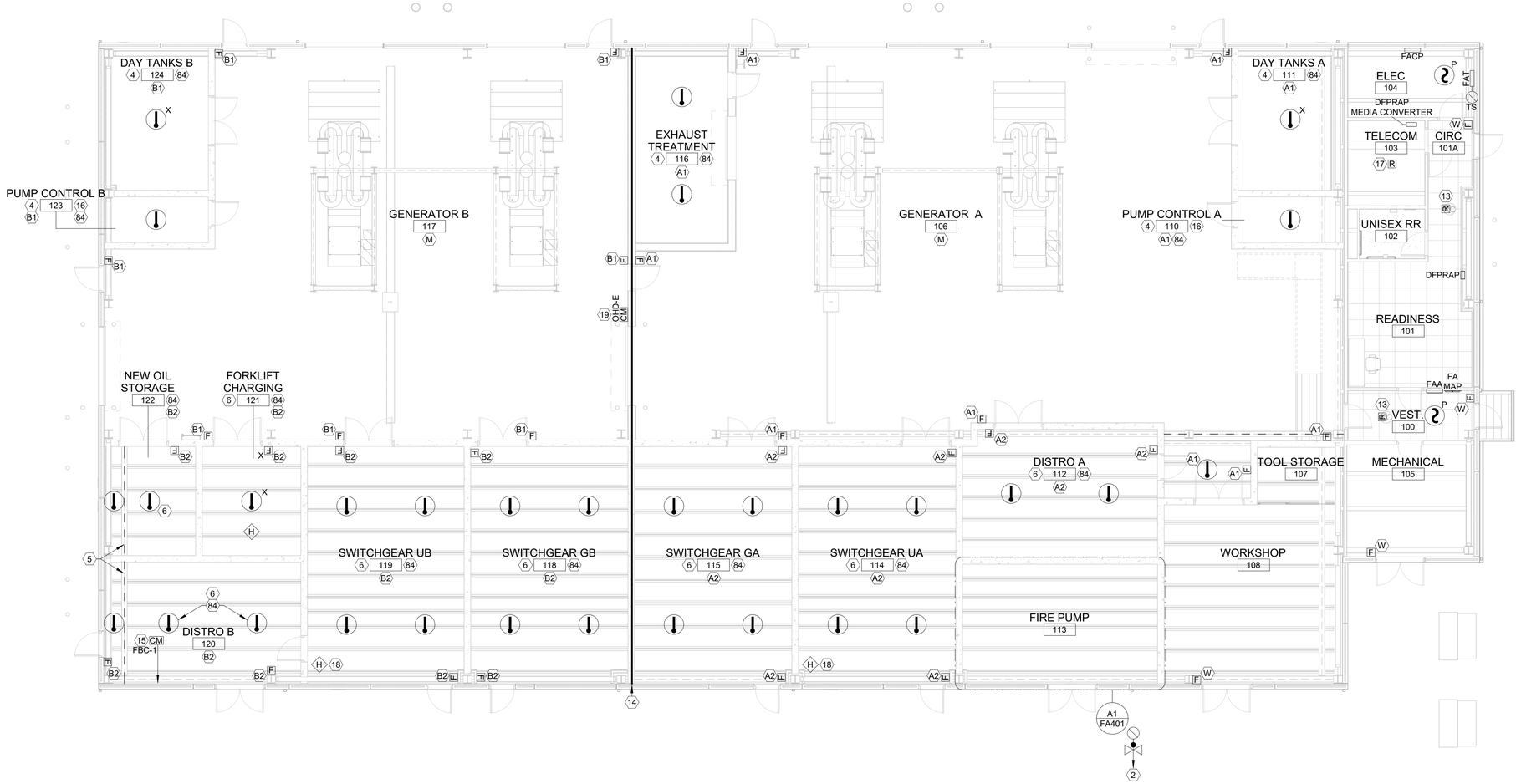
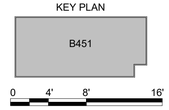


A1 INITIATION AND CONTROL FIRE ALARM REFLECTED CEILING PLAN

1/8" = 1'-0"

KEY PLAN



PLAN NORTH

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET FA001.

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FIRE ALARM INITIATION AND CONTROL PLAN

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FA101

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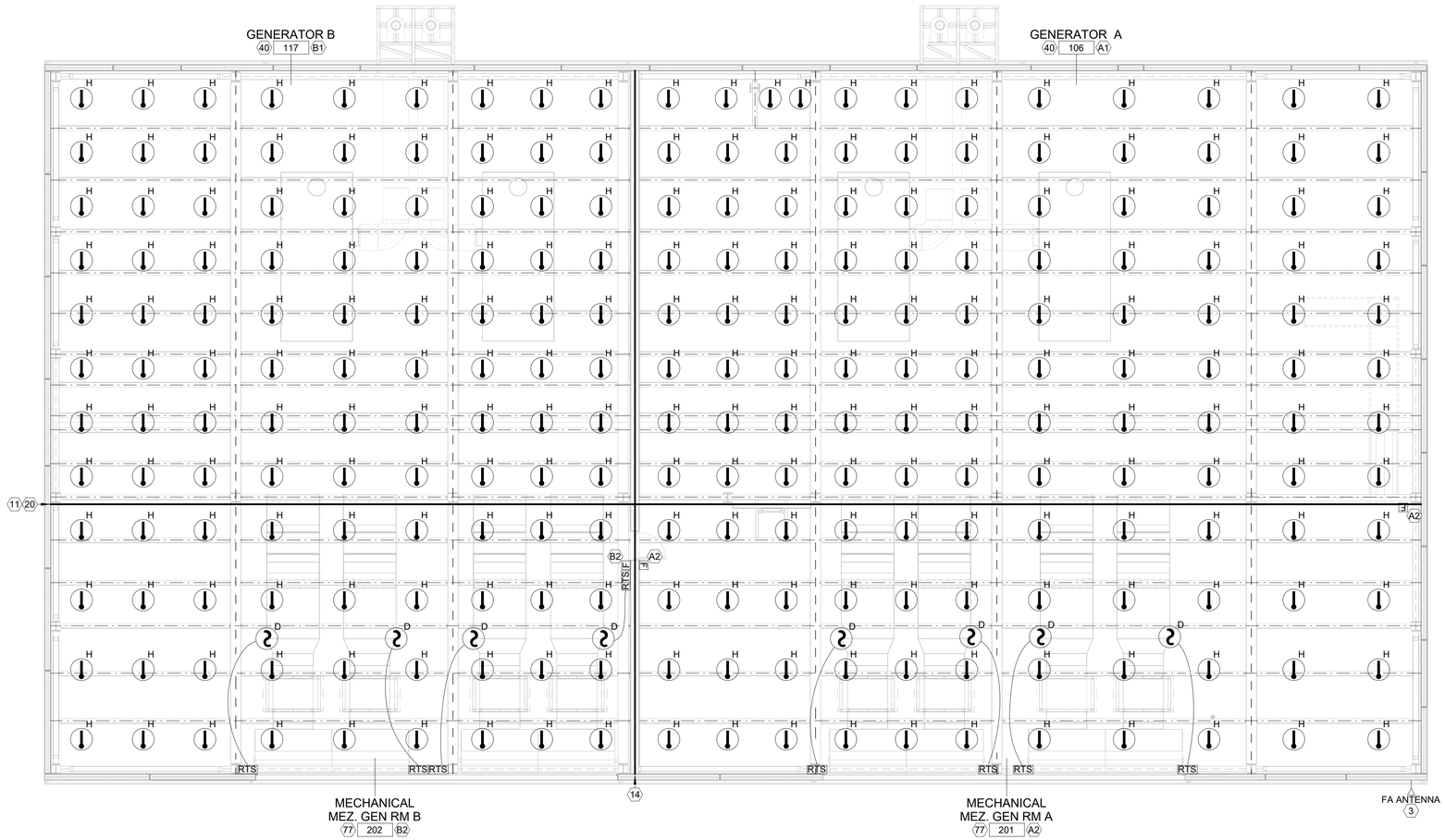
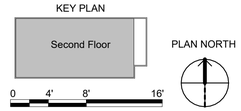


A1 INITIATION AND CONTROL FIRE ALARM REFLECTED CEILING PLAN MEZZANINE

1/8" = 1'-0"

KEY PLAN



PLAN NORTH

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FIRE ALARM INITIATION AND CONTROL PLAN MEZZANINE

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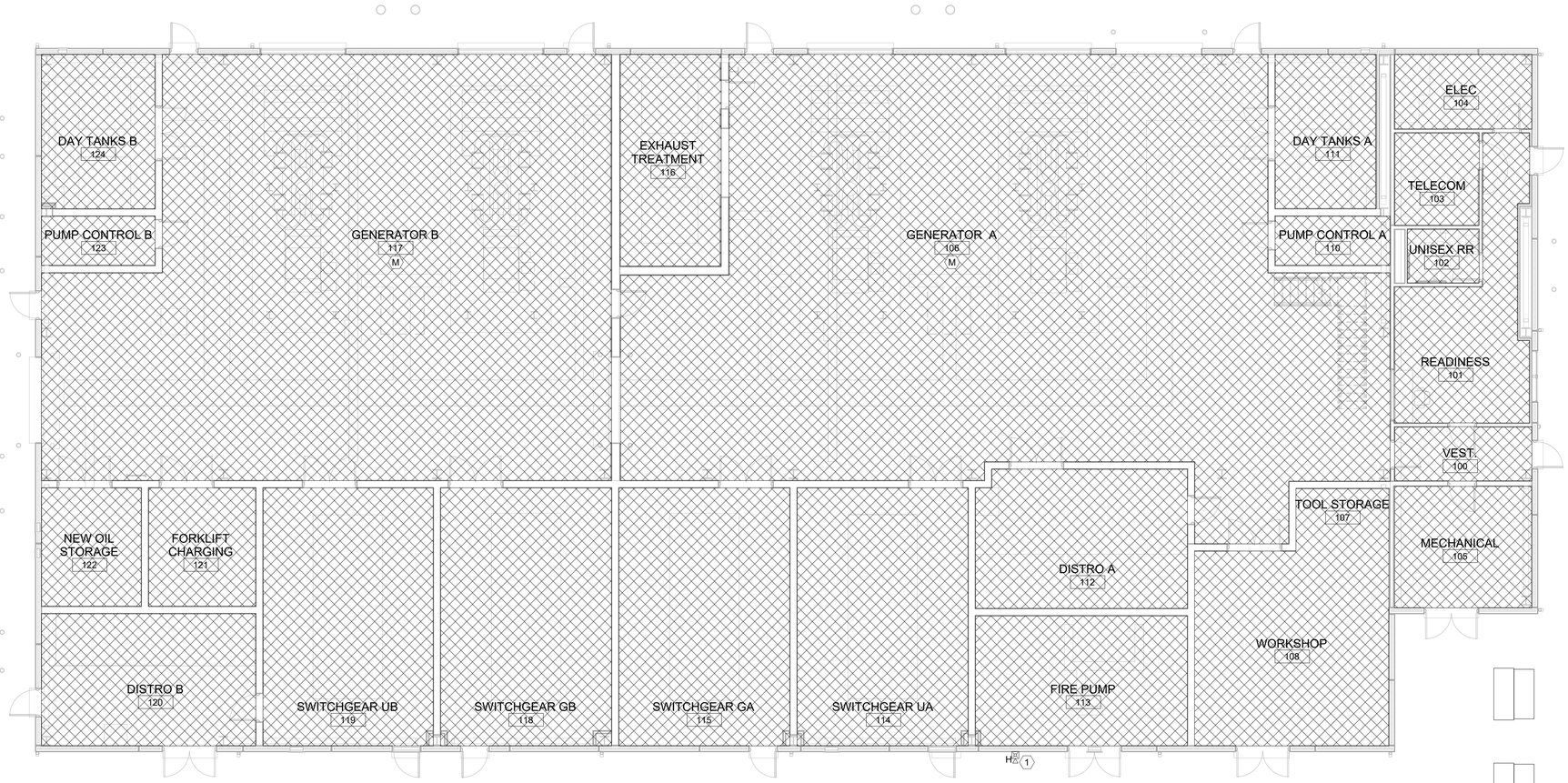
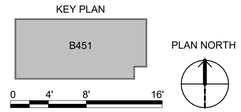
FIRE ALARM VISUAL AND AUDIBLE NOTIFICATION KEY
Fire Alarm Visual Notification Zone
Fire Alarm Audible Notification Zone
Fire Alarm Visual and Audible Notification Zone



A1 NOTIFICATION FIRE ALARM PLAN

1/8" = 1'-0"

KEY PLAN



PLAN NORTH

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FIRE ALARM NOTIFICATION PLAN

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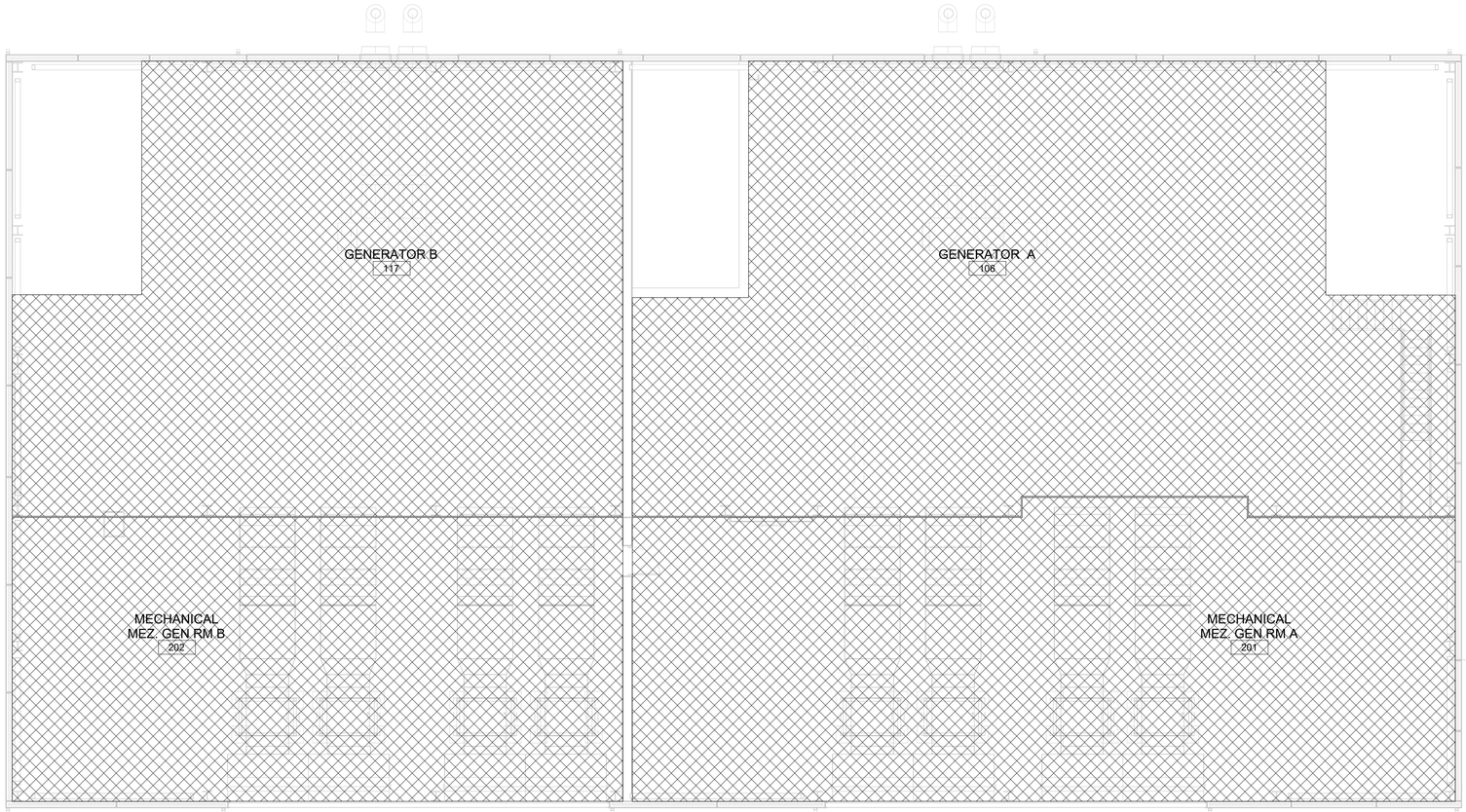
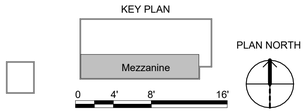
FIRE ALARM VISUAL AND AUDIBLE NOTIFICATION KEY
Fire Alarm Visual Notification Zone
Fire Alarm Audible Notification Zone
Fire Alarm Visual and Audible Notification Zone



NOTIFICATION FIRE ALARM PLAN MEZZANINE

A1 — 1/8" = 1'-0"



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FIRE ALARM NOTIFICATION PLAN MEZZANINE

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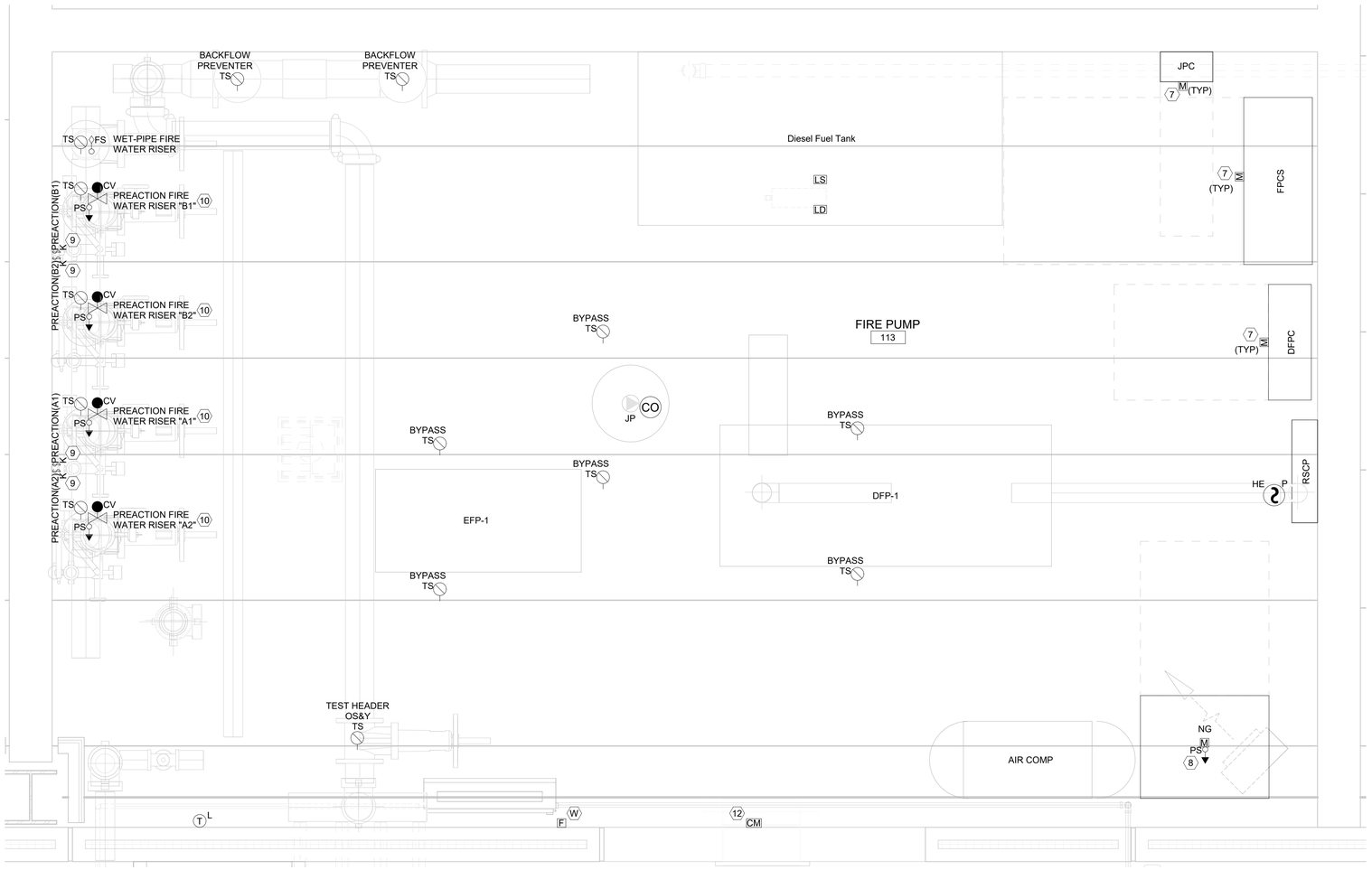

A1 FIRE PUMP ROOM FIRE ALARM ENLARGED PLAN

3/4" = 1'-0"

PLAN NORTH

0 0.5' 1' 2' 3'

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP001.

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ENLARGED FIRE ROOM PLAN

SHEET ID

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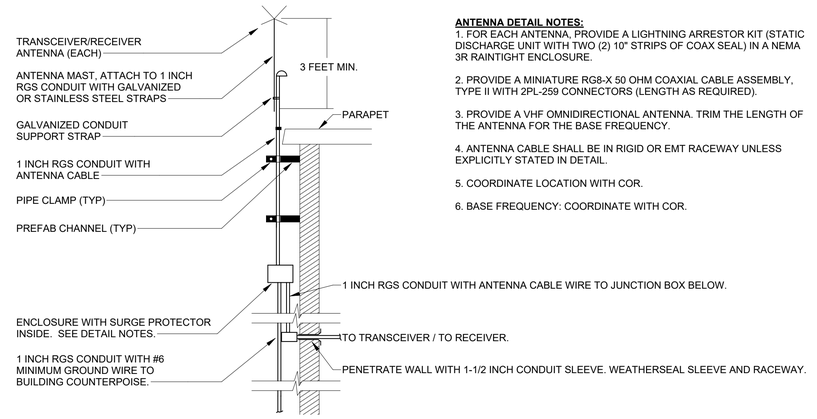
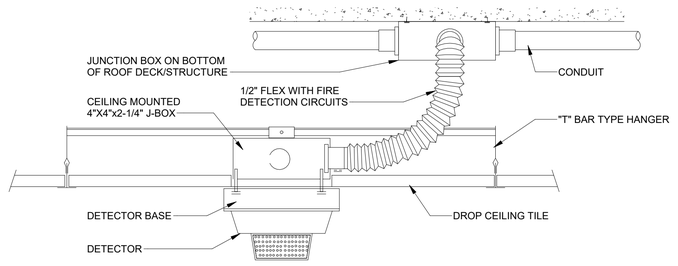


ANTENNA DETAIL NOTES:

1. FOR EACH ANTENNA, PROVIDE A LIGHTNING ARRESTOR KIT (STATIC DISCHARGE UNIT WITH TWO (2) 10" STRIPS OF COAX SEAL) IN A NEMA 3R RAINTIGHT ENCLOSURE.
2. PROVIDE A MINIATURE RG8-X 50 OHM COAXIAL CABLE ASSEMBLY, TYPE II WITH 2PL-259 CONNECTORS (LENGTH AS REQUIRED).
3. PROVIDE A VHF OMNIDIRECTIONAL ANTENNA. TRIM THE LENGTH OF THE ANTENNA FOR THE BASE FREQUENCY.
4. ANTENNA CABLE SHALL BE IN RIGID OR EMT RACEWAY UNLESS EXPLICITLY STATED IN DETAIL.
5. COORDINATE LOCATION WITH COR.
6. BASE FREQUENCY: COORDINATE WITH COR.

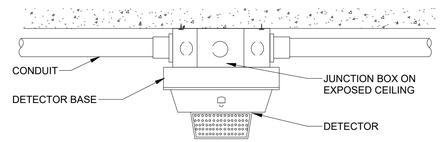
K13 ANTENNA MOUNTING DETAIL

SCALE: NTS



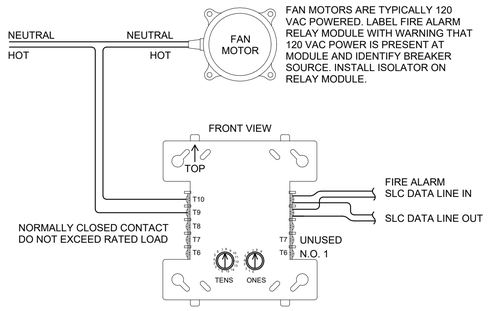
G13 DROP CEILING DETECTOR

SCALE: NTS



E13 EXPOSED STRUCTURE DETECTOR

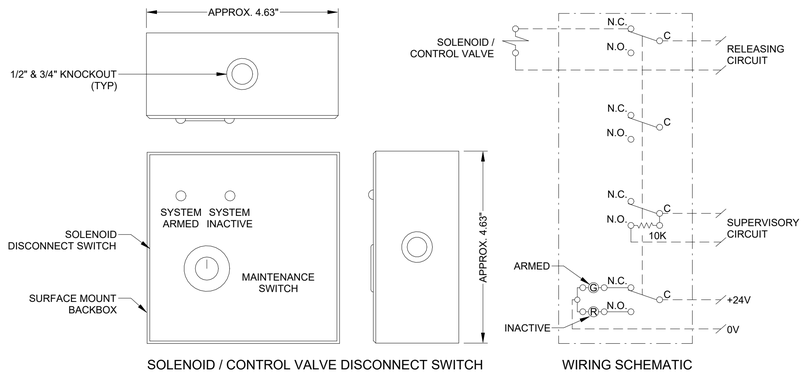
SCALE: NTS



MOUNT RELAY/CONTROL MODULE IN A STANDARD 4"SQUARE ELECTRICAL (2-1/8 DEEP) OPEN FACE OUTLET BOX.

A8 FAN SHUTDOWN RELAY

SCALE: NTS



A13 KEY-OPERATED SUPERVISED DISCONNECT SWITCH

SCALE: NTS

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FIRE ALARM DETAILS

SHEET ID

FA501

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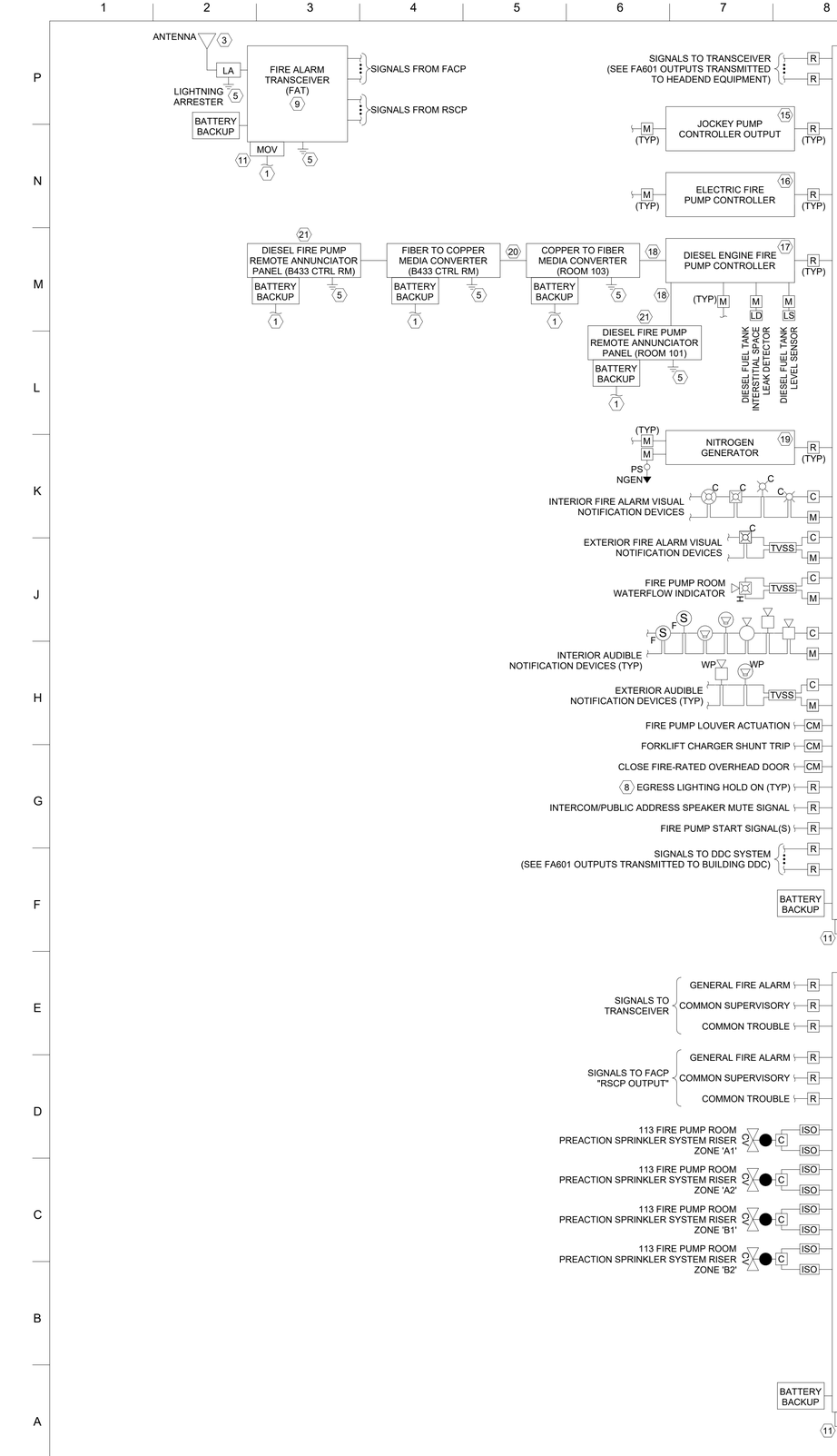

GENERAL NOTES - FA600 RISER DIAGRAM

1	RISER IS A DIAGRAMMATIC REPRESENTATION OF THE FIRE ALARM SYSTEM AND IS NOT CONSIDERED COMPLETE NOR DOES IT SHOW COMPREHENSIVE QUANTITIES. SEE FIRE ALARM PLANS FOR LOCATIONS OF INITIATING DEVICES AND COVERAGE OF NOTIFICATION APPLIANCES. PROVIDE DEVICES FOR A COMPLETE FUNCTIONAL SYSTEM NOT LIMITED TO ADDRESSABLE MONITOR MODULES FOR ALL DEVICES WHICH DO NOT HAVE ADDRESS AND CONTROL MODULES TO CONTROL AUXILIARY FUNCTIONS. PROVIDE ADDITIONAL CIRCUITS AS REQUIRED FOR THE QUANTITY OF DEVICES REQUIRED.
2	PROVIDE A SINGLE FACP "SYSTEM" FOR ALL DETECTION AND ALARM FUNCTIONS IN THE FACILITY WHICH ARE NOT PART OF THE PREACTION FIRE SUPPRESSION SYSTEMS. THE FACP MUST BE FULLY COMPATIBLE WITH THE BASE FIRE ALARM RECEIVING SYSTEM WITHOUT FIELD MODIFICATIONS TO ANY SYSTEM HARDWARE OR SOFTWARE. THE FIRE ALARM CONTROL PANEL AND ANY FIRE ALARM REMOTE POWER SUPPLIES SHALL COLLECTIVELY BE CONSIDERED TO BE PART OF THE "FIRE ALARM CONTROL" SYSTEM.
4	CONTRACTOR TO VERIFY QUANTITY AND LOCATIONS OF TAMPER SWITCHES, WATERFLOW SWITCHES, PRESSURE SWITCHES, SOLENOIDS, CONTROL VALVES/ACTUATORS, ETC., AND THEIR RESPECTIVE MONITOR AND CONTROL MODULES WITH FIRE PROTECTION SYSTEM INSTALLER AND EXISTING CONDITIONS.
5	REFER TO FIRE ALARM PLANS AND SPECIFICATIONS FOR PRERLIMINARY QUANTITY AND LOCATIONS OF INITIATION AND NOTIFICATION DEVICES.
6	REFER TO THE FIRE ALARM SPECIFICATIONS FOR ADDITIONAL INTERFACE REQUIREMENTS BETWEEN THE FIRE ALARM AND OTHER SYSTEMS.
7	SEE FA SERIES SHEETS FOR ADDITIONAL FIRE ALARM SYSTEM NOTES.
8	SEE FA601 FOR FIRE ALARM CONTROL MATRIX AND FA602 FOR RELEASING SERVICE CONTROL MATRIX.
9	RISER DEVICES SHOWN WITH SEPARATE MONITOR MODULES FOR INDIVIDUAL ADDRESSABILITY. WHERE DEVICES INSTALLED ARE INDIVIDUALLY ADDRESSABLE, REDUNDANT MONITORING MODULE MAY BE OMITTED.
10	COMBINE MISCELLANEOUS COMPONENTS IN COMMON ENCLOSURES TO PROVIDE A CLEAN INSTALLATION. WHERE AN AUXILIARY BATTERY SUPPLY IS REQUIRED AND CANNOT BE RECESSED WITHIN THE WALL, LOCATE IT REMOTELY IN A CONDITIONED, NORMALLY UNOCCUPIED AREA

(#) KEYNOTES - FA600 RISER DIAGRAM

1	CONNECT TO 120 VAC, 20 AMP DEDICATED POWER CIRCUIT FROM FIRE ALARM POWER PANEL. TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS) IS TO BE PROVIDED ON PANELS SERVING FIRE ALARM CIRCUITS. SEE ELECTRICAL (EP) SHEETS FOR POWER PANEL AND LOCATION.
3	PROVIDE OMNI-DIRECTIONAL RADIO SEE SPECIFICATION 28 31 70 FOR ADDITIONAL REQUIREMENTS. SEE DETAIL K13/FA501.
4	PROVIDE SMOKE DETECTORS TO PROTECT FIRE ALARM CONTROL PANEL, RELEASING SERVICE PANEL, FIRE ALARM TRANSCEIVER, AND ANY REMOTE NOTIFICATION POWER SUPPLIES.
5	PROVIDE GROUND PER NFPA 70.
6	INTELLIGENT, ADDRESSABLE FIRE ALARM CONTROL PANEL.
7	KEY-OPERATED SUPERVISED DISCONNECT SWITCH. REFERENCE SPECIFICATION 28 31 70 PARAGRAPH "SOLENOID DISCONNECT SWITCHES".
8	PROVIDE SIGNAL TO OVERRIDE LOCAL AUTOMATIC LIGHTING CONTROLS AND ACTIVATE EGRESS LIGHTING WHILE FIRE ALARM SYSTEM IS IN ALARM STATE. COORDINATE WITH LIGHTING CONTROLS. PROVIDE SEPARATE RELAY TO EACH POWER PACK AND/OR CONTACTOR.
9	PROVIDE RADIO TRANSCEIVER TO TRANSMIT FIRE ALARM, TROUBLE, AND SUPERVISORY SIGNALS INDEPENDENTLY FROM THE FIRE ALARM PANEL. SEE 28 31 70 PARAGRAPH "AUTOMATIC FIRE ALARM TRANSMITTERS".
10	SINGLE SWITCH SHALL DISABLE ALL CONTROL VALVES ASSOCIATED WITH A CONTINUOUS COMPARTMENTED AREA SUPPRESSION ZONE (I.E., A1, A2, B1, OR B2).
11	CABINET-MOUNTED METAL OXIDE VARISTOR (MOV) BASED SURGE PROTECTION DEVICE (SPD) AT THE PANEL POWER INPUT. THE DEVICE SHALL SUPPLEMENT THE SPD INTEGRAL TO THE PANEL. THE DEVICE SHALL BE UL 1449 LISTED (3RD EDITION) AND SHALL SATISFY THE REQUIREMENTS OF IEEE C62.41.
12	INTELLIGENT, ADDRESSABLE RELEASING SERVICE CONTROL PANEL (RSCP) FOR ALL PREACTION SYSTEMS DETECTION AND RELEASING FUNCTIONS. DO NOT PROVIDE OPENINGS OR CONDUIT ENTRY INTO THE TOP OF THE RSCP.
13	EMERGENCY FUEL SHUTOFF MONITOR OF FUEL CONTROL SYSTEM, ONE FIRE ALARM MONITORING INTERFACE FOR EACH PUMP CONTROL ROOM. PROVIDE TVSS ON CIRCUIT IF ROUTING OUTSIDE THE BUILDING.
14	PROVIDE MONITOR MODULE AND ROUTE UNDERGROUND CIRCUIT PER NFPA 70 ARTICLE 800. IF MONITOR MODULE IS LOCATED OUTSIDE, IT SHALL BE WEATHERPROOF; PROVIDE IN EXPLOSIONPROOF ENCLOSURE WHERE REQUIRED BY SHEET E-101. LOOPS FOR EXTERIOR EQUIPMENT SHALL BE EQUIPPED WITH TVSS.
15	MONITOR FOR AND REPORT TO FACP LOSS OF PHASE/POWER FAILURE AND TROUBLE SIGNALS, IN ADDITION TO PROPERTIES AS REQUIRED BY OTHER ELEMENTS OF THIS CONTRACT AND BY MANUFACTURER REQUIREMENT.
16	MONITOR FOR AND REPORT TO FACP PUMP RUNNING, LOSS OF PHASE/POWER FAILURE, LOW RESERVOIR, AND TROUBLE SIGNALS, IN ADDITION TO PROPERTIES AS REQUIRED BY OTHER ELEMENTS OF THIS CONTRACT, BY REFERENCED CRITERIA, AND BY MANUFACTURER REQUIREMENT.
17	MONITOR FOR AND REPORT TO FACP SIGNALS IDENTIFIED IN DIESEL FIRE PUMP SIGNALS (SEE SCHEDULE THIS SHEET), IN ADDITION TO PROPERTIES AS REQUIRED BY OTHER ELEMENTS OF THIS CONTRACT, BY REFERENCED CRITERIA, AND BY MANUFACTURER REQUIREMENT.
18	TRANSMIT SIGNALS IDENTIFIED IN DIESEL FIRE PUMP SIGNALS (SEE SCHEDULE THIS SHEET) FOR ANNUNCIATION AT REMOTE LOCATIONS, IN ADDITION TO PROPERTIES AS REQUIRED BY OTHER ELEMENTS OF THIS CONTRACT, BY REFERENCED CRITERIA, AND BY MANUFACTURER REQUIREMENT.
19	MONITOR FOR AND REPORT TO FACP FAILURE, PRESSURE, AND EXTENDED DURATION, IN ADDITION TO PROPERTIES AS REQUIRED BY OTHER ELEMENTS OF THIS CONTRACT, BY REFERENCED CRITERIA, AND BY MANUFACTURER REQUIREMENT.
20	ROUTE FIBER OPTIC CABLES THROUGH COMMON DUCTBANK TO BUILDING 433. SEE COMMUNICATIONS CONNECTION DIAGRAM.
21	PROVIDE PLACARD STATING THE FOLLOWING: "DIESEL FIRE PUMP REMOTE ANNUNCIATOR CONTROL PANEL IN BUILDING 451 FIRE PUMP ROOM (ROOM 113)"
22	FIRE ALARM MANUAL PULL STATIONS WHICH ARE NOT ASSIGNED TO ACTIVATE A PREACTION ZONE SHALL BE CONNECTED DIRECTLY TO THE FACP.

DIESEL FIRE PUMP CONTROL (DFPC) PANEL SIGNALS

TYPE	SIGNAL DESCRIPTION	NFPA REFERENCE(S)	DFPC OUTPUT SIGNAL TO FACP
ALARM	PUMP RUNNING	20: §11.2.4.5.1 / §11.2.7.4.3.1 72: §A.23.8.5.6 / §23.8.5.9.1	DIESEL FIRE PUMP RUNNING
ALARM	FUEL INJECTOR MALFUNCTION	20: §12.4.1.4	COMMON ALARM
SUPERVISORY	ALTERNATE ELECTRONIC CONTROL MODULE SELECTED	20: §11.2.4.2.3.2 / §12.4.1.4	COMMON SUPERVISORY
SUPERVISORY	ANY PRIMARY SENSOR FAILURE	20: §11.2.4.2.6	COMMON SUPERVISORY
SUPERVISORY	LOW FUEL PRESSURE	20: §11.2.4.2.6	COMMON SUPERVISORY
SUPERVISORY	LOW FUEL LEVEL (BELOW 66%)	20: §11.4.2.3 / §12.4.1.4	COMMON SUPERVISORY
SUPERVISORY	FUEL TANK INTERSTITIAL SPACE LEAK DETECTED	20: §12.4.1.4	COMMON SUPERVISORY
SUPERVISORY	CONTROL SWITCH IN OFF/MANUAL POSITION	20: §12.4.2.3 72: §A.23.8.5.6	DIESEL FIRE PUMP CONTROL SWITCH IN OFF/MANUAL POSITION
SUPERVISORY	ENGINE FAILURE TO START	72: §23.8.5.6	DIESEL FIRE PUMP FAILURE TO START
TROUBLE	FUEL INJECTION TROUBLE	20: §11.2.4.2.6	COMMON TROUBLE
TROUBLE	ENGINE OVERSPEED	20: §11.2.4.4.3 72: §A.23.8.5.6	COMMON TROUBLE
TROUBLE	LOW OIL PRESSURE	20: §11.2.4.4.5 72: §A.23.8.5.6	COMMON TROUBLE
TROUBLE	HIGH ENGINE TEMPERATURE	20: §11.2.4.4.6 72: §A.23.8.5.6	COMMON TROUBLE
TROUBLE	LOW ENGINE TEMPERATURE	20: §11.2.4.4.7 / §12.4.1.4	COMMON TROUBLE
TROUBLE	HIGH COOLING WATER TEMPERATURE	20: §11.2.4.4.8 / §12.4.1.4	COMMON TROUBLE
TROUBLE	BATTERY CHARGER FAILURE	20: §12.4.1.4	COMMON TROUBLE
TROUBLE	BATTERY FAILURE/BATTERY MISSING	20: §12.4.1.4	COMMON TROUBLE

ALL DFPC SIGNALS IN THE ABOVE SCHEDULE SHALL BE DISCRETE OUTPUTS FOR ANNUNCIATION AT THE DIESEL FIRE PUMP REMOTE ANNUNCIATOR PANELS.

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US ARMY CORPS OF ENGINEERS
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FIRE ALARM RISER DIAGRAM

SHEET ID

FA600

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FIRE ALARM CONTROL PANEL (FACP) MATRIX

FIRE ALARM CONTROL PANEL (FACP) MATRIX NOTES	
1	IF ALARM SILENCE IS ACTIVATED, THE EXTERIOR GENERAL FIRE ALARM SIGNALS SHALL CONTINUE UNTIL THE PANEL IS RESET.
2	SEE SHEETS FA600-FA602 AND SPECIFICATION 28 31 70 FOR ADDITIONAL SEQUENCE OF OPERATION.
3	PROVIDE A DEDICATED ZONE IN THE TRANSCEIVER FOR EACH ITEM SHOWN TO BE TRANSMITTED TO THE CENTRAL REPORTING STATION, PLUS FOUR (4) SPARE ZONES. EACH ZONE REQUIRES A PAIR OF WIRES BETWEEN THE FACP OR RSCP AND THE TRANSCEIVER, EACH WIRED TO A SEPARATE DEDICATED RELAY SET IN THE FACP OR RSCP. THIS WILL REQUIRE EXTRA BACKPLANES, ETC., IN THE TRANSCEIVER, AND POSSIBLY RESULT IN A DOUBLE-WIDE ENCLOSURE.
4	GENERAL AREA MEANS THE SPECIFIC BAY, WORKSHOPS, OFFICE AREA, OR MECHANICAL AREA. SYSTEM ZONING SHALL BE SUFFICIENT TO DIRECT RESPONDING FIREFIGHTERS DIRECTLY TO THE AREA REQUIRING ATTENTION.
5	PREACTION AIR COMPRESSOR START/STOP FUNCTIONS TO BE PERFORMED BY THE NITROGEN GENERATOR/COMPRESSOR CONTROLLER.
6	POWER FOR SHUNT TRIP ACTUATION MAY BE PROVIDED 24VDC VIA FACP (OR OTHER FA600 SHEET SERIES CONTROL PANEL DIRECTLY RELATED TO THE SHUNTING FUNCTION) IN LIEU OF 120VAC VIA GENERATOR-SUPPORT PANELBOARDS AT THE CONTRACTOR'S DISCRETION; IF THIS IS PERFORMED, PROVIDE SPARE 20A CIRCUIT BREAKER IN PLACE OF THE CIRCUIT BREAKER SUPPLYING THE SHUNT TRIP DEVICES.
7	"RSCP OUTPUT" ITEMS ARE DISCRETE DRY CONTACT INPUTS TO FACP. FOR "RSCP OUTPUT" ITEMS, DISPLAY THE GENERAL ITEM DESCRIPTION FOLLOWED BY "SEE RSCP".
8	"DFPC OUTPUT" ITEMS ARE INPUTS TO FACP FROM THE DIESEL FIRE PUMP CONTROLLER. FOR "DFCP OUTPUT" ITEMS, DISPLAY THE GENERAL ITEM DESCRIPTION FOLLOWED BY "SEE DFCP".

SYSTEM INPUTS

SYSTEM OUTPUTS

SYSTEM INPUTS / SYSTEM OUTPUTS	AUDIO-VISUAL FIRE ALARM INDICATION BY ZONE	AUDIO-VISUAL ALARM INDICATION BY DEVICE	AUDIO-VISUAL SUPERVISORY INDICATION BY DEVICE	AUDIO-VISUAL COMMON TROUBLE INDICATION	AUDIO-VISUAL TROUBLE INDICATION BY ZONE	COMMON FIRE ALARM SIGNAL	COMMON SUPERVISORY SIGNAL	COMMON TROUBLE SIGNAL	WATERFLOW	CARBON MONOXIDE DETECTED	HYDROGEN DETECTED	PREACTION NITROGEN GENERATION SYSTEM LOW PRESSURE / POTENTIAL SYSTEM LEAK IN POWERPLANT	ELECTRIC FIRE PUMP RUNNING	DIESEL FIRE PUMP RUNNING	FIRE PUMP ROOM LOW TEMPERATURE SUPERVISORY SIGNAL	FIRE SUPPRESSION SYSTEM ELECTRIC PUMP POWER FAILURE	FIRE SUPPRESSION SYSTEM DIESEL PUMP CONTROL SWITCH IN OFF/MANUAL POSITION	FIRE SUPPRESSION SYSTEM DIESEL PUMP FAILURE TO START	SHUT DOWN EQUIPMENT ASSOCIATED WITH RESPECTIVE DUCT SMOKE DETECTOR	HYDROGEN DETECTED: FORKLIFT CHARGING	HYDROGEN DETECTED: UTILITY SWITCHGEAR 'UA'	HYDROGEN DETECTED: UTILITY SWITCHGEAR 'UB'	HYDROGEN DETECTION SYSTEM TROUBLE	PREACTION NITROGEN GENERATION SYSTEM LOW PRESSURE / POTENTIAL SYSTEM LEAK IN POWERPLANT	FIRE PUMP ROOM LOW TEMPERATURE	ACTIVATE "HOLD ON" SIGNAL TO EGRESS LIGHTING CONTROLS	MUTE INTERCOM/PUBLIC ADDRESS SPEAKERS DURING FIRE ALARM AUDIBLE SIGNAL	CLOSE FIRE-RATED OVERHEAD DOOR	FIRE PUMP START SIGNAL(S)	OPEN FIRE PUMP ROOM LOUVERS	SHUNT TRIP CIRCUIT BREAKER AT PANEL QHB1 (ROOM 121) SUPPLYING FORKLIFT CHARGER	DEACTIVATE "HOLD ON" SIGNAL TO EGRESS LIGHTING CONTROLS	UNMUTE INTERCOM/PUBLIC ADDRESS SPEAKERS	FACILITY FIRE EVACUATION SIGNAL - CLEAR STROBES	FACILITY FIRE EVACUATION AUDIO SIGNAL THROUGH SPEAKERS - ALARM TONE	EXTERIOR WATERFLOW HORN/STROBE	ALARM AUDIBLE ON DEVICE	INITIATE CARBON MONOXIDE DETECTION VOICE MESSAGE (SEE 28 31 70)	SILENCE PANEL AND BUILDING FIRE ALARM AUDIBLE/VISUAL NOTIFICATION APPLIANCES STOP (SEE NOTE 3)	FIRE ALARM AUDIBLE/VISUAL NOTIFICATION EXTERIOR APPLIANCES STOP (SEE NOTE 3)	CONTROL PANEL RETURNS TO NORMAL (AUDIBLES AND VISUALS STOP)	SILENCE AUDIBLE NOTIFICATION LOCAL TO PANEL
ALARM DEVICES	AA	AB	AC	AD	AE	AF	AG	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	CA	CB	CC	CD	CE	CF	CG	CH	DA	DB	DC	DD	DE	DF	DG	DH	DI	EA	EB	EC	ED	EE	EF	FA	FB	FC	FD	FE
101 MANUAL FIRE ALARM PULL STATIONS NOT ASSOCIATED WITH A PREACTION SYSTEM RISER ZONE	●	●						●																						●	●	●							●	●					●			
102 WATER FLOW SWITCH(ES) FROM WET-PIPE SPRINKLER SYSTEM	●	●						●																						●	●	●							●	●								
103 WATER FLOW/PRESSURE SWITCH(ES) - PREACTION SYSTEM RISER "A1"	●	●						●		●																				●	●	●			●				●									
104 WATER FLOW/PRESSURE SWITCH(ES) - PREACTION SYSTEM RISER "A2"	●	●						●		●																				●	●	●			●				●									
105 WATER FLOW/PRESSURE SWITCH(ES) - PREACTION SYSTEM RISER "B1"	●	●						●		●																				●	●	●			●				●									
106 WATER FLOW/PRESSURE SWITCH(ES) - PREACTION SYSTEM RISER "B2"	●	●						●		●																				●	●	●			●				●									
107 SMOKE DETECTORS - ABOVE FACP AND REMOTE POWER SUPPLIES	●	●						●																														●								
108 CARBON MONOXIDE DETECTOR(S) - GAS-FUELED EQUIPMENT	●	●						●			●																											●		●	●					
109 ELECTRIC FIRE PUMP CONTROLLER OUTPUT - PUMP RUNNING (UFC 3-600-01 §9-5.3.3)	●	●						●						●																																
110 DFPC OUTPUT - DIESEL FIRE PUMP RUNNING (UFC 3-600-01 §9-5.3.3)	●	●						●							●																															
111 DFPC OUTPUT - COMMON ALARM	●	●						●																															●	●							
112 RSCP OUTPUT - GENERAL FIRE ALARM	●	●																																					●	●							
113																																															
SUPERVISORY DEVICES	AA	AB	AC	AD	AE	AF	AG	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	CA	CB	CC	CD	CE	CF	CG	CH	DA	DB	DC	DD	DE	DF	DG	DH	DI	EA	EB	EC	ED	EE	EF	FA	FB	FC	FD	FE
201 DUCT SMOKE DETECTORS		●						●														●																										
202 VALVE SUPERVISORY TAMPER SWITCH - POST INDICATOR VALVE		●						●																																						
203 VALVE SUPERVISORY TAMPER SWITCHES - FIRE PUMP ROOM: WET-PIPE RISER		●						●																																						
204 VALVE SUPERVISORY TAMPER SWITCHES - FIRE PUMP ROOM: PREACTION SYSTEM RISER "A1"		●						●																																						
205 VALVE SUPERVISORY TAMPER SWITCHES - FIRE PUMP ROOM: PREACTION SYSTEM RISER "A2"		●						●																																						
206 VALVE SUPERVISORY TAMPER SWITCHES - FIRE PUMP ROOM: PREACTION SYSTEM RISER "B1"		●						●																																						
207 VALVE SUPERVISORY TAMPER SWITCHES - FIRE PUMP ROOM: PREACTION SYSTEM RISER "B2"		●						●																																						
208 VALVE SUPERVISORY TAMPER SWITCHES - FIRE PUMP ROOM: ALL OTHER SUPERVISED VALVES		●						●																																						
209 CONTROL VALVE SUPERVISORY - FIRE PUMP ROOM: PREACTION SYSTEM RISER "A1"		●						●																																						
210 CONTROL VALVE SUPERVISORY - FIRE PUMP ROOM: PREACTION SYSTEM RISER "A2"		●						●																																						
211 CONTROL VALVE SUPERVISORY - FIRE PUMP ROOM: PREACTION SYSTEM RISER "B1"		●						●																																						
212 CONTROL VALVE SUPERVISORY - FIRE PUMP ROOM: PREACTION SYSTEM RISER "B2"		●						●																																						
213 SUPERVISORY TAMPER SWITCH - TRANSCEIVER DOOR		●						●																																						
214 HYDROGEN DETECTOR - FORKLIFT CHARGING (SEE IFC §1207.6.1.2.4 FOR THRESHOLD)		●						●					●																																	
215 HYDROGEN DETECTOR - UTILITY SWITCHGEAR 'UA' (SEE IFC §1207.6.1.2.4 FOR THRESHOLD)		●						●					●																																	
216 HYDROGEN DETECTOR - UTILITY SWITCHGEAR 'UB' (SEE IFC §1207.6.1.2.4 FOR THRESHOLD)		●						●					●																																	
217 PREACTION NITROGEN GENERATION SYSTEM PRESSURE SWITCH: LOW PRESSURE (SEC. 21.13.18 FOR THRESHOLD)		●						●						●																																
218 PREACTION NITROGEN GENERATION SYSTEM PRESSURE SWITCH: HIGH PRESSURE. (SEC. 21.13.18 FOR THRESHOLD)		●						●																																						
219 PREACTION NITROGEN GENERATION EXTENDED OPERATION (SEC. 21.13.18)		●						●																																						
220 FIRE PUMP ROOM LOW TEMPERATURE (40°F; NFPA 72 §17.17.5)		●						●									●																													
221 JPC JOCKEY PUMP CONTROLLER OUTPUT - LOSS OF PHASE/POWER FAILURE		●						●																																						
222 FPCS ELECTRIC FIRE PUMP CONTROLLER OUTPUT - LOSS OF PHASE/POWER FAILURE		●						●										●																												
223 FPCS ELECTRIC FIRE PUMP CONTROLLER OUTPUT - LOW RESERVOIR		●						●											●																												
224 DFPC OUTPUT - DIESEL FIRE PUMP CONTROL SWITCH IN OFF/MANUAL POSITION		●						●												●																											
225 DFPC OUTPUT - DIESEL FIRE PUMP FAILURE TO START		●						●													●																										
226 DFPC OUTPUT - COMMON SUPERVISORY		●						●																																						
227 RSCP OUTPUT - COMMON SUPERVISORY		●																																												
228 EMERGENCY FUEL SHUTOFF (EFSO) ACTIVATED		●						●																																						
229																																														
TROUBLE FUNCTIONS	AA	AB	AC	AD	AE	AF	AG	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	CA	CB	CC	CD	CE	CF	CG	CH	DA	DB	DC	DD	DE	DF	DG	DH	DI	EA	EB	EC	ED	EE	EF	FA	FB	FC	FD	FE
301 INITIATING DEVICE CIRCUIT/SIGNAL LINE CIRCUIT OPEN			●	●				●																																						
302 INITIATING DEVICE CIRCUIT/SIGNAL LINE CIRCUIT SHORT			●	●				●																																						
303 INITIATING DEVICE CIRCUIT/SIGNAL LINE CIRCUIT GROUND			●	●				●																																						
304 NOTIFICATION APPLIANCE CIRCUIT OPEN			●	●				●																																						
305 NOTIFICATION APPLIANCE CIRCUIT SHORT			●	●				●																																						
306 NOTIFICATION APPLIANCE CIRCUIT GROUND			●	●				●																																						
307 AC POWER FAILURE			●	●				●																																						
308 TEST MODE (WALK TEST)			●					●																																						
309 BATTERY FAULT			●	●				●																																						
310 LOW BATTERY VOLTAGE			●	●				●																																						
311 SUPERVISED COMPONENT FAILURE			●	●				●																																						
312 CONTROL COMPONENT COMMON TROUBLE CONDITION			●	●				●																																						
313 SMOKE DETECTOR DISCONNECTION/TAMPER			●	●				●																																						
314 DUCT SMOKE DETECTORS BYPASSED BY TOGGLE SWITCH			●	●				●																																						
315 HYDROGEN DETECTION SYSTEM FAILURE: FORKLIFT CHARGING (IFC §1207.6.1.2.4(4))			●	●				●																	●																				
316 HYDROGEN DETECTION SYSTEM FAILURE: UTILITY SWITCHGEAR 'UA' (IFC §1207.6.1.2.4(4))			●	●				●																	●																				
317 HYDROGEN DETECTION SYSTEM FAILURE: UTILITY SWITCHGEAR 'UB' (IFC §1207.6.1.2.4(4))			●	●				●																	●																				
318 PREACTION SYSTEM NITROGEN GENERATOR FAILURE			●					●																																						
319 JPC JOCKEY PUMP CONTROLLER OUTPUT TROUBLE SIGNALS			●					●																																						
320 FPCS ELECTRIC FIRE PUMP CONTROLLER OUTPUT TROUBLE SIGNALS			●					●																																						
321 DFPC OUTPUT - COMMON TROUBLE			●					●																																						
322 RSCP OUTPUT - COMMON TROUBLE			●																																											
323																																														
PANEL FUNCTIONS	AA	AB	AC	AD	AE	AF	AG	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	CA	CB	CC	CD	CE	CF	CG	CH	DA	DB	DC	DD	DE	DF	DG	DH	DI	EA	EB	EC	ED	EE	EF	FA	FB	FC	FD	FE
401 SYSTEM SILENCE				●						●																										●	●									
402 SYSTEM RESET																																														
403 SILENCE SWITCH IN "SILENCE" POSITION AND NO OTHER ALARM, SUPERVISORY, OR TROUBLE SIGNAL				●	●					●																																			
404 ACKNOWLEDGE BUTTON DEPRESSED																																														
405																																														

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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FIRE ALARM MATRIX

SHEET ID

FA601

ADVERTISEMENT

RELEASING SERVICE CONTROL PANEL (RSCP) MATRIX

RSCP MATRIX NOTES:
1. SEE OTHER SHEETS FA600 SERIES SHEETS AND SPECIFICATION 28 31 70 FOR ADDITIONAL REQUIREMENTS AND SEQUENCE OF OPERATION.

RSCP SYSTEM INPUTS

RSCP SYSTEM OUTPUTS

		ANNUNCIATION AT LOCAL PANEL (RSCP)			TRANSMIT SIGNAL TO HEADEND EQUIPMENT AT FIRE STATION VIA DEDICATED ZONE ON TRANSCEIVER									TRANSMIT SIGNAL VIA DISCRETE DRY CONTACT OUTPUT POINTS TO FACP								SUPPRESSION SYSTEM AND CONTROL FUNCTIONS										NOTIFICATION AND RSCP FUNCTIONS							
		AUDIO-VISUAL ALARM INDICATION BY DEVICE	AUDIO-VISUAL SUPERVISORY INDICATION BY DEVICE	AUDIO-VISUAL TROUBLE INDICATION BY DEVICE	GENERAL FIRE ALARM SIGNAL	COMMON SUPERVISORY SIGNAL	COMMON TROUBLE SIGNAL								RSCP OUTPUT - GENERAL FIRE ALARM	RSCP OUTPUT - COMMON SUPERVISORY	RSCP OUTPUT - COMMON TROUBLE								ACTUATE SOLENOID/CONTROL VALVE TO OPEN PREACTION SYSTEM VALVE - OPEN "A1"	ACTUATE SOLENOID/CONTROL VALVE TO OPEN PREACTION SYSTEM VALVE - OPEN "A2"	ACTUATE SOLENOID/CONTROL VALVE TO OPEN PREACTION SYSTEM VALVE - OPEN "B1"	ACTUATE SOLENOID/CONTROL VALVE TO OPEN PREACTION SYSTEM VALVE - OPEN "B2"	DISABLE PREACTION RISER SOLENOID(S)/CONTROL VALVE(S) "A1"	DISABLE PREACTION RISER SOLENOID(S)/CONTROL VALVE(S) "A2"	DISABLE PREACTION RISER SOLENOID(S)/CONTROL VALVE(S) "B1"	DISABLE PREACTION RISER SOLENOID(S)/CONTROL VALVE(S) "B2"			CONTROL PANEL RETURNS TO NORMAL (NOTIFICATIONS STOP)	SILENCE AUDIBLE NOTIFICATION LOCAL TO PANEL							
		AA	AB	AC	AD	BA	BB	BC	BD	BE	BF	BG	CA	CB	CC	CD	CE	CF	CG	DA	DB	DC	DD	DE	DF	DG	DH	DI	EA	EB	EC	ED								
ALARM DEVICES																																							
101	HEAT DETECTORS - ZONE "A1": GENERATOR BAY, DAY TANKS, EXHAUST TREATMENT, PUMP CONTROLS, MEZZANINE	101	●			101	●							101	●							101	●											101					
102	HEAT DETECTORS - ZONE "A2": SWITCHGEAR AND DISTRIBUTION ROOMS	102	●			102	●							102	●							102		●										102					
103	HEAT DETECTORS - ZONE "B1": GENERATOR BAY, DAY TANKS, PUMP CONTROLS, MEZZANINE	103	●			103	●							103	●							103			●									103					
104	HEAT DETECTORS - ZONE "B2": SWITCHGEAR AND DISTRIBUTION ROOMS	104	●			104	●							104	●							104				●								104					
105	MANUAL FIRE ALARM PULL STATIONS ASSOCIATED WITH A PREACTION SYSTEM RISER "A1"	105				105								105								105	●											105					
106	MANUAL FIRE ALARM PULL STATIONS ASSOCIATED WITH A PREACTION SYSTEM RISER "A2"	106				106								106								106		●										106					
107	MANUAL FIRE ALARM PULL STATIONS ASSOCIATED WITH A PREACTION SYSTEM RISER "B1"	107				107								107								107			●									107					
108	MANUAL FIRE ALARM PULL STATIONS ASSOCIATED WITH A PREACTION SYSTEM RISER "B2"	108				108								108								108				●								108					
109		109				109								109								109												109					
SUPERVISORY DEVICES		AA	AB	AC	AD	BA	BB	BC	BD	BE	BF	BG	CA	CB	CC	CD	CE	CF	CG	DA	DB	DC	DD	DE	DF	DG	DH	DI	EA	EB	EC	ED								
201	SUPERVISED SOLENOID / ELECTRIC CONTROL VALVE DISCONNECT SWITCH FOR PREACTION SYSTEM RISER "A1"	201		●		201		●					201		●										●				201										
202	SUPERVISED SOLENOID / ELECTRIC CONTROL VALVE DISCONNECT SWITCH FOR PREACTION SYSTEM RISER "A2"	202		●		202		●					202		●											●			202										
203	SUPERVISED SOLENOID / ELECTRIC CONTROL VALVE DISCONNECT SWITCH FOR PREACTION SYSTEM RISER "B1"	203		●		203		●					203		●												●		203										
204	SUPERVISED SOLENOID / ELECTRIC CONTROL VALVE DISCONNECT SWITCH FOR PREACTION SYSTEM RISER "B2"	204		●		204		●					204		●													●	204										
205		205				205							205																205										
TROUBLE FUNCTIONS		AA	AB	AC	AD	BA	BB	BC	BD	BE	BF	BG	CA	CB	CC	CD	CE	CF	CG	DA	DB	DC	DD	DE	DF	DG	DH	DI	EA	EB	EC	ED								
301	INITIATING DEVICE CIRCUIT/SIGNAL LINE CIRCUIT OPEN	301		●		301		●					301		●														301										
302	INITIATING DEVICE CIRCUIT/SIGNAL LINE CIRCUIT SHORT	302		●		302		●					302		●														302										
303	INITIATING DEVICE CIRCUIT/SIGNAL LINE CIRCUIT GROUND	303		●		303		●					303		●														303										
304	AC POWER FAILURE	304		●		304		●					304		●														304										
305	BATTERY FAULT	305		●		305		●					305		●														305										
306	LOW BATTERY VOLTAGE	306		●		306		●					306		●														306										
307	SUPERVISED COMPONENT FAILURE	307		●		307		●					307		●														307										
308	CONTROL COMPONENT COMMON TROUBLE CONDITION	308		●		308		●					308		●														308										
309		309				309							309																309										
PANEL FUNCTIONS		AA	AB	AC	AD	BA	BB	BC	BD	BE	BF	BG	CA	CB	CC	CD	CE	CF	CG	DA	DB	DC	DD	DE	DF	DG	DH	DI	EA	EB	EC	ED								
401	SYSTEM RESET	401				401							401							401									401	●									
402	ACKNOWLEDGE BUTTON DEPRESSED	402				402							402							402									402		●								
403		403				403							403							403									403										

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

RSCP FIRE ALARM MATRIX

SHEET ID

FA602

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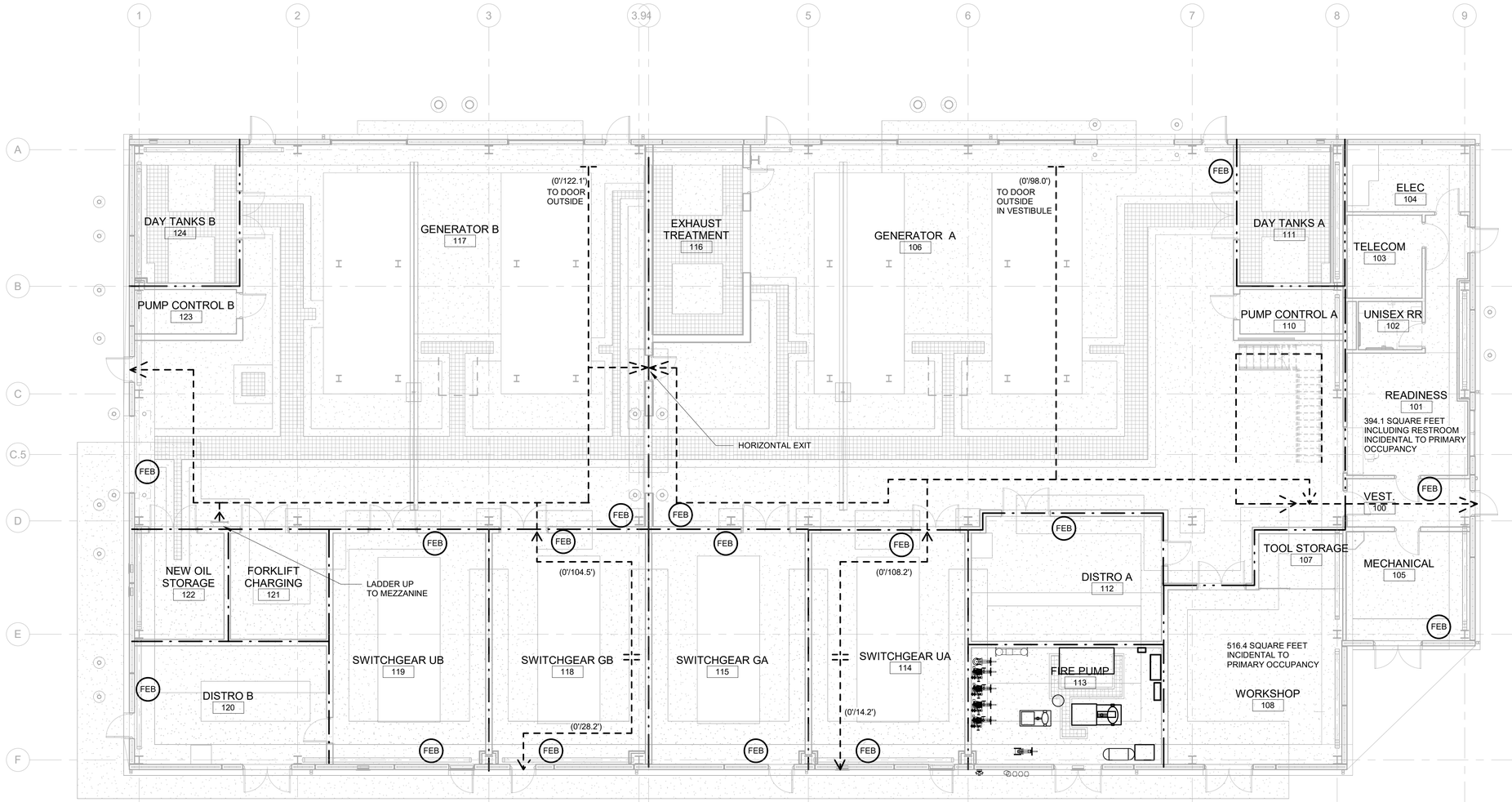
GENERAL LIFE SAFETY AND BUILDING CODE NOTES:

1) REFER TO F-103 FOR FULL CODE NARRATIVE.

2) ALL STRUCTURAL STEEL AND METAL ROOF DECK IS TO BE PAINTED WITH INTUMESCENT PAINT FOR A 2 HOUR FIRE RATING.



LEGEND

- 1 HOUR FIRE RATED WALL
- 2 HOUR FIRE RATED WALL
- 3 HOUR FIRE RATED WALL
- (X'/XX') TRAVEL PATH - X' IS COMMON PATH, XX' IS TOTAL TRAVEL DISTANCE
- FEB FIRE EXTINGUISHER BRACKET

E2 COMPOSITE LIFE SAFETY AND BUILDING CODE PLAN

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH

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ISSUE DATE:	05/01/2025
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1616 CAPITOL AVE.
OMAHA, NE 68102

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COMPOSITE LIFE SAFETY AND BUILDING CODE PLAN

SHEET ID

F-101

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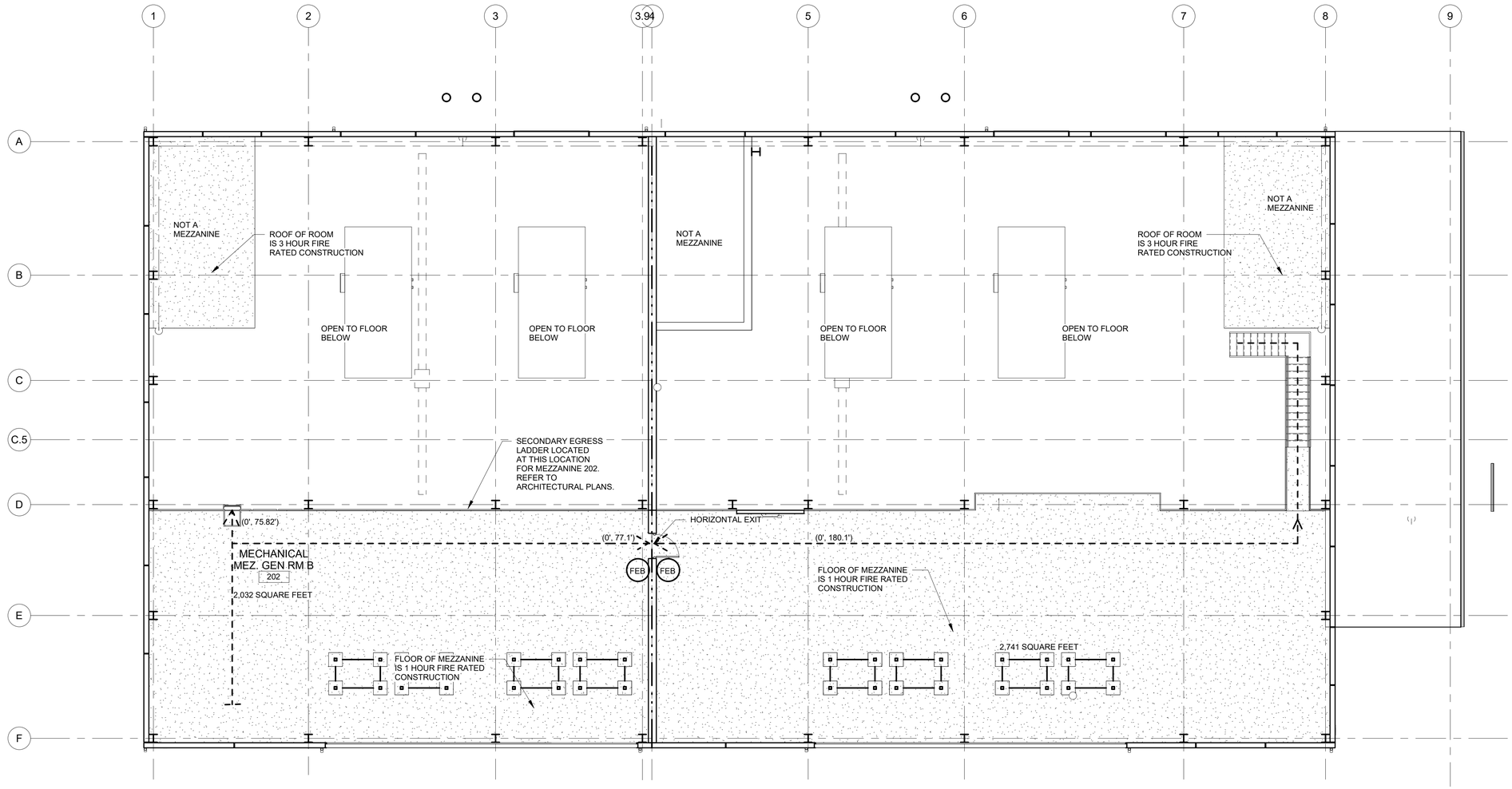
GENERAL LIFE SAFETY AND BUILDING CODE NOTES:

1) REFER TO F-103 FOR FULL CODE NARRATIVE.

2) ALL STRUCTURAL STEEL AND METAL ROOF DECK IS TO BE PAINTED WITH INTUMESCENT PAINT FOR A 2 HOUR FIRE RATING.



LEGEND

- 1 HOUR FIRE RATED WALL
- 2 HOUR FIRE RATED WALL
- 3 HOUR FIRE RATED WALL
- (X'/XX') TRAVEL PATH - X' IS COMMON PATH, XX' IS TOTAL TRAVEL DISTANCE
- FEB FIRE EXTINGUISHER BRACKET

E3 COMPOSITE MEZZANINE LIFE SAFETY AND BUILDING CODE PLAN

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

COMPOSITE MEZZANINE LIFE SAFETY AND BUILDING CODE PLAN

SHEET ID

F-102

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APPLICABLE CODES AND CRITERIA

UNIFIED FACILITIES CRITERIA (UFC) - USE MOST RECENT EDITION OF UFCS

UFC 1-200-01	DoD BUILDING CODE
UFC 3-301-01	STRUCTURAL ENGINEERING
UFC 3-600-01	FIRE PROTECTION ENGINEERING FOR FACILITIES
UFC 4-021-01	DESIGN AND O & M: MASS NOTIFICATION SYSTEMS
UFC 4-010-06	CYBERSECURITY FOR FACILITY-RELATED CONTROL SYSTEMS

INTERNATIONAL CODE COUNCIL (ICC)

INTERNATIONAL BUILDING CODE - 2021 EDITION (IBC)

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)

ASCE 7-05 STANDARD MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - USE MOST RECENT EDITIONS

NFPA 1	FIRE CODE
NFPA 10	STANDARD FOR PORTABLE FIRE EXTINGUISHERS
NFPA 13	STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS
NFPA 20	STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION
NFPA 24	STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES
NFPA 30	FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE
NFPA 37	STANDARD FOR THE INSTALLATION AND USE OF STATIONARY COMBUSTION ENGINEERS AND GAS TURBINES
NFPA 54	ANSI Z223.1 - NATIONAL FUEL GAS CODE
NEC 70	NATIONAL ELECTRICAL CODE
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE
NFPA 80	STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES
NFPA 90A	STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS
NFPA 90B	STANDARD FOR THE INSTALLATION OF WARM AIR HEATING AND AIR-CONDITIONING SYSTEMS
NFPA 91	STANDARD FOR EXHAUST SYSTEMS FOR AIR CONVEYING OF VAPORS, GASES, MISTS, AND PARTICULATE SOLIDS
NFPA 101	LIFE SAFETY CODE
NFPA 220	STANDARD ON TYPES OF BUILDING CONSTRUCTION
NFPA 221	STANDARD FOR HIGH CHALLENGE FIRE WALLS, FIRE WALLS, AND FIRE BARRIER WALLS
NFPA 291	RECOMMENDED PRACTICE FOR WATER FLOW TESTING AND MARKING OF HYDRANTS
NFPA 5000	BUILDING CONSTRUCTION AND SAFETY CODE

UNIFORM FEDERAL ACCESSIBILITY STANDARDS - 795 - 1988 (UFAS)

PROJECT DESCRIPTION

THIS PROJECT IS A NEW ENERGY PLANT WITH GENERATORS FOR ENERGY INDEPENDENCE AT BUCKLEY SPACE FORCE BASE, COLORADO. THE BUILDING WILL HAVE A FIRE SPRINKLER SYSTEM. THE FACILITY IS TO BE DESIGNED TO A 2N CONFIGURATION PER THE UPTIME INSTITUTE TIER IV. THE FACILITY IS CLASSIFIED AS A CATEGORY "C" SEISMIC LOAD PER ASCE 7-05 FOR A TYPE IV OCCUPANCY. FIRE PROTECTION DESIGN SHALL CONFORM TO ALL APPLICABLE CRITERIA AND GUIDANCE AS NOTED ABOVE. THE LATEST EDITIONS OF THE STANDARDS AND CODES SHALL BE USED FOR THE PROJECT. FOR THIS PROJECT, FIRE PROTECTION DESIGN SERVICES WILL INCLUDE WET-PIPE SPRINKLER SYSTEM, DRY-PIPE SPRINKLER SYSTEMS, FIRE PUMPS, FIRE ALARM AND DETECTION SYSTEMS, AND OVERALL GENERAL LIFE SAFETY AND BUILDING CODE DESIGN EFFORTS.

OCCUPANCY

(IBC) INTERNATIONAL BUILDING CODE

FACTORY F-1 CLASSIFICATION "F-1"

(LSC) LIFE SAFETY CODE - NFPA 101

SPECIAL PURPOSE INDUSTRIAL CLASSIFICATION "I" - INDUSTRIAL

THE PRIMARY OCCUPANCY IS SPECIAL PURPOSE INDUSTRIAL. THERE IS 516.4 SQUARE FEET OF STORAGE. IT IS LESS THAN 10% OF THE PRIMARY OCCUPANCY, SO IT IS CONSIDERED INCIDENTAL. ALSO, THERE IS 394.1 SQUARE FEET OF BUSINESS/OFFICE SPACE. IT IS LESS THAN 10% OF THE PRIMARY OCCUPANCY SO IT IS CONSIDERED INCIDENTAL. ENTIRE BUILDING SHALL BE CONSIDERED SPECIAL PURPOSE INDUSTRIAL.

TYPE OF CONSTRUCTION

CLASSIFICATION BY CODE - CAN BE CONSIDERED TYPE II

IBC TYPE II B UNPROTECTED NONCOMBUSTIBLE

NFPA 220 TYPE II (000) UNPROTECTED NONCOMBUSTIBLE

BUILDING HEIGHT, NUMBER OF STORIES, AND SQUARE FOOTAGE (IBC - SINGLE STORY WITH PARTIAL SPRINKLER SYSTEM - CONSIDERED NOT SPRINKLERED)

ALLOWABLE BUILDING HEIGHT	55 FEET
ALLOWABLE NUMBER OF STORIES ABOVE GRADE	2
ALLOWABLE AREAS	15,500 SQUARE FEET
PROPOSED BUILDING HEIGHT	29 FEET
PROPOSED NUMBER OF STORIES ABOVE GRADE	1
PROPOSED AREA	14,015 SQUARE FEET (ADDITIONAL 8,000 SQUARE FEET FOR EXPANSION)

PROPOSED BUILDING IS COMPLIANT WITH IBC.

MEZZANINE - THE MEZZANINE AREA PER SECTION 505 OF THE IBC SHALL COMPLY WITH SECTION 505.2.1, EXCEPTION 1. THIS PARAGRAPH STATES THAT THE AGGREGATE AREA OF MEZZANINES IN BUILDINGS AND STRUCTURES OF TYPE I OR II CONSTRUCTION FOR SPECIAL INDUSTRIAL OCCUPANCIES IN ACCORDANCE WITH SECTION 503.1.1 SHALL BE NOT GREATER THAN TW0-THIRDS OF THE FLOOR AREA OF THE ROOM THE MEZZANINES DO NOT EXCEED THE TWO-THIRDS CRITERIA AND MEETS IBC STANDARDS.

IBC AND NFPA 220 FIRE-RESISTIVE REQUIREMENTS

TYPE II-B UNPROTECTED NONCOMBUSTIBLE

NONCOMBUSTIBLE MATERIALS ONLY

FIRE RESISTIVE REQUIREMENTS (IBC - TABLE 601)

BUILDING ELEMENT	PROTECTION REQUIRED
EXTERIOR BEARING AND NONBEARING WALLS	NONE
INTERNAL BEARING WALLS, STRUCTURAL FRAME, FLOORS, PERMANENT PARTITIONS, AND ROOFS	
PER NFPA 37, AND NON-SPRINKLERED AREAS:	
GENERATOR WALLS - BETWEEN A AND B	2 HRS.
DAY TANK WALLS AND CEILINGS	3 HRS.
DISTRO B AND SWITCHGEAR B WALLS AND CEILINGS	1 HR.
DISTRO A AND SWITCHGEAR A WALLS AND CEILINGS	1 HR.
BAY A AREA AND OFFICE AREAS	2 HRS.
BAY AREA AND STORAGE ROOMS	2 HRS.
FIRE PUMP ROOM	1 HR.
FIRE PUMP ROOM ROOF	1 HR.
FIRE PUMP ROOM WALL ADJACENT TO DISTRO ROOM	1 HR.

THE STRUCTURAL STEEL AND METAL ROOF DECK (UNDERSIDE) SHALL BE PAINTED WITH INTUMESCENT PAINT TO MEET A 2-HOUR FIRE RATED COVERING.

REFER TO LIFE SAFETY AND ARCHITECTURAL PLANS

LIFE SAFETY CODE (NFPA 101) CHAPTER 40 - NO REQUIREMENTS

SPECIAL FEATURES

FIRE ALARM SYSTEM REQUIRED (LSC)
EMERGENCY LIGHTING REQUIRED (LSC)
PORTABLE FIRE EXTINGUISHERS REQUIRED (DoD)

EXIT REQUIREMENTS - LIFE SAFETY CODE (LSC) 2021 (NFPA 101)

COMMON PATH OF TRAVEL SHALL NOT EXCEED 100 FEET.

TRAVEL DISTANCES TO EXITS SHALL NO EXCEED 400 FEET (PER SPECIAL PURPOSE INDUSTRIAL OCCUPANCY).

A MAXIMUM OF 50 FEET DEAD END IS ALLOWED (PER SPECIAL PURPOSE INDUSTRIAL OCCUPANCY).

EGRESS LOCATIONS SHALL BE MARKED BY EXIT SIGNS.

OCCUPANT LOAD COUNT AND EGRESS CAPACITY

THE OCCUPANT LOAD COUNT FOR THE BUILDING IS BASED UPON THE MAXIMUM PROBABLE NUMBER PER NFPA 101 FOR SPECIAL PURPOSE INDUSTRIAL OCCUPANCY.

NORMAL NUMBER OF PERSONNEL IN BUILDING - 7 OCCUPANTS
MAXIMUM PROBABLE NUMBER - 10 OCCUPANTS
FOR COMPARISON, IF AN OCCUPANT COUNT FOR GENERAL HAZARD INDUSTRIAL OCCUPANCY WAS USED AT 100 SQUARE FEET PER PERSON, THE MAXIMUM NUMBER OF OCCUPANTS WOULD BE 141 OCCUPANTS.

EGRESS SIZE BASED UPON .2" / PERSON
32" DOOR CAN ACCOMMODATE 160 OCCUPANTS

STAIRS WIDTH - 22" BETWEEN RAILS
TREAD WIDTH - 22"
TREAD DEPTH - 10"
TREAD RISER HEIGHT - 9"

NUMBER OF DOORS AND SIZE OF EGRESS PATHWAYS ARE COMPLIANT WITH NFPA 101.

INTERIOR FINISHES

THE CEILING AND WALL FINISHES SHALL BE CLASS A, CLASS B, OR CLASS C IN OPERATING AREAS AND CLASS A, OR CLASS B IN EXIT ENCLOSURES AND EXIT ACCESS CORRIDORS.

INTERIOR FLOOR FINISHES IN EXIT ENCLOSURES AND EXIT ACCESS CORRIDORS SHALL BE CLASS I OR CLASS II.

SPRINKLER SYSTEMS

A WET PIPE SPRINKLER SYSTEM SHALL BE PROVIDED FOR THE OFFICE AREAS AND NON-GENERATOR AREAS OF THE FACILITY. REFER TO THE FIRE SUPPRESSION PLANS. A PRE-ACTION SPRINKLER SYSTEM SHALL BE PROVIDED THROUGHOUT THE GENERATOR BAYS AND IN THE MEZZANINE AREAS. NFPA 37 REQUIRES .3 GPM / SQUARE FOOT OVER 2,500 SQUARE FEET. THIS WOULD REQUIRE 750 GPM. WITH A 500 GPM HOSE ALLOWANCE, THE TOTAL FLOW FOR FIRE PROTECTION WOULD BE AROUND 1,250 GPM. AT THIS FLOW RATE, THE AVAILABLE WATER PRESSURE WOULD BE APPROXIMATELY 34 PSIG. THE FACILITY WILL REQUIRE AROUND 60 PSIG OF PRESSURE FOR THE SUPPRESSION SYSTEM. SO, A FIRE PUMP IS REQUIRED. FOR REDUNDANCY BECAUSE THE FACILITY IS A CLASS IV OCCUPANCY PER ASCE 7-05, BOTH AN ELECTRIC FIRE PUMP AND A DIESEL FIRE PUMP SHALL BE PROVIDED FOR THE SPRINKLER SYSTEMS. A PRE-ACTION SYSTEM SHALL ALSO BE PROVIDED FOR THE HIGH VOLTAGE EQUIPMENT ROOMS AND MEZZANINE AREAS. THERE WILL BE FOUR PRE-ACTION ZONES AND ONE WET PIPE ZONE FOR THE FACILITY. REFER TO PARAGRAPH BELOW. NITROGEN GENERATOR(S) WILL BE PROVIDED FOR THE PRE-ACTION ZONES. PRE-ACTION SYSTEMS SHALL BE SINGLE INTERLOCK.

BASED UPON A DETERMINATION FROM USACE HQ AND AFCEC, A PRE-ACTION SPRINKLER SYSTEM SHALL BE PROVIDED FOR THE HIGH VOLTAGE EQUIPMENT ROOMS. THE GENERATOR BAYS AND THE DISTRIBUTION ROOMS SHALL BE SEPARATE ZONES. THE INTENT IS TO PROVIDE 1-HOUR FIRE RATED WALL AND CEILINGS AROUND EACH OF THESE ROOMS.

SEISMIC BRACING IS REQUIRED AND SHALL BE CATEGORY "D" SEISMIC RESTRAINT DUE TO THE FACILITY BEING A TYPE IV OCCUPANCY PER ASCE 7-05.

THE DURATION OF THE FLOW OF WATER IS 90 MINUTES PER UFC 3-600-01. THE WATER SUPPLY NEEDS TO PROVIDE 112,500 GPM.

FIRE HYDRANTS

FIRE HYDRANTS SHALL BE PROVIDED AROUND THE FACILITY IN ACCORDANCE WITH NFPA 1 AND UFC 3-600-01. A FIRE HYDRANT WILL NEED TO BE PLACED WITHIN 150 FEET OF THE FIRE DEPARTMENT CONNECTION. FIRE HYDRANTS SHALL BE SPACED AROUND THE FUEL STORAGE TANKS NOT TO EXCEED 300 LINEAR FEET.

FIRE DEPARTMENT ACCESS

AN ALL-WEATHER FIRE DEPARTMENT ACCESS ROAD SHALL BE PROVIDED TO WITHIN 33 FEET OF THE NEW BUILDING PER UFC 3-600-01 AND NFPA 1. ROAD SHALL BE 20 FEET WIDE.

FIRE ALARM AND MASS NOTIFICATION SYSTEM

A FIRE ALARM AND DETECTION SYSTEM SHALL BE PROVIDED FOR THE BUILDING IN ACCORDANCE WITH NFPA 72 AND UFC 3-600-01. A MASS NOTIFICATION SYSTEM SHALL NOT BE PROVIDED FOR THE BUILDING SINCE THE OCCUPANT LOAD IS SO LOW. A PUBLIC ADDRESS SYSTEM WILL BE PROVIDED FOR THE BUILDING AND CONNECTED TO THE ADJACENT PLANT.

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MARK	DESCRIPTION	DATE

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

CODE PLAN NARRATIVE

SHEET ID

F-103

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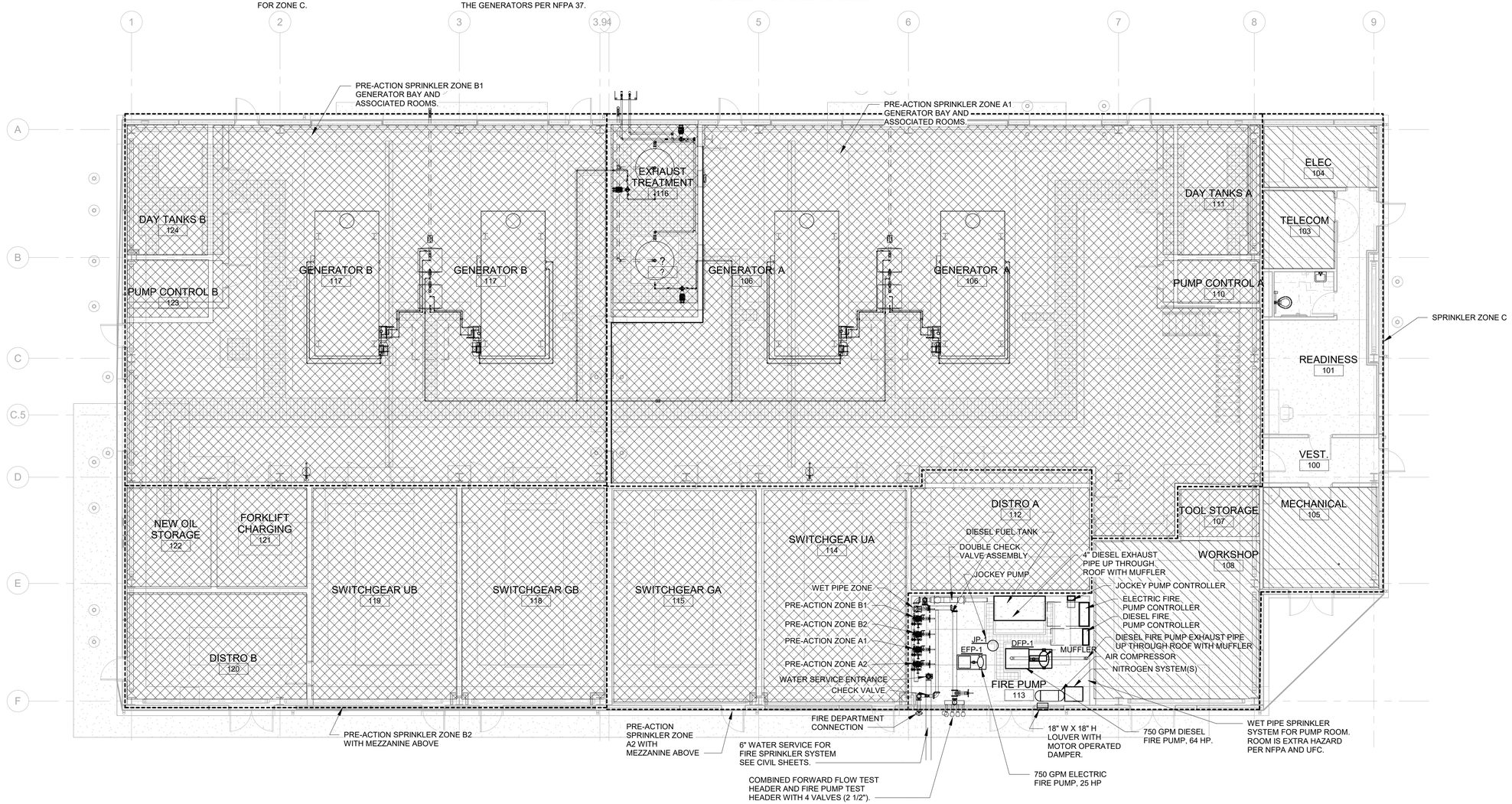
GENERAL FIRE PROTECTION NOTES:

1. PROVIDE A FIRE SPRINKLER SYSTEM FOR AREAS NOTED ON THE PLANS.
2. PROVIDE A FIRE SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA 37, NFPA 13, AND UFC 3-600-01.
3. ROOMS NOT HATCHED SHALL BE CONSIDERED LIGHT HAZARD WITH SPRINKLER REQUIREMENTS OF .1 GPM/ SQUARE FEET OVER 1,500 SQUARE FEET AND A HOSE ALLOWANCE OF 250 GPM., EXCEPT AS NOTED.
4. GENERATOR ROOM A AND ALL ASSOCIATED ROOMS ARE TO BE ONE PRE-ACTION ZONE (ZONE A1). ROOMS 112, 114, 115, AND MEZZANINE SHALL BE A PRE-ACTION ZONE ZONE (ZONE A2).

   GENERATOR ROOM B AND ALL ASSOCIATED ROOMS ARE TO BE ONE PRE-ACTION ZONE (ZONE B1). ROOMS 100D, 100E, 118, 119, 120 AND THE MEZZANINE SHALL BE A PRE-ACTION ZONE (ZONE B2).
5. PROVIDE A WET PIPE SPRINKLER SYSTEM FOR ZONE C.
6. PROVIDE SPRINKLER HEAD ABOVE TRENCH OPENING IN EACH GENERATOR BAY (WHERE TRENCH GOES THROUGH THE RATED WALL. PROVIDE THESE HEADS ON EACH SIDE OF THE WALL WITH K=8.0 HEADS. PROVIDE SPRINKLER HEAD 7'6" ABOVE THE FINISHED FLOOR WITH A HEAT SHIELD AND WIRE GUARD..
7. ALL SPRINKLER PIPING, EQUIPMENT, PUMPS, ETC. SHALL BE SEISMICALLY RESTRAINED TO CATEGORY "D" PER ASCE 7-05 FOR CLASS IV OCCUPANCIES.
8. DO NOT PROVIDE SPRINKLERS DIRECTLY ABOVE THE GENERATORS PER NFPA 37.
9. EACH PRE-ACTION ZONE IS TO BE PROVIDED WITH A SHUT-OFF VALVE AND DRY PIPE VALVE, FLOW SWITCH, AND PRESSURE SWITCH.
10. PROVIDE 1 HOUR FIRE RESISTANT FIRE WRAP AROUND 4" DIESEL FIRE PUMP EXHAUST PIPE UP THROUGH ROOF. PROVIDE THIMBLE THROUGH ROOF WITH WATER PROOF OUTLET PARALLEL WITH ROOF. PROVIDE FIRE WRAP THROUGH MEZZANINE FLOOR. EXHAUST PIPE SHALL BE CARBON STEEL AND WELDED.
11. PROVIDE A 119 GALLON DIESEL TANK. PROVIDE WITH FUEL LEAK DETECTION AND 3" EMERGENCY VENT. PROVIDE DOUBLE WALL TANK PER NFPA 20. PROVIDE SUPPLY AND RETURN FUEL LINES TO DIESEL FIRE PUMP.
12. PROVIDE LOW TEMPERATURE SENSOR IN THE FIRE PUMP ROOM. ALARM SHOUILD BE TRANSMITTED WHEN TEMPERATURE IS 40 DEGREES FAHRENHEIT OR LOWER.
13. TRENCH IN FIRE PUMP ROOM IS FOR THE INSTALLATION OF THE DIESEL FUEL SUPPLY AND RETURN LINES FROM THE FUEL TANK TO THE DIESEL PUMP ENGINE.
14. PROVIDE A BYPASS LINE AROUND BOTH FUEL PUMPS FOR THEIR TESTING. PROVIDE A FLOW METER IN THE LINE. PROVIDE CHECK VALVES ON THE DISCHARGE SIDE OF EACH PUMP FOR THIS TESTING BYPASS LINE.
15. COMPLETE THE DESIGN OF THE FIRE PUMP SYSTEMS AND THE FIRE SPRINKLER SYSTEMS. EQUIPMENT AND PIPING IS TO BE FINALIZED BY THE FIRE SPRINKLER CONTRACTOR.



E2 COMPOSITE FIRE SUPPRESSION PLAN

1/8" = 1'-0"

ORDINARY HAZARD (UFC 3-600-01)
.2 GPM / 2,500 SQUARE FEET WITH
250 GPM HOSE ALLOWANCE

NFPA 37 SPRINKLER REQUIREMENTS
.3 GPM/ SQUARE FOOT OVER
2,500 SQUARE FEET WITH 500 GPM
HOSE ALLOWANCE. HEADS TO BE
SPACED AT 100 SQUARE FEET
COVERAGE. THE SYSTEM SHALL BE
A PRE-ACTION SYSTEM WITH NITROGEN.

0 4' 8' 16'

PLAN NORTH

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File Path: C:\Users\DEDXSL\Documents\Local Revit Models\BUCO00102_DM_PF_dDEDXSL9.rvt

Plot Date: 7/2/2025 3:17:36 PM

DESIGNED BY: B. ERBSTOESSER
DRAWN BY: B. ERBSTOESSER
CHECKED BY: C. FOSMER
SUBMITTED BY: C. FOSMER
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_PF.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE. MISSION CONTROL STATION

COMPOSITE FIRE SUPPRESSION PLAN

SHEET ID

FX101

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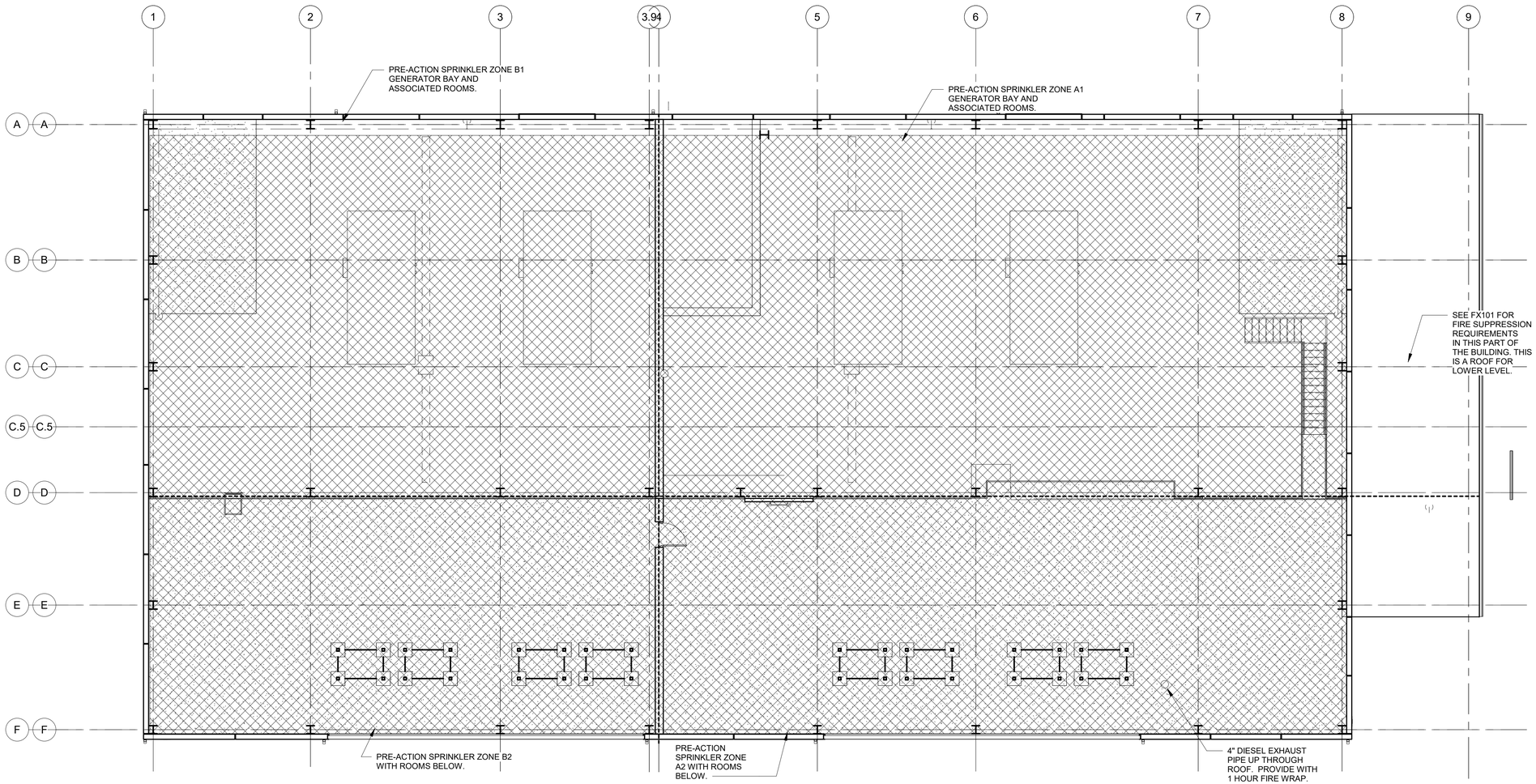
GENERAL FIRE PROTECTION NOTES:

1. PROVIDE A FIRE SPRINKLER SYSTEM FOR AREAS NOTED ON THE PLANS.
2. PROVIDE A FIRE SPRINKLER SYSTEM IN COMPLIANCE WITH NFPA 37, NFPA 13, AND UFC 3-600-01.
3. ROOMS NOT HATCHED SHALL BE CONSIDERED LIGHT HAZARD WITH SPRINKLER REQUIREMENTS OF .1 GPM/ SQUARE FEET OVER 1,500 SQUARE FEET AND A HOSE ALLOWANCE OF 250 GPM, EXCEPT AS NOTED.
4. GENERATOR ROOM A AND ALL ASSOCIATED ROOMS ARE TO BE ONE PRE-ACTION ZONE (ZONE A1). ROOMS 112, 114, 115, AND MEZZANINE SHALL BE A PRE-ACTION ZONE ZONE (ZONE A2).

   GENERATOR ROOM B AND ALL ASSOCIATED ROOMS ARE TO BE ONE PRE-ACTION ZONE (ZONE B1). ROOMS 100D, 100E, 118, 119, 120 AND THE MEZZANINE SHALL BE A PRE-ACTION PIPE ZONE (ZONE B2).
5. PROVIDE A WET PIPE SPRINKLER SYSTEM FOR ZONE C.
6. PROVIDE SPRINKLER HEAD ABOVE TRENCH OPENING IN EACH GENERATOR BAY (WHERE TRENCH GOES THROUGH THE RATED WALL. PROVIDE A SPRINKLER WATER CURTAIN ON EACH SIDE OF THE WALL WITH K=8.0 HEADS. PROVIDE SPRINKLER HEAD AT 7'-6" ABOVE FINISHED FLOOR WITH HEAT SHIELD.
7. ALL SPRINKLER PIPING, EQUIPMENT, PUMPS, ETC. SHALL BE SEISMICALLY RESTRAINED TO CATEGORY "D" PER ASCE 7-05 FOR CLASS IV OCCUPANCIES.
8. DO NOT PROVIDE SPRINKLERS DIRECTLY ABOVE THE GENERATORS PER NFPA 37.
9. EACH PRE-ACTION ZONE IS TO BE PROVIDED WITH A SHUT-OFF VALVE AND DRY PIPE VALVE, FLOW SWITCH, AND PRESSURE SWITCH.
10. PROVIDE 1 HOUR FIRE RESISTANT FIRE WRAP AROUND 4" DIESEL FIRE PUMP EXHAUST PIPE UP THROUGH ROOF. PROVIDE THIMBLE THROUGH ROOF WITH WATER PROOF OUTLET PARALLEL WITH ROOF. PROVIDE FIRE WRAP THROUGH MEZZANINE FLOOR. EXHAUST PIPE SHALL BE CARBON STEEL AND WELDED.
15. COMPLETE THE DESIGN OF THE FIRE PUMP SYSTEMS AND THE FIRE SPRINKLER SYSTEMS. EQUIPMENT AND PIPING IS TO BE FINALIZED BY THE FIRE SPRINKLER CONTRACTOR.



NFPA 37 SPRINKLER REQUIREMENTS .3 GPM/ SQUARE FOOT OVER 2,500 SQUARE FEET WITH 500 GPM HOSE ALLOWANCE. HEADS TO BE SPACED AT 100 SQUARE FEET COVERAGE. THE SYSTEM SHALL BE A PRE-ACTION SYSTEM WITH NITROGEN.

D3 COMPOSITE MEZZANINE FIRE SUPPRESSION PLAN

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH

US Army Corps of Engineers ®

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Plot Date: 5/5/2026 4:04:41 PM

DESIGNED BY: B. ERBSTOESSER	ISSUE DATE: 05/01/2025
DRAWN BY: B. ERBSTOESSER	SOLICITATION NO.: W9128F25RA043
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COMPOSITE MEZZANINE FIRE SUPPRESSION PLAN

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PIPING SYMBOLS

- CONTINUATION
- DROP IN PIPE
- VALVE IN RISER
- ELBOW
- ELBOW UP
- ELBOW DOWN
- TEE
- UNION
- UNION, FLANGED
- TOP CONNECTION
- BOTTOM CONNECTION
- PIPE PITCH
- VTR — VENT THRU ROOF
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- PRV — PRESSURE RELIEF
- PRESSURE REDUCING VALVE
- TPRV — TEMP & PRESS RELIEF
- ANCHOR
- BALL JOINT
- EXPANSION LOOP
- GUIDE
- EXPANSION JOINT
- FLEXIBLE CONNECTOR
- PRESSURE/TEMPERATURE TEST PORT)
- FLOOR DRAIN WITH TRAP
- FCO — FLOOR CLEANOUT
- FLOOR SINK WITH HALF GRATE
- FLOOR SINK WITH FULL GRATE
- DIRECTION OF FLOW
- FLOOR PENETRATION
- WH — WALL HYDRANT
- WCO — WALL CLEANOUT
- HB — HOSE BIB
- FPWH — FREEZE-PROOF WALL HYDRANT
- THERMOMETER
- THERMOMETER WELL
- STRAINER W/BLOW-OFF AND HOSE CONNECTION
- PRESSURE GAUGE WITH COCK
- PS — PRESSURE SWITCH
- FS — FLOW SWITCH
- AV — AIR VENT, AUTOMATIC
- AIR VENT, MANUAL
- AS — AIR SEPARATOR

VALVES

- BALL VALVE
- GLOBE VALVE
- GATE VALVE
- CHECK VALVE
- PLUG VALVE
- SOLENOID VALVE
- CALIBRATED BALANCING VALVE
- AUTOMATIC BALANCING VALVE
- BUTTERFLY VALVE
- MODULATING TWO-WAY
- S — SOLENOID TWO-WAY
- THREE-WAY

PIPING SYSTEMS

- DCW — DOMESTIC COLD WATER
- DHW — DOMESTIC HOT WATER
- DHWR — DOMESTIC HOT WATER RETURN
- SS — SANITARY SEWER
- V — VENT
- NG — NATURAL GAS
- A — COMPRESSED AIR
- IW — INDUSTRIAL WASTE
- CHS — CHILLED WATER SUPPLY
- CHR — CHILLED WATER RETURN
- HWS — HEATING WATER SUPPLY
- HWR — HEATING WATER RETURN
- CD — CONDENSATE DRAIN
- CWS — CONDENSER WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- RS — REFRIGERANT SUCTION
- RL — REFRIGERANT LIQUID
- RD — ROOF DRAIN

GENERAL NOTES

A. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS OF CONSTRUCTION

B. OVERHEAD PLUMBING EQUIPMENT AND SYSTEMS SHALL BE SUPPORTED TO MEET ANTI-TERRORISM/FORCE PROTECTION MEASURES OF UFC 4-010-01.

C. ALL FLOOR MOUNTED EQUIPMENT IN MECHANICAL ROOM SHALL BE MOUNTED ON 6" HIGH HOUSEKEEPING PADS. THESE PADS SHALL EXTEND 6" BEYOND THE FOOTPRINT OF THE EQUIPMENT IN ALL DIRECTIONS.

D. WHERE PIPE SIZES ARE NOT INDICATED, THEY SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE (LATEST EDITION). DOMESTIC COLD WATER PIPING SHALL BE LIMITED TO 5 FPS. DOMESTIC HOT WATER PIPING SHALL BE LIMITED TO 4 FPS.

E. TRAP PRIMER LINES SHALL BE 1/2" TYPE K COPPER. TRAP PRIMER VALVES/DISTRIBUTORS SHALL BE PROVIDED FOR ALL FLOOR DRAINS AND FLOOR SINKS. TRAP PRIMER VALVE/DISTRIBUTORS SHALL BE LOCATED IN THE NEAREST ACCESSIBLE LOCATION AND PROVIDED WITH ACCESS PANELS.

F. DRAWINGS ARE SCHEMATIC AND ARE TO SHOW DESIGN INTENT, AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE PLACEMENTS.

G. REFER TO MECHANICAL SHEETS FOR ADDITIONAL DETAILS.

H. COORDINATE ALL PIPE SLEEVE REQUIREMENTS WITH FOUNDATION SUBCONTRACTOR.

I. ALL FIXTURES SHALL HAVE A P-TRAP INSTALLED.

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Plot Date: 5/5/2025 12:53:57 PM

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SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: A. NICHOLS
DRAWN BY: A. NICHOLS
CHECKED BY: M. HEFFMAN
SUBMITTED BY: C. FOSMER
SIZE: ANSI D
FILE NAME: BUCC00102_DM_PF.rvt

US ARMY CORPS OF ENGINEERS
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POWER INDEPENDENCE, MISSION CONTROL STATION

PLUMBING LEGEND & GENERAL NOTES

SHEET ID

P-001

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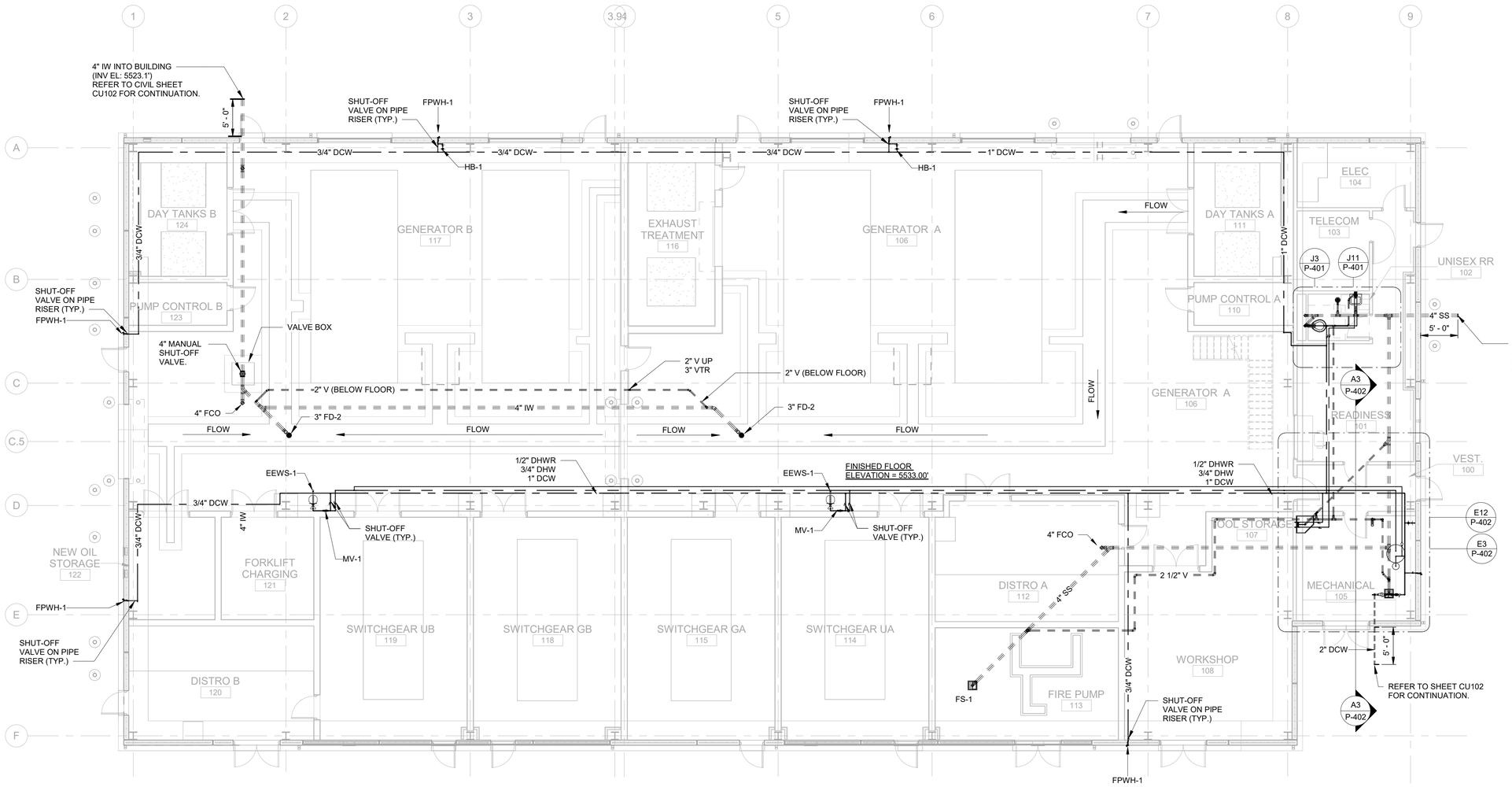

C2 COMPOSITE PLUMBING PLAN

1/8" = 1'-0"

0 4' 8' 16'

PLAN NORTH

US Army Corps of Engineers ®

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COMPOSITE PLUMBING PLAN

SHEET ID

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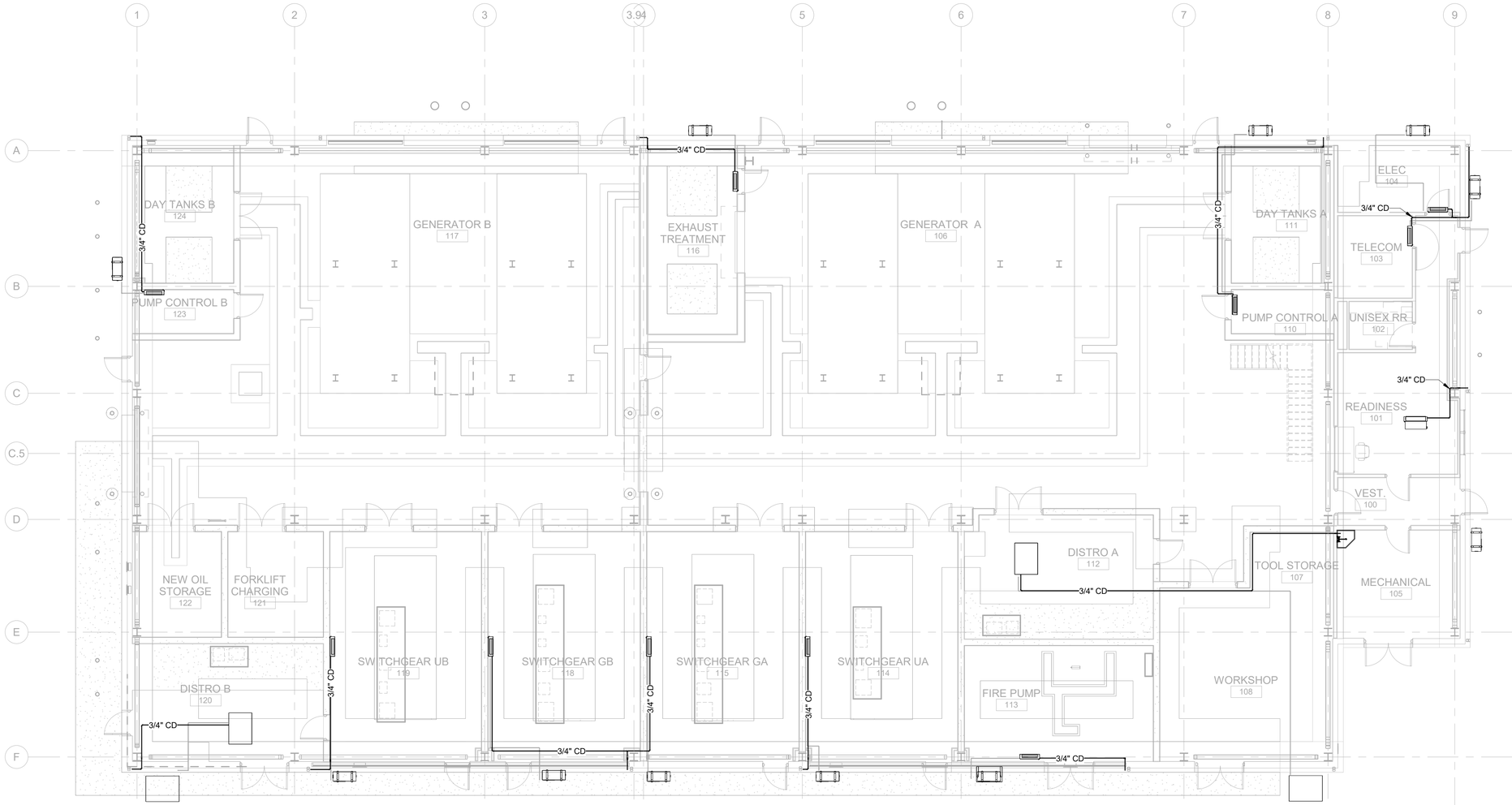

C1 COMPOSITE CONDENSATION PLAN

1/8" = 1'-0"

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SUBMITTED BY:	C. FOSMER
SIZE:	ANSI D

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COMPOSITE CONDENSATION PLAN

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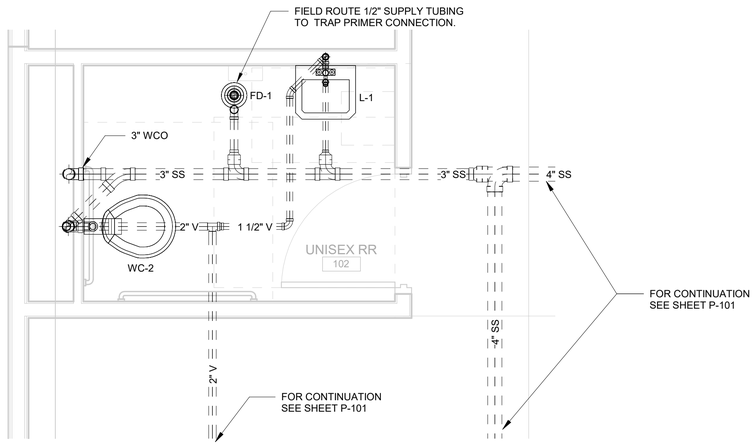
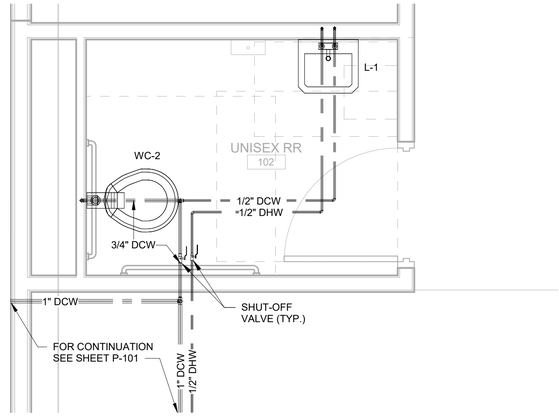


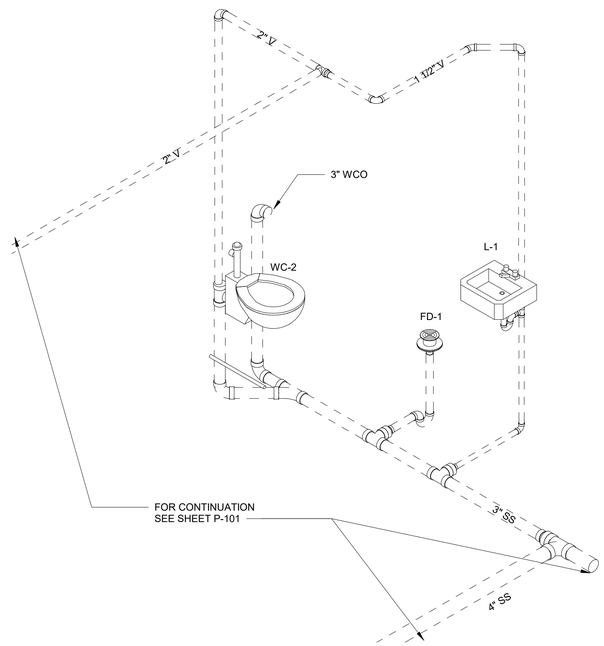
J3 ENLARGED WASTE & VENT PLAN UNISEX RR

1/2" = 1'-0"

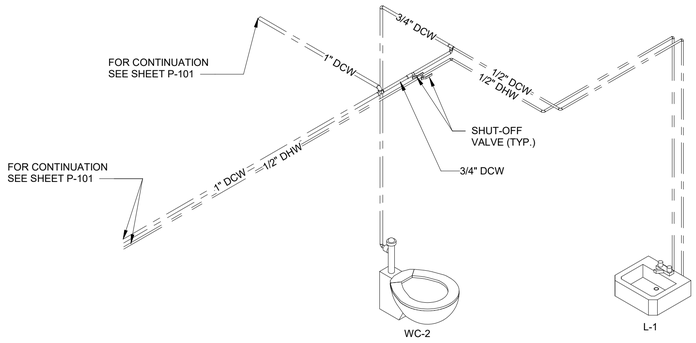


J11 ENLARGED DOMESTIC WATER PLAN UNISEX RR

1/2" = 1'-0"



A3 WASTE & VENT ISOMETRIC



A11 DOMESTIC WATER ISOMETRIC

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ENLARGED PLUMBING PLANS & ISOMETRICS

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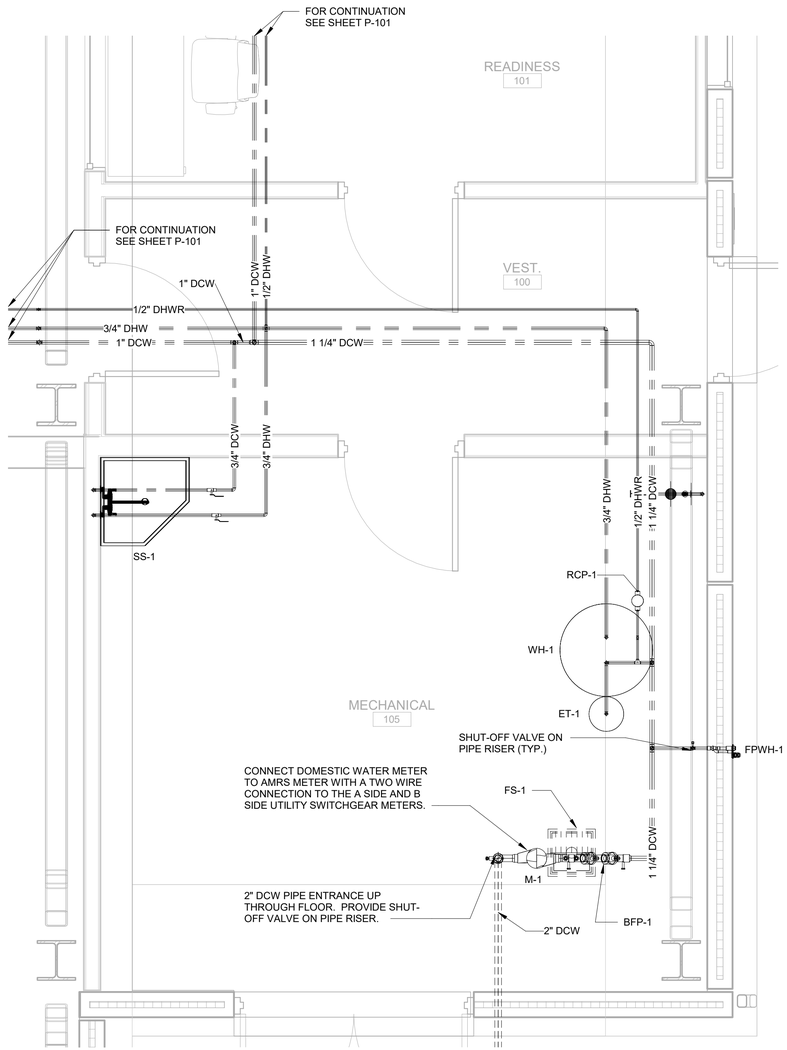
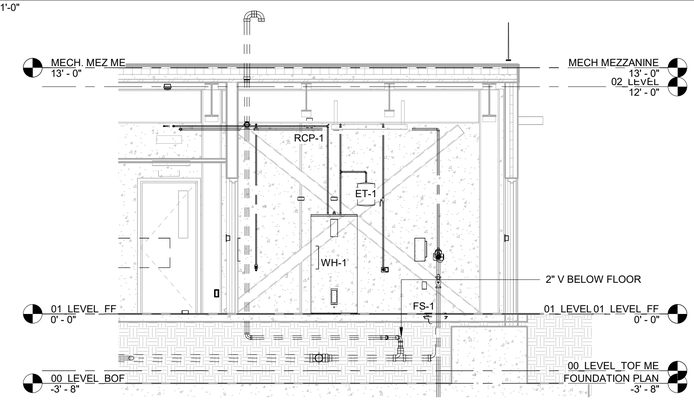


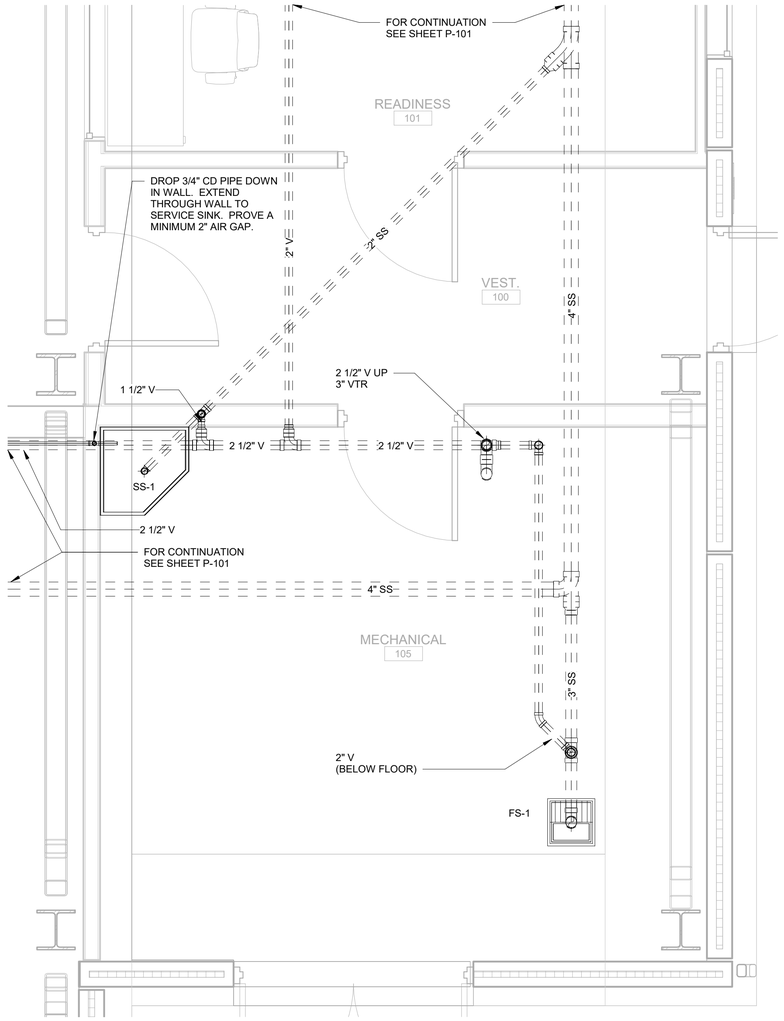
E3 ENLARGED DOMESTIC WATER PLAN MECHANICAL

1/2" = 1'-0"



A3 MECHANICAL SECTION

1/4" = 1'-0"



E12 ENLARGED WASTE & VENT PLAN MECHANICAL

1/2" = 1'-0"

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MARK	DESCRIPTION	DATE

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CHECKED BY: M. HOFFMAN
SUBMITTED BY: C. FOSMER
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ENLARGED PLUMBING PLANS & SECTION

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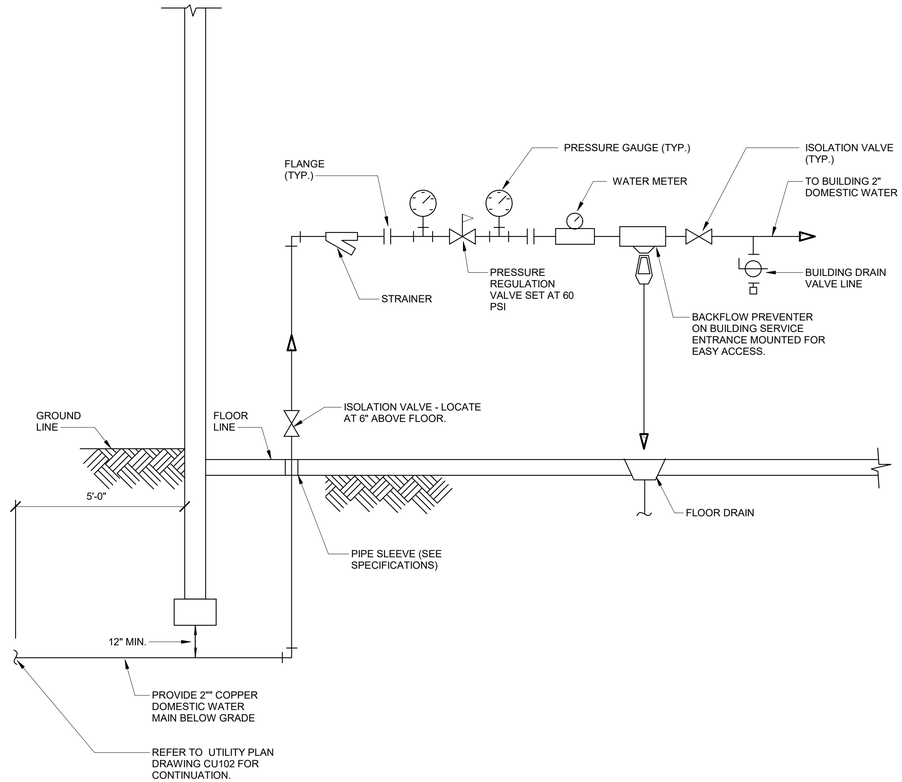
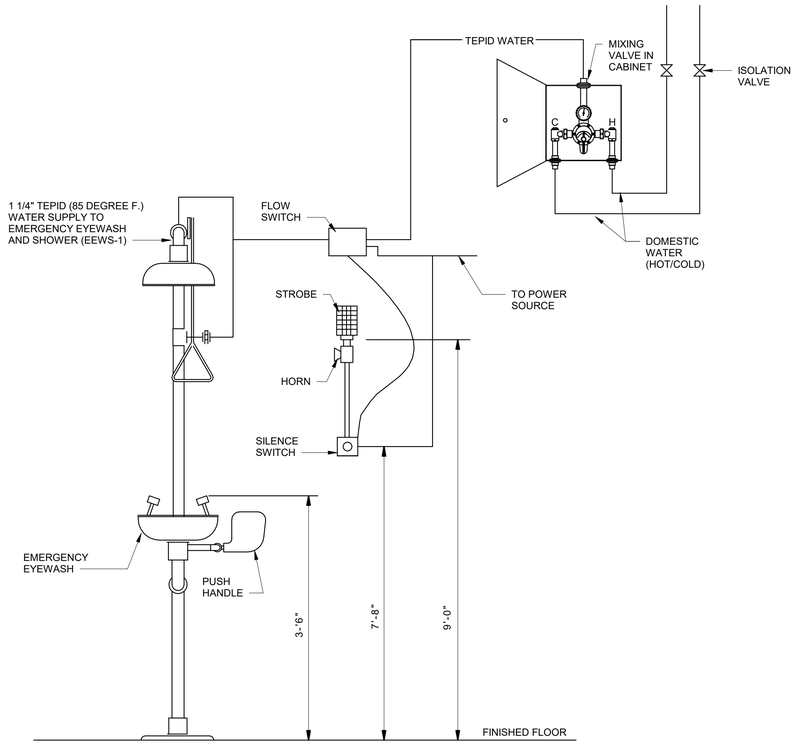
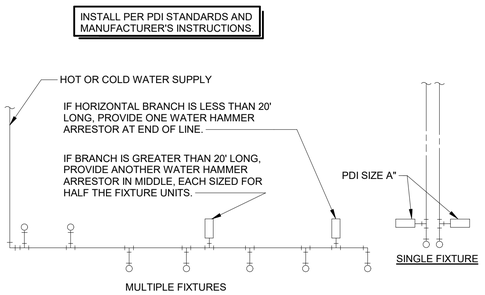


G2 DOMESTIC WATER SERVICE SLAB-ON GRADE
NTS



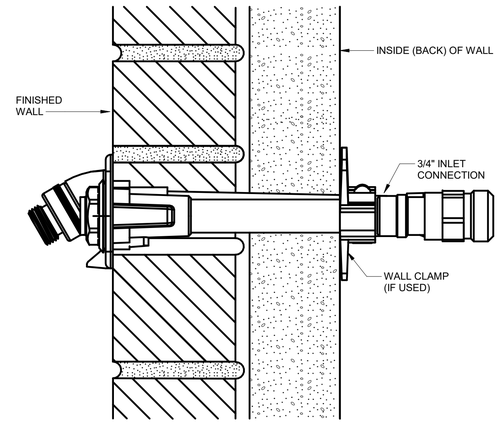
G12 EMERGENCY SHOWER AND EYE WASH
NTS

PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1 1/4"	61-113
E	1 1/2"	114-154
F	2"	155-330

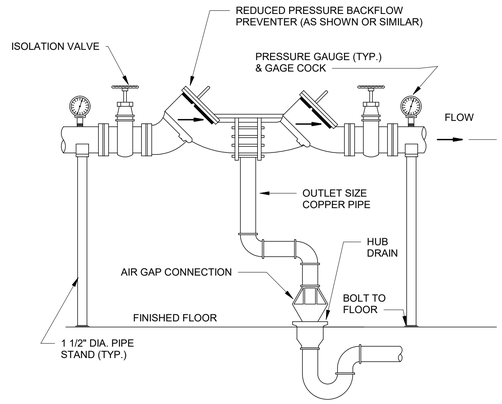


PROVIDE WATER HAMMER ARRESTERS HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN-LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE.

A2 WATER HAMMER ARRESTOR
NTS



A9 FREEZEPROOF WALL HYDRANT
NTS



A15 BACKFLOW PREVENTER
NTS

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SUBMITTED BY: C. FOSMER
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PLUMBING DETAILS

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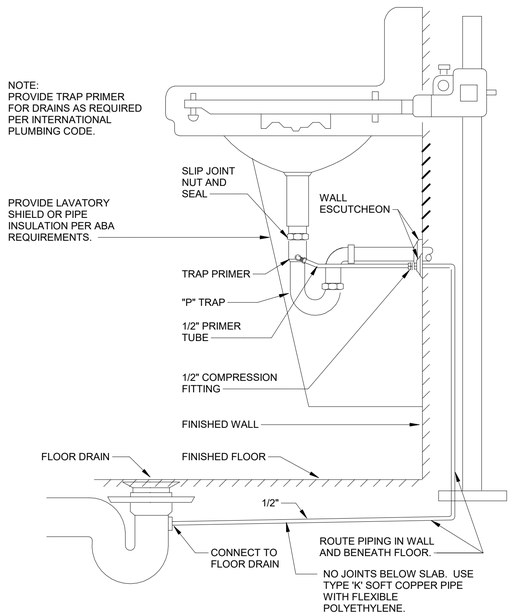
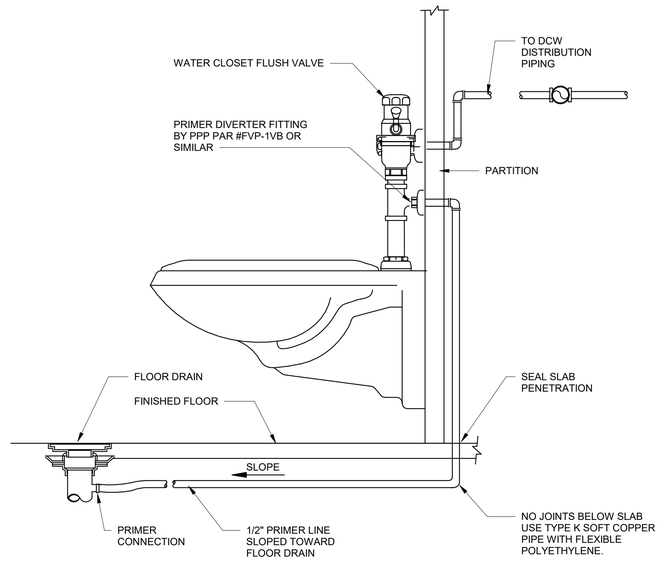
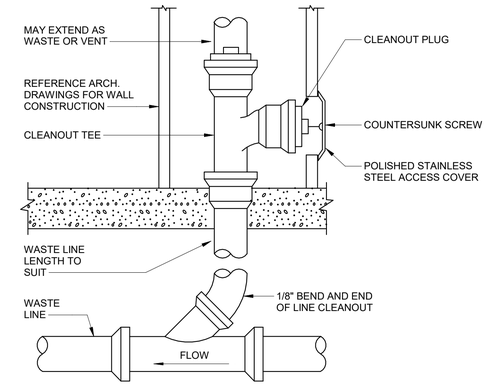


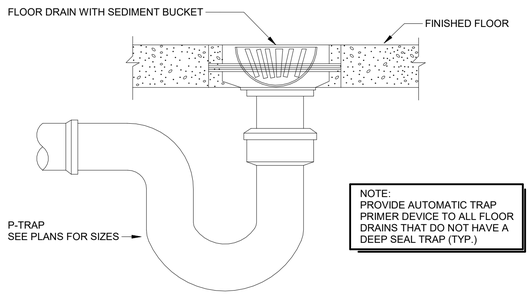
G2 TRAP PRIMER DEVICE TAILPIECE SUPPLY
NOT TO SCALE



G8 TRAP PRIMER DIVERTER AT WATER CLOSET
NOT TO SCALE



G15 WALL CLEANOUT FINISHED ROOM
NOT TO SCALE



B2 FLOOR DRAIN (FD-1)
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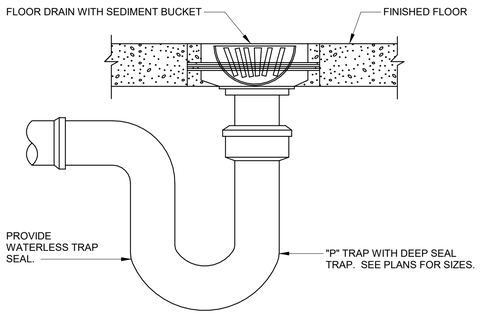
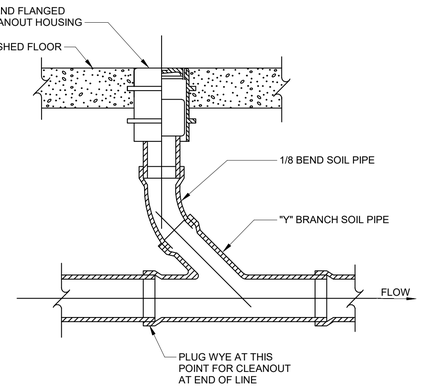


B8 FLOOR DRAIN WITH DEEP SEAL TRAP (FD-2)
NOT TO SCALE



B15 FLOOR CLEANOUT
NOT TO SCALE

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CONTRACT NO.:

DESIGNED BY: A. NICHOLS
DRAWN BY: A. NICHOLS
CHECKED BY: M. KOEPPEN
SUBMITTED BY: C. FOSMER
SIZE: ANSI D
FILE NAME: BUCC000102_DM_PF.rvt

Plot Date: 5/5/2025 12:57:53 PM

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1616 CAPITOL AVE
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PLUMBING DETAILS

SHEET ID

P-502

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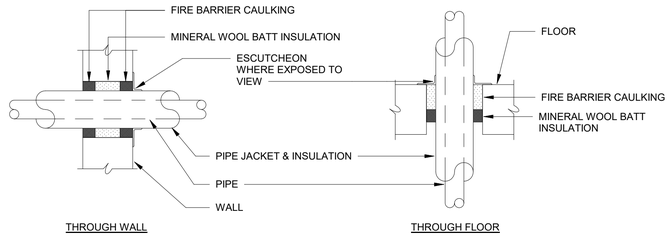


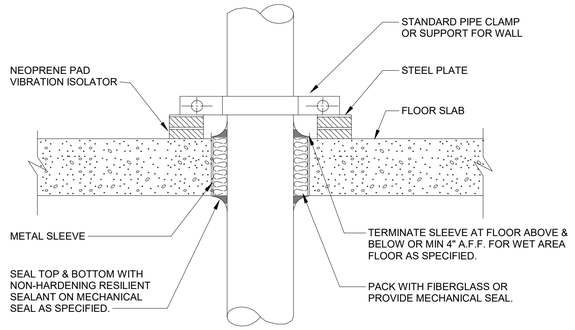
NOTE:

THE ASSEMBLY ABOVE IS BASED ON U.L. PENETRATION ASSEMBLY NO.91. INSTALL PENETRATION ASSEMBLY IN ACCORDANCE WITH ITS LISTING.

INSULATED PIPE

J2 INSULATED FIRE PENETRATION

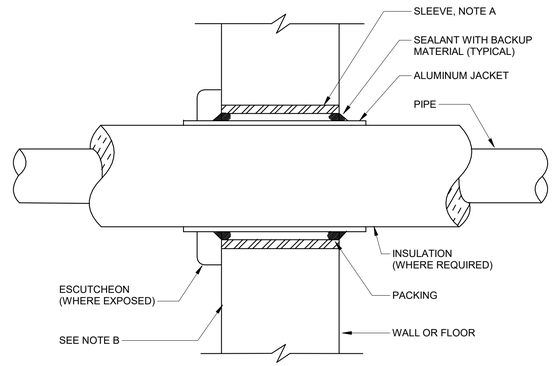
N.T.S.



NOTES:
A. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
B. THIS DETAIL IS FOR NON-FIRE RATED CONSTRUCTION. PIPE PENETRATIONS OF FIRE-RATED CONSTRUCTION SHALL BE FIRE STOPPED WITH A U.L. CLASSIFIED SYSTEM.

J9 TYPICAL FLOOR SLEEVE

NOT TO SCALE

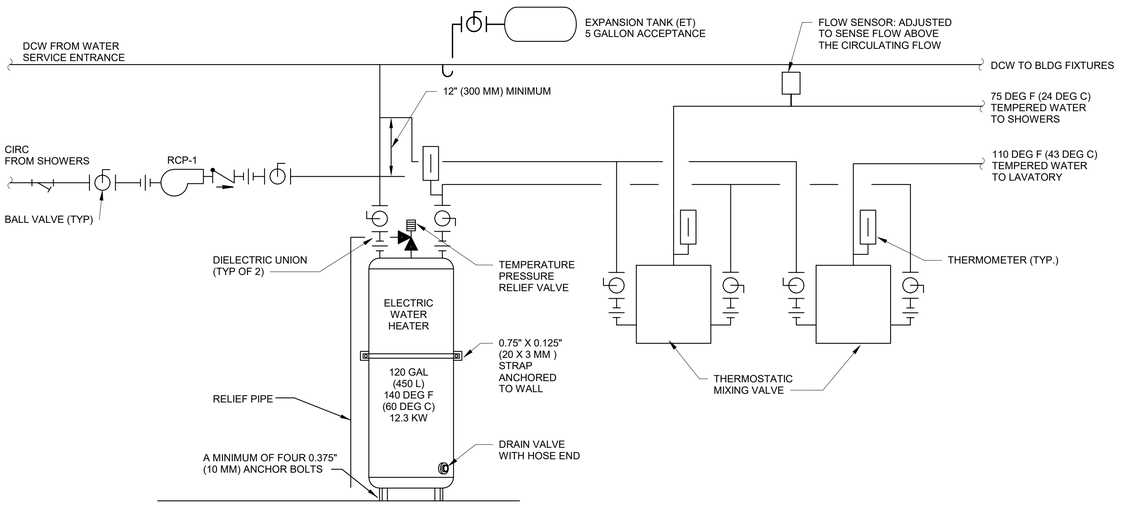


NOTES:

A. IN BEARING AND WALL BOARD WALLS, SLEEVE TO BE SCHEDULE 40 PIPE MATERIAL.
B. THIS DETAIL IS FOR NON-FIRE RATED CONSTRUCTION. PIPE PENETRATIONS OF FIRE-RATED CONSTRUCTION SHALL BE FIRE STOPPED WITH U.L. CLASSIFIED SYSTEM.

J15 TYPICAL WALL SLEEVE

NOT TO SCALE



B2 ELECTRIC WATER HEATER

NTS

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MARK	DESCRIPTION	DATE

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CONTRACT NO.:

DESIGNED BY: A. NICHOLS
DRAWN BY: A. NICHOLS
CHECKED BY: M. CHEEMA
SUBMITTED BY: C. FOSMER
SIZE: ANSI D
FILE NAME: BUCC000102_DM_PE.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

PLUMBING DETAILS

SHEET ID

P-503

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SEQUENCE OF OPERATION - DOMESTIC HOT WATER

THE FOLLOWING SYSTEMS SHALL BE MONITORED AND/OR CONTROLLED BY THE BUILDING ENERGY MANAGEMENT AND CONTROL SYSTEM. EACH SYSTEM SHALL BE REPRESENTED BY A SYSTEM GRAPHIC WHICH DISPLAYS ALL POINTS LISTED.

DOMESTIC HOT WATER HEATING RECIRCULATION PUMP STATUS (ON, OFF) SEQUENCE OF OPERATION:
PUMP SHALL BE ENABLED WHEN BUILDING IS OCCUPIED. PUMP SHALL RUN WHEN DOMESTIC HOT WATER RETURN TEMPERATURE IS BELOW SETPOINT.
PUMP SHALL STOP WHEN TEMPERATURE RISES TO HIGH TEMPERATURE SETPOINT.

TEMPERATURE SETPOINTS:
LOW TEMPERATURE SETPOINT (PUMP ON) 112°F (ADJ)
HIGH TEMPERATURE SETPOINT (PUMP OFF) 122°F (ADJ)

PUMP SHALL BE OFF DURING ALL OTHER TIMES.

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	FIXTURE TYPE	FITTING TYPE	PIPE SIZE CONNECTION				REMARKS
				DCW	DHW	SS	V	
EEWS-1	EMERGENCY EYEWASH SHOWER	FLOOR MOUNTED EMERGENCY EYEWASH SHOWER	STAINLESS STEEL DRAIN PAN, FULL FLOW STAY-OPEN BALL VALVE, 3 GPM FACE WASH, 20 GPM SHOWER		1 1/4"			3
FPWH-1	WALL HYDRANT	FREEZE PROOF EXTERIOR WALL HYDRANT	BRASS AUTOMATIC DRAINING, FREEZE PROOF, WITH ANTI-SIPHON VACUUM BREAKER, TEE KEY HANDLE, AND HOSE CONNECTION	3/4"				
HB-1	HOSE BIBB	INTERIOR HOSE BIBB	BRASS W/ANTI-SIPHON VACUUM BREAKER, WHEEL HANDLE AND HOSE CONNECTION	3/4"				
L-1	LAVATORY WALL MOUNTED	WALL MOUNTED PORCELAIN WITH BACKSPLASH	4" CENTERSET, DOUBLE PLADE HANDLES, MANUAL 0.5 GPM FAUCET AND PERFORATED GRID STRAINER	1/2"	1/2"	2"	1 1/2"	1
SS-1	CORNER SERVICE SINK	PRECAST TERRAZO, MOLDED MARBLE CHIPS AND PORTLAND CEMENT BASIN WITH DROPPED THRESHOLD AND SS SPLASH PANELS	WALL-MOUNTED FAUCET, 8" CENTERS, VACUUM BREAKER SPOUT, PAIL HOOK WALL BRACE, AND 3/4" MALE THREAD HOSE CONNECTION, 36" HOSE, AND SS WALL HOOK	1/2"	1/2"	3"	1 1/2"	4
WC-2	ADA WATER CLOSET	1.28 GPF, ENLONGATED BOWL, WALL MOUNT BACK DISCHARGE WHITE VITREOUS CHINA	MANUAL FLUSHOMETER	3/4"		3"	2"	2

REMARKS:
1. PROVIDE WITH OVERFLOW. INSULATED WATER AND WASTE PIPES AS NEEDED TO MEET ADA REQUIREMENTS.
2. PROVIDE SOLID PLASTIC, OPEN FRONT SEAT (LESS COVER).
3. PROVIDE HORN, STROBE, AND EMERGENCY FIXTURE THERMOSTATIC MIXING VALVE.
4. INTEGRAL DRAIN WITH REMOVABLE STRAINER AND 3" BOTTOM OUTLET.

DRAIN SCHEDULE

MARK	TYPE	DESCRIPTION	STRAINER	CONNECTION SIZE
FD-1	FLOOR DRAIN - CIRCLE	CAST IRON, TWO PIECE BODY, INTEGRAL CLAMPING COLLAR, TRAP PRIMER CONNECTION	5" CIRCULAR, ADJUSTABLE, NICKEL-BRONZE	SEE PLANS FOR SIZE
FD-2	FLOOR DRAIN - HEAVY DUTY	CAST IRON, TWO PIECE BODY, INTEGRAL CLAMPING COLLAR	9"ø CAST IRON TRACTOR GRATE, HEAVY DUTY	SEE PLANS FOR SIZE
FS-1	FLOOR SINK - SQUARE	CAST IRON, ONE PIECE BODY, ANCHOR FLANGE	12" SQ. STAINLESS STEEL GRATE	SEE PLANS FOR SIZE

REMARKS:
1. SIZE AS INDICATED BY CONNECTED PIPE SIZE.
2. FLOOR DRAINS SHALL HAVE SQUARE GRATES WHERE INSTALLED IN ROOMS WITH SQUARE TILES.

THERMOSTATIC MIXING VALVE SCHEDULE

MARK	DESCRIPTION	LOCATION	DCW	DCW TEMP. (DEG. F)	DHW	DHW TEMP. (DEG. F)	OUTLET	OUTLET TEMP. (DEG. F)	REMARKS
MV-1	MIXING VALVE	GEN RM A 106	1"	50	1"	140	1 1/4"	80	1
MV-1	MIXING VALVE	GEN RM B 117	1"	50	1"	140	1 1/4"	80	1

REMARKS:
1. PROVIDE ASSE 1017, FACTORY PIPED DIGITAL MIXING VALVE ASSEMBLY WITH DIAL THERMOMETER ON OUTLET

BACKFLOW PREVENTER SCHEDULE

MARK	LOCATION	TYPE	SERVICE	SIZE	MAXIMUM PRESSURE	REMARKS
BFP-1	MECHANICAL 105	RPZ	DOMESTIC COLD WATER	2"	175 PSI	1

REMARKS:
1. PROVIDE WITH AIR GAP FITTING AND PIPING DRAIN FROM BACKFLOW PREVENTER TO FLOOR DRAIN.

WATER HEATER SCHEDULE

MARK	DESCRIPTION	SIZE	FUEL TYPE	LOCATION	HEAT CAPACITY	DCW	DHW
WH-1	STORAGE WATER HEATER	120 GALLON	ELECTRIC	MECHANICAL 105	12.3 KW	3/4"	3/4"

NOTE:
1. REFER TO EP600 SERIES SHEETS FOR ELECTRICAL INFORMATION.

CLEANOUT SCHEDULE

MARK	DESCRIPTION	TYPE	COVER
WCO	WALL CLEANOUT	CAST IRON, THREADED BRASS COUNTERSUNK PLUG AND ADJUSTABLE HOUSING	POLISHED BRONZE
FCO	STANDARD DUTY FLOOR CLEANOUT	CAST IRON, THREADED BRASS COUNTERSUNK PLUG AND ADJUSTABLE HOUSING	POLISHED BRONZE

PUMP SCHEDULE

MARK	DESCRIPTION	LOCATION	CAPACITY (GPM)	TOTAL DYNAMIC HEAD	REMARKS
RCP-1	RECIRCULATION PUMP	MECHANICAL 105	5	12'	1, 2

REMARKS:
1. PROVIDE AQUASTAT. REFER TO SEQUENCE OF OPERATION ON SHEET P-601.
2. PROVIDE WITH CONTACT TO DDC FOR ON/OFF RUN STATUS.

EXPANSION TANK SCHEDULE

MARK	DESCRIPTION	LOCATION	SIZE
ET-1	DIAPHRAGM EXPANSION TANK	MECHANICAL 105	4.4 GALLONS

WATER METER SCHEDULE

MARK	DESCRIPTION	SIZE	SERVICE
M-1	WATER METER	2"	DCW

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MARK	DESCRIPTION	DATE

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CONTRACT NO.:
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DRAWN BY: A. NICHOLS
CHECKED BY: M. HOFFMAN
SUBMITTED BY: C. FOSMER
SIZE: ANSI D
FILE NAME: BUCC000102_DM_PF.rvt

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PLUMBING SCHEDULES

SHEET ID

P-601

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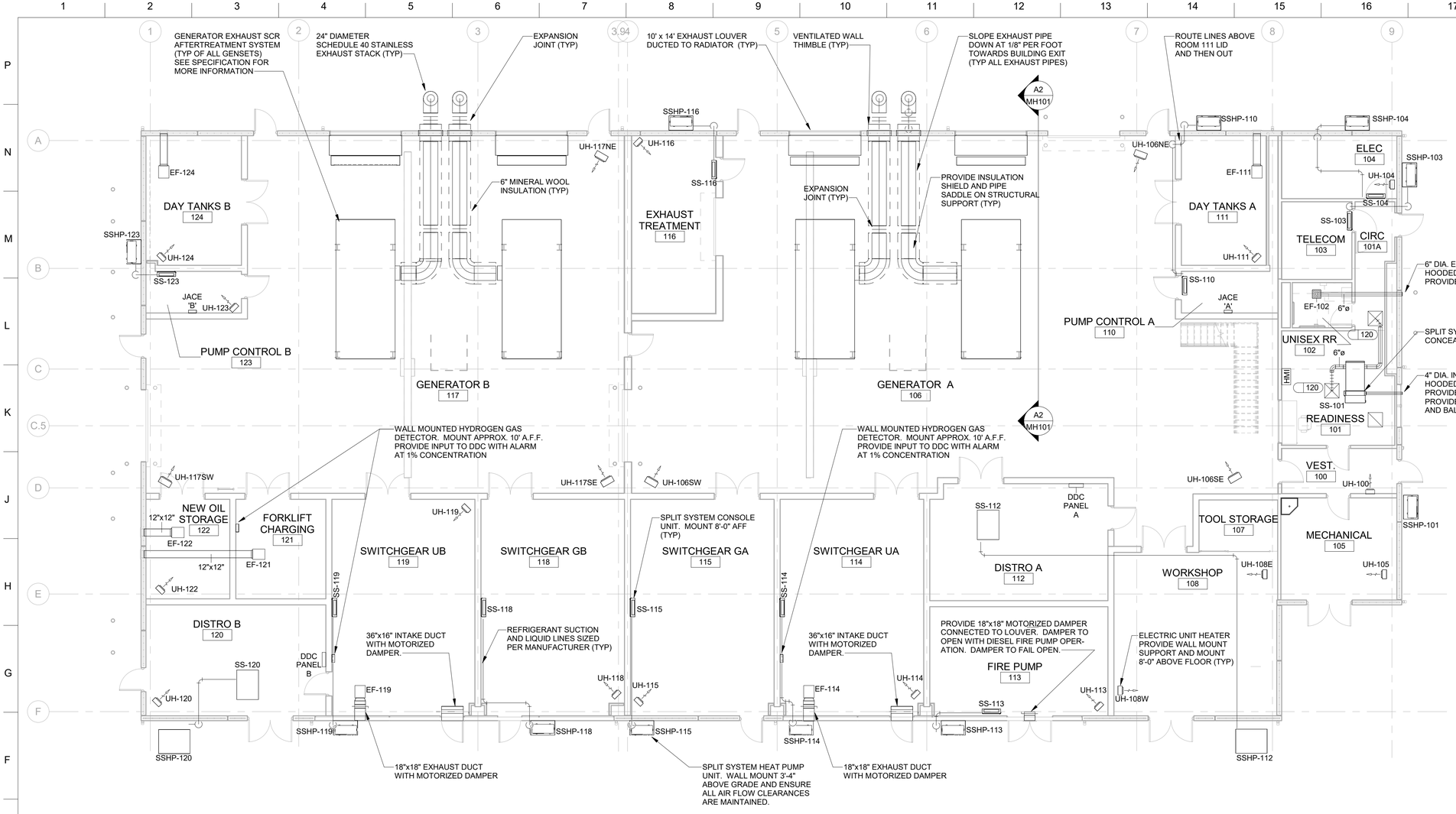
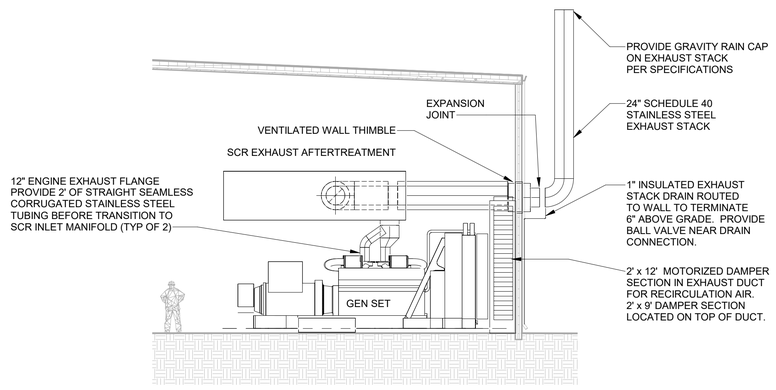
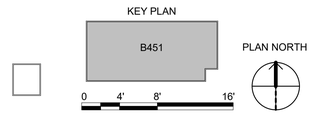


F2 FIRST FLOOR HVAC
1/8" = 1'-0"



A2 GENERATOR EXHAUST SECTION
1/8" = 1'-0"



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SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

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DRAWN BY: C. FOSMER
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SUBMITTED BY: C. FOSMER
SIZE: ANSI D
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FIRST FLOOR HVAC PLAN

SHEET ID
MH101

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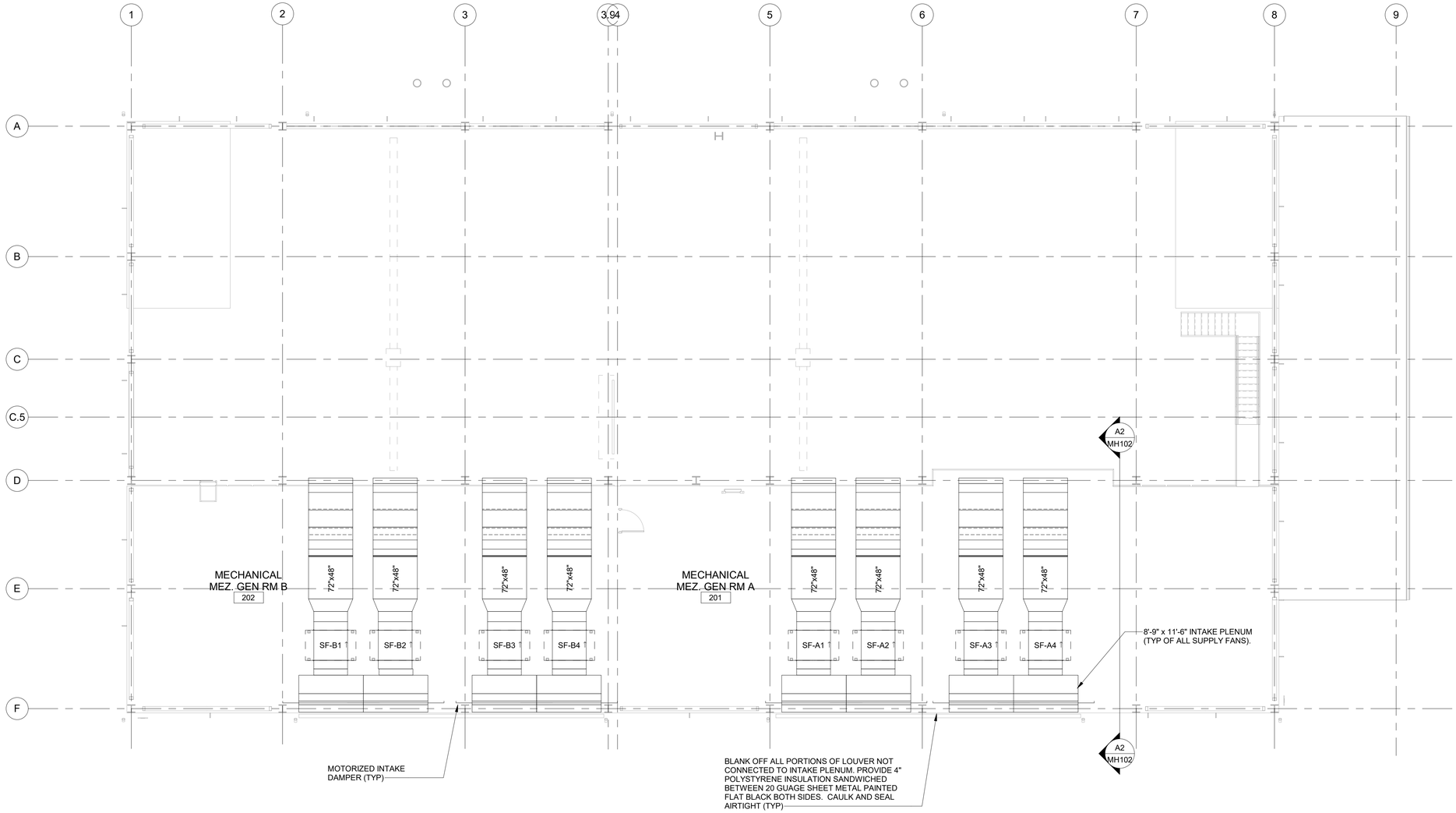
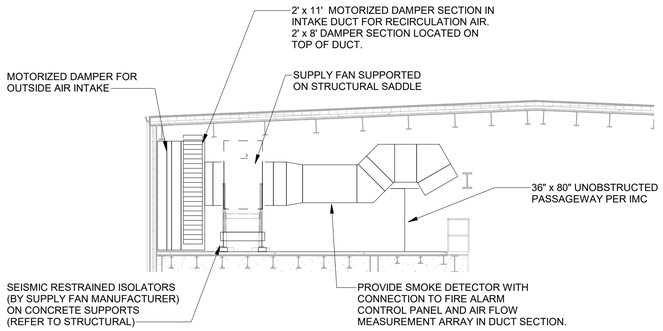


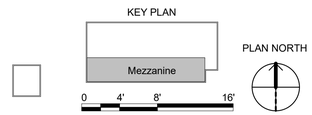
G3 MEZZANINE HVAC

1/8" = 1'-0"



A2 FAN/DUCTWORK SECTION

1/8" = 1'-0"



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MARK	DESCRIPTION	DATE

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C. FOSMER	05/01/2025
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C. FOSMER	W9128F25RA043
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C. FOSMER	
SUBMITTED BY:	FILE NAME:
C. FOSMER	BUCO00102_DM_ME.rvt
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SECOND FLOOR HVAC PLAN

SHEET ID

MH102

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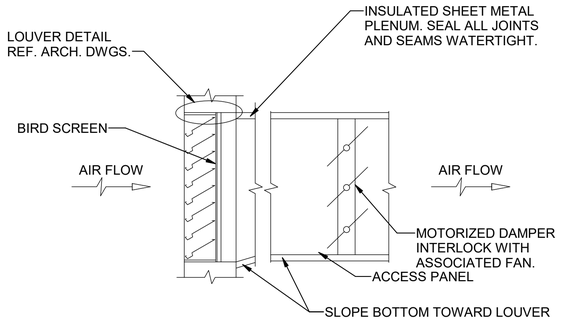
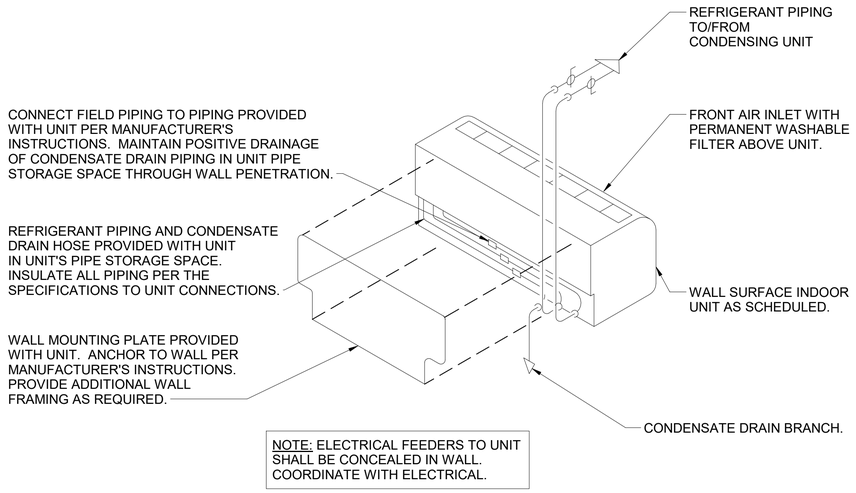


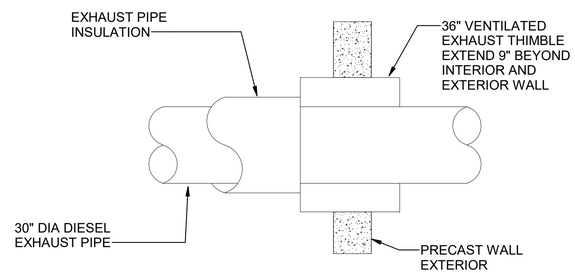
K2 OUTSIDE AIR INTAKE DETAIL

1/8" = 1'-0"



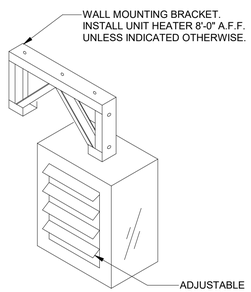
K9 SPLIT SYSTEM INDOOR UNIT DETAIL

1/2" = 1'-0"



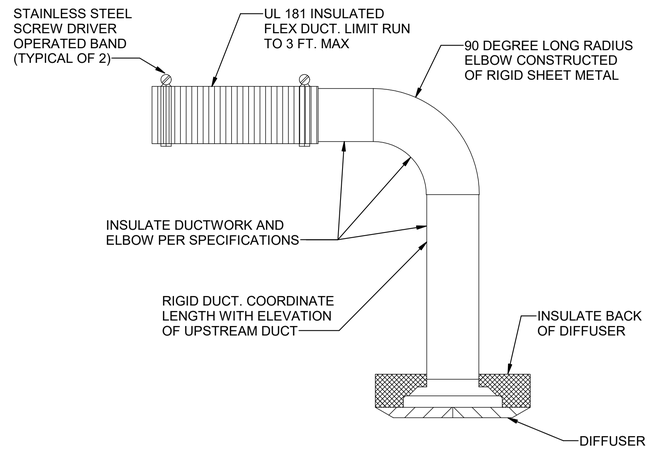
E15 EXHAUST THIMBLE DETAIL

3" = 1'-0"



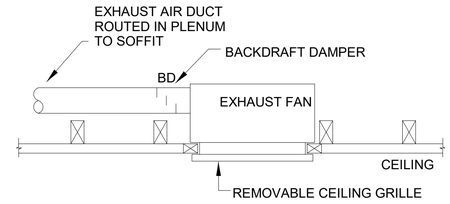
B2 ELECTRIC UNIT HEATER DETAIL

1/8" = 1'-0"



B8 DIFFUSER CONNECTION DETAIL

1/8" = 1'-0"



B16 CEILING EXHAUST FAN DETAIL

1" = 1'-0"

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MARK	DESCRIPTION	DATE

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HVAC DETAILS

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SUPPLY FAN SCHEDULE				
MARK	FAN CAPACITY (CFM)	EXTERNAL STATIC	Description	REMARKS
SF-A1	73,000	1.15" WC	INLINE VANE AXIAL	1,2,3,4
SF-A2	73,000	1.15" WC	INLINE VANE AXIAL	1,2,3,4
SF-A3	73,000	1.15" WC	INLINE VANE AXIAL	1,2,3,4
SF-A4	73,000	1.15" WC	INLINE VANE AXIAL	1,2,3,4
SF-B1	73,000	1.15" WC	INLINE VANE AXIAL	1,2,3,4
SF-B2	73,000	1.15" WC	INLINE VANE AXIAL	1,2,3,4
SF-B3	73,000	1.15" WC	INLINE VANE AXIAL	1,2,3,4
SF-B4	73,000	1.15" WC	INLINE VANE AXIAL	1,2,3,4

REMARKS:

1. PROVIDE VARIABLE FREQUENCY DRIVE FOR FAN SPEED CONTROL.
2. PROVIDE MANUFACTURERS RECOMMENDED FAN SADDLE AND STRUCTURAL SUPPORT.
3. PROVIDE MANUFACTURERS INLET AND OUTLET BELL FITTING.
4. EQUIPMENT PERFORMANCE TO BE MET AT SITE ELEVATION OF 5660 FT.

SPLIT-SYSTEM HEAT PUMP SCHEDULE					
INDOOR UNIT	AIRFLOW (CFM)	COOLING CAPACITY (BTU/H)	HEATING CAPACITY (BTU/H)	OUTDOOR UNIT	REMARKS
SS-101	240	9,000	6,000	SSHP-101	1,2,3,4,6,7
SS-103	385	12,000	10,600	SSHP-103	1,2,3,4,6,7
SS-104	385	12,000	10,600	SSHP-104	1,2,3,4,6,7
SS-110	385	12,000	10,600	SSHP-110	1,2,3,4,6,7
SS-112	2,400	72,000	36,000	SSHP-112	1,2,4,5,6,7
SS-113	385	12,000	10,600	SSHP-113	1,2,3,4,6,7
SS-114	385	18,000	13,600	SSHP-114	1,2,3,4,6,7
SS-115	385	18,000	13,600	SSHP-115	1,2,3,4,6,7
SS-116	385	12,000	10,600	SSHP-116	1,2,3,4,6,7
SS-118	385	18,000	13,600	SSHP-118	1,2,3,4,6,7
SS-119	385	18,000	13,600	SSHP-119	1,2,3,4,6,7
SS-120	2,400	72,000	36,000	SSHP-120	1,2,4,5,6,7
SS-123	385	12,000	10,600	SSHP-123	1,2,3,4,6,7

REMARKS:

1. CAPACITY BASED ON AHRI CONDITIONS (95 DEGREE OUTDOOR COOLING, 17 DEGREE OUTDOOR HEATING)
2. PROVIDE BAFFLES OR MANUFACTURERS LOW-AMBIENT KIT TO ENSURE COOLING TO 0 DEG. F.
3. OUTDOOR UNIT MOUNTED TO FRAME ON BUILDING WALL 3'-4" ABOVE GRADE.
4. PROVIDE MANUFACTURERS WALL MOUNTED CONTROLLER WITH CONNECTION TO DDC.
5. PROVIDE CONCRETE MECH EQUIPMENT PAD FOR OUTDOOR UNIT (SEE STRUCTURAL SHEETS).
6. MOUNT INDOOR UNIT 8'-0" A.F.F.
7. PROVIDE UL 508 WATER-LEVEL DETECTION DEVICE IN DRAIN PAN ABOVE DRAIN LINE CONNECTION BUT BELOW OVERFLOW RIM. PROVIDE INPUT TO DDC SYSTEM TO ALARM AND DISABLE SYSTEM (SEE POINTS SCHEDULE).

ELECTRIC UNIT HEATER SCHEDULE			
MARK	HEATING CAPACITY	FAN CAPACITY (CFM)	REMARKS
UH-100	2 kW	250	2,4
UH-104	3 kW	400	1,4
UH-105	3 kW	400	1,4
UH-106NE	10 kW	700	1,4
UH-106SE	10 kW	700	1,4
UH-106SW	10 kW	700	1,4
UH-108E	3 kW	400	1,4
UH-108W	3 kW	400	1,4
UH-111	3 kW	500	3,4
UH-113	3 kW	400	1,4
UH-114	3 kW	400	1,4
UH-115	3 kW	400	1,4
UH-116	3 kW	400	1,4
UH-117NE	10 kW	700	1,4
UH-117SE	10 kW	700	1,4
UH-117SW	10 kW	700	1,4
UH-118	3 kW	400	1,4
UH-119	3 kW	400	1,4
UH-120	3 kW	400	1,4
UH-122	3 kW	500	1,4
UH-123	3 kW	400	1,4
UH-124	3 kW	500	3,4

REMARKS:

1. WALL MOUNT 8'-0" ABOVE FINISHED FLOOR.
2. WALL-RECESSED UNIT. MOUNT 3'-0" AFF.
3. EXPLOSION PROOF HEATER.
4. PROVIDE WALL MOUNT TEMPERATURE SENSOR FOR OPERATION AND CONNECTION TO DDC SYSTEM.

EXHAUST FAN SCHEDULE			
MARK	FAN CAPACITY (CFM)	EXTERNAL STATIC	REMARKS
EF-102	50	0.2" WC	3,4
EF-111	105	0.2" WC	1,2,4
EF-114	600	0.2" WC	1,2,4
EF-119	600	0.2" WC	1,2,4
EF-121	175	0.2" WC	1,2,4
EF-122	105	0.2" WC	2,4
EF-124	105	0.2" WC	1,2,4

REMARKS:

1. EXPLOSION PROOF MOTOR AND SPARK RESISTANT CONSTRUCTION.
2. PROVIDE FLOW SWITCH WITH INPUT TO DDC.
3. CEILING MOUNTED UNIT.
4. EQUIPMENT PERFORMANCE TO BE MET AT SITE ELEVATION OF 5660 FT.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DRAWN BY: C. FOSMER
CHECKED BY: C. FOSMER
SUBMITTED BY: C. FOSMER
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HVAC SCHEDULES

SHEET ID

MH601

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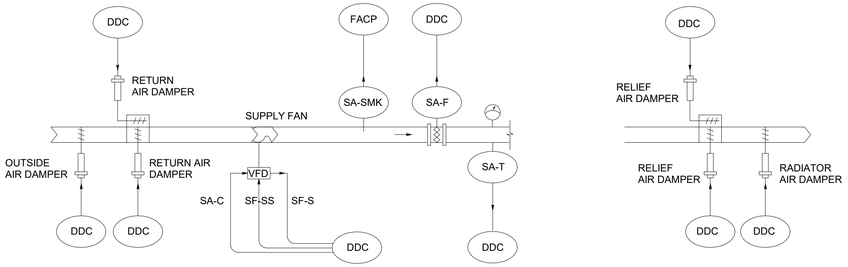


GENERATOR COOLING SYSTEM SEQUENCE OF CONTROL

UPON A CALL FOR A GENERATOR TO RUN (AS PROVIDED BY A SIGNAL FROM GENERATOR CONTROLS TO DDC SYSTEM), THE OUTSIDE AIR DAMPERS FOR BOTH SUPPLY FANS ASSOCIATED WITH THE GENERATOR WILL OPEN ALONG WITH THE GENERATOR RADIATOR AIR DAMPER. THE SUPPLY FAN VFD WILL START THE FAN AND INCREASE THE FAN SPEED UNTIL THE SUPPLY AIR FLOW (AS SENSED BY THE AIR FLOW MEASUREMENT ARRAY SA-F) REACHES THE SCHEDULED VALUE.

IF THE SUPPLY AIR TEMPERATURE (AS SENSED BY SA-T) IS BELOW 40 DEGREES F AT ANY TIME THE FAN IS OPERATIONAL, THE RELIEF AND RETURN AIR DAMPERS ASSOCIATED WITH THE ACTIVE GENERATOR WILL BEGIN TO OPEN. THE DAMPER POSITION WILL VARY LINEARLY BETWEEN CLOSED AND FULLY OPEN OVER THE RANGE OF 40 DEG F TO 32 DEG F.

IF AT ANY TIME A FAN IS CALLED TO OPERATE AND ANY ALARM ASSOCIATED WITH THE FANS OPERATION (NO FLOW, VFD ERROR, ETC) IS ACTIVE, THE DDC SHALL ENABLE THE NEXT SEQUENTIAL FAN LOCATED IN THE SAME GENERATOR BAY. IF THIS NEXT SEQUENTIAL FAN HAS ANY ALARM CONDITION, THE DDC SHALL ENABLE THE FINAL SEQUENTIAL FAN. IF AT ANY TIME THREE FANS IN THE ACTIVE GENERATOR BAY HAVE A FAN OPERATION ALARM, THE DDC SHALL SEND A SIGNAL TO THE GENERATOR CONTROLS INDICATING A COOLING AIRFLOW FAILURE.

ALL DAMPERS IN THE COOLING SYSTEM SHALL BE NORMALLY CLOSED. OUTSIDE AIR AND RADIATOR AIR DAMPERS SHALL FAIL OPEN, AND THE RETURN AIR AND RELIEF AIR SHALL FAIL CLOSED.

IF THE ROOM AIR TEMPERATURE (AS SENSED BY ANY ELECTRIC UNIT HEATER SENSOR SERVING THE SPACE) IS BELOW 32 DEGREES F FOR 5 MINUTES, A COMPARTMENT FAILURE SIGNAL WILL BE SENT TO THE GENERATOR CONTROLS AND ALL FANS WILL STOP WITH ALL DAMPERS RETURNING TO CLOSED.

GENERATOR 1 AND 2 BY COMPARTMENT (COMPARTMENT 'A' OR COMPARTMENT 'B')

Upon Generator 1 and 2 Compartment mode ENABLE (SYS.ENA), Supply Fans and Dampers shall be ENABLED and available for operation.
- Generator 1 Radiator Damper (GEN-1-RADD-C), OA Damper A (OAD-A-C), and OA Damper B (OAD-B-C) shall open to commanded position.
- Upon status verification of Dampers (GEN-1-RADD-STS, OAD-A-STS, and OAD-B-STS), Supply Fans A and B (SF-A-SS and SF-B-SS) shall start AND operate at commanded speed (SF-A-SP and SF-B-SP).
- Supply Fans A and B status shall be continually verified (SF-A-STS and SF-B-STS).
- If Supply Air Temperature (SA-T) falls below 40F (adj), Supply Air Temperature Setpoint (SA-T-SP), then Return Air Dampers A and B (RAD-A-C and RAD-B-C) and Relief Air Damper 1 (RELD-1-C) shall modulate linearly to 100% at 32F.

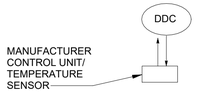
Upon Generator 1 (GEN-1-SS) (or Generator 2) stop:
- Supply Fans A and B shall stop (SF-A-SS and SF-B-SS) and all dampers shall close (RELD-1-C, RAD-A-C, and RAD-B-C).

Upon Generator 1 (GEN-1-SS) and Generator 2 (GEN-2-SS) start:
- All Dampers shall open to commanded position.
- Upon status verification of Dampers, all Supply Fans shall start and operate at commanded speeds.
- All Supply Fan status shall be continually verified.
- If Supply Air Temperature falls below Set Point, then all Return Air Dampers and Relief Air Dampers shall modulate linearly to 100% at 32F.

Upon Generator 1 and Generator 2 stop:
- All Supply Fans shall stop. All Dampers shall close.

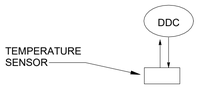
Upon Generator (1 or 2) stop, while the other Generator (2 or 1) remains in operation:
- Two Supply Fans shall remain in operation with dampers at commanded positions. The other Two Supply Fans shall stop, and associated dampers shall close.

Alarms:
- Upon failure to reach proper status (##-##-STS) by a component, an alarm shall be sent to the Front End.
- Upon failure of Radiator Damper (GEN-#-RADD-STS) or Relief Air Damper (RELD-1-STS), Generator X, shall be commanded to STOP (GEN-1-STOP).
- Upon failure a of Supply Fan (SF-#-STS), OA Damper (OA-#-STS), or Return Air Damper (RAD-#-STS, the next available Supply Fan and Dampers shall operate.
- If a single Generator is operating, it shall require two operating Supply Fans and dampers.
- If both Generators are operating, a minimum of three Supply Fans and dampers shall be operating.
- If Smoke is detected (SF-#-SMK), all Supply Fans shall be commanded to STOP, and all Dampers shall close. All Generators shall be commanded to STOP.



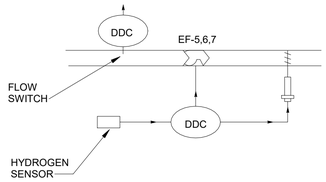
SPLIT SYSTEM HEAT PUMP SEQUENCE OF CONTROL

UPON A CALL FOR A COOLING (SPACE TEMPERATURE OF 75 DEGREES F OR ABOVE) THE SYSTEM WILL OPERATE IN COOLING MODE UNTIL THE SPACE TEMPERATURE REACHES 72 DEGREES F.
UPON A CALL FOR HEATING (SPACE TEMPERATURE OF 48 DEGREES F OR LESS) THE SYSTEM WILL OPERATE IN HEATING MODE UNTIL THE SPACE TEMPERATURE REACHES 51 DEGREES F.



ELECTRIC UNIT HEATER SEQUENCE OF CONTROL

UPON A CALL FOR HEATING (SPACE TEMPERATURE OF 40 DEGREES F OR LESS) THE SYSTEM WILL OPERATE IN HEATING MODE UNTIL THE SPACE TEMPERATURE REACHES 45 DEGREES F.



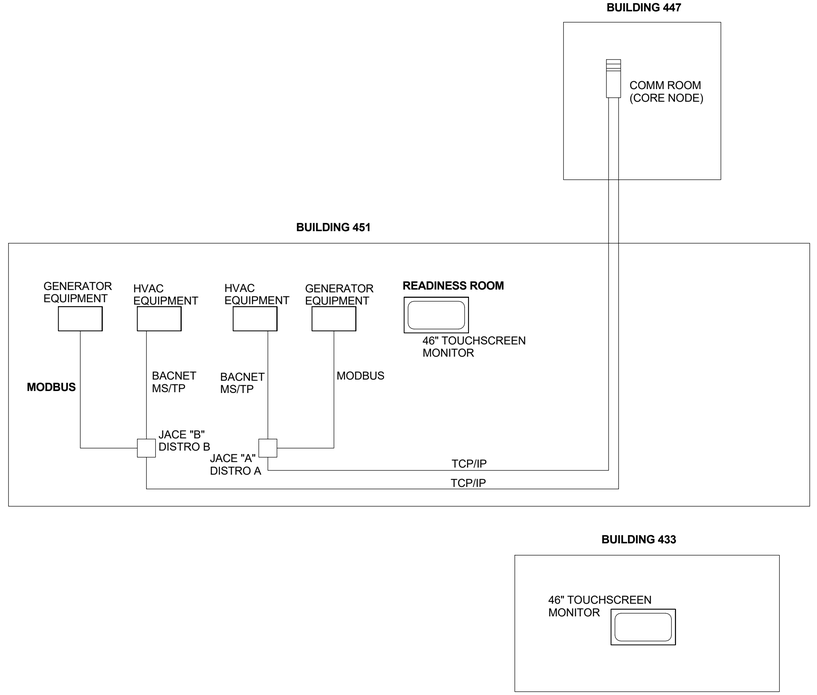
EXHAUST FAN SEQUENCE OF CONTROL

UPON DETECTION OF HYDROGEN ABOVE 1% CONCENTRATION AN ALARM SHALL BE SENT TO THE EMCS, INTAKE AND EXHAUST DAMPERS SHALL OPEN, AND THE FAN WILL RUN UNTIL THE CONCENTRATION FALLS BELOW 0.1% (MINIMUM RUN TIME OF 15 MINS).

EF-1,2,4 SHALL RUN CONTINUOUSLY.

EF-3 SHALL RUN WITH OCCUPANCY SCHEDULE.

ALL FANS SHALL ALARM UPON FLOW SWITCH FAILURE WHEN COMMANDED TO RUN.



DDC COMMUNICATION SCHEMATIC

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MARK	DESCRIPTION	DATE

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CONTRACT NO.:

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CHECKED BY: C. FOSMER
SUBMITTED BY: C. FOSMER
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FILE NAME: BUCO00102_DM_ME.rvt

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HVAC CONTROLS

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FUNCTION	NAME	DESCRIPTION	SETTINGS (WITH UNITS)	RANGE (WITH UNITS)	IO TYPE	INSTANCE NUMBER	DEVICE ID	FRONT END		OVRD REQ'D	ALARM CONDITION	ALARM PRIORITY	
								DISP REQ'D	TREND REQ'D				
SYSTEM CONTROL	SYS.ENA	GEN 1-2 COMPARTMENT ENABLE DISABLE	~	ENABLE/DISABLE	COMM-BI	*	*	X	~	~	~	~	MODBUS
	GEN-1-SS	GEN 1 START STOP	~	START/STOP	COMM-BI	*	*	X	X	~	~	~	MODBUS
	GEN-1-STOP	GEN 1 STOP	~	STOP	COMM-BO	*	*	X	~	X	X	CRIT	MODBUS
	RELD-1-C	GEN 1 RELIEF AIR DAMPER POSITION	~	0-100%	AO	*	*	X	~	X	~	~	
	RELD-1-STS	GEN 1 RELIEF AIR DAMPER STATUS	~	0-100%	AI	*	*	X	~	~	~	~	
	GEN-1-RADD-C	GEN 1 RADIATOR AIR DAMPER POSITION	~	0-100%	AO	*	*	X	~	X	~	~	
	GEN-1-RADD-STS	GEN 1 RADIATOR AIR DAMPER STATUS	~	0-100%	AI	*	*	X	~	~	~	CRIT	
	GEN-2-SS	GEN 2 START STOP	~	START/STOP	COMM-BI	*	*	X	X	~	~	~	MODBUS
	GEN-2-STOP	GEN 2 STOP	~	STOP	COMM-BO	*	*	X	~	X	~	CRIT	MODBUS
	RELD-2-C	GEN 2 RELIEF AIR DAMPER POSITION	~	0-100%	AO	*	*	X	~	X	~	~	
	RELD-2-STS	GEN 2 RELIEF AIR DAMPER STATUS	~	0-100%	AI	*	*	X	~	~	~	~	
	GEN-2-RADD-C	GEN 2 RADIATOR AIR DAMPER POSITION	~	0-100%	AO	*	*	X	~	X	~	~	
	GEN-2-RADD-STS	GEN 2 RADIATOR AIR DAMPER STATUS	~	0-100%	AI	*	*	X	~	~	~	CRIT	
	OA-T	OUTDOOR AIR TEMPERATURE	~	-40 - 150F	AI	*	*	X	X	~	~	~	
	SA-T	SUPPLY AIR TEMPERATURE	~	-40 - 150F	AI	*	*	X	X	~	~	~	
	SA-T-SP	SUPPLY AIR TEMPERATURE SET POINT	40F	-40 - 150F	~	*	*	X	X	X	~	~	
FAN A CONTROL	SF-A-SS	FAN A START STOP	~	START/STOP	BO	*	*	X	~	~	~	~	
	SF-A-STS	FAN A STATUS	~	0-100%	AI	*	*	X	~	~	X	CRIT	
	SF-A-SP	FAN A SPEED	~	0-100%	AO	*	*	X	X	X	~	~	
OA DAMPER A CONTROL	OAD-A-C	OA DAMPER A POSITION	~	0-100%	AO	*	*	X	X	X	~	~	
	OAD-A-STS	OA DAMPER A STATUS	~	0-100%	AI	*	*	X	~	~	X	CRIT	
RTN DAMPER A CONTROL	RAD-A-C	RETURN DAMPER A POSITION	~	0-100%	AO	*	*	X	X	X	~	~	
	RAD-A-STS	RETURN DAMPER A STATUS	~	0-100%	AI	*	*	X	~	~	X	CRIT	
FAN B CONTROL	SF-B-SS	FAN B START STOP	~	START/STOP	BO	*	*	X	~	~	~	~	
	SF-B-STS	FAN B STATUS	~	0-100%	AI	*	*	X	~	~	X	CRIT	
	SF-B-SP	FAN B SPEED	~	0-100%	AO	*	*	X	X	X	~	~	
OA DAMPER B CONTROL	OAD-B-C	OA DAMPER B POSITION	~	0-100%	AO	*	*	X	X	X	~	~	
	OAD-B-STS	OA DAMPER B STATUS	~	0-100%	AI	*	*	X	~	~	X		
RTN DAMPER B CONTROL	RAD-B-C	RETURN DAMPER B POSITION	~	0-100%	AO	*	*	X	X	X	~	~	
	RAD-B-STS	RETURN DAMPER B STATUS	~	0-100%	AI	*	*	X	~	~	X	CRIT	
FAN C CONTROL	SF-C-SS	FAN C START STOP	~	START/STOP	BO	*	*	X	~	~	~	~	
	SF-C-STS	FAN C STATUS	~	0-100%	AI	*	*	X	~	~	X	CRIT	
	SF-C-SP	FAN C SPEED	~	0-100%	AO	*	*	X	X	X	~	~	
OA DAMPER C CONTROL	SF-A-SS	OA DAMPER C POSITION	~	0-100%	AO	*	*	X	X	X	~	~	
	SF-A-SS	OA DAMPER C STATUS	~	0-100%	AI	*	*	X	~	~	X		
RTN DAMPER C CONTROL	RAD-C-C	RETURN DAMPER C POSITION	~	0-100%	AO	*	*	X	X	X	~	~	
	RAD-C-STS	RETURN DAMPER C STATUS	~	0-100%	AI	*	*	X	~	~	X	CRIT	
FAN D CONTROL	SF-D-SS	FAN D START STOP	~	START/STOP	BO	*	*	X	~	~	~	~	
	SF-D-STS	FAN D STATUS	~	0-100%	AI	*	*	X	~	~	X	CRIT	
	SF-D-SP	FAN D SPEED	~	0-100%	AO	*	*	X	X	X	~	~	
OA DAMPER D CONTROL	OAD-D-C	OA DAMPER D POSITION	~	0-100%	AO	*	*	X	X	X	~	~	
	OAD-D-STS	OA DAMPER D STATUS	~	0-100%	AI	*	*	X	~	~	X	CRIT	
RTN DAMPER D CONTROL	OAD-D-C	RETURN DAMPER D POSITION	~	0-100%	AO	*	*	X	X	X	~	~	
	OAD-D-STS	RETURN DAMPER D STATUS	~	0-100%	AI	*	*	X	~	~	X	CRIT	
SPLIT SYSTEM HEAT PUMP	T-01	SPACE TEMPERATURE	~	0 - 120F	AI	*	*	X	X	~	~	~	
	STATUS	UNIT STATUS	~	0-100%	BI	*	*	X	~	~	X	~	
	ALARM	UNIT ALARM	~	0-100%	BI	*	*	X	~	~	~	~	
PREACTION LOW PRESSURE	F-LP	PREACTION FIRE SUPPRESSION	~	0-100%	BI	*	*	X	~	~	X	CRIT	

NOTES:
1. SPACES MARKED WITH A TILDE (~) ARE EQUIVALENT TO A "N/A" OR NULL VALUED.
2. SPACES MARKED WITH AN ASTERISK (*) WILL BE DEFINED DURING PROGRAMMING OR FIELD INSTALLATION.
3. SEE FIRE ALARM MATRIX FOR ADDITIONAL DDC INTERFACE POINTS.

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HVAC CONTROLS

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DIESEL EXHAUST FLUID (DEF) GENERAL NOTES

ALL TANKS MUST BE EQUIPPED WITH DROP TUBES EXTENDING TO WITHIN 6 INCHES OF THE TANK BOTTOM TO ENSURE PROPER FILLING, REDUCE SPLASHING, AND MAINTAIN DEF PURITY.

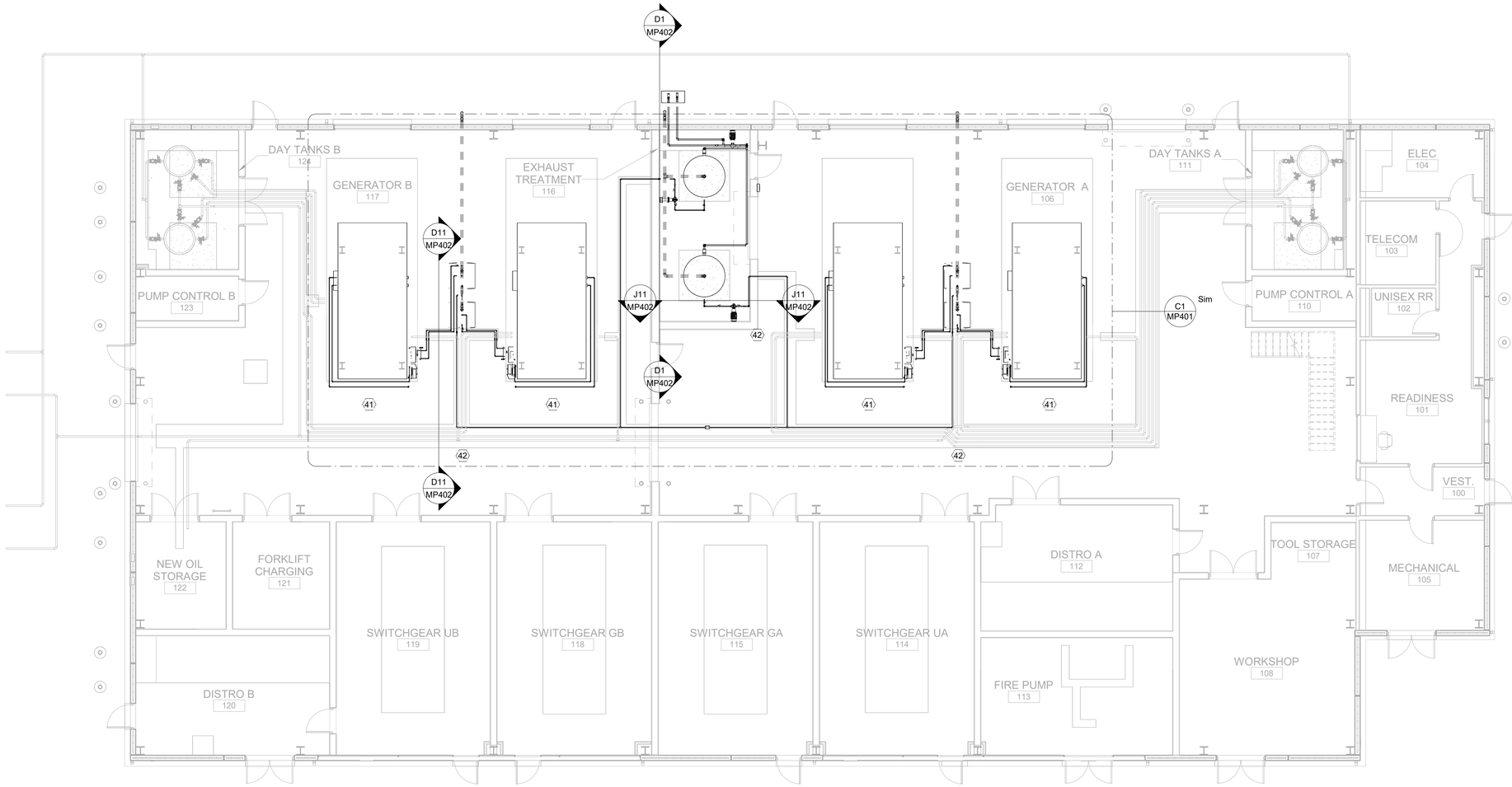
ALL ATGs SHALL REPORT DATA TO READINESS ROOM 100A AND BUILDING B451. ENSURE PROPER CONNECTIVITY AND CONFIGURATION TO FACILITATE ACCURATE AND TIMELY DATA TRANSMISSION TO THESE LOCATIONS.

ALL PUMPS WILL BE AUTOMATICALLY CONTROLLED THROUGH LEVEL SENSORS TO ENSURE EFFICIENT OPERATION. MANUAL CONTROL OVERRIDE CAN BE PERFORMED FROM READINESS ROOM 100A. ADDITIONALLY, PUMP DATA WILL BE REPORTED TO BOTH READINESS ROOM 100A AND BUILDING B451 FOR MONITORING AND RECORD-KEEPING PURPOSES.

DIESEL EXHAUST FLUID (DEF) KEYNOTES

(41) ENSURE SELECTIVE CATALYTIC REDUCTION (SCR) & DIESEL EXHAUST FLUID (DEF) SYSTEM DOES NOT EXCEED DRIVE LANE NOTED ON SHEET A-101.

(42) TRENCH GRATING NOT SHOWN IN THIS VIEW FOR PIPE LAYOUT CLARITY.



A1 DEF PIPING PLAN
1/8" = 1'-0"

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SUBMITTED BY: C. FOSSMER
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DEF PLAN

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DIESEL EXHAUST FLUID (DEF) GENERAL NOTES

ALL TANKS MUST BE EQUIPPED WITH DROP TUBES EXTENDING TO WITHIN 6 INCHES OF THE TANK BOTTOM TO ENSURE PROPER FILLING, REDUCE SPLASHING, AND MAINTAIN DEF PURITY.

ALL ATGs SHALL REPORT DATA TO READINESS ROOM 100A AND BUILDING B451. ENSURE PROPER CONNECTIVITY AND CONFIGURATION TO FACILITATE ACCURATE AND TIMELY DATA TRANSMISSION TO THESE LOCATIONS.

ALL PUMPS WILL BE AUTOMATICALLY CONTROLLED THROUGH LEVEL SENSORS TO ENSURE EFFICIENT OPERATION. MANUAL CONTROL OVERRIDE CAN BE PERFORMED FROM READINESS ROOM 100A. ADDITIONALLY, PUMP DATA WILL BE REPORTED TO BOTH READINESS ROOM 100A AND BUILDING B451 FOR MONITORING AND RECORD-KEEPING PURPOSES.

DIESEL EXHAUST FLUID (DEF) KEYNOTES

(30) 3" UREA TANK VENT. TERMINATE WITH GOOSENECK FITTING MINIMUM 18" ABOVE ROOF WITH BIRDSCREEN.

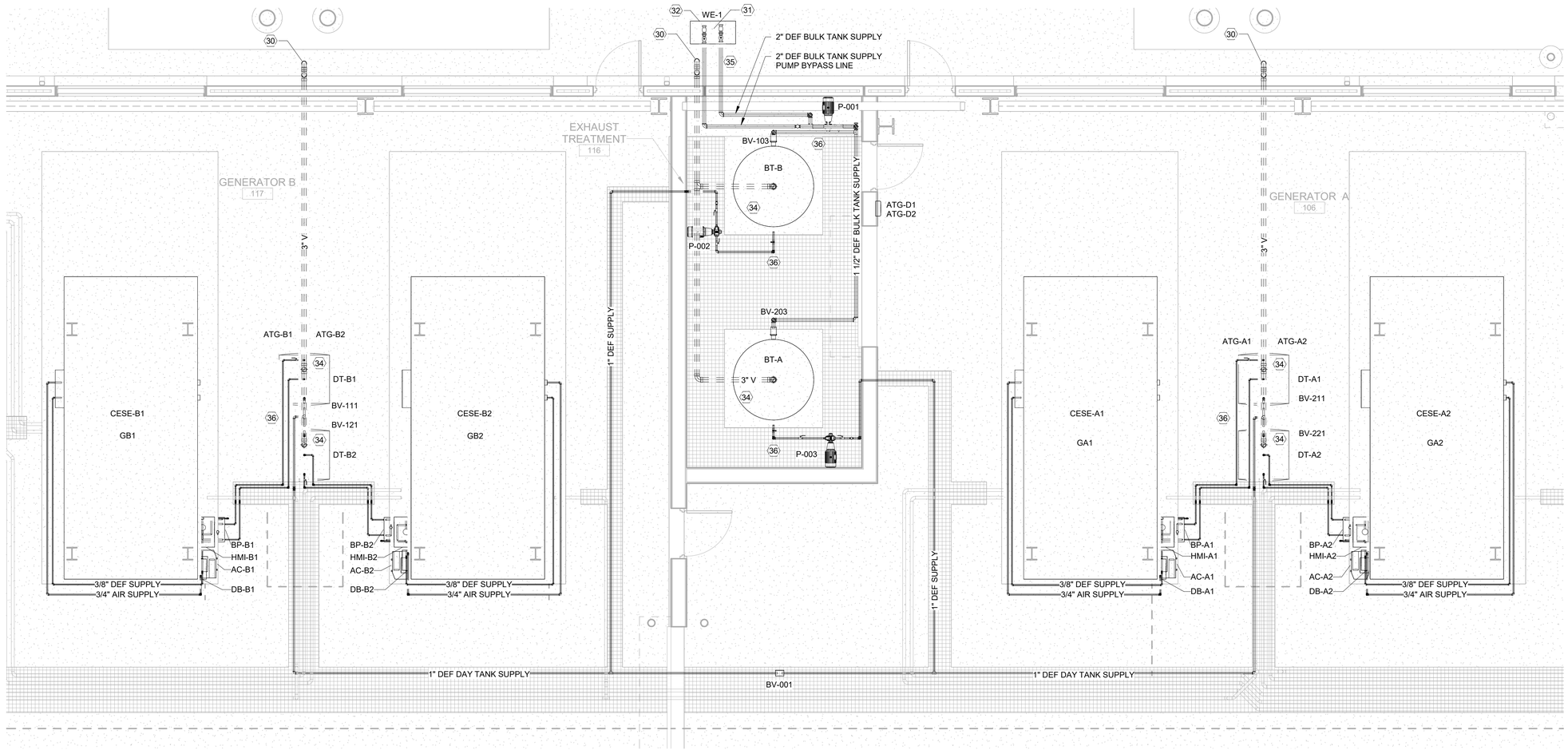
(31) DEF FILL CONNECTION WITH CAMLOCK.

(32) CUSTOM MULTI-TANK REMOTE FILL WEATHERPROOF HEATED NEMA FILL POINT ENCLOSURE TO BE INSTALLED AROUND DEF FILL CONNECTION AND SHALL BE MADE ACCESSIBLE TO DEF FILL.

(34) PROVIDE AND LEVEL SENSOR, QUALITY SENSOR, AND TEMPERATURE SENSOR. ENSURE ALL SENSORS ARE CONNECTED TO AND COMMUNICATE WITH THE AUTOMATIC TANK GAUGE DEVICE FOR MONITORING AND CONTROL.

(35) PROVIDE DOUBLE-WALLED PIPE SYSTEM USED FOR DEF TRANSFER BETWEEN REMOTE FILL BOX AND BUILDING ENTRY POINT.

(36) INSTALL SMALL BORE PIPE SUPPORTS PER DEF MANUFACTURER'S SPECIFICATIONS



C1 DEF PLAN - ENLARGED TRANSFER SYSTEM

1/4" = 1'-0"

US Army Corps of Engineers ®

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DEF ENLARGED PLAN

SHEET ID

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DIESEL EXHAUST FLUID (DEF) GENERAL NOTES

ALL TANKS MUST BE EQUIPPED WITH DROP TUBES EXTENDING TO WITHIN 6 INCHES OF THE TANK BOTTOM TO ENSURE PROPER FILLING, REDUCE SPLASHING, AND MAINTAIN DEF PURITY.

ALL ATGs SHALL REPORT DATA TO READINESS ROOM 100A AND BUILDING B451. ENSURE PROPER CONNECTIVITY AND CONFIGURATION TO FACILITATE ACCURATE AND TIMELY DATA TRANSMISSION TO THESE LOCATIONS.

ALL PUMPS WILL BE AUTOMATICALLY CONTROLLED THROUGH LEVEL SENSORS TO ENSURE EFFICIENT OPERATION. MANUAL CONTROL OVERRIDE CAN BE PERFORMED FROM READINESS ROOM 100A. ADDITIONALLY, PUMP DATA WILL BE REPORTED TO BOTH READINESS ROOM 100A AND BUILDING B451 FOR MONITORING AND RECORD-KEEPING PURPOSES.

DIESEL EXHAUST FLUID (DEF) KEYNOTES

30 3" UREA TANK VTR. TERMINATE WITH GOOSENECK FITTING MINIMUM 18" ABOVE ROOF WITH BIRDSCREEN.

31 DEF FILL CONNECTION WITH CAMLOCK.

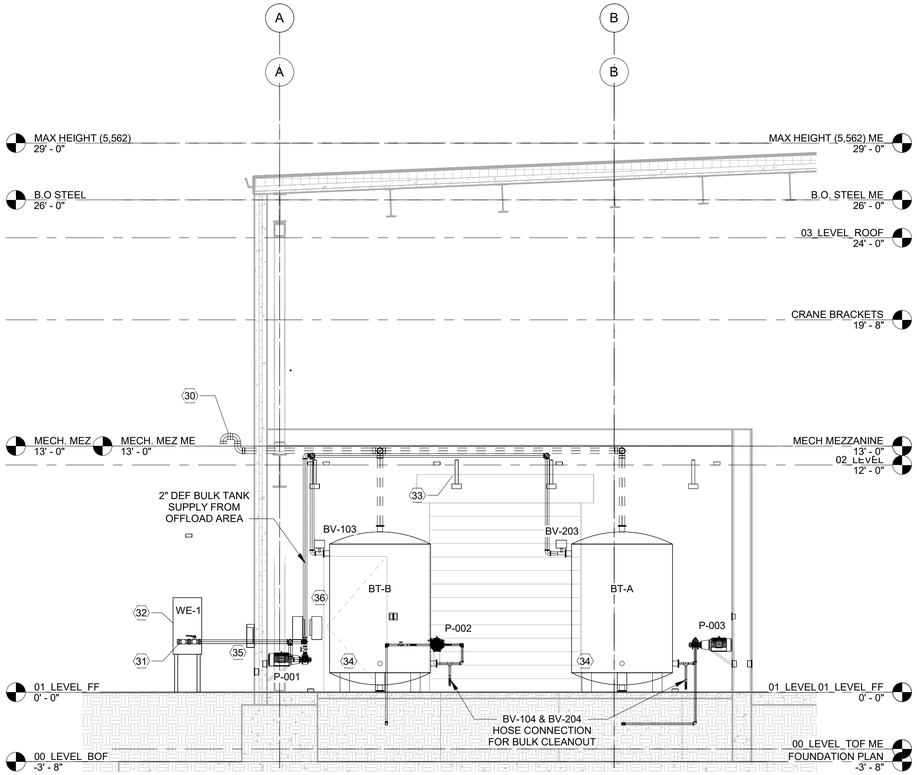
32 CUSTOM MULTI-TANK REMOTE FILL WEATHERPROOF HEATED NEMA FILL POINT ENCLOSURE TO BE INSTALLED AROUND DEF FILL CONNECTION AND SHALL BE MADE ACCESSIBLE TO DEF FILL.

33 DEF 2" FILL (SLOPE @ 1/8" PER FOOT DOWN TO TANKS).

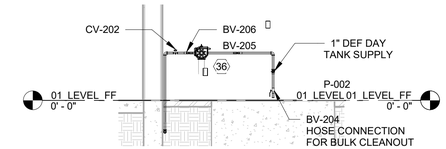
34 PROVIDE AND LEVEL SENSOR, QUALITY SENSOR, AND TEMPERATURE SENSOR. ENSURE ALL SENSORS ARE CONNECTED TO AND COMMUNICATE WITH THE AUTOMATIC TANK GAUGE DEVICE FOR MONITORING AND CONTROL.

35 PROVIDE DOUBLE-WALLED PIPE SYSTEM USED FOR DEF TRANSFER BETWEEN REMOTE FILL BOX AND BUILDING ENTRY POINT.

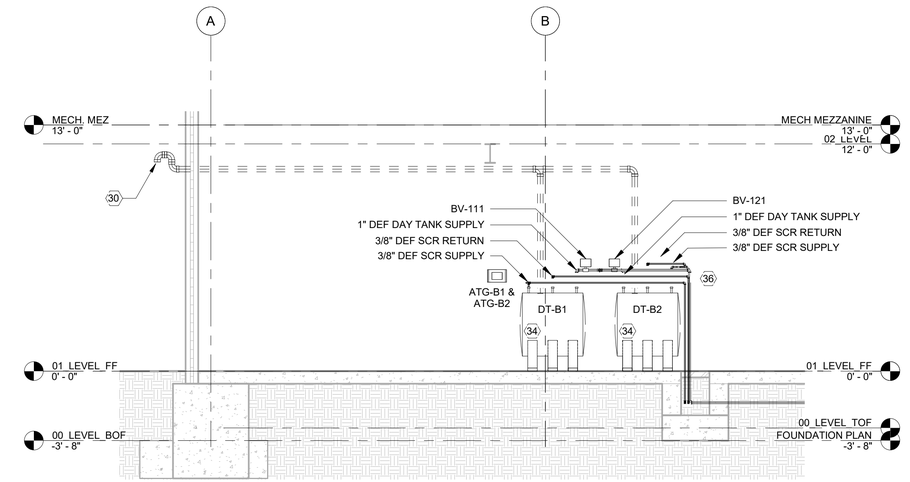
36 INSTALL SMALL BORE PIPE SUPPORTS PER DEF MANUFACTURER'S SPECIFICATIONS



D1 DEF BULK TANK SECTION VIEW
1/4" = 1'-0"



J11 DEF PUMP SECTION VIEW
1/4" = 1'-0"



D11 DEF DAY TANK SECTION VIEW
1/4" = 1'-0"

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DEF SECTION VIEWS

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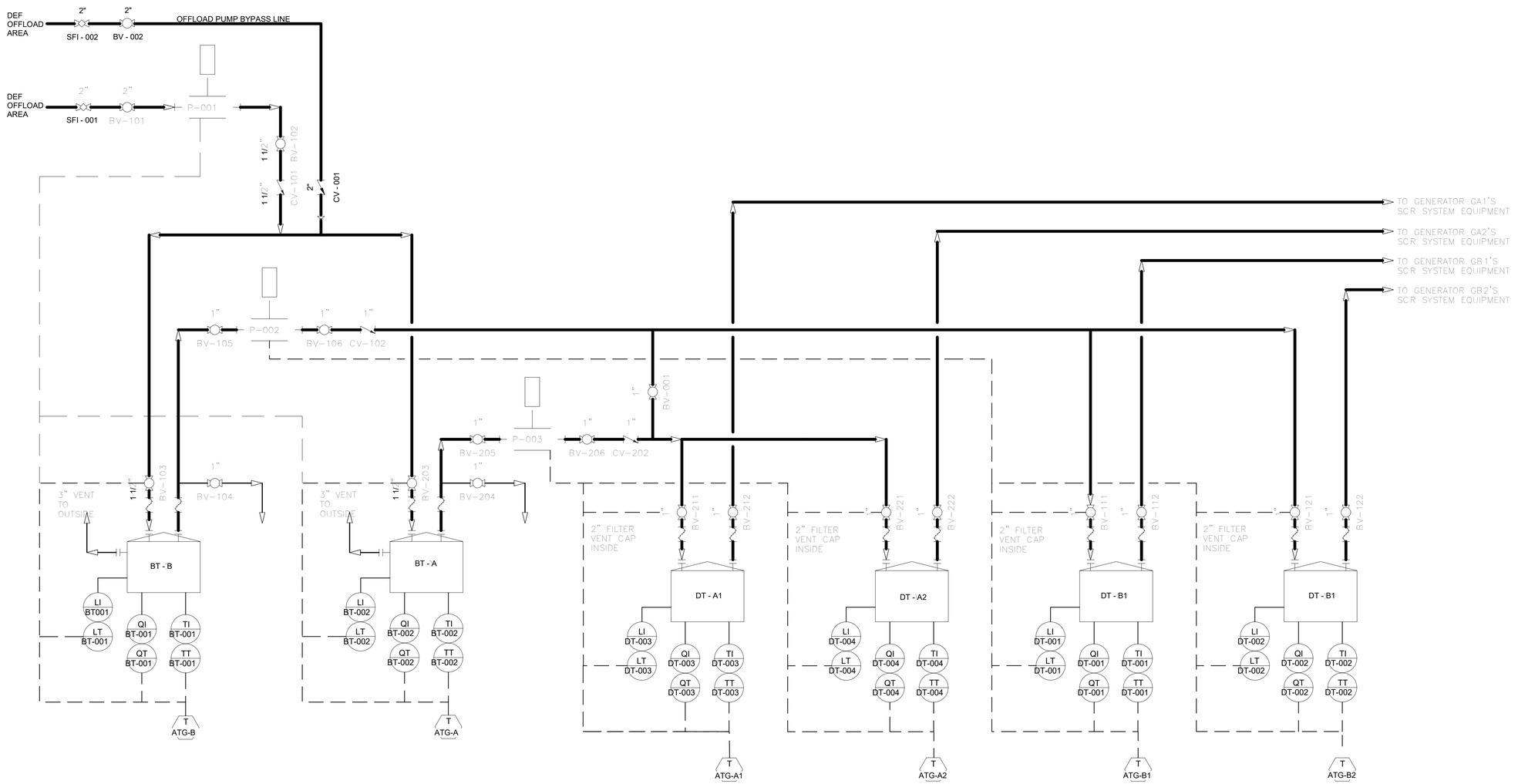

C2 P&ID - DEF TRANSFER SYSTEM

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MARK	DESCRIPTION	DATE

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DESIGNED BY: A. NICHOLS
DRAWN BY: A. NICHOLS
CHECKED BY: C. FOSMER
SUBMITTED BY: C. FOSMER
SIZE: ANSI D
FILE NAME: BUCC000102_DM_PF.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

DEF P&ID

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SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM EQUIPMENT SCHEDULE

MARK	DESCRIPTION	LOCATION	SERVICE	PIPE SIZE CONNECTION						
				DEF INLET	DEF OUTLET	DEF RETURN	AIR INLET	AIR OUTLET	EXHAUST INLET	EXHAUST OUTLET
AC-A1	AIR COMPRESSOR	GEN RM A 106	GENERATOR GA1					3/4"		
AC-A2	AIR COMPRESSOR	GEN RM A 106	GENERATOR GA2					3/4"		
AC-B1	AIR COMPRESSOR	GEN RM B 117	GENERATOR GB1					3/4"		
AC-B2	AIR COMPRESSOR	GEN RM B 117	GENERATOR GB2					3/4"		
BP-A1	BOOSTER PUMP	GEN RM A 106	GENERATOR GA1	1/2"	3/8"	1/2"				
BP-A2	BOOSTER PUMP	GEN RM A 106	GENERATOR GA2	1/2"	3/8"	1/2"				
BP-B1	BOOSTER PUMP	GEN RM B 117	GENERATOR GB1	1/2"	3/8"	1/2"				
BP-B2	BOOSTER PUMP	GEN RM B 117	GENERATOR GB2	1/2"	3/8"	1/2"				
CESE-A1	CATALYTIC EXHAUST SYSTEM ENCLOSURE	GEN RM A 106	GENERATOR GA1	3/8"			3/4"		24"	24"
CESE-A2	CATALYTIC EXHAUST SYSTEM ENCLOSURE	GEN RM A 106	GENERATOR GA2	3/8"			3/4"		24"	24"
CESE-B1	CATALYTIC EXHAUST SYSTEM ENCLOSURE	GEN RM B 117	GENERATOR GB1	3/8"			3/4"		24"	24"
CESE-B2	CATALYTIC EXHAUST SYSTEM ENCLOSURE	GEN RM B 117	GENERATOR GB2	3/8"			3/4"		24"	24"
DB-A1	DOSING BOX	GEN RM A 106	GENERATOR GA1	3/8"	3/8"		3/4"	3/4"		
DB-A2	DOSING BOX	GEN RM A 106	GENERATOR GA2	3/8"	3/8"		3/4"	3/4"		
DB-B1	DOSING BOX	GEN RM B 117	GENERATOR GB1	3/8"	3/8"		3/4"	3/4"		
DB-B2	DOSING BOX	GEN RM B 117	GENERATOR GB2	3/8"	3/8"		3/4"	3/4"		
HMI-A1	HMI CONTROLLER	GEN RM A 106	GENERATOR GA1							
HMI-A2	HMI CONTROLLER	GEN RM A 106	GENERATOR GA2							
HMI-B1	HMI CONTROLLER	GEN RM B 117	GENERATOR GB1							
HMI-B2	HMI CONTROLLER	GEN RM B 117	GENERATOR GB2							

DIESEL EXHAUST FLUID (DEF) BULK TRANSFER SYSTEM EQUIPMENT SCHEDULE

MARK	DESCRIPTION	LOCATION	MATERIAL	FLOW RATE (GPM)	SIZE
ATG-A1	AUTOMATIC TANK GAUGE	GEN RM A 106	-	-	-
ATG-A2	AUTOMATIC TANK GAUGE	GEN RM A 106	-	-	-
ATG-B1	AUTOMATIC TANK GAUGE	GEN RM B 117	-	-	-
ATG-B2	AUTOMATIC TANK GAUGE	GEN RM B 117	-	-	-
ATG-D1	AUTOMATIC TANK GAUGE	GEN RM A 106	-	-	-
ATG-D2	AUTOMATIC TANK GAUGE	GEN RM A 106	-	-	-
BT-A	VERTICAL ATMOSPHERIC BULK TANK	EXHAUST TREATMENT 116	HIGH DENSITY POLYETHYLENE	-	1200 GAL
BT-B	VERTICAL ATMOSPHERIC BULK TANK	EXHAUST TREATMENT 116	HIGH DENSITY POLYETHYLENE	-	1200 GAL
DT-A1	HORIZONTAL ATMOSPHERIC DAY TANK	GEN RM A 106	HIGH DENSITY POLYETHYLENE	-	200 GAL
DT-A2	HORIZONTAL ATMOSPHERIC DAY TANK	GEN RM A 106	HIGH DENSITY POLYETHYLENE	-	200 GAL
DT-B1	HORIZONTAL ATMOSPHERIC DAY TANK	GEN RM B 117	HIGH DENSITY POLYETHYLENE	-	200 GAL
DT-B2	HORIZONTAL ATMOSPHERIC DAY TANK	GEN RM B 117	HIGH DENSITY POLYETHYLENE	-	200 GAL
P-001	ELECTRIC DIAPHRAGM PUMP	EXHAUST TREATMENT 116	STAINLESS STEEL	50 - 60	1 HP
P-002	ELECTRIC DIAPHRAGM PUMP	EXHAUST TREATMENT 116	STAINLESS STEEL	10 - 30	0.5 HP
P-003	ELECTRIC DIAPHRAGM PUMP	EXHAUST TREATMENT 116	STAINLESS STEEL	10 - 30	0.5 HP
WE-1	MULTI-TANK REMOTE FILL WEATHERPROOF HEATED NEMA 3R ENCLOSURE	OUTSIDE NORTH WALL	STAINLESS STEEL		200W HEATING

DIESEL EXHAUST FLUID (DEF) PIPE ACCESSORY SCHEDULE

MARK	DESCRIPTION	ACTUATION	SIZE	MATERIAL	OPERATING CONDITIONS	CONNECTION TYPE
BV-001	BALL VALVE	ELECTRIC	1"-1"	STAINLESS STEEL	NC	THREADED
BV-002	BALL VALVE	MANUAL	2"-2"	STAINLESS STEEL	NC	THREADED
BV-101	BALL VALVE	MANUAL	2"-2"	STAINLESS STEEL	NC	THREADED
BV-102	BALL VALVE	MANUAL	2"-2"	STAINLESS STEEL	NO	THREADED
BV-103	BALL VALVE	ELECTRIC	2"-2"	STAINLESS STEEL	MOD	THREADED
BV-104	BALL VALVE	MANUAL	1"-1"	STAINLESS STEEL	LC	THREADED
BV-105	BALL VALVE	MANUAL	1"-1"	STAINLESS STEEL	NO	THREADED
BV-106	BALL VALVE	MANUAL	1"-1"	STAINLESS STEEL	NO	THREADED
BV-111	BALL VALVE	ELECTRIC	1"-1"	STAINLESS STEEL	MOD	THREADED
BV-112	BALL VALVE	MANUAL	1/2"-1/2"	STAINLESS STEEL	NO	THREADED
BV-121	BALL VALVE	ELECTRIC	1"-1"	STAINLESS STEEL	MOD	THREADED
BV-122	BALL VALVE	MANUAL	1/2"-1/2"	STAINLESS STEEL	NO	THREADED
BV-203	BALL VALVE	ELECTRIC	2"-2"	STAINLESS STEEL	MOD	THREADED
BV-204	BALL VALVE	MANUAL	1"-1"	STAINLESS STEEL	LC	THREADED
BV-205	BALL VALVE	MANUAL	1"-1"	STAINLESS STEEL	NO	THREADED
BV-206	BALL VALVE	MANUAL	1"-1"	STAINLESS STEEL	NO	THREADED
BV-211	BALL VALVE	ELECTRIC	1"-1"	STAINLESS STEEL	MOD	THREADED
BV-212	BALL VALVE	MANUAL	1/2"-1/2"	STAINLESS STEEL	NO	THREADED
BV-221	BALL VALVE	ELECTRIC	1"-1"	STAINLESS STEEL	MOD	THREADED
BV-222	BALL VALVE	MANUAL	1/2"-1/2"	STAINLESS STEEL	NO	THREADED
CV-001	CHECK VALVE	NON-ACTUATED	2"-2"	STAINLESS STEEL	NC	THREADED
CV-101	CHECK VALVE	NON-ACTUATED	2"-2"	STAINLESS STEEL	NC	THREADED
CV-102	CHECK VALVE	NON-ACTUATED	1"-1"	STAINLESS STEEL	NC	THREADED
CV-202	CHECK VALVE	NON-ACTUATED	1"-1"	STAINLESS STEEL	NC	THREADED
SFI-001	SIGHT FLOW INDICATOR	NON-ACTUATED	2"-2"	STAINLESS STEEL	-	THREADED
SFI-002	SIGHT FLOW INDICATOR	NON-ACTUATED	2"-2"	STAINLESS STEEL	-	THREADED

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MARK	DESCRIPTION	DATE

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DEF SCHEDULES

SHEET ID

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MECHANICAL ABBREVIATIONS

&	AND	NOM	NOMINAL
AAV	AUTOMATIC AIR VENT	NPT	NATIONAL PIPE THREAD
AB	ANCHOR BOLT	OD	OUTSIDE DIAMETER
AG	ABOVEGROUND	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
AST	ABOVEGROUND STORAGE TANK	OV	OVERFILL VALVE
ATG	AUTOMATIC TANK GAUGE	PD	POSITIVE DISPLACEMENT
API	AMERICAN PETROLEUM INSTITUTE	PG	PRESSURE GAUGE
ASTM	AMERICAN STANDARDS FOR TESTING AND MATERIALS	PS	PIPE SUPPORT
ATG	AUTOMATIC TANK GAUGE	PSI	POUNDS PER SQUARE INCH
AWS	AMERICAN WELDING SOCIETY	PRT	PRODUCT RECOVERY TANK
BBL	BARREL	R	RADIUS
BLDG	BUILDING	RED	REDUCER
BPCV	BACK PRESSURE CONTROL VALVE	RTB	RETURN TO BULK
℄	CENTERLINE	SCAT	SELF CONTAINED ABOVEGROUND TANK
CONC	CONCRETE	SCHD	SCHEDULE
COR	CONTRACTING OFFICER'S REPRESENTATIVE	SP	SUMP PUMP
CC	CARBON STEEL (INTERNALLY COATED)	SPR	SINGLE POINT RECEPTACLE
CS	CARBON STEEL (NON-INTERNALLY COATED)	SS	STAINLESS STEEL
CV	CONTROL VALVE	STD	STANDARD
CW	COLD WATER - POTABLE	SW	SOCKET WELD
DBB	DOUBLE BLOCK & BLEED	TFV	TRUCK FILL STAND CONTROL VALVE
DEG	DEGREE	TOC	TOP OF CURB
DN	DOWN	TOE	THREAD ONE END
DP	DIFFERENTIAL PRESSURE	TRV	THERMAL RELIEF VALVE
EA	EACH	TYP	TYPICAL
EFSO	EMERGENCY FUEL SHUT-OFF	UG	UNDERGROUND
EX	EXISTING	W/	WITH
FCV	FLOW CONTROL VALVE		
FF	FINISHED FLOOR		
FP	FUEL PUMP		
FOB	FLAT ON BOTTOM		
FOT	FLAT ON TOP		
FS	FLOW SWITCH		
FSCV	FILTER SEPARATOR CONTROL VALVE		
FSI	FILTER SEPARATOR ISSUE		
FSR	FILTER SEPARATOR RECEIPT		
F/S	FILTER SEPARATOR		
FTP	FUEL TRANSFER PUMP		
GA	GAUGE		
GAL	GALLON		
GPM	GALLONS PER MINUTE		
HHLA	HIGH-HIGH LEVEL ALARM		
HLA	HIGH LEVEL ALARM		
HLS	HIGH LEVEL SWITCH		
HLV	HIGH LIQUID LEVEL SHUT-OFF VALVE		
HP	HORSE POWER		
HW	HOT WATER - POTABLE		
ID	INSIDE DIAMETER		
IF	INSULATING FLANGE		
LA	LEVEL ALARM		
LG	LONG		
LI	LEVEL INDICATOR		
LL	ALOW LEVEL ALARM		
LL	LALOW-LOW LEVEL ALARM		
LO	LOCK OPEN (VALVE)		
LPD	LOW POINT DRAIN		
MF	RMANUFACTURER		
MAV	MANUAL AIR VENT		
MAX	MAXIMUM		
MIN	MINIMUM		
NC	NORMALLY CLOSED		
NIC	NOT IN CONTRACT		
NO	NORMALLY OPEN		

MECHANICAL LEGEND

- BALL VALVE
- BALL VALVE, FULL PORT
- CHECK VALVE
- CONTROL VALVE
- DOUBLE BLOCK AND BLEED VALVE
- FLOW SWITCH
- ABOVEGROUND PIPE
- UNDERGROUND PIPE
- POTABLE WATER PIPING (COLD)
- HOT WATER SUPPLY PIPING
- BLIND FLANGE
- QUICK CONNECTOR
- FLEXIBLE CONNECTION
- SAMPLE CONNECTION
- BASKET STRAINER WITH DIFFERENTIAL PRESSURE GAUGE
- HOSE
- VERTICAL FILTER SEPARATOR
- OR — RELIEF VALVE ASSEMBLY
- RELIEF VALVE SETTING
- BALL CHECK VALVE
- POSITIVE DISPLACEMENT PUMP
- BALL JOINT
- 90 DEG ELBOW DOWN
- TEE DOWN
- OR — PUMP
- VERTICAL TURBINE PUMP
- VERTICAL IN-LINE PUMP
- VERTICAL AIR ELIMINATOR TANK
- LINE SIZE REDUCER
- PG OR — PRESSURE GAUGE ASSEMBLY
- PS OR — PRESSURE SENSOR ASSEMBLY
- OR — MANUAL AIR VENT
- OR — LOW POINT DRAIN
- S — SOLENOID
- CONNECT TO EXISTING
- UNION
- DP — DIFFERENTIAL PRESSURE GAUGE
- LI — LIQUID LEVEL INDICATOR
- LA — LIQUID LEVEL ALARM
- ATG — AUTOMATIC TANK GAUGE
- WP — WATER PROBE
- SAMPLING AND GAUGE HATCH
- OR — VENT
- PIPE SUPPORT
- EMERGENCY EYE WASH & SHOWER
- EMERGENCY EYE WASH
- POSITIVE DISPLACEMENT METER
- PRESSURE RELIEF WITH PNEUMATIC COUPLER
- PANTOGRAPH
- SIGHT FLOW INDICATOR
- AUTOMATIC AIR VENT
- IF — INSULATING FLANGE
- SMALL BORE PIPE SUPPORT
- PS-2 PIPE SUPPORT

GENERAL NOTES

1. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. NOT ALL COMPONENTS ARE SHOWN IN ALL VIEWS. THE CONTRACTOR SHALL MAKE USE OF THE ENTIRE SET OF DRAWINGS AND INCLUDE ALL COMPONENTS TO CONSTRUCT A FULLY OPERATIONAL FUELING SYSTEM.
2. INSTALLATION OF WORK SHALL BE COORDINATED WITH ALL OTHER TRADES. EQUIPMENT, PIPING OR DUCTWORK INTERFERING WITH OTHER TRADES SHALL BE RELOCATED AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
3. WRITTEN DIMENSIONS ON DRAWINGS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
4. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL OTHER TRADES BEFORE ANY INSTALLATION IS MADE.
5. AT START OF CONSTRUCTION, THE CONTRACTOR AND EACH SUBCONTRACTOR SHALL PREPARE TYPED LISTS OF ALL EQUIPMENT THAT THEY ARE SUPPLYING WHICH REQUIRE ELECTRICAL WORK, AND SEND LISTS TO THE ELECTRICAL CONTRACTOR AND THE COR FOR REVIEW AND COORDINATION. THE LISTS SHALL INCLUDE AS A MINIMUM THE PROPOSED VOLTAGE, PHASE, HERTZ AND EQUIPMENT MOTOR SIZE OR ELECTRICAL DEMAND, AS APPLICABLE. LISTS SHALL BE UPDATED WHENEVER NEW ITEMS ARE ADDED OR OF ANY CHANGES THAT ARE MADE.
6. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S APPROVED PUBLISHED LITERATURE.
7. INSTALLATION OF EQUIPMENT SHALL PERMIT ACCESSIBILITY FOR SERVICE AND/OR REPLACEMENT.
8. THE CONTRACTOR SHALL COORDINATE ALL WALL, FLOOR AND ROOF PENETRATIONS WITH THE GENERAL CONTRACTOR.
9. FUEL LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS AND WITHIN THE LIMITS OF THE WORK AREAS AS INDICATED, UNLESS A VARIANCE IS APPROVED BY THE CONTRACTING OFFICER.
10. USE CAUTION AROUND EXISTING LIGHT FIXTURES AND UNDERGROUND CONDUITS. ANY DAMAGE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE CONTRACTING OFFICER'S REPRESENTATIVE AT NO ADDITIONAL COST TO THE GOVERNMENT.
11. THE CONTRACTOR SHALL HAND DIG ALL EXCAVATIONS WITHIN TWO (2) FEET OF ANY KNOWN UTILITIES.
12. ALL NEW ABOVEGROUND FUEL PIPING SHALL BE IN ACCORDANCE WITH SPECIFICATION 33 52 40. PROVIDE PIPE PROTECTION FROM ACCIDENTAL DAMAGE, VANDALISM, ETC.
13. ALL ABOVEGROUND PIPELINES AND TANKS SHALL BE IDENTIFIED AS TO PRODUCT SERVICE BY COLOR CODING, BANDING, PRODUCT NAMES, NATO DESIGNATION AND DIRECTION OF FLOW IN ACCORDANCE WITH MIL-STD-161H.
14. MECHANICAL PIPING WORK SHALL BE DONE IN ACCORDANCE WITH ASME B31.3 UNLESS OTHERWISE NOTED.
15. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.

VALVE POSITIONS

NO	NC	
		BALL VALVE
		BALL VALVE, FULL PORT
		PLUG VALVE, DOUBLE BLOCK AND BLEED

VALVE TYPE

- FLANGED END TYPE
- THREADED END TYPE

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MARK	DESCRIPTION	DATE

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
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U.S. ARMY CORPS OF ENGINEERS
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1616 CAPITOL AVE
OMAHA, NE 68102

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FUEL SYSTEM LEGEND AND NOTES

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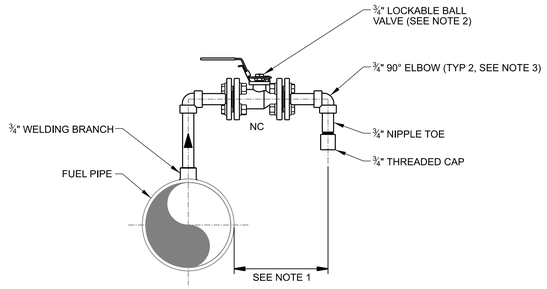
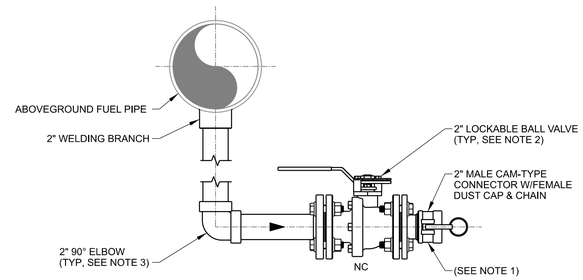


J1 MANUAL AIR VENT DETAIL

SCALE: NOT TO SCALE

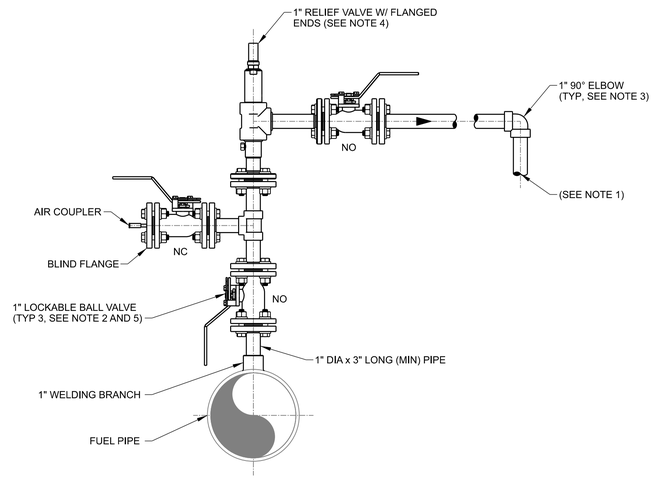
NOTES:
1. 2" MINIMUM FOR LINES 8" AND LARGER. FOR LINES 6" AND SMALLER KEEP DISTANCE AS SHORT AS POSSIBLE.
2. VALVES AND PIPING ROTATED FOR CLARITY. CONTRACTOR SHALL INSTALL FOR EASE OF ACCESSIBILITY.
3. ALL JOINTS SHALL BE SOCKET WELDED UNLESS NOTED.



J11 LOW POINT DRAIN DETAIL

SCALE: NOT TO SCALE

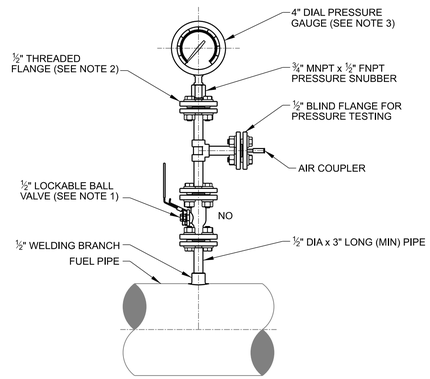
NOTES:
1. CONTRACTOR TO INSTALL A MALE CAM-TYPE CONNECTOR WITH FEMALE DUST CAP AND CHAIN AT THE BALL VALVE FOR DRAINING.
2. VALVES AND PIPING ROTATED FOR CLARITY. CONTRACTOR SHALL INSTALL FOR EASE OF ACCESSIBILITY.
3. ALL JOINTS SHALL BE SOCKET WELDED UNLESS NOTED.



B1 THERMAL RELIEF VALVE DETAIL

SCALE: NOT TO SCALE

NOTES:
1. CONTRACTOR TO TIE PIPING INTO PRESSURE RELIEF HEADER ROUTED TO RECEIPT PIPING OR TIE INTO ANOTHER WELDING BRANCH. CONTRACTOR TO ROUTE RELIEF PIPING GENERALLY PER PLAN DESIGNS.
2. VALVES AND PIPING ROTATED FOR CLARITY. CONTRACTOR SHALL INSTALL FOR EASE OF ACCESSIBILITY.
3. ALL JOINTS SHALL BE SOCKET WELDED UNLESS NOTED.
4. THERMAL RELIEF VALVE SHALL BE INSTALLED IN A VERTICAL POSITION WITH THE OUTLET POINTING IN A HORIZONTAL DIRECTION. ALL PRESSURE RELIEF VALVES SHALL BE BALANCE TYPE AND SHALL BE SET AT 10% OVER THE DEADHEAD OF THE PUMP.
5. CONTRACTOR SHALL INSTALL ZIP TIES OR CAR SEALS ON THE ISOLATION BALL VALVES IN THE NORMALLY OPEN (NO) POSITIONS.



B11 PRESSURE GAUGE DETAIL

SCALE: NOT TO SCALE

NOTES:
1. VALVES AND PIPING ROTATED FOR CLARITY. CONTRACTOR SHALL INSTALL FOR EASE OF ACCESSIBILITY.
2. ALL JOINTS SHALL BE SOCKET WELDED UNLESS NOTED.
3. PUMP SUCTION PG RANGE SHALL BE -30 TO 60 IN Hg/PSIG.
4. PUMP DISCHARGE PG RANGE SHALL BE 0-300 PSIG.

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MECHANICAL FUELING DETAILS
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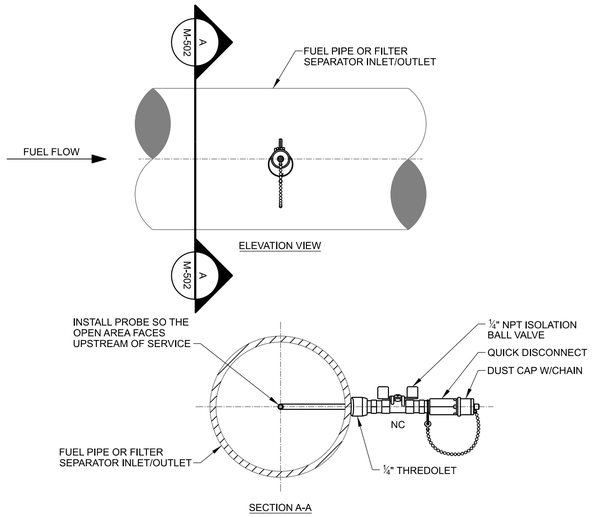
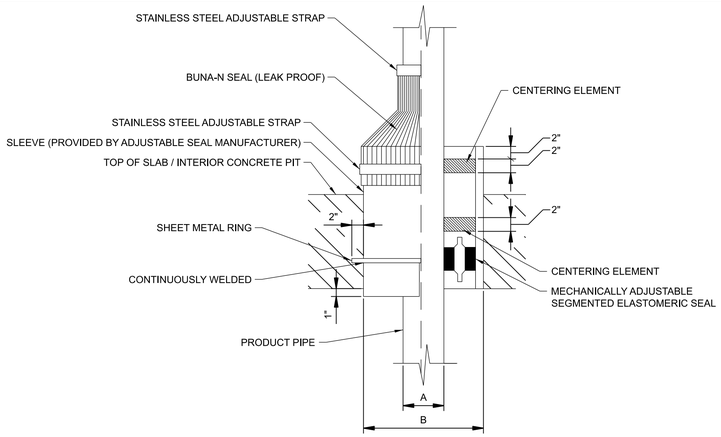


J1 SAMPLE CONNECTION DETAIL

SCALE: NOT TO SCALE



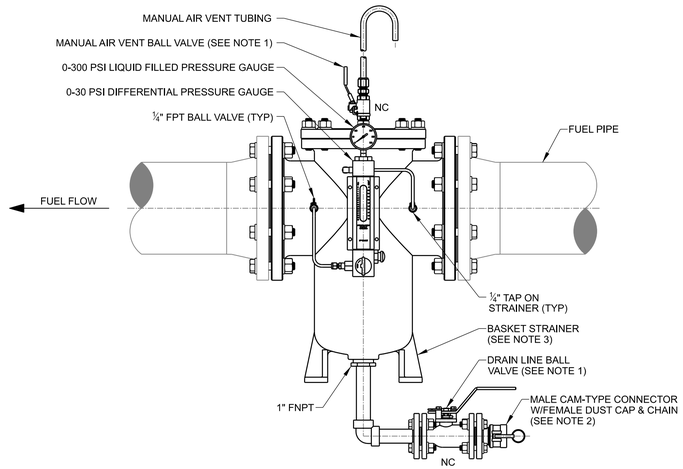
DOUBLE WALL PIPING		
CARRIER PIPE SIZE	FRP OUTTER DIA. (A)	SLEEVE (B)
2"	4.5"	8"
3"	6.63"	10"
4"	8.64"	12"

SINGLE WALL PIPING		
CARRIER PIPE SIZE	OUTTER DIA. (A)	SLEEVE (B)
2"	2.38"	3.5"

J11 FUEL PIPE CONCRETE PENETRATION DETAIL

SCALE: NOT TO SCALE

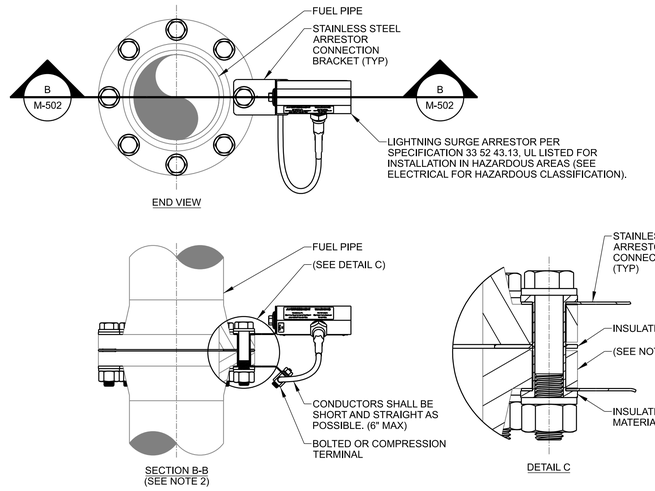
NOTES:
1. SLEEVE SHALL EXTEND 4" BEYOND CONCRETE ON EACH SIDE.
2. PROVIDE BOOT SEAL ON BOTH SIDES OF WALL PENETRATIONS.



B1 BASKET STRAINER DETAIL

SCALE: NOT TO SCALE

NOTES:
1. SIZE OF DRAIN AND VENT TO MATCH SIZE OF STRAINER FURNISHED.
2. CONTRACTOR TO INSTALL A MALE CAM-TYPE CONNECTOR WITH FEMALE DUST CAP AND CHAIN AT THE BALL VALVE FOR DRAINING. CONTRACTOR TO ROUTE DRAIN PIPING PER PLAN DESIGNS.
3. NOT ALL BASKET STRAINER SIZES ARE EQUIPPED WITH LEGS.
4. VALVES AND PIPING ROTATED FOR CLARITY. CONTRACTOR SHALL INSTALL FOR EASE OF ACCESSIBILITY.
5. ALL JOINTS SHALL BE SOCKET WELDED EXCEPT WHERE SHOWN.



B11 ISOLATION FLANGE KIT DETAIL

SCALE: NOT TO SCALE

NOTES:
1. WRAP ENTIRE INSULATING FLANGE IN PVC PIPING AND SECURE WITH STAINLESS STEEL BAND CLAMP. LEAVE LIGHTNING SURGE ARRESTOR EXPOSED.
2. NOT ALL PARTS SHOWN SECTIONED FOR CLARITY.

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SUBMITTED BY:	D. SCHEUFFELE
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SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	
FILE NUMBER:	
FILE NAME:	BUCO00102M-502.dwg

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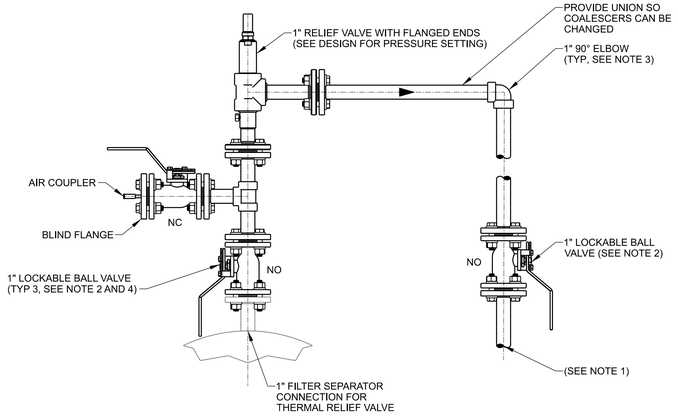
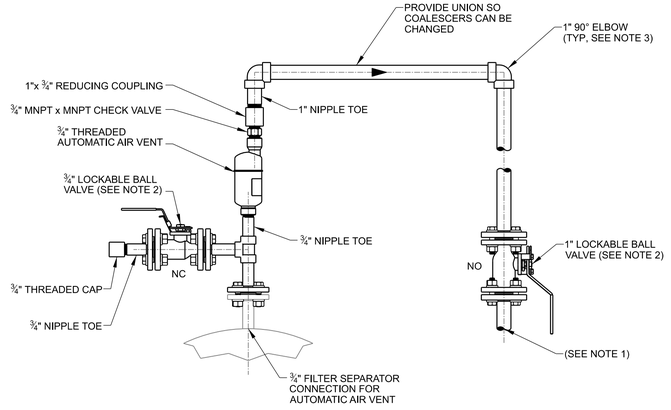


J1 FILTER SEPARATOR THERMAL RELIEF VALVE DETAIL

SCALE: NOT TO SCALE

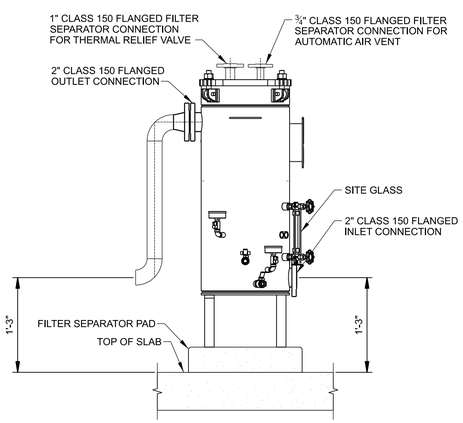
NOTES:
1. CONTRACTOR TO TIE PIPING INTO PRESSURE RELIEF HEADER ROUTED TO RECEIPT PIPING.
2. VALVES AND PIPING ROTATED FOR CLARITY. CONTRACTOR SHALL INSTALL FOR EASE OF ACCESSIBILITY.
3. ALL JOINTS SHALL BE SOCKET WELDED UNLESS NOTED.
4. LOCK OPEN RELIEF VALVE LINE ISOLATION VALVES WITH CAR SEALS
5. SMALL BORE PIPING SHALL BE FIELD ROUTED AND USE SMALL BORE PIPE SUPPORTS AS SHOWN ON SHEET M-504.
6. THE FILTER SEPARATOR PRESSURE RELIEF PIPING AND AUTOMATIC AIR VENT PIPING SHALL HAVE UNIONS TO ALLOW FOR THE COVER TO BE REMOVED AND THE COALESCERS TO BE CHANGED.



J9 FILTER SEPARATOR AUTOMATIC AIR VENT DETAIL

SCALE: NOT TO SCALE

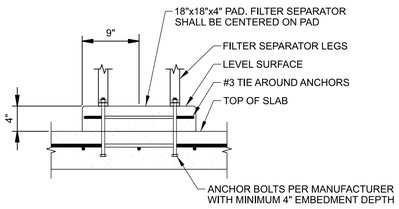
NOTES:
1. CONTRACTOR TO TIE PIPING INTO PRESSURE RELIEF HEADER ROUTED TO RECEIPT PIPING.
2. VALVES AND PIPING ROTATED FOR CLARITY. CONTRACTOR SHALL INSTALL FOR EASE OF ACCESSIBILITY.
3. ALL JOINTS SHALL BE SOCKET WELDED UNLESS NOTED.
4. LOCK OPEN RELIEF VALVE LINE ISOLATION VALVES WITH CAR SEALS
5. SMALL BORE PIPING SHALL BE FIELD ROUTED AND USE SMALL BORE PIPE SUPPORTS AS SHOWN ON SHEET M-504.
6. THE FILTER SEPARATOR PRESSURE RELIEF PIPING AND AUTOMATIC AIR VENT PIPING SHALL HAVE UNIONS TO ALLOW FOR THE COVER TO BE REMOVED AND THE COALESCERS TO BE CHANGED.



B1 VERTICAL FILTER SEPARATOR DETAIL

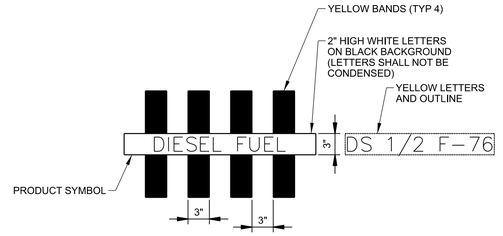
SCALE: NOT TO SCALE

NOTES:
1. CONTRACTOR TO TIE PRESSURE RELIEF PIPING INTO PRESSURE RELIEF HEADER THAT IS THEN ROUTED TO THE RECEIPT HEADER. CONTRACTOR TO ROUTE PRESSURE RELIEF PIPING PER PLAN DESIGNS.
2. ALL JOINTS SHALL BE SOCKET WELDED EXCEPT WHERE SHOWN.
3. TUBING SHALL BE ¼" STAINLESS STEEL W/NPT COMPRESSION FITTINGS.
4. PROVIDE SUMP HEATER. PROVIDE ½" INSULATION WITH STAINLESS STEEL METAL JACKETING.



B6 FILTER SEPARATOR PAD

SCALE: NOT TO SCALE



B9 FILTER SEPARATOR PRODUCT SYMBOL DETAIL

SCALE: NOT TO SCALE

NOTES:
1. CONTRACTOR TO INSTALL PRODUCT GROUP IDENTIFICATIONS ON FILTER SEPARATORS PER MIL-STD-161H.

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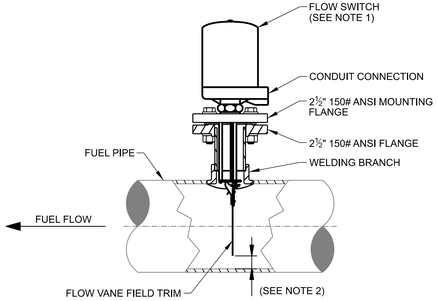
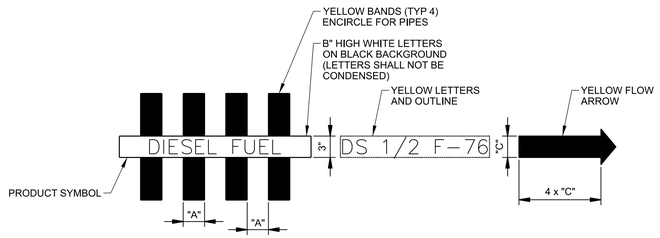


J1 FLOW SWITCH DETAIL

SCALE: NOT TO SCALE

NOTES:
1. NEMA COVER RATED FOR CLASS 1, DIVISION 1, GROUP D HAZARDOUS LOCATION.
2. THIS DIMENSION SHALL BE MODIFIED AS REQUIRED FOR EQUIPMENT FURNISHED.
3. FLANGE AND PIPING MATERIALS SHALL MATCH THE PIPING MATERIAL AT THEIR CONNECTION TO THE SYSTEM.
4. NOT ALL PARTS SHOWN SECTIONED FOR CLARITY.

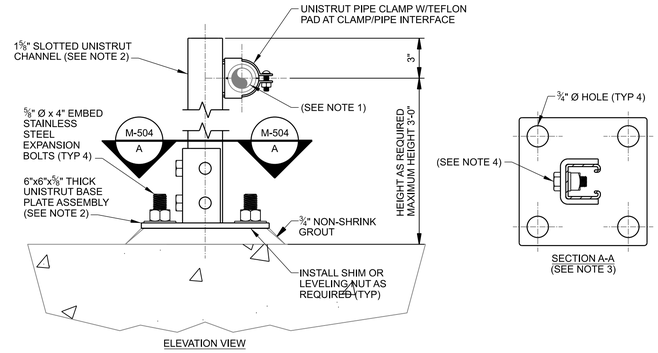


SIZES OF LETTERS AND BANDS			
PIPE DIAMETER (INCHES)	A BAND WIDTH AND SPACING (INCHES)	B TITLE LETTER SIZE (INCHES)	C BACKGROUND AND ARROWS (INCHES)
UNDER 3	3	0.5	1
3-6	3	1	2
6-9	3	2	2

B1 PRODUCT FLOW SYMBOL

SCALE: NOT TO SCALE

NOTES:
1. CONTRACTOR TO INSTALL PRODUCT GROUP IDENTIFICATIONS THROUGHOUT PIPING SYSTEM AND ON DAY TANKS PER MIL-STD-161H.

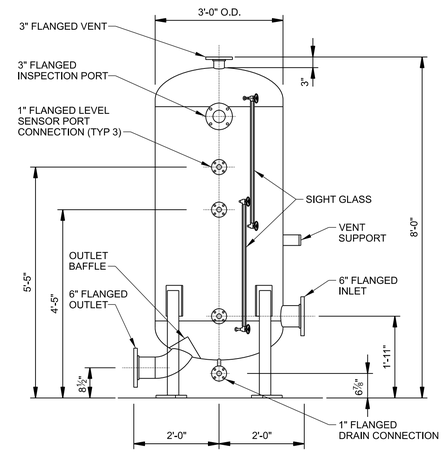


MINOR BORE PIPE SUPPORT SCHEDULE	
PIPE SIZE	MAXIMUM PIPE SUPPORT SPAN
½"	7'-0"
¾"	7'-0"
1"	7'-0"
1½"	9'-0"
2"	10'-0"

B9 MINOR BORE PIPE SUPPORT DETAIL

SCALE: NOT TO SCALE

NOTES:
1. MINOR BORE PIPE SUPPORT TO BE USED ON PIPING 2" AND SMALLER FOR DRAIN, RELIEF, OR CONTROL LINES.
2. MINOR BORE PIPE SUPPORT BASE PLATE ASSEMBLY AND SLOTTED UNISTRUT CHANNEL SHALL BE GALVANIZED.
3. FASTENERS OMITTED FOR CLARITY.
4. ATTACH SLOTTED UNISTRUT CHANNEL TO UNISTRUT BASE PLATE ASSEMBLY WITH FASTENERS PER MANUFACTURERS RECOMMENDATIONS.



B9 VERTICAL AIR ELIMINATOR TANK DETAIL

SCALE: NOT TO SCALE

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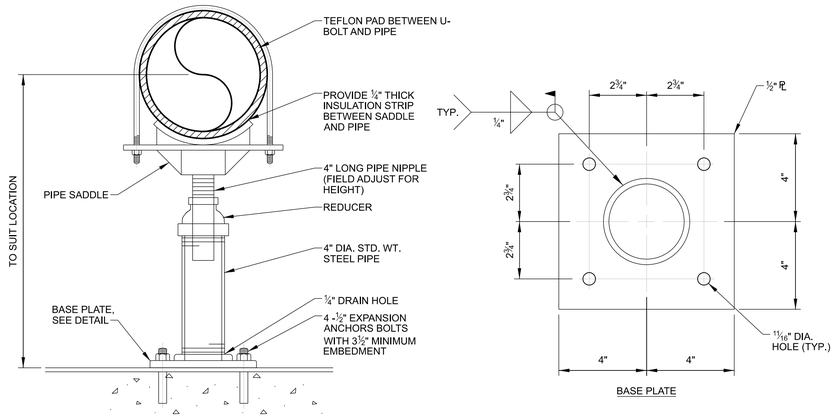
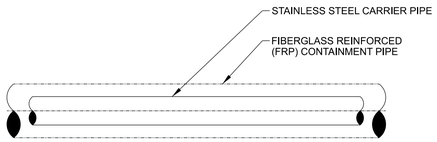


J1 ADJUSTABLE PIPE SUPPORT DETAIL (PS-2)

SCALE: NOT TO SCALE

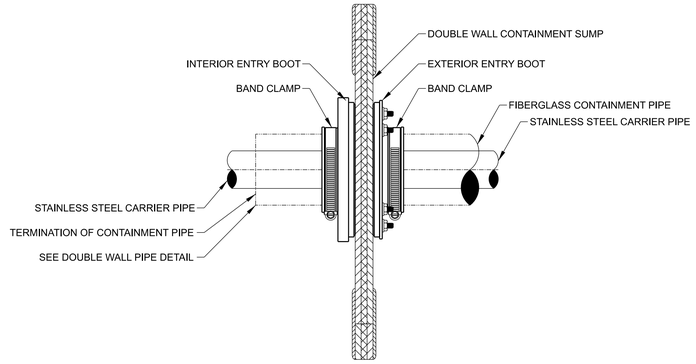
NOTES:
1. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER ON SIZE OF STANCHION, REDUCER, AND THREADED NIPPLE.



DOUBLE WALL PIPE SIZING INFORMATION		
CARRIER PIPE SIZE	FRP OUTTER DIA.	FRP WALL THICKNESS
2"	4.5"	.085"
3"	6.63"	.120"
4"	8.64"	.140"

B1 DOUBLE WALL PIPING DETAIL AND INFORMATION

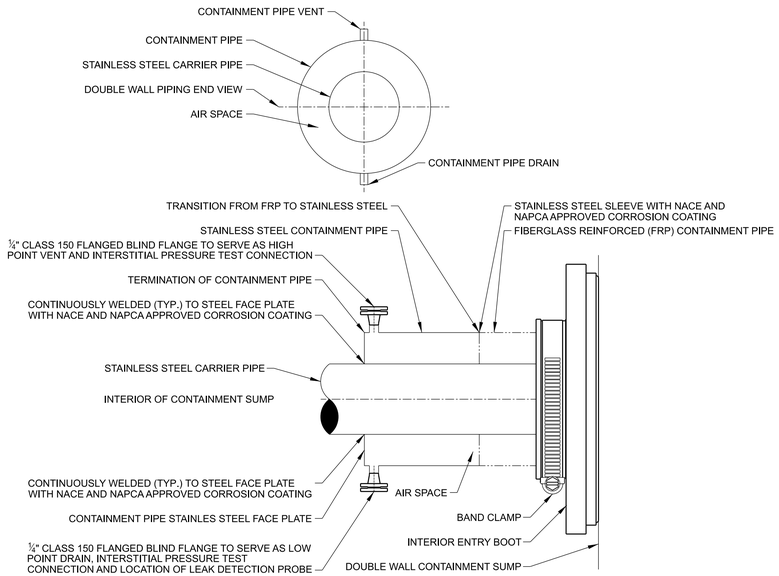
SCALE: NOT TO SCALE



J9 SUMP PENETRATION DETAIL

SCALE: NOT TO SCALE

NOTES:
1. SEE DETAIL B9 ON SHEET M-505 FOR DOUBLE WALL PIPING DETAIL.



B9 DOUBLE WALL PIPING DETAIL - SUMP

SCALE: NOT TO SCALE

NOTES:
1. SEE DETAIL J9 ON SHEET M-505 FOR SUMP PENETRATION DETAIL.
2. THIS DETAIL DEPICTS ALL UNDERGROUND PIPING.

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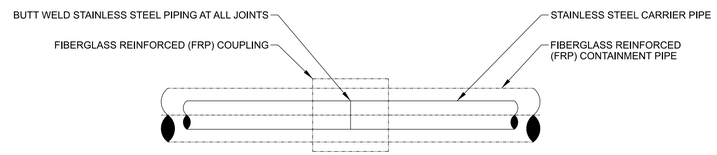
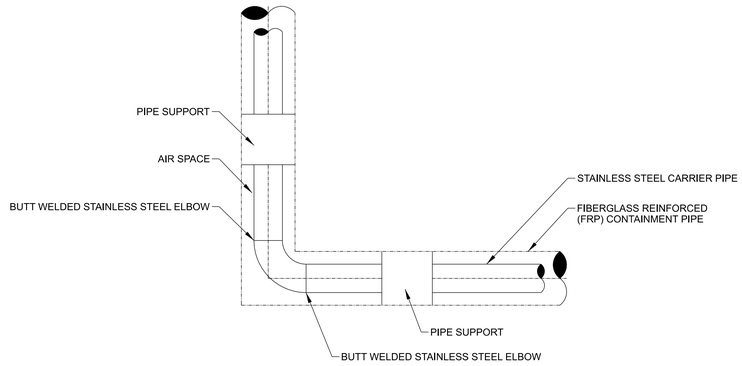


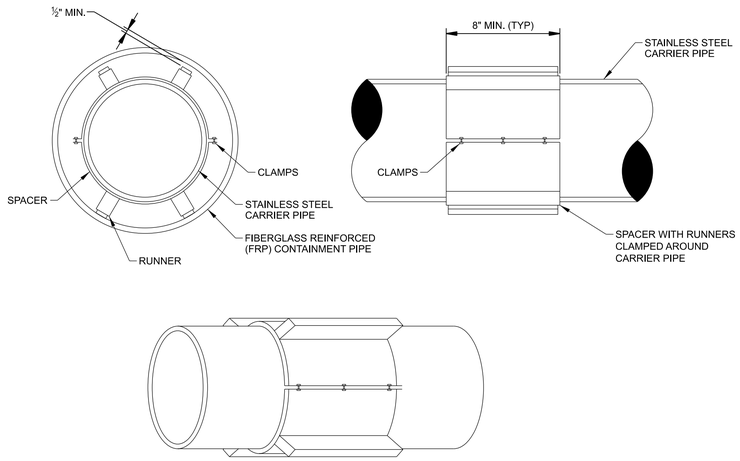
J1 DOUBLE WALL PIPING BELOW GRADE FIELD JOINT

SCALE: NOT TO SCALE



J9 DOUBLE WALL PIPING BELOW GRADE ELBOW

SCALE: NOT TO SCALE

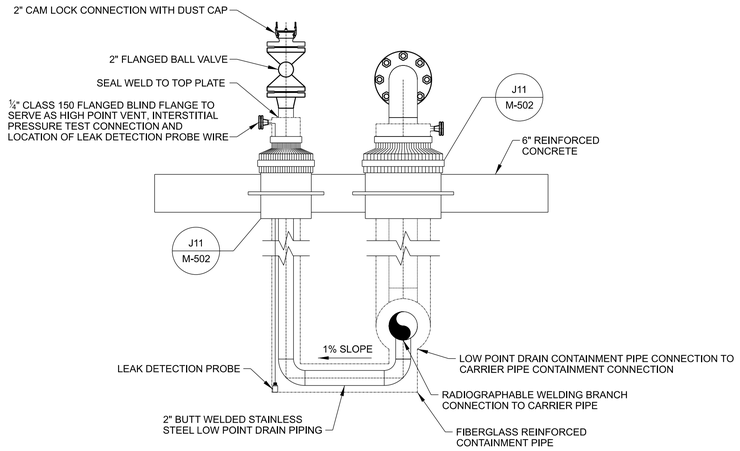


B1 DOUBLE WALL PIPE SUPPORT / SPACER

SCALE: NOT TO SCALE

NOTES:

1. THIS DETAIL IS FOR DOUBLE WALL PIPING WITH STAINLESS STEEL CARRIER PIPE AND FIBERGLASS REINFORCED CONTAINMENT PIPE ONLY.
2. SUPPORT SPACERS SHALL BE INSTALLED AROUND THE CARRIER PIPE TO BE SUPPORTED WITHIN THE CONTAINMENT PIPE. SUPPORT SPACERS SHALL BE OF EPOXY COATED STAINLESS STEEL CONSTRUCTION WITH FUEL RESISTANT LINER. SPACERS SHALL BE BANDED AND SECURELY BOLTED AROUND THE CARRIER PIPE. THE SUPPORT SPACERS SHALL BE OF SUFFICIENT LENGTH AND WIDTH TO ALLOW FREE MOVEMENT OF THE CARRIER PIPE WITHIN THE CONTAINMENT PIPE WITH SUFFICIENT CLEARANCES ON THE SIDES AND TOP AND BETWEEN THE CARRIER PIPE SUPPORT SPACERS AND THE INSIDE OF THE CONTAINMENT PIPE. THE SUPPORT SPACERS SHALL BE INSTALLED APPROXIMATELY EVERY 8 TO 10 FEET OR AS RECOMMENDED BY THE MANUFACTURER FOR THE CARRIER PIPE SIZE.
3. PURGE PIPING INTERSTITIAL SPACE BETWEEN CARRIER PIPE AND CONTAINMENT PIPE WITH AIR, HAVING A DEW POINT OF 40 DEGREES FAHRENHEIT OR NITROGEN PRIOR TO SEALING INTERSTITIAL SPACE.
4. CARRIER PIPE TO BE COATED TO TWICE SPECIFIC THICKNESS 6" TO BOTH SIDES OF CASING SEAL.
5. CONTRACTOR SHALL PROVIDE GOVERNMENT WITH A SUBMITTAL FOR LOCATIONS OF SPACERS WITHIN THE DOUBLE WALL PIPING.



B9 LOW POINT DRAIN / LEAK DETECTION DETAIL

SCALE: NOT TO SCALE

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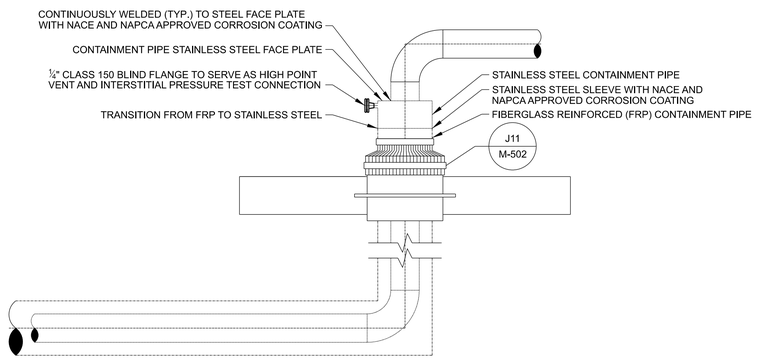
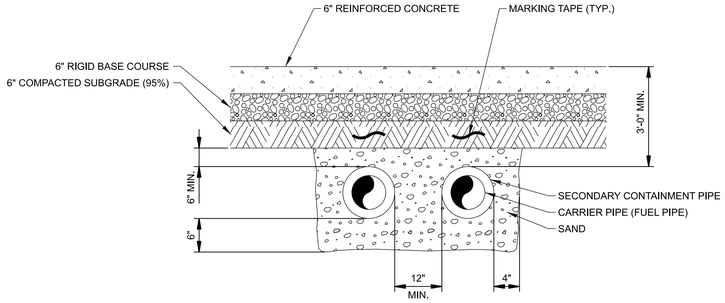


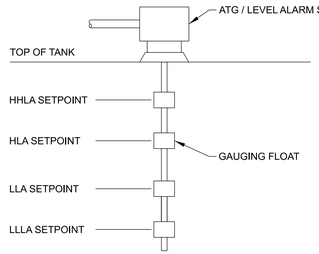
J1 DOUBLE WALL PIPING DETAIL - ABOVE GRADE

SCALE: NOT TO SCALE



J9 DOUBLE PIPE TRENCH DETAIL

SCALE: NOT TO SCALE



LEVEL ALARM HEIGHT - BULK TANKS

	RISING LEVEL ACTUATOR POINT		FALLING LEVEL ACTUATOR POINT	
	HLA	HHLA	LLA	LLLA
BULK TANKS	90% VOLUME	98% VOLUME	15% VOLUME	AT MINIMUM PUMP SUBMERGENCE LEVEL
SYSTEM RESPONSE	ACTIVATES AUDIBLE AND VISUAL ALARM	ACTIVATES AUDIBLE AND VISUAL ALARM	ACTIVATES AUDIBLE AND VISUAL ALARM	SHUTS DOWN ISSUE PUMPS
DROP TUBE HIGH LEVEL SHUTOFF VALVES SHALL BE SET SO THAT THEY CLOSE AT 95%				

LEVEL ALARM HEIGHT - OPERATING TANKS

	RISING LEVEL ACTUATOR POINT		FALLING LEVEL ACTUATOR POINT	
	HLA	HHLA	LLA	LLLA
OP TANKS	90% VOLUME	95% VOLUME	15% VOLUME	AT MINIMUM PUMP SUBMERGENCE LEVEL
SYSTEM RESPONSE	ACTIVATES AUDIBLE AND VISUAL ALARM	ACTIVATES AUDIBLE AND VISUAL ALARM	ACTIVATES AUDIBLE AND VISUAL ALARM	SHUTS DOWN ISSUE PUMPS
MOTOR-OPERATIED RECEIPT BALL VALVES CLOSE WITH HHLA				

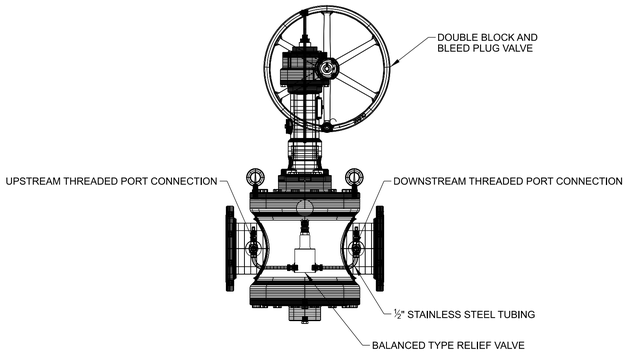
LEVEL ALARM HEIGHT - DAYTANKS

	RISING LEVEL ACTUATOR POINT		FALLING LEVEL ACTUATOR POINT	
	HLA	HHLA	LLA	-
DAY TANKS	90% VOLUME	95% VOLUME	15% VOLUME	-
SYSTEM RESPONSE	ACTIVATES AUDIBLE AND VISUAL ALARM	ACTIVATES AUDIBLE AND VISUAL ALARM	ACTIVATES AUDIBLE AND VISUAL ALARM	-
MOTOR-OPERATIED RECEIPT PLUG VALVES CLOSE WITH HHLA				

B1 TANK LEVEL ALARMS

SCALE: NOT TO SCALE

NOTES:
1. BT-001 - BT-004 WILL ONLY HAVE AN AUTOMATIC TANK GAUGE (ATG). THE ATG FOR THESE TANKS WILL RECORD INVENTORY AND ALSO PROVIDE ALL LEVEL ALARMS. THE HIGH LEVEL VALVE CLOSURE SHALL BE SET AT 95%.
2. OT-001 AND OT-002 WILL EACH HAVE AN ATG TO RECORD INVENTORY. EACH OPERATING TANK WILL ALSO HAVE TWO SEPARATE SETS OF LEVEL SWITCHES THAT WILL BE THE LEVEL ALARMS. ONE SET OF LEVEL SWITCHES WILL HAVE LLA AND LLLA AND THE OTHER SET OF LEVEL SWITCHES WILL HAVE HLA AND HHLA. UPON REACHING THE HHLA, THE MOTOR-OPERATED BALL VALVES ON THE RECEIPT LINES WILL CLOSE.
3. DT-001 - DT-004 WILL EACH HAVE AN ATG TO RECORD INVENTORY. EACH DAY TANK WILL ALSO HAVE ONE SET OF LEVEL SWITCHES THAT WILL BE THE LEVEL ALARMS. THE LEVEL SWITCHES WILL HAVE LLA, HLA AND HHLA. UPON REACHING THE HLA, THE MOTOR-OPERATED PLUG VALVES ON THE RECEIPT LINES WILL CLOSE.



B9 DOUBLE BLOCK AND BLEED PLUG VALVE WITH LINE RELIEF AND DTR

SCALE: NOT TO SCALE

NOTES:
1. ALL PLUG VALVES SHALL HAVE THE STANDARD CAVITY DIFFERENTIAL THERMAL RELIEF (DTR) AND ALSO LINE RELIEF. RELIEF'S SHOULD BE ROUTED TO THE TANK SIDE OF THE VALVE.

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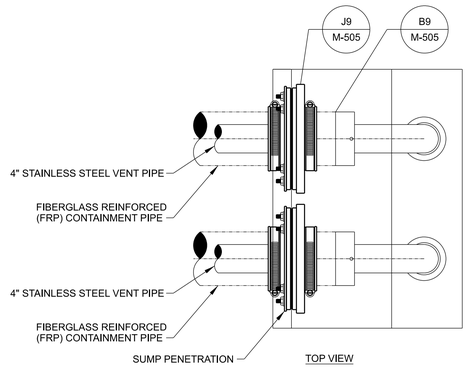
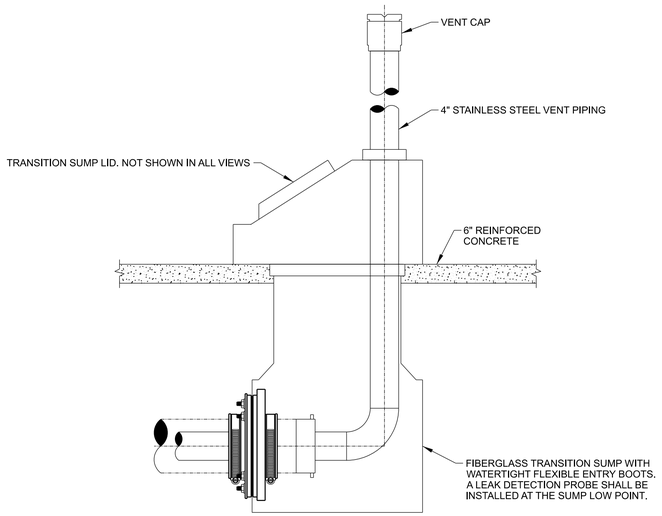
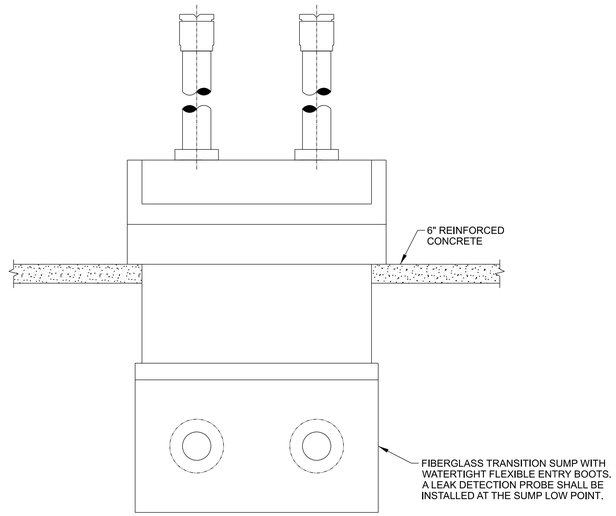


TOP VIEW



SIDE VIEW

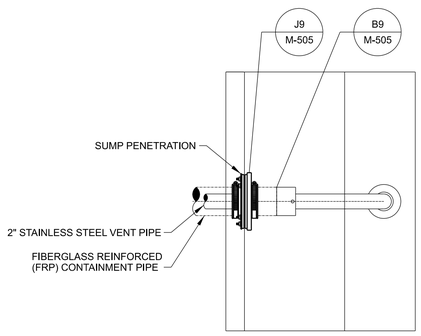


FRONT VIEW

J1 TRANSITION SUMP AT BULK FUEL TANKS

SCALE: NOT TO SCALE

NOTES:
1. SEE DETAIL B1 ON SHEET M-505 FOR DOUBLE WALL PIPING DETAIL.
2. SEE DETAIL B9 AND J9 ON SHEET M-505 FOR SUMP PENETRATION DETAILS.
3. ALL VENT PIPING SHALL TERMINATE 12'-0" ABOVE GRADE.
4. VENT PIPING SHALL BE SUPPORTED WITH A UNISTRUT VENT RACK THAT HAS A CONCRETE BASE AND EXTENDS BELOW FROST DEPTH.



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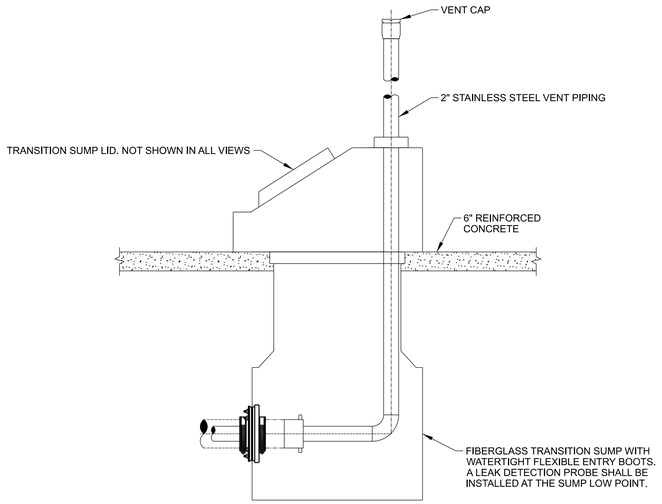
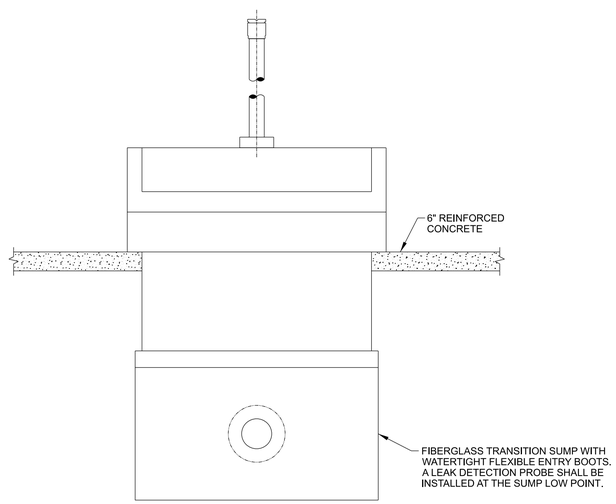


SIDE VIEW



FRONT VIEW

B1 TRANSITION SUMP AT OPERATIONAL FUEL TANKS

SCALE: NOT TO SCALE

NOTES:
1. SEE DETAIL B1 ON SHEET M-505 FOR DOUBLE WALL PIPING DETAIL.
2. SEE DETAIL B9 AND J9 ON SHEET M-505 FOR SUMP PENETRATION DETAILS.
3. ALL VENT PIPING SHALL TERMINATE 12'-0" ABOVE GRADE.
4. VENT PIPING SHALL BE SUPPORTED WITH A UNISTRUT VENT RACK THAT HAS A CONCRETE BASE AND EXTENDS BELOW FROST DEPTH.

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MARK	DESCRIPTION	DATE

DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILE NAME: BUCO00102M-505.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

MECHANICAL FUELING DETAILS
SHEET 8 OF 9

SHEET ID
M-508

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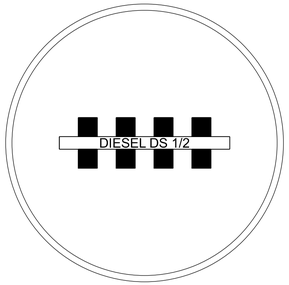
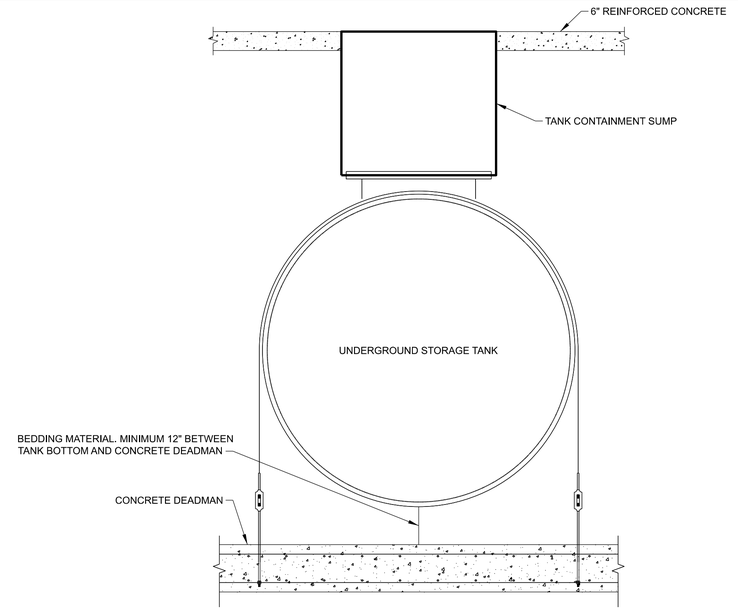


J1 TANK SUMP LABELING

SCALE: NOT TO SCALE

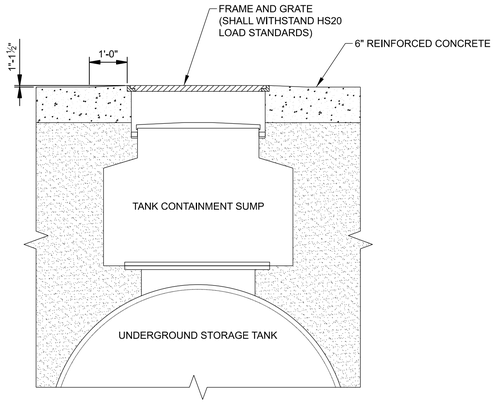
NOTES:
1. CONTRACTOR TO INSTALL PRODUCT GROUP IDENTIFICATIONS ON BULK TANK MANWAYS AND OPERATING TANK MANWAYS PER MIL-STD-161H.



J9 TANK STRAP INSTALLATION DETAIL

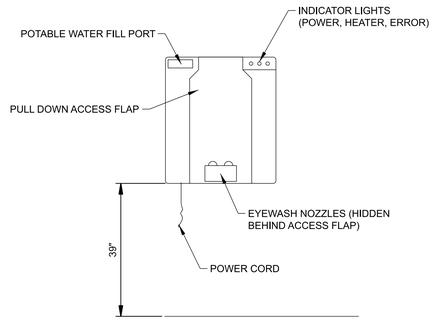
SCALE: NOT TO SCALE

NOTES:
1. HOLD-DOWN STRAPS, TURN BUCKLES AND ANCHOR RODS SHALL BE NON-CORROSIVE OR COATED FOR CORROSION PROTECTION.
2. SEE SHEET SS100 FOR TANK DEADMAN INFORMATION.



B1 TANK SUMP INSTALLATION

SCALE: NOT TO SCALE



B9 SELF-CONTAINED EMERGENCY EYEWASH

SCALE: NOT TO SCALE

NOTES:
1. MUST BE CERTIFIED TO ANSI Z358.1
2. SIZE MUST BE SIZED TO MEET A MINIMUM 0.4 GPM OVER A 15 MINUTE PERIOD
3. UNIT MUST INCLUDE A 120VAC HEATER TO MAINTAIN TEMPERATURE AT A MINIMUM 68 DEG-F
4. INCLUDE TWO BOTTLES OF MANUFACTURER'S WATER ADDITIVES PER UNIT. ONE WILL BE USED DURING THE START-UP, AND THE OTHER WILL BE PROVIDED TO THE INSTALLATION.
5. INCLUDE THE MANUFACTURER'S STANDARD CLEANING BRUSH WITH EACH UNIT.
6. EACH UNIT MUST HAVE A MOUNTING BRACKET.
7. MOUNT ONE UNIT ON FILTER SHELTER COLUMN WITH ACCESS TO POWER RECEPTACLE.
8. MOUNT ONE UNIT ON OFFLOAD RACK OR OFFLOAD CANOPY WITH ACCESS TO POWER RECEPTACLE.

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DESIGNED BY: M. PETERSON
DRAWN BY: M. PETERSON
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILE NAME: BUCO00102M-505.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

MECHANICAL FUELING DETAILS
SHEET 9 OF 9

SHEET ID
M-509

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PUMP SCHEDULE

DESIGNATION	TYPE OF PUMP	LOCATION	FLUID	SPECIFIC GRAVITY	FLOW RATE (GPM)	FEET OF FLUID /DIFFERENTIAL PRESSURE	NOTES
OP-1	IN-LINE VERTICAL	TRUCK OFFLOAD	DIESEL	0.81	300	50	SEE EP610 SERIES EQUIPMENT CONNECTION SCHEDULES FOR ELECTRICAL INFORMATION
IP-F1	SUBMERSIBLE TURBINE	BT-001	DIESEL	0.81	100	50	SEE EP610 SERIES EQUIPMENT CONNECTION SCHEDULES FOR ELECTRICAL INFORMATION
IP-F2	SUBMERSIBLE TURBINE	BT-002	DIESEL	0.81	100	50	SEE EP610 SERIES EQUIPMENT CONNECTION SCHEDULES FOR ELECTRICAL INFORMATION
IP-F3	SUBMERSIBLE TURBINE	BT-003	DIESEL	0.81	100	50	SEE EP610 SERIES EQUIPMENT CONNECTION SCHEDULES FOR ELECTRICAL INFORMATION
IP-F4	SUBMERSIBLE TURBINE	BT-004	DIESEL	0.81	100	50	SEE EP610 SERIES EQUIPMENT CONNECTION SCHEDULES FOR ELECTRICAL INFORMATION
IP-O1	SUBMERSIBLE TURBINE	OT-001	DIESEL	0.81	30	50	SEE EP610 SERIES EQUIPMENT CONNECTION SCHEDULES FOR ELECTRICAL INFORMATION
IP-O2	SUBMERSIBLE TURBINE	OT-001	DIESEL	0.81	30	50	SEE EP610 SERIES EQUIPMENT CONNECTION SCHEDULES FOR ELECTRICAL INFORMATION
IP-O3	SUBMERSIBLE TURBINE	OT-002	DIESEL	0.81	30	50	SEE EP610 SERIES EQUIPMENT CONNECTION SCHEDULES FOR ELECTRICAL INFORMATION
IP-O4	SUBMERSIBLE TURBINE	OT-002	DIESEL	0.81	30	50	SEE EP610 SERIES EQUIPMENT CONNECTION SCHEDULES FOR ELECTRICAL INFORMATION

FILTER SEPARATOR SCHEDULE

DESIGNATION	TYPE OF FILTER	LOCATION	FLUID	FLOW RATE (GPM)	ASME LABELED WORKING PRESSURE	CONNECTIONS INLET / OUTLET	NOTES
FSI-1	VERTICAL	FILTER SHELTER	DIESEL	100	275 PSI	2", ANSI B16.5, CLASS 150	
FSI-2	VERTICAL	FILTER SHELTER	DIESEL	100	275 PSI	2", ANSI B16.5, CLASS 150	

TANK SCHEDULE

DESIGNATION	NOMINAL CAPACITY (GAL)	TANK DIAMETER(S)	TANK LENGTH(S)	FLUID	DESIGN STANDARD	DESIGN PRESSURE	DESIGN TEMPERATURE
BT-001	50,000	INNER: 11'-6" OUTER: 12'-2½"	66'-3"	DIESEL	UL 1316	ATMOSPHERIC	AMBIENT
BT-002	50,000	INNER: 11'-6" OUTER: 12'-2½"	66'-3"	DIESEL	UL 1316	ATMOSPHERIC	AMBIENT
BT-003	50,000	INNER: 11'-6" OUTER: 12'-2½"	66'-3"	DIESEL	UL 1316	ATMOSPHERIC	AMBIENT
BT-004	50,000	INNER: 11'-6" OUTER: 12'-2½"	66'-3"	DIESEL	UL 1316	ATMOSPHERIC	AMBIENT
OT-001	5,000	INNER: 6'-0" OUTER: 6'-3½"	24'-9"	DIESEL	UL 1316	ATMOSPHERIC	AMBIENT
OT-002	5,000	INNER: 6'-0" OUTER: 6'-3½"	24'-9"	DIESEL	UL 1316	ATMOSPHERIC	AMBIENT
DT-001	660	4'-0"	7'-1"	DIESEL	UL142	ATMOSPHERIC	AMBIENT
DT-002	660	4'-0"	7'-1"	DIESEL	UL142	ATMOSPHERIC	AMBIENT
DT-003	660	4'-0"	7'-1"	DIESEL	UL142	ATMOSPHERIC	AMBIENT
DT-004	660	4'-0"	7'-1"	DIESEL	UL 142	ATMOSPHERIC	AMBIENT

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MARK	DESCRIPTION	DATE

DESIGNED BY: J. CUNNINGHAM
DRAWN BY: J. CUNNINGHAM
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILE NAME: BUCO00102M-601.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

MECHANICAL FUELING SCHEDULES

SHEET ID
M-601

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	POWERED OFFLOAD TO BULK					GRAVITY OFFLOAD TO BULK					BULK ISSUE			DAY TANKS FROM OP. TANK 1					DAY TANKS FROM OP. TANK 2				
	TANK 1	TANK 2	TANK 3	TANK 4		TANK 1	TANK 2	TANK 3	TANK 4		OPERATING TANK 1	OPERATING TANK 2		DAY TANK 1	DAY TANK 2	DAY TANK 3	DAY TANK 4		DAY TANK 1	DAY TANK 2	DAY TANK 3	DAY TANK 4	
R10	X	X	X	X																		
R11																						
R12	X	X	X	X																		
R13																						
R14	X																					
R15		X																				
R16			X																			
R17				X																		
R27						X	X	X	X													
R28						X																
R29							X															
R30								X														
R31									X													
I5											X	X										
I6											X	X										
I7											X	X										
I8											X	X										
I9											X	X										
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I15																						
I16																						
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BV19																						
BV20																						
BV21																						

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DRAWN BY: J. CUNNINGHAM
CHECKED BY: D. SCHEUFFELE
SUBMITTED BY: D. SCHEUFFELE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
FILE NAME: BUCO00102M-602.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

MECHANICAL FUELING VALVE MATRIX

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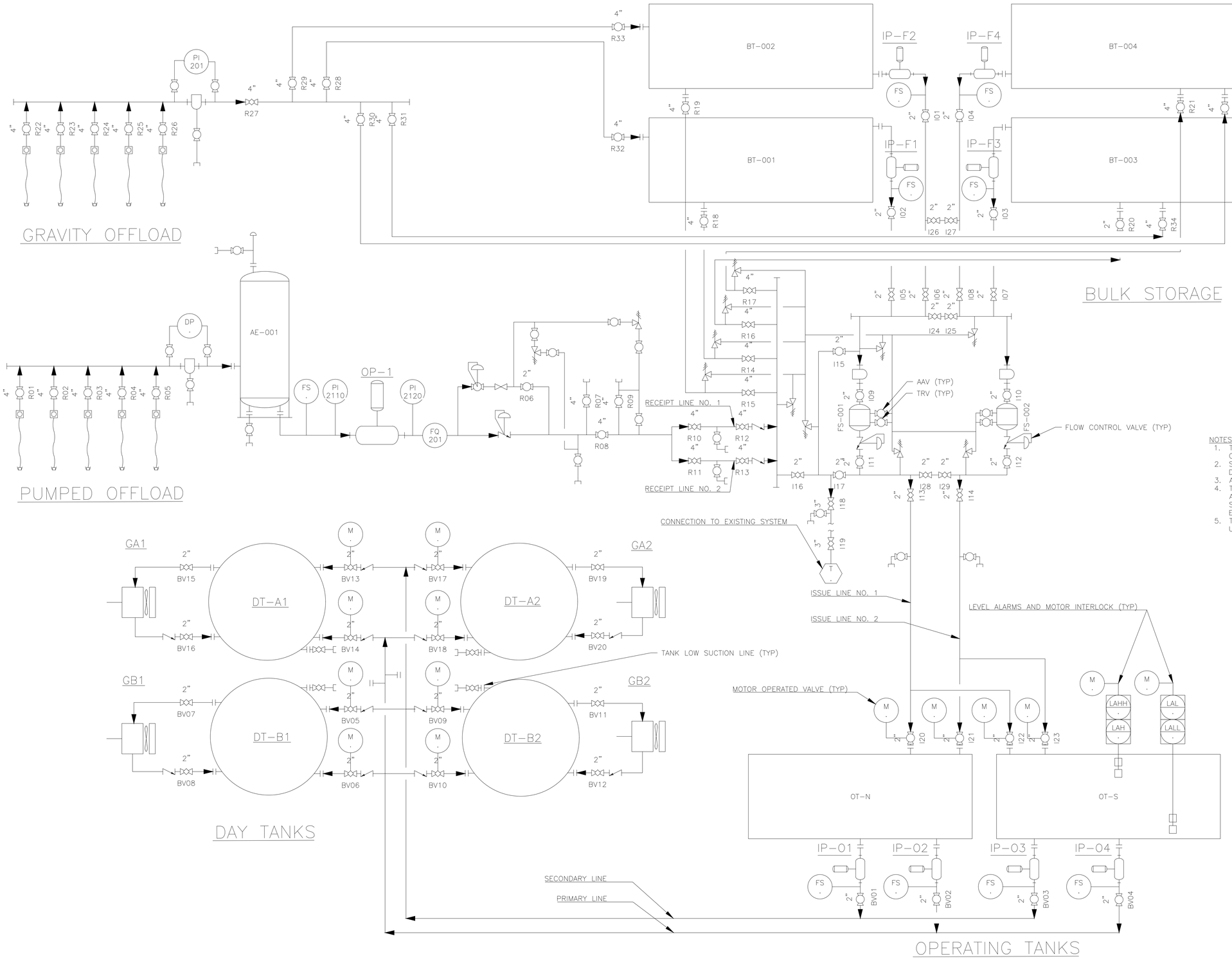

NOTES
1. TANK SUMPS NOT SHOWN FOR CLARITY
2. SEE MS401–MS404 FOR LEAK DETECTORS
3. ALL ACCESSORIES NOT SHOWN
4. TANK ATGS WITH INTEGRAL ALARMS AND INTERLOCKS SHOWN ON MS503–MS509, EF518–EF521, AND EF524
5. THERMAL FLOW SWITCHES USED TO SAVE SPACE

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DESIGNED BY:	ISSUE DATE:
G. BOND	05/01/2025
DRAWN BY:	SOLICITATION NO.:
G. BOND	W9126F25RA043
CHECKED BY:	CONTRACT NO.:
J. SCHEUFFELE	
SUBMITTED BY:	FILE NUMBER:
M. PETERSON	
SIZE:	FILE NAME:
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U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

MECHANICAL FUELS P&ID

SHEET ID

M-603

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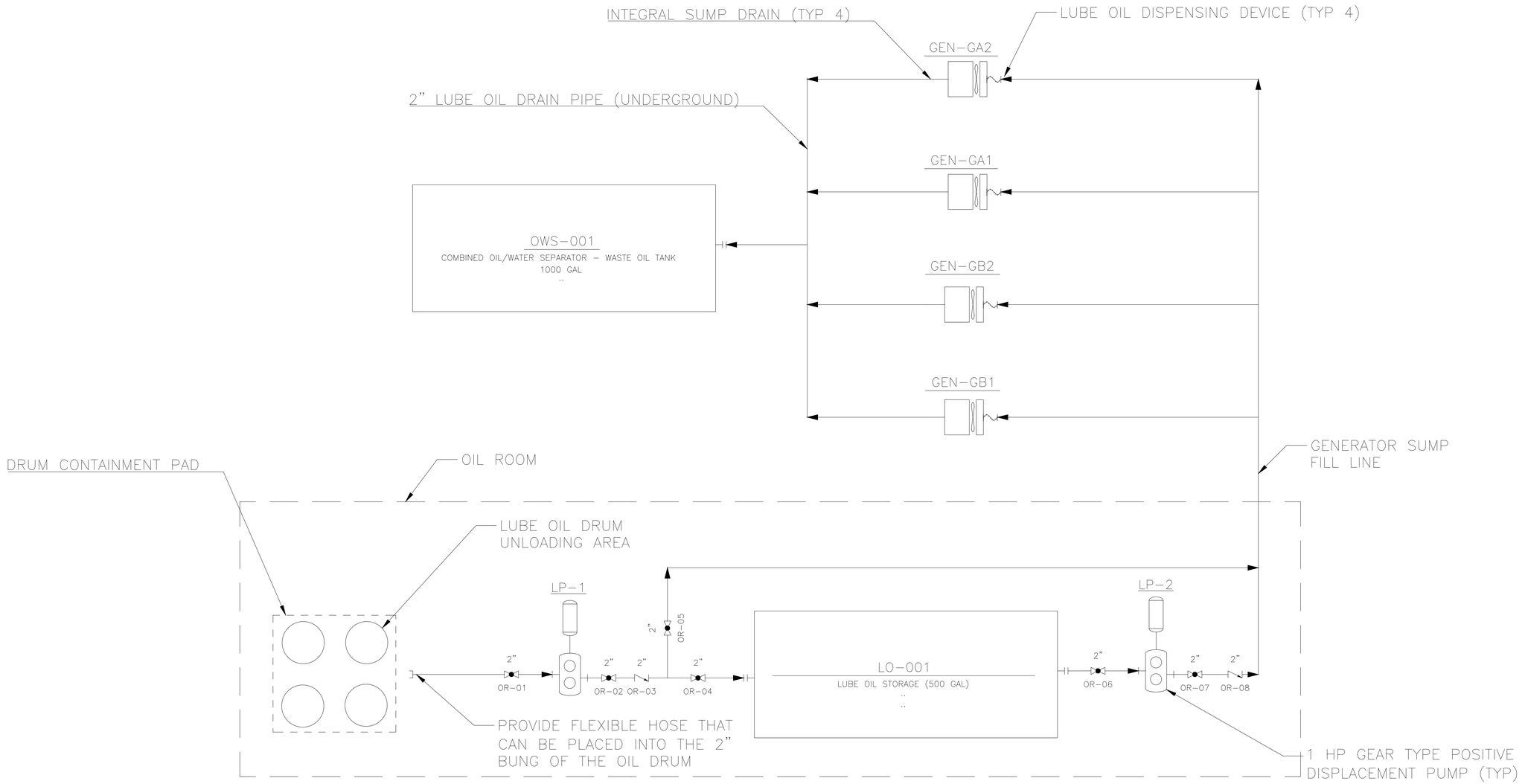
NOTES
1. TANK SUMPS NOT SHOWN FOR CLARITY
2. ALL ACCESSORIES NOT SHOWN
3. LUBE OIL STORAGE TANK DETAIL SHOWN ON SHEET MS510
4. OIL/WATER SEPARATOR DETAIL SHOWN ON SHEET CU503
5. CONTRACTOR TO PROVIDE FITTING IN FIELD TO CONNECT EACH GENERATOR LUBE OIL DRAIN POINT TO LUBE OIL DRAIN PIPING



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SUBMITTED BY: M. PETERSON	FILE NUMBER:
SIZE: ANSI D	FILE NAME: BUCO0102M-604.dwg

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OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

LUBE OIL P&ID

SHEET ID

M-604

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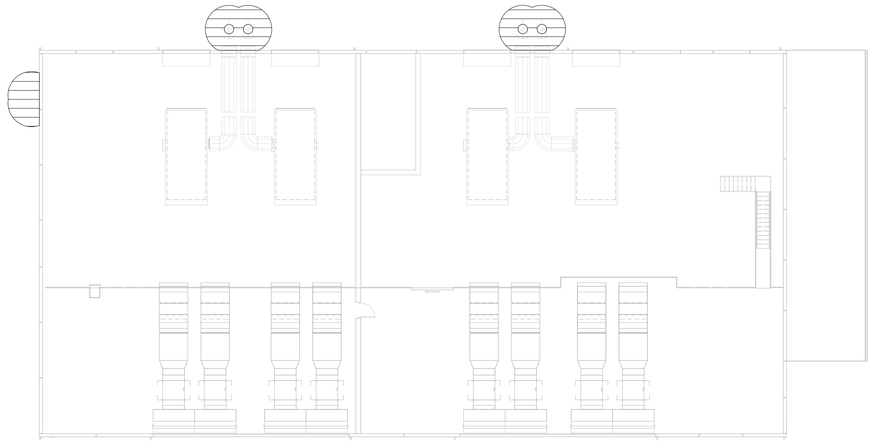
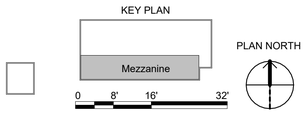
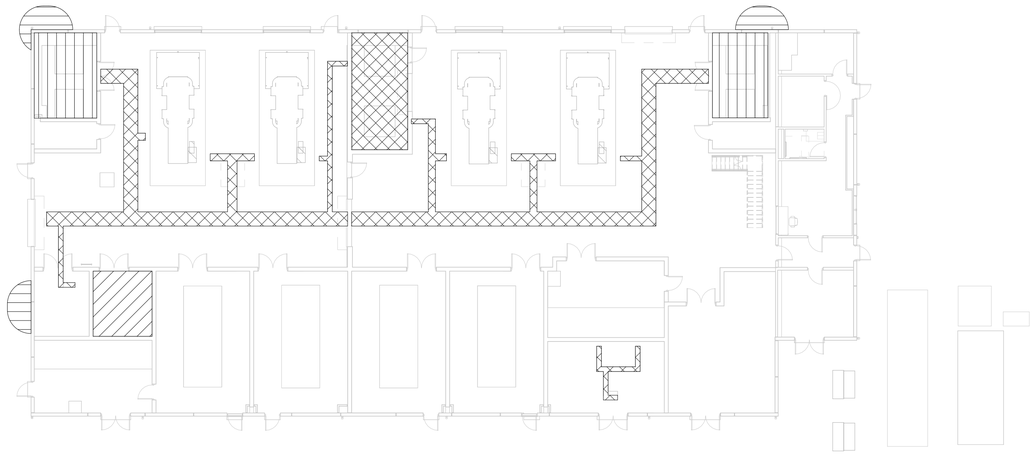
ENVIRONMENTAL CONDITION LEGEND		
	0	NOT RATED FOR THE PURPOSES OF THIS LEGEND.
	1	GENERAL SPACE REQUIREMENTS CLASS I DIVISION 1: ALL EQUIPMENT LOCATED BELOW GRADE LEVEL. CLASS I DIVISION 2: ALL EQUIPMENT LOCATED AT OR ABOVE GRADE LEVEL. AREA ABOUT TANK VENTING CLASS I DIVISION 1: WITHIN 3 FT EXTENDING IN ALL DIRECTIONS. CLASS I DIVISION 2: AREA BETWEEN 3 FT AND 5 FT OF THE OPEN VENT, EXTENDING IN ALL DIRECTIONS.
	2	AREAS NOT SUITABLY SEPARATED CLASS I DIVISION 1: ANY PITS AND DEPRESSIONS. NO CLASSIFICATION: ENTIRE SPACE ABOVE FLOOR ELEVATION. NO CLASSIFICATION: BURIED UNDERFLOOR.
	3	BULK TANK FILTER SHELTER SPACE REQUIREMENTS SEE EF SHEETS FOR FUEL SPECIFIC HAZARDOUS ZONES AROUND EQUIPMENT.
	4	AREA ABOUT EXHAUST VENTING CLASS I DIVISION 2: AREA 5 FT OF THE OPEN VENT, EXTENDING IN ALL DIRECTIONS.
	5	AREA CONTAINING FORKLIFT RECHARGING STATION. CLASS 1, DIVISION 1, GROUP B FROM THE FLOOR TO THE CEILING.



G11 ENVIRONMENTAL CONDITION PLAN MEZZANINE

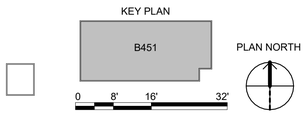
1/16" = 1'-0"





A11 ENVIRONMENTAL CONDITION FLOOR PLAN

1/16" = 1'-0"



SEE EF SERIES SHEETS FOR ADDITIONAL HAZARDOUS AREA ZONING AND REQUIREMENTS.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
LIVEWORKS
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ENVIRONMENTAL CONDITION PLAN

SHEET ID

E-101

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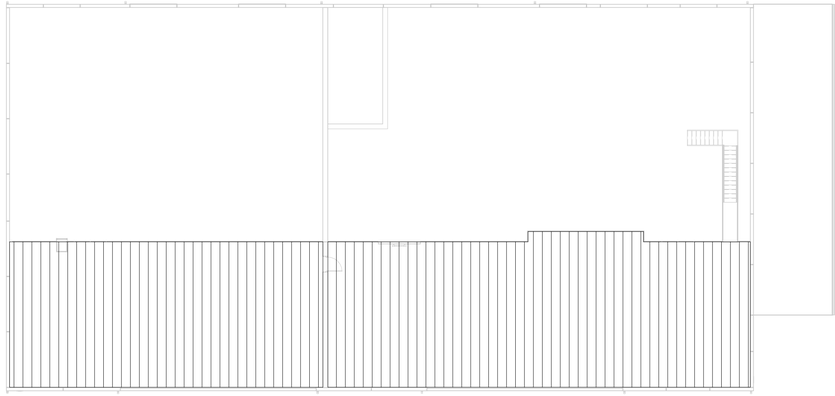
14 WS / AFCCC / EWD LOCAL MEAN COINCIDENT (AVERAGE) DRY-BULB TEMPERATURES (1989-2018 BUCKLEY AFB, CO)	
M.E.L.	-22°C / -8°F
99.6%	-18°C / 0°F
99%	-14°C / 6°F
97.5%	-10°C / 14°F
M.D.R.	14°C / 25°F
2%	31°C / 88°F
1%	33°C / 91°F
0.4%	34°C / 93°F
M.E.H.	37°C / 99°F

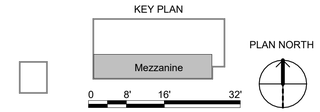
VALUES BASED ON ICAO_KDAG FROM 14 WS / AFCCC / EWD (https://climate.af.mil/).
M.E.L.: MEDIAN OF EXTREME LOWS
M.D.R.: MEDIAN DAILY RANGE
M.E.H.: MEDIAN OF EXTREME HIGHS

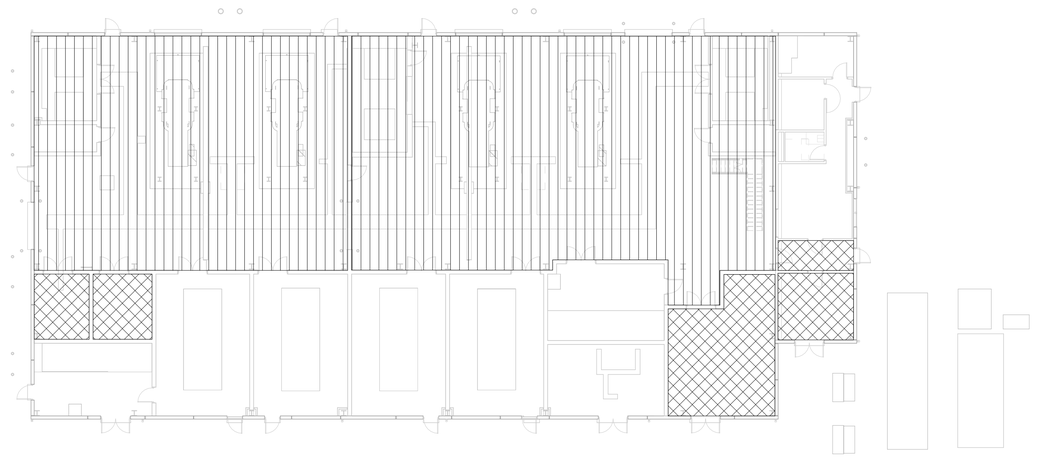
ENVIRONMENTAL TEMPERATURE CONDITION LEGEND		
	0	30°C OR LESS / 86°F OR LESS
	1	31°C-35°C / 87°F-96°F
	2	36°C-40°C / 97°F-104°F
	3	41°C-45°C / 105°F-113°F
	4	46°C-50°C / 114°F-122°F
	5	51°C-55°C / 123°F-131°F

1. ALL EXTERIOR AREAS ABOVE FINISHED GRADE SHALL BE CONSIDERED TO BE 37°C (99°F) ANTICIPATED MAXIMUM TEMPERATURE.
2. ALL LOCATIONS BELOW FINISHED GRADE SHALL BE CONSIDERED TO BE 30°C (86°F) OR LESS.
3. PLENUM SPACE SHALL BE CONSIDERED TO BE 32°C (90°F).
4. INCLUDE AREAS ABOVE THE PUMP CONTROL ROOMS, DAY TANK ROOMS, AND EXHAUST TREATMENT ROOM IN ENVIRONMENTAL CONDITION TREATMENT FOR GENERATOR ROOM. PUMP CONTROL ROOMS AND EXHAUST TREATMENT ROOM SHALL BE CONSIDERED RATED 30°C (86°F). DAY TANK ROOMS SHALL BE CONSIDERED RATED 36°C (97°F).



G11 ENVIRONMENTAL CONDITION PLAN MEZZANINE
1/16" = 1'-0"





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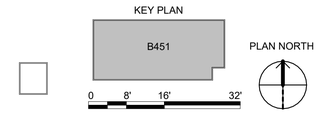

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DRAWN BY: E.MCNAMARA
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SUBMITTED BY:
AUTHORIZED BY:
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ENVIRONMENTAL CONDITION PLAN

SHEET ID
E-110

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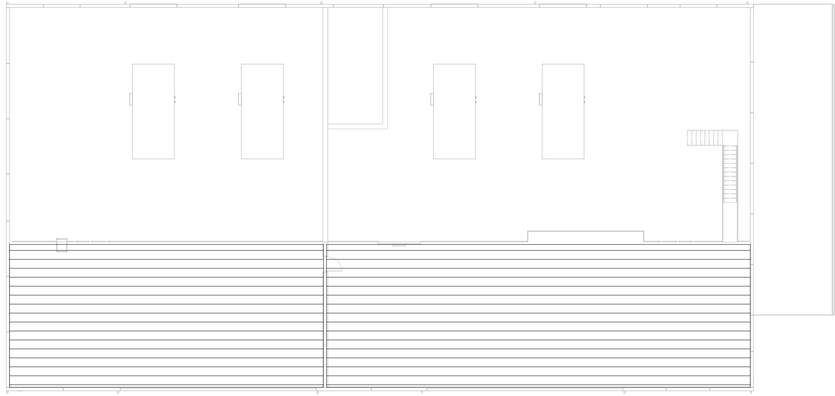
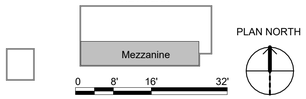
AREAS SUBJECT TO DAMAGE LEGEND			
	1	NOT SUBJECT TO PHYSICAL DAMAGE.	--
	2	UP TO CEILING HEIGHT.	PHYSICAL DAMAGE
	3	ALL AREAS AND ELEVATIONS.	PHYSICAL DAMAGE
	4	UP TO THE UNDERSIDE OF THE JOISTS/BEAMS (AS APPLICABLE) WITH A MINIMUM OF 18'-0" AFF.	SEVERE PHYSICAL DAMAGE
	5	ALL AREAS AND ELEVATIONS.	SEVERE PHYSICAL DAMAGE

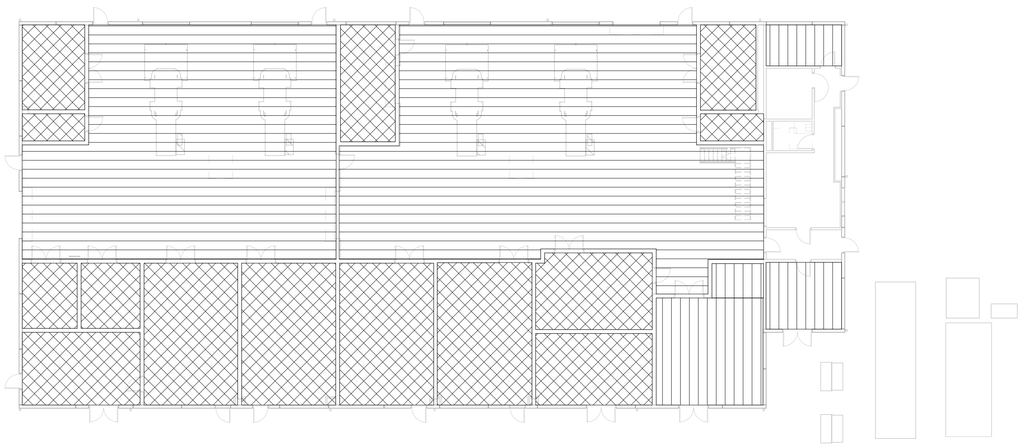
GENERAL NOTES:
1. ALL EXTERIOR AREAS SHALL BE CONSIDERED AN AREA SUBJECT TO PHYSICAL DAMAGE. THIS INCLUDES BUILDING-, ROOF-, AND REMOTE-MOUNTED OR LOCATED ABOVE GROUND EQUIPMENT AND INFRASTRUCTURE. BURIED UNDERGROUND UTILITIES SHALL BE PER SITE PLANS AND DETAILS.
2. INCLUDE AREAS ABOVE THE PUMP CONTROL ROOMS, DAY TANK ROOMS, AND EXHAUST TREATMENT ROOM AS CONDITION 4 IN THE LEGEND ABOVE.



G11 AREAS SUBJECT TO PHYSICAL DAMAGE MEZZANINE

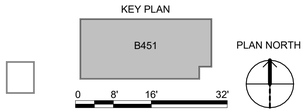
1/16" = 1'-0"





A11 AREAS SUBJECT TO PHYSICAL DAMAGE FLOOR PLAN

1/16" = 1'-0"



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AREAS SUBJECT TO PHYSICAL DAMAGE

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E-120

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SUPPLEMENTAL LIGHTNING PROTECTION AND GROUNDING LEGEND

- AIR TERMINAL, 12" MINIMUM HEIGHT
- AIR TERMINAL, 24" MINIMUM HEIGHT
- AIR TERMINAL, 60" MINIMUM HEIGHT
- 3/4"x10' GROUND ROD
- 3/4"x10' GROUND ROD WITH TEST WELL
- GROUND BARS, SEE EG503 FOR SIZES BASED ON THE FOLLOWING DESIGNATIONS:
  - MGB MAIN GROUND BAR
  - EGB ELECTRICAL GROUND BAR
  - TMGB TELECOMMUNICATIONS MAIN GROUND BAR
  - TGB TELECOMMUNICATIONS GROUND BAR
  - GB GROUND BAR
- — RC — LIGHTNING PROTECTION ROOF MAIN CONDUCTOR
- — DC — LIGHTNING PROTECTION DOWN CONDUCTOR
- — G — COUNTERPOISE GROUND LOOP
- ——— BONDING CONDUCTORS/GROUNDING GRID
- DC PER UFC 3-575-01, BOND ANY METALLIC BODY WITHIN 10 FEET OF A DOWN CONDUCTOR TO THE LIGHTNING PROTECTION SYSTEM INSIDE HAZARDOUS AREAS. REFER TO E-100 SERIES FOR HAZARDOUS AREA CLASSIFICATIONS. (THAT IS, USE 10-FOOT SIDEFLASH BONDING FOR METALLIC COMPONENTS FROM DOWN CONDUCTOR RATHER THAN 6-FOOT.)
- ◆ BOLTED (BUS/PLATE) OR BONDING STRAP (PIPING) GROUND CONNECTION AS APPLICABLE.
- ▲ EXOTHERMAL WELD TO EQUIPMENT, PIPING, OR BUILDING STEEL.
- ● EXOTHERMAL WELD TO GRID.

GENERAL NOTES - EG100 THROUGH EG400 SHEETS

A	GROUND BARS MUST BE PRE-DRILLED AND TO BE ANCHORED AT INTERVALS NOT TO EXCEED 2'-0".
B	PENETRATION OPENINGS THROUGH AIR BARRIERS MUST COMPLY WITH THE BUILDING AIR BARRIER REQUIREMENTS. SEE ARCHITECTURAL SHEETS FOR AIR BARRIER BOUNDARIES.
C	SYSTEM MUST BE INSTALLED AS SHOWN TO ENSURE PROPER CODE COMPLIANCE AND SYSTEM CERTIFICATION BY UL. ANY MAJOR VARIANCE MUST ENTAIL RESUBMITTAL AND NEW APPROVAL.
D	REFERENCE GROUNDING RISER ON SHEET EG600 FOR CONDUCTOR SIZES NOT LISTED AND ROUTING NOT SHOWN ON PLANS.
E	FOR GROUNDING AND BONDING CONDUCTORS IN FERROUS METALLIC RACEWAY WHICH EXCEEDS 3 FEET IN LENGTH, THE CONDUCTORS MUST BE BONDED TO EACH END OF THE CONDUIT USING A GROUNDING BUSHING OR A #6 AWG CONDUCTOR, MINIMUM.
F	AIR TERMINALS MUST BE BLUNT TIP TYPE.
G	THE LIGHTNING PROTECTION SYSTEM DESIGN IS BASED ON THE ROLLING SPHERE DESIGN (ZONE OF PROTECTION FOR 100-FOOT STRIKING DISTANCE IN LIEU OF 150-FOOT DUE TO HAZARDOUS VAPORS), IS APPROXIMATE, AND IS SUBJECT TO DESIGN VERIFICATION AND APPROVAL BY CONTRACTOR. ENSURE THAT DURING INSTALLATION ALL POINTS ARE WITHIN 2'-0" OF OUTSIDE BUILDING EDGE, OUTSIDE CORNERS, AND RIDGE ENDS. THE MAXIMUM SPACING OF PERIMETER TERMINALS DOES NOT EXCEED 20'-0" FOR 12" COPPER AIR TERMINALS AND 25'-0" FOR 24" COPPER AIR TERMINALS. SUBMIT INSTALLATION DRAWINGS AND PROVIDE A UL MASTER LABEL CERTIFIED SYSTEM COORDINATING WITH ACTUAL SUBMITTED MECHANICAL EQUIPMENT, ROOF INFORMATION, AND ROOFING MANUFACTURER REQUIREMENTS. ENSURE MINIMUM AIR TERMINAL PROJECTION ABOVE OBJECTS IS 24". LOCATE AIR TERMINALS AS SHOWN AT MINIMUM.
H	BOND ALL METALLIC PARTS, INCLUDING DOOR FRAMES AND RAILS, WITHIN HAZARDOUS LOCATIONS AND WITHIN 10 FEET OF THE LIGHTNING PROTECTION SYSTEM TO THE NEAREST DOWN CONDUCTOR.
I	ALL CONNECTIONS AND EQUIPMENT BONDING MUST BE IN ACCORDANCE WITH SPECIFICATIONS AND NFPA 780.
J	CONTRACTOR MUST BOND TO BUILDING STEEL, ELECTRICAL SERVICE, WATER SERVICE, GAS SERVICE, AND OTHER PIPING SYSTEMS AS REQUIRED BY NFPA 70, NFPA 780, AND OTHER APPLICABLE CODES.
K	NOT ALL ELEMENTS (PARTICULARLY SIDEWALL ELEMENTS, SUCH AS INTAKE AND EXHAUST LOUVERS) ARE IDENTIFIED ON EG SHEETS FOR BONDING. CONTRACTOR TO FIELD VERIFY LOCATIONS AND BOND ACCORDINGLY.
L	BOND PROTECTIVE BOLLARDS AROUND BUILDING PERIMETER TO COUNTERPOISE OR GROUNDED COLUMN WITH MINIMUM #6 AWG COPPER.
M	PERIMETER COLUMNS MUST BE BONDED TO COUNTERPOISE SYSTEM AT INTERVALS NOT EXCEEDING 60 FEET ON AVERAGE FOR BUILDING PERIMETER PER NFPA 780-2023 §4.18.4. SIZE TO BE AS SHOWN ON EG600.
N	COORDINATE DOWN CONDUCTORS WITH ALL INCOMING UTILITIES.
O	CONTRACTOR MUST PROVIDE DOWN CONDUCTOR FROM ROOF CONDUCTOR TO GROUND ROD, ROUTE CONDUCTOR AROUND GUTTER, PARAPET WALL, AND/OR ROOF EVE AND ALL INCOMING UTILITIES.
P	COORDINATE INSTALLATION OF LOOP CONDUCTOR WITH INCOMING UTILITIES. BARE COPPER COUNTERPOISE MUST BE INSTALLED AT A MINIMUM DEPTH OF 30 INCHES, BE OUTSIDE THE FOOTING, BURIED BETWEEN 3' AND 8' AWAY FROM THE BUILDING, AND HAVE NO BENDS LESS THAN 90 DEGREES.
Q	CONTRACTOR SHALL PROVIDE 3/4" X 10'-0" COPPER CLAD STEEL GROUND RODS AT MINIMUM LOCATIONS SHOWN. GROUND RODS MUST BE SPACED EVERY 50' MAXIMUM.
R	MAINTAIN HORIZONTAL OR DOWNWARD COURSING OF MAIN CONDUCTOR AND ENSURE THAT ALL BENDS HAVE AT LEAST A 8" RADIUS AND BENDS DO NOT EXCEED 90 DEGREES.
S	SUPPORT EXPOSED ROOF CABLES AS SHOWN IN APPLICABLE DETAILS AT 36" ON CENTER MAXIMUM.
T	ROOF CONDUCTOR DEAD ENDS NOT TO EXCEED CONDUCTOR LENGTHS PERMITTED UNDER NFPA 780.
U	ALL UNDERGROUND GROUNDING CONNECTIONS TO BE CONNECTED VIA EXOTHERMIC WELDS.
V	GROUND GRID AND BONDING CONDUCTORS ROUTING THROUGH STRUCTURAL GRADE BEAMS AND FOOTINGS SHALL BE PROVIDED WITH 1" PVC CONDUIT. COORDINATE WITH FOUNDATIONS AND REINFORCEMENT FOR FINAL PLACEMENT. GROUND GRID MAY ALSO BE ROUTED UNDER FOUNDATIONS.
W	FOR BONDING CONDUCTORS IDENTIFIED ON PLANS WITHOUT A SIZE ASSOCIATED ON THE EG600 SERIES RISER DIAGRAMS OR EP600 SERIES DIAGRAMS AND SCHEDULES, PROVIDE MINIMUM #6 AWG COPPER.

(#) KEYNOTES - EG100 THROUGH EG400 SHEETS

1	SEE DETAIL L1/EG502.
2	SEE DETAIL D12/EG501.
3	PROVIDE AIR TERMINAL FOR EXHAUST VENT. BOND EXHAUST VENT TO LIGHTING PROTECTION SYSTEM. RUN DOWN CONDUCTOR ALONG EXHAUST SUPPORT STRUCTURE DOWN TO COUNTERPOISE. ROUTE CROSS-RUN CONDUCTORS SO THAT THE 16FT MAX LENGTH DEAD-END REQUIREMENT IS MET AS WELL AS U AND V POCKET FORMATION IS AVOIDED. AIR TERMINAL ON EXHAUST EXPELLING HAZARDOUS AREAS VAPORS SHALL EXTEND MINIMUM 60 INCHES ABOVE EQUIPMENT PER UFC 3-575-01 §3-2.1.
4	APPROXIMATE LOCATION OF EXHAUST VENT. BOND TO LIGHTNING PROTECTION SYSTEM IF VENT IS COMPOSED OF A METALLIC MATERIAL.
5	MOUNT AIR TERMINALS ON TOP OF LOAD BANK.
6	CONNECT LOAD BANK GROUNDING AND LIGHTNING PROTECTION SYSTEM INTO GROUNDING SYSTEM FOR BUILDING. BURIED LIGHTNING PROTECTION ELEMENTS ASSOCIATED WITH THE LOAD BANK ARE TO BE INCLUDED IN THE SAME CLIN ASSOCIATED WITH THE POWERPLANT/GENERATOR BUILDING LIGHTNING PROTECTION SYSTEM.
7	NON-BURIED LIGHTNING PROTECTION ELEMENTS ASSOCIATED WITH THE LOAD BANK ARE TO BE INCLUDED IN THE "LOAD BANK" CLIN.
8	APPROXIMATE LOCATION OF FIRE ALARM TRANSCEIVER ANTENNA. BOND MAST/WEATHERHEAD TO LIGHTNING PROTECTION SYSTEM IF ABOVE EAVE. COORDINATE WITH FIRE ALARM INSTALLER FOR ANTENNA QUANTITY AND LOCATION.
9	CONDUITS FOR ANTENNA(E) GROUND CONDUCTORS. COORDINATE WITH FIRE ALARM INSTALLER FOR ANTENNA QUANTITY AND LOCATION. PROVIDE SURGE PROTECTIVE DEVICE FOR FIRE ALARM ANTENNA CIRCUIT ON THE EXTERIOR SIDE OF THE BUILDING ENTRANCE PENETRATION. ROUTE ANTENNAE GROUND CONDUCTOR(S) TO COUNTERPOISE.
10	BOND PROTECTIVE BOLLARDS UNDERGROUND TO GROUNDING GRID.
11	SEE DETAIL A11/EG504 (TYP).
13	GROUND FIRE WATER SERVICE CONNECTION TO GROUNDING GRID.
14	GROUND WATER SERVICE CONNECTION TO GROUNDING GRID.
15	DOWN CONDUCTOR FROM AIR TERMINALS FOR EXHAUST VENT CONNECTED TO COUNTERPOISE.
16	BOND HATCH AND RAILING TO LIGHTNING PROTECTION SYSTEM.
17	COORDINATE COUNTERPOISE DISTANCE FROM BUILDING TO HAVE GROUND RODS NOT IMPACT FOUNDATION FOOTING.
18	BOND PIPING IN TRENCH SUCH THAT AT LEAST ONE CONNECTION OCCURS PER 300FT (PER UFC 3-460-01). APPLY FOR EACH PIPE SYSTEM AND EACH PIPE RUN IN TRENCH IN WHICH THE KEYNOTE IS APPLIED.
19	GROUND STUB-UP FOR FUTURE NGR.
20	BOND EXHAUST FLUID TANK TO GROUNDING GRID. PROVIDE BOLTED/LUG OR EXOTHERMAL WELD CONNECTION AS PERMITTED BY TANK MANUFACTURER.
21	BOND SWITCHGEAR BATTERY SYSTEM TO GROUNDING GRID.
22	BOND GENERATOR AND GENERATOR COLUMNS TO GROUNDING GRID.
23	BOND DAY TANKS TO LOCAL GROUND BAR. PROVIDE BOLTED/LUG OR EXOTHERMAL WELD CONNECTION AS PERMITTED BY TANK MANUFACTURER.
24	BOND SWITCHGEAR EQUIPMENT SHELL TO GROUNDING GRID.
25	BOND STAIRWELL TO GROUNDING GRID.
26	GROUND TRANSFORMER NEUTRAL BUS TO GROUNDING GRID.
27	MOUNT AIR TERMINAL TO RAILING. ROUTE CROSS-RUN CONDUCTORS SUCH THAT THE 16FT MAX LENGTH DEAD-END REQUIREMENT IS MET AS WELL AS U AND V POCKET FORMATION IS AVOIDED.
28	PROVIDE GROUNDING ELECTRODE CONDUCTOR SIZED TO MATCH PHASE CONDUCTORS FROM ASSOCIATED TRANSFORMER.
29	BOND LADDER TO GROUNDING GRID.
30	BOND ISOLATION VALVE AND PIPE. DO NOT ROUTE GROUNDING GRID THROUGH THE VALVE PIT.
31	BOND OIL WATER SEPARATOR AND WASTE OIL TANK (SEPARATE CONNECTIONS) TO COUNTERPOISE. SEE SITE PLAN FOR LOCATION.
32	BOND DEF PIPING ENTRANCE.
33	BOND DEF RELATED WEATERPROOF ENCLOSURE.
34	BOND INDUSTRIAL WASTE DRAIN.
35	BOND WASTE OIL LINES.
36	BOND GENERATOR BATTERY EQUIPMENT TO GRID. BATTERY LOCATIONS SHOWN AS APPROXIMATION. FIELD COORDINATE FOR FINAL LOCATION OF BATTERIES.
37	BOND METALLIC TANK VENT PIPES TO GROUNDING GRID.
38	BOND TOP OF LADDER TO MEZZANINE RAILING.
39	BOND DUCTWORK TO COLUMN.
40	BOND DUCTWORK TO COLUMN SUPPORTS.
41	BOND LOAD BANK TO GROUND ROD.
42	BOND MTS GROUND BUS TO GROUNDING GRID.
43	BOND MEZZANINE RAILING TO STRUCTURAL COLUMN.
44	SEE EF504 FOR FUEL PIPING GROUNDING REQUIREMENTS WITHIN CANOPY FOOTPRINT.
45	EQUIPMENT RACK GROUND RODS FOR GROUNDED SYSTEM EQUIPMENT SUPPLIED BY FEEDER AND FOR SEPARATELY DERIVED SYSTEMS. BOND TOGETHER, TO EQUIPMENT RACK, AND TO FILTER SHELTER COUNTERPOISE.
46	BOND SWITCHGEAR GROUND BAR TO GROUNDING GRID.
47	BOND TO UFER/MINIMUM 20-FOOT REBAR.
48	BOND EQUIPMENT RACK TO COUNTERPOISE.
49	BOND METAL DOOR FRAME TO GROUNDING GRID PER NFPA 70 §250.194(B). PROVIDE A FLEXIBLE BRAID BETWEEN DOOR AND DOOR FRAME. AT DOUBLE DOORS, PROVIDE A FLEXIBLE BRAID BETWEEN EACH DOOR AND DOOR FRAME.
50	BOND METAL LOUVERS TO GROUNDING GRID PER NFPA 70 §250.194(B). LOUVERS ARE ALUMINUM, PROVIDE SUITABLY COMPATIBLE INTERFACE.
51	BOND METAL COILING DOOR FRAME TO GROUNDING GRID PER NFPA 70 §250.194(B).

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GROUNDING AND LIGHTNING PROTECTON NOTES AND SUPPLEMENTAL LEGEND

SHEET ID

EG001

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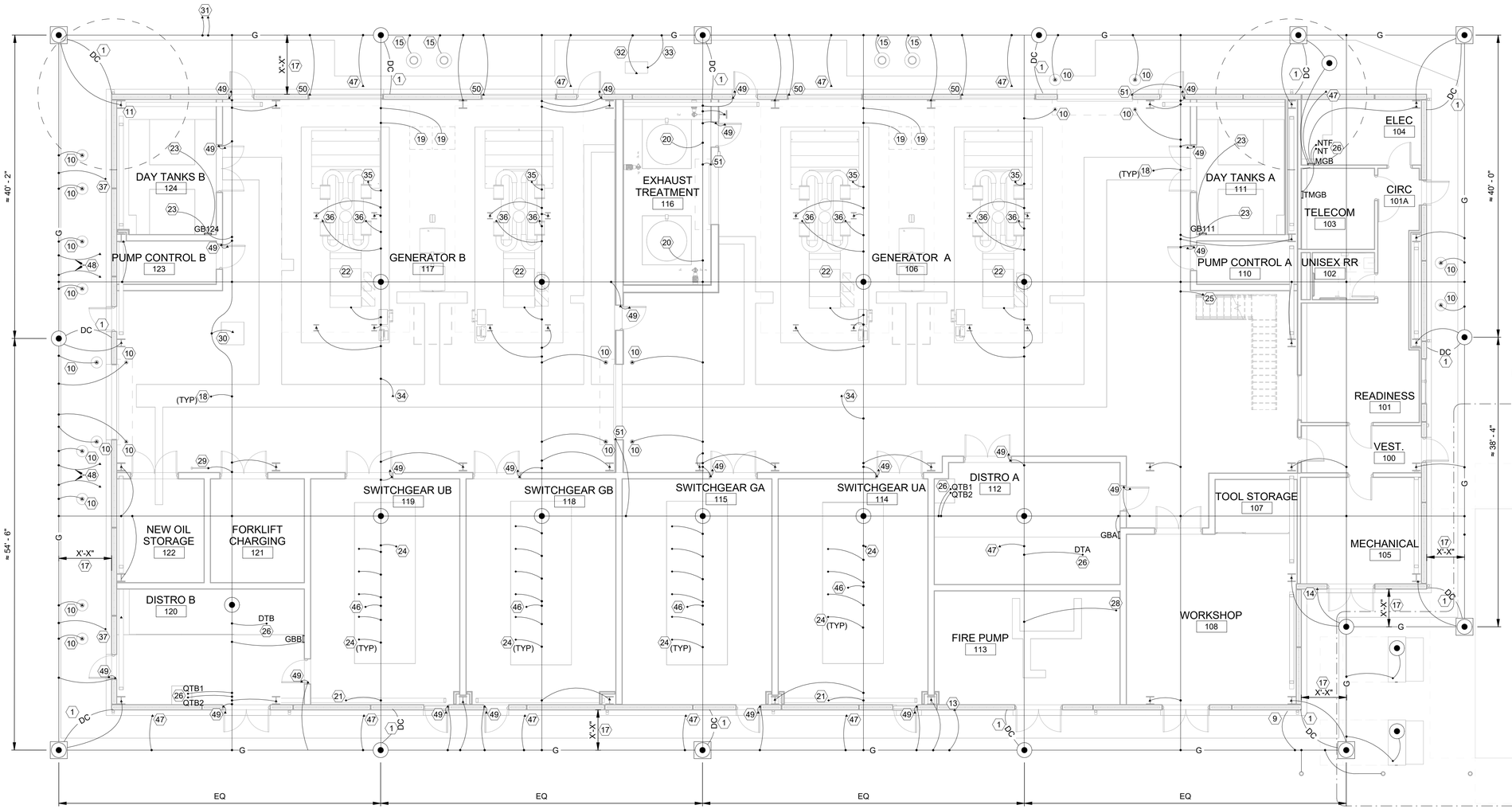

A1 GROUNDING PLAN
1/8" = 1'-0"

KEY PLAN
B451
PLAN NORTH
0 4' 8' 16'

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EG001.

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GROUNDING PLAN

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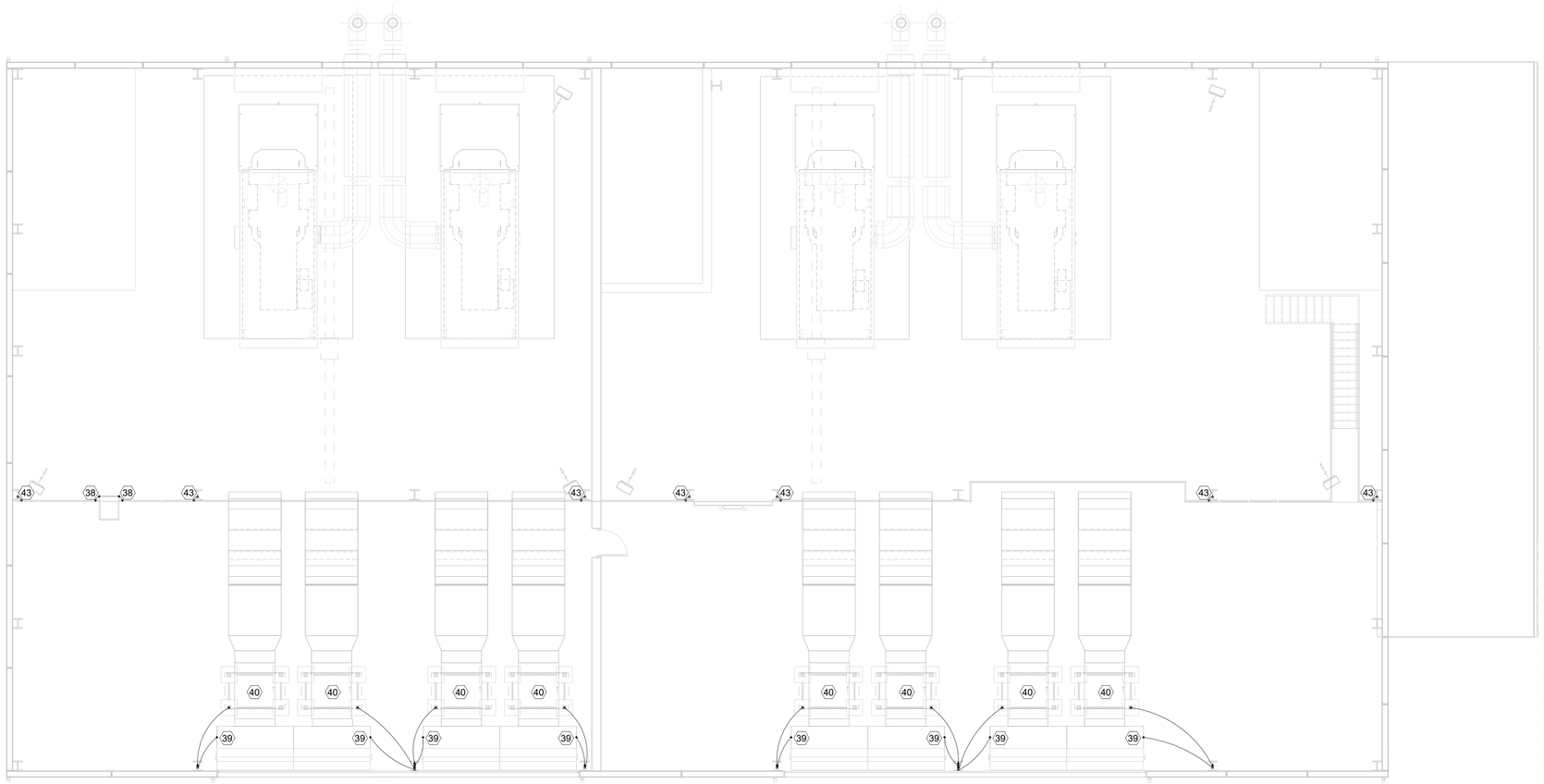

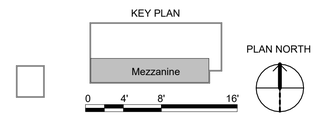

A1 GROUNDING PLAN: MEZZANINE
1/8" = 1'-0"

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP001.

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GROUNDING PLAN MEZZANINE

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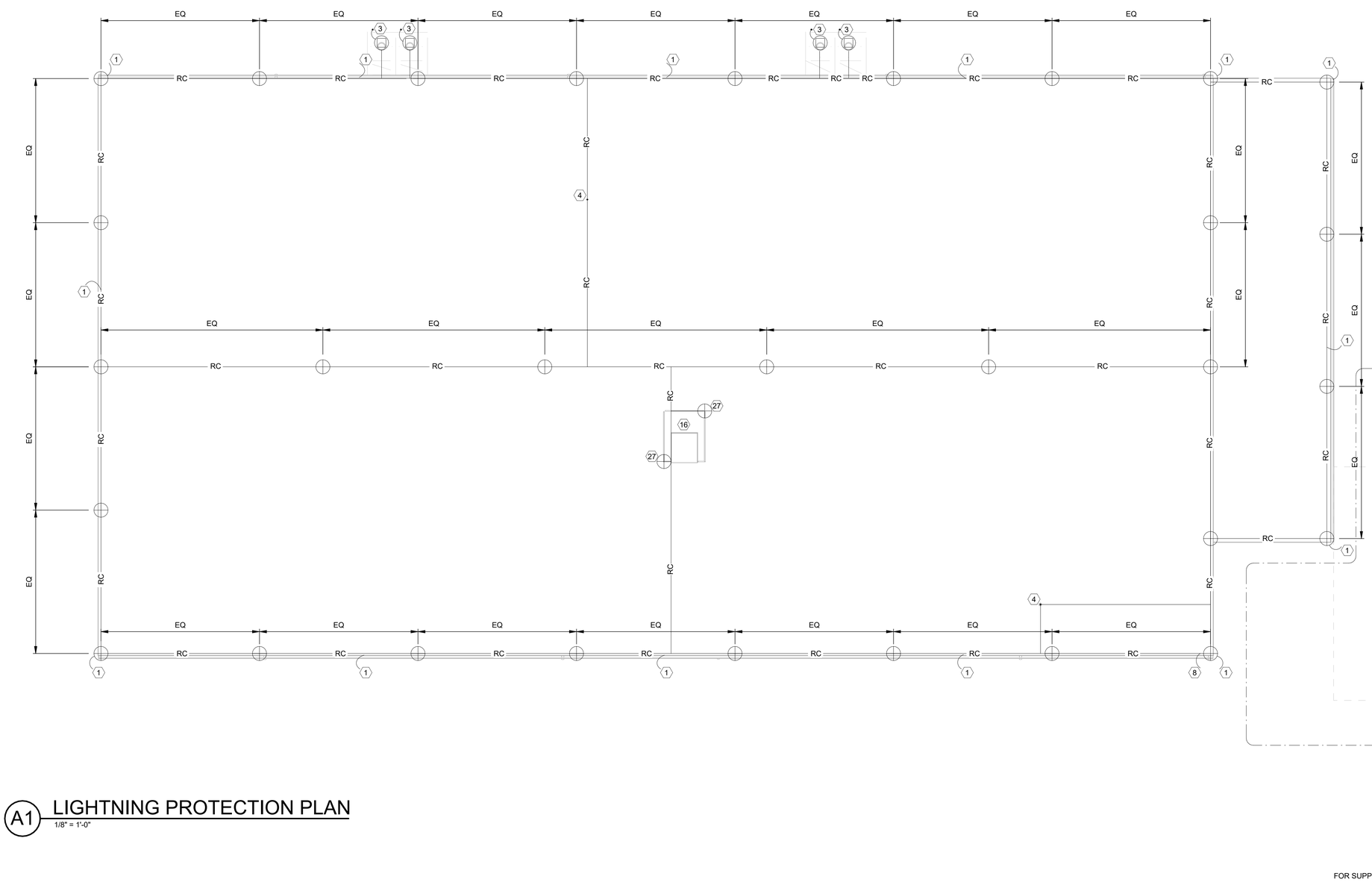

A1 LIGHTNING PROTECTION PLAN
1/8" = 1'-0"

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EG001.

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LIGHTNING PROTECTION PLAN

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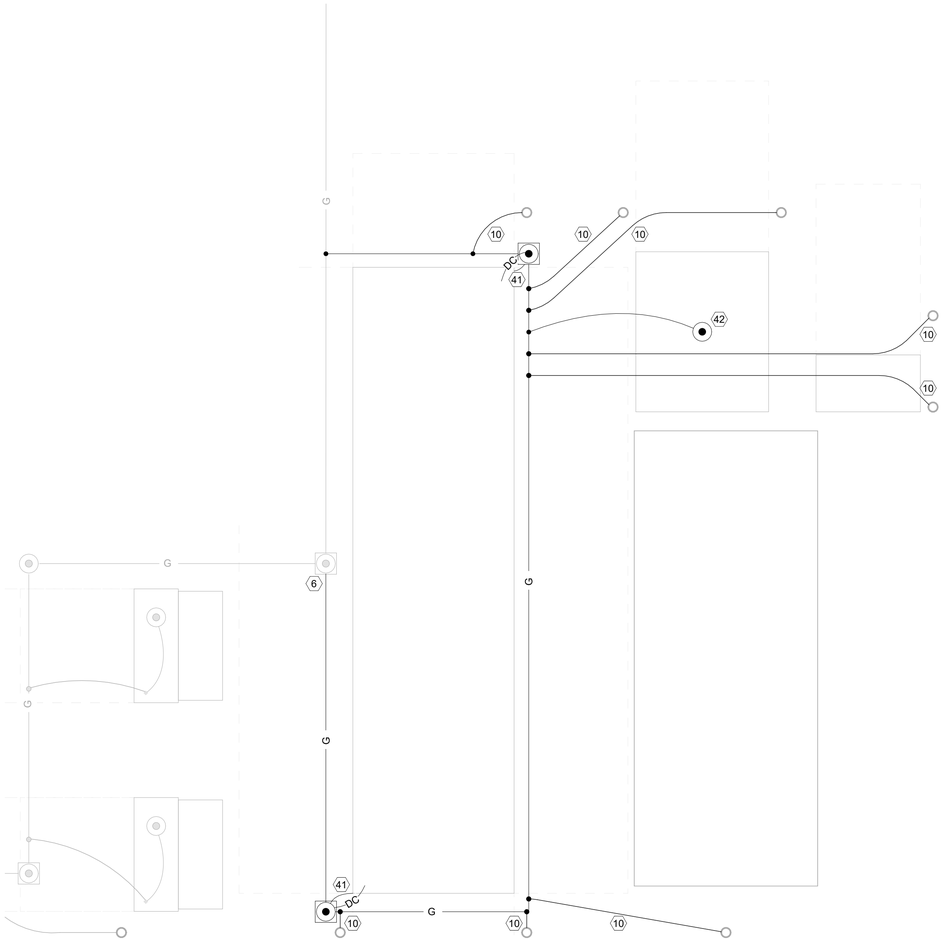
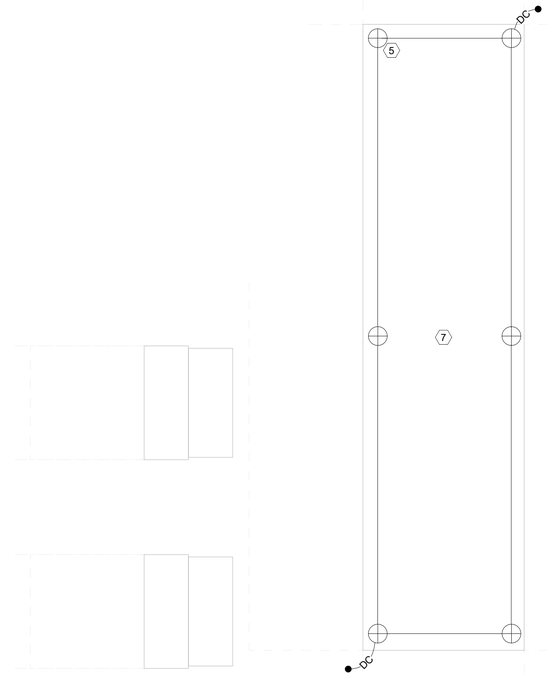


A1 GROUNDING PLAN: LOAD BANK
1/4" = 1'-0"

PLAN NORTH



A11 LIGHTNING PROTECTION PLAN: LOAD BANK
1/4" = 1'-0"

PLAN NORTH

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LOAD BANK GROUNDING PLAN

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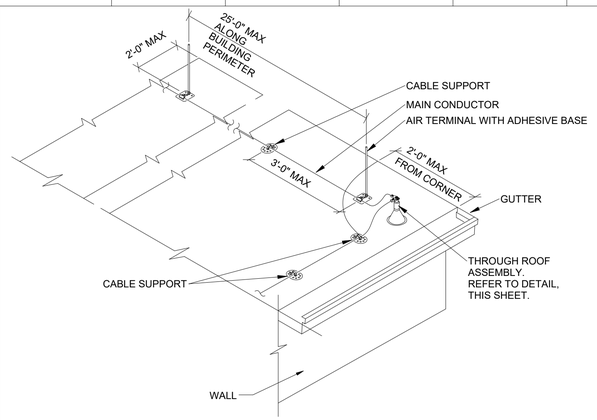
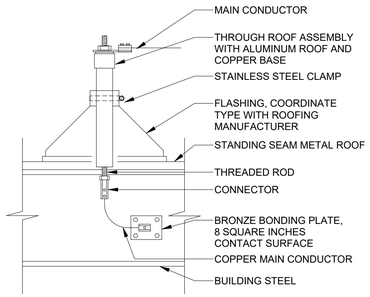


L1 LIGHTING PROTECTION DETAIL
SCALE: NTS



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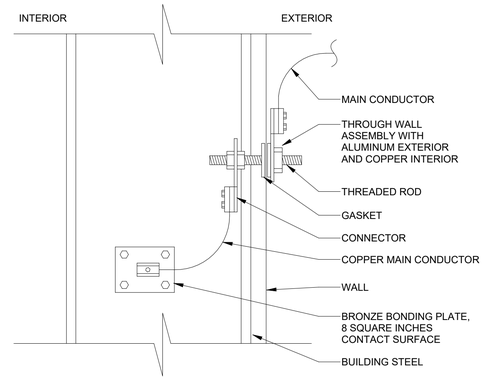

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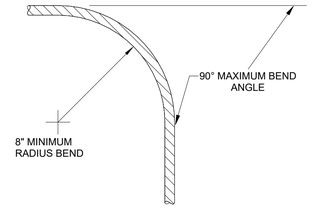

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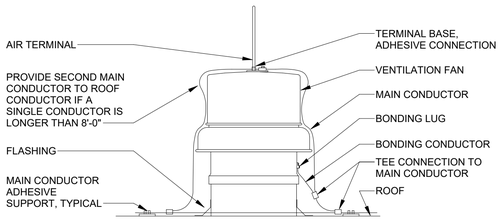

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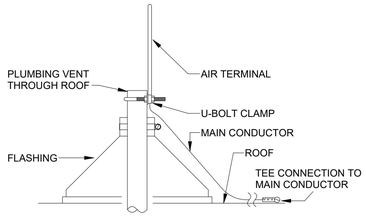

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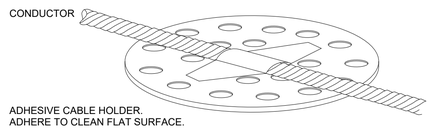
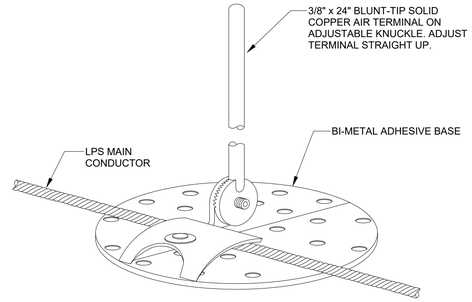
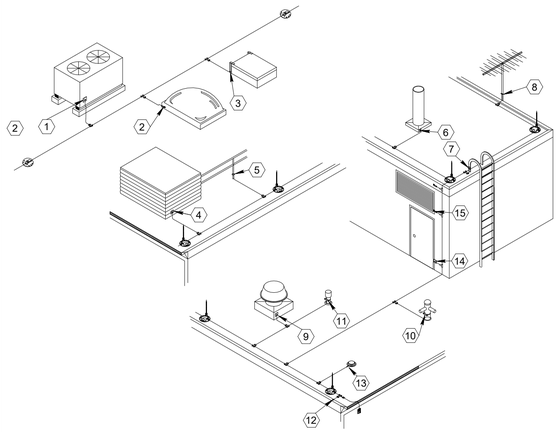


H11 TYPICAL CABLE SUPPORT
SCALE: NTS



H15 TYPICAL AIR TERMINAL GROUNDING DETAIL
SCALE: NTS



BONDING NOTES:
1. ITEMS 1-10 SHOWN IN DIAGRAM ARE TYPICAL BODIES OF CONDUCTANCE AS NOTED BELOW. USE FULL SIZE MAIN CONDUCTOR AND APPROPRIATE FITTING FOR CONNECTION.

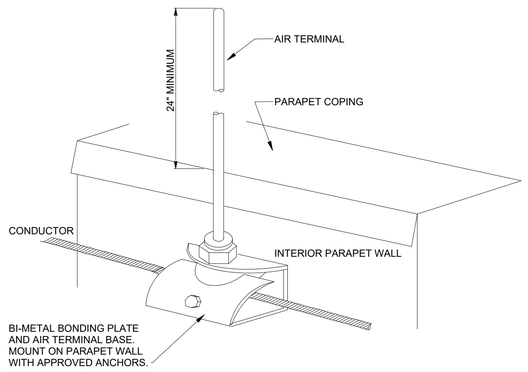
2. ITEM 11 (PLUMBING VENTS) REQUIRES BONDING WITH MAIN SIZE CABLE ONLY IF WITHIN 6'-0" OF SYSTEM.

3. ITEMS 12-15 ARE TYPICAL BODIES OF CONDUCTANCE AS NOTED BELOW. USE SECONDARY SIZE SMALLER CONDUCTOR AND APPROPRIATE FITTING FOR CONNECTION (ITEM 12 TYPICALLY OCCURS AT EACH DOWN-LEAD AND ROOF LEVEL CHANGE AS SHOWN).

4. BONDING CONNECTIONS SHOWN ARE TYPICAL EXAMPLES. MAKE ALL CONNECTIONS REQUIRED TO MEET CODES AS NOTED BELOW. ADJUST FITTING TYPE AS REQUIRED TO SUIT FIELD CONDITIONS.

5. BONDING DIAGRAM REPRESENTS BONDING FOR TYPICAL BONDING CONDITIONS FOUND FOR GENERAL BUILDING CONSTRUCTION. BONDING FOR CMF ROOF SHALL SUIT INSTALLED WORK. SEE MECHANICAL AND ARCHITECTURAL DRAWINGS FOR FANS, VENTS, ETC.

B1 LIGHTNING PROTECTION DETAIL
SCALE: NTS



D6 TYPICAL PARAPET MOUNTING DETAIL
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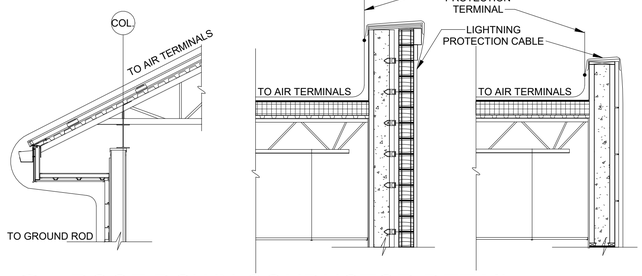

D12 ROOF DOWN CONDUCTOR DETAIL
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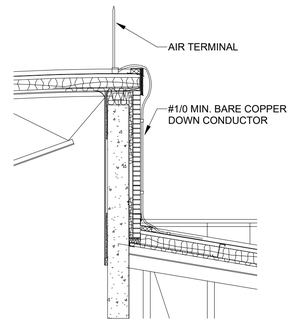

D17 ROOF TRANSITION DETAIL
SCALE: NTS

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EG001.

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Plot Date: 6/30/2025 1:15:59 PM

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.MOORE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_ME.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
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GROUNDING DETAILS

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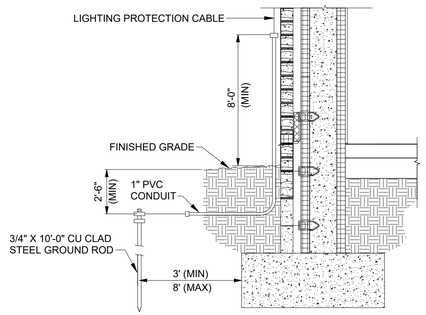

L1 DOWN CONDUCTOR DETAIL

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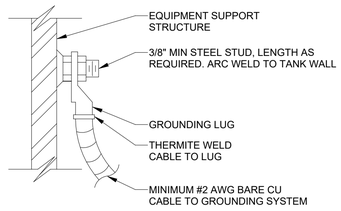
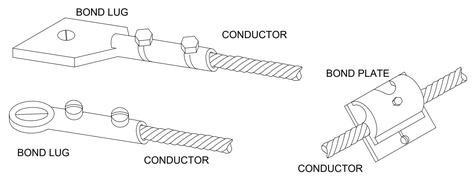


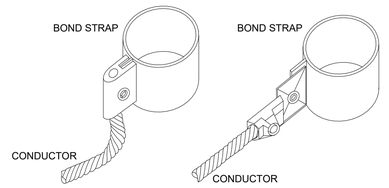
L6 EQUIPMENT GROUNDING

SCALE: NTS



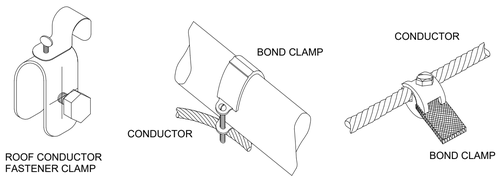
L9 TYPICAL BONDING LUGS/PLATES DETAILS

SCALE: NTS



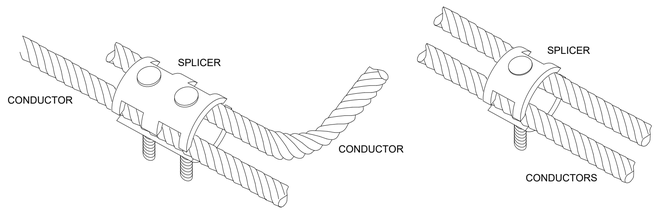
L15 TYPICAL BONDING STRAPS DETAILS

SCALE: NTS



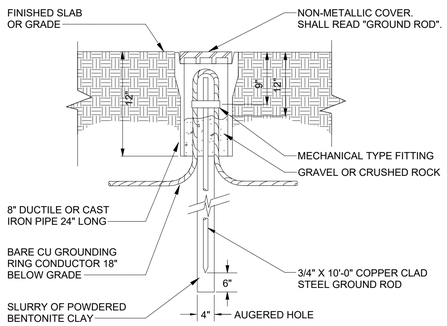
H1 TYPICAL BONDING/FASTENING CLAMPS DETAIL

SCALE: NTS



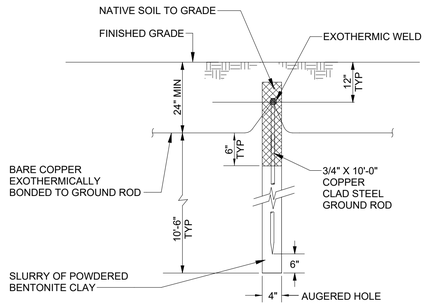
H8 TYPICAL CONDUCTOR SPLICING DETAIL

SCALE: NTS



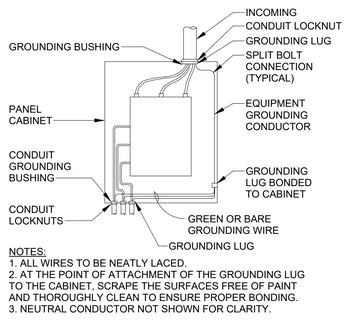
D1 TYPICAL GROUND ROD AND TEST WELL DETAIL

SCALE: NTS



D7 TYPICAL GROUND ROD DETAIL

SCALE: NTS



NOTES:
1. ALL WIRES TO BE NEATLY LACED.
2. AT THE POINT OF ATTACHMENT OF THE GROUNDING LUG TO THE CABINET, SCRAPE THE SURFACES FREE OF PAINT AND THOROUGHLY CLEAN TO ENSURE PROPER BONDING.
3. NEUTRAL CONDUCTOR NOT SHOWN FOR CLARITY.

D12 TYPICAL PANEL GROUNDING DETAIL

SCALE: NTS

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EG001.

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DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.HORCHEL
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_ME.rvt

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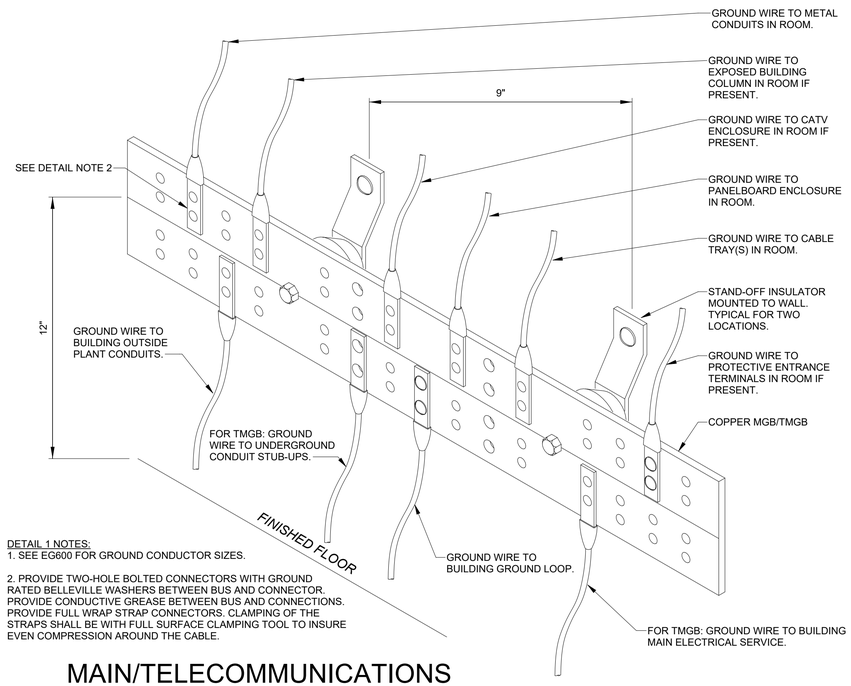
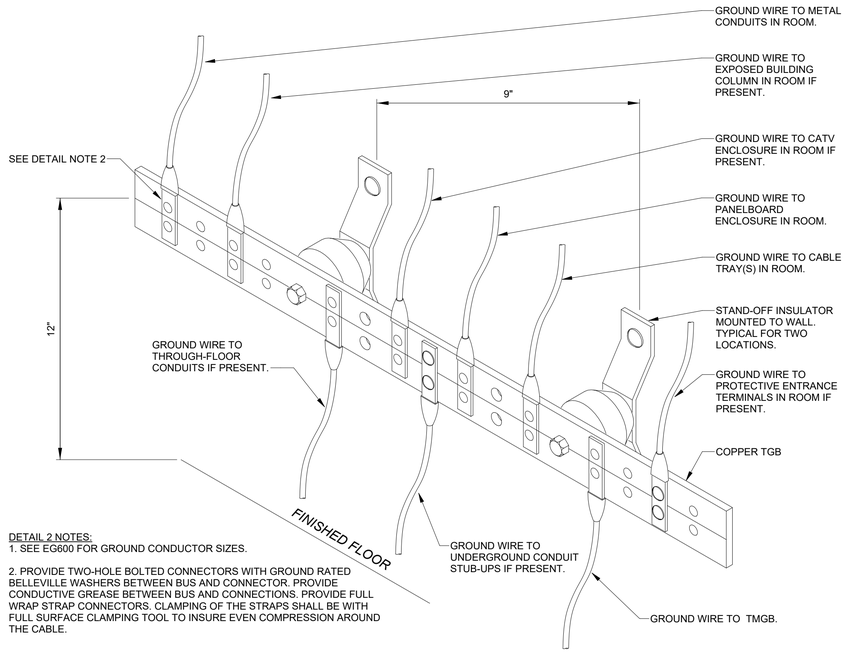


DETAIL 1 NOTES:
1. SEE EG600 FOR GROUND CONDUCTOR SIZES.

2. PROVIDE TWO-HOLE BOLTED CONNECTORS WITH GROUND RATED BELLEVILLE WASHERS BETWEEN BUS AND CONNECTOR. PROVIDE CONDUCTIVE GREASE BETWEEN BUS AND CONNECTIONS. PROVIDE FULL WRAP STRAP CONNECTORS. CLAMPING OF THE STRAPS SHALL BE WITH FULL SURFACE CLAMPING TOOL TO INSURE EVEN COMPRESSION AROUND THE CABLE.

H1 MAIN/TELECOMMUNICATIONS MAIN GROUND BAR (MGB/TMGB)
SCALE: NTS



DETAIL 2 NOTES:
1. SEE EG600 FOR GROUND CONDUCTOR SIZES.

2. PROVIDE TWO-HOLE BOLTED CONNECTORS WITH GROUND RATED BELLEVILLE WASHERS BETWEEN BUS AND CONNECTOR. PROVIDE CONDUCTIVE GREASE BETWEEN BUS AND CONNECTIONS. PROVIDE FULL WRAP STRAP CONNECTORS. CLAMPING OF THE STRAPS SHALL BE WITH FULL SURFACE CLAMPING TOOL TO INSURE EVEN COMPRESSION AROUND THE CABLE.

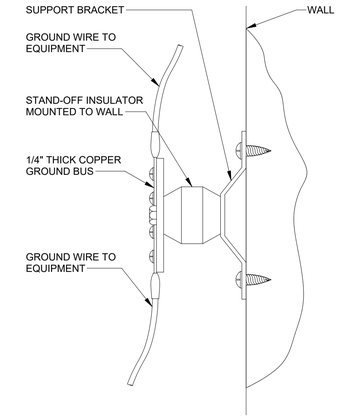
H9 TYPICAL TELECOMMUNICATION GROUND BAR (TGB)
SCALE: NTS

GENERAL SHEET NOTES
1. GROUND CONDUCTOR SIZES ARE IDENTIFIED AS MINIMUMS. PROVIDE ACTUAL CABLE SIZE BASED ON ACTUAL CABLE ROUTING AND ANSI J-STD-607A STANDARDS IF LARGER.

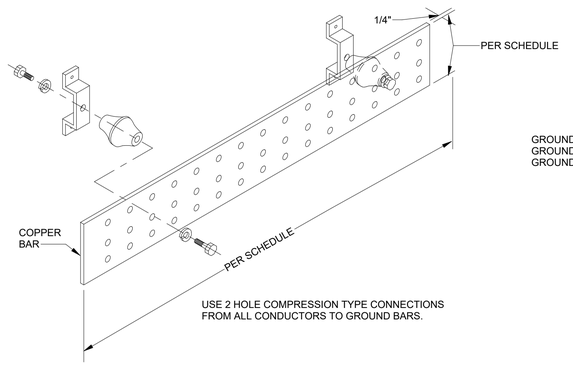
2. ALL GROUND CABLES SHALL BE LABELED AT BOTH ENDS.

3. ALL GROUNDING CONDUCTORS ARE NOT SHOWN. SEE PLANS AND SPECIFICATIONS FOR ADDITIONAL GROUNDING CONDUCTORS OR REQUIREMENTS.

4. PROVIDE EXOTHERMIC WELD CONNECTIONS AND BOLTED LUG CONNECTIONS AT GROUND BARS AS PER SPECIFICATIONS.



H17 TYPICAL GROUND BAR SIDE VIEW
SCALE: NTS



D1 GROUND BAR INSTALLATION
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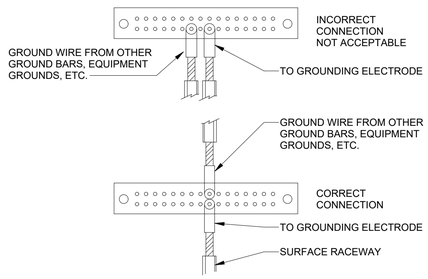
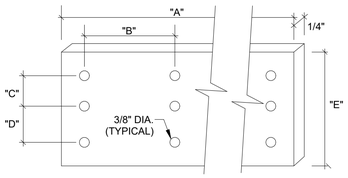


D5 GROUND BAR CONNECTION
SCALE: NTS



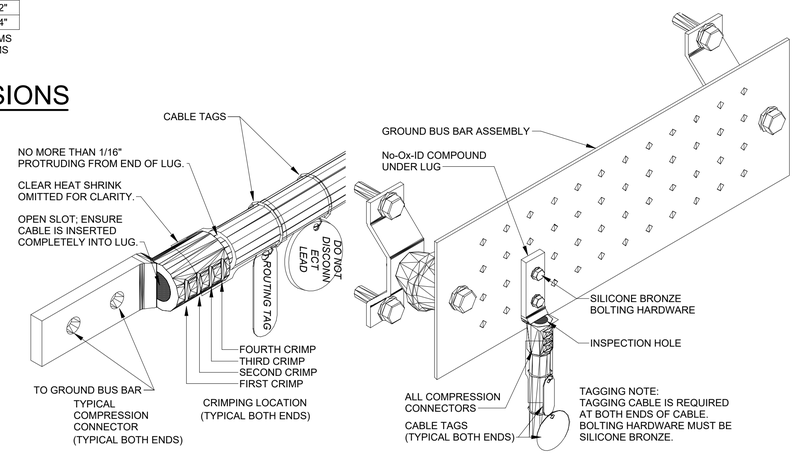
GROUND BAR DIMENSIONS					
BUSBAR	A	B	C	D	E
MGB	24" MIN.	2"	3/4"	1"	4"
EGB	12" MIN.	2"	3/4"	1"	4"
TMGB	24" MIN.	2"	3/4"	1"	4"
TGB	24" MIN.	2"	3/4"	--	2"
CGB	AS SHOWN	2"	3/4"	--	2"
AGB	10"	2"	3/4"	1"	2"
GB	12"	2"	3/4"	1"	4"

COORDINATE GROUNDBAR LOCATIONS IN ROOMS OTHER THAN ELECTRICAL AND TELECOM ROOMS WITH INTERIORS.

D10 GROUND BAR DIMENSIONS
SCALE: NTS

TWO-HOLE GROUND LUG SCHEDULE								
	THOMAS & BETTS				BURNDY			
WIRE SIZE	CAT. NO.	BOLT SPACING	BOLT SIZE	CRIMP QTY	CAT. NO.	BOLT SPACING	BOLT SIZE	CRIMP QTY
#6 AWG	--	--	--	--	--	1-3/4"	3/8"	2
#4 AWG	--	--	--	--	--			
#2 AWG	54856BE	3/4"	5/16"	2	54856BE	1-3/4"	3/8"	2
#1 AWG	54858BE				54858BE			
1/0 AWG	54860BE				54860BE			
2/0 AWG	54862BE	1-3/4"	1/2"	2	54862BE	1-3/4"	1/2"	2
3/0 AWG	54864BE				54864BE			
4/0 AWG	54866BE				54866BE			
250 KCMIL	54868BE				54868BE			
350 KCMIL	54872BE	1-3/4"	1/2"	4	54872BE	1-3/4"	1/2"	4
500 KCMIL	54876BE				54876BE			
750 KCMIL	54880BE				54880BE			

SCHEDULE NOTES:
1. TYPICAL FOR ALL GROUND BUS TERMINATIONS AND POWER TERMINATIONS FOR #8 AWG AND LARGER EXCEPT INTEGRAL CIRCUIT BREAKER LUGS MAY BE MECHANICAL TYPE.
2. USE 12- TO 15-TON RATED CRIMPING TOOL.



A13 CRIMPING AND TAGGING
SCALE: NTS

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
LIC/REG#:
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

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OMAHA DISTRICT
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GROUNDING DETAILS

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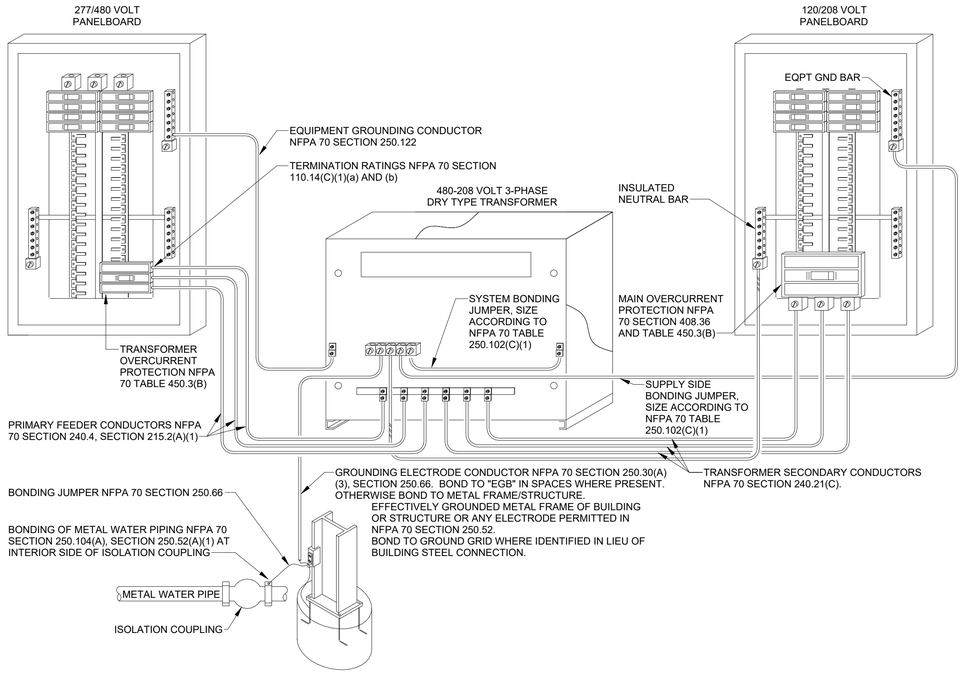
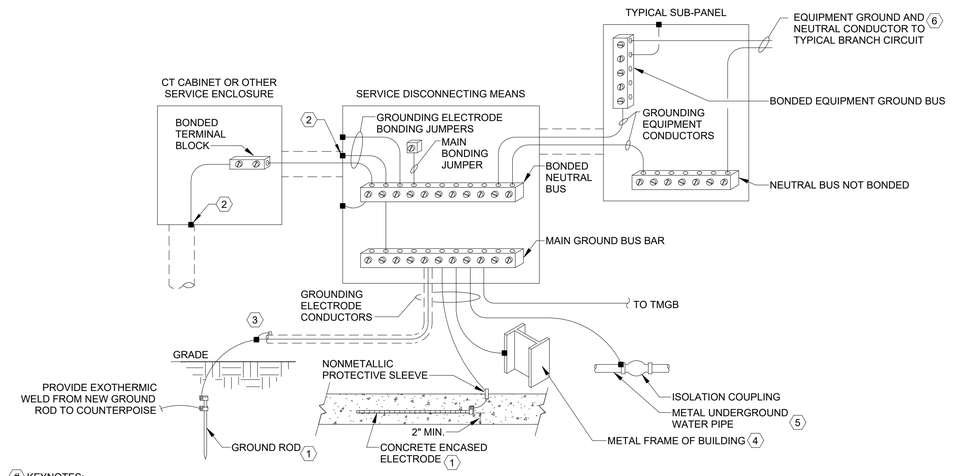


H1 SEPARATELY DERIVED SYSTEM AND EQUIPMENT GROUND CONNECTIONS

SCALE: NTS



(#) KEYNOTES:

1. PROVIDE SUPPLEMENTAL GROUNDING ELECTRODE PER NFPA 70: NATIONAL ELECTRICAL CODE AND BOND ALL AVAILABLE GROUNDING ELECTRODES IN THE BUILDING OR STRUCTURE TO FORM THE GROUNDING ELECTRODE SYSTEM PER NFPA 70. THIS SUPPLEMENTAL ELECTRODE SHALL INCLUDE EITHER A 10'-0" x 3/4" COPPER CLAD GROUND ROD FOR AN EXTERIOR MAIN SERVICE ENTRANCE DISCONNECT, OR A MINIMUM OF 20 FEET OF 1/2" OR LARGER CONCRETE ENCASED REBAR FOR AN INTERIOR MAIN SERVICE DISCONNECT. IF THE REBAR BEING USED IN THE FOOTING IS SMALLER THAN 1/2", THEN USE 20' OF BARE SOLID #4 AWG COPPER CONDUCTOR OR 20' GROUND ROD AND BOND TO THE REBAR WITH STEEL TIE WRAPS. IN REMODEL PROJECTS THAT WILL NOT HAVE NEW FOOTINGS INSTALLED, THIS SUPPLEMENTAL ELECTRODE SHALL BE IN THE FORM OF A 10'-0" x 3/4" COPPER CLAD GROUND ROD INSTALLED PER CURRENT NFPA 70 REQUIREMENTS.

2. ALL METAL CONDUITS ENCLOSING ANY SERVICE CONDUCTORS SHALL BE FITTED WITH A "BONDING BUSHING". SIZE THE JUMPER PER NFPA 70.

3. ALL METAL CONDUITS ENCLOSING ANY GROUNDING ELECTRODE CONDUCTOR SHALL BE FITTED WITH A "BONDING BUSHING" AT EACH END. SIZE THE JUMPER PER NFPA 70.

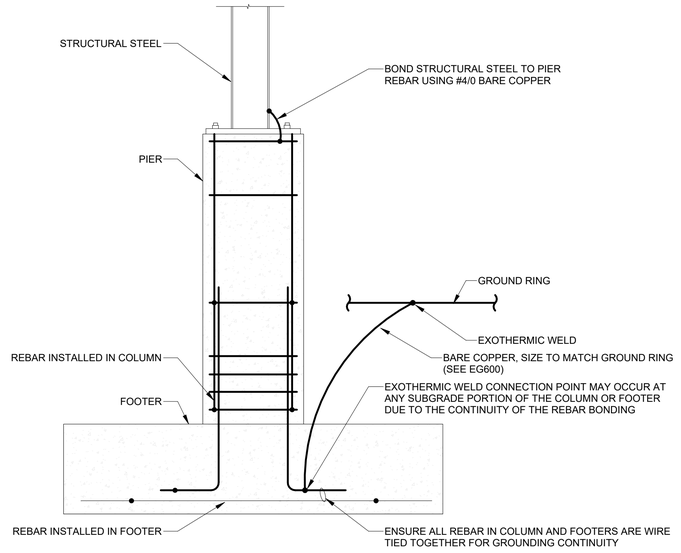
4. IF STRUCTURAL STEEL MEMBER IS AVAILABLE, BOND IT TO THE SERVICE USING A UL LISTED IRREVERSIBLE CLAMP OR WELDED LUG.

5. CONNECTIONS TO THE METAL WATER PIPE SHALL BE LOCATED WITHIN THE FIRST 5 FEET OF POINT OF ENTRANCE OF THE INTERIOR METAL WATER PIPE, IF AVAILABLE ON THE PREMISES. CONNECTIONS TO THE METAL WATER PIPE SHALL BE LOCATED ON THE BUILDING INTERIOR SIDE OF THE ISOLATION COUPLING OF THE WATER PIPING FOR BUILDINGS WITH CATHODIC PROTECTION ON EXTERIOR UNDERGROUND WATER LINES.

6. ALL BRANCH CIRCUIT AND FEEDER CONDUITS ARE TO HAVE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR REGARDLESS OF THE CONDUIT MATERIAL.

H11 MAIN SERVICE GROUNDING ELECTRODE SYSTEM

SCALE: NTS



A11 TYPICAL CONCRETE PIER AND STEEL GROUNDING DETAIL

SCALE: NTS

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DRAWN BY: E.MCNAMARA
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GENERAL NOTES - EG600 SERIES SHEETS

1	ROUTE GROUNDING AND BONDING CONDUCTORS IN CONDUIT, AND SPLICE CONDUCTORS BETWEEN CONNECTION POINTS.
2	SEE EG SERIES SHEETS FOR ADDITIONAL GROUNDING REQUIREMENTS.
3	TELECOMMUNICATIONS GROUND CONDUCTOR SIZES ARE IDENTIFIED AS MINIMUMS. PROVIDE ACTUAL CABLE SIZE BASED ON ACTUAL CABLE ROUTING DISTANCES AND J-STD-607A STANDARDS IF LARGER SIZE IS REQUIRED.
4	MAIN BONDING JUMPERS (SERVICE TRANSFORMERS) SHALL BE THE SAME SIZE AS THE GROUNDING ELECTRODE CONDUCTOR INDICATED WHERE THE GEC IS SMALLER THAN 3/0; WHERE 3/0 OR LARGER REFERENCE NFPA 70 T250.102(C)(1). SYSTEM BONDING JUMPERS (OTHER SEPARATELY-DERIVED SYSTEMS) SHALL BE THE SAME SIZE AS THE SUPPLY-SIDE BONDING JUMPER INDICATED. EQUIPMENT FRAME BONDING JUMPERS WHERE NOT ASSOCIATED WITH A MAIN OR SYSTEM BONDING JUMPER OF A SEPARATELY-DERIVED SYSTEM SHALL MATCH THE SIZE OF THE SUPPLY CIRCUIT EQUIPMENT GROUND CONDUCTOR (MINIMUM SIZES PER NFPA 70 §250.190(C)(3) / TABLE 250.122 / §408.40); WHERE TWO SUPPLY CIRCUIT EQUIPMENT GROUND CONDUCTORS EXIST PROVIDE AN EQUIPMENT FRAME BONDING JUMPER SIZED EQUIVALENT TO THE LARGER OF THE TWO SUPPLY EGCs IF THE SIZES DIFFER.
5	ALL CONDUCTOR SIZES ARE MINIMUM REQUIREMENTS.
6	ALL CONDUCTORS SHALL BE COPPER UNLESS INDICATED OTHERWISE.
7	CONNECTIONS TO GROUNDING GRID SHALL BE LABELED EXPLICITLY INDICATING SUCH ("TO GROUNDING GRID").
8	PROVIDE SUPPLEMENTAL GROUND RODS AS REQUIRED TO SATISFY RESISTANCE REQUIREMENTS IDENTIFIED IN THE SPECIFICATIONS.
9	PROVIDE CONDUIT SLEEVES FOR ALL PENETRATIONS THROUGH FOOTINGS, CONCRETE SLABS, AND WALLS.

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DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
LAYOUT(S):
SIZE: FILE NAME: BUCO00102_DM_ME.rvt
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
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OMAHA, NE 68102

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BUCKLEY SFB, COLORADO
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GROUNDING RISER NOTES

SHEET ID

EG600

Plot Date:

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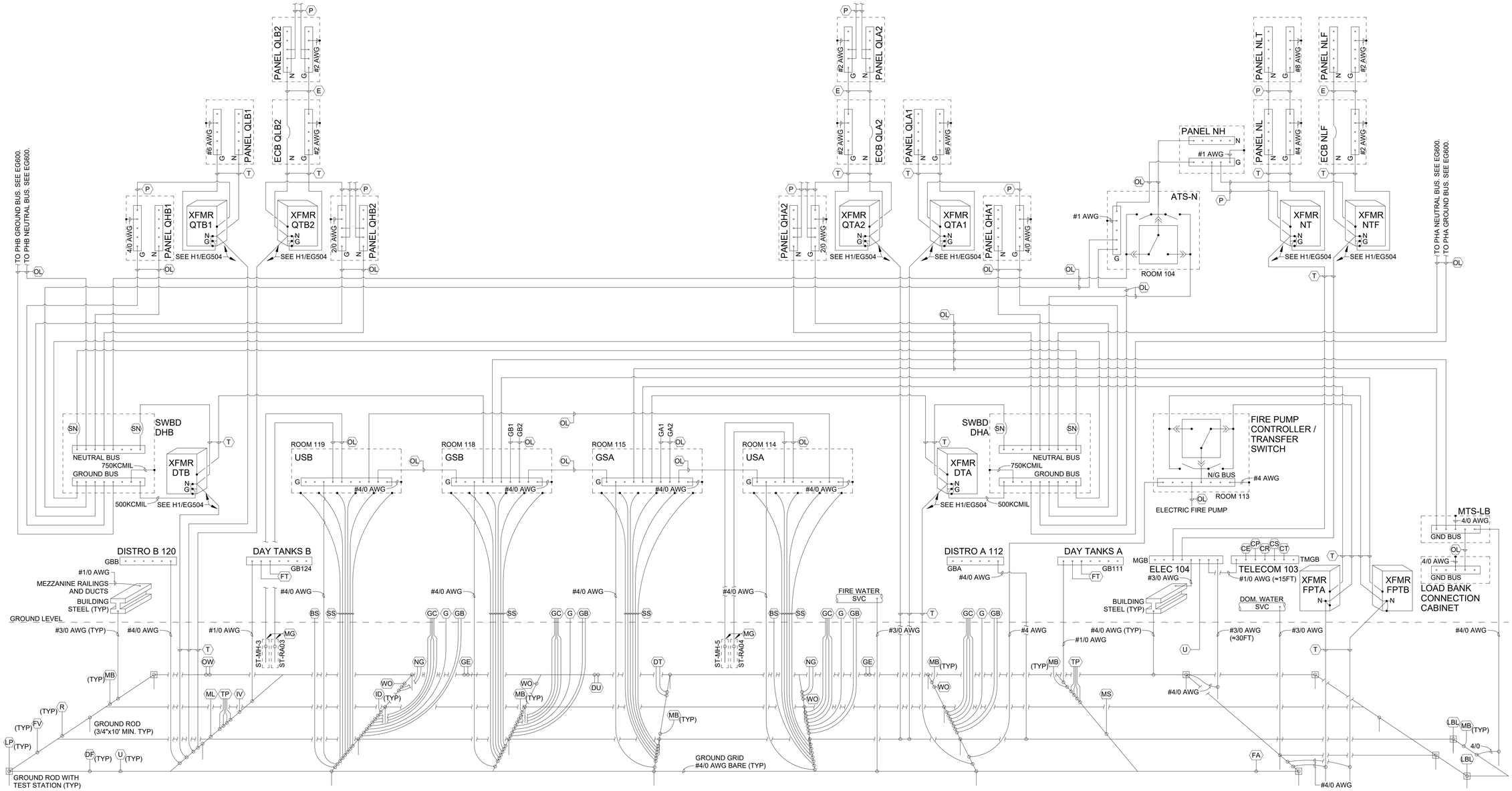

D1 GROUNDING RISER DIAGRAM

SCALE: NTS

#	KEYNOTES - SHEET EG600
BS	SWITCHGEAR BATTERY SYSTEM:1/0 AWG MINIMUM CONDUCTOR UNLESS OTHERWISE NOTED.
CE	SERVICE ENTRANCE CABLE SHEATHS: #6 AWG MINIMUM BONDING CONDUCTOR.
CP	BUILDING ENTRANCE PROTECTORS: #4 AWG MINIMUM BONDING CONDUCTOR.
CR	RACKS, RACEWAYS, CABLE TRAY, AND EQUIPMENT, INCLUDING MEDIA CONVERTERS AND PANELBOARD ENCLOSURES: #4 AWG MINIMUM BONDING CONDUCTOR.
CS	BUILDING STEEL: 3/0 AWG BONDING CONDUCTOR.
CT	THROUGH-FLOOR AND THROUGH-WALL CONDUITS, INCLUDING UNDERGROUND CONDUIT STUB-UPS: #4 AWG MINIMUM BONDING CONDUCTOR.
DF	METAL DOOR FRAMES AND LOUVERS WITHIN THE RANGE IDENTIFIED BY NFPA 70 §250.194(B) AND AS SHOWN ON PLANS: 1/0 AWG MINIMUM CONDUCTOR.
DT	DIESEL EXHAUST FLUID STORAGE TANK: 1/0 AWG MINIMUM CONDUCTORS.
DU	DIESEL EXHAUST FLUID PIPING ENTRANCE AND WEATHERPROOF ENCLOSURE: #1 AWG MINIMUM CONDUCTORS.
E	SEE ENCLOSED CIRCUIT BREAKER SCHEDULE ON SHEET EP600 FOR CONDUCTOR SIZE(S).
FA	FIRE ALARM ANTENNA SYSTEM LIGHTNING ARRESTOR. 1/0 AWG MINIMUM COPPER CONDUCTOR FROM ANTENNA LIGHTNING ARRESTOR (OR SIMILAR DEVICE) OR GROUND BAR (AS INDICATED) TO GROUNDING GRID.
FT	DIESEL FUEL DAY TANK:1/0 AWG MINIMUM CONDUCTORS.
FV	UNDERGROUND TANK FUEL VENT PIPE: #6 AWG MINIMUM CONDUCTOR.
G	GENERATOR GROUND LUG:4/0 AWG MINIMUM CONDUCTOR.
GB	GENERATOR BATTERY EQUIPMENT:1/0 AWG MINIMUM CONDUCTOR.
GC	GENERATOR EXHAUST APPARATUS COLUMNS:1/0 AWG MINIMUM CONDUCTOR.
GE	LIGHTNING PROTECTION SYSTEM ATTACHED TO EACH GENERATOR EXHAUST VENT: 1/0 AWG MINIMUM CONDUCTOR.
ID	INDUSTRIAL WASTE DRAIN AND PIPE: #1 AWG MINIMUM CONDUCTOR.
IV	INDUSTRIAL WASTE ISOLATION VALVE AND PIPE: #1 AWG MINIMUM CONDUCTOR.
LBL	1/0 AWG MINIMUM CONDUCTOR TO LIGHTNING PROTECTION SYSTEM ASSOCIATED WITH LOAD BANK. PROVIDE LIGHTNING PROTECTION DOWN CONDUCTORS CONNECTIONS TO GROUND LOOP VIA TEST PERIODICALLY AROUND THE BUILDING TO ALLOW FOR TESTING AND MAINTENANCE.

#	KEYNOTES - SHEET EG600
LP	1/0 AWG MINIMUM CONDUCTOR TO LIGHTNING PROTECTION SYSTEM. PROVIDE LIGHTNING PROTECTION DOWN CONDUCTORS CONNECTIONS TO GROUND LOOP VIA TEST PERIODICALLY AROUND THE BUILDING TO ALLOW FOR TESTING AND MAINTENANCE. APPROXIMATE TEST WELL LOCATIONS SHOWN ON PLANS.
MB	METAL BOLLARD: #2 AWG MINIMUM CONDUCTOR.
MG	BOND GROUND CONDUCTORS TO MANHOLE GROUND LOOP/ELECTRODE SYSTEM. PROVIDE GROUND ROD IN MANHOLE. SEE MANHOLE DETAIL(S).
ML	METAL LADDER: 1/0 AWG MINIMUM CONDUCTOR.
MS	METAL STAIR: 1/0 AWG MINIMUM CONDUCTOR.
NG	#4/0 AWG MINIMUM CONDUCTOR STUBBED UP WITH 20 FEET OF CONDUCTOR COILED AND PROTECTED FOR FUTURE NEUTRAL-GROUND RESISTOR. SEE PLANS FOR QUANTITY AND LOCATIONS.
OL	SEE EP600 SERIES ONE-LINE DIAGRAMS FOR CONDUCTOR SIZE(S).
OW	OIL/WATER SEPARATOR AND WASTE OIL TANK (EACH): #1 AWG MINIMUM CONDUCTORS.
P	SEE PANEL/SWITCHBOARD SCHEDULE FOR CONDUCTOR SIZE(S).
R	EQUIPMENT RACK: #1 AWG MINIMUM CONDUCTOR.
SN	SEE EP600 SERIES SHEETS FOR ONE-LINES AND CONDUCTOR SIZES. 4-POLE SWITCHED NEUTRAL MAIN AND TIE BREAKERS NECESSARY TO DISCONNECT NEUTRAL FROM SEPARATELY-DERIVED SOURCES.
SS	SWITCHGEAR EQUIPMENT SHELL: 4/0 AWG MINIMUM CONDUCTOR UNLESS OTHERWISE NOTED.
T	SEE TRANSFORMER SCHEDULES ON SHEET EP600 FOR CONDUCTOR SIZE(S).
TP	EACH PIPE IN TRENCH: #1 AWG MINIMUM CONDUCTOR.
U	UFER GROUND CONNECTION / MINIMUM 20 FEET REINFORCING IN FOUNDATION: #4/0 AWG MINIMUM CONDUCTOR.
WO	WASTE OIL LINE: 1/0 AWG MINIMUM CONDUCTOR.

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SUBMITTED BY: S.JARDOSKA
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GROUNDING RISER DIAGRAM

SHEET ID

EG601

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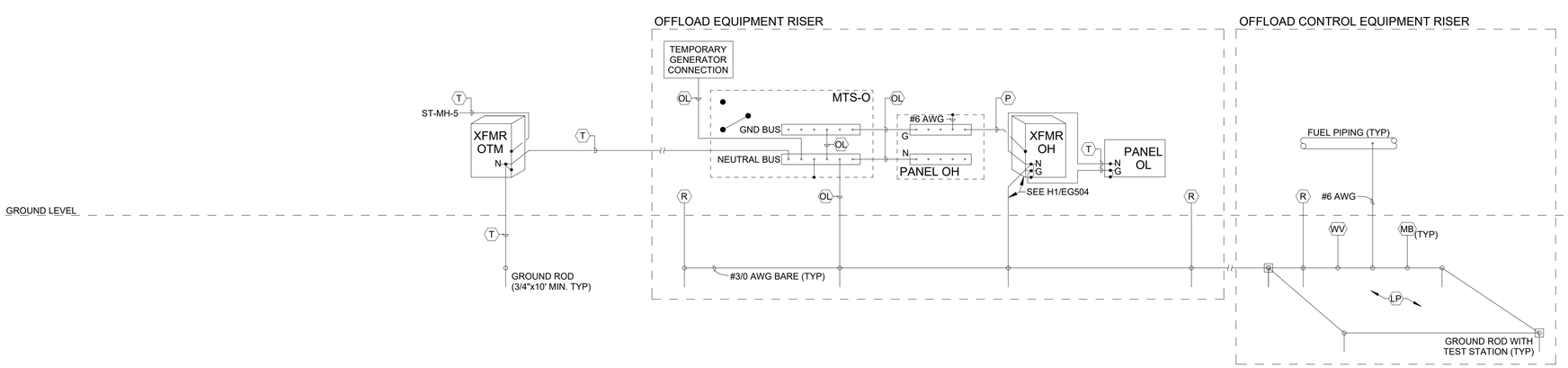

D1 GROUNDING RISER DIAGRAM: OFFLOAD

SCALE: NTS

#	KEYNOTES - SHEET EG603S
LP	OFFLOAD LAYOUT IS SUCH THAT A CANOPY MAY BE ADDED AT A LATER DATE. POSITION AND INTERCONNECT GROUND RODS WITH TEST WELLS AT POSITIONS WHICH WILL ACCOMMODATE THE FUTURE CANOPY.
MB	METAL BOLLARD: #6 AWG MINIMUM CONDUCTOR.
OL	SEE EP600 SERIES ONE-LINE DIAGRAMS FOR CONDUCTOR SIZE(S).
P	SEE PANEL/SWITCHBOARD SCHEDULE FOR CONDUCTOR SIZE(S).
R	BOND EQUIPMENT RACK WITH MINIMUM #1 AWG CONDUCTOR.
T	SEE TRANSFORMER SCHEDULES ON SHEET EP600 FOR CONDUCTOR SIZE(S).
WV	UNDERGROUND WATER VALVE: #6 AWG MINIMUM CONDUCTOR.

FOR GENERAL NOTES, SEE SHEET EG600.

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GROUNDING RISER DIAGRAM OFFLOAD

SHEET ID

EG602

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SUPPLEMENTAL LIGHTING LEGEND

SYMBOL DENOTES GENERAL TYPE OF LUMINAIRE
A2,BA1 — LUMINAIRE TYPE DESIGNATION (SEE SCHEDULE AND DETAILS)
LP1-1,a — LUMINAIRE UNIQUE IDENTIFIER FOR AIMING PURPOSES (IF PRESENT)
SWITCH DESIGNATION (IF PRESENT)
CIRCUIT IDENTIFICATION (IF PRESENT)

##E
##E
EMERGENCY ("E") LUMINAIRE

WALL-MOUNTED (LEFT) AND CEILING-MOUNTED (RIGHT) EXIT SIGNS. HATCHING INDICATED ILLUMINATED SIDE(S). ARROW(S) INDICATES CHEVRON DIRECTION(S) FOR EGRESS.

PC — WALL-MOUNTED PHOTOCELL

$a — SINGLE POLE 20A SWITCH. SUBSCRIPT (WHERE PRESENT) DENOTES THE FOLLOWING:
- '3' THREE-WAY SWITCH.
- '4' FOUR-WAY SWITCH.
- 'a' SWITCH CONTROLLING MATCHING LETTERED FIXTURES (TYPICAL, SINGLE LOWER CASE LETTERS).
- 'p' PILOT LIGHT SWITCH.
- 'wp' WEATHERPROOF (GASKETED) SWITCH.
- 'bi' BI-LEVEL SWITCH. PROVIDE TWO TOGGLE SWITCHES SIDE BY SIDE IN A SHARED JUNCTION BOX. SEE LUMINAIRE SCHEDULE AND KEYED NOTES ON PLANS INDICATING SWITCHED BALLAST DESIGNATIONS PER FIXTURE ("a" or "b").
- 'D' DIMMER SWITCH.
- 'K' KEY SWITCH. COORDINATE KEYING WITH BASE CIVIL ENGINEERING.
- 'R' RED SWITCH HANDLE.
- 'UB' LABEL SWITCH "UNCLEAN BEACONS".
- 'X' HAZARDOUS AREA-RATED SWITCH. UL LISTED FOR THE HAZARDOUS CONDITION INDICATED ON THE E-100 SERIES SHEETS.

$LV### — LOW VOLTAGE SWITCH. SUBSCRIPT (WHERE PRESENT) DENOTES THE FOLLOWING:
- '###' SWITCH ID. WHERE MULTIPLE SWITCHES SHARE THE SAME ID, THE CONTROLLED AREAS AND FUNCTIONS ARE IDENTICAL.
- 'mc' MOMENTARY CONTACT SWITCH. LETTER (WHERE PRESENT) DENOTES SWITCH CONTROLLING MATCHING LETTERED FIXTURES.
- 'maint' MAINTAINED CONTACT TOGGLE SWITCH.
- 'MUSH' MUSHROOM STYLE PUSHBUTTON.
- 'K(##)' KEY SWITCH. COORDINATE KEYING WITH BASE CIVIL ENGINEERING. PROVIDE PLACARD INDICATING THE FOLLOWING: "LIGHTING KEY SWITCH THIS SWITCH IS NOT AN ELECTRICAL ISOLATION DEVICE." WHITE FIELD, 1/8" BLACK BORDER, 3/4" RED FONT.

DM DS — ELECTRONIC MULTI-SCENE DIMMING SWITCH CONTROL FOR LIGHTING. "M" INDICATED MASTER OR PRIMARY CONTROL, "S" INDICATED SLAVE OR SECONDARY CONTROL.

DD — MULTI-ZONE COMBINATION DAYLIGHT HARVESTING AND MANUAL DIMMING CONTROL.

$OS — WALL SWITCH OCCUPANCY SENSOR.

$VS — WALL SWITCH VACANCY SENSOR.

$T — DIGITAL TIME SWITCH WITH MANUAL-ON/TIMED-OFF OPERATION AND MANUAL-OFF OVERRIDE. TIME-OUT SETTING SHALL BE SET FOR 15 MINUTES UNLESS OTHERWISE NOTED.

OS — LOW VOLTAGE OCCUPANCY SENSOR, WALL MOUNTED AT 7'-6" UNLESS OTHERWISE NOTED.

OS — LOW VOLTAGE OCCUPANCY SENSOR, CEILING MOUNTED UNLESS OTHERWISE INDICATED.

Oh — HIGH BAY OCCUPANCY SENSOR; DUAL TECHNOLOGY.

DS a — DAYLIGHT SENSOR, CEILING- OR PENDANT-MOUNTED. "a" DENOTES CONTROL ZONE DESIGNATION.

DS a — DAYLIGHT SENSOR, WALL- OR SKYLIGHT WELL-MOUNTED. "a" DENOTES CONTROL ZONE DESIGNATION. WHERE SHOWN AT DAYLIGHTING DEVICE, LOCATE SENSOR INSIDE IT.

CM — LIGHTING CONTROL MODULE TO INTERFACE LINE-VOLTAGE DEVICES OR CIRCUITS WITH NETWORKED CONTROLS SYSTEM. (MODULES FOR INDIVIDUAL LIGHT FIXTURES ARE OMITTED FROM THE PLANS; SEE SPECIFICATIONS.)

LCP — LIGHTING CONTROL CABINET.

ELTS — EMERGENCY LIGHTING TRANSFER SWITCH.

EPS — EMERGENCY POWER SYSTEM FOR EGRESS LIGHTING - BATTERY INVERTER SET.

NT — "NIGHT TIME" UNSWITCHED/24-HOUR LIGHT.

ZONE ### — NETWORKED LIGHTING CONTROL ZONE. WHERE EXIT SIGNS OR UNCLEAN BEACONS ARE LOCATED INSIDE THE BOUNDARY, SUCH INCLUSION SHALL BE CONSIDERED INCIDENTAL. EXIT SIGNS SHALL NOT BE CONTROLLED AND UNCLEAN BEACONS SHALL NOT BE CONTROLLED BY THE NETWORKED SYSTEM. WHERE "BO" PREPENDS THE IDENTIFIER, DO NOT INCLUDE WHEN PROGRAMMING/ LABELING; THIS IS A DESIGN DESIGNATOR ONLY REPRESENTING "BID OPTION".

OSG ### — OCCUPANCY SENSOR GROUP. WHERE OTHER SENSORS ARE LOCATED INSIDE THE BOUNDARY, SUCH INCLUSION SHALL BE CONSIDERED INCIDENTAL TO THE GROUP.

GENERAL NOTES - EL100 THROUGH EL400 SHEETS

A	WIRELESS CONTROLS MUST NOT BE USED.
B	LIGHT SWITCHES SHOWN SIDE-BY-SIDE ON THE PLANS MUST BE INSTALLED IN A SINGLE MULTI-GANG BOX UNLESS OTHERWISE INDICATED.
C	LUMINAIRES ARE CONTROLLED BY SWITCHING DEVICE WITHIN SAME ROOM OR AREA, UON.
D	ALL EGRESS ZONE LUMINAIRES CONTROLLED BY AN OCCUPANCY SENSOR MUST COMPLY WITH NFPA 101 PARAGRAPH 7.8.1.2.2.
E	INTERIOR EMERGENCY LUMINAIRES MUST BE SWITCHED BY THE LOCAL SWITCHING DEVICE IN THE ROOM AND MUST HAVE AUTOMATIC TESTING CAPABILITY. UPON LOSS OF POWER, EMERGENCY FIXTURES TO BYPASS THE LOCAL SWITCHING DEVICE AND TURN ON AUTOMATICALLY.
F	CIRCUIT EXIT SIGNS TO NEAREST LIGHTING CIRCUIT (UNLESS OTHERWISE INDICATED) USING UNSWITCHED PHASE LEG.
G	RACEWAYS MUST HAVE A SEPARATE EQUIPMENT GROUNDING/BONDING CONDUCTOR. RACEWAY MUST NOT BE USED AS THE SOLE GROUNDING/BONDING PATH.
H	EACH LIGHTING BRANCH CIRCUIT HOME RUN MUST CONSIST OF MINIMUM 2-#12, #12G CONDUCTORS IN MINIMUM 3/4" CONDUIT UNLESS OTHERWISE NOTED. ENTIRE CIRCUIT MUST BE SAME SIZE AS HOME RUN SIZE INDICATED UNLESS OTHERWISE NOTED.
I	DRIVERS, AND INVERTERS MUST BE WIRED TO UNSWITCHED CONDUCTORS (WIRED AHEAD OF ANY LOCAL SWITCHING).
J	CONDUIT AND CONDUCTOR SIZES LISTED ARE MINIMUM SIZES. CIRCUITS MAY BE COMBINED INTO COMMON CONDUIT. CONTRACTOR IS RESPONSIBLE FOR RESIZING CONDUITS PER NFPA 70 FILL RATIO AND CURRENT-CARRYING CONDUCTOR/TEMPERATURE DERATING REQUIREMENTS.
K	LINE VOLTAGE AND LOW VOLTAGE WIRING TO BE PROVIDED IN SEPARATE CONDUITS/RACEWAYS.
L	COORDINATE THE LOCATIONS AND MOUNTING HEIGHTS OF LUMINAIRES IN MECHANICAL, FIRE SUPPRESSION, AND ELECTRICAL ROOMS WITH THE FINAL LOCATIONS OF PIPES, DUCTS AND OTHER EQUIPMENT FOR BEST (LEAST-OBSTRUCTED AND RELATIVELY UNIFORM) ARRANGEMENT. LUMINAIRES TO BE EASILY ACCESSIBLE FOR RELAMPING AND DRIVER REPLACEMENT.
M	COORDINATE RECESS MOUNTING OF CONDUIT, BACKBOXES, DEVICES, AND EQUIPMENT WITH OTHER TRADES.
N	DO NOT PENETRATE STRUCTURAL COLUMNS, BEAMS, AND TRUSSES. AFIX DEVICES AND RACEWAY WITH BEAM C-CLAMPS, BRACKETS, CLIPS, UNISTRUT, AND OTHER NON-PENETRATING AND NON-ADHESIVE HARDWARE.
O	JUNCTION BOXES, DEVICES, BACKBOXES, ASSOCIATED CONDUIT, ETC., LOCATED ON STEEL MEMBERS, PRECAST CONCRETE, CONCRETE, AND CONCRETE BLOCK WALLS SHALL BE SURFACE MOUNTED. JUNCTION BOXES, DEVICES, BACKBOXES, ASSOCIATED CONDUIT, ETC., SHALL BE RECESS MOUNTED ON GYPSUM WALLS. COORDINATE WITH ARCHITECTURAL SHEETS.
P	PENETRATION OPENINGS THROUGH AIR BARRIERS MUST COMPLY WITH THE BUILDING AIR BARRIER REQUIREMENTS. CORRECT ALL PENETRATIONS THAT ARE DETERMINED DEFICIENT DURING TESTING. SEE ARCHITECTURE SHEETS FOR AIR BARRIER TESTING BOUNDARIES. SEE ARCHITECTURE FOR SEALING PENETRATIONS.
Q	OCCUPANCY SENSOR AND DAYLIGHT PHOTOSENSOR LAYOUT IS CONCEPTUAL ONLY AND IS SHOWN FOR COVERAGE INTENT ONLY. CONTRACTOR TO DETERMINE ACTUAL QUANTITY AND LOCATIONS WITHIN EACH ROOM PER MANUFACTURER'S INSTRUCTION.
R	EXTERIOR OCCUPANCY SENSORS MUST BE RATED FOR WET CONDITIONS.

(#) KEYNOTES - EL100 THROUGH EL400 SHEETS

1	CONDUIT TO BE ROUTED TO AVOID ENTERING THE CRANE PATH. SEE G-SERIES SHEETS AND S-SERIES SHEETS FOR COORDINATION. LUMINAIRES BENEATH THE DEF TANK EXHAUST DUCTS TO BE MOUNTED TO SUPPORT STRUCTURE FOR THE DEF TANKS EXHAUST DUCTS. DO NOT MOUNT DIRECTLY TO THE DUCT WORK. CALCULATIONS FOR WORKPLANE LIGHT LEVELS ASSUMED A MOUNTING HEIGHT OF 13'-0" AT MAX. DO NOT MOUNT LOWER THAN 10'-0".
2	ROUTE EMERGENCY POWER CIRCUIT TO CENTRALIZED INVERTER UNIT.
3	POWER EXIT SIGN FROM CENTRALIZED INVERTER UNIT.
4	LIGHT SWITCHES TO CONTROL MEZZANINE LUMINAIRES INDICATED ON EL102.
5	TO LIGHTING CONTACTOR ON POWER RACK.
6	COORDINATE EXIT SIGN WITH STRUCTURAL ELEMENTS TO KEEP EXIT SIGN VISIBLE.
7	LUMINAIRE MOUNTED JUST BELOW OVERHANG. COORDINATE WITH ARCHITECTURAL FOR EXACT MOUNTING HEIGHT AND FOLLOW MANUFACTURER'S RECOMMENDATION FOR DISTANCE FROM ELEMENTS.
96	LUMINAIRE MOUNTED AT 8'-0" ABOVE FINISHED FLOOR. (TYP.)
108	LUMINAIRE MOUNTED AT 9'-0" ABOVE FINISHED FLOOR. (TYP.)
120	LUMINAIRE MOUNTED AT 10'-0" ABOVE FINISHED FLOOR. (TYP.)
121	EXIT SIGN MOUNTED AT 10'-0" ABOVE FINISHED FLOOR.
130	LUMINAIRE MOUNTED AT 11'-0" ABOVE MEZZAZINE FINISHED FLOOR. (TYP.)
132	LUMINAIRE MOUNTED AT 11'-0" ABOVE FINISHED FLOOR. (TYP.)
192	LUMINAIRE MOUNTED AT 16'-0" ABOVE FINISHED FLOOR. (TYP.)
306	CONDUIT TO BE ROUTED TO AVOID ENTERING THE CRANE PATH. SEE G-SERIES SHEETS AND STRUCTURAL DOCUMENTATION FOR COORDINATION. LOW BAY LUMINAIRES MOUNTED ABOVE CRANE AT 25'-6" ABOVE FINISHED FLOOR. (TYP.)

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POWER INDEPENDENCE; MISSION CONTROL STATION

LIGHTING NOTES AND SUPPLEMENTAL LEGEND

SHEET ID

EL001

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LIGHTING CONTROLS MATRIX NOTES:
1. IN THE EVENT OF A FIRE ALARM EVACUATION SIGNAL, TURN ON FIXTURES AND INCREASE LIGHT OUTPUT TO FULL OPERATION. HOLD ALL LIGHTS AT FULL ON OUTPUT FOR DURATION OF EVACUATION SIGNAL.
2. CONTROLLED RECEPTACLES TO COORDINATE WITH RELEVANT OCCUPANCY SENSORS SO THAT APPROPRIATE RECEPTACLES POWER OFF AND ON ACCORDINGLY.

CTRL FUNCTION		ROOM #	100 VEST.	101 READINESS	101A CIRCULATION	102 UNISEX RR	103 TELECOM	104 ELEC	105 MECHANICAL	106 GEN RM A	107 TOOL STORAGE	108 WORKSHOP	110 PUMP CONTROL A	111 DAY TANKS A	112 DISTRO A	113 FIRE PUMP	114 SWITCHGEAR UA	115 SWITCHGEAR GA	116 EXHAUST TREATMENT	117 GEN RM B	118 SWITCHGEAR GB	119 SWITCHGEAR UB	120 DISTRO B	121 FORKLIFT CHARGING	122 NEW OIL STORAGE	123 PUMP CTRL B	124 DAY TANKS B
MANUAL ON TO FULL AT SWITCH	A																										
MANUAL ON TO LEVEL SET BY SWITCH	B		●																								
AUTOMATIC ON TO FULL VIA OCCUPANCY SENSOR	C	●		●																							
AUTOMATIC ON TO 50% VIA OCCUPANCY SENSOR	D																										
MANUAL OFF AT SWITCH	E		●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
AUTOMATIC OFF AFTER 15MIN OF NO OCCUPANCY	F	●		●	●																						
AUTOMATIC DIM TO 50% AFTER 14MIN OF NO OCCUPANCY	G				●																						
FIRE ALARM EVACUATION SITUATION. SEE NOTE 1.	H	●			●																						
ROOM HAS RECEPTACLE CONTROLS. SEE NOTE 2.	I																										

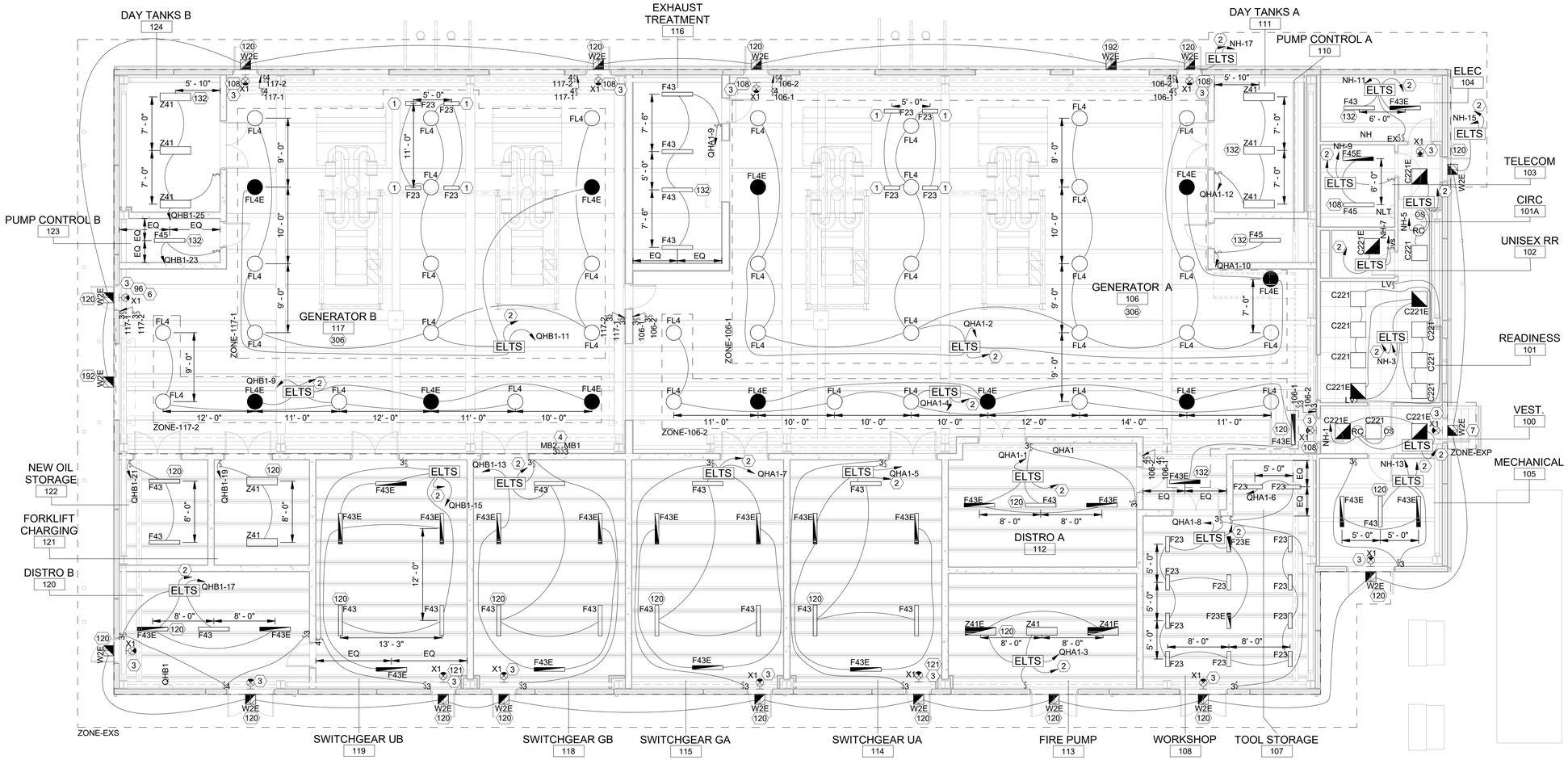
LIGHTING CONTROL ZONES FIRST FLOOR

GROUP NAME	$ ID
ZONE-106-1	106-1
ZONE-106-2	106-2
ZONE-117-1	117-1
ZONE-117-2	117-2

EXTERIOR LIGHTING CONTROLS
1. AUTO DIM LIGHTS TO 30% AFTER 10 MINUTES OF NO DETECTED MOTION.
2. AUTOMATIC DIMMING TO 30% WITHIN 1 HOUR AFTER BUSINESS CLOSE FOR ZONE EXP.
AUTOMATIC FULL OFF WITHIN 1 HOUR AFTER BUSINESS CLOSE FOR ZONE EXS.
AUTOMATIC FULL ON WITHIN 1 HOUR BEFORE BUSINESS OPEN FOR BOTH ZONES.
4. AUTO ON AT DUSK VIA PHOTOSENSOR.
5. AUTO OFF AT DAWN VIA PHOTOSENSOR.
6. HAND AND OFF FUNCTIONS OF HOA SWITCH TO OVERRIDE AUTO FUNCTIONS #1-#5. HAND SHALL ENERGIZE LUMINAIRES TO 100% OUTPUT.
7.REGARDLESS OF SETTING TO HAND OR OFF, CONTROLS TO REVERT TO AUTOMATIC SETTINGS AFTER 3 HOURS WITHOUT THE NEED FOR MANUAL INPUT.

EXTERIOR LIGHTING CONTROL ZONES

GROUP NAME	$ ID
ZONE EXP	EX
ZONE EXS	EX



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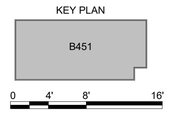

PLAN NORTH

A1 REFLECTED CEILING PLAN LIGHTING
1/8" = 1'-0"

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EL001.

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REFLECTED CEILING PLAN LIGHTING

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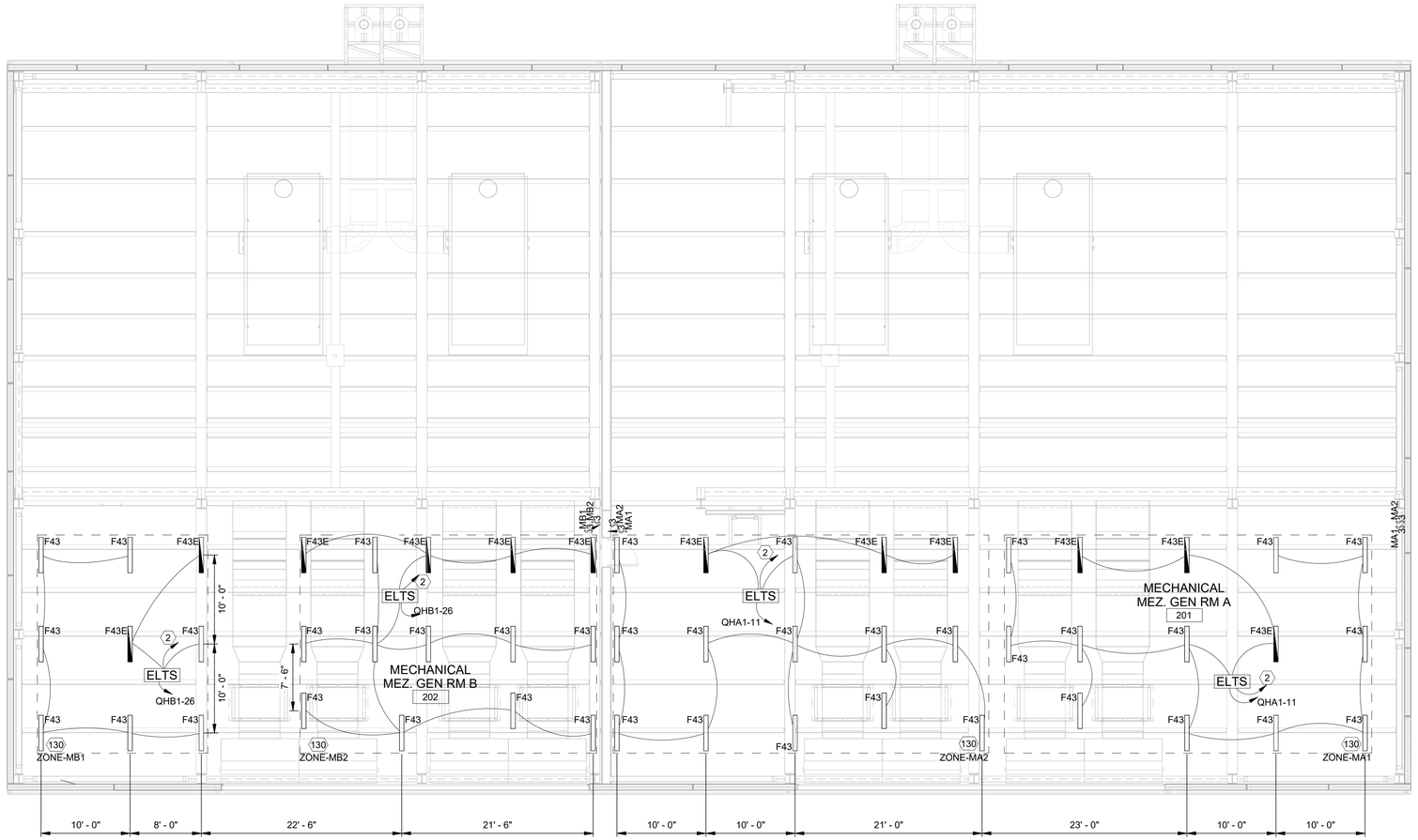
LIGHTING CONTROLS MATRIX NOTES:
1. IN THE EVENT OF A FIRE ALARM EVACUATION SIGNAL, TURN ON FIXTURES AND INCREASE LIGHT OUTPUT TO FULL OPERATION. HOLD ALL LIGHTS AT FULL ON OUTPUT FOR DURATION OF EVACUATION SIGNAL.
2. CONTROLLED RECEPTACLES TO COORDINATE WITH RELEVANT OCCUPANCY SENSORS SO THAT APPROPRIATE RECEPTACLES POWER OFF AND ON ACCORDINGLY.

CTRL FUNCTION		ROOM ###	201 MECHANICAL MEZ. GEN RM A	202 MECHANICAL MEZ. GEN RM B
MANUAL ON TO FULL AT SWITCH	A		●	●
MANUAL ON TO LEVEL SET BY SWITCH	B			
AUTOMATIC ON TO FULL VIA OCCUPANCY SENSOR	C			
AUTOMATIC ON TO 50% VIA OCCUPANCY SENSOR	D			
MANUAL OFF AT SWITCH	E		●	●
AUTOMATIC OFF AFTER 15MIN OF NO OCCUPANCY	F			
AUTOMATIC DIM TO 50% AFTER 14MIN OF NO OCCUPANCY	G			
FIRE ALARM EVACUATION SITUATION. SEE NOTE 1.	H			
ROOM HAS RECEPTACLE CONTROLS. SEE NOTE 2.	I			

MEZZANINE LIGHTING CONTROL ZONES

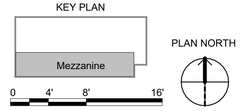
GROUP NAME	$ ID
ZONE-MA1	MA1
ZONE-MA2	MA2
ZONE-MB1	MB1
ZONE-MB2	MB2



REFLECTED CEILING PLAN LIGHTING MEZZANINE

A1 — 1/8" = 1'-0"

KEY PLAN



FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EL001.

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E.MCNAMARA	05/01/2025
DRAWN BY:	SOLICITATION NO.:
E.MCNAMARA	W9128F25RA043
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B.ADKINS	
SUBMITTED BY:	
S.UNDORFER	
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US ARMY CORPS OF ENGINEERS
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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
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REFLECTED CEILING PLAN LIGHTING MEZZANINE

SHEET ID

EL102

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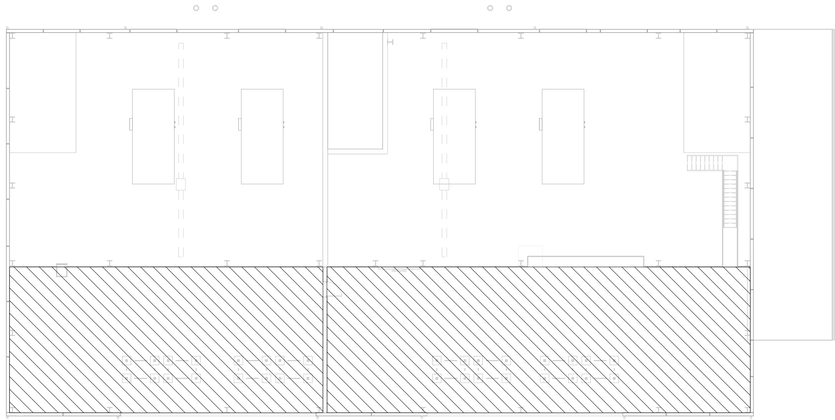
LIGHTING CONTROL TECHNOLOGY INTENT LEGEND		
	1	NETWORKED LIGHTING CONTROLS ONLY.
	2	LINE-VOLTAGE LIGHTING CONTROLS AND/OR LOCAL POWER PACKS ONLY (NO NETWORKED CONTROLS).
	3	SPACE CONTAINS A COMBINATION OF NETWORKED AND LINE-VOLTAGE LIGHTING CONTROLS.



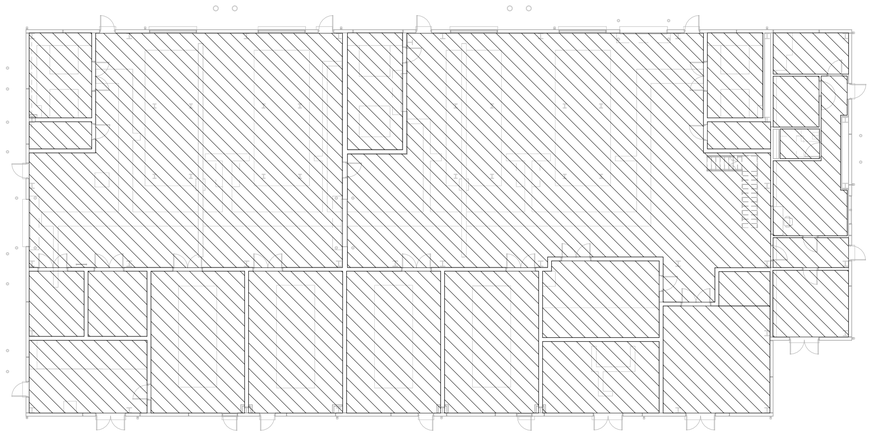
G11 LIGHTING CONTROL TECHNOLOGY INTENT PLAN MEZZANINE

1/16" = 1'-0"

KEY PLAN

PLAN NORTH

0 8' 16' 32'



A11 LIGHTING CONTROL TECHNOLOGY INTENT PLAN FIRST FLOOR

1/16" = 1'-0"

KEY PLAN

PLAN NORTH

0 8' 16' 32'

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EL001.

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LIGHTING CONTROL TECHNOLOGY INTENT

SHEET ID

EL200

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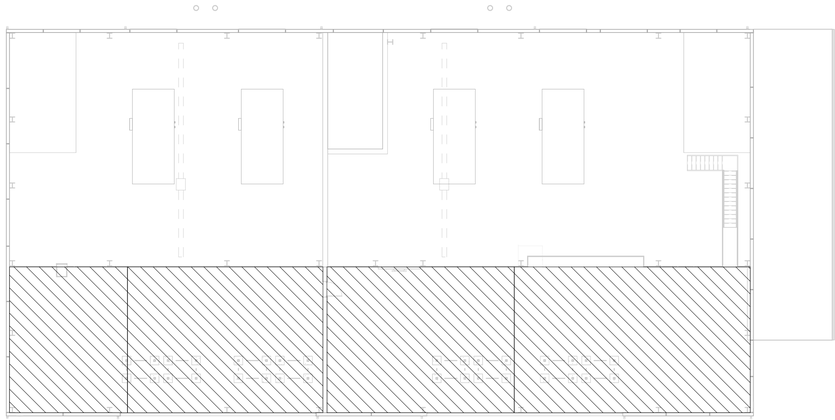
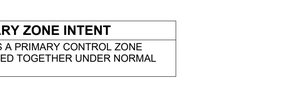
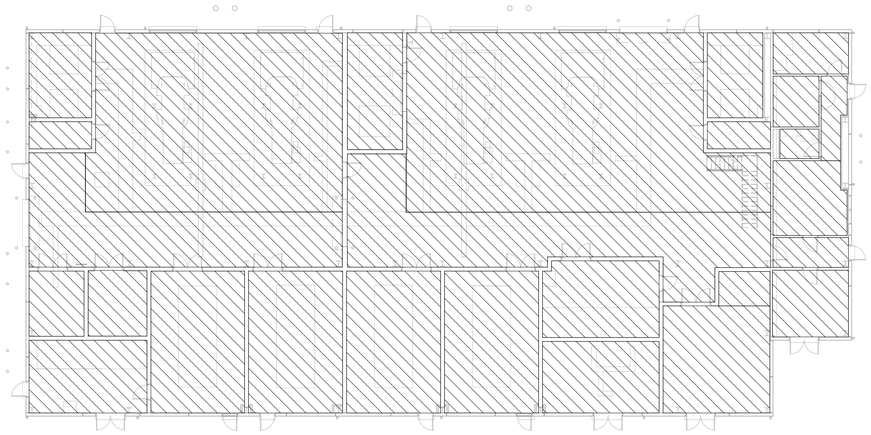
LIGHTING CONTROL PRIMARY ZONE INTENT		
	1	EACH SEPARATE AREA REPRESENTS A PRIMARY CONTROL ZONE WHOSE LUMINAIRES ARE CONTROLLED TOGETHER UNDER NORMAL CONDITIONS.



G11 LIGHTING CONTROL PRIMARY ZONE INTENT MEZZANINE

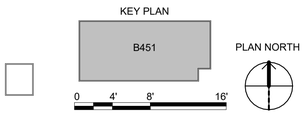
1/16" = 1'-0"





A11 LIGHTING CONTROL PRIMARY ZONE INTENT

1/16" = 1'-0"



FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EL001.

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OMAHA DISTRICT
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

LIGHTING CONTROL PRIMARY ZONE INTENT

SHEET ID

EL201

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GENERAL NOTES - EL500 SHEETS	
1	MAXIMUM NUMBER OF SENSORS PER POWER PACK MAY VARY BETWEEN MANUFACTURERS.
2	DO NOT CONNECT THE RED (+24VDC) WIRES TOGETHER ACROSS POWER PACKS.
3	OCCUPANCY SENSOR SHUT OFF DELAY IS 15 MINUTES, UON.
4	THE POWER PACKS GRACE PERIOD IS (MIN. 15 SECONDS, MAX 60 SECONDS) FOR "MANUAL ON" OPERATION WHEREBY THE LOAD TURNS OFF WHEN THE SENSOR TIME DELAY EXPIRES, THEN THE LOAD TURNS BACK ON IF OCCUPANCY SENSOR INPUT IS TRIGGERED DURING THE GRACE PERIOD. USE THE MOMENTARY CONTACT SWITCH TO TURN THE LOAD ON IF THE GRACE PERIOD EXPIRES WITH NO SENSOR INPUT.
5	POWER PACKS UNDER AUTO ON/OFF WITH OVERRIDE SWITCH FUNCTION: ONCE THE LOAD IS TURNED OFF USING THE MOMENTARY CONTACT SWITCH, THE POWER PACK DOES NOT TURN THE LOAD ON UNTIL AFTER THE SENSOR TIME DELAY EXPIRES. PRESS THE MOMENTARY CONTACT SWITCH BEFORE THE SENSOR TIME DELAY EXPIRES TO TURN THE LOAD ON, AND WHEN THE OCCUPANCY SENSOR 'S TIME DELAY EXPIRES, THE POWER PACK REVERTS TO AUTO ON OPERATION.
6	OVERRIDE THE AUTOMATIC OFF FUNCTIONS USING INPUTS ON THE "HOLD ON" LINE. ALSO, OVERRIDE THE MANUAL OFF STATE AT THE TIME OF "HOLD ON" INITIATION USING "HOLD ON" INPUTS.
7	PROVIDE POWER PACKS WITH FAIL-SAFE CIRCUITRY WHEREBY THE CONTACTS FAIL IN THE CLOSED POSITION IN THE EVENT OF POWER FAILURE OR MALFUNCTION.
8	USE FULLY COMPATIBLE LIGHTING CONTROLS INCLUDING DIMMING BALLASTS/DRIVERS, DIMMING SWITCHES, AND OCCUPANCY SENSORS.
9	MOUNT POWER PACKS ABOVE THE CEILING IMMEDIATELY IN FRONT OF THE DOOR WHERE CEILING SPACE IS ACCESSIBLE. IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE SENSOR MANUFACTURER USE SINGLE OR DOUBLE GANG POWER PACK BOXES. MOUNT POWER PACKS IN A RECESSED SWITCH BOX WHERE CEILING IS INACCESSIBLE. PLACE POWER PACKS WALL BOXES SIX INCHES FROM INSIDE CORNER OF THE ROOM AND 46 INCHES ABOVE FINISHED FLOOR. PERMANENTLY ENGRAVE "OCCUPANCY SENSOR POWER PACK" ON THE BOX FACEPLATE.
10	CONTROL WIRE COUNTS ARE NOT SHOWN ON LIGHTING PLANS. CONSULT LIGHTING CONTROL FUNCTIONAL DIAGRAMS AND MANUFACTURER REQUIREMENTS FOR GUIDANCE.
11	QUANTITY OF FIXTURES, SENSORS, POWER PACKS, AND OTHER DEVICES IS NOT REPRESENTED IN THESE DIAGRAMS. PROVIDE QUANTITY OF DEVICES SHOWN (MINIMUM) OR AS REQUIRED. MAXIMUM NUMBER OF SENSORS PER POWER PACK MAY VARY BETWEEN MANUFACTURERS.
12	BRANCH CIRCUIT(S) TO EMERGENCY BALLAST IN FIXTURES ARE NOT SHOWN TO COMPLETION IN THESE DIAGRAMS. PROVIDE CONDUCTORS FROM THE BRANCH CIRCUIT TO THE FIXTURES WITH EMERGENCY BALLASTS OR DRIVERS WITHOUT ROUTING THROUGHOUT FIXTURE SWITCHING, TIMER, OCCUPANCY CONTROLS, OR DAYLIGHTING CONTROLS.
13	PROVIDE CONDUIT RACEWAY FOR ALL WIRING. PROVIDE LOW VOLTAGE CONTROL RACEWAY SYSTEM SEPARATE FROM 120V AND 277V RACEWAY SYSTEM.
14	SUBMIT SHOP DRAWINGS WITH LIGHTING CONTROL DIAGRAMS FOR THE ACTUAL MANUFACTURER 'S DEVICES PROVIDED, AND REVISE THE LIGHTING CONTROL DIAGRAMS "AS-BUILT".
15	ADDITIONAL POWER PACKS MAY BE REQUIRED FOR LONG MOMENTARY CONTACT SWITCH LOW VOLTAGE CIRCUITS. VERIFY MAXIMUM LOW VOLAGE CIRCUIT LENGTH WITH MANUFACTURER.
16	PROVIDE CONDUIT RACEWAY FOR ALL WIRING. PROVIDE LOW VOLTAGE CONTROL RACEWAY SYSTEM SEPARATE FROM 120V AND/OR 277V RACEWAY SYSTEM.
17	THE LIGHTING CONTROL FUNCTIONAL DIAGRAMS SHOW ONE METHOD OF ACCOMPLISHING THE LIGHTING CONTROL STRATEGIES INTENDED FOR EACH SPACE OR ZONE. ALTERNATE METHODS ARE ACCEPTABLE ONLY IF THERE IS NO LOSS OF FUNCTIONALITY AS DESCRIBED BY THE LIGHTING CONTROL FUNCTIONAL DIAGRAMS AND THE CONTRACT SPECIFICATIONS. SUBMIT TO THE GOVERNMENT FOR EVALUATION AND APPROVAL A DETAILED DESCRIPTION INDICATING HOW THE PROPOSED ALTERNATE METHODS SATISFY THE CONTRACT DOCUMENTS. GOVERNMENT APPROVAL IS NEEDED FOR INSTALLATION TO PROCEED. PROCUREMENT PENDING GOVERNMENT APPROVAL IS AT RISK FOR THE CONTRACTOR.
18	DO NOT USE WIRELESS CONTROLS.
19	DIM TO MINIMUM PHOTOSENSOR DIMMING CONTROLS. DO NOT DIM CONTROLS TO OFF.

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SUBMITTED BY:
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LIGHTING CONTROLS NOTES

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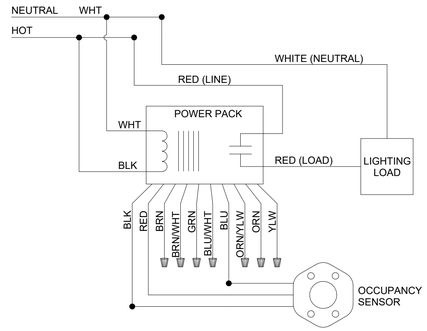
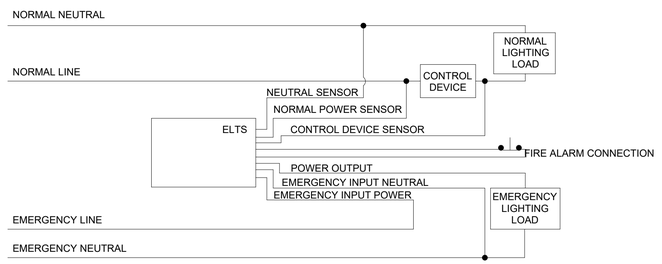


L14 POWER PACK
SCALE: NTS



F14 EMERGENCY LIGHTING TRANSFER SWITCH WIRING DIAGRAM
SCALE: NTS

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LIGHTING CONTROL DETAILS

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LUMINAIRE SCHEDULE

FIXTURE SYMBOL	QUANTITY NORM	QUANTITY EMER	FIO LLF	TYPE	WATTS	QTY	CCT	MIN. CRI	MAXIMUM POWER	MINIMUM FLUX	VOLTS	MOUNTING	MAX. DEPTH	DESCRIPTION	REMARKS
C221	8	6	0.7	LED	18 W	1	3500 K	80	18 W	2071 lm	277 V	Recessed	0' - 4"	Volumetric 2'x2' Troffer	
F23	20	2	0.7	LED	42 W	1	3500 K	80	42 W	4014 lm	277 V	Suspended	0' - 5 7/8"	2' Industrial Linear Pendant	
F43	61	34	0.7	LED	51 W	1	3500 K	80	51 W	3936 lm	277 V	Suspended	0' - 5 7/8"	4' Industrial Linear Pendant	
F45	3	1	0.7	LED	62 W	1	3500 K	80	62 W	6547 lm	277 V	Suspended	0' - 5 7/8"	4' Industrial Linear Pendant	
FL4	35	11	0.7	LED	191 W	1	3500 K	80	191 W	22456 lm	277 V	Suspended		Industrial Low Bay	
W2	0	18	0.7	LED	23 W	1	4000 K	70	23 W	2037 lm	277 V	Wall		Outdoor LED Wall Pack	Integrated photosensor and dimming controls. Coordinate internal photosensor and dimming controls with luminaire mounting height. Minimum B4-U0-G2 rating.
X1	0	16	1	LED	5 W	1			5 W		277 V	Surface		Back-Lit Exit Signage	
Z41	9	2	0.7	LED	47 W	1	3500 K	80	47 W	4213 lm	277 V	Suspended		4' Hazardous Location Pendant	UL 844 Class I, Division 1, Groups C and D Class II, Division 1, Groups E, F, and G
Z42	4	0	0.7	LED	74 W	1	4000 K	80	74 W	8220 lm	277 V	Suspended		4' Hazardous Location Pendant	UL 844 Class I, Division 1, Groups C and D Class II, Division 1, Groups E, F, and G

GENERAL LIGHTING NOTES:
1. QUANTITY PROVIDED FOR INFORMATION ONLY. CONFIRM LUMINAIRE COUNTS ON THE EL SERIES SHEETS.
2. LAMP/FIXTURE LUMEN OUTPUT, DRIVER INPUT WATTAGE, AND DRIVER FACTOR NOT INDICATED ON THIS SCHEDULE MUST COMPLY WITH SPECIFICATION SECTION 26 51 00: INTERIOR LIGHTING.
3. ALL FIXTURES, LAMPS, AND DRIVERS MUST BE RATED FOR STARTING AT ZERO DEGREES FAHRENHEIT UNLESS OTHERWISE NOTED.
4. ALL DRIVERS INCLUDING EMERGENCY DRIVERS MUST BE INTEGRAL TO THE FIXTURE AND SHALL BE FACTORY INSTALLED UNLESS OTHERWISE NOTED.
5. ALL FIXTURES SHALL BE FACTORY PREWIRED WITH HIGH TEMPERATURE WIRE, AND MUST BE COMPLETELY ASSEMBLED AND TESTED PRIOR TO SHIPMENT.
6. FIXTURES MUST BE COMPATIBLE WITH THE CEILING TYPE IN WHICH THEY ARE INSTALLED. RECESSED FIXTURES INSTALLED IN PLASTER CEILINGS MUST INCLUDE PLASTER FRAMES.
7. INDUSTRIAL AND STRIP FIXTURES MOUNTED IN ATTIC SPACES, MECHANICAL/ELECTRICAL ROOMS AND SIMILAR UTILITY EQUIPMENT SPACES MUST BE CHAIN MOUNTED UNLESS OTHERWISE INDICATED AND SHALL BE LOCATED IN CONSULTATION WITH THE CONTRACTING OFFICER'S REPRESENTATIVE TO AVOID INTERFERENCE WITH OR BY OTHER EQUIPMENT.
8. ALL REFERENCES TO SPACING AND MOUNTING HEIGHTS ARE MEASURED FROM THE FIXTURE CENTERLINE UNLESS OTHERWISE NOTED.
9. ALL EMERGENCY AND EXIT FIXTURES MUST BE SELF-TESTING, SELF-DIAGNOSTIC TYPE.
10. DRIVERS LISTED IN LIGHTING FIXTURE SCHEDULES ARE BASED ON 0-10V CONTROL. SHOULD AN ALTERNATIVE CONTROL SYSTEM BE PROVIDED, CONTRACTOR SHALL PROVIDE BALLASTS AND DRIVERS COMPATIBLE WITH THE ALTERNATIVE CONTROL SYSTEM AT NO ADDITIONAL COST TO THE GOVERNMENT.

LEGEND
FIXTURE SYMBOL: THE BASE MARK/TAG SHOWN ON THE PLANS.
FIO LLF: THE LIGHT LOSS FACTOR USED FOR PHOTOMETRIC CALCULATION PURPOSES (FOR INFORMATION ONLY).
LIGHT SOURCE-TYPE: LIGHT SOURCE TECHNOLOGY.
LIGHT SOURCE-WATTS: THE WATTAGE FOR A SINGLE LAMP. WHERE LED IS INDICATED AND THE "LAMPS-QTY" IS 1, THIS VALUE INDICATES THE INPUT POWER FOR THE FIXTURE AS A WHOLE.
LIGHT SOURCE-QTY: THE QUANTITY OF LAMPS IN A SINGLE FIXTURE.
LIGHT SOURCE-CCT: THE NOMINAL CORRELATED COLOR TEMPERATURE OF THE LIGHT SOURCE. SEE SECTIONS 26 51 00 AND 26 56 00 FOR THE "NOMINAL" TOLERANCE.
LIGHT SOURCE-CRI: THE MINIMUM COLOR RENDERING INDEX VALUE OF THE LIGHT SOURCE.
PERFORM. CONSTRAINTS-MAX. POWER: MAXIMUM INPUT POWER FOR A FIXTURE OF A GIVEN SYMBOL.
PERFORM. CONSTRAINTS-MIN. FLUX: MINIMUM INITIAL OUTPUT FLUX FOR A FIXTURE OF A GIVEN SYMBOL.
MIN. EM BATT. INITIAL FLUX: MINIMUM INITIAL OUTPUT FLUX FOR THE DISTRIBUTED EMERGENCY BATTERY OPERATION (SUCH AS EMERGENCY BALLAST OR DRIVER) FOR A FIXTURE OF A GIVEN SYMBOL.
VOLTS: INPUT VOLTAGE FOR A FIXTURE OF A GIVEN SYMBOL.
MOUNTING: MOUNTING TECHNIQUE FOR A FIXTURE OF A GIVEN SYMBOL, UNLESS OTHERWISE NOTED.
MAX. DEPTH: MAXIMUM PERMISSIBLE FIXTURE DEPTH FROM BOTTOM OF FIXTURE TO TOP OF FIXTURE AS INSTALLED.
DESCRIPTION: GENERIC TYPE OF HOUSING, CHARACTERISTICS, AND/OR LIGHT DISTRIBUTION FOR A FIXTURE OF A GIVEN SYMBOL.
REMARKS: ADDITIONAL CHARACTERISTICS CONVEYING FIXTURE REQUIREMENTS FOR A FIXTURE OF A GIVEN SYMBOL.

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

LUMINAIRE SCHEDULE

SHEET ID
EL600

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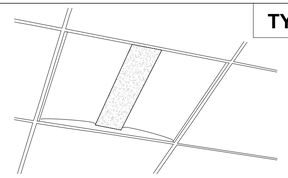
TYPE C221



Note: THIS SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS. IT IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER OR PREFERENCE.

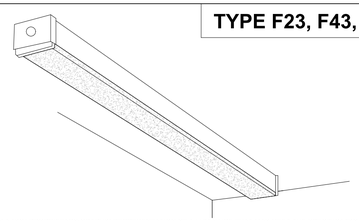
LUMINAIRE REQUIREMENTS:

1. HOUSING - HEAVY GAUGE COLD ROLLED STEEL OR DIE CAST ALUMINUM. SIZE SHOWN AS INDICATED IN LUMINAIRE SCHEDULE.
2. OPTICS - FROSTED ACRYLIC OR POLYCARBONATE LENS WITH DIE FORMED COLD ROLLED SHEET STEEL REFLECTORS.
3. LIGHT SOURCE - SOLID STATE LEDS, 3500K CCT UON, MINIMUM 80 CRI UON, AND MINIMUM EFFICACY OF 100 LUMENS/WATT UON. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
4. DRIVER - REPLACEABLE, INTEGRAL, HIGH-EFFICIENCY DIMMABLE DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, AND < 20% THD. ON/OFF CONTROL AND FULLY DIMMABLE DOWN TO 10% MINIMUM OR AS INDICATED IN LUMINAIRE SCHEDULE.
5. CERTIFICATION - UL LISTED FOR DRY OR DAMP LOCATION, ROHS COMPLIANT. DLC QUALIFIED. COMPLIES WITH IES LM79, LM80 AND TM21 TESTING STANDARDS.
6. MOUNTING - RECESSED IN HARD OR ACOUSTICAL TILE CEILING.
7. OPTIONS - EMERGENCY BATTERY BACK-UP, INTEGRAL OCCUPANCY/VACANCY SENSOR, VARIOUS SIZE AND OUTPUT OPTIONS, SURFACE-MOUNTING KIT.

DIRECT/INDIRECT LED LUMINAIRE

REVISED:	NOVEMBER 2020	LIGHTING PLATE:	NL-01

TYPE F23, F43, F45



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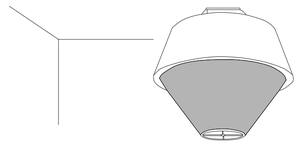
LUMINAIRE REQUIREMENTS:

1. HOUSING - EXTRUDED ALUMINUM OR WELDED STEEL HOUSING WITH SNAP-ON END CAPS. SIZE AS INDICATED IN LUMINAIRE SCHEDULE.
2. OPTICS - DIFFUSE ACRYLIC LENS.
3. LIGHT SOURCE - SOLID STATE LEDS, 3500K CCT UON, MINIMUM 80 CRI UON, AND MINIMUM EFFICACY OF 90 LUMENS/WATT UON. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
4. DRIVER - REPLACEABLE, INTEGRAL, HIGH-EFFICIENCY DIMMABLE DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, AND < 20% THD. ON/OFF CONTROL AND FULLY DIMMABLE DOWN TO 10% MINIMUM OR AS INDICATED IN LUMINAIRE SCHEDULE.
5. CERTIFICATION - UL LISTED FOR DAMP OR WET LOCATION, ROHS COMPLIANT. DLC QUALIFIED. COMPLIES WITH IES LM79, LM80 AND TM21 TESTING STANDARDS.
6. MOUNTING - PENDANT, STEM, OR SURFACE MOUNTED WITH STAINLESS STEEL MOUNTING HARDWARE.
7. OPTIONS - INTEGRAL OCCUPANCY SENSOR, EMERGENCY BATTERY BACK-UP, VARIOUS PROFILE DIMENSIONS AND RUN LENGTHS, AND VARIOUS CLEAR OR FROSTED POLYCARBONATE LENSES.

LED INDUSTRIAL LIGHT

REVISED:	NOVEMBER 2020	LIGHTING PLATE:	NL-23

TYPE FL4



NOTE: THIS SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS. IT IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER OR PREFERENCE.

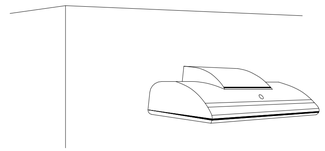
LUMINAIRE REQUIREMENTS:

1. HOUSING - HEAVY GAUGE COLD ROLLED STEEL OR CAST ALUMINUM HOUSING.
2. OPTICS - UV-STABILIZED ACRYLIC OR POLYCARBONATE DIFFUSE LENS AND SPUN ALUMINUM REFLECTOR.
3. LIGHT SOURCE - SOLID STATE LEDS, 3500K CCT UON, MINIMUM 80 CRI UON, AND MINIMUM EFFICACY OF 100 LUMENS/WATT UON. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
4. DRIVER - REPLACEABLE, INTEGRAL, HIGH-EFFICIENCY DIMMABLE DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, AND < 20% THD. ON/OFF CONTROL AND FULLY DIMMABLE DOWN TO 10% MINIMUM OR AS INDICATED IN LUMINAIRE SCHEDULE.
5. CERTIFICATION - UL LISTED FOR DAMP OR WET LOCATION, ROHS COMPLIANT. DLC QUALIFIED. COMPLIES WITH IES LM79, LM80 AND TM21 TESTING STANDARDS.
6. MOUNTING - PENDANT, STEM, OR SURFACE MOUNTED WITH STAINLESS STEEL MOUNTING HARDWARE.
7. OPTIONS - INTEGRAL OCCUPANCY SENSOR, EMERGENCY BATTERY BACK-UP, VARIOUS OPTICAL DISTRIBUTIONS.

LED INDUSTRIAL LOW-BAY

REVISED:	NOVEMBER 2020	LIGHTING PLATE:	NL-25

TYPE W2



NOTE: THIS SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS. IT IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER OR PREFERENCE.

LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE-CAST OR EXTRUDED ALUMINUM WITH INTEGRAL PASSIVE COOLING MECHANISM. HEAT SINK INCORPORATED DIRECTLY INTO HOUSING OR DRIVER COMPARTMENT.
2. OPTICS - PRECISION MOLDED ACRYLIC LENS WITH TYPE II, III, OR IV DISTRIBUTIONS. BUG UPLIGHT RATING OF U0, WITH GLARE RATING AS DETERMINED BY LIGHTING ZONE INSTALLED.
3. LIGHT SOURCE - SOLID STATE LEDs, 3000K CCT UON, MINIMUM 70 CRI UON, AND MINIMUM EFFICACY OF 80 LUMENS/WATT UON. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
4. DRIVER - REPLACEABLE, INTEGRAL, HIGH-EFFICIENCY DIMMABLE DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, AND < 20% THD. ON-OFF CONTROL AND FULLY DIMMABLE DOWN TO 10% MINIMUM OR AS INDICATED IN LUMINAIRE SCHEDULE.
5. CERTIFICATION - UL LISTED FOR WET LOCATION, ROHS COMPLIANT. COMPLIES WITH IES LM79, LM80 AND TM21 TESTING STANDARDS.
6. MOUNTING - SURFACE MOUNTED WITH STAINLESS STEEL MOUNTING HARDWARE.
7. OPTIONS - VARIOUS LIGHT DISTRIBUTIONS. INTEGRAL MOTION SENSOR, PHOTOCELL, BATTERY BACK-UP.

LED WALL PACK

REVISED:	NOVEMBER 2020	LIGHTING PLATE:	XL-10

TYPE X1

Note: THIS SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS. IT IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER OR PREFERENCE.

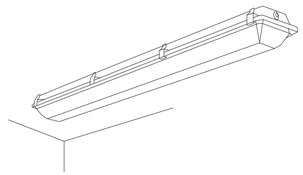
LUMINAIRE REQUIREMENTS:

1. HOUSING - DIE-CAST ALUMINUM OR HIGH-IMPACT, UV-STABILIZED, INJECTION-MOLDED THERMOPLASTIC.
2. LIGHT SOURCE - SOLID STATE LEDS.
3. DRIVER - INTEGRAL, HIGH-EFFICIENCY DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120/277V, THERMAL MANAGEMENT, AND < 20% THD.
4. CERTIFICATION - NFPA 101, UL LISTED FOR DAMP OR WET LOCATION, AND ROHS COMPLIANT.
5. MOUNTING - SURFACE MOUNTED ON CEILING AND/OR WALL.
6. OPTIONS - GREEN LETTERING, ONE- OR TWO-SIDED. BATTERY BACKUP.

EXIT SIGN

REVISED:	NOVEMBER 2020	LIGHTING PLATE:	NL-28NWO

TYPE Z41, Z42



Note: THIS SKETCH IS A NON-PROPRIETARY GRAPHIC REPRESENTATION OF A LUMINAIRE THAT MAY MEET THE SPECIFICATION REQUIREMENTS. IT IS NOT INTENDED TO INDICATE A CERTAIN MANUFACTURER OR PREFERENCE.

LUMINAIRE REQUIREMENTS:

1. HOUSING - HIGH-IMPACT RESISTANT, FULLY GASKETED HOUSING CONSTRUCTED OF STAINLESS STEEL OR HEAVY-DUTY DIE CAST ALUMINUM. SIZE AS INDICATED IN LUMINAIRE SIZE AS INDICATED IN LUMINAIRE SCHEDULE.
2. OPTICS - UV-STABILIZED, HIGH-IMPACT, FROSTED POLYCARBONATE OR GLASS LENS.
3. LIGHT SOURCE - SOLID STATE LEDS, 4000K CCT UON, MINIMUM 80 CRI UON, AND MINIMUM EFFICACY OF 90 LUMENS/WATT UON. INITIAL LUMEN OUTPUT AS INDICATED IN LUMINAIRE SCHEDULE.
4. DRIVER - REPLACEABLE, INTEGRAL, HIGH-EFFICIENCY DIMMABLE DRIVER WITH MINIMUM 0.9 PF, OPERATING VOLTAGE OF 120-277V, THERMAL MANAGEMENT, AND < 20% THD. ON/OFF CONTROL AND FULLY DIMMABLE DOWN TO 10% MINIMUM OR AS INDICATED IN LUMINAIRE SCHEDULE.
5. CERTIFICATION - UL LISTED FOR WET LOCATION, ROHS COMPLIANT. DLC QUALIFIED. COMPLIES WITH IES LM79, LM80 AND TM21 TESTING STANDARDS. MEETS UL844 REQUIREMENTS FOR CLASS 1 DIVISION 2 HAZARDOUS LOCATIONS.
6. MOUNTING - PENDANT, STEM, CEILING, OR WALL SURFACE-MOUNTED.
7. OPTIONS - EMERGENCY BATTERY BACK-UP.

LED HAZARDOUS LOCATION LIGHT

REVISED:	NOVEMBER 2020	LIGHTING PLATE:	NL-22NWO

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jfeldesen\Documents\BUCO00102_DM_ME_jfeldesen.rvt

Plot Date: 6/30/2025 1:17:15 PM

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.HOPPEL
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

LUMINAIRE DETAILS

SHEET ID

EL601

ADVERTISEMENT

SUPPLEMENTAL POWER LEGEND

⊖	SIMPLEX NEMA 5-20R RECEPTACLE. MH = 18", UON.
⊖ C	DUPLEX/QUAD NEMA 5-20R RECEPTACLE. MH PER EP500, UON. SUBSCRIPTS ADJACENT TO RECEPTACLES SHALL DENOTE THE FOLLOWING: "AC" RECEPTACLE IS TO BE LOCATED ABOVE COUNTERTOP. SEE EP501 FOR MOUNTING HEIGHT. "AFI" RECEPTACLE IS ON A CIRCUIT PROTECTED WITH AN AFI ARC-FAULT CIRCUIT BREAKER. "EWC" ELECTRIC WATER COOLER (EWC). COORDINATE RECEPTACLE MOUNTING HEIGHT/LOCATION WITH EWC INSTALLER. PROVIDE GFCI CIRCUIT BREAKERS FOR CIRCUITS SERVING EWC RECEPTACLES. JUNCTION BOX/RECEPTACLE FOR DRINKING FOUNTAINS SHALL BE LOCATED BEHIND THE EQUIPMENT SKIRT, UON. COORDINATE CONNECTION TYPE AND LOCATION WITH EQUIPMENT PROVIDED. OBSERVE HAZARDOUS AREA LIMITATIONS AS APPLICABLE. "G" GROUND FAULT CIRCUIT INTERRUPTER (GFCI). "TV" TELEVISION RECEPTACLE. COORDINATE MOUNTING WITH TV OUTLET LOCATION. SEE EP500 FOR MOUNTING HEIGHT. "WAP" DENOTES RECEPTACLE DEDICATED TO WIRELESS ACCESS POINT(S). COORDINATE RECEPTACLE ELEVATION WITH "WAP INDICATOR ON TN SHEETS. WHERE LOCATED WITH A NEMA 4 ROUTER ENCLOSURE, LOCATE RECEPTACLE INSIDE THE ENCLOSURE AND WITHOUT THE EXTRA DUTY WHILE-IN-USE COVER. "WP" DENOTES UL LISTED FOR WET LOCATION AND EXTRA DUTY WHILE-IN-USE COVER. "WPS" DENOTES WATER PROTECTION SHIELD. +12" MOUNTING HEIGHT ABOVE FINISHED FLOOR MEASURED TO CENTER (OR ABOVE FINISHED GRADE AS APPLICABLE FOR EXTERIOR LOCATIONS). IF NO MOUNTING HEIGHT IS INDICATED ON PLANS (EITHER BY THIS NOTE OR BY KEYNOTE), MOUNTING HEIGHT SHALL BE AS SHOWN ON EP500. "U" DENOTES DUPLEX NEMA 5-15R AND DUPLEX DUPLEX USB. "R" DENOTES RECEPTACLE WITH RED BODY INDICATING GENERATOR BACKUP. "CKT #" DENOTES THE CORRESPONDING SYSTEMS FURNITURE CONNECTION ON THE INDICATED HARNESS TYPE. "P" DENOTES RECEPTACLE TO BE PROVIDED WITH PILOT LIGHT.
C	CEILING RECEPTACLE. SUBSCRIPTS ADJACENT TO RECEPTACLES SHALL DENOTE THE FOLLOWING: "C" DENOTES DUPLEX RECEPTACLE FOR CEILING PROJECTOR. PROVIDE WITH FACEPLATE MOUNTED ON UNDERSIDE OF CEILING TILE. COORDINATE EXACT LOCATION WITH CEILING PROJECTOR INSTALLER.
	RECESSED FLOOR RECEPTACLE. REFERENCE TELECOM (TN) PLANS FOR COORDINATION OF COMBINED POWER/COMM FLOOR BOXES.
	SPECIAL PURPOSE RECEPTACLE. MH = 36" A.F.F. TO BOTTOM, UON. SEE SECTION 26 20 00 FOR LIST OF RECEPTACLES WHERE NOT EXPLICITLY IDENTIFIED ON THE PLANS.
J	JUNCTION BOX.
J	JUNCTION BOX, RECESSED FLOOR MOUNTED.
J	JUNCTION BOX, WALL MOUNTED.
G	BLANK FACE GFCI MODULE. SEE SECTION 26 20 00.
A	BLANK FACE AFCI MODULE. SEE SECTION 26 20 00.
AG	BLANK FACE DUAL FUNCTION AFCI/GFCI MODULE. SEE SECTION 26 20 00.
30/3/NF/1	MOTOR DISCONNECT/SAFETY SWITCH. "30" DENOTES THE AMPERE RATING. "3" DENOTES THE NUMBER OF POLES. "NF" DENOTES NON-FUSED ("F" DENOTES FUSED; FUSE RATINGS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS). "1" DENOTES THE ENCLOSURE'S NEMA RATING.
	MOTOR STARTER.
	COMBINATION MOTOR STARTER/DISCONNECT.
S_M	MOTOR-RATED TOGGLE SWITCH.
S_{30A}	30A GENERAL-USE SWITCH.
CB 30/3/1	ENCLOSED CIRCUIT BREAKER. "30" DENOTES THE AMPERE RATING. "3" DENOTES THE NUMBER OF POLES. "1" DENOTES THE ENCLOSURE'S NEMA RATING.
DH	120V DOOR HOLDER (PROVIDE DEVICE TRANSFORMER IF HOLDER PROVIDED REQUIRES A DIFFERENT VOLTAGE). WALL-MOUNTED UON. CIRCUIT POWER SHALL BE CONTROLLED VIA NORMALLY-CLOSED RELAY MODULE, COORDINATE WITH FA SHEETS.
R	CONTROL RELAY MODULE OR COMPATIBLE INTERFACE TO REPORT STATUS FROM ONE SYSTEM TO ANOTHER.
M	POWER METER.
SPD	SURGE PROTECTIVE DEVICE. LOCATE EXTERNAL TO PANEL AND SUCH THAT CONDUCTOR LEAD LENGTH DOES NOT EXCEED 3'-0" IN ACCORDANCE WITH UFC 3-520-01 SECTION 3-4.1.
	LADDER-TYPE CABLE TRAY.
AASDA	AIR-ASPIRATING SMOKE DETECTION APPARATUS (SEE FIRE ALARM)
ACU	AUTONOMOUS CONTROL UNIT (SEE FIRE ALARM)
DDC	DIRECT DIGITAL CONTROL (SEE MECHANICAL)
DFPRAP	DIESEL FIRE PUMP REMOTE ANNUNCIATOR PANEL (SEE FIRE ALARM)
ED	EXHAUST DAMPER (SEE MECHANICAL)
EEWS	EMERGENCY EYEWASH STATION WITH HORN AND STROBE. COORDINATE LOCATION WITH PLUMBING PLANS.
EMCS	ENERGY MANAGEMENT AND CONTROL SYSTEM (SEE MECHANICAL)
ID	INTAKE DAMPER (SEE MECHANICAL)
FACP	FIRE ALARM CONTROL PANEL (SEE FIRE ALARM)
FARPS	FIRE ALARM REMOTE POWER SUPPLY (SEE FIRE ALARM)
FAT	FIRE ALARM TRANSCEIVER (SEE FIRE ALARM)
GRAP	GENERATOR REMOTE ANNUNCIATOR PANEL
JACE	JAVA APPLICATION CONTROL ENGINE (SEE MECHANICAL)
RSCP	RELEASING SERVICE CONTROL PANEL (SEE FIRE ALARM)
USS	UNIT SUBSTATION
X	HAZARDOUS RATED. REFERENCE E-100 SERIES SHEETS FOR CLASSIFICATION REQUIREMENTS.

A B C D — PANEL/TRANSFORMER NAME ANNOTATION

- A — SUBFED PANEL OR UNIQUE IDENTIFIER WITHIN ZONE (IF PRESENT)
- B — POWER SOURCE
  - *D: DISTRIBUTION*
  - *FP: FIRE PUMP*
  - *G: GENERATOR*
  - *N: GENERAL*
  - *O: OFFLOAD*
  - *P: FILTER SHELTER*
  - *Q: EQUIPMENT*
  - *U: UTILITY*
- C — VOLTAGE SYSTEM
  - *H: 480Y/277V*
  - *L: 208Y/120V*
  - *S: SWITCHGEAR*
  - *T: TRANSFORMER*
- D — GENERATOR SIDE (IF APPLICABLE)
  - *A: A SIDE*
  - *B: B SIDE*
  - DEDICATED SYSTEM
  - *F: FIRE ALARM*
  - *T: TELECOMMUNICATIONS*
  - OFFLOAD ONLY
  - *L: LOW- TO LOW-VOLTAGE TRANSFORMER*
  - *M: MEDIUM- TO LOW-VOLTAGE TRANSFORMER*

GENERAL NOTES - EP100 THROUGH EP400 SHEETS

AA	ALL WIRING SHALL COMPLY WITH NFPA 70-2023, NATIONAL ELECTRICAL CODE.
AB	THE CONDUCTOR SIZES OF MANY CIRCUITS HAVE BEEN INCREASED TO MITIGATE VOLTAGE DROP. WHERE SUCH SIZE INCREASES EXCEED THE MAXIMUM PERMITTED BY A GIVEN DEVICE TERMINATION, THE CONDUCTOR SIZE MAY BE REDUCED TO TERMINATE PROPERLY IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS. WHERE SUCH CONDUCTOR SIZE REDUCTION IS REQUIRED, THE AGGREGATE LENGTH OF CONDUCTOR OVER THE COURSE OF THE ENTIRE CIRCUIT THAT IS REDUCED BELOW THE MINIMUM SIZE STATED IN THE CONTRACT DOCUMENTS (OR AS ADJUSTED BY ACTUAL CONTRACTOR-FURNISHED EQUIPMENT) SHALL NOT EXCEED 10'-0". SPLICE KITS, JUNCTIONS, ETC., SHALL BE SELECTED TO ACCOMMODATE THE FULL WIRE SIZE AND A CONDUCTOR SIZE REDUCTION FOR SUCH AND SIMILAR DEVICES SHALL NOT BE PERMITTED. SEE SECTION 26 20 00 SUBPART "ADJUSTMENTS FOR UNIQUE CONDUCTOR TERMINATION APPLICATIONS" FOR ADDITIONAL REQUIREMENTS.
AC	CONDUIT AND CONDUCTOR SIZES LISTED ARE MINIMUM SIZES. CIRCUITS MAY BE COMBINED INTO COMMON CONDUIT. CONTRACTOR IS RESPONSIBLE FOR RESIZING CONDUITS PER NFPA 70 FILL RATIO AND CURRENT-CARRYING CONDUCTOR/TEMPERATURE DERATING REQUIREMENTS.
AD	WIRE AND CONDUIT ARE BASED ON THHN/THWN-2 COPPER CONDUCTORS WITH 75°C AMPACITIES UNLESS OTHERWISE NOTED, AND 60°C AMPACITIES ARE USED FOR #1 AND SMALLER.
AE	MINIMUM SIZE POWER CONDUCTORS TO BE USED SHALL BE #12 AWG UNLESS OTHERWISE NOTED. RECEPTACLE CIRCUITS SHALL BE 2-#12,#12G MINIMUM.
AF	MINIMUM SIZE CONDUIT WILL BE 3/4" FOR ELECTRICAL CIRCUITS AND 1" CONDUITS FOR TELECOMMUNICATIONS CIRCUITS.
AG	METAL CLAD (MC) CABLE SHALL NOT BE USED.
AH	LINE VOLTAGE AND LOW VOLTAGE WIRING SHALL BE PROVIDED IN SEPARATE CONDUITS/RACEWAYS.
AI	PROVIDE SEPARATE NEUTRALS FOR EACH CIRCUIT UTILIZING A NEUTRAL CONDUCTOR (DO NOT COMBINE NEUTRALS).
AJ	PROVIDE GROUNDING CONDUCTORS IN ALL CONDUITS. ALL RACEWAYS SHALL HAVE A SEPARATE EQUIPMENT GROUNDING/BONDING CONDUCTOR. RACEWAY SHALL NOT BE USE AS THE SOLE GROUNDING/BONDING PATH.
AK	WHERE CIRCUIT NUMBERS ARE SHOWN ADJACENT TO ELECTRICAL DEVICES, WIRING SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND/OR REQUIREMENTS.
AL	FOR ANNOTATION ADJACENT TO DEVICES AND EQUIPMENT NOT CONTAINED IN THE LEGEND(S), PLEASE REFERENCE THE SCHEDULE FOR THE PANEL TO WHICH THE DEVICE OR EQUIPMENT IS CIRCUITED, THE KEYNOTE(S) AT THE DEVICE OR EQUIPMENT, OR THE EQUIPMENT CONNECTION SCHEDULE FOR CONTEXT.
AM	THE SHORT CIRCUIT RATING OF THE PANELBOARDS AND ELECTRICAL EQUIPMENT SHALL BE INCREASED TO THE NEXT AVAILABLE RATING WHERE THERE IS NOT A RATING THAT IS EQUAL TO THE EQUIPMENTS LISTED SHORT CIRCUIT RATING.
AN	PROVIDE NAMEPLATES ON THE EXTERIOR OF ALL ELECTRICAL PANELS AND ENCLOSURES AS FOLLOWS: DEVICE ID, DEVICE RATING, AND POWER SOURCE. PROVIDE LABEL INDICATING "ARC FLASH HAZARD" (REFERENCE SECTION 26 05 73).
AO	COMBINATION DISCONNECT SWITCHES AND MOTOR STARTERS MAY BE PROVIDED IN LIEU OF PROVIDING SEPARATE DEVICES.
AP	FOR DISCONNECT SWITCH AND MOTOR STARTER LABELS, THE TOP LINE SHALL BE THE NAME/DESIGNATION OF THE EQUIPMENT BEING FED BY THE SWITCH/STARTER AND THE SECOND LINE SHALL BE THE SUPPLYING PANEL AND CIRCUIT NUMBER(S).
AQ	MECHANICAL EQUIPMENT IS SHOWN IN APPROXIMATE LOCATIONS. FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND PIPING, SEE MECHANICAL DRAWINGS. PROVIDE DISCONNECT SWITCHES AS REQUIRED BY THE NATIONAL ELECTRICAL CODE EVEN IF NOT INDICATED ON THE ELECTRICAL DRAWINGS. DISCONNECTS ARE SHOWN AT OR ON A WALL NEAR ANTICIPATED EQUIPMENT LOCATION. LOCATE DISCONNECTS IN ACCORDANCE WITH NFPA 70. PROVIDE LOCKABLE DISCONNECT WHERE DICTATED PER NFPA 70 ARTICLE 430.102 AND 440.14 FOR REMOTE LOCATIONS.
AR	COORDINATE POWER RECEPTACLES WITH TELECOMMUNICATIONS OUTLETS (TN DRAWING SERIES). SPACING SHALL BE NO GREATER THAN 6" CENTER TO CENTER PER UFC 3-580-01.
AS	RECEPTACLES WHICH HAVE GFI PROTECTION ARE TO BE WIRED SUCH THAT THE LOSS OF POWER ON ONE RECEPTACLE DOES NOT AFFECT DOWNSTREAM RECEPTACLES.
AT	EACH PULL ROPE/STRING SHALL BE LABELED WITH A UNIQUE IDENTIFIER TAGGED ON EACH END. THE USER END OF THE PULL ROPE SHALL ALSO INDICATE THE SOURCE LOCATION AND VICE VERSA.
AU	COORDINATE RECESS MOUNTING OF CONDUIT, BACKBOXES, DEVICES, AND EQUIPMENT WITH OTHER TRADES.
AV	MOUNT OUTLET BOXES SUCH THAT NONE OCCUR RECESSED BACK TO BACK IN WALLS.
AW	ALL WIRING SHALL BE CONCEALED UNLESS EXPLICITLY INDICATED OTHERWISE. CONDUITS SHALL NOT BE RUN IN ANY UL RATED SLAB. JUNCTION BOXES, DEVICES, BACKBOXES, AND ASSOCIATED CONDUIT LOCATED ON PRECAST, CONCRETE, CONCRETE BLOCK WALLS, AND STEEL MEMBERS SHALL BE SURFACE MOUNTED. JUNCTION BOXES, DEVICES, BACKBOXES, AND ASSOCIATED CONDUIT SHALL BE RECESS MOUNTED ON GYPSUM WALLS. COORDINATE WITH ARCHITECTURAL SHEETS.
AX	PENETRATION OPENINGS THROUGH AIR BARRIERS SHALL COMPLY WITH THE BUILDING AIR BARRIER REQUIREMENTS. CORRECT ALL PENETRATIONS THAT ARE DETERMINED DEFICIENT DURING TESTING. SEE ARCHITECTURAL SHEETS FOR AIR BARRIER TESTING BOUNDARIES. SEE ARCHITECTURE FOR SEALING PENETRATIONS.
AY	DO NOT PENETRATE STRUCTURAL COLUMNS, BEAMS, AND TRUSSES. ATTACH DEVICES AND RACEWAY WITH BEAM C-CLAMPS, BRACKETS, CLIPS, UNISTRUT, AND OTHER NON-PENETRATING AND NON-ADHESIVE HARDWARE.
AZ	SEAL PENETRATIONS THROUGH FLOORS OR FIRE WALLS TO MAINTAIN THE INTEGRITY OF THE FIRE AND ACOUSTIC RATINGS OF THE WALLS AND FLOORS.
BA	WALL PENETRATIONS BETWEEN ANY SPACE IDENTIFIED AS A HAZARDOUS AREA ON THIS SHEET AND ANY OTHER SPACE (INCLUDING ANOTHER SPACE IDENTIFIED AS A HAZARDOUS AREA ON E-100 SERIES SHEETS) SHALL NOT OCCUR BELOW GRADE.
BB	RACEWAYS CROSSING STRUCTURAL EXPANSION JOINTS OR SEISMIC JOINTS SHALL BE PROVIDED WITH SUITABLE EXPANSION FITTINGS OR OTHER SUITABLE MEANS TO COMPENSATE FOR THE BUILDING EXPANSION AND CONTRACTION AND TO PROVIDE FOR CONTINUITY OF GROUNDING.
BC	COORDINATE FINAL ELECTRICAL CONNECTIONS, CONDUCTORS, RACEWAY, CIRCUIT BREAKER, AND DISCONNECTING DEVICES AND SIZES WITH MANUFACTURER RECOMMENDATIONS FOR ACTUAL EQUIPMENT PROVIDED. THESE PROPERTIES HAVE BEEN COORDINATED FOR EQUIPMENT SHOWN BY OTHER DISCIPLINES INCLUDED IN THIS CONTRACT SET. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ELECTRICAL CONNECTIONS, PROTECTION, AND DISCONNECTING DEVICES FOR EQUIPMENT VARIATIONS DEVIATING FROM THESE PLANS.
BD	COMPONENTS WHICH CONSTITUTE AN ELECTRICAL SYSTEM SHALL BE FULLY COMPATIBLE WITH ONE ANOTHER AND SHALL BE APPROVED BY THE VARIOUS MANUFACTURERS FOR USE WITH ALL OTHER COMPONENTS WITHIN THE SYSTEM. (ONE EXAMPLE OF AN ELECTRICAL SYSTEM IS THE BUILDING LIGHTING SYSTEM COMPRISED OF LUMINAIRES, SWITCHES, DRIVERS, OCCUPANCY SENSORS, AND DIMMING EQUIPMENT).
BE	ALL CONDUIT PATHS TO BE BENEATH STRUCTURAL FOOTINGS.
BF	ALL ELECTRICAL EQUIPMENT ENCLOSURES AND JUNCTION BOXES INSTALLED WITHIN THE FIRE PUMP ROOM (113) SHALL BE RATED NEMA 2 AT A MINIMUM.
BG	REFER TO SHEETS TN501 AND TN502 FOR CABLE TRAY DETAILS.
BH	THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ALL UNWANTED/NUISANCE TRIPPING OF CONTRACTOR FURNISHED AND INSTALLED (CFCI) OVERCURRENT PROTECTIVE DEVICES INSTALLED WHICH SUPPLY CFCI EQUIPMENT FOR THE DURATION OF THE CONSTRUCTION WARRANTY PERIOD. IF ANY OVERCURRENT PROTECTIVE DEVICE RATINGS OR SETTINGS ARE MODIFIED TO ADDRESS UNWANTED/NUISANCE TRIPPING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING THE COORDINATION AND ARC FLASH HAZARD STUDIES AND FOR PROVIDING UPDATED ARC FLASH HAZARD LABELS (REFER TO SPECIFICATION 26 05 73) AT NO ADDITIONAL COST TO THE GOVERNMENT.
BI	COORDINATE CONDUIT STUB-UPS AND PENETRATIONS TO AVOID GRADE BEAM(S).

#KEYNOTES - EP100 THROUGH EP400 SHEETS

1	CLEARANCES FOR SWITCHGEAR ARE BASED ON CONDITION 2 FOR NOMINAL VOLTAGE TO GROUND OF 9001-25000 V ELECTRICAL EQUIPMENT FOUND IN NFPA 70 2023 TABLE 110.34(A). THIS REQUIRES THAT ACROSS FROM THE LIVE EQUIPMENT SIDE OF THE SWITCHGEAR NO LIVE EQUIPMENT BE PLACED OPPOSITE IT ON THE WALL.
2	DIMENSIONED TO SHOW MINUMUM DISTANCING REQUIREMENTS. SEE RELEVANT CODE, CRITERIA, OR STANDARD FOR EXACT WORDING. 6'-2" DISTANCE BETWEEN TRANSFORMER AND BUILDING DESIGNED TO ACCOUNT FOR CONCRETE PAD DIMENSIONS AND AVOID SIDEWALK SURROUNDING STRUCTURE. 6'-0" CLEARANCE IN FRONT OF TRANSFORMER REQUIRED BY NFPA 70 110.34 CONDITION 2, WHERE EXPOSED LIVE PARTS EXIST ONLY ON ONE SIDE OF THE SPACE WITH A GROUNDED PART ON THE OTHER SIDE. 9'-0" CLEARANCE REQUIRED BY NFPA 70 110.34 CONDITION 3, WHERE EXPOSED LIVE PARTS ARE ON BOTH SIDES OF THE WORKING SPACE. 5'-0" REQUIRED SEPARATION BETWEEN TRANSFORMERS FROM UFC 3-600-01 TABLE 4-5.
3	6'-0" CLEARANCE ON ALL SIDES OF LOAD BANK BASED ON MANUFACTURER REQUIREMENTS.
4	COORDINATE LOCATION OF GENERATOR PANEL WITH STRUCTURE TO SUPPORT DEF IN PROXIMITY OF GENERATOR
5	SWITCHGEAR SPACE LEFT FOR BASE TO PROVIDE FUTURE PROTECTIVE RELAYING RELATED TO ISLANDING OR MICROGRID.
6	MOUNT QTB1 ABOVE QTB2. COORDINATE WITH STRUCTURAL AND MANUFACTURER'S INSTRUCTIONS FOR MOUNTING.
7	MOUNT QTA1 ABOVE QTA2. COORDINATE WITH STRUCTURAL AND MANUFACTURER'S INSTRUCTIONS FOR MOUNTING.
8	OVERHEAD DOOR OPEN/CLOSE/STOP CONTROL STATION LOCATIONS. COORDINATE CONTROLS WITH DOOR PROVIDER. NEMA 4 MINIMUM. PROVIDE PLACARD INDICATING WHICH STATION CONTROLS WHICH DOOR.
10	SEE SCHEDULE FOR PANEL LOCAL TO SPACE FOR CIRCUIT NUMBERS. INSTALL RECEPTACLES ABOVE RACK OR CABINET, MOUNTED TO TELECOMMUNICATIONS CABLE TRAY.
11	SEE DETAIL B3/EP500
12	WORKING SPACE CLEARANCE BASED ON NFPA 70 110.34(A) CONDITION 3 FOR 13.2kV. ELECTRICAL EQUIPMENT MAY BE PLACED ON THE WALL OPPOSITE THE TRANSFORMER PROVIDED IT DOESN'T ENTER INTO THIS WORKING SPACE CLEARANCE.
13	WORKING SPACE CLEARANCE BASED ON NFPA 70 110.34(A) CONDITION 3 FOR 13.2kV. ELECTRICAL EQUIPMENT MAY BE PLACED ON THE WALL OPPOSITE THE TRANSFORMER PROVIDED IT DOESN'T ENTER INTO THIS WORKING SPACE CLEARANCE. GROUNDED PARTS MAY ENTER THE REPRESENTED CLEARANCE SO LONG AS THEY DO NOT ENTER INTO THE 6FT CONDITION 2 WORKING SPACE CLEARANCE.
15	SEE EF SERIES SHEETS FOR ELECTRICAL EQUIPMENT IN FILTER SHELTER. NOT ALL CONNECTIONS SHOWN IN THIS PLAN.
16	MOUNT SPD FOR NL1 ABOVE SPD FOR NH1. COORDINATE CONNECTION LOCATION WITH PANEL SCHEDULE.
17	MOUNT SPD FOR NLF BELOW UNIT HEATER DISCONNECT SWITCH. COORDINATE CONNECTION LOCATION WITH PANEL SCHEDULE POSITION, ENSURE SPD CONDUCTOR LENGTH FROM CIRCUIT BREAKER IS 3'-0" OR LESS.
18	SEE EP610 SERIES EQUIPMENT SCHEDULE NOTES FOR THIS EQUIPMENT REGARDING THE EQUIPMENT DISCONNECTING MEANS.
19	SEE EF SERIES SHEETS FOR LOADS ASSOCIATED WITH DAY TANKS.
20	APPROXIMATE LOCATION AND DIMENSIONS OF POWER RACK. FOR DETAILS SEE EF SERIES SHEETS.
21	APPROXIMATE LOCATION AND DIMENSIONS OF EXHAUST VENTS. FOR DETAILS SEE M SERIES SHEETS.
22	UNDERGROUND PATHWAY TO AND CIRCUIT BREAKER AT SOURCE PANEL SHALL BE PART OF THE BASE BID ASSOCIATED WITH THE LOAD BANK PAD. CONDUCTORS SHALL BE PART OF THE "LOAD BANK" CLIN. CONTRACTOR TO COORDINATE STUB UP LOCATION WITH LOAD BANK CONTROLS LOCATION.
23	PROVIDE UNDERGROUND CONDUIT ROUTING FROM DISCONNECT TO THE FREESTANDING ENCLOSURE.
24	SEE M- SERIES SHEETS FOR HEATER AND HEAT TRACE COORDINATION WITH FILTER SHELTER.
25	LOCATE SPLICE BOX ABOVE DAY TANK ROOM AND ROUTE PATHWAYS OUTSIDE ALL HAZARDOUS ZONES (SEE E-101).
26	MOUNT DISCONNECTING MEANS SUCH THAT THE CENTER OF THE OPERABLE HANDLE IS 6'-0" AFF TO ALLOW FOR THE DISCONNECTS TO BE ABOVE THE HEIGHT OF THE LUBE OIL STORAGE BARRELS.
27	MOUNT NTF ABOVE NT. COORDINATE WITH STRUCTURAL AND MANUFACTURER'S INSTRUCTIONS FOR MOUNTING.
28	SPACE ALLOTTED FOR NEUTRAL GROUNDING RESISTOR (NGR; NOT IN CONTRACT).

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SUBMITTED BY: S.MOORE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCC00102_DM_ME.rvt

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OMAHA DISTRICT
1616 CAPITOL AVE.
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POWER NOTES AND SUPPLEMENTAL LEGEND

SHEET ID

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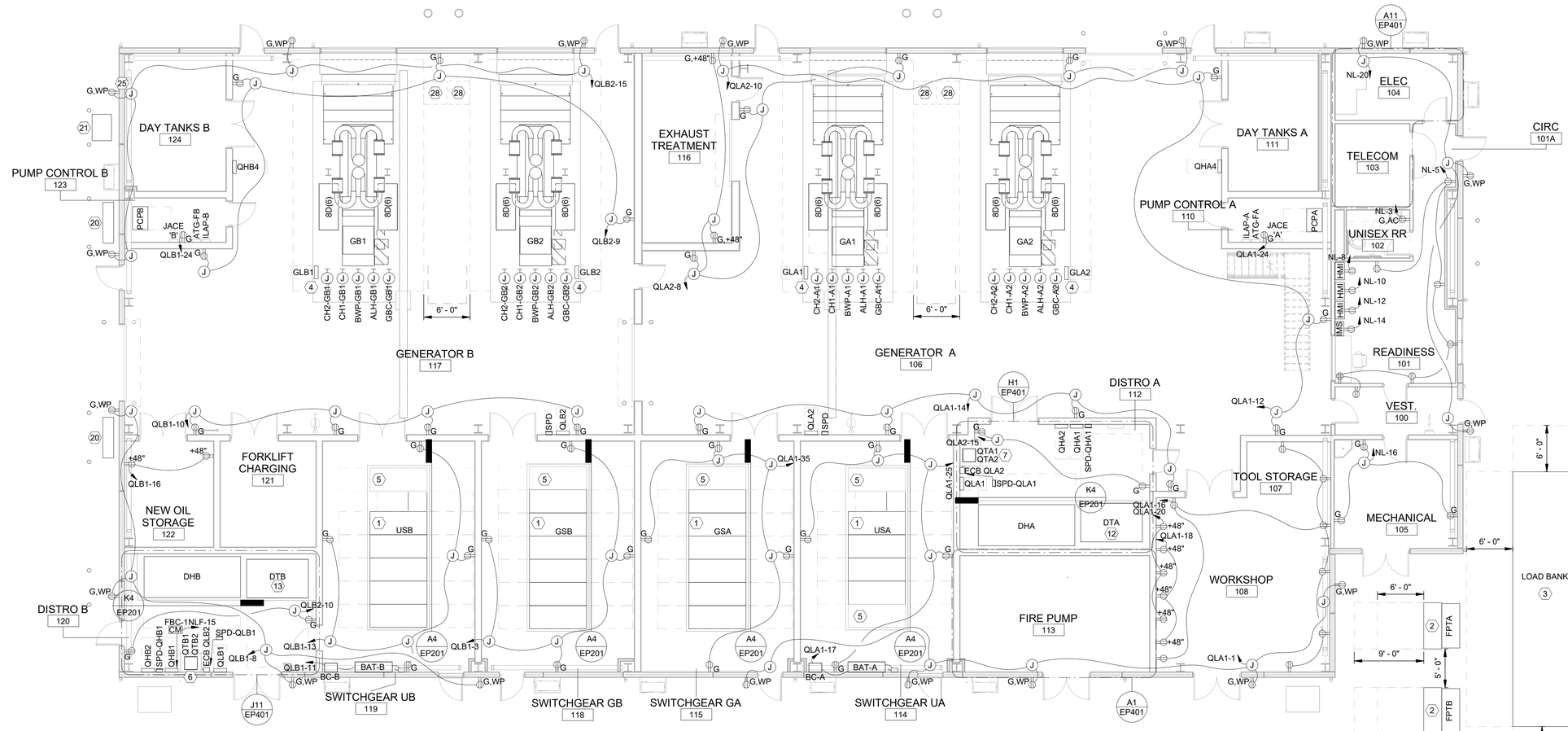

A1 POWER PLAN
1/8" = 1'-0"

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP001.

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SUBMITTED BY: J.MOSTRENA	
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POWER PLAN

SHEET ID
EP101

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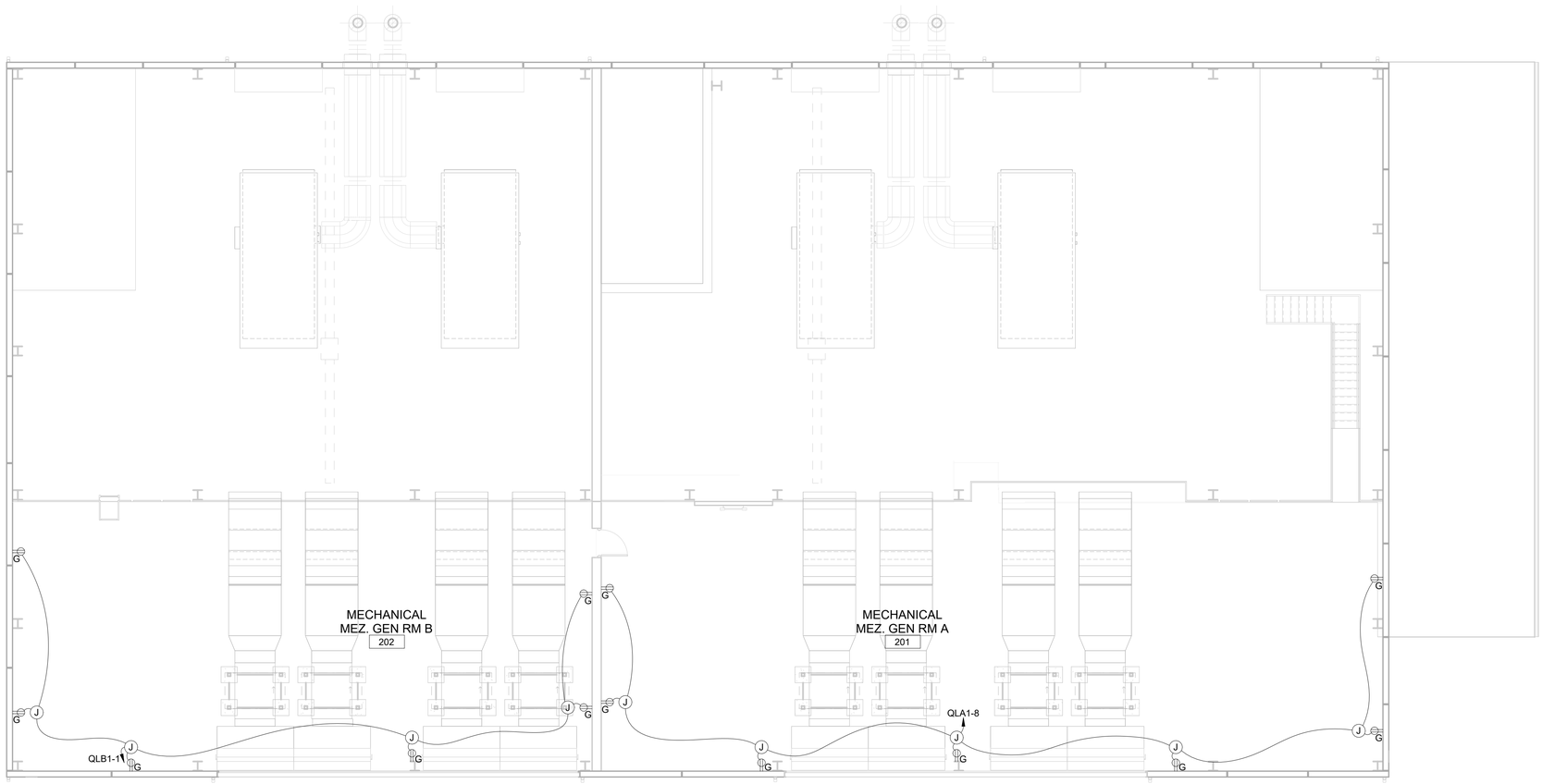
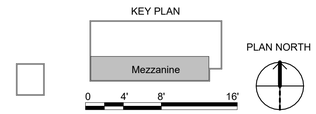


POWER PLAN MEZZANINE

A1 — 1/8" = 1'-0"



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POWER PLAN MEZZANINE

SHEET ID

EP102

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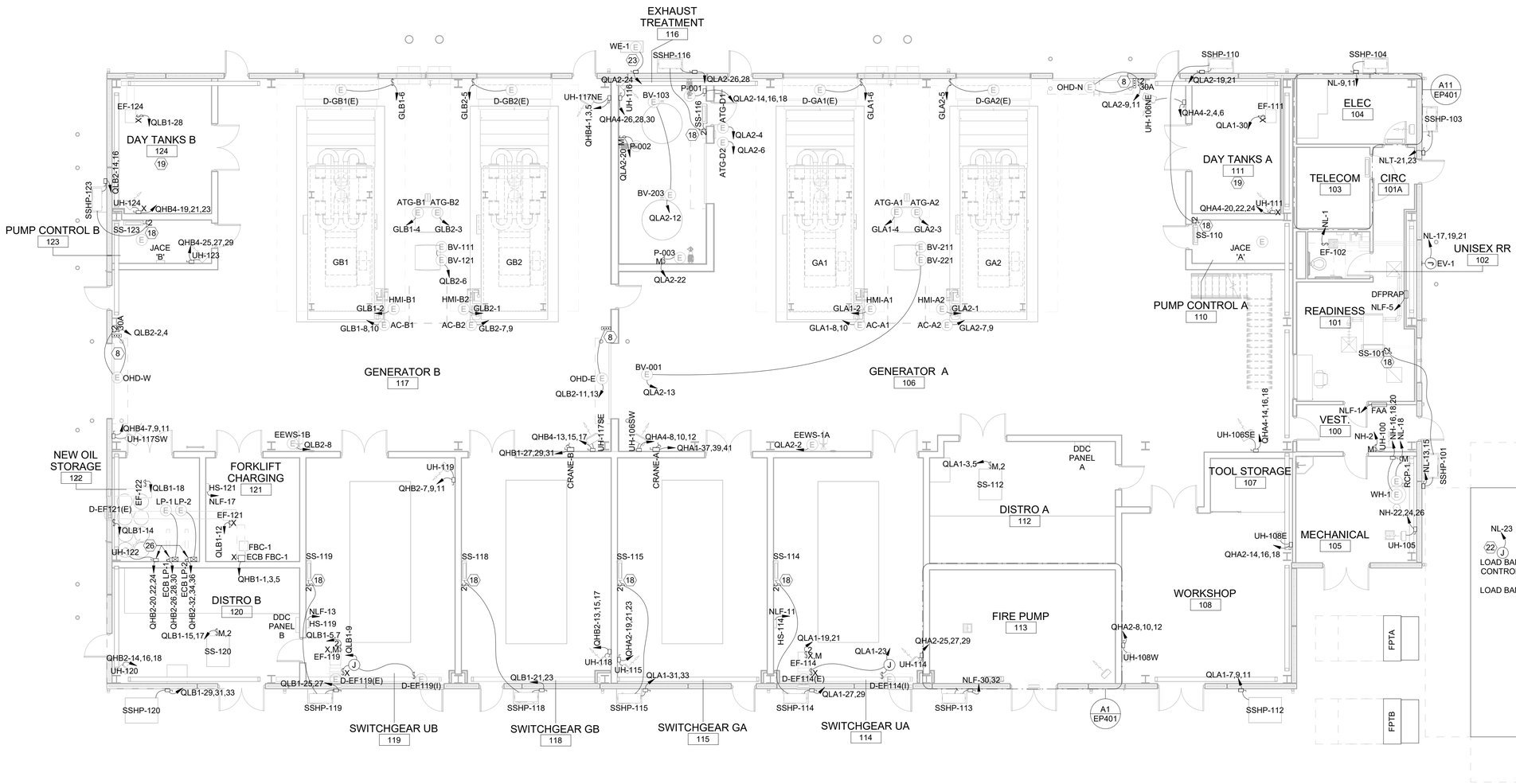
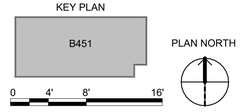


A1 EQUIPMENT POWER PLAN

1/8" = 1'-0"

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP001.

KEY PLAN



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EQUIPMENT POWER PLAN

SHEET ID

EP103

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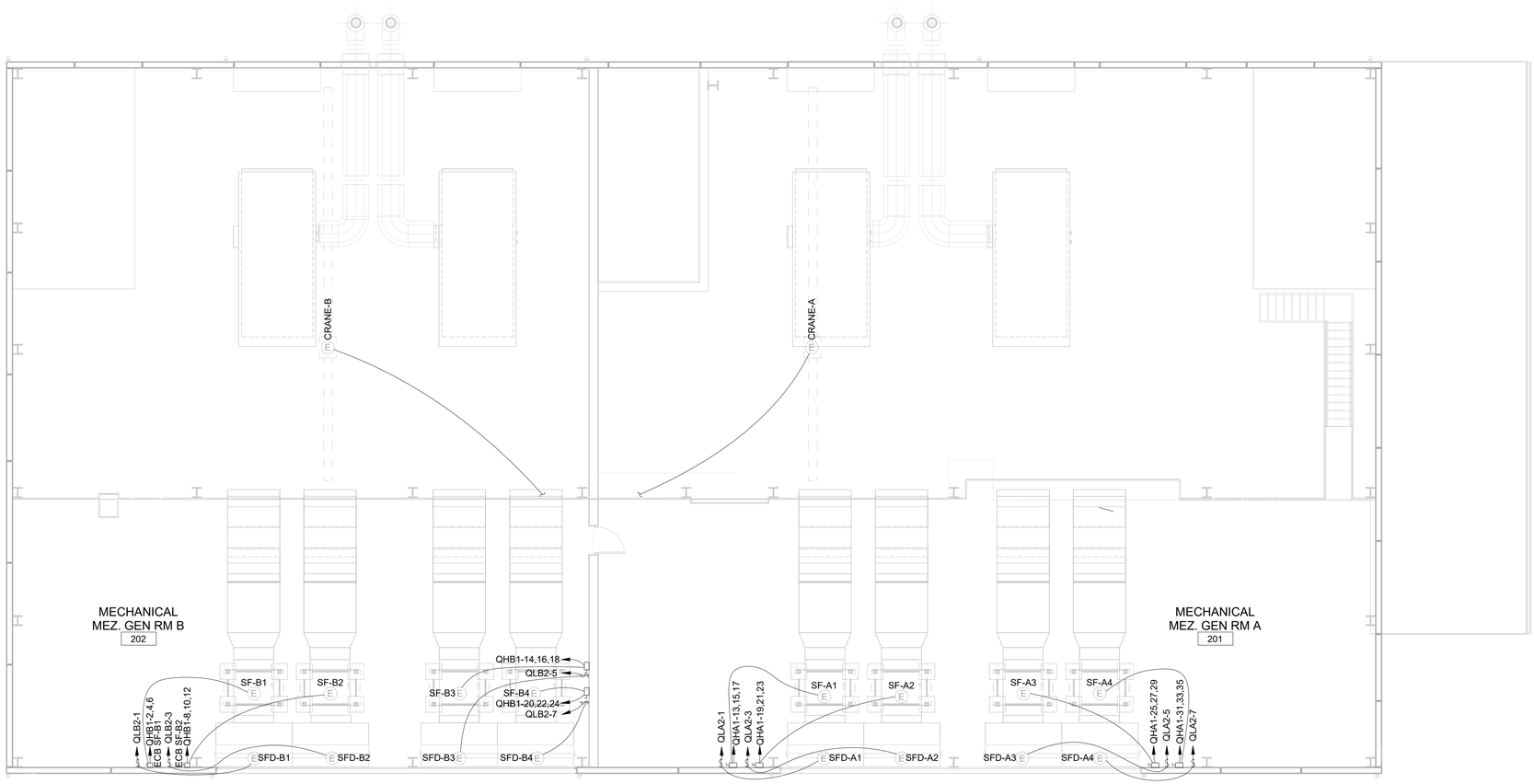
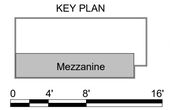


EQUIPMENT POWER PLAN MEZZANINE

A1 — 1/8" = 1'-0"

KEY PLAN



PLAN NORTH

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP001.

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EQUIPMENT POWER PLAN MEZZANINE

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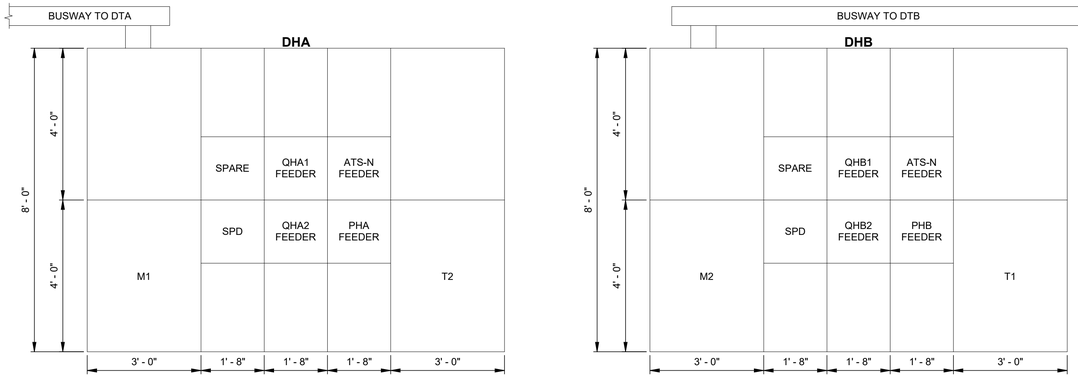
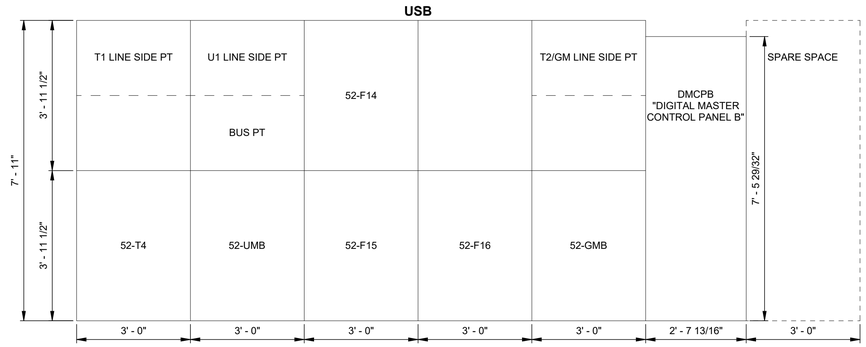
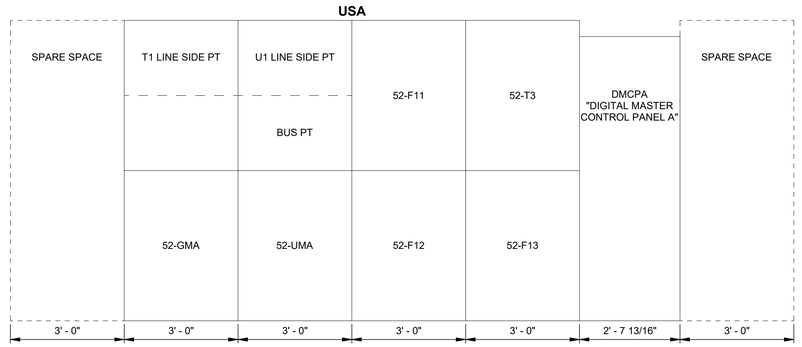


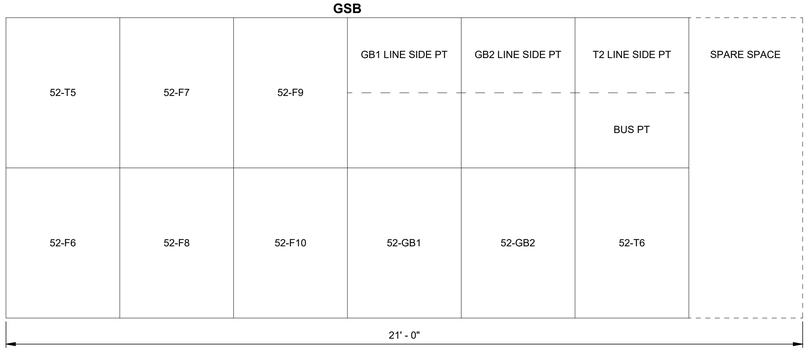
NOTES:
1. SWITCHBOARD LAYOUTS ARE CONCEPTUAL ONLY.
2. ALL CIRCUIT BREAKERS CONNECTED TO FEEDERS REQUIRED TO BE ROUTED UNDERGROUND SHALL BE GROUPED TOGETHER ON THE RIGHT SIDE OF THE EQUIPMENT (WHEN LOOKING AT THE FRONT OF THE EQUIPMENT) TO MINIMIZE THE IMPACT TO THE BUILDING FOUNDATION AND FOOTINGS FROM UNDERGROUND CONDUIT.

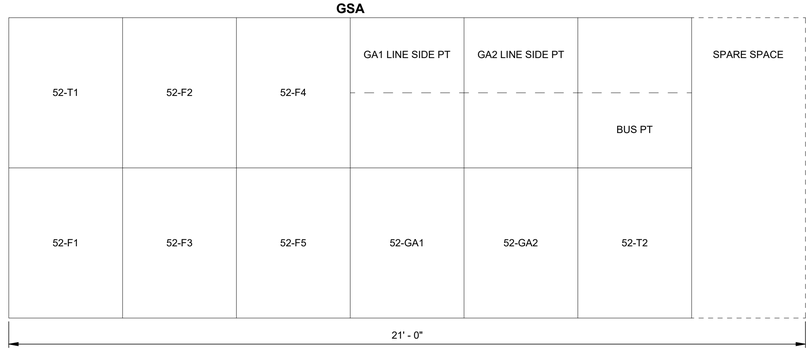
K4 SWITCHBOARD ELEVATIONS

SCALE: NTS









A4 SWITCHGEAR ELEVATIONS

SCALE: NTS

US Army Corps of Engineers ®

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ELECTRICAL ELEVATIONS

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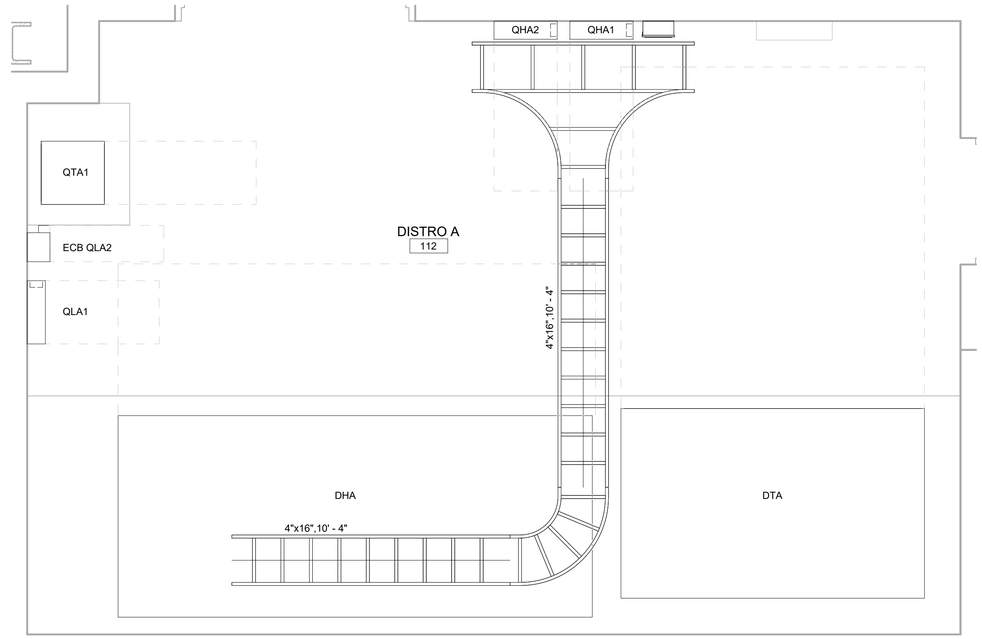
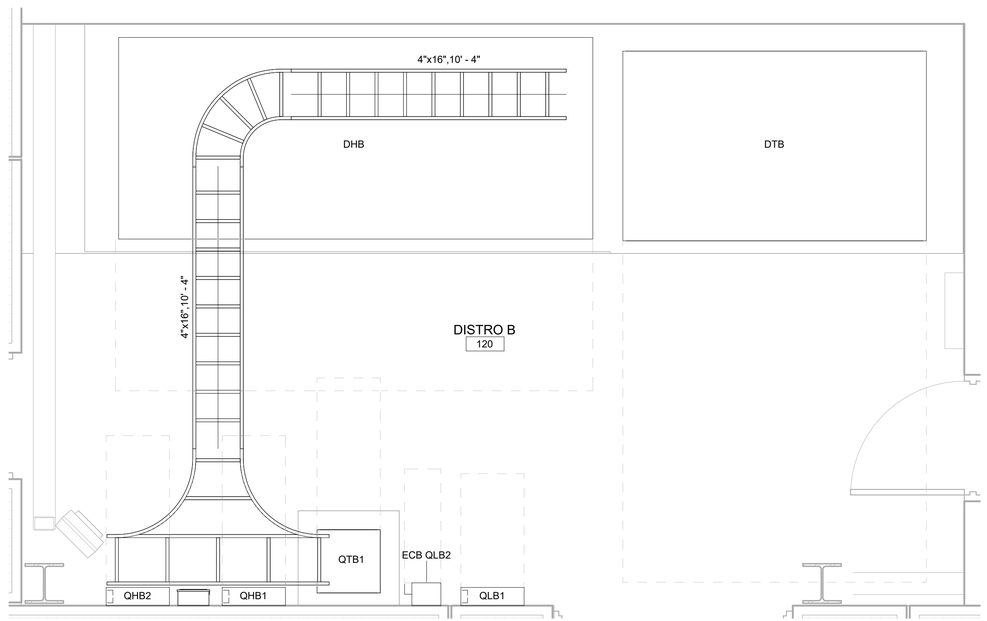
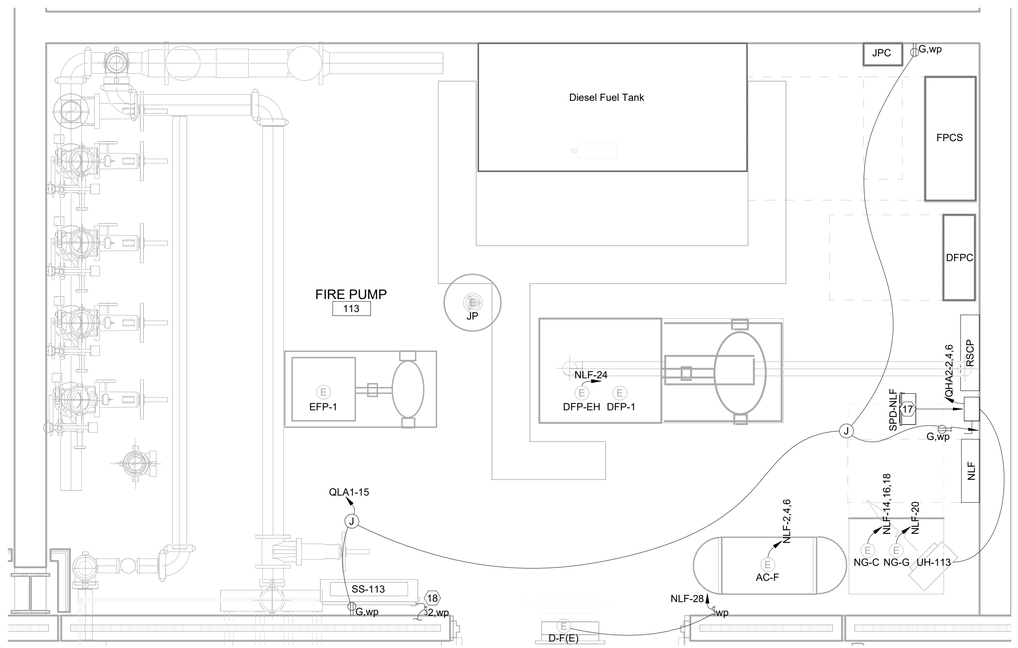


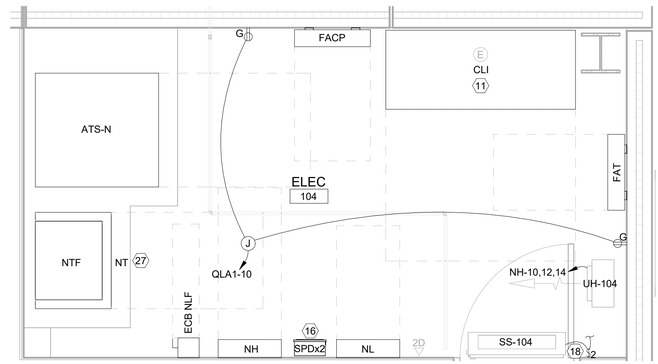
H1 ENLARGED GENERAL AND EQUIPMENT POWER PLAN
1/2" = 1'-0"

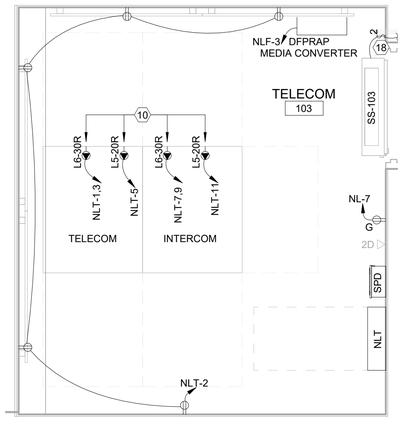


J11 ENLARGED GENERAL AND EQUIPMENT POWER PLAN
1/2" = 1'-0"



A1 ENLARGED GENERAL AND EQUIPMENT POWER PLAN
1/2" = 1'-0"





A11 ENLARGED GENERAL AND EQUIPMENT POWER PLAN
1/2" = 1'-0"

PLAN NORTH

0 1' 2' 4'

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP001.

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1616 CAPITOL AVE.
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ENLARGED GENERAL AND EQUIPMENT POWER PLAN

SHEET ID

EP401

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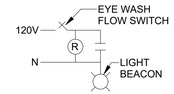
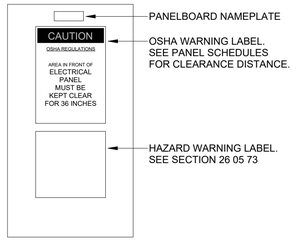
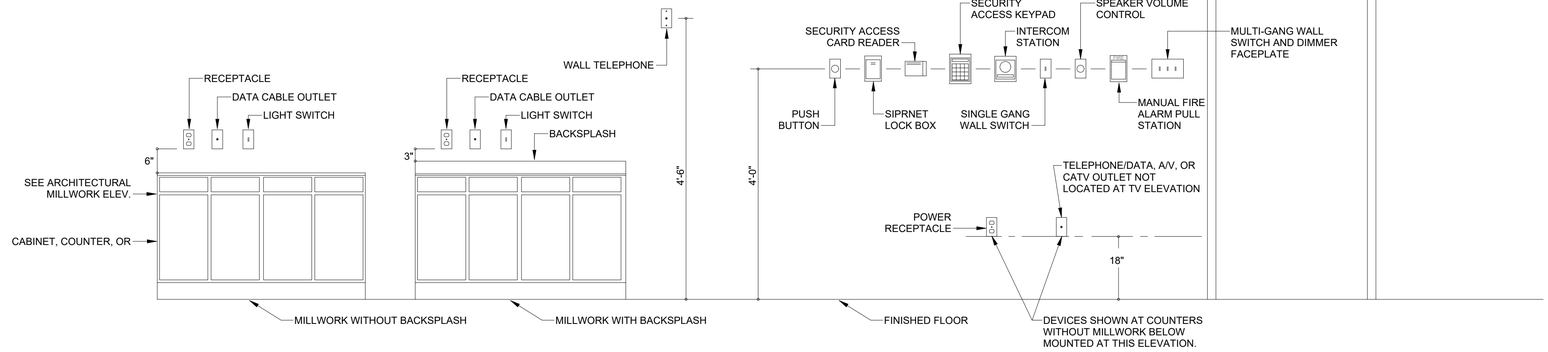


N3 EYE WASH RELAY
SCALE: NTS

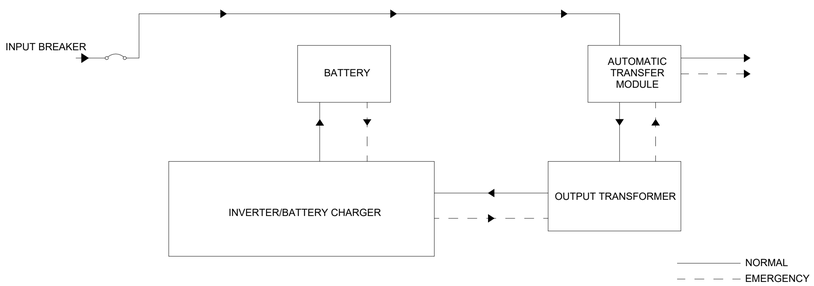


J3 PANELBOARD SIGN PLACEMENT
SCALE: NTS

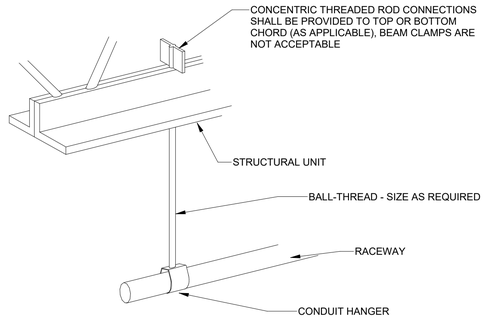
NOTES:
1. THESE MOUNTING HEIGHTS APPLY UNLESS SPECIFIED OR NOTED OTHERWISE ON DRAWINGS.
2. ADJUST MOUNTING HEIGHTS IN CMU CONSTRUCTION AS REQUIRED TO AVOID CUTTING MORE THAN ONE BLOCK.
3. COORDINATE DEVICE LOCATIONS WITH MILLWORK AND OWNER.
4. OUTLET DEVICES MUST NOT BE INSTALLED BACK TO BACK, A 6" MINIMUM OFFSET IS REQUIRED.



J8 DEVICE MOUNTING HEIGHTS
SCALE: NTS

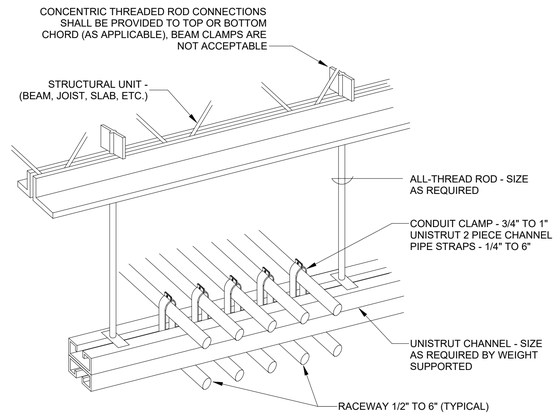


B3 CENTRALIZED LIGHTING INVERTER (CLI) SINGLE-LINE DIAGRAM
SCALE: NTS



NOTE: TIE WIRE SHALL NOT BE USED AS A COMPONENT OF ANY RACEWAY HANGER.

B9 SINGLE RACEWAY SUPPORT
SCALE: NTS



NOTE: TIE WIRE SHALL NOT BE USED AS A COMPONENT OF ANY RACEWAY HANGER.

B15 MULTIPLE RACEWAY SUPPORT
SCALE: NTS

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SUBMITTED BY:
AUTHORIZED BY:
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POWER INDEPENDENCE: MISSION CONTROL STATION

ELECTRICAL DETAILS

SHEET ID
EP500

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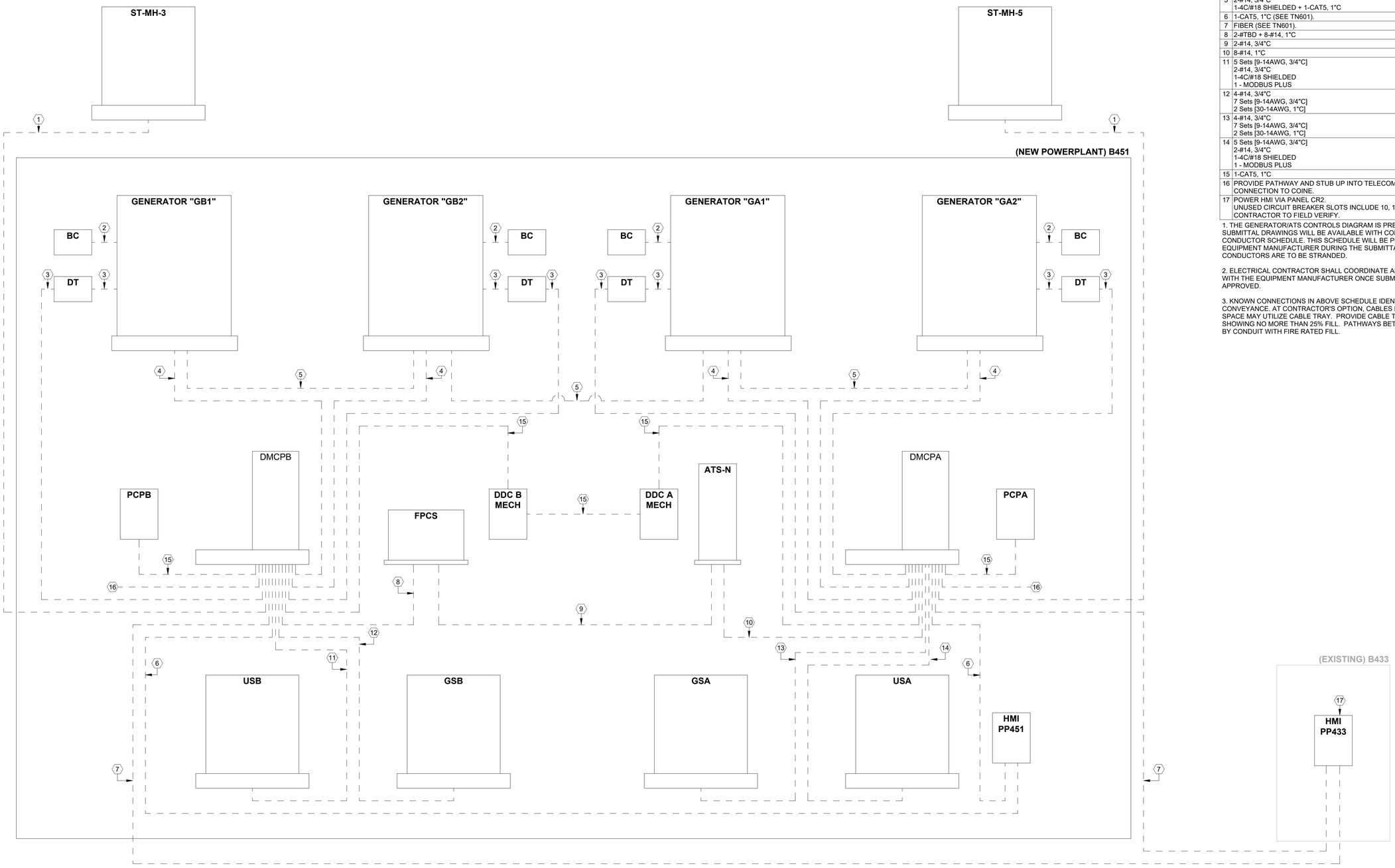

A1 GENERATOR CONTROLS DIAGRAM
SCALE: NTS

#	KEYNOTE - GENERATOR CONTROLS WIRING/CONDUIT
1	2 SETS [TBD 2"C]
2	2-#14, 3/4"C
3	2-#14, 3/4"C
4	18-#14, 1"C 2-#14, 3/4"C 1-4C/18 SHIELDED 4-#14, 3/4"C
5	2-#14, 3/4"C 1-4C/#18 SHIELDED + 1-CAT5, 1"C
6	1-CAT5, 1"C (SEE TN601).
7	FIBER (SEE TN601).
8	2-#TBD + 8-#14, 1"C
9	2-#14, 3/4"C
10	8-#14, 1"C
11	5 Sets [9-14AWG, 3/4"C] 2-#14, 3/4"C 1-4C/#18 SHIELDED 1 - MODBUS PLUS
12	4-#14, 3/4"C 7 Sets [9-14AWG, 3/4"C] 2 Sets [30-14AWG, 1"C]
13	4-#14, 3/4"C 7 Sets [9-14AWG, 3/4"C] 2 Sets [30-14AWG, 1"C]
14	5 Sets [9-14AWG, 3/4"C] 2-#14, 3/4"C 1-4C/#18 SHIELDED 1 - MODBUS PLUS
15	1-CAT5, 1"C
16	PROVIDE PATHWAY AND STUB UP INTO TELECOMMUNICATIONS ROOM FOR CONNECTION TO COINE.
17	POWER HMI VIA PANEL CR2. UNUSED CIRCUIT BREAKER SLOTS INCLUDE 10, 12, 14, 16, 18, OR 20. CONTRACTOR TO FIELD VERIFY.

1. THE GENERATOR/ATS CONTROLS DIAGRAM IS PRELIMINARY. FINAL SUBMITTAL DRAWINGS WILL BE AVAILABLE WITH COMPLETE POINT-TO-POINT CONDUCTOR SCHEDULE. THIS SCHEDULE WILL BE PROVIDED BY THE EQUIPMENT MANUFACTURER DURING THE SUBMITTAL PHASE. ALL CONTROLS CONDUCTORS ARE TO BE STRANDED.

2. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL FINAL CONNECTIONS WITH THE EQUIPMENT MANUFACTURER ONCE SUBMITTALS HAVE BEEN APPROVED.

3. KNOWN CONNECTIONS IN ABOVE SCHEDULE IDENTIFIED WITH CONDUIT CONVEYANCE. AT CONTRACTOR'S OPTION, CABLES ROUTED IN THE SAME SPACE MAY UTILIZE CABLE TRAY. PROVIDE CABLE TRAY FILL CALCULATIONS SHOWING NO MORE THAN 25% FILL. PATHWAYS BETWEEN ROOMS MUST BE BY CONDUIT WITH FIRE RATED FILL.

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1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

GENERATOR CONTROLS

SHEET ID

EP501

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GENERAL NOTES - EP600-EP609 SHEETS

1	FAULT CURRENT WITHSTAND AND INTERRUPTING CAPACITIES ARE MINIMUM. IF STANDARD RATINGS ARE GREATER, PROVIDE STANDARD RATING.
2	PROVIDE FULL LENGTH 100%-RATED NEUTRAL BAR AND A GROUNDING BAR IN EACH SECTION OF THE SWITCHBOARDS AND PANELBOARDS, UNLESS NEUTRAL IS INDICATED TO BE GREATER THAN THIS VALUE. PROVIDE MAIN BONDING JUMPER IN ACCORDANCE WITH NFPA 70 ARTICLE 250.
3	CONTRACTOR TO COORDINATE GENERATORS PARALLELING GEAR, MAIN SWITCHGEAR AND ATS CONTROLS CONNECTIONS AND REQUIREMENTS WITH EQUIPMENT VENDOR. IT IS THE RESPONSIBILITY OF THE PROVIDER OF ALL EQUIPMENT PROVIDED FOR THE INSTALLED CONDITION TO RESULT IN A FULL AND COMPLETE PARALLELING SYSTEM.
4	NOT ALL CIRCUITS ARE SHOWN ON ONE-LINE DIAGRAM. SEE PANEL SCHEDULES, MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE, AND LIGHTING AND POWER PLANS FOR ADDITIONAL INFORMATION. ONE-LINE DIAGRAM IS INTENDED TO DEPICT CONNECTIONS BETWEEN MAJOR DISTRIBUTION COMPONENTS, AND TO PROVIDE INFORMATION WHERE NOT INDICATED ELSEWHERE.
5	PROVIDE CABLE REDUCING ADAPTERS AS NECESSARY TO ACCOMMODATE CONDUCTORS INCREASED IN SIZE TO MITIGATE VOLTAGE DROP. CONTRACTOR TO PROVIDE ADAPTER KIT TO DOWNSIZE THE CONDUCTORS PRIOR TO ENTERING THE PANEL AND CONNECTING THE LUGS OR CONTRACTOR CAN CHOOSE TO USE A BIGGER PANEL FRAME.
6	SEE POWER PLANS (EP100 AND EP400 SERIES), DRY-TYPE TRANSFORMER SCHEDULE (EP600), MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE (EP610-EP619), AND PANEL SCHEDULES (EP620-EP659) FOR EQUIPMENT NEMA ENCLOSURE RATINGS NOT LISTED ON ONE-LINE DIAGRAM.
7	NOT ALL INFORMATION SHOWN ON THIS DIAGRAM (SPARE CIRCUIT BREAKERS, LOCKABLE BREAKERS, GFCI BREAKERS, MCB TRIP RATINGS, ETC.). REFERENCE PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
8	CONDUIT SEALOFFS NOT IDENTIFIED ON THIS DIAGRAM. PROVIDE CONDUIT SEALOFFS WHERE REQUIRED IN HAZARDOUS AREAS BY NFPA 70. COORDINATE WITH SHEET E-101.
9	FAULT CURRENTS LISTED ASSUME 9,000A AVAILABLE FAULT CURRENT AT THE POINT OF CONNECTION TO ST-MH-3 AND ST-MH-5. CONTRACTOR TO COORDINATE AVAILABLE FAULT CURRENT WITH BASE UTILITY PROVIDER FOR USE WITH 26 05 73 POWER SYSTEM STUDIES. CONTRACTOR SHALL ADJUST EQUIPMENT SHORT CIRCUIT RATINGS ACCORDING TO STUDY RESULTS, BUT SHALL NOT BE LESS THAN THE MINIMUM VALUES STATED IN THE PLANS AND SPECIFICATIONS.
10	REFERENCE SHEET EP620 FOR CIRCUIT NOTES, HEADING DEFINITIONS, INSTRUCTIONS AND ADDITIONAL NOTES.
11	UPON 10 MONTHS POST-COMPLETION OF PROJECT, ELECTRICAL CONTRACTOR MUST PERFORM INFRARED TESTING OF ALL CONNECTIONS OF EQUIPMENT SHOWN. ELECTRICAL CONTRACTOR SHALL RE-TORQUE ANY LOOSE CONNECTIONS FOUND.
12	PROVIDE A MINIMUM 25% SPARE CONDUIT QUANTITY WITH MEDIUM VOLTAGE LINES THAT EXTEND OUTSIDE OF THE BUILDING FOOTPRINT AND POWER LINES OF ANY VOLTAGE WHICH TRAVERSE UNDERGROUND TO THE FILTER SHELTER.

(#) KEYNOTES - EP600 SHEETS

1	EXISTING 4.160KV TRANSFORMER TO BE REPLACED WITH THIS TRANSFORMER. SEE ES AND UD SERIES SHEETS FOR MORE DETAILS. SEE EP600 FOR TRANSFORMER DETAILS.
2	EXISTING SWITCH AND CONNECTIONS TO BE REMOVED DURING PHASING AND RECONNECTING OF POWER TO B442. SEE ES AND UD SERIES SHEETS FOR MORE DETAILS.
3	POWER METER. SEE POINTS ON SHEET MH702.
4	PROTECTIVE RELAY. SEE SPECIFICATION 26 13 13 FOR FURTHER DETAILS.
5	COMBINATION OF NEW CONDUIT AND EXISTING PATHWAYS. SEE ES AND UD SERIES SHEETS FOR MORE DETAILS.
6	INSTALL FEEDERS IN ACCORDANCE WITH NFPA 70 §695.6(A) FROM SWITCHGEAR THROUGH TO EFP-1.
7	REMOTE OPERABLE MOTORIZED BREAKER. SEE SPECIFICATIONS FOR DETAILS.
8	THE COMBINATION FIRE PUMP CONTROLLER/TRANSFER SWITCH SIZE IDENTIFIED ON THE CONTRACT DRAWINGS IS BASED ON PRELIMMINARY CALCULATIONS. SIZE THE COMBINATION FIRE PUMP CONTROLLER/TRANSFER SWITCH TO MATCH THE FIRE PUMP SIZE YIELDED BY THE PERFORMANCE REQUIREMENTS OF THIS CONTRACT'S PLANS AND SPECIFICATIONS. PROVIDE FIRE PUMP SYSTEM IDENTIFICATION PER NFPA 70 ARTICLE 695.
9	LOAD BANK AND LOAD BANK CONDUCTORS AND PATHWAY PROVIDED AS PART OF "LOAD BANK" CLIN. CONCRETE HOUSEKEEPING PAD TO BE PART OF CLIN "ALL OTHER SITE WORK." CAP STUB-UPS IF LOAD BANK EQUIPMENT OPTION IS NOT AWARDED WITH A MECHANICAL PLUG.
10	MTS TO BE PROVIDED WITH RELAY OUTPUT TO PUMP CONTROL PANEL. SEE SPECIFICATIONS AND EF SERIES SHEETS FOR DETAILS.
11	TWO 4" CONDUIT SHALL BE INSTALLED UNDERGROUND TO THE EXTERIOR OF THE BUILDING. CONDUIT SHALL BE INSTALLED WITH PULLWIRE. REFER TO ELECTRICAL SITE SHEETS FOR ADDITIONAL INFORMATION.
12	PROVIDE RED LOCK-ON TYPE CIRCUIT BREAKER.
13	PROVIDE A LABEL WITH THE FOLLOWING INSCRIPTION: "FIRE PROTECTION/LIFE SAFETY EQUIPMENT". CONSTRUCT AND FASTEN THE LABEL IDENTICAL TO THE EQUIPMENT NAMEPLATE, EXCEPT THE LABEL MUST BE RED LAMINATED PLASTIC WITH WHITE CENTER CORE.
14	MANHOLE PROVIDED BY CONCURRENT CONSTRUCTION PROJECT "ERCIP ENERGY RESILIENCE: CONSTRUCT REDUNDANT SURVEILLANCE REDUNDANT ELECTRICAL SUPPLY " (SOLICITATION NO. W9128F24R0066). CONTRACTOR TO COORDINATE DE-ENERGIZATION OF PRIMARY FEEDERS TO PROCEED WITH DISCONNECTION OF LOOP WITHIN MANHOLE, INSTALLATION OF ELECTRICAL SWITCH ON MANHOLE, AND TERMINATION OF THE EXISTING FEEDERS AND THE NEW FEEDERS INTO THE SWITCH COMPARTMENTS IDENTIFIED ON THE ONE-LINE DIAGRAM, TEST, AND RE-ENERGIZE.
E	SEE ENCLOSED CIRCUIT BREAKER SCHEDULE ON SHEET EP600 FOR PROPERTIES.
MG	BOND GROUND CONDUCTORS TO MANHOLE GROUND LOOP/ELECTRODE SYSTEM. PROVIDE GROUND ROD IN MANHOLE. SEE MANHOLE DETAIL(S).
OH	FEEDER SHALL BE ROUTED OVERHEAD IN CABLE TRAY.
P	SEE PANEL/SWITCHBOARD SCHEDULE FOR PROPERTIES.
T	SEE TRANSFORMER SCHEDULES ON SHEET EP600 FOR PROPERTIES.
UG	FEEDER SHALL BE ROUTED UNDERGROUND. COORDINATE CONDUIT INSTALLATION WITH STRUCTURAL FOUNDATION CONSTRUCTION TO ENSURE HORIZONTAL PORTIONS OF CONDUIT ARE INSTALLED BELOW FOOTING DEPTHS PRIOR TO POURING.

ENCLOSED CIRCUIT BREAKER SCHEDULE

				EQUIPMENT PROPERTIES								DOWNSTREAM CIRCUIT PROPERTIES					
TAG	LOCATION	SUPPLY FROM	VOLTS	ENCLOSURE	FAULT DUTY (MIN.)	EQPT FRAME	CB RATING	CKT NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT	REMARKS
ECB QLA2	DISTRO A 112	112 XFMR QTA2	208 V	NEMA 1	10kA	250 A	250 A	--	No	Std	Yes	3	No	3	75	4-350KCMIL, #2 G, 3"C	--
ECB QLB2	DISTRO B 120	120 XFMR QTB2	208 V	NEMA 1	10kA	250 A	250 A	--	No	Std	Yes	3	No	3	75	4-350KCMIL, #2 G, 3"C	--
ECB FBC-1	FORKLIFT CHARGING 121	QHB1	480 V	NEMA 7	22kA	60 A	60 A	--	No	Std	Yes	2	Yes	3	--	--	ENCLOSED CIRCUIT BREAKER SERVES AS PROVISION FOR FUTURE GOVERNMENT-FURNISHED CHARGING EQUIPMENT.
ECB LP-1	NEW OIL STORAGE 122	QHB2	480 V	NEMA 1	22kA	60 A	15 A	B	No	Std	No	3	No	3	75	3-#12, #12 G, 3/4"C	--
ECB LP-2	NEW OIL STORAGE 122	QHB2	480 V	NEMA 1	22kA	60 A	15 A	B	No	Std	No	3	No	3	75	3-#12, #12 G, 3/4"C	--
ECB SF-B1	MECHANICAL MEZ. GEN RM B 202	QHB1	480 V	NEMA 1	22kA	100 A	90 A	B	No	Std	No	3	Yes	3	75	3-#6, #8 G, 1"C	--
ECB SF-B2	MECHANICAL MEZ. GEN RM B 202	QHB1	480 V	NEMA 1	22kA	100 A	90 A	B	No	Std	No	3	Yes	3	75	3-#6, #8 G, 1"C	--
ECB IP-F2	FILTER SHELTER	FILTER SHELTER ATS-PB	480 V	NEMA 3R	14kA	60 A	20 A	B,L	No	Std	Yes	2	No	3	75	3-#12, #12 G, 3/4"C	--
ECB IP-F3	FILTER SHELTER	FILTER SHELTER ATS-PA	480 V	NEMA 3R	14kA	60 A	20 A	B,L	No	Std	Yes	2	No	3	75	3-#12, #12 G, 3/4"C	--
ECB NLF	ELEC 104	104 XFMR NTF	208 V	NEMA 1	10kA	150 A	150 A	E,V	No	Std	Yes	3	Yes	5	75	3-250KCMIL, 2-250KCMIL N, #2 G, 3"C	--

ENCLOSED CIRCUIT BREAKER NOTES
1. WHERE NEUTRAL CONDUCTOR IS PROVIDED, THE NEUTRAL SHALL BE SWITCHED.

TRANSFORMER SCHEDULE GENERAL NOTES

1	CONTRACTOR MUST SIZE THE TRANSFORMER OVERCURRENT PROTECTION (INCLUDING DEVICE FRAME) PER SPECIFICATION 26 05 73 RECOMMENDATIONS AT NO ADDITIONAL COST TO THE GOVERNMENT.
2	BOND TRANSFORMER TO GROUNDING GRID WITH MINIMUM-SIZED GROUNDING ELECTRODE SHOWN IN SCHEDULE.
3	WHERE FEEDERS HAVE BEEN INCREASED IN SIZE TO ACCOUNT FOR VOLTAGE DROP AND/OR AMPACITY CORRECTION FACTORS TO THE DEGREE THAT THE FEEDERS ARE LARGER THAN THE EQUIPMENT TERMINALS, PROVIDE APPROPRIATELY-SIZED CABLE REDUCING ADAPTERS.
4	TRANSFORMER SCHEDULE DOES NOT INCLUDE DRIVE ISOLATION TRANSFORMERS.
5	ENCLOSURE RATINGS LISTED ARE MINIMUM RATINGS WITH RESPECT TO DUST AND LIQUID INGRESS.

MEDIUM- TO LOW-VOLTAGE OIL-FILLED TRANSFORMER SCHEDULE

			PRIMARY					SECONDARY										
TAG	SIZE (kVA)	LOCATION	SYSTEM	AMPS	CIRCUIT	MCIT	CCC	ATZ	CKT NOTES	SYSTEM	AMPS	CIRCUIT	MCIT	CCC	NLL	ATZ	CKT NOTES	MIN. GND ELECTRODE	MOUNTING LOCATION	ENCLOSURE RATING (MINIMUM)	REMARKS
FPTA	45	EXTERIOR	13200V	2 A	3-#2, #6 G, 4"C (15kV AL 133% INSULATION) (1) 4" SPARE CONDUIT	MV-105	3	2	F,P	480Y/277V	54 A	4-#4, 1-1/2"C (1) 1-1/2" SPARE CONDUIT	75	3	No	2	P	#4	GROUND/CONCRETE PAD	NEMA 3R	SEE SECTION 26 12 19.10 SUBMITTAL PHASING AND COORDINATION REQUIREMENT AS IT RELATES TO TRANSFORMER AND SUPPORTING INFRASTRUCTURE SIZING. PROVIDE A LABEL WITH THE FOLLOWING INSCRIPTION: "FIRE PROTECTION/LIFE SAFETY EQUIPMENT". CONSTRUCT AND FASTEN THE LABEL IDENTICAL TO THE EQUIPMENT NAMEPLATE, EXCEPT THE LABEL MUST BE RED LAMINATED PLASTIC WITH WHITE CENTER CORE.
FPTB	45	EXTERIOR	13200V	2 A	3-#2, #6 G, 4"C (15kV AL 133% INSULATION) (1) 4" SPARE CONDUIT	MV-105	3	2	F,P	480Y/277V	54 A	4-#4, 1-1/2"C (1) 1-1/2" SPARE CONDUIT	75	3	No	2	P	#4	GROUND/CONCRETE PAD	NEMA 3R	SEE SECTION 26 12 19.10 SUBMITTAL PHASING AND COORDINATION REQUIREMENT AS IT RELATES TO TRANSFORMER AND SUPPORTING INFRASTRUCTURE SIZING. PROVIDE A LABEL WITH THE FOLLOWING INSCRIPTION: "FIRE PROTECTION/LIFE SAFETY EQUIPMENT". CONSTRUCT AND FASTEN THE LABEL IDENTICAL TO THE EQUIPMENT NAMEPLATE, EXCEPT THE LABEL MUST BE RED LAMINATED PLASTIC WITH WHITE CENTER CORE.
OTM	30	OFFLOAD	13200V	1 A	3-#2, #6 G, 4"C (15kV AL 133% INSULATION) (1) 4" SPARE CONDUIT	MV-105	3	2	P	480Y/277V	36 A	4-1/0, 1-1/2"C (1) 1-1/2" SPARE CONDUIT	75	3	No	2	P	#6	GROUND/CONCRETE PAD	NEMA 3R	PROVIDE POWER METER AT TRANSFORMER.
T442A(TECH)	1500	B442 EXTERIOR	13200V	66 A	3-4/0, #1 G, 4"C (15kV AL 133% INSULATION) (1) 4" SPARE CONDUIT	MV-105	3	2	P	480Y/277V	1803 A	RECONNECT EXISTING FEEDERS: SEE 26 13 13 ATTACHMENT AND FIELD VERIFY	--	--	--	2	P	3/0	GROUND/CONCRETE PAD	NEMA 3R	--
T442B(TECH)	1500	B442 EXTERIOR	13200V	66 A	3-4/0, #1 G, 4"C (15kV AL 133% INSULATION) (1) 4" SPARE CONDUIT	MV-105	3	2	P	480Y/277V	1803 A	RECONNECT EXISTING FEEDERS: SEE 26 13 13 ATTACHMENT AND FIELD VERIFY	--	--	--	2	P	3/0	GROUND/CONCRETE PAD	NEMA 3R	--
T442C(MECH)	1000	B442 EXTERIOR	13200V	44 A	3-4/0, #1 G, 4"C (15kV AL 133% INSULATION) (1) 4" SPARE CONDUIT	MV-105	3	2	P	480Y/277V	1202 A	RECONNECT EXISTING FEEDERS: SEE 26 13 13 ATTACHMENT AND FIELD VERIFY	--	--	--	2	P	3/0	GROUND/CONCRETE PAD	NEMA 3R	--
T442D(MECH)	1000	B442 EXTERIOR	13200V	44 A	3-4/0, #1 G, 4"C (15kV AL 133% INSULATION) (1) 4" SPARE CONDUIT	MV-105	3	2	P	480Y/277V	1202 A	RECONNECT EXISTING FEEDERS: SEE 26 13 13 ATTACHMENT AND FIELD VERIFY	--	--	--	2	P	3/0	GROUND/CONCRETE PAD	NEMA 3R	--

MEDIUM- TO LOW-VOLTAGE DRY-TYPE TRANSFORMER SCHEDULE

			PRIMARY					SECONDARY										
TAG	SIZE (kVA)	LOCATION	SYSTEM	AMPS	CIRCUIT	MCIT	CCC	ATZ	CKT NOTES	SYSTEM	AMPS	CIRCUIT	MCIT	CCC	NLL	ATZ	CKT NOTES	MIN. GND ELECTRODE	MOUNTING LOCATION	ENCLOSURE RATING (MINIMUM)	REMARKS
DTA	750	DISTRO A 112	13200V	33 A	3-4/0, #1 G, 4"C (15kV AL 133% INSULATION)	MV-105	3	0	--	480Y/277V	902 A	1200A BUSWAY (REFER TO 26 20 00; 4P+G)	90	4	Yes	0	--	4/0	FLOOR/CONCRETE PAD	NEMA 1	--
DTB	750	DISTRO B 120	13200V	33 A	3-4/0, #1 G, 4"C (15kV AL 133% INSULATION)	MV-105	3	0	--	480Y/277V	902 A	1200A BUSWAY (REFER TO 26 20 00; 4P+G)	90	4	Yes	0	--	4/0	FLOOR/CONCRETE PAD	NEMA 1	--

LOW- TO LOW-VOLTAGE DRY-TYPE TRANSFORMER SCHEDULE

				PRIMARY		SECONDARY											
TAG	SIZE (kVA)	LOCATION	SUPPLY FROM	SYSTEM	AMPS	SYSTEM	AMPS	CIRCUIT	MCIT	CCC	NLL	ATZ	CKT NOTES	MIN. GND ELECTRODE	SYS. BOND. JUMPER	MOUNTING LOCATION	ENCLOSURE RATING (MINIMUM)	HARMONIC TREATMENT	REMARKS
NT	45	ELEC 104	NH	480V	54 A	208Y/120V	125 A	3-3/0, 500KCMIL N, #4 SSBJ, 3"C	75	4	Yes	0	--	#4	#4	FLOOR/CONCRETE PAD	NEMA 1	K-13	--
NTF	45	ELEC 104	NH	480V	54 A	208Y/120V	125 A	3-250KCMIL, 2-250KCMIL N, #2 SSBJ, 3"C	75	5	Yes	0	V	#2	#2	WALL/ELEVATED	NEMA 1	K-4	PROVIDE A LABEL WITH THE FOLLOWING INSCRIPTION: "FIRE PROTECTION/LIFE SAFETY EQUIPMENT". CONSTRUCT AND FASTEN THE LABEL IDENTICAL TO THE EQUIPMENT NAMEPLATE, EXCEPT THE LABEL MUST BE RED LAMINATED PLASTIC WITH WHITE CENTER CORE.
OTL	15	OFFLOAD	OH	480V	18 A	208Y/120V	42 A	4-#4, #8 SSBJ, 1"C	75	3	No	2	P	#6	#6	GROUND/CONCRETE PAD	NEMA 3R	K-1	--
PT	15	FILTER SHELTER	PH	480V	18 A	208Y/120V	42 A	4-#6, #8 SSBJ, 1-1/4"C	75	3	No	2	--	#6	#6	GROUND/CONCRETE PAD	NEMA 3R	K-1	--
PTA	15	FILTER SHELTER	PHA	480V	18 A	208Y/120V	42 A	4-#6, #8 SSBJ, 1-1/4"C	75	3	No	2	--	#6	#6	GROUND/CONCRETE PAD	NEMA 3R	K-1	--
PTB	15	FILTER SHELTER	PHB	480V	18 A	208Y/120V	42 A	4-#6, #8 SSBJ, 1-1/4"C	75	3	No	2	--	#6	#6	GROUND/CONCRETE PAD	NEMA 3R	K-1	--
QTA1	45	DISTRO A 112	QHA1	480V	54 A	208Y/120V	125 A	4-1/0, #6 SSBJ, 2"C	75	3	No	0	--	#6	#6	WALL/ELEVATED	NEMA 1	K-1	--
QTA2	75	DISTRO A 112	QHA2	480V	90 A	208Y/120V	208 A	4-250KCMIL, #2 SSBJ, 3"C	75	3	No	0	--	#2	#2	FLOOR/CONCRETE PAD	NEMA 1	K-1	--
QTB1	45	DISTRO B 120	QHB1	480V	54 A	208Y/120V	125 A	4-1/0, #6 SSBJ, 2"C	75	3	No	0	--	#6	#6	WALL/ELEVATED	NEMA 1	K-1	--
QTB2	75	DISTRO B 120	QHB2	480V	90 A	208Y/120V	208 A	4-250KCMIL, #2 SSBJ, 3"C	75	3	No	0	--	#2	#2	FLOOR/CONCRETE PAD	NEMA 1	K-1	--

FOR GENERAL NOTES, AND KEYNOTES, SEE SHEET EP600. SEE EP501 FOR GENERATOR CONTROLS DIAGRAM.

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MARK	DESCRIPTION	DATE

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Plot Date: 6/30/2025 1:18:16 PM

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: S.JACOBSEN
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ELECTRICAL ONE-LINE DIAGRAM NOTES AND SCHEDULES

SHEET ID

EP600

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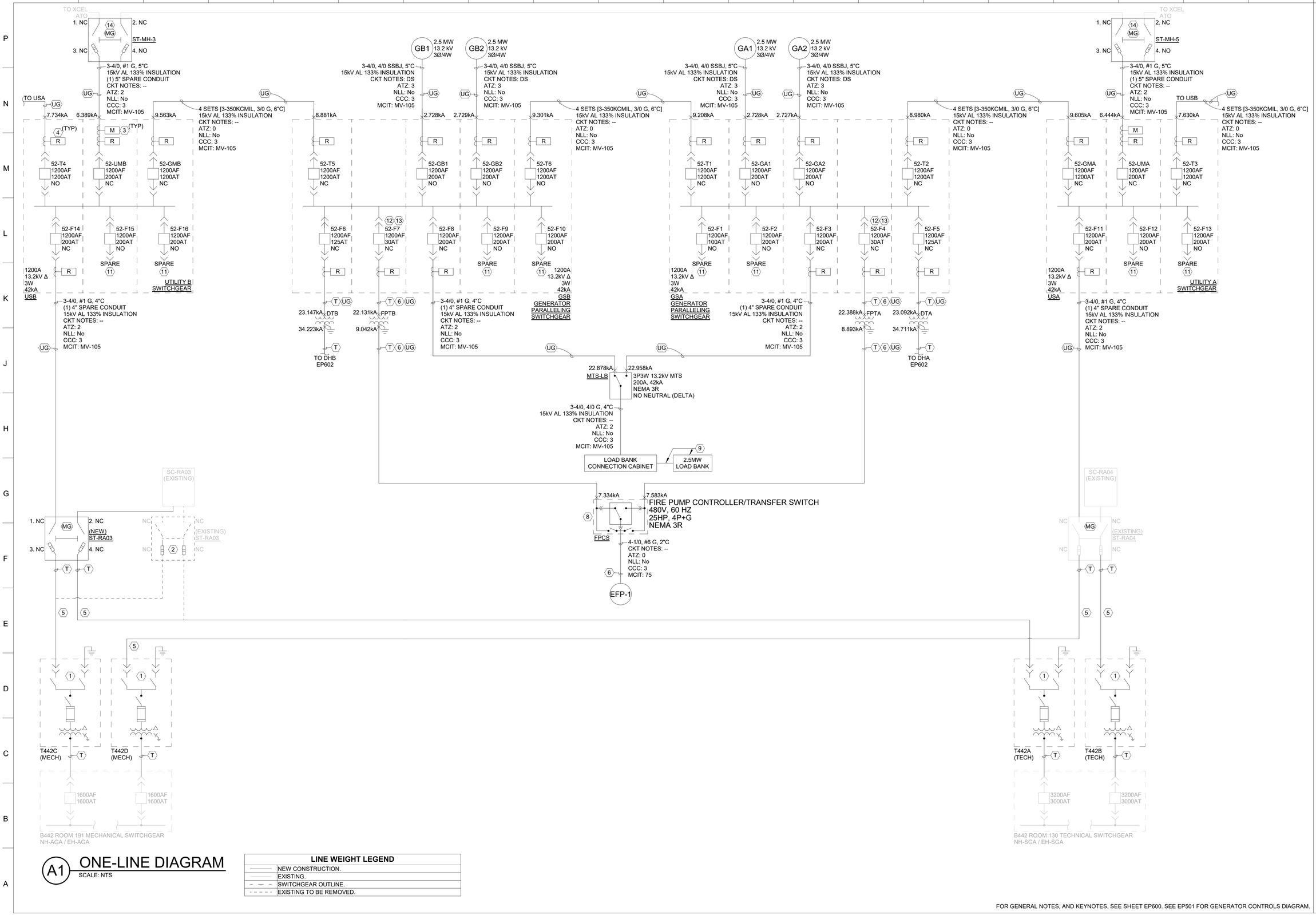

A1 ONE-LINE DIAGRAM

SCALE: NTS

LINE WEIGHT LEGEND	
———	NEW CONSTRUCTION.
———	EXISTING.
– — –	SWITCHGEAR OUTLINE.
- - - -	EXISTING TO BE REMOVED.

FOR GENERAL NOTES, AND KEYNOTES, SEE SHEET EP600. SEE EP501 FOR GENERATOR CONTROLS DIAGRAM.

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MARK	DESCRIPTION	DATE

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Plot Date: 7/2/2025 7:57:13 AM

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: R.ADAMS
SUBMITTED BY: S.LINDGREN
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

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ONE-LINE DIAGRAM 2N

SHEET ID

EP601

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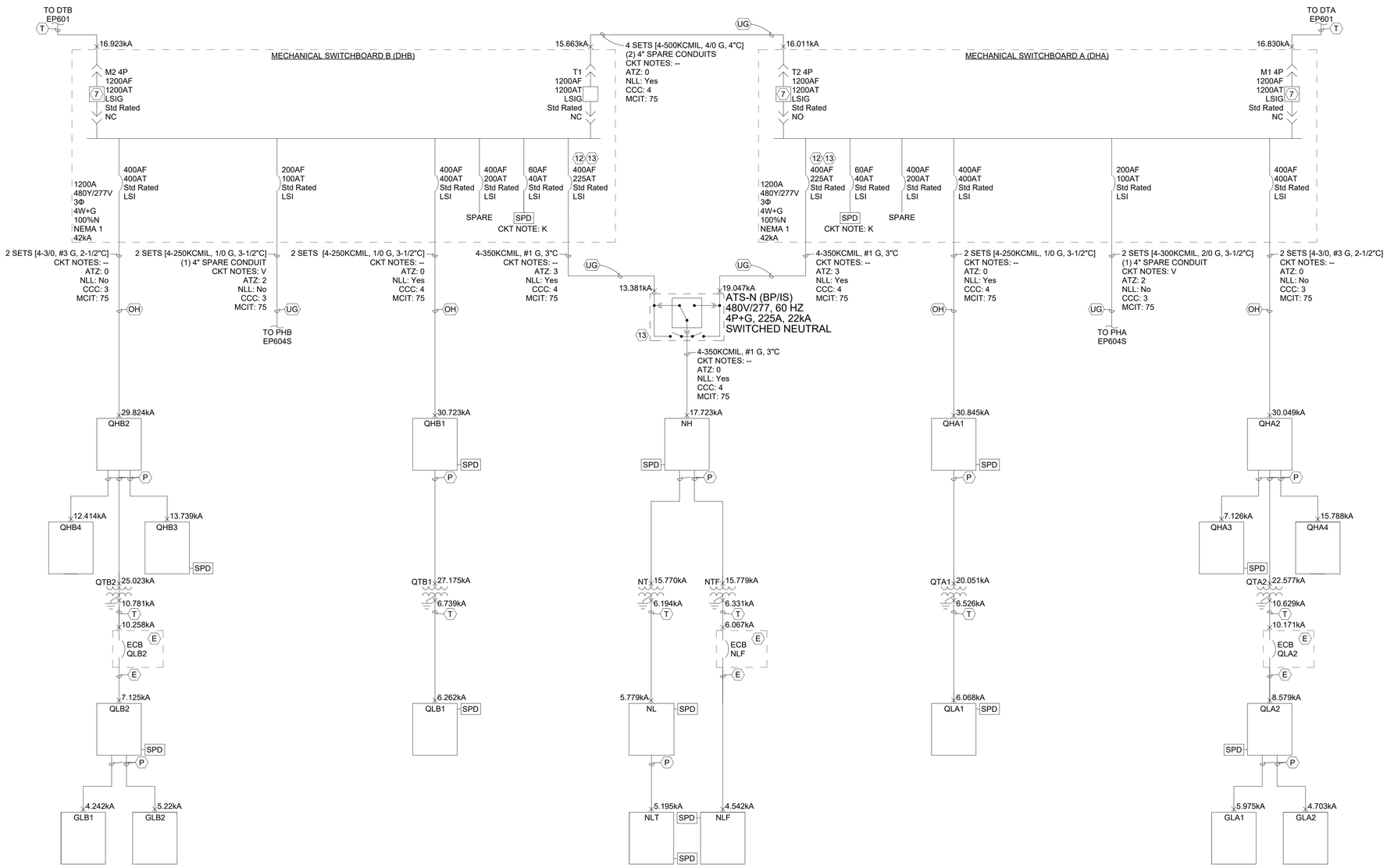

A1 ONE-LINE DIAGRAM (CONTINUED)

SCALE: NTS

FOR GENERAL NOTES, AND KEYNOTES, SEE SHEET EP600. SEE EP501 FOR GENERATOR CONTROLS DIAGRAM.

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
SUBMITTED N
SIZE: ANSI D
FILE NAME: BUCC000102_DM_ME.rvt

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POWER INDEPENDENCE, MISSION CONTROL STATION

ONE-LINE DIAGRAM 2N

SHEET ID

EP602

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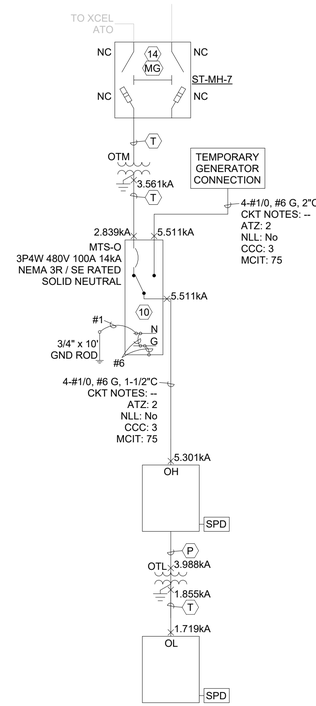

F15 ONE-LINE DIAGRAM: OFFLOAD

SCALE: NTS

FOR TRANSFORMER SCHEDULES, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP600.

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MARK	DESCRIPTION	DATE

File Path: C:\Users\gfeldeen\Documents\BUCO00102_DM_ME_gfeldeen.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.MORTEN
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

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ONE-LINE DIAGRAM OFFLOAD

SHEET ID

EP603

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EQUIPMENT ELECTRICAL CONNECTION SCHEDULES KEY

EQUIPMENT ELECTRICAL CONNECTION SCHEDULE - < CONTRACTOR-FURNISHED, CONTRACTOR-INSTALLED: CONTRACTOR-PROVIDED EQUIPMENT, CONTRACTOR IS RESPONSIBLE FOR PROVIDING ELECTRICAL SUPPORT REQUIRED BY THE EQUIPMENT WITH FEATURES IDENTIFIED IN SCHEDULE >
< GOVERNMENT-FURNISHED, GOVERNMENT-INSTALLED; EQUIPMENT PROVIDED BY OTHERS, CONTRACTOR IS RESPONSIBLE FOR THE SUPPORT INDICATED IN SCHEDULE >

E.Q. I.D. TAG	DESCRIPTION	LOCATION	VOLTS	PH	HP	FLA	MCA	PKG UNIT	NEMA ENCL.	DISCONNECT TYPE	DISCONNECT SIZE	DISCONNECT FUSE	STARTER TYPE	STARTER SIZE	PNL-CKT	COORDINATING DOCUMENTS SPECIFICATION(S)	COORDINATING DOCUMENTS SHEET(S)	REMARKS

- E.Q. I.D. TAG: EQUIPMENT IDENTIFICATION TAG ("MARK") SHOWN ON PLANS.
- DESCRIPTION: EQUIPMENT (OR SUBPART OF EQUIPMENT) SERVED
- LOCATION: EQUIPMENT LOCATION
- VOLTS: CIRCUIT NOMINAL SUPPLY VOLTAGE
- PH: CIRCUIT PHASE QUANTITY
- HP: EQUIPMENT HORSEPOWER SIZE (AS APPLICABLE)
- FLA: EQUIPMENT ESTIMATED FULL-LOAD AMPACITY
- MCA: EQUIPMENT ESTIMATED MINIMUM CIRCUIT AMPACITY
- PKG UNIT: PACKAGED UNIT. "YES" INDICATES EQUIPMENT IS ASSUMED TO CONTAIN AN INTEGRAL STARTER. SHOULD EQUIPMENT BE PROVIDED WITHOUT AN INTEGRAL STARTER, A SEPARATE STARTER (COMBINATION STARTER/DISCONNECT) SHALL BE PROVIDED AND SIZED APPROPRIATELY FOR EQUIPMENT AT NO ADDITIONAL COST TO THE GOVERNMENT.
- NEMA ENCL.: NEMA ICS 6 ENCLOSURE RATING (IP RATING IF "IP##" IS SHOWN) FOR DISCONNECTING MEANS, STARTER, VFD, ETC. RACEWAYS AND THE EQUIPMENT ITSELF TO BE RATED FOR THE ENVIRONMENT IN WHICH SAID FEATURES ARE INSTALLED. FOR CIRCUIT BREAKERS AND ENCLOSED CIRCUIT BREAKERS ("--" IN THIS FIELD), SEE THE RESPECTIVE SCHEDULE IDENTIFYING THE ENCLOSURE RATING. FOR RECEPTACLE DISCONNECTING MEANS, SEE PLANS AND APPLIED NOTES FOR RECEPTACLE AND RECEPTACLE PROTECTION AND ENCLOSURE REQUIREMENTS.
- DISCONNECT TYPE: INTENDED DISCONNECTING MEANS. DISCONNECT TYPES AS FOLLOWS:
  - SPST SINGLE POLE, SINGLE THROW NEMA KS 1 DISCONNECT.
  - DPST DOUBLE POLE, SINGLE THROW NEMA KS 1 DISCONNECT.
  - DPDT DOUBLE POLE, DOUBLE THROW NEMA KS 1 DISCONNECT.
  - $M MOTOR-RATED SWITCH WITH THERMAL OVERLOAD OR A MOTOR CIRCUIT PROTECTOR (NFPA 70 §430.109(C)(2)).
  - $M(2P) SAME AS "$M" ENTRY EXCEPT IN A DOUBLE POLE, SINGLE THROW CONFIGURATION. (ADDITIONALLY SEE GENERAL NOTE 7.)
  - $ GENERAL USE SWITCH HAVING AN AMPERE RATING NOT LESS THAN TWICE THE FULL-LOAD RATING OF THE MOTOR (NFPA 70 §430.109(C)(1)).
  - $(2P) SAME AS "$" ENTRY EXCEPT IN A DOUBLE POLE, SINGLE THROW CONFIGURATION. (ADDITIONALLY SEE GENERAL NOTE 7.)
  - CB CIRCUIT BREAKER DISCONNECTING MEANS ONLY. PROVIDE LOCKABLE CIRCUIT BREAKER WHEN LOCATED REMOTELY DUE TO SAFETY ISSUES.
  - ECB ENCLOSED CIRCUIT BREAKER DISCONNECTING MEANS ONLY. PROVIDE LOCKABLE CIRCUIT BREAKER.
  - REC RECEPTACLE / CORD-AND-PLUG CONFIGURATION.
  - DFPC DIESEL FIRE PUMP CONTROLLER
  - JPCP JOCKEY PUMP CONTROL PANEL.
  - FPC FIRE PUMP CONTROLLER
  - FPCS FIRE PUMP CONTROLLER / TRANSFER SWITCH
  - CLF CURRENT-LIMITING FUSE IN DISCONNECT LOCKABLE IN THE CLOSED POSITION.
- STARTER TYPE: WHERE "F" IS INDICATED IN THE "DISCONNECT - FUSE" COLUMN, PROVIDE FUSE SIZED PER MANUFACTURER RECOMMENDATIONS.
- STARTER SIZE: EXTERNAL STARTER TYPE AND SIZE RATING BASED ON THE BASIS OF DESIGN EQUIPMENT. SIZE TO BE ADJUSTED FOR ACTUAL EQUIPMENT REQUIREMENTS.
- PNL-CKT: ASSIGNED PANELBOARD, DISTRIBUTION PANEL, SWITCHBOARD, OR OTHER EQUIPMENT SUPPLY CIRCUIT SOURCE AND THE POLE ASSIGNMENT(S) ON THE CIRCUIT SOURCE EQUIPMENT.
- SPECIFICATION(S): "COORDINATING DOCUMENTS" ARE LISTED TO INDICATE WHERE MOST REQUIREMENTS FOR A GIVEN PIECE OF EQUIPMENT ARE FOUND FOR GENERAL ORIENTATION PURPOSES. THESE REFERENCES ARE NOT NECESSARILY ALL-INCLUSIVE (FOR EXAMPLE, GENERAL AND KEYED NOTES APPLICABLE TO SPECIFIC CONDITIONS OR APPLICATIONS MAY BE FOUND ELSEWHERE IN THE DOCUMENTS). CONTRACTOR IS RESPONSIBLE FOR MEETING ALL CONTRACT REQUIREMENTS, WHICH ARE NOT NECESSARILY ENCOMPASSED IN THIS SCHEDULE OR ITS REFERENCES.
- SHEET(S): "COORDINATING DOCUMENTS" ARE LISTED TO INDICATE WHERE MOST REQUIREMENTS FOR A GIVEN PIECE OF EQUIPMENT ARE FOUND FOR GENERAL ORIENTATION PURPOSES. THESE REFERENCES ARE NOT NECESSARILY ALL-INCLUSIVE (FOR EXAMPLE, GENERAL AND KEYED NOTES APPLICABLE TO SPECIFIC CONDITIONS OR APPLICATIONS MAY BE FOUND ELSEWHERE IN THE DOCUMENTS). CONTRACTOR IS RESPONSIBLE FOR MEETING ALL CONTRACT REQUIREMENTS, WHICH ARE NOT NECESSARILY ENCOMPASSED IN THIS SCHEDULE OR ITS REFERENCES.
- REMARKS: EQUIPMENT-SPECIFIC NOTATIONS. WHERE "NOTE ..." IS INDICATED, SEE SHEET EP610 "EQUIPMENT CONNECTIONS - SCHEDULE NOTES (REMARKS)".

EQUIPMENT CONNECTIONS - SCHEDULE NOTES (REMARKS)

(APPLICABLE TO EP610 SERIES SHEETS)

1. THE ELECTRICAL SUPPLY TO THE DISCONNECT SHALL BE UNCHANGED UNLESS A LARGER SUPPLY IS REQUIRED BY THE MANUFACTURER. THE DISCONNECT FUSE RATING AND DOWNSTREAM ELECTRICAL SUPPORT FOR THE CRANE SHALL BE SIZED IN ACCORDANCE NFPA 70-2017 ARTICLE 610 FOR CONTINUOUS DUTY. CONDUCTORS SHALL TAKE INTO ACCOUNT THE AMBIENT TEMPERATURE AND OTHER CODE-REQUIRED AMPACITY CORRECTION FACTORS ASSIGNED TO THE SPACE IN WHICH THE CIRCUIT IS ROUTED. ADDITIONALLY, THE DOWNSTREAM CIRCUIT AND SUBSEQUENT RUNWAY ELECTRIFICATION SYSTEM SHALL HAVE A VOLTAGE DROP OF NO GREATER THAN 2 PERCENT TO THE CRANE-MOUNTED PANEL WHEN LOCATED AT THE COMBINED FARTHEST END OF THE RUNWAY AND BRIDGE.
2. SEE EF500 SERIES SHEETS FOR FUEL ELECTRICAL EQUIPMENT RACK FOR CONTROLLER/DISCONNECT.
3. PROVIDE LOCKABLE DISCONNECTING MEANS.
4. PROVIDE VFD(s) INTEGRAL TO EQUIPMENT.
5. DAMPER/LOUVER TO FAIL OPEN.
6. BASIS OF DESIGN INDOOR UNIT IS SHOWN WITH A 2-POLE SWITCH AND POWERED BY OUTDOOR UNIT. PROVIDE INDOOR UNIT WITH SWITCH ONLY AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS. IF PERMITTED OR REQUIRED BY THE SPLIT SYSTEM MANUFACTURER, PROVIDE SWITCH AT THE OUTDOOR UNIT ONLY, AND AT THE INDOOR UNIT LOCATION, PROVIDE A PLACARD INDICATING THE LOCATION OF THE SWITCH CONTROLLING POWER TO BOTH UNITS. IF SWITCH IS NOT PROVIDED AT INDOOR UNIT, PROVIDE PLACARD AT INDOOR UNIT INDICATING LOCATION OF THE DISCONNECTING MEANS.
7. PROVIDE CIRCUIT WITH DEDICATED SPD IN ENCLOSURE SEPARATE FROM PANEL AND PRIOR TO EXITING BUILDING.
8. BASIS OF DESIGN PROVIDES ONE POINT OF POWER FOR MULTIPLE DAMPERS AS PART OF THE SAME ASSEMBLY.
9. PROVIDE LABEL WITH LOCATION OF THE DISCONNECTING MEANS PER NFPA 70 §430.102(A) EXCEPTION 3.
10. PROVIDE DISCONNECT WITH FUSE PER EQUIPMENT MANUFACTURER INSTRUCTIONS.
11. EQUIPMENT SHALL BE SUPPORTED SUCH THAT ALL ELECTRICAL COMPONENTS ARE OUTSIDE THE HAZARDOUS CONDITION IDENTIFIED ON E-100 SERIES SHEETS.
12. PROVIDE INTEGRAL DISCONNECT TOGGLE SWITCH AT DEVICE.
13. FAULT CURRENT AT THIS LOCATION IS ANTICIPATED TO EXCEED THE WITHSTAND VALUE OF A STANDARD DISCONNECT SWITCH (10,000A). WHERE A FUSIBLE DISCONNECT IS INDICATED, PROVIDE CLASS RK5 (FLSR OR FLNR, AS APPLICABLE) FUSES.
14. PANEL CONTAINING CIRCUIT BREAKER FOR EQUIPMENT IS LOCATED WITHIN SIGHT OF THE EQUIPMENT AND IS INTENDED TO BE USED AS THE DISCONNECTING MEANS.
15. DISCONNECTING MEANS IS A LOCKABLE CIRCUIT BREAKER IN ACCORDANCE WITH NFPA 70 §422.31.
16. DISCONNECTING MEANS IS A LOCKABLE CIRCUIT BREAKER IN ACCORDANCE WITH NFPA 70 §427.55(A).
17. DISCONNECTING MEANS IS A LOCKABLE CIRCUIT BREAKER IN ACCORDANCE WITH NFPA 70 §430.102(B)(2) EXCEPTION 1 DUE TO THE IMPRACTICALITY OF PROVIDING LOCAL DISCONNECTING MEANS AT THE SUBMERSIBLE PUMP.
18. DISCONNECTING MEANS IS A LOCKABLE CIRCUIT BREAKER IN ACCORDANCE WITH NFPA 70 §430.102(B)(2) EXCEPTION 2 AS AN INDUSTRIAL INSTALLATION WITH MEASURES IN PLACE SUCH THAT ONLY QUALIFIED PERSONS SERVICE THE EQUIPMENT.
19. BATTERY SHALL BE PROVIDED WITH A DISCONNECT LOCKABLE IN THE 'ON' POSITION ON THE DOWNSTREAM SIDE OF THE BATTERY PER NFPA 70 §480.7(A).

EQUIPMENT CONNECTIONS - GENERAL SCHEDULE NOTES

(APPLICABLE TO EP610 SERIES SHEETS)

1. WHERE EQUIPMENT IS PROVIDED WITH A DISCONNECTING MEANS INTEGRAL TO EQUIPMENT, THE SEPARATE DISCONNECTING MEANS MAY BE OMITTED WHERE PERMITTED BY NFPA 70 FOR THE SPECIFIC APPLICATION, EXCEPT WHERE LOCKING-TYPE DISCONNECTS ARE SPECIFIED (INCLUDING DISCONNECT SWITCHES AND CIRCUIT BREAKERS).
2. COORDINATE FINAL ELECTRICAL CONNECTIONS, CONDUCTORS, RACEWAYS, CIRCUIT BREAKER FRAME AND TRIP RATINGS, FUSE RATINGS, STARTER SIZES AND TYPES, DISCONNECTING DEVICES AND SIZES, AND VFD SIZES (AS APPLICABLE) WITH ACTUAL EQUIPMENT PROVIDED (INCLUDING ADJUSTMENT FOR UFC 3-501-01 MAXIMUM PERMISSIBLE BRANCH CIRCUIT VOLTAGE DROP). THIS SCHEDULE HAS BEEN COORDINATED FOR EQUIPMENT LISTED IN THE PLANS AND SPECIFICATIONS INCLUDED IN THIS CONTRACT USING THE AVAILABLE PRODUCT LITERATURE AT THE TIME OF DESIGN. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING ELECTRICAL CONNECTIONS, CONDUCTORS, RACEWAY, CIRCUIT BREAKER FRAME AND TRIP, AND DISCONNECTING DEVICES AND SIZES FOR FINAL EQUIPMENT APPROVED AND INSTALLED, INCLUDING ADJUSTMENTS FOR MORE ACCURATE/REFINED MANUFACTURER ELECTRICAL PROPERTIES. THE MAXIMUM OVERCURRENT PROTECTIVE DEVICE RATING, MAXIMUM FUSE RATING, OR SIMILAR LANGUAGE USED TO DENOTE A PROTECTION VALUE SHALL BE CONSIDERED THE MANUFACTURER RECOMMENDED RATING AND USED TO MAKE THE ADJUSTMENTS IDENTIFIED HEREIN. CIRCUIT BREAKER AND SUPPLY CIRCUIT CONDUCTOR INFORMATION FOR EQUIPMENT IS LOCATED ON THE PANEL SCHEDULES. CONDUCTORS AND CONDUIT ARE SIZED AS A SINGLE CIRCUIT AND ACCOUNTING FOR VOLTAGE DROP, ANTICIPATED MAXIMUM AMBIENT TEMPTERATURE, AND NUMBER OF CURRENT CARRYING CONDUCTORS. CONTRACTOR IS RESPONSIBLE FOR DERATING SHOULD MULTIPLE CIRCUITS BE ROUTED IN THE SAME CONDUIT OR IF ROUTING PATH TRAVELS INTO AN AREA ANTICIPATED TO EXCEED THE VALUES INDICATED IN THE PANEL SCHEDULE ENTRY ASSOCIATED WITH THIS EQUIPMENT.
3. ENCLOSURE (THIS SCHEDULE AND E-100 SHEET SERIES) AND FAULT DUTY RATINGS (EP600 SERIES ONE-LINE AND PANEL SCHEDULES, IN CONJUNCTION WITH SECTION 26 05 73) LISTED ARE MINIMUM RATINGS. WHERE A CONFLICT EXISTS BETWEEN THIS SCHEDULE AND THE E-100 SHEET SERIES, THE ENCLOSURE RATING RESULTING IN A HIGHER EQUIVALENT IP VALUE OR NEMA RATING SHALL BE USED. FAULT CURRENT RATINGS SHALL BE ADJUSTED IN ACCORDANCE WITH THE SECTION 26 05 73 COORDINATION STUDY. ADDITIONALLY, NON-FUSIBLE LOCAL DISCONNECTNG MEANS ARE INDICATED WHERE ANTICIPATED FAULT CURRENT IS LESS THAN 10,000A. PROVIDE FUSIBLE DISCONNECT WITH CLASS RK5 (FLSR OR FLNR, AS APPLICABLE) OR PROPERLY RATED ENCLOSED CIRCUIT BREAKER WHERE POWER STUDY REVEALS AVAILABLE FAULT CURRENT OF 10,000A OR GREATER, OR AS REQUIRED BY THE EQUIPMENT MANUFACTURER.
4. LOAD INFORMATION LISTED IN THIS SCHEDULE IS FOR COORDINATION PURPOSES WITH THE DESIGN OF OTHER DISCIPLINES. WHERE CONFLICTS EXIST BETWEEN THIS SCHEDULE AND OTHER REQUIREMENTS, NOTIFY THE COR IMMEDIATELY.
5. WHERE THE CIRCUIT BREAKER IS USED AS THE DISCONNECTING MEANS, THE PANEL NAME, CIRCUIT NUMBER, AND ROOM CONTAINING THE PANEL SHALL BE INCLUDED ON A LABEL ON OR AT THE EQUIPMENT, ALONG WITH THE EQUIPMENT IDENTIFIER.
6. RECEPTACLE CONNECTIONS SHOWN WHERE DESIGN RESEARCH INDICATED PRODUCT AVAILABILITY SUPPORTED SUCH CONNECTION AND DISCONNECTING MEANS. WHERE CONTRACTOR SELECTS EQUIPMENT REQUIRING (OR PERMITTING AND ELECTING TO PROVIDE) HARDWIRED CONNECTION, REMOVE "RECEPTACLE: " FROM PANEL SCHEDULE/DIRECTORY IF RECEPTACLE IS NOT INSTALLED AND PROVIDE THE APPROPRIATE DISCONNECTING MEANS COMPLYING WITH NFPA 70.
7. FOUR-WAY SWITCHES ARE DOUBLE-POLE, DOUBLE-THROW AND MAY NOT BE USED FOR DOUBLE-POLE, SINGLE-THROW APPLICATIONS.

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OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

EQUIPMENT ELECTRICAL CONNECTION NOTES

SHEET ID

EP610

ADVERTISEMENT

EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

E.Q. I.D. TAG	DESCRIPTION	LOCATION	VOLTS	PH	HP	FLA	MCA	PKG UNIT	NEMA ENCL.	DISCONNECT TYPE	DISCONNECT SIZE	DISCONNECT FUSE	STARTER TYPE	STARTER SIZE	PNL-CKT	COORDINATING DOCUMENTS SPECIFICATION(S)	COORDINATING DOCUMENTS SHEET(S)	REMARKS
AC-A1	AIR COMPRESSOR	106 GEN RM A	208 V	1	--	9.5 A	11.9 A	Yes	--	CB	--	--	--	--	GLA1-8,10	26 32 15	MP607	SEE NOTE 18.
AC-A2	AIR COMPRESSOR	106 GEN RM A	208 V	1	--	9.5 A	11.9 A	Yes	--	CB	--	--	--	--	GLA2-7,9	26 32 15	MP607	SEE NOTE 18.
AC-B1	AIR COMPRESSOR	117 GEN RM B	208 V	1	--	9.5 A	11.9 A	Yes	--	CB	--	--	--	--	GLB1-8,10	26 32 15	MP607	SEE NOTE 18.
AC-B2	AIR COMPRESSOR	117 GEN RM B	208 V	1	--	9.5 A	11.9 A	Yes	--	CB	--	--	--	--	GLB2-7,9	26 32 15	MP607	SEE NOTE 18.
AC-F	AIR COMPRESSOR	113 FIRE PUMP	208 V	3	10	32.2 A	40.3 A	Yes	--	CB	--	--	--	--	NLF-2,4,6	21 13 18	FX101	SEE NOTE 14.
ATG-A1	AUTOMATIC TANK GAUGE PANEL	106 GEN RM A	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	GLA1-4	33 56 10	MP607	--
ATG-A2	AUTOMATIC TANK GAUGE PANEL	106 GEN RM A	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	GLA2-3	33 56 10	MP607	--
ATG-B1	AUTOMATIC TANK GAUGE PANEL	117 GEN RM B	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	GLB1-4	33 56 10	MP607	--
ATG-B2	AUTOMATIC TANK GAUGE PANEL	117 GEN RM B	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	GLB2-3	33 56 10	MP607	--
ATG-D1	AUTOMATIC TANK GAUGE PANEL	106 GEN RM A	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	QLA2-4	33 56 10	MP607	--
ATG-D2	AUTOMATIC TANK GAUGE PANEL	106 GEN RM A	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	QLA2-6	33 56 10	MP607	--
ATG-FA	AUTOMATIC TANK GAUGE PANEL	110 PUMP CTRL A	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	QLA1-26	33 56 10	EF528	--
ATG-FB	AUTOMATIC TANK GAUGE PANEL	123 PUMP CTRL B	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	QLB1-22	33 56 10	EF528	--
BC-A	SWITCHGEAR BATTERY CHARGER	114 SWITCHGEAR UA	120 V	1	--	23.0 A	28.8 A	Yes	--	CB	--	--	--	--	QLA1-17	26 13 13	--	SEE NOTE 19.
BC-B	SWITCHGEAR BATTERY CHARGER	119 SWITCHGEAR UB	120 V	1	--	23.0 A	28.8 A	Yes	--	CB	--	--	--	--	QLB1-11	26 13 13	--	SEE NOTE 19.
BV05	BALL VALVE	124 DAY TANKS B	480 V	3	1	2.1 A	2.6 A	Yes	--	CB	--	--	--	--	QHB4-2,4,6	33 52 40	--	SEE NOTE 9.
BV06	BALL VALVE	124 DAY TANKS B	480 V	3	1	2.1 A	2.6 A	Yes	--	CB	--	--	--	--	QHB4-8,10,12	33 52 40	--	SEE NOTE 9.
BV09	BALL VALVE	124 DAY TANKS B	480 V	3	1	2.1 A	2.6 A	Yes	--	CB	--	--	--	--	QHB4-14,16,18	33 52 40	--	SEE NOTE 9.
BV10	BALL VALVE	124 DAY TANKS B	480 V	3	1	2.1 A	2.6 A	Yes	--	CB	--	--	--	--	QHB4-20,22,24	33 52 40	--	SEE NOTE 9.
BV13	BALL VALVE	111 DAY TANKS A	480 V	3	1	2.1 A	2.6 A	Yes	--	CB	--	--	--	--	QHA4-1,3,5	33 52 40	--	SEE NOTE 9.
BV14	BALL VALVE	111 DAY TANKS A	480 V	3	1	2.1 A	2.6 A	Yes	--	CB	--	--	--	--	QHA4-7,9,11	33 52 40	--	SEE NOTE 9.
BV17	BALL VALVE	111 DAY TANKS A	480 V	3	1	2.1 A	2.6 A	Yes	--	CB	--	--	--	--	QHA4-13,15,17	33 52 40	--	SEE NOTE 9.
BV18	BALL VALVE	111 DAY TANKS A	480 V	3	1	2.1 A	2.6 A	Yes	--	CB	--	--	--	--	QHA4-19,21,23	33 52 40	--	SEE NOTE 9.
BV-001	ACTUATED BALL VALVE	106 GEN RM A	120 V	1	--	0.3 A	0.3 A	Yes	--	CB	--	--	--	--	QLA2-13	33 52 10	MP607	SEE NOTE 14.
BV-103	ACTUATED BALL VALVE	116 EXHAUST TREATMENT	120 V	1	--	0.3 A	0.3 A	Yes	--	CB	--	--	--	--	QLA2-12	33 52 10	MP607	SEE NOTE 15.
BV-111	ACTUATED BALL VALVE	117 GEN RM B	120 V	1	--	0.3 A	0.3 A	Yes	--	CB	--	--	--	--	QLB2-6	33 52 10	MP607	SEE NOTE 14.
BV-121	ACTUATED BALL VALVE	117 GEN RM B	120 V	1	--	0.3 A	0.3 A	Yes	--	CB	--	--	--	--	QLB2-6	33 52 10	MP607	SEE NOTE 14.
BV-203	ACTUATED BALL VALVE	116 EXHAUST TREATMENT	120 V	1	--	0.3 A	0.3 A	Yes	--	CB	--	--	--	--	QLA2-12	33 52 10	MP607	SEE NOTE 15.
BV-211	ACTUATED BALL VALVE	106 GEN RM A	120 V	1	--	0.3 A	0.3 A	Yes	--	CB	--	--	--	--	QLA2-13	33 52 10	MP607	SEE NOTE 14.
BV-221	ACTUATED BALL VALVE	106 GEN RM A	120 V	1	--	0.3 A	0.3 A	Yes	--	CB	--	--	--	--	QLA2-13	33 52 10	MP607	SEE NOTE 14.
CLI	CENTRAL LIGHTING INVERTER	104 ELEC	480 V	3	--	27.0 A	33.8 A	Yes	--	CB	--	--	--	--	NH-4,6,8	26 51 00	--	SEE NOTE 14. CENTRAL LIGHTING INVERTER TO PROVIDE SUFFICIENT POWER TO SUPPLY ALL EMERGENCY LUMINAIRES SERVING BUILDING.
CRANE-A	10T CRANE	106 GEN RM A	480 V	3	20	30.0 A	37.5 A	Yes	4	SPST	60A	--	--	--	QHA1-37,39,41	41 22 13.14	--	SEE NOTES 1, 3.
CRANE-B	10T CRANE	117 GEN RM B	480 V	3	20	30.0 A	37.5 A	Yes	4	SPST	60A	--	--	--	QHB1-27,29,31	41 22 13.14	--	SEE NOTES 1, 3.
D-EF114(E)	LOUVER MOTOR-OPERATED EXHAUST DAMPER	114 SWITCHGEAR UA	120 V	1	--	1.0 A	1.3 A	Yes	7	$	--	--	--	--	QLA1-23	23 09 13	--	SEE NOTE 5.
D-EF114(I)	LOUVER MOTOR-OPERATED INTAKE DAMPER	114 SWITCHGEAR UA	120 V	1	--	1.0 A	1.3 A	Yes	1	$	--	--	--	--	QLA1-23	23 09 13	--	SEE NOTE 5.
D-EF119(E)	LOUVER MOTOR-OPERATED EXHAUST DAMPER	119 SWITCHGEAR UB	120 V	1	--	1.0 A	1.3 A	Yes	7	$	--	--	--	--	QLB1-9	23 09 13	--	SEE NOTE 5.
D-EF119(I)	LOUVER MOTOR-OPERATED INTAKE DAMPER	119 SWITCHGEAR UB	120 V	1	--	1.0 A	1.3 A	Yes	1	$	--	--	--	--	QLB1-9	23 09 13	--	SEE NOTE 5.
D-EF121(E)	LOUVER MOTOR-OPERATED EXHAUST DAMPER	122 NEW OIL STORAGE	120 V	1	--	1.0 A	1.3 A	Yes	1	$	--	--	--	--	QLB1-14	23 09 13	--	SEE NOTE 5.
D-F(E)	LOUVER MOTOR-OPERATED EXHAUST DAMPER	113 FIRE PUMP	120 V	1	--	1.0 A	1.3 A	Yes	3R	$	--	--	--	--	NLF-28	23 09 13	--	SEE NOTE 5.
D-GA1(E)	DAMPERS FOR GENERATOR EXHAUST (APPROX. 4)	106 GEN RM A	120 V	1	--	3.0 A	3.8 A	Yes	1	$	--	--	--	--	GLA1-6	23 09 13	--	SEE NOTE 8.
D-GA2(E)	DAMPERS FOR GENERATOR EXHAUST (APPROX. 4)	106 GEN RM A	120 V	1	--	3.0 A	3.8 A	Yes	1	$	--	--	--	--	GLA2-5	23 09 13	--	SEE NOTE 8.
D-GB1(E)	DAMPERS FOR GENERATOR EXHAUST (APPROX. 4)	117 GEN RM B	120 V	1	--	3.0 A	3.8 A	Yes	1	$	--	--	--	--	GLB1-6	23 09 13	--	SEE NOTE 8.
D-GB2(E)	DAMPERS FOR GENERATOR EXHAUST (APPROX. 4)	117 GEN RM B	120 V	1	--	3.0 A	3.8 A	Yes	1	$	--	--	--	--	GLB2-5	23 09 13	--	SEE NOTE 8.
DDC PANEL A	DIRECT DIGITAL CONTROL PANEL	105 MECHANICAL	120 V	1	--	3.0 A	3.8 A	Yes	--	CB	--	--	--	--	QLA1-13	23 09 00	--	--
DDC PANEL B	DIRECT DIGITAL CONTROL PANEL	105 MECHANICAL	120 V	1	--	3.0 A	3.8 A	Yes	--	CB	--	--	--	--	QLB1-19	23 09 00	--	--
DFP-1	DIESEL FIRE PUMP	113 FIRE PUMP	120 V	1	25	0.0 A	0.0 A	Yes	4	DFPC	--	--	--	--	NLF-26	21 30 00	FX101	--
DFP-EH	DIESEL FIRE PUMP ENGINE HEATER	113 FIRE PUMP	120 V	1	--	8.3 A	10.4 A	Yes	--	CB	--	--	--	--	NLF-24	21 30 00	--	SEE NOTE 14.
EEWS-1A	EMERGENCY EYE WASH STATION	106 GEN RM A	120 V	1	--	5.5 A	6.9 A	Yes	--	CB	--	--	--	--	QLA2-2	22 00 00	P-601	SEE NOTE 14.
EEWS-1B	EMERGENCY EYE WASH STATION	117 GEN RM B	120 V	1	--	5.5 A	6.9 A	Yes	--	CB	--	--	--	--	QLB2-8	22 00 00	P-601	SEE NOTE 14.
EF-102	EXHAUST FAN	102 UNISEX RR	120 V	1	--	0.3 A	0.3 A	Yes	1	$	--	--	--	--	NL-1	23 30 00	MH601	--
EF-111	EXHAUST FAN (SPARK RESISTANT)	111 DAY TANKS A	120 V	1	--	1.5 A	1.9 A	Yes	7	$	--	--	--	--	QLA1-30	23 30 00	MH601	--
EF-114	EXHAUST FAN (SPARK RESISTANT)	114 SWITCHGEAR UA	208 V	1	1/2	5.4 A	6.8 A	Yes	7	$M(2P)	--	--	--	--	QLA1-19,21	23 30 00	MH601	--
EF-119	EXHAUST FAN (SPARK RESISTANT)	119 SWITCHGEAR UB	208 V	1	1/2	5.4 A	6.8 A	Yes	7	$M(2P)	--	--	--	--	QLB1-5,7	23 30 00	MH601	--
EF-121	EXHAUST FAN (SPARK RESISTANT)	121 FORKLIFT CHARGING	120 V	1	1/40	0.2 A	0.2 A	Yes	7	$	--	--	--	--	QLB1-12	23 30 00	MH601	--
EF-122	EXHAUST FAN	122 NEW OIL STORAGE	120 V	1	1/40	0.2 A	0.2 A	Yes	1	$	--	--	--	--	QLB1-18	23 30 00	MH601	--

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OMAHA, NE 68102

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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

EQUIPMENT ELECTRICAL CONNECTION

SHEET ID

EP611

ADVERTISEMENT

EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

E.Q. I.D. TAG	DESCRIPTION	LOCATION	VOLTS	PH	HP	FLA	MCA	PKG UNIT	NEMA ENCL.	DISCONNECT TYPE	DISCONNECT SIZE	DISCONNECT FUSE	STARTER TYPE	STARTER SIZE	PNL-CKT	COORDINATING DOCUMENTS SPECIFICATION(S)	COORDINATING DOCUMENTS SHEET(S)	REMARKS
EF-124	EXHAUST FAN (SPARK RESISTANT)	124 DAY TANKS B	120 V	1	--	1.5 A	1.9 A	Yes	7	$	--	--	--	--	QLB1-28	23 30 00	MH601	--
EFP-1	ELECTRIC FIRE PUMP	113 FIRE PUMP	480 V	3	25	34.0 A	42.5 A	Yes	4	FPCS	--	--	--	--	FPCS-1	21 30 00	FX101	--
EV-1	WALL-MOUNTED ELECTRICAL VEHICLE SUPPLY EQUIPMENT	EXTERIOR EAST	208 V	3	--	20.1 A	25.1 A	Yes	--	CB	--	--	--	--	NL-17,19,21	11 11 37	--	--
FBC-1	FORKLIFT BATTERY CHARGER	121 FORKLIFT CHARGING	480 V	3	--	20.5 A	27.1 A	Yes	--	ECB	--	--	--	--	QHB1-1,3,5	--	--	SEE NOTE 13. THIS ENTRY IS FOR INFRASTRUCTURE (BREAKER, CONDUCTORS, RACEWAY, SEALOFFS, DISCONNECT) FROM SUPPLY PANEL THROUGH AND INCLUDING DISCONNECT LOCAL TO PROPOSED EQUIPMENT LOCATION ONLY. FORKLIFT CHARGING EQUIPMENT FOR THIS ENTRY IS NOT IN SCOPE.
HMI-A1	SCR CONTROLLER: HMI-A1, BP-A1, DB-A1	106 GEN RM A	120 V	1	--	5.0 A	6.3 A	Yes	--	CB	--	--	--	--	GLA1-2	26 32 15	MP607	SEE NOTE 18.
HMI-A2	SCR CONTROLLER: HMI-A2, BP-A2, DB-A2	106 GEN RM A	120 V	1	--	5.0 A	6.3 A	Yes	--	CB	--	--	--	--	GLA2-1	26 32 15	MP607	SEE NOTE 18.
HMI-B1	SCR CONTROLLER: HMI-B1, BP-B1, DB-B1	117 GEN RM B	120 V	1	--	5.0 A	6.3 A	Yes	--	CB	--	--	--	--	GLB1-2	26 32 15	MP607	SEE NOTE 18.
HMI-B2	SCR CONTROLLER: HMI-B2, BP-B2, DB-B2	117 GEN RM B	120 V	1	--	5.0 A	6.3 A	Yes	--	CB	--	--	--	--	GLB2-1	26 32 15	MP607	SEE NOTE 18.
HS-114	HYDROGEN SENSOR PANEL	114 SWITCHGEAR UA	120 V	1	--	4.2 A	5.2 A	Yes	--	CB	--	--	--	--	NLF-11	28 31 70	--	--
HS-119	HYDROGEN SENSOR PANEL	119 SWITCHGEAR UB	120 V	1	--	4.2 A	5.2 A	Yes	--	CB	--	--	--	--	NLF-13	28 31 70	--	--
HS-121	HYDROGEN SENSOR PANEL	121 FORKLIFT CHARGING	120 V	1	--	4.2 A	5.2 A	Yes	--	CB	--	--	--	--	NLF-17	28 31 70	--	--
I20	BALL VALVE	EXTERIOR WEST OPERATING TANKS (NORTH)	480 V	3	1	4.6 A	5.8 A	Yes	--	CB	--	--	--	--	QHA3-1,3,5	33 57 55	--	SEE NOTE 14.
I21	BALL VALVE	EXTERIOR WEST OPERATING TANKS (NORTH)	480 V	3	1	4.6 A	5.8 A	Yes	--	CB	--	--	--	--	QHA3-2,4,6	33 57 55	--	SEE NOTE 14.
I22	BALL VALVE	EXTERIOR WEST OPERATING TANKS (SOUTH)	480 V	3	1	4.6 A	5.8 A	Yes	--	CB	--	--	--	--	QHB3-1,3,5	33 57 55	--	SEE NOTE 14.
I23	BALL VALVE	EXTERIOR WEST OPERATING TANKS (SOUTH)	480 V	3	1	4.6 A	5.8 A	Yes	--	CB	--	--	--	--	QHB3-2,4,6	33 57 55	--	SEE NOTE 14.
ILAP-A	INDEPENDENT LEVEL ALARM PANEL	123 PUMP CTRL B	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	QLA1-28	33 56 10	EF528	--
ILAP-B	INDEPENDENT LEVEL ALARM PANEL	123 PUMP CTRL B	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	QLB1-26	33 56 10	EF528	--
IP-O1	VERTICAL TURBINE ISSUE PUMP	EXTERIOR WEST OPERATING TANKS (NORTH)	208 V	1	3/4	7.6 A	9.5 A	No	3R	SPST	30A	--	FVNR	00	QLA2-30,32	33 57 55	M-601	SEE NOTE 2.
IP-O2	VERTICAL TURBINE ISSUE PUMP	EXTERIOR WEST OPERATING TANKS (NORTH)	208 V	1	3/4	7.6 A	9.5 A	No	3R	SPST	30A	--	FVNR	00	QLA2-34,36	33 57 55	M-601	SEE NOTE 2.
IP-O3	VERTICAL TURBINE ISSUE PUMP	EXTERIOR WEST OPERATING TANKS (SOUTH)	208 V	1	3/4	7.6 A	9.5 A	No	3R	SPST	30A	--	FVNR	00	QLB2-18,20	33 57 55	M-601	SEE NOTE 2.
IP-O4	VERTICAL TURBINE ISSUE PUMP	EXTERIOR WEST OPERATING TANKS (SOUTH)	208 V	1	3/4	7.6 A	9.5 A	No	3R	SPST	30A	--	FVNR	00	QLB2-22,24	33 57 55	M-601	SEE NOTE 2.
JACE 'A'	JAVA APPLICATION CONTROL ENGINE	110 PUMP CTRL A	120 V	1	--	3.0 A	3.8 A	Yes	--	CB	--	--	--	--	QLA1-22	23 09 23.02 25 10 10	--	--
JACE 'B'	JAVA APPLICATION CONTROL ENGINE	123 PUMP CTRL B	120 V	1	--	3.0 A	3.8 A	Yes	--	CB	--	--	--	--	QLB1-20	23 09 23.02 25 10 10	--	--
JP	JOCKEY PUMP	113 FIRE PUMP	208 V	3	1/2	2.4 A	3.0 A	Yes	4	JPC	--	--	--	--	NLF-8,10,12	21 30 00	FX101	--
LP-1	NEW OIL PUMP	122 NEW OIL STORAGE	480 V	3	1	2.1 A	2.6 A	No	--	ECB	--	--	FVNR	00	QHB2-26,28,30	33 57 55	--	SEE NOTE 13.
LP-2	NEW OIL PUMP	122 NEW OIL STORAGE	480 V	3	1	2.1 A	2.6 A	No	--	ECB	--	--	FVNR	00	QHB2-32,34,36	33 57 55	--	SEE NOTE 13.
NG-C	NITROGEN GENERATOR: COMPRESSOR CIRCUIT	113 FIRE PUMP	208 V	3	--	9.0 A	11.3 A	Yes	--	CB	--	--	--	--	NLF-14,16,18	21 13 18	FX101	SEE NOTE 14.
NG-G	NITROGEN GENERATOR: GENERATOR CIRCUIT	113 FIRE PUMP	120 V	1	--	2.0 A	2.5 A	Yes	--	CB	--	--	--	--	NLF-20	21 13 18	FX101	SEE NOTE 14.
OHD-E	OVERHEAD DOOR	117 GEN RM B	208 V	1	3/4	7.6 A	9.5 A	Yes	--	CB	--	--	--	--	QLB2-11,13	08 33 23	--	SEE NOTE 14.
OHD-N	OVERHEAD DOOR	106 GEN RM A	208 V	1	3/4	7.6 A	9.5 A	Yes	1	$(2P)	30A	--	--	--	QLA2-9,11	08 33 23	--	--
OHD-W	OVERHEAD DOOR	117 GEN RM B	208 V	1	3/4	7.6 A	9.5 A	Yes	1	$(2P)	30A	--	--	--	QLB2-2,4	08 33 23	--	--
P-001	DEF PUMP	116 EXHAUST TREATMENT	208 V	3	--	12.5 A	15.6 A	Yes	1	SPST	30A	--	--	--	QLA2-14,16,18	33 52 10	MP607	--
P-002	DEF PUMP	116 EXHAUST TREATMENT	120 V	1	1/2	12.0 A	15.0 A	Yes	1	$M	--	--	--	--	QLA2-20	33 52 10	MP607	--
P-003	DEF PUMP	116 EXHAUST TREATMENT	120 V	1	1/2	12.0 A	15.0 A	Yes	1	$M	--	--	--	--	QLA2-22	33 52 10	MP607	--
PCPA	FUEL PUMP CONTROL PANEL	110 PUMP CTRL A	120 V	1	--	25.0 A	31.3 A	Yes	--	CB	--	--	--	--	QLA2-17	33 09 52	EF512	--
PCPB	FUEL PUMP CONTROL PANEL	123 PUMP CTRL B	120 V	1	--	25.0 A	31.3 A	Yes	--	CB	--	--	--	--	QLB2-12	33 09 52	EF512	--
RCP-1	RECIRCULATING PUMP	105 MECHANICAL	120 V	1	--	0.8 A	1.1 A	Yes	1	$M	--	--	--	--	NL-18	22 00 00	P-601	--
SF-A1	GENERATOR SUPPLY FAN	201 MECHANICAL MEZ. GEN RM A	480 V	3	30	40.0 A	50.0 A	Yes	1	SPST	100A	--	VFD	--	QHA1-13,15,17	23 30 00	MH601	--
SF-A2	GENERATOR SUPPLY FAN	201 MECHANICAL MEZ. GEN RM A	480 V	3	30	40.0 A	50.0 A	Yes	1	SPST	100A	--	VFD	--	QHA1-19,21,23	23 30 00	MH601	--
SF-A3	GENERATOR SUPPLY FAN	201 MECHANICAL MEZ. GEN RM A	480 V	3	30	40.0 A	50.0 A	Yes	1	SPST	100A	--	VFD	--	QHA1-25,27,29	23 30 00	MH601	--
SF-A4	GENERATOR SUPPLY FAN	201 MECHANICAL MEZ. GEN RM A	480 V	3	30	40.0 A	50.0 A	Yes	1	SPST	100A	--	VFD	--	QHA1-31,33,35	23 30 00	MH601	--
SF-B1	GENERATOR SUPPLY FAN	202 MECHANICAL MEZ. GEN RM B	480 V	3	30	40.0 A	50.0 A	Yes	1	SPST	100A	--	VFD	--	QHB1-2,4,6	23 30 00	MH601	SEE NOTE 13.
SF-B2	GENERATOR SUPPLY FAN	202 MECHANICAL MEZ. GEN RM B	480 V	3	30	40.0 A	50.0 A	Yes	1	SPST	100A	--	VFD	--	QHB1-8,10,12	23 30 00	MH601	SEE NOTE 13.
SF-B3	GENERATOR SUPPLY FAN	202 MECHANICAL MEZ. GEN RM B	480 V	3	30	40.0 A	50.0 A	Yes	1	SPST	100A	--	VFD	--	QHB1-14,16,18	23 30 00	MH601	--
SF-B4	GENERATOR SUPPLY FAN	202 MECHANICAL MEZ. GEN RM B	480 V	3	30	40.0 A	50.0 A	Yes	1	SPST	100A	--	VFD	--	QHB1-20,22,24	23 30 00	MH601	--
SFD-A1	DAMPERS FOR GENERATOR SUPPLY FAN (APPROX. 4)	202 MECHANICAL MEZ. GEN RM B	120 V	1	--	4.0 A	5.0 A	Yes	1	$	--	--	--	--	QLA2-1	23 09 13	--	--
SFD-A2	DAMPERS FOR GENERATOR SUPPLY FAN (APPROX. 4)	202 MECHANICAL MEZ. GEN RM B	120 V	1	--	4.0 A	5.0 A	Yes	1	$	--	--	--	--	QLA2-3	23 09 13	--	--
SFD-A3	DAMPERS FOR GENERATOR SUPPLY FAN (APPROX. 4)	202 MECHANICAL MEZ. GEN RM B	120 V	1	--	4.0 A	5.0 A	Yes	1	$	--	--	--	--	QLA2-5	23 09 13	--	--
SFD-A4	DAMPERS FOR GENERATOR SUPPLY FAN (APPROX. 4)	202 MECHANICAL MEZ. GEN RM B	120 V	1	--	4.0 A	5.0 A	Yes	1	$	--	--	--	--	QLA2-7	23 09 13	--	--
SFD-B1	DAMPERS FOR GENERATOR SUPPLY FAN (APPROX. 4)	202 MECHANICAL MEZ. GEN RM B	120 V	1	--	4.0 A	5.0 A	Yes	1	$	--	--	--	--	QLB2-1	23 09 13	--	--
SFD-B2	DAMPERS FOR GENERATOR SUPPLY FAN (APPROX. 4)	202 MECHANICAL MEZ. GEN RM B	120 V	1	--	4.0 A	5.0 A	Yes	1	$	--	--	--	--	QLB2-3	23 09 13	--	--
SFD-B3	DAMPERS FOR GENERATOR SUPPLY FAN (APPROX. 4)	202 MECHANICAL MEZ. GEN RM B	120 V	1	--	4.0 A	5.0 A	Yes	1	$	--	--	--	--	QLB2-5	23 09 13	--	--
SFD-B4	DAMPERS FOR GENERATOR SUPPLY FAN (APPROX. 4)	202 MECHANICAL MEZ. GEN RM B	120 V	1	--	4.0 A	5.0 A	Yes	1	$	--	--	--	--	QLB2-7	23 09 13	--	--
SS-101	SPLIT-SYSTEM INDOOR UNIT	100A READINESS	208 V	1	--	0.7 A	1.0 A	Yes	1	$(2P)	--	--	--	--	NL-13,15	23 81 00	MH601	NOTE 6.
SS-103	SPLIT-SYSTEM INDOOR UNIT	103 TELE/FA	208 V	1	--	0.7 A	1.0 A	Yes	1	$(2P)	--	--	--	--	NLT-21,23	23 81 00	MH601	NOTE 6.
SS-104	SPLIT-SYSTEM INDOOR UNIT	104 ELEC	208 V	1	--	0.7 A	1.0 A	Yes	1	$(2P)	--	--	--	--	NL-9,11	23 81 00	MH601	NOTE 6.
SS-110	SPLIT-SYSTEM INDOOR UNIT	110 PUMP CTRL A	208 V	1	--	0.7 A	1.0 A	Yes	1	$(2P)	--	--	--	--	QLA2-19,21	23 81 00	MH601	NOTE 6.
SS-112	SPLIT-SYSTEM INDOOR UNIT	112 DISTRO A	208 V	1	--	6.0 A	7.5 A	Yes	1	$M(2P)	--	--	--	--	QLA1-3,5	23 81 00	MH601	--
SS-113	SPLIT-SYSTEM INDOOR UNIT	113 FIRE PUMP	208 V	1	--	0.7 A	1.0 A	Yes	3R	$(2P)	--	--	--	--	NLF-30,32	23 81 00	MH601	NOTE 6.
SS-114	SPLIT-SYSTEM INDOOR UNIT	114 SWITCHGEAR UA	208 V	1	--	0.3 A	1.0 A	Yes	1	$(2P)	--	--	--	--	QLA1-27,29	23 81 00	MH601	NOTE 6.
SS-115	SPLIT-SYSTEM INDOOR UNIT	115 SWITCHGEAR GA	208 V	1	--	0.3 A	1.0 A	Yes	1	$(2P)	--	--	--	--	QLA1-31,33	23 81 00	MH601	NOTE 6.
SS-116	SPLIT-SYSTEM INDOOR UNIT	116 EXHAUST TREATMENT	208 V	1	--	0.7 A	1.0 A	Yes	1	$(2P)	--	--	--	--	QLA2-26,28	23 81 00	MH601	NOTE 6.
SS-118	SPLIT-SYSTEM INDOOR UNIT	118 SWITCHGEAR GB	208 V	1	--	0.3 A	1.0 A	Yes	1	$(2P)	--	--	--	--	QLB1-21,23	23 81 00	MH601	NOTE 6.
SS-119	SPLIT-SYSTEM INDOOR UNIT	119 SWITCHGEAR UB	208 V	1	--	0.3 A	1.0 A	Yes	1	$(2P)	--	--	--	--	QLB1-25,27	23 81 00	MH601	NOTE 6.
SS-120	SPLIT-SYSTEM INDOOR UNIT	120 DISTRO B	208 V	1	--	6.0 A	7.5 A	Yes	1	$M(2P)	--	--	--	--	QLB1-15,17	23 81 00	MH601	--
SS-123	SPLIT-SYSTEM INDOOR UNIT	124 PUMP CTRL B	208 V	1	--	0.7 A	1.0 A	Yes	1	$(2P)	--	--	--	--	QLB2-14,16	23 81 00	MH601	NOTE 6.
SSHP-101	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR EAST	208 V	1	--	7.9 A	9.9 A	Yes	3R	SPST	30A	--	--	--	NL-13,15	23 81 00	MH601	--
SSHP-103	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR NORTH	208 V	1	--	11.0 A	13.8 A	Yes	3R	SPST	30A	--	--	--	NLT-21,23	23 81 00	MH601	--
SSHP-104	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR NORTH	208 V	1	--	11.0 A	13.8 A	Yes	3R	SPST	30A	--	--	--	NL-9,11	23 81 00	MH601	--
SSHP-110	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR NORTH	208 V	1	--	11.0 A	13.8 A	Yes	3R	SPST	30A	--	--	--	QLA2-19,21	23 81 00	MH601	--
SSHP-112	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR SOUTH	208 V	3	--	23.1 A	28.9 A	Yes	3R	SPST	30A	--	--	--	QLA1-7,9,11	23 81 00	MH601	--
SSHP-113	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR SOUTH	208 V	1	--	11.0 A	13.8 A	Yes	3R	SPST	30A	--	--	--	NLF-30,32	23 81 00	MH601	--
SSHP-114	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR SOUTH	208 V	1	--	11.0 A	13.8 A	Yes	3R	SPST	30A	--	--	--	QLA1-27,29	23 81 00	MH601	--
SSHP-115	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR SOUTH	208 V	1	--	11.0 A	13.8 A	Yes	3R	SPST	30A	--	--	--	QLA1-31,33	23 81 00	MH601	--
SSHP-116	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR NORTH	208 V	1	--	11.0 A	13.8 A	Yes	3R	SPST	30A	--	--	--	QLA2-26,28	23 81 00	MH601	--
SSHP-118	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR SOUTH	208 V	1	--	11.0 A	13.8 A	Yes	3R	SPST	30A	--	--	--	QLB1-21,23	23 81 00	MH601	--
SSHP-119	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR SOUTH	208 V	1	--	11.0 A	13.8 A	Yes	3R	SPST	30A	--	--	--	QLB1-25,27	23 81 00	MH601	--
SSHP-120	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR SOUTH	208 V	3	--	23.1 A	28.9 A	Yes	3R	SPST	30A	--	--	--	QLB1-29,31,33	23 81 00	MH601	--
SSHP-123	SPLIT-SYSTEM OUTDOOR UNIT	EXTERIOR NORTH	208 V	1	--	11.0 A	13.8 A	Yes	3R	SPST	30A	--	--	--	QLB2-14,16	23 81 00	MH601	--
UH-100	UNIT HEATER	100 VEST.	277 V	1	--	7.2 A	9.0 A	Yes	1	$M	--	--	--	--	NH-2	23 82 46.00 40	MH601	--
UH-104	UNIT HEATER	104 ELEC	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	NH-10,12,14	23 82 46.00 40	MH601	--
UH-105	UNIT HEATER	105 MECHANICAL	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	NH-22,24,26	23 82 46.00 40	MH601	--
UH-106NE	UNIT HEATER	106 GEN RM A	480 V	3	--	12.1 A	15.1 A	Yes	1	SPST	30A	--	--	--	QHA4-2,4,6	23 82 46.00 40	MH601	--
UH-106SE	UNIT HEATER	106 GEN RM A	480 V	3	--	12.1 A	15.1 A	Yes	1	SPST	30A	--	--	--	QHA4-14,16,18	23 82 46.00 40	MH601	--
UH-106SW	UNIT HEATER	106 GEN RM A	480 V	3	--	12.1 A	15.1 A	Yes	1	SPST	30A	--	--	--	QHA4-8,10,12	23 82 46.00 40	MH601	--
UH-108E	UNIT HEATER	108 WORKSHOP	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	QHA2-14,16,18	23 82 46.00 40	MH601	--
UH-108W	UNIT HEATER	108 WORKSHOP	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	QHA2-8,10,12	23 82 46.00 40	MH601	--
UH-111	UNIT HEATER	111 DAY TANKS A	480 V	3	--	4.3 A	5.4 A	Yes	7	SPST	30A	--	--	--	QHA4-20,22,24	23 82 46.00 40	MH601	--
UH-113	UNIT HEATER	113 FIRE PUMP	480 V	3	--	4.0 A	5.0 A	Yes	3R	SPST	30A	--	--	--	QHA2-2,4,6	23 82 46.00 40	MH601	--
UH-114	UNIT HEATER	114 SWITCHGEAR UA	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	QHA2-25,27,29	23 82 46.00 40	MH601	--
UH-115	UNIT HEATER	115 SWITCHGEAR GA	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	QHA2-19,21,23	23 82 46.00 40	MH601	--
UH-116	UNIT HEATER	116 EXHAUST TREATMENT	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	QHA4-26,28,30	23 82 46.00 40	MH601	--
UH-117NE	UNIT HEATER	117 GEN RM B	480 V	3	--	12.1 A	15.1 A	Yes	1	SPST	30A	--	--	--	QHB4-1,3,5	23 82 46.00 40	MH601	--
UH-117SE	UNIT HEATER	117 GEN RM B	480 V	3	--	12.1 A	15.1 A	Yes	1	SPST	30A	--	--	--	QHB4-13,15,17	23 82 46.00 40	MH601	--
UH-117SW	UNIT HEATER	117 GEN RM B	480 V	3	--	12.1 A	15.1 A	Yes	1	SPST	30A	--	--	--	QHB4-7,9,11	23 82 46.00 40	MH601	--
UH-118	UNIT HEATER	118 SWITCHGEAR GB	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	QHB2-13,15,17	23 82 46.00 40	MH601	--
UH-119	UNIT HEATER	119 SWITCHGEAR UB	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	QHB2-7,9,11	23 82 46.00 40	MH601	--
UH-120	UNIT HEATER	120 DISTRO B	480 V	3	--	4.0 A	5.0 A	Yes	--	CB	--	--	--	--	QHB2-14,16,18	23 82 46.00 40	MH601	SEE NOTE 14.
UH-122	UNIT HEATER	122 NEW OIL STORAGE	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	QHB2-20,22,24	23 82 46.00 40	MH601	--
UH-123	UNIT HEATER	124 PUMP CTRL B	480 V	3	--	4.0 A	5.0 A	Yes	1	SPST	30A	--	--	--	QHB4-25,27,29	23 82 46.00 40	MH601	--
UH-124	UNIT HEATER	124 DAY TANKS B	480 V	3	--	4.3 A	5.4 A	Yes	7	SPST	30A	--	--	--	QHB4-19,21,23	23 82 46.00 40	MH601	--
WE-1	HEATED WATERPROOF EXCLOSURE	EXTERIOR NORTH	120 V	1	--	10.0 A	12.5 A	Yes	1	SPST	30A	--	--	--	QLA2-24	--	MP607	PROVIDE WEATHER-RESISTANT GFCI DOUBLE DUPLEX RECEPTACLE IN ENCLOSURE.
WH-1	STORAGE WATER HEATER	105 MECHANICAL	480 V	3	--	15.0 A	18.8 A	Yes	1	SPST	30A	--	--	--	NH-16,18,20	22 00 00	P-601	--

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jfeddesen\Documents\BUCO00102_DM_ME_jfeddesen.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
SIZE: ANSI D
FILENAME: BUCO00102_DM_ME.rvt

Plot Date: 6/30/2025 1:18:51 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

EQUIPMENT ELECTRICAL CONNECTION

SHEET ID

EP612

ADVERTISEMENT

EQUIPMENT ELECTRICAL CONNECTION SCHEDULE SITE

E.Q. I.D. TAG	DESCRIPTION	LOCATION	VOLTS	PH	HP	FLA	MCA	PKG UNIT	NEMA ENCL.	DISCONNECT TYPE	DISCONNECT SIZE	DISCONNECT FUSE	STARTER TYPE	STARTER SIZE	PNL-CKT	COORDINATING DOCUMENTS SPECIFICATION(S)	COORDINATING DOCUMENTS SHEET(S)	REMARKS
GVU	GROUND VERIFICATION UNIT	SITE OFFLOAD	120 V	1	--	0.3 A	0.3 A	Yes	--	CB	--	--	--	--	OL-1	33 57 55	--	SEE NOTE 14.
OP-1	IN-LINE VERTICAL PUMP	SITE OFFLOAD	480 V	3	6	9.0 A	11.3 A	No	3R	SPST	30A	--	FVNR	1	OH-1,3,5	33 57 55	M-601	SEE NOTE 2.

FOR KEY, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP610.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfieldsem\Documents\BUCC000102_DM_ME_gfieldsem.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
LIHDROES:
SIZE: FILE NAME: BUCC000102_DM_ME.rvt
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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

EQUIPMENT ELECTRICAL CONNECTION SITE OFFLOAD

SHEET ID

EP613

ADVERTISEMENT

ELECTRICAL DISTRIBUTION EQUIPMENT SCHEDULE CIRCUIT NOTES	
A	PROVIDE COMBINATION-TYPE AFCI CIRCUIT BREAKER (NFPA 70 SECTION 210.12(A)(1)).
AG	PROVIDE DUAL FUNCTION AFCI/GFCI CIRCUIT BREAKER; AFCI FUNCTION SHALL BE "COMBINATION-TYPE".
B	ESTIMATED SIZE OF EQUIPMENT. COORDINATE CIRCUIT BREAKER, CONDUCTORS, AND RACEWAY SIZE WITH MANUFACTURER RECOMMENDATION FOR FINAL EQUIPMENT INSTALLED. SEE EQUIPMENT ELECTRICAL CONNECTION SCHEDULE NOTES. PROVIDE CIRCUIT BREAKER SIZED PER MANUFACTURER RECOMMENDATIONS (SEE EP610 GENERAL SCHEDULE NOTES).
CL	CIRCUIT BREAKER TO BE CURRENT-LIMITING.
CS	CIRCUIT TO BE SPLICED OUTSIDE OF PANELBOARD, THEN ONE LEG OF SPLICE TO BE CONTROLLED. ROUTE CONTROLLED LEG THROUGH RECEPTACLE CONTROL DEVICE, THEN TO DEVICES. SEE SHEET EP500.
D	ANTICIPATED LOAD OF GOVERNMENT FURNISHED/GOVERNMENT INSTALLED EQUIPMENT.
DS	SSBJ PER NFPA §250.186(B)(1), SIZED PER NFPA §250.24(D)(3).
E	PROVIDE RED CIRCUIT BREAKER CAPABLE OF BOTH LOCK-ON AND LOCKED IN THE OPEN POSITION. PROVIDE A LABEL WITH THE FOLLOWING INSCRIPTION: "FIRE PROTECTION/LIFE SAFETY EQUIPMENT". CONSTRUCT AND FASTEN THE LABEL IDENTICAL TO THE PANEL NAMEPLATE, EXCEPT THE LABEL MUST BE RED LAMINATED PLASTIC WITH WHITE CENTER CORE.
F	PROVIDE RED LOCK-ON TYPE CIRCUIT BREAKER. PROVIDE A LABEL WITH THE FOLLOWING INSCRIPTION: "FIRE PROTECTION/LIFE SAFETY EQUIPMENT". CONSTRUCT AND FASTEN THE LABEL IDENTICAL TO THE PANEL NAMEPLATE, EXCEPT THE LABEL MUST BE RED LAMINATED PLASTIC WITH WHITE CENTER CORE.
G	PROVIDE GFCI CIRCUIT BREAKER.
GFP	PROVIDE GROUND-FAULT PROTECTION CIRCUIT BREAKER.
H	PROVIDE HANDLE TIE DEVICE WITH THIS PROTECTIVE DEVICE AND THE SUBSEQUENT PROTECTIVE DEVICE BELOW THE CIRCUIT WITH THIS INDICATION. WHERE "(#)" IS INDICATED, PROVIDE A HANDLE TIE ACROSS "#" QUANTITY OF SUBSEQUENT PROTECTIVE DEVICES.
J	THE RADIANT HEATING SYSTEMS ARE A PERFORMANCE SPECIFICATION AND HAVE BEEN ASSUMED TO REQUIRE A 120V POWER SUPPLY. CONTRACTOR SHALL COORDINATE THE FINAL CONNECTION CONFIGURATION REQUIREMENTS OF THE INSTALLED SYSTEM, UTILIZING SPARE CIRCUIT BREAKERS AS REQUIRED.
K	SURGE PROTECTIVE DEVICE (SPD) CIRCUIT BREAKER SHALL BE SIZED PER MANUFACTURER REQUIREMENTS. THE MINIMUM WIRE SIZE SHALL BE CAPABLE OF CARRYING 100% AMPACITY OF THE CIRCUIT BREAKER RATING PER NFPA 70-2023 TABLE 310.16 AFTER ADJUSTMENTS FOR THE FACTORS LISTED FOR THE RESPECTIVE SPD CIRCUIT. SPD/TVSS SHALL BE IN A COMPARTMENT SEPARATE FROM THE REMAINDER OF THE SWITCHBOARD/PANELBOARD.
KI	BREAKER IS PART OF A KIRK-KEY INTERLOCK SYSTEM, SEE POWER ONE-LINE DIAGRAM.
L	PROVIDE CIRCUIT WITH HANDLE LOCK DEVICE CAPABLE OF BEING LOCKED IN THE OPEN POSITION ONLY.
M	SPARE CIRCUIT BREAKER SHALL BE SOLID STATE AND WITH A STANDARD CIRCUIT BREAKER SERVICE RATING (CB SVC). SPARE CIRCUIT BREAKER SHALL BE INSTALLED WITH METER (DESIGNATION: '#').
N	PROVIDE CIRCUIT WITH DEDICATED SURGE PROTECTIVE DEVICE IN ENCLOSURE SEPARATE FROM PANEL. SINGLE-CIRCUIT SPD SHALL BE LOCATED NEAR THE POINT WHERE THE CIRCUIT EXITS THE BUILDING. SEE SITE PLANS (ES SHEETS) FOR PART OR ALL OF THE DEVICES/EQUIPMENT ON THIS CIRCUIT.
O	THIS CIRCUIT IS PART OF A BID OPTION. PROVIDE SPARE CIRCUIT BREAKER(S) OF SIZE INDICATED IN PARENTHESES (##) IF OPTION IS NOT AWARDED. IF NO SIZE LISTED IN NOTE, PROVIDE CIRCUIT BREAKER OF SIZE AND POLE QUANTITY IDENTIFIED IN 'CB' AND 'P' COLUMNS. IF OPTION IS NOT AWARDED, "LOAD NAME" SHALL BE "SPARE".
P	SEE SITE PLANS (ES SHEETS) FOR PART OR ALL OF THE DEVICES/EQUIPMENT ON THIS CIRCUIT.
Q	PROVIDE PERMANENTLY-ATTACHED SIGN WHICH READS "WARNING: PARTS OF THE CONTROLLER ARE NOT DE-ENERGIZED BY THIS SWITCH." BREAKER HANDLE SHALL BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION ONLY.
R	THE HOT CONDUCTOR OF THE CIRCUIT'S SECOND POLE SUPPLIES AUTOMATICALLY-CONTROLLED RECEPTACLES. ROUTE CONDUCTOR THROUGH RECEPTACLE CONTROL PANEL, THEN TO DEVICES.
S	PROVIDE SHUNT-TRIP CIRCUIT BREAKER. COORDINATE SHUNT-TRIP COIL VOLTAGE PRIOR TO ORDERING. COORDINATE WITH FA600 SERIES SHEET MATRICES. POWER FOR SHUNT TRIP ACTUATION MAY BE PROVIDED 24VDC VIA FACP (OR OTHER FA600 SHEET SERIES CONTROL PANEL DIRECTLY RELATED TO THE SHUNTING FUNCTION) IN LIEU OF 120VAC VIA GENERATOR-SUPPORT PANELBOARDS AT THE CONTRACTOR'S DISCRETION; IF THIS IS PERFORMED, PROVIDE SPARE 20A CIRCUIT BREAKER IN PLACE OF THE CIRCUIT BREAKER SUPPLYING THE SHUNT TRIP DEVICES.
SE	CIRCUIT BREAKER TO BE SERVICE ENTRANCE-RATED.
SFN	SUBFEED BREAKER WITH SWITCHED NEUTRAL.
SN	CIRCUIT BREAKER SHALL INCLUDE THE NEUTRAL (SWITCHED NEUTRAL).
SU	CIRCUIT BREAKER AND CONDUCTORS CONSERVATIVELY SIZED. ADJUST THE SOLID-STATE CIRCUIT BREAKER LONG-TIME SETTING TO THE EQUIPMENT/ASSEMBLY MANUFACTURER REQUIREMENTS, AND ADJUST OTHER ADJUSTABLE SETTINGS AS REQUIRED BY THE POWER STUDIES REQUIREMENTS.
T	SPD/TVSS SHALL BE IN A COMPARTMENT SEPARATE FROM THE REMAINDER OF THE SWITCHBOARD/PANELBOARD.
V	CIRCUIT SIZE HAS BEEN INCREASED OVER THE PRE-CORRECTED CONDUCTOR SIZES TO ACCOUNT FOR VOLTAGE DROP MITIGATION REQUIREMENTS.
VF	CIRCUIT SIZE INCREASED IN ACCORDANCE WITH NFPA 70 SECTION 695.7(A).
VM	POWER AVAILABILITY MONITORING TO BE ADDED TO CIRCUIT. IN THE EVENT OF A LOSS OF POWER, REPORT TO FUELS CONTROL SYSTEM (SEE SECTION 33 57 55).
Y	CIRCUIT IS PART OF A HANDLE TIE ASSEMBLY IDENTIFIED WITH THE NEAREST CIRCUIT INDICATED WITH NOTE "H" ABOVE THIS CIRCUIT (NOT BELOW).
Z	SHOULD THE MASTER CONTROLLER(S) BE SUPPLIED BY THE PCA CIRCUITS, REPLACE THIS CIRCUIT WITH A SPARE BREAKER.

GENERAL NOTES - DISTRIBUTION EQUIPMENT SCHEDULES	
1	SEE EQUIPMENT ELECTRICAL CONNECTION SCHEDULE NOTES FOR REQUIREMENTS RELATED TO EQUIPMENT FURNISHED IN THIS PROJECT. CIRCUIT ELEMENTS SHOWN IN SCHEDULES ARE BASED ON ESTIMATED SIZE OF EQUIPMENT BASIS OF DESIGN. COORDINATE CIRCUIT BREAKER, CONDUCTORS, AND RACEWAY SIZE WITH MANUFACTURER RECOMMENDATION FOR FINAL EQUIPMENT INSTALLED. PROVIDE CIRCUIT BREAKER SIZED PER MANUFACTURER RECOMMENDATIONS.
2	UNLESS OTHERWISE NOTED, PANELBOARD SPARE CIRCUIT BREAKER PROPERTIES SHALL BE THERMAL MAGNETIC TECHNOLOGY AND STANDARD (80%) RATED.
3	CIRCUIT BREAKERS INDICATED TO BE PROVIDED WITH LOCKED IN THE OPEN POSITION OR LOCK-OFF PROVISIONS SHALL BE PADLOCKABLE
4	CIRCUIT BREAKERS INDICATED TO BE PROVIDED WITH LOCKED IN THE CLOSED POSITION OR LOCK-ON PROVISIONS SHALL BE NON-PADLOCKABLE.

PANEL SCHEDULE KEY

Branch Panel: < Panel Name >

Location: < Location of Equipment >
Supply From: < Supplying Equipment >
Mounting: < Mounting Type: Surface, Recessed, Floor, Pedestal, Etc. >
Sections: < No. of Panel Sections (greater than 1: feed-thru lugs) >
Enclosure: < NEMA Enclosure Rating >
Fault Duty (Min.): < Minimum Equipment Short Circuit Current Duty Rating >
Minimum Front Clearance: < Min. NFPA 70 (or other criteria) Clearance based on Design Voltages, Ampacities, and Space Config. >
Main Meter: < Whether the supply feeders are metered at the panel (designation in parentheses indicates the metered load classification) >
Volts: < System Voltage >
Phases: < No. of Phases>
Wires: < No. of System Conductors (excluding Ground) >
Neutral Bus: < Size of Neutral Bus Relative to Frame Rating >
Mains Type: < Circuit Breaker (MCB) or Lug (MLO) >
Minimum Frame Rating: < Minimum Equipment Size Rating in Amperes >
MCB Ampacity Rating: < Main Circuit Breaker Rating in Amperes (MCB Panels Only) >
MCB Service Rating: < 100% or Standard (Std) Rated (MCB Panels Only) >
MCB Solid State: < Same as SSCB below (MCB Panels Only) >
MCB Other Features: < Special Features such as Current-Limiting, Ground-Fault Protection (GFP), Service Entrance (SE) Rated, etc. (MCB Panels Only) >

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO.	LOAD NAME	LT	CB	P	PHASE A	PHASE B	PHASE C	P	CB	LT	LOAD NAME	NO.	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
_-#__.#__G,__"C	___	___	___	___	___	___	___	_;_	1	< ENTRY TO APPEAR ON PANEL DIRECTORY >	_;...	__ A	3	____ VA	____ VA		1	__ A	_;...	< ENTRY TO APPEAR ON PANEL DIRECTORY >	2	_;_	___	___	___	___	___	___	___	1-#__.#__G,__"C
--	--	--	--	--	--	--	___	--	3	--	--	--	--		____ VA	____ VA		2	__ A	_;...	< ENTRY TO APPEAR ON PANEL DIRECTORY >	4	--	___	___	___	___	___	___	___	2-#__.#__G,__"C
--	--	--	--	--	--	--	--	--	5	--	--	--	--			____ VA	____ VA	--	--	--	--	6	--	--	--	--	--	--	--	--	--
_-#__.#__G,__"C	___	___	___	___	___	___	___	_;_	23	"050 MS27265 PED. 'B' (HYDRAULIC MULE:236A)"	_;...	300 A	3			____ VA	0 VA	--	--	"STRAP KIT SIZE MISMATCH SPACE"	23	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	25	--	--	--	--	____ VA	0 VA			--	--	--	--	25	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	--	--	--	--		____ VA	0 VA		--	--	--	--	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	"SPACE FOR 3-POLE GFCI ELECTRONIC DEVICE"	--;...	--	--			0 VA	0 VA	--	--	--	--	30	--	--	--	--	--	--	--	--	--
										Total Load:		____ VA			____ VA															
										Total Amps:		___ A			___ A															
										Phase Imbalance:		___ %			___ %															

Ambient Temperature Zone: Highest ambient temperature through which at least the length of the circuit defined by the NFPA 70 Section 310.15(A)(2) Exception is expected to travel. See "Environmental Temperature Condition Legend" (Sheet E-110). An asterisk (*) indicates the circuit is expected to pass through a higher ambient temperature zone than the zone listed, but less than the length defined by the aforementioned exception. Should the circuit pass through a higher zone for a length greater than that defined by the aforementioned exception, the contractor is responsible for re-sizing the circuit and/or adjusting the insulation value with the approval of the DOR (and shall account for ASHRAE 90.1 voltage drop where applicable). Building-mounted device circuits assume interior circuit routing for ambient temperature purposes. (^) indicates circuit routes predominantly outside the building and underground.

Non-linear load estimation assignment for NFPA 70 Section 310.15(E) and UFC 3-520-01 Section C-6 purposes when a neutral conductor is present. Used in estimation of the amount of non-linear contribution both on the circuit in a given application and for supply equipment and other upstream distribution when evaluated in the aggregate, in effect impacting the number of current-carrying conductors.

Current-Carrying Conductors: Assumed number of current-carrying conductors in the circuit's raceway (per set). Assumption includes shared raceways local to the supplying panelboard/switchboard do not exceed the lengths of the circuit defined by the NFPA 70 Section 310.15(A)(2) Exception and Section 310.15(B)(3) as applicable. Should the circuit share a raceway for a length greater than the aforementioned distance with another circuit and exceeded the maximum number of current-carrying conductors for the identified ampacity correction value for an aggregated length over all portions of a given circuit, the contractor is responsible for re-sizing the circuit and/or adjusting the insulation value to account for this factor. Where multiple neutral conductors are shown in a raceway/set, all neutral conductors shall be considered current-carrying conductors. The conduit sizing is based on only the conductors indicated in a given entry. For controlled/uncontrolled receptacle circuits which are spliced/tapped and continue in a shared raceway, only one set of each spliced circuit shall count toward the current-carrying conductor quantity (for example, a 2W+G circuit split into a controlled and an uncontrolled 2W+G circuit shall only count two of the four total phase and neutral conductors after the splice as current-carrying conductors).

Minimum Conductor Insulation Temperature Rating of Circuit in degrees Celsius (e.g., 60, 75, or 90). If circuit component (such as circuit breaker, light fixture, individual equipment termination, intermediate circuit termination, etc.) manufacturer requirements or other contract requirements require a higher rating, the higher rating shall be used. Likewise, should multiple circuits be routed in the same raceway resulting in a quantity of current carrying conductors greater than the values listed, the insulation rating and/or the conductor size shall be adjusted to account for the NFPA 70 Table 310.15(C)(1) adjustment factors.

Minimum Conductor and Conduit Sizes. Where circuits are spliced/tapped, the sizes indicated apply to all portions of the circuit unless otherwise noted. Conduit size is based on insulation temperature values indicated in the MCIT except for types RHW, USE, RHH, RHW-2, and USE-2, which are only accounted for where the ATZ entry indicates the circuit routes predominantly outside and underground. Should one of the aforementioned types be used in other applications, the contractor shall confirm a revised conduit size with the COR. See Section 26 20 00 Subpart "Insulation" for additional requirements. Where multiple circuits share a raceway at the contractor's discretion, in addition to adjustments described in the "Current-Carrying Conductors" entry in this key, the contractor shall adjust the size of the raceway to meet NFPA 70 fill ratio requirements. For circuits which are spliced/tapped and continue in a shared raceway, the contractor shall adjust the size of the raceway to meet NFPA 70 fill ratio requirements for the application. Where the neutral conductor is larger than the phase conductor(s) or two neutrals per set are shown, this is indicative of an intent to provide a neutral minimum 173% of the phase conductors to mitigate potential damage from a high amount of non-linear loads per UFC 3-520-01 Section C-6.

For multi-pole circuits, see first pole. "--" also for non-circuit pole positions such as GFCI electronics, spaces, and spares.

Circuit Breaker Technology: Yes (Electronic/Solid State) or No (Thermal Magnetic).

Circuit Breaker Service Rating: 100% or Standard (Std) Rated.

Whether the branch circuit is metered at the panel. (Designation in parentheses indicates the metered load classification; see ELECTRICAL METER DESIGNATIONS SCHEDULE for list of designations.)

Circuit-specific notes. See "ELECTRICAL PANEL/SWITCHBOARD SCHEDULE CIRCUIT NOTES".

Panelboard pole position.

Load name to appear on panel directory. "--" indicates multi-pole circuit.

Circuit load type corresponding to "Load Classification" summary designations for estimated demand calculation. "--" indicates multi-pole circuit, space, or spare.

Circuit breaker rating in amperes. "--" indicates multi-pole circuit or space.

Circuit pole quantity. "--" indicates multi-pole circuit or space.

Connected load attributed to a given pole in volt-amperes (typ.).

Space allocated opposite large circuit breakers that are assumed to have a larger frame size than other circuit breakers on branch circuit panelboards.

Load Connected to Phase in Volt-Amperes (typ.).

Load Connected to Phase in Amperes (typ.).

Load Imbalance Relative to Load per Phase (typ.).

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
< Load Type Designation >	< Connected Load for Specific Type >	< Demand Factor for Specific Type >	< Est. Demand for Specific Type >	
				Total Connected Load: < Load Connected to Panel in Volt-Amperes >
				Total Estimated Demand: < Estimated Maximum Demand on Panel in Volt-Amperes >
				Total Connected Current: < Current Connected to Panel in Amperes >
				Total Estimated Demand Current: < Estimated Maximum Demand on Panel in Amperes >

Notes:
< Notes applicable to equipment or as specifically identified by circuit >

NOTE: ABOVE KEY IS REPRESENTATIVE OF PANELBOARD SCHEDULES. SWITCHBOARD SCHEDULES AND TRANSFORMER SCHEDULES UTILIZE A DIFFERENT CONFIGURATIONS, HOWEVER, THE DEFINITIONS ARE THE SAME.

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MARK	DESCRIPTION	DATE

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DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: S.MOORE
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PANEL SCHEDULE NOTES AND KEY

SHEET ID

EP620

ADVERTISEMENT

Branch Panel: QHA1

Location: DISTRO A 112
Supply From: 112 SWITCHBOARD DHA
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 35kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MLO
Frame Rating: 400 A

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A	PHASE B	PHASE C	P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	1	112 LIGHTING	L...	20 A	1	171 VA	3796 VA		1	20 A	L...	106 LIGHTING NORTH	2	V	No	Std	No	3	Yes	2	90	2-#8, #8 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	3	113 LIGHTING	L...	20 A	1			148 VA	1917 VA		1	20 A	L...	106 LIGHTING SOUTH	4	V	No	Std	No	3	Yes	2	90	2-#10, #10 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	5	114 LIGHTING	L...	20 A	1					322 VA	88 VA	1	20 A	L...	107 LIGHTING	6	--	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	7	115 LIGHTING	L...	20 A	1	332 VA	540 VA					1	20 A	L...	108 LIGHTING	8	--	No	Std	No	2	Yes	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	--	9	116 LIGHTING	L...	20 A	1			215 VA	65 VA			1	20 A	L...	110 LIGHTING	10	--	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	--	11	201 LIGHTING	L...	20 A	1					1557 VA	148 VA	1	20 A	L...	111 LIGHTING	12	--	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
3-#6, #8 G, 1"C	75	3	Yes	3	No	Std	No	B	13	201 SF-A1 GENERATOR SUPPLY FAN	LM...	90 A	3	11100 VA	0 VA		1	20 A	--	SPARE	14	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	15	--	--	--	--			11100 VA	0 VA			1	20 A	--	SPARE	16	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	--	--	--	--					11100 VA	0 VA	1	20 A	--	SPARE	18	--	--	--	--	--	--	--	--	--
3-#6, #8 G, 1"C	75	3	Yes	3	No	Std	No	B	19	201 SF-A2 GENERATOR SUPPLY FAN	M...	90 A	3	11100 VA	0 VA					1	20 A	--	SPARE	20	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	21	--	--	--	--			11100 VA	0 VA			1	20 A	--	SPARE	22	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	23	--	--	--	--					11100 VA	0 VA	1	20 A	--	SPARE	24	--	--	--	--	--	--	--	--	--
3-#6, #8 G, 1"C	75	3	Yes	3	No	Std	No	B	25	201 SF-A3 GENERATOR SUPPLY FAN	M...	90 A	3	11100 VA	0 VA					1	20 A	--	SPARE	26	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	--	--	--	--			11100 VA	0 VA			1	20 A	--	SPARE	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	--	--	--	--					11100 VA	0 VA	1	20 A	--	SPARE	30	--	--	--	--	--	--	--	--	--
3-#6, #8 G, 1"C	75	3	Yes	3	No	Std	No	B	31	201 SF-A4 GENERATOR SUPPLY FAN	M...	90 A	3	11100 VA	0 VA					1	20 A	--	SPARE	32	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	33	--	--	--	--			11100 VA	0 VA			1	20 A	--	SPARE	34	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	35	--	--	--	--					11100 VA	0 VA	1	20 A	--	SPARE	36	--	--	--	--	--	--	--	--	--
3-#4, #10 G, 1-1/4"C	75	3	Yes	3	Yes	Std	No	B,SU	37	106 CRANE-A	M...	60 A	3	8333 VA	--					1	--	--	SPACE ONLY	38	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	39	--	--	--	--			8333 VA	--			1	--	--	SPACE ONLY	40	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	41	--	--	--	--					8333 VA	--	1	--	--	SPACE ONLY	42	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	43	SPACE ONLY	--	--	1	--	--					1	--	--	SPACE ONLY	44	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	45	SPACE ONLY	--	--	1			--	--			1	--	--	SPACE ONLY	46	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	47	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	48	--	--	--	--	--	--	--	--	--
3-#2, #8 G, 1-1/4"C	75	3	No	0	Yes	Std	No	-	49	112 TRANSFORMER QTA1 (PANEL QLA1)	Sp...	90 A	3	9777 VA	5 VA					3	30 A	O...	112 PANEL QHA1 SPD	50	K	No	Std	No	0	No	3	75	4-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	51	--	--	--	--			9793 VA	5 VA			--	--	--	--	52	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	53	--	--	--	--					10439 VA	5 VA	--	--	--	--	54	--	--	--	--	--	--	--	--	--
											Total Load:			67131 VA		64764 VA			65191 VA											
											Total Amps:			243 A		234 A			236 A											
											Phase Imbalance:			2.19%		-1.42%			-0.77%											

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	2760 VA	100.00%	2760 VA
H	HVAC	6016 VA	90.00%	5415 VA
L	Lighting	9299 VA	100.00%	9299 VA
LM	Largest Motor	41622 VA	120.00%	49947 VA
M	Motor	126443 VA	80.00%	101155 VA
O	Other	1230 VA	80.00%	984 VA
R	Receptacle	8640 VA	100.00%	8640 VA
T	Transformer Losses	1513 VA	100.00%	1513 VA

Panel Totals

Total Connected Load: 197083 VA
Total Estimated Demand: 179274 VA
Total Connected Current: 237 A
Total Estimated Demand Current: 216 A

Notes:

Branch Panel: QHB1

Location: DISTRO B 120
Supply From: 120 SWITCHBOARD DHB
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 35kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MLO
Frame Rating: 400 A

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A	PHASE B	PHASE C	P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
3-#4, #10 G, 1-1/4"C	75	3	Yes	2	Yes	Std	No	D,S,SU	1	121 FBC-1 FORKLIFT BATTERY CHARGER (VIA ECB)	C...	60 A	3	5679 VA	11100 VA					3	90 A	LM...	202 SF-B1 GENERATOR SUPPLY FAN (VIA ECB)	2	B	No	Std	No	3	Yes	3	75	3-#6, #8 G, 1"C
--	--	--	--	--	--	--	--	--	3	--	--	--	--			5679 VA	11100 VA						--	4	--	--	--	--	--	--	--	--	--
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2-#12, #12 G, 3/4"C	90	2	Yes	3	No	Std	No	--	9	117 LIGHTING SOUTH	L...	20 A	1			1407 VA	11100 VA			--	--	--	--	10	--	--	--	--	--	--	--	--	--
2-#10, #10 G, 3/4"C	90	2	Yes	3	No	Std	No	V	11	117 LIGHTING NORTH	L...	20 A	1					2595 VA	11100 VA	--	--	--	--	12	--	--	--	--	--	--	--	--	--
	75	2	Yes	0	No	Std	No	--	13	118 LIGHTING	L...	20 A	1	332 VA	11100 VA					3	90 A	M...	202 SF-B3 GENERATOR SUPPLY FAN	14	B	No	Std	No	3	Yes	3	75	3-#6, #8 G, 1"C
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	15	119 LIGHTING	L...	20 A	1			332 VA	11100 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	17	120 LIGHTING	L...	20 A	1					166 VA	11100 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	--	19	121 LIGHTING	L...	20 A	1	99 VA	11100 VA					3	90 A	M...	202 SF-B4 GENERATOR SUPPLY FAN	20	B	No	Std	No	3	Yes	3	75	3-#6, #8 G, 1"C
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	--	21	122 LIGHTING	L...	20 A	1			107 VA	11100 VA			--	--	--	--	22	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	--	23	123 LIGHTING	L...	20 A	1					65 VA	11100 VA	--	--	--	--	24	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	--	25	124 LIGHTING	L...	20 A	1	148 VA	1235 VA					1	20 A	L...	202 LIGHTING	26	--	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
3-#4, #10 G, 1-1/4"C	75	3	Yes	3	Yes	Std	No	B,SU	27	117 CRANE-B	M...	60 A	3			8333 VA	0 VA			1	20 A	--	SPARE	28	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	31	--	--	--	--	8333 VA	0 VA					1	20 A	--	SPARE	32	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	33	SPARE	--	20 A	1			0 VA	0 VA			1	20 A	--	SPARE	34	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	37	SPARE	--	20 A	1	0 VA	0 VA					1	20 A	--	SPARE	38	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	39	SPARE	--	20 A	1			0 VA	0 VA			1	20 A	--	SPARE	40	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	41	SPARE	--	20 A	1					0 VA	0 VA	1	20 A	--	SPARE	42	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	43	SPACE ONLY	--	--	1	--	0 VA					3	20 A	--	SPARE	44	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	45	SPACE ONLY	--	--	1			--	0 VA			--	--	--	--	46	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	47	SPACE ONLY	--	--	1					--	0 VA	--	--	--	--	48	--	--	--	--	--	--	--	--	--
3-#2, #8 G, 1-1/4"C	75	3	No	0	Yes	Std	No	--	49	120 TRANSFORMER QTB1 (PANEL QLB1)	Sp...	90 A	3	8637 VA	5 VA					3	30 A	O...	120 PANEL QHB1 SPD	50	K	No	Std	No	0	No	3	75	4-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	51	--	--	--	--			8752 VA	5 VA			--	--	--	--	52	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	53	--	--	--	--					8647 VA	5 VA	--	--	--	--	54	--	--	--	--	--	--	--	--	--
											Total Load:			68780 VA		68926 VA			69754 VA											
											Total Amps:			248 A		249 A			252 A											
											Phase Imbalance:			-0.54%		-0.33%			0.87%											

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	19796 VA	100.00%	19796 VA
H	HVAC	6016 VA	90.00%	5415 VA
L	Lighting	6486 VA	100.00%	6486 VA
LM	Largest Motor	41622 VA	120.00%	49947 VA
M	Motor	126609 VA	80.00%	101287 VA
O	Other	1230 VA	80.00%	984 VA
R	Receptacle	4500 VA	100.00%	4500 VA
T	Transformer Losses	1513 VA	100.00%	1513 VA

Panel Totals

Total Connected Load: 207460 VA
Total Estimated Demand: 189616 VA
Total Connected Current: 250 A
Total Estimated Demand Current: 228 A

Notes:

US Army Corps of Engineers ®

DATE | MARK | DESCRIPTION

File Path: C:\Users\gfieldsen\Documents\BUCO00102_DM_ME_gfieldsen.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.MONROE
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt
Plot Date: 6/30/2025 1:19:13 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

PANEL SCHEDULES

SHEET ID
EP621

ADVERTISEMENT

Branch Panel: QHA2

Location: DISTRO A 112
Supply From: 112 SWITCHBOARD DHA
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 35kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MLO
Frame Rating: 400 A

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A	PHASE B	PHASE C	P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
4-1/0, #6 G, 2"C	75	3	No	3	Yes	Std	No	V	1	106 PANEL QHA4	Sp...	100 A	3	14287 VA	1109 VA		3	15 A	C...	113 UH-113 UNIT HEATER	2	B	No	Std	No	0	No	3	75	3-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	3	--	--	--	--		14287 VA	1109 VA	--	--	--	--	4	--	--	--	--	--	--	--	--	--
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3-1/0, #6 G, 2"C	75	3	No	0	Yes	Std	No	--	7	112 TRANSFORMER QTA2 (PANEL QLA2 VIA ECB)	Sp...	150 A	3	19875 VA	1109 VA		3	15 A	C...	108 UH-108W UNIT HEATER	8	B	No	Std	No	2	No	3	75	4-#4, #10 G, 1-1/4"C
--	--	--	--	--	--	--	--	--	9	--	--	--	--		20097 VA	1109 VA	--	--	--	--	10	--	--	--	--	--	--	--	--	--
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4-#2, #6 G, 1-1/2"C	75	3	No	2	Yes	Std	No	V	13	EXTERIOR WEST PANEL QHA3	Sp...	60 A	3	1109 VA	1109 VA		3	15 A	C...	108 UH-108E UNIT HEATER	14	B	No	Std	No	2	No	3	75	3-#12, #12 G, 3/4"C
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3-#12, #12 G, 3/4"C	75	3	No	0	No	Std	No	B	19	115 UH-115 UNIT HEATER	C...	15 A	3	1109 VA	0 VA		3	20 A	--	SPARE	20	--	--	--	--	--	--	--	--	--	--
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3-#12, #12 G, 3/4"C	75	3	No	0	No	Std	No	B	25	114 UH-114 UNIT HEATER	C...	15 A	3	1109 VA	0 VA		3	20 A	--	SPARE	26	--	--	--	--	--	--	--	--	--	--
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											Total Load:			39133 VA	39346 VA	39814 VA														
											Total Amps:			141 A	142 A	144 A														
											Phase Imbalance:			-0.76%	-0.21%	0.97%														

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	53707 VA	100.00%	53707 VA
H	HVAC	6852 VA	90.00%	6166 VA
LM	Largest Motor	10504 VA	110.71%	11629 VA
M	Motor	15812 VA	80.00%	12649 VA
O	Other	690 VA	80.00%	552 VA
P	Power	32982 VA	100.00%	32982 VA
R	Receptacle	1620 VA	100.00%	1620 VA
T	Transformer Losses	2394 VA	100.00%	2394 VA

Panel Totals

Total Connected Load: 118293 VA
Total Estimated Demand: 115543 VA
Total Connected Current: 142 A
Total Estimated Demand Current: 139 A

Notes:

Branch Panel: QHB2

Location: DISTRO B 120
Supply From: 120 SWITCHBOARD DHB
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 35kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MLO
Frame Rating: 400 A

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A	PHASE B	PHASE C	P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
3-1/0, #6 G, 2"C	75	3	No	0	Yes	Std	No	--	1	120 TRANSFORMER QTB2 (PANEL QLB2 VIA ECB)	Sp...	150 A	3	16705 VA	14287 VA		3	100 A	Sp...	117 PANEL QHB4	2	--	No	Std	Yes	3	No	3	75	4-#1, #8 G, 2"C
--	--	--	--	--	--	--	--	--	3	--	--	--	--		16764 VA	14287 VA	--	--	--	--	4	--	--	--	--	--	--	--	--	--
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3-#12, #12 G, 3/4"C	75	3	No	0	No	Std	No	B	7	119 UH-119 UNIT HEATER	C...	15 A	3	1109 VA	1109 VA		3	60 A	Sp...	EXTERIOR WEST PANEL QHB3	8	--	No	Std	Yes	2	No	3	75	4-#4, #10 G, 1-1/4"C
--	--	--	--	--	--	--	--	--	9	--	--	--	--		1109 VA	1109 VA	--	--	--	--	10	--	--	--	--	--	--	--	--	--
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3-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	B	13	118 UH-118 UNIT HEATER	C...	15 A	3	1109 VA	1109 VA		3	15 A	C...	120 UH-120 UNIT HEATER	14	B	No	Std	No	0	No	3	75	3-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	15	--	--	--	--		1109 VA	1109 VA	--	--	--	--	16	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	27	--	--	--	--		0 VA	582 VA	--	--	--	--	28	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	33	SPACE ONLY	--	--	1		--	582 VA	--	--	--	--	34	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	41	SPACE ONLY	--	--	1			--	1	--	--	SPACE ONLY	42	--	--	--	--	--	--	--	--	--
											Total Load:			36169 VA	36225 VA	37067 VA														
											Total Amps:			131 A	131 A	134 A														
											Phase Imbalance:			-0.87%	-0.72%	1.59%														

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	50382 VA	100.00%	50382 VA
H	HVAC	1920 VA	90.00%	1728 VA
LM	Largest Motor	8470 VA	106.79%	9045 VA
M	Motor	18323 VA	80.00%	14658 VA
O	Other	690 VA	80.00%	552 VA
P	Power	31302 VA	100.00%	31302 VA
R	Receptacle	1800 VA	100.00%	1800 VA
T	Transformer Losses	2394 VA	100.00%	2394 VA

Panel Totals

Total Connected Load: 109461 VA
Total Estimated Demand: 106178 VA
Total Connected Current: 132 A
Total Estimated Demand Current: 128 A

Notes:

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfeddesen\Documents\BUCO00102_DM_ME_gfeddesen.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
J.HEDRICK
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

Date: 6/30/2025 1:19:21 PM
Plot Date: 6/30/2025 1:19:21 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

PANEL SCHEDULES

SHEET ID

EP622

ADVERTISEMENT

Branch Panel: QHA3

Location: EXTERIOR WEST
Supply From: QHA2
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 14kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 60 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A	PHASE B	PHASE C	P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
3-#12, #12 G, 3/4"C	75	3	No	2	No	Std	No	B	1	I20 OPERATING TANK BALL VALVE	LM...	15 A	3	552 VA	552 VA		3	15 A	M...	I21 OPERATING TANK BALL VALVE	2	B	No	Std	No	2	No	3	75	3-#12, #12 G, 3/4"C
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												Total Load:		1109 VA		1109 VA															
												Total Amps:		4 A		4 A															
												Phase Imbalance:		0.00%		0.00%															

Load Classification		Connected Load	Demand Factor	Estimated Demand
LM	Largest Motor	1656 VA	125.00%	2070 VA
M	Motor	1656 VA	80.00%	1325 VA
O	Other	15 VA	80.00%	12 VA

Panel Totals

Total Connected Load: 3327 VA
Total Estimated Demand: 3407 VA
Total Connected Current: 4 A
Total Estimated Demand Current: 4 A

Notes:

Branch Panel: QHB3

Location: EXTERIOR WEST
Supply From: QHB2
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 18kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 60 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A	PHASE B	PHASE C	P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
3-#12, #12 G, 3/4"C	75	3	No	2	No	Std	No	B	1	I22 OPERATING TANK BALL VALVE	LM...	15 A	3	552 VA	552 VA		3	15 A	M...	I23 OPERATING TANK BALL VALVE	2	B	No	Std	No	2	No	3	75	3-#12, #12 G, 3/4"C
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												Total Load:		1109 VA		1109 VA															
												Total Amps:		4 A		4 A															
												Phase Imbalance:		0.00%		0.00%															

Load Classification		Connected Load	Demand Factor	Estimated Demand
LM	Largest Motor	1656 VA	125.00%	2070 VA
M	Motor	1656 VA	80.00%	1325 VA
O	Other	15 VA	80.00%	12 VA

Panel Totals

Total Connected Load: 3327 VA
Total Estimated Demand: 3407 VA
Total Connected Current: 4 A
Total Estimated Demand Current: 4 A

Notes:

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfieldsem\Documents\BUCO00102_DM_ME_gfieldsem.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
JURISDICTION:
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

Date: 6/30/2025 1:19:24 PM
Plot Date: 6/30/2025 1:19:24 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

PANEL SCHEDULES

SHEET ID

EP623

ADVERTISEMENT

Branch Panel: QHA4

Location: GENERATOR A 106
Supply From: QHA2
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 18kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 100 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
3-#12, #12 G, 3/4"C	75	3	No	3	No	Std	No	B,L	1	111 BV13 ACTUATED BALL VALVE	LM...	15 A	3	581 VA	3353 VA					3	20 A	C...	106 UH-106NE UNIT HEATER	2	B	No	Std	No	3	No	3	75	3-#12, #12 G, 3/4"C
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3-#12, #12 G, 3/4"C	75	3	No	3	No	Std	No	B,L	7	111 BV14 ACTUATED BALL VALVE	M...	15 A	3	581 VA	3353 VA					3	20 A	C...	106 UH-106SW UNIT HEATER	8	B	No	Std	No	3	No	3	75	3-#12, #12 G, 3/4"C
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3-#12, #12 G, 3/4"C	75	3	No	3	No	Std	No	B,L	13	111 BV17 ACTUATED BALL VALVE	M...	15 A	3	581 VA	3353 VA					3	20 A	C...	106 UH-106SE UNIT HEATER	14	B	No	Std	No	3	No	3	75	3-#12, #12 G, 3/4"C
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3-#12, #12 G, 3/4"C	75	3	No	3	No	Std	No	B,L	19	111 BV18 ACTUATED BALL VALVE	M...	15 A	3	581 VA	1192 VA					3	15 A	C...	111 UH-111 UNIT HEATER	20	B	No	Std	No	3	No	3	75	3-#12, #12 G, 3/4"C
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												Total Load:		14287 VA		14287 VA		14287 VA															
												Total Amps:		52 A		52 A		52 A															
												Phase Imbalance:		0.00%		0.00%		0.00%															

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	37080 VA	100.00%	37080 VA
LM	Largest Motor	1743 VA	125.00%	2179 VA
M	Motor	5229 VA	80.00%	4183 VA

Panel Totals

Total Connected Load: 42862 VA
Total Estimated Demand: 42342 VA
Total Connected Current: 52 A
Total Estimated Demand Current: 51 A

Notes:

Branch Panel: QHB4

Location: GENERATOR B 117
Supply From: QHB2
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 18kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 100 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
3-#12, #12 G, 3/4"C	75	3	No	3	No	Std	No	B	1	117 UH-117NE UNIT HEATER	C...	20 A	3	3353 VA	581 VA					3	15 A	M...	123 BV05 ACTUATED BALL VALVE	2	B,L	No	Std	No	3	No	3	75	3-#12, #12 G, 3/4"C
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3-#12, #12 G, 3/4"C	75	3	No	3	No	Std	No	B	7	117 UH-117SW UNIT HEATER	C...	20 A	3	3353 VA	581 VA					3	15 A	M...	123 BV06 ACTUATED BALL VALVE	8	B,L	No	Std	No	3	No	3	75	3-#12, #12 G, 3/4"C
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3-#12, #12 G, 3/4"C	75	3	No	3	No	Std	No	B	13	117 UH-117SE UNIT HEATER	C...	20 A	3	3353 VA	581 VA					3	15 A	M...	123 BV09 ACTUATED BALL VALVE	14	B,L	No	Std	No	3	No	3	75	3-#12, #12 G, 3/4"C
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3-#12, #12 G, 3/4"C	75	3	No	3	No	Std	No	B	19	124 UH-124 UNIT HEATER	C...	15 A	3	1192 VA	581 VA					3	15 A	LM...	123 BV10 ACUTATED BALL VALVE	20	B,L	No	Std	No	3	No	3	75	3-#12, #12 G, 3/4"C
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3-#12, #12 G, 3/4"C	75	3	No	3	No	Std	No	B	25	123 UH-123 UNIT HEATER	C...	15 A	3	1109 VA	0 VA					3	20 A	--	SPARE	26	--	--	--	--	--	--	--	--	--	--
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												Total Load:		14287 VA		14287 VA		14287 VA															
												Total Amps:		52 A		52 A		52 A															
												Phase Imbalance:		0.00%		0.00%		0.00%															

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	37080 VA	100.00%	37080 VA
LM	Largest Motor	1743 VA	125.00%	2179 VA
M	Motor	5229 VA	80.00%	4183 VA

Panel Totals

Total Connected Load: 42862 VA
Total Estimated Demand: 42342 VA
Total Connected Current: 52 A
Total Estimated Demand Current: 51 A

Notes:

US Army Corps of Engineers ®

DATE | DESCRIPTION | MARK

File Path: C:\Users\jfieldsten\Documents\BUCO00102_DM_ME_jfieldsten.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.HEDRICK
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

Date: 6/30/2025 1:19:30 PM
Plot Date: 6/30/2025 1:19:30 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

PANEL SCHEDULES

SHEET ID
EP624

ADVERTISEMENT

Branch Panel: QLA1

Location: DISTRO A 112
Supply From: 112 XFMR QTA1
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 225 A
MCB Ampacity Rating: 150 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#8, #8 G, 3/4"C	75	2	No	3	No	Std	No	V	1	EXT. SOUTH (A) RECEPTACLES	R...	20 A	1	900 VA	5 VA					3	30 A	O...	112 PANEL QLA1 SPD	2	K	No	Std	No	0	No	3	75	4-#10, #10 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	B	3	112 SS-112 SPLIT-SYSTEM INDOOR UNIT	H...	15 A	2			624 VA	5 VA			--	--	--	--	4	--	--	--	--	--	--	--	--	--
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3-#8, #10 G, 3/4"C	75	3	Yes	2	No	Std	No	B	7	EXT. SOUTH SSHP-112 SPLIT-SYSTEM OUTDOOR UNIT	LM...	35 A	3	2774 VA	1260 VA					1	20 A	R...	201 RECEPTACLES	8	V	No	Std	No	3	No	2	75	2-#10, #10 G, 3/4"C
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2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	L	13	112 DDC PANEL 'A'	O...	20 A	1	360 VA	720 VA					1	20 A	R...	106 SOUTH RECEPTACLES	14	V	No	Std	No	3	No	2	75	2-#10, #10 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	--	15	113 RECEPTACLES	R...	20 A	1			540 VA	1440 VA			1	20 A	R...	108 EAST RECEPTACLES	16	V	No	Std	No	3	No	2	75	2-#10, #10 G, 3/4"C
2-#10, #10 G, 3/4"C	75	2	Yes	0	No	Std	No	B,L	17	114 BC-A, BAT-A SWITCHGEAR BATTERIES AND CHARGER	C...	30 A	1					2760 VA	540 VA	1	20 A	R...	108 WEST-1 RECEPTACLES	18	--	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	B	19	114 EF-114 EXHAUST FAN	M...	15 A	2	562 VA	540 VA					1	20 A	R...	108 WEST-2 RECEPTACLES	20	--	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
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2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	B	23	114 D-EF114(E/I) EXHAUST FAN DAMPERS	M...	15 A	1					240 VA	180 VA	1	20 A	R...	110 RECEPTACLE	24	V	No	Std	No	3	No	2	75	2-#10, #10 G, 3/4"C
2-#10, #10 G, 3/4"C	75	2	No	0	No	Std	No	V	25	114 RECEPTACLES	R...	20 A	1	720 VA	240 VA					1	20 A	O...	110 ATG-FA AUTOMATIC TANK GAUGE	26	B,L	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	B	27	EXT. SOUTH SSHP-114 / 114 SS-114 SPLIT SYSTEM	H...	15 A	2			1192 VA	240 VA			1	20 A	O...	110 ILAP-A INDEPENDENT LEVEL ALARM PANEL	28	B,L	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
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2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	B	31	EXT. SOUTH SSHP-115 / 115 SS-115 SPLIT SYSTEM	H...	15 A	2	1192 VA	0 VA					1	20 A	--	SPARE	32	--	--	--	--	--	--	--	--	--
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2-#10, #10 G, 3/4"C	75	2	No	0	No	Std	No	V	35	115 RECEPTACLES	R...	20 A	1					720 VA	0 VA	1	20 A	--	SPARE	36	--	--	--	--	--	--	--	--	--
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												Total Load:		9273 VA		9289 VA		9935 VA															
												Total Amps:		77 A		77 A		83 A															
												Phase Imbalance:		-2.38%		-2.21%		4.59%															

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	2760 VA	100.00%	2760 VA
H	HVAC	6016 VA	90.00%	5415 VA
LM	Largest Motor	8322 VA	125.00%	10403 VA
M	Motor	1543 VA	80.00%	1235 VA
O	Other	1215 VA	80.00%	972 VA
R	Receptacle	8640 VA	100.00%	8640 VA

Panel Totals

Total Connected Load: 28497 VA
Total Estimated Demand: 29424 VA
Total Connected Current: 79 A
Total Estimated Demand Current: 82 A

Notes:

Branch Panel: QLB1

Location: DISTRO B 120
Supply From: 120 XFMR QTB1
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 225 A
MCB Ampacity Rating: 150 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#10, #10 G, 3/4"C	75	2	No	3	No	Std	No	V	1	202 RECEPTACLES	R...	20 A	1	1080 VA	5 VA					3	20 A	O...	120 PANEL QLB1 SPD	2	K	No	Std	No	0	No	3	75	4-#12, #12 G, 3/4"C
2-#10, #10 G, 3/4"C	75	2	No	0	No	Std	No	V	3	118 RECEPTACLES	R...	20 A	1			720 VA	5 VA			--	--	--	--	4	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	B	5	119 EF-119 EXHAUST FAN	M...	15 A	2					562 VA	5 VA	--	--	--	--	6	--	--	--	--	--	--	--	--	--
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2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	B	9	119 D-EF119(E/I) EXHAUST FAN DAMPERS	M...	15 A	1			240 VA	720 VA			1	20 A	R...	117 SOUTH RECEPTACLES	10	V	No	Std	No	3	No	2	75	2-#10, #10 G, 3/4"C
2-#10, #10 G, 3/4"C	75	2	Yes	0	No	Std	No	B,L	11	119 BC-B, BAT-B SWITCHGEAR BATTERIES AND CHARGER	C...	30 A	1					2760 VA	23 VA	1	15 A	M...	121 EF-121 EXHAUST FAN	12	B	No	Std	No	2	No	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	--	13	119 RECEPTACLES	R...	20 A	1	720 VA	120 VA					1	15 A	M...	122 D-EF121(E) EXHAUST FAN DAMPER	14	B	No	Std	No	2	No	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	B	15	120 SS-120 SPLIT-SYSTEM INDOOR UNIT	H...	15 A	2			624 VA	360 VA			1	20 A	R...	122 RECEPTACLES	16	--	No	Std	No	2	No	2	75	2-#12, #12 G, 3/4"C
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2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	L	19	120 DDC PANEL 'B'	O...	20 A	1	360 VA	360 VA					1	20 A	O...	123 JACE PANEL 'B'	20	B,L	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	B	21	EXT. SOUTH SSHP-118 / 118 SS-118 SPLIT SYSTEM	H...	15 A	2			1192 VA	240 VA			1	20 A	O...	123 ATG-FB AUTOMATIC TANK GAUGE	22	L	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
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2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	B	25	EXT. SOUTH SSHP-119 / 119 SS-119 SPLIT SYSTEM	H...	15 A	2	1192 VA	240 VA					1	20 A	O...	123 ILAP-B INDEPENDENT LEVEL ALARM PANEL	26	B,L	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
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3-#8, #10 G, 3/4"C	75	3	Yes	2	No	Std	No	B	29	EXT. SOUTH SSHP-120 SPLIT-SYSTEM OUTDOOR UNIT	LM...	35 A	3					2774 VA	0 VA	1	20 A	--	SPARE	30	--	--	--	--	--	--	--	--	--
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												Total Load:		8133 VA		8247 VA		8142 VA															
												Total Amps:		68 A		69 A		68 A															
												Phase Imbalance:		-0.51%		0.89%		-0.39%															

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	2760 VA	100.00%	2760 VA
H	HVAC	6016 VA	90.00%	5415 VA
LM	Largest Motor	8322 VA	125.00%	10403 VA
M	Motor	1709 VA	80.00%	1367 VA
O	Other	1215 VA	80.00%	972 VA
R	Receptacle	4500 VA	100.00%	4500 VA

Panel Totals

Total Connected Load: 24522 VA
Total Estimated Demand: 25416 VA
Total Connected Current: 68 A
Total Estimated Demand Current: 71 A

Notes:

US Army Corps of Engineers ®

DATE | MARK | DESCRIPTION

File Path: C:\Users\jfields\Documents\BUCO00102_DM_ME_jfields.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_ME.rvt
Plot Date: 6/30/2025 1:19:38 PM

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.MOORE
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

PANEL SCHEDULES

SHEET ID

EP625

ADVERTISEMENT

Branch Panel: QLA2

Location: GENERATOR A 106
Supply From: 112 ECB QLA2
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 400 A
MCB Ampacity Rating: 250 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	1	202 SFD-A1 GENERATOR SUPPLY FAN DAMPER	H...	20 A	1	480 VA	660 VA					1	20 A	O...	106 EEWS-1A EMERGENCY EYE WASH STATION	2	B	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	3	202 SFD-A2 GENERATOR SUPPLY FAN DAMPER	H...	20 A	1			480 VA	240 VA			1	20 A	P...	106 ATG-D1 AUTOMATIC TANK GAUGE	4	B,L	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	5	202 SFD-A3 GENERATOR SUPPLY FAN DAMPER	H...	20 A	1					480 VA	240 VA	1	20 A	P...	106 ATG-D2 AUTOMATIC TANK GAUGE	6	B,L	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	7	202 SFD-A4 GENERATOR SUPPLY FAN DAMPER	H...	20 A	1	480 VA	900 VA					1	20 A	R...	106 NORTHWEST / 116 RECEPTACLES	8	V	No	Std	No	3	No	2	75	2-#8, #8 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	9	106 OVERHEAD DOOR NORTH	M...	15 A	2			1003 VA	360 VA			1	20 A	R...	EXT. NORTH (A) RECEPTACLES	10	V	No	Std	No	3	No	2	75	2-#8, #8 G, 3/4"C
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2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	13	106 BV-001, BV-211, AND BV-221 ACTUATED BALL VALVES	M...	15 A	1	99 VA	1500 VA					3	30 A	LM...	116 P-001 PUMP	14	B	No	Std	No	3	Yes	3	75	3-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	--	15	112 RECEPTACLES	R...	20 A	1			360 VA	1500 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--
2-#6, #6 G, 1"C	75	2	Yes	3	No	Std	No	B,L,V	17	110 PCPA PUMP CONTROLLER PANEL	P...	35 A	1					3000 VA	1500 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	--	19	EXT. NORTH SSHP-110 / 110 SS-110 SPLIT-SYSTEM	H...	15 A	2	1233 VA	1440 VA					1	20 A	M...	116 P-002 PUMP	20	B	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
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--	--	--	--	--	--	--	--	--	33	SPARE	--	20 A	1			0 VA	790 VA			2	15 A	M...	EXT. WEST IP-O2 OPERATING TANK ISSUE PUMP	34	B,L	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
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4-#10, #10 G, 3/4"C	90	3	No	3	No	Std	No	K	43	106 PANEL QLA2 SPD	O...	30 A	3	5 VA	--					1	--	--	SPACE ONLY	44	--	--	--	--	--	--	--	--	--
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4-#2, #6 G, 1-1/2"C	75	3	No	3	Yes	Std	No	V	49	106 GENERATOR A2 PANEL GLA2	P...	70 A	3	5128 VA	5128 VA					3	70 A	P...	106 GENERATOR A1 PANEL GLA1	50	V	No	Std	Yes	3	No	3	75	4-#2, #6 G, 1-1/2"C
--	--	--	--	--	--	--	--	--	51	--	--	--	--			5328 VA	5328 VA			--	--	--	--	52	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	53	--	--	--	--					5355 VA	5355 VA	--	--	--	--	54	--	--	--	--	--	--	--	--	--
										Total Load:				19077 VA		19299 VA		19784 VA															
										Total Amps:				159 A		161 A		165 A															
										Phase Imbalance:				-1.60%		-0.45%		2.05%															

Load Classification		Connected Load	Demand Factor	Estimated Demand
H	HVAC	6852 VA	90.00%	6166 VA
LM	Largest Motor	7105 VA	115.83%	8230 VA
M	Motor	8927 VA	80.00%	7141 VA
O	Other	675 VA	80.00%	540 VA
P	Power	32982 VA	100.00%	32982 VA
R	Receptacle	1620 VA	100.00%	1620 VA

Panel Totals

Total Connected Load: 58160 VA
Total Estimated Demand: 56679 VA
Total Connected Current: 161 A
Total Estimated Demand Current: 157 A

Notes:

Branch Panel: QLB2

Location: GENERATOR B 117
Supply From: 120 ECB QLB2
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 400 A
MCB Ampacity Rating: 250 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	1	202 SFD-B1 GENERATOR SUPPLY FAN DAMPER	H...	20 A	1	480 VA	1003 VA					2	15 A	M...	117 OHD-W OVERHEAD DOOR WEST	2	B	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	3	202 SFD-B2 GENERATOR SUPPLY FAN DAMPER	H...	20 A	1			480 VA	1003 VA			--	--	--	--	4	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	5	202 SFD-B3 GENERATOR SUPPLY FAN DAMPER	H...	20 A	1					480 VA	66 VA	1	15 A	M...	117 BV-111 AND BV-121 ACTUATED BALL VALVES	6	B	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	7	202 SFD-B4 GENERATOR SUPPLY FAN DAMPER	H...	20 A	1	480 VA	660 VA					1	20 A	O...	117 EEWS-1B EMERGENCY EYE WASH STATION	8	B	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
2-#8, #8 G, 3/4"C	75	2	No	3	No	Std	No	V	9	117 NORTH RECEPTACLES	R...	20 A	1			720 VA	360 VA			1	20 A	R...	120 RECEPTACLES	10	V	No	Std	No	0	No	2	75	2-#10, #10 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	11	117 OHD-E OVERHEAD DOOR EAST	M...	15 A	2					1000 VA	3000 VA	1	35 A	P...	123 PCPB PUMP CONTROLLER PANEL	12	B,L	No	Std	No	3	Yes	2	75	2-#8, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	13	--	--	--	--	1000 VA	1233 VA					2	15 A	LM...	EXT. WEST SSHP-123 / 123 SS-123 SPLIT-SYSTEM	14	B	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
2-#6, #6 G, 1"C	75	2	No	3	No	Std	No	V	15	EXT. NORTHWEST (B) RECEPTACLES	R...	20 A	1			720 VA	1233 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	SPARE	--	20 A	1					0 VA	790 VA	2	15 A	M...	EXT. WEST IP-O3 OPERATING TANK ISSUE PUMP	18	B,L	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	19	SPARE	--	20 A	1	0 VA	790 VA					--	--	--	--	20	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	21	SPARE	--	20 A	1			0 VA	790 VA			2	15 A	M...	EXT. WEST IP-O4 OPERATING TANK ISSUE PUMP	22	B,L	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	23	SPARE	--	20 A	1					0 VA	790 VA	--	--	--	--	24	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	25	SPARE	--	20 A	1	0 VA	0 VA					1	20 A	--	SPARE	26	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	SPARE	--	20 A	1			0 VA	0 VA			1	20 A	--	SPARE	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	SPARE	--	20 A	1					0 VA	0 VA	1	20 A	--	SPARE	30	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	31	SPACE ONLY	--	--	1	--	--					1	--	--	SPACE ONLY	32	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	35	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	36	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	37	SPACE ONLY	--	--	1	--	--					1	--	--	SPACE ONLY	38	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	39	SPACE ONLY	--	--	1			--	--			1	--	--	SPACE ONLY	40	--	--	--	--	--	--	--	--	--
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--	--	--	--	--	--	--	--	--	43	SPACE ONLY	--	--	1	--	5 VA					3	30 A	O...	117 PANEL QLB2 SPD	44	K	No	Std	No	3	No	3	90	4-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	45	SPACE ONLY	--	--	1			--	5 VA			--	--	--	--	46	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	47	SPACE ONLY	--	--	1					--	5 VA	--	--	--	--	48	--	--	--	--	--	--	--	--	--
4-#2, #6 G, 1-1/2"C	75	3	No	3	Yes	Std	No	V	49	117 GENERATOR B2 PANEL GLB2	P...	70 A	3	5128 VA	5128 VA					3	70 A	P...	117 GENERATOR B1 PANEL GLB1	50	V	No	Std	Yes	3	No	3	75	4-#2, #6 G, 1-1/2"C
--	--	--	--	--	--	--	--	--	51	--	--	--	--			5328 VA	5328 VA			--	--	--	--	52	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	53	--	--	--	--					5355 VA	5355 VA	--	--	--	--	54	--	--	--	--	--	--	--	--	--
										Total Load:				15907 VA		15966 VA		16842 VA															
										Total Amps:				133 A		133 A		140 A															
										Phase Imbalance:				-2.04%		-1.68%		3.72%															

Load Classification		Connected Load	Demand Factor	Estimated Demand
H	HVAC	1920 VA	90.00%	1728 VA
LM	Largest Motor	5071 VA	111.34%	5646 VA
M	Motor	7948 VA	80.00%	6358 VA
O	Other	675 VA	80.00%	540 VA
P	Power	31302 VA	100.00%	31302 VA
R	Receptacle	1800 VA	100.00%	1800 VA

Panel Totals

Total Connected Load: 48715 VA
Total Estimated Demand: 47373 VA
Total Connected Current: 135 A
Total Estimated Demand Current: 131 A

Notes:

US Army Corps of Engineers ®

DATE | MARK | DESCRIPTION

File Path: C:\Users\jfeddesen\Documents\BUCO00102_DM_ME_jfeddesen.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NAME: BUCO00102_DM_ME.rvt

Plot Date: 6/30/2025 1:19:48 PM

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.MOSCRIP
SIZE: ANSI D

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

PANEL SCHEDULES

SHEET ID

EP626

ADVERTISEMENT

Branch Panel: GLA1

Location: GENERATOR A 106
Supply From: QLA2
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 70 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
--	--	--	--	--	--	--	--	--	1	SPACE ONLY	--	--	1	--	556 VA					1	20 A	P...	106 SCR CONTROLLER: HMI-A1, BP-A1, DB-A1	2	B,L	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	3	SPACE ONLY	--	--	1			--	240 VA			1	15 A	P...	106 ATG-A1 AUTOMATIC TANK GAUGE	4	B,L	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	5	SPACE ONLY	--	--	1					--	360 VA	1	15 A	M...	106 D-GA1(E) GENERATOR EXHAUST DAMPERS	6	B	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	7	SPACE ONLY	--	--	1	--	650 VA					2	20 A	LM...	106 AC-A1 AIR COMPRESSOR	8	B,L	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	9	SPACE ONLY	--	--	1			--	650 VA			--	--	--	--	10	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	11	SPACE ONLY	--	--	1					--	2408 VA	2	30 A	P...	106 CH1-A1 COOLANT HEATER	12	B	No	Std	No	3	No	2	90	2-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	13	SPACE ONLY	--	--	1	--	2408 VA					--	--	--	--	14	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	15	SPACE ONLY	--	--	1			--	2030 VA			1	25 A	P...	106 ALH-A1 ALTERNATOR HEATER	16	B	No	Std	No	3	No	2	75	2-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	17	SPACE ONLY	--	--	1					--	180 VA	1	15 A	P...	106 BWP-A1 BATTERY WARMING PADS	18	B	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	19	SPACE ONLY	--	--	1	--	1515 VA					1	20 A	P...	106 GBC-A1 GENERATOR BATTERY CHARGER	20	B	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	21	SPACE ONLY	--	--	1			--	2408 VA			2	30 A	P...	106 CH2-A1 COOLANT HEATER	22	B	No	Std	No	3	No	2	90	2-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	23	SPACE ONLY	--	--	1					--	2408 VA	--	--	--	--	24	--	--	--	--	--	--	--	--	--
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										Total Load:				5128 VA		5328 VA		5355 VA														
										Total Amps:				43 A		45 A		45 A														
										Phase Imbalance:				-2.69%		1.09%		1.61%														

Load Classification		Connected Load	Demand Factor	Estimated Demand
LM	Largest Motor	1300 VA	125.00%	1625 VA
M	Motor	360 VA	80.00%	288 VA
P	Power	14151 VA	100.00%	14151 VA

Panel Totals

Total Connected Load: 15811 VA
Total Estimated Demand: 16064 VA
Total Connected Current: 44 A
Total Estimated Demand Current: 45 A

Notes:

Branch Panel: GLA2

Location: GENERATOR A 106
Supply From: QLA2
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 70 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	B,L	1	106 SCR CONTROLLER: HMI-A2, BP-A2, DB-A2	P...	20 A	1	556 VA	--					1	--	--	SPACE ONLY	2	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B,L	3	106 ATG-A2 AUTOMATIC TANK GAUGE	P...	15 A	1			240 VA	--			1	--	--	SPACE ONLY	4	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	5	106 D-GA2(E) GENERATOR EXHAUST DAMPERS	M...	15 A	1					360 VA	--	1	--	--	SPACE ONLY	6	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B,L	7	106 AC-A2 AIR COMPRESSOR	LM...	20 A	2	650 VA	--					1	--	--	SPACE ONLY	8	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	9	--	--	--	--			650 VA	--			1	--	--	SPACE ONLY	10	--	--	--	--	--	--	--	--	--
2-#10, #10 G, 3/4"C	90	2	No	3	No	Std	No	B	11	106 CH1-A2 COOLANT HEATER	P...	30 A	2					2408 VA	--	1	--	--	SPACE ONLY	12	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	13	--	--	--	--	2408 VA	--					1	--	--	SPACE ONLY	14	--	--	--	--	--	--	--	--	--
2-#10, #10 G, 3/4"C	75	2	No	3	No	Std	No	B	15	106 ALH-A2 ALTERNATOR HEATER	P...	25 A	1			2030 VA	--			1	--	--	SPACE ONLY	16	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	17	106 BWP-A2 BATTERY WARMING PADS	P...	15 A	1					180 VA	--	1	--	--	SPACE ONLY	18	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	B	19	106 GBC-A2 GENERATOR BATTERY CHARGER	P...	20 A	1	1515 VA	--					1	--	--	SPACE ONLY	20	--	--	--	--	--	--	--	--	--
2-#10, #10 G, 3/4"C	90	2	No	3	No	Std	No	B	21	106 CH2-A2 COOLANT HEATER	P...	30 A	2			2408 VA	--			1	--	--	SPACE ONLY	22	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	23	--	--	--	--					2408 VA	--	1	--	--	SPACE ONLY	24	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	25	SPACE ONLY	--	--	1	--	--					1	--	--	SPACE ONLY	26	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	SPACE ONLY	--	--	1			--	--			1	--	--	SPACE ONLY	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	30	--	--	--	--	--	--	--	--	--
										Total Load:				5128 VA		5328 VA		5355 VA														
										Total Amps:				43 A		45 A		45 A														
										Phase Imbalance:				-2.69%		1.09%		1.61%														

Load Classification		Connected Load	Demand Factor	Estimated Demand
LM	Largest Motor	1300 VA	125.00%	1625 VA
M	Motor	360 VA	80.00%	288 VA
P	Power	14151 VA	100.00%	14151 VA

Panel Totals

Total Connected Load: 15811 VA
Total Estimated Demand: 16064 VA
Total Connected Current: 44 A
Total Estimated Demand Current: 45 A

Notes:

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfieldsem\Documents\BUCO00102_DM_ME_gfieldsem.rvt

Plot Date: 6/30/2025 1:19:55 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
AUTHORIZED BY:
SIZE: FILE NAME: BUCO00102_DM_ME.rvt
ANSI D

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

PANEL SCHEDULES

SHEET ID

EP627

ADVERTISEMENT

Branch Panel: GLB1

Location: GENERATOR B 117
Supply From: QLB2
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 70 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
--	--	--	--	--	--	--	--	--	1	SPACE ONLY	--	--	1	--	556 VA					1	20 A	P...	117 SCR CONTROLLER: HMI-B1, BP-B1, DB-B1	2	B,L	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	3	SPACE ONLY	--	--	1			--	240 VA			1	15 A	P...	117 ATG-B1 AUTOMATIC TANK GAUGE	4	B,L	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	5	SPACE ONLY	--	--	1					--	360 VA	1	15 A	M...	117 D-GB1(E) GENERATOR EXHAUST DAMPERS	6	B	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	7	SPACE ONLY	--	--	1	--	650 VA					2	20 A	LM...	117 AC-B1 AIR COMPRESSOR	8	B,L	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	9	SPACE ONLY	--	--	1			--	650 VA			--	--	--	--	10	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	11	SPACE ONLY	--	--	1					--	2408 VA	2	30 A	P...	117 CH1-GB1 COOLANT HEATER	12	B	No	Std	No	3	No	2	90	2-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	13	SPACE ONLY	--	--	1	--	2408 VA					--	--	--	--	14	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	15	SPACE ONLY	--	--	1			--	2030 VA			1	25 A	P...	117 ALH-GB1 ALTERNATOR HEATER	16	B	No	Std	No	3	No	2	75	2-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	17	SPACE ONLY	--	--	1					--	180 VA	1	15 A	P...	117 BWP-GB1 BATTERY WARMING PADS	18	B	No	Std	No	3	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	19	SPACE ONLY	--	--	1	--	1515 VA					1	20 A	P...	117 GBC-GB1 GENERATOR BATTERY CHARGER	20	B	No	Std	No	3	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	21	SPACE ONLY	--	--	1			--	2408 VA			2	30 A	P...	117 CH2-GB1 COOLANT HEATER	22	B	No	Std	No	3	No	2	90	2-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	23	SPACE ONLY	--	--	1					--	2408 VA	--	--	--	--	24	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	25	SPACE ONLY	--	--	1	--	--					1	--	--	SPACE ONLY	26	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	SPACE ONLY	--	--	1			--	--			1	--	--	SPACE ONLY	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	30	--	--	--	--	--	--	--	--	--
										Total Load:				5128 VA		5328 VA		5355 VA														
										Total Amps:				43 A		45 A		45 A														
										Phase Imbalance:				-2.69%		1.09%		1.61%														

Load Classification		Connected Load	Demand Factor	Estimated Demand
LM	Largest Motor	1300 VA	125.00%	1625 VA
M	Motor	360 VA	80.00%	288 VA
P	Power	14151 VA	100.00%	14151 VA

Panel Totals

Total Connected Load: 15811 VA
Total Estimated Demand: 16064 VA
Total Connected Current: 44 A
Total Estimated Demand Current: 45 A

Notes:

Branch Panel: GLB2

Location: GENERATOR B 117
Supply From: QLB2
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 70 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	B,L	1	117 SCR CONTROLLER: HMI-B2, BP-B2, DB-B2	P...	20 A	1	556 VA	--					1	--	--	SPACE ONLY	2	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B,L	3	117 ATG-B2 AUTOMATIC TANK GAUGE	P...	15 A	1			240 VA	--			1	--	--	SPACE ONLY	4	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	5	117 D-GB2(E) GENERATOR EXHAUST DAMPERS	M...	15 A	1					360 VA	--	1	--	--	SPACE ONLY	6	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B,L	7	117 AC-B2 AIR COMPRESSOR	LM...	20 A	2	650 VA	--					1	--	--	SPACE ONLY	8	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	9	--	--	--	--			650 VA	--			1	--	--	SPACE ONLY	10	--	--	--	--	--	--	--	--	--
2-#10, #10 G, 3/4"C	90	2	No	3	No	Std	No	B	11	117 CH1-GB2 COOLANT HEATER	P...	30 A	2					2408 VA	--	1	--	--	SPACE ONLY	12	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	13	--	--	--	--	2408 VA	--					1	--	--	SPACE ONLY	14	--	--	--	--	--	--	--	--	--
2-#10, #10 G, 3/4"C.	75	2	No	3	No	Std	No	B	15	117 ALH-GB2 ALTERNATOR HEATER	P...	25 A	1			2030 VA	--			1	--	--	SPACE ONLY	16	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B	17	117 BWP-GB2 BATTERY WARMING PADS	P...	15 A	1					180 VA	--	1	--	--	SPACE ONLY	18	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	B	19	117 GBC-GB2 GENERATOR BATTERY CHARGER	P...	20 A	1	1515 VA	--					1	--	--	SPACE ONLY	20	--	--	--	--	--	--	--	--	--
2-#10, #10 G, 3/4"C	90	2	No	3	No	Std	No	B	21	117 CH2-GB2 COOLANT HEATER	P...	30 A	2			2408 VA	--			1	--	--	SPACE ONLY	22	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	23	--	--	--	--					2408 VA	--	1	--	--	SPACE ONLY	24	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	25	SPACE ONLY	--	--	1	--	--					1	--	--	SPACE ONLY	26	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	SPACE ONLY	--	--	1			--	--			1	--	--	SPACE ONLY	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	30	--	--	--	--	--	--	--	--	--
										Total Load:				5128 VA		5328 VA		5355 VA														
										Total Amps:				43 A		45 A		45 A														
										Phase Imbalance:				-2.69%		1.09%		1.61%														

Load Classification		Connected Load	Demand Factor	Estimated Demand
LM	Largest Motor	1300 VA	125.00%	1625 VA
M	Motor	360 VA	80.00%	288 VA
P	Power	14151 VA	100.00%	14151 VA

Panel Totals

Total Connected Load: 15811 VA
Total Estimated Demand: 16064 VA
Total Connected Current: 44 A
Total Estimated Demand Current: 45 A

Notes:

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jfieldsem\Documents\BUCO00102_DM_ME_jfieldsem.rvt

Plot Date: 6/30/2025 1:20:00 PM

DESIGNED BY:	E.MCNAMARA
DRAWN BY:	E.MCNAMARA
CHECKED BY:	B.ADKINS
SUBMITTED BY:	
AUTHORIZED BY:	
SIZE:	ANSI D
FILE NAME:	BUCO00102_DM_ME.rvt
ISSUE DATE:	05/01/2025
SOLICITATION NO.:	W9128F25RA043
CONTRACT NO.:	

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

PANEL SCHEDULES

SHEET ID

EP628

ADVERTISEMENT

Branch Panel: NH

Location: ELEC 104
Supply From: 104 ATS-N
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 22kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 225 A
MCB Ampacity Rating: 225 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: See notes on this schedule.

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	--	1	100 LIGHTING	L...	20 A	1	66 VA	2000 VA					1	15 A	C...	100 UH-100 UNIT HEATER	2	B	No	Std	No	2	No	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	3	101 LIGHTING	L...	20 A	1			152 VA	2400 VA			3	20 A	L...	104 CLI CENTRAL LIGHTING INVERTER	4	B	No	Std	No	0	Yes	3	75	4-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	5	101A LIGHTING	L...	20 A	1					53 VA	2400 VA	--	--	--	--	6	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	7	102 LIGHTING	L...	20 A	1	24 VA	2400 VA					--	--	--	--	8	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	9	103 LIGHTING	L...	20 A	1			131 VA	1109 VA			3	15 A	C...	104 UH-104 UNIT HEATER	10	B	No	Std	No	0	No	2	75	3-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	11	104 LIGHTING	L...	20 A	1					107 VA	1109 VA	--	--	--	--	12	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	--	13	105 LIGHTING	L...	20 A	1	166 VA	1109 VA					--	--	--	--	14	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	--	15	EXTERIOR SOUTHEAST LIGHTING	L...	20 A	1			266 VA	4000 VA			3	20 A	C...	105 WH-1 STORAGE WATER HEATER	16	B	No	Std	No	2	No	3	75	3-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	--	17	EXTERIOR NORTHWEST LIGHTING	L...	20 A	1					169 VA	4000 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	19	SPARE	--	20 A	1	0 VA	4000 VA					--	--	--	--	20	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	21	SPARE	--	20 A	1			0 VA	1109 VA			3	15 A	C...	105 UH-105 UNIT HEATER	22	B	No	Std	No	2	No	3	75	3-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	23	SPARE	--	20 A	1					0 VA	1109 VA	--	--	--	--	24	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	25	SPACE ONLY	--	--	1	--	1109 VA					--	--	--	--	26	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	SPACE ONLY	--	--	1			--	0 VA			1	20 A	--	SPARE	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	SPACE ONLY	--	--	1					--	0 VA	1	20 A	--	SPARE	30	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	31	SPACE ONLY	--	--	1	--	10953 VA					3	90 A	Sp...	104 TRANSFORMER NTF (PANEL NLF VIA ECB)	32	E	No	Std	Yes	0	Yes	3	75	3-#2, #8 G, 1-1/4"C
--	--	--	--	--	--	--	--	--	33	SPACE ONLY	--	--	1			--	10699 VA			--	--	--	--	34	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	35	SPACE ONLY	--	--	1					--	11293 VA	--	--	--	--	36	--	--	--	--	--	--	--	--	--
4-#10, #10 G, 3/4"C	75	3	No	0	No	Std	No	K	37	104 PANEL NH1 SPD	O...	30 A	3	5 VA	11570 VA					3	90 A	Sp...	104 TRANSFORMER NT (PANEL NL)	38	--	No	Std	Yes	0	Yes	3	75	3-#2, #8 G, 1-1/4"C
--	--	--	--	--	--	--	--	--	39	--	--	--	--			5 VA	12610 VA			--	--	--	--	40	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	41	--	--	--	--					5 VA	12260 VA	--	--	--	--	42	--	--	--	--	--	--	--	--	--
												Total Load:		32656 VA		32046 VA		32078 VA															
												Total Amps:		118 A		116 A		116 A															
												Phase Imbalance:		1.23%		-0.66%		-0.57%															

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	40154 VA	100.00%	40154 VA
H	HVAC	2038 VA	90.00%	1834 VA
L	Lighting	8287 VA	100.00%	8287 VA
LM	Largest Motor	16532 VA	117.54%	19432 VA
M	Motor	4526 VA	80.00%	3621 VA
O	Other	2781 VA	80.00%	2225 VA
R	Receptacle	19604 VA	75.50%	14802 VA
T	Transformer Losses	3026 VA	100.00%	3026 VA

Panel Totals

Total Connected Load: 96766 VA
Total Estimated Demand: 93205 VA
Total Connected Current: 116 A
Total Estimated Demand Current: 112 A

Notes:
1. PANEL SUPPORTS THE DEDICATED FIRE ALARM PANEL. MCB SHALL BE LOCK-ON TYPE AND SHALL BE RED. THE PANEL SHALL BE PAINTED RED. PROVIDE A LABEL WITH THE FOLLOWING INSCRIPTION: "FIRE PROTECTION/LIFE SAFETY EQUIPMENT". LABEL SHALL BE RED LAMINATED PLASTIC WITH WHITE CENTER CORE.

Branch Panel: NL

Location: ELEC 104
Supply From: 104 XFMR NT
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 200%

Mains Type: MCB
Frame Rating: 225 A
MCB Ampacity Rating: 150 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	B	1	102 EF-102 EXHAUST FAN	M...	15 A	1	32 VA	5 VA					3	30 A	O...	104 PANEL NL1 SPD	2	K	No	Std	No	0	No	3	75	4-#10, #10 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	--	3	102 RECEPTACLES	R...	20 A	1			180 VA	5 VA			--	--	--	--	4	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	--	5	100 / 101 / 101A RECEPTACLES	R...	20 A	1					1440 VA	5 VA	--	--	--	--	6	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	0	No	Std	No	--	7	103 SERVICE RECEPTACLE	R...	20 A	1	180 VA	500 VA					1	20 A	R...	101 RECEPTACLE: HMI FUELS	8	--	No	Std	No	0	Yes	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	B	9	EXT. NORTH SSHP-104 / 104 SS-104 SPLIT SYSTEM	LM...	15 A	2			1233 VA	500 VA			1	20 A	R...	101 RECEPTACLE: HMI GENERATORS	10	--	No	Std	No	0	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	11	--	--	--	--					1233 VA	500 VA	1	20 A	R...	101 RECEPTACLE: HMI HVAC	12	--	No	Std	No	0	Yes	2	75	2-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	B	13	EXT. EAST SSHP-101 / 101 SS-101 SPLIT-SYSTEM	H...	15 A	2	1019 VA	500 VA					1	20 A	R...	101 RECEPTACLE: INTERCOM MASTER STATION	14	--	No	Std	No	0	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	15	--	--	--	--			1019 VA	540 VA			1	20 A	R...	105 RECEPTACLES	16	V	No	Std	No	2	No	2	75	2-#10, #10 G, 3/4"C
4-#8, #8 G, 1"C	75	4	Yes	2	Yes	Std	No	B,L	17	EXT. EAST EV-1 ELECTRIC VEHICLE SUPPLY EQUIPMENT	C...	30 A	3					2400 VA	100 VA	1	15 A	C...	105 RCP-1 RECIRCULATING PUMP	18	B	No	Std	No	2	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	19	--	--	--	--	2400 VA	540 VA					1	20 A	R...	EXT. EAST RECEPTACLES	20	V	No	Std	No	3	No	2	75	2-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	21	--	--	--	--			2400 VA	0 VA			1	20 A	--	SPARE	22	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	B,L	23	EXT. SOUTHEAST LOAD BANK CONTROLS	O...	20 A	1					1000 VA	0 VA	1	20 A	--	SPARE	24	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	25	SPARE	--	20 A	1	0 VA	0 VA					1	20 A	--	SPARE	26	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	SPARE	--	20 A	1			0 VA	0 VA			1	20 A	--	SPARE	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	SPARE	--	20 A	1					0 VA	0 VA	1	20 A	--	SPARE	30	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	31	SPACE ONLY	--	--	1	--	0 VA					1	20 A	--	SPARE	32	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	33	SPACE ONLY	--	--	1			--	0 VA			1	20 A	--	SPARE	34	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	35	SPACE ONLY	--	--	1					--	0 VA	1	20 A	--	SPARE	36	--	--	--	--	--	--	--	--	--
3-#1, 4/0 N, #8 G, 2"C	75	5	Yes	0	Yes	Std	No	--	37	103 PANEL NLT	Sp...	100 A	3	5897 VA	--					1	--	--	SPACE ONLY	38	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	39	--	--	--	--			6230 VA	--			1	--	--	SPACE ONLY	40	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	41	--	--	--	--					5078 VA	--	1	--	--	SPACE ONLY	42	--	--	--	--	--	--	--	--	--
												Total Load:		11066 VA		12106 VA		11756 VA															
												Total Amps:		92 A		102 A		99 A															
												Phase Imbalance:		-4.95%		3.98%		0.97%															

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	7300 VA	100.00%	7300 VA
H	HVAC	2038 VA	90.00%	1834 VA
LM	Largest Motor	4932 VA	111.66%	5507 VA
M	Motor	32 VA	80.00%	26 VA
O	Other	1030 VA	80.00%	824 VA
R	Receptacle	19604 VA	75.50%	14802 VA

Panel Totals

Total Connected Load: 34927 VA
Total Estimated Demand: 30285 VA
Total Connected Current: 97 A
Total Estimated Demand Current: 84 A

Notes:

US Army Corps of Engineers ®

DATE | MARK | DESCRIPTION

File Path: C:\Users\jfieldsen\Documents\BUCO00102_DM_ME_jfieldsen.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
J.HEDRICK

FILE NAME: BUCO00102_DM_ME.rvt
SIZE: ANSI D

Date: 6/30/2025 1:20:06 PM
Plot Date:

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

PANEL SCHEDULES

SHEET ID

EP629

ADVERTISEMENT

Branch Panel: NLT

Location: TELECOM 103
Supply From: NL
Mounting: Surface
Sections: 1

Enclosure: NEMA 1
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 200%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 100 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#10, #10 G, 3/4"C.	75	2	Yes	0	No	Std	No	--	1	103 TELECOMMUNICATIONS RACK: NEMA L6-30R	R...	30 A	2	2496 VA	900 VA					1	20 A	R...	103 PERIMETER RECEPTACLES	2	--	No	Std	No	0	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	3	--	--	--	--			2496 VA	0 VA			1	20 A	--	SPARE	4	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	5	103 TELECOMMUNICATIONS RACK: NEMA L5-20R	R...	20 A	1					1920 VA	0 VA	1	20 A	--	SPARE	6	--	--	--	--	--	--	--	--	--
2-#10, #10 G, 3/4"C	75	2	Yes	0	No	Std	No	--	7	103 INTERCOMMUNICATIONS RACK: NEMA L6-30R	R...	30 A	2	2496 VA	0 VA					1	20 A	--	SPARE	8	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	9	--	--	--	--			2496 VA	0 VA			1	20 A	--	SPARE	10	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	--	11	103 INTERCOMMUNICATIONS RACK: NEMA L5-20R	R...	20 A	1					1920 VA	0 VA	1	20 A	--	SPARE	12	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	13	SPACE ONLY	--	--	1	--	--					1	--	--	SPACE ONLY	14	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	15	SPACE ONLY	--	--	1			--	--			1	--	--	SPACE ONLY	16	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	18	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	19	SPACE ONLY	--	--	1	--	--					1	--	--	SPACE ONLY	20	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	B	21	EXT. NORTH SSHP-103 / 103 SS-103 SPLIT SYSTEM	LM...	15 A	2			1233 VA	--			1	--	--	SPACE ONLY	22	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	23	--	--	--	--					1233 VA	--	1	--	--	SPACE ONLY	24	--	--	--	--	--	--	--	--	--
4-#10, #10 G, 3/4"C	75	3	No	0	No	Std	No	K	25	103 PANEL NLT SPD	O...	30 A	3	5 VA	--					1	--	--	SPACE ONLY	26	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	--	--	--	--			5 VA	--			1	--	--	SPACE ONLY	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	--	--	--	--					5 VA	--	1	--	--	SPACE ONLY	30	--	--	--	--	--	--	--	--	--
											Total Load:			5897 VA		6230 VA		5078 VA														
											Total Amps:			50 A		53 A		42 A														
											Phase Imbalance:			2.83%		8.63%		-11.46%														

Load Classification		Connected Load	Demand Factor	Estimated Demand
LM	Largest Motor	2466 VA	123.32%	3041 VA
O	Other	15 VA	80.00%	12 VA
R	Receptacle	14724 VA	83.96%	12362 VA

Panel Totals

Total Connected Load: 17205 VA
Total Estimated Demand: 15415 VA
Total Connected Current: 48 A
Total Estimated Demand Current: 43 A

Notes:

Branch Panel: NLF

Location: FIRE PUMP 113
Supply From: ECB NLF
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 225 A
MCB Ampacity Rating: 150 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: See notes on this schedule.

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	E	1	100 FAA FIRE ALARM ANNUNCIATOR PANEL	C...	20 A	1	1000 VA	3867 VA					3	45 A	LM...	113 AC-F AIR COMPRESSOR	2	B,F	No	Std	No	0	No	3	75	3-#6, #10 G, 1"C
2-#12, #12 G, 3/4"C	75	2	Yes	3	No	Std	No	E	3	103 DFPRAP MEDIA CONVERTER	C...	20 A	1			500 VA	3867 VA			--	--	--	--	4	--	--	--	--	--	--	--	--	--
2-#8, #8 G, 3/4"C	75	2	Yes	3	No	Std	No	B,E,V	5	101 DFPRAP DIESEL FIRE PUMP REMOTE ANNUNCIATOR PANEL	C...	20 A	1					1920 VA	3867 VA	--	--	--	--	6	--	--	--	--	--	--	--	--	--
2-#10, #10 G, 3/4"C	75	2	Yes	3	No	Std	No	E,V	7	104 FAT FIRE ALARM TRANSCEIVER	C...	20 A	1	1000 VA	623 VA					3	35 A	C...	113 JPC JOCKEY PUMP CONTROLLER	8	B,F	No	Std	No	0	No	3	75	3-#8, #10 G, 3/4"C
2-#8, #8 G, 3/4"C	75	2	Yes	3	No	Std	No	B,E,V	9	104 FACP FIRE ALARM CONTROL PANEL	C...	20 A	1			1920 VA	623 VA			--	--	--	--	10	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	B,E	11	114 HS-114 HYDROGEN SENSOR PANEL	O...	20 A	1					500 VA	623 VA	--	--	--	--	12	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	0	No	Std	No	B,E	13	119 HS-119 HYDROGEN SENSOR PANEL	O...	20 A	1	500 VA	1140 VA					3	20 A	O...	113 NG-C NITROGEN GENERATOR: COMPRESSOR	14	B,F	No	Std	No	0	No	3	75	3-#12, #12 G, 3/4"C
2-#12, #12 G, 3/4"C	75	2	No	3	No	Std	No	B,E	15	120 QHB1 SHUNT TRIP: FBC-1	O...	20 A	1			100 VA	1140 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	B,E	17	121 HS-121 HYDROGEN SENSOR PANEL	O...	20 A	1					500 VA	1140 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	F	19	SPARE	--	20 A	1	0 VA	480 VA					1	20 A	M...	113 NG-G NITROGEN GENERATOR: GENERATOR	20	B,F	No	Std	No	0	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	F	21	SPARE	--	20 A	1			0 VA	1920 VA			1	20 A	C...	113 RSCP RELEASING SERVICE CONTROL PANEL	22	B,F	No	Std	No	0	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	F	23	SPARE	--	20 A	1					0 VA	1000 VA	1	20 A	C...	113 DFP-EH DIESEL FIRE PUMP ENGINE HEATER	24	B,F	No	Std	No	0	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	F	25	SPARE	--	20 A	1	0 VA	600 VA					1	20 A	M...	113 DFPC DIESEL FIRE PUMP CONTROLLER	26	B,F	No	Std	No	0	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	F	27	SPARE	--	20 A	1			0 VA	120 VA			1	15 A	M...	113 D-F DAMPER	28	B,F	No	Std	No	0	No	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	F	29	SPARE	--	20 A	1					0 VA	1233 VA	2	15 A	C...	EXT. SOUTH SSHP-113 / 113 SS-113 SPLIT SYSTEM	30	B	No	Std	No	2	Yes	2	75	2-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	F	31	SPARE	--	20 A	1	0 VA	1233 VA					--	--	--	--	32	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	F	33	SPARE	--	20 A	1			0 VA	0 VA			1	20 A	--	SPARE	34	F	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	F	35	SPARE	--	20 A	1					0 VA	0 VA	1	20 A	--	SPARE	36	F	--	--	--	--	--	--	--	--
4-#10, #10 G, 3/4"C	75	3	No	0	No	Std	No	K	37	113 PANEL NLF SPD	O...	30 A	3	5 VA	--					1	--	--	SPACE ONLY	38	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	39	--	--	--	--			5 VA	--			1	--	--	SPACE ONLY	40	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	41	--	--	--	--					5 VA	--	1	--	--	SPACE ONLY	42	--	--	--	--	--	--	--	--	--
											Total Load:			10448 VA		10195 VA		10789 VA														
											Total Amps:			87 A		85 A		90 A														
											Phase Imbalance:			-0.28%		-2.69%		2.97%														

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	13596 VA	100.00%	13596 VA
LM	Largest Motor	11600 VA	125.00%	14500 VA
M	Motor	4500 VA	80.00%	3600 VA
O	Other	1736 VA	80.00%	1389 VA

Panel Totals

Total Connected Load: 31432 VA
Total Estimated Demand: 33085 VA
Total Connected Current: 87 A
Total Estimated Demand Current: 92 A

Notes:
1. DEDICATED FIRE ALARM PANEL. MCB SHALL BE LOCK-ON TYPE AND SHALL BE RED. THE PANEL SHALL BE PAINTED RED. PROVIDE A LABEL WITH THE FOLLOWING INSCRIPTION: "FIRE PROTECTION/LIFE SAFETY EQUIPMENT". LABEL SHALL BE RED LAMINATED PLASTIC WITH WHITE CENTER CORE.
2. CIRCUITS LISTED ON THIS PANEL ARE APPROXIMATIONS OF CONNECTIONS FOR FIRE ALARM AND MASS NOTIFICATION SYSTEMS TO ENSURE ENOUGH CIRCUITS ARE PROVIDED. COORDINATE ALL CONNECTIONS FROM THIS PANEL WITH ACTUAL EQUIPMENT INSTALLED. REALIGN CIRCUITS AS DESCRIBED IN THE REQUIREMENTS FOR THE "DEDICATED EMERGENCY PANEL SCHEDULE" REFERENCED IN SECTIONS 26 20 00 AND 28 31 70.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfieldsen\Documents\BUCO00102_DM_ME_gfieldsen.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
AUTHORIZED BY:
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

Date: 6/30/2025 1:20:16 PM
Plot Date: 6/30/2025 1:20:16 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

PANEL SCHEDULES

SHEET ID
EP630

ADVERTISEMENT

Branch Panel: OH

Location: OFFLOAD
Supply From: OFFLOAD MTS-O
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 14kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 45 A

MCB Service Rating: Std
MCB Solid State: No
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
3-#12, #12 G, 3/4"C	75	3	No	2	No	Std	No	B	1	OP-001 IN-LINE VERTICAL PUMP	LM...	20 A	3	2493 VA	297 VA					3	30 A	Sp...	TRANSFORMER OTL (PANEL OL)	2	--	No	Std	No	2	No	3	75	3-#10, #10 G, 1"C
--	--	--	--	--	--	--	--	--	3	--	--	--	--			2493 VA	447 VA			--	--	--	--	4	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	5	--	--	--	--					2493 VA	267 VA	--	--	--	--	6	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	--	7	ROAD / AREA LIGHTING	L...	20 A	1	400 VA	--					1	--	--	SPACE ONLY	8	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	9	SPACE ONLY	--	--	1			--	--			1	--	--	SPACE ONLY	10	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	11	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	12	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	13	SPACE ONLY	--	--	1	--	5 VA					3	30 A	O...	PANEL OH SPD	14	K	No	Std	No	2	No	3	75	4-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	15	SPACE ONLY	--	--	1			--	5 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	SPACE ONLY	--	--	1					--	5 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
											Total Load:			3195 VA		2945 VA		2765 VA														
											Total Amps:			12 A		11 A		10 A														
											Phase Imbalance:			7.64%		-0.79%		-6.85%														

Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals
L	Lighting	400 VA	100.00%	400 VA	
LM	Largest Motor	7479 VA	125.00%	9349 VA	**Total Connected Load:** 8906 VA
O	Other	60 VA	80.00%	48 VA	**Total Estimated Demand:** 10764 VA
R	Receptacle	180 VA	100.00%	180 VA	**Total Connected Current:** 11 A
T	Transformer Losses	787 VA	100.00%	787 VA	**Total Estimated Demand Current:** 13 A

Notes:

Branch Panel: OL

Location: OFFLOAD
Supply From: OFFLOAD XFMR OTL
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 60 A

MCB Service Rating: Std
MCB Solid State: No
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	B	1	GROUND VERIFICATION UNIT	O...	15 A	1	30 VA	--					1	--	--	SPACE ONLY	2	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	2	No	Std	No	--	3	RACK RECEPTACLE	R...	20 A	1			180 VA	--			1	--	--	SPACE ONLY	4	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	5	SPARE	--	20 A	1					0 VA	--	1	--	--	SPACE ONLY	6	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	7	SPARE	--	20 A	1	0 VA	--					1	--	--	SPACE ONLY	8	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	9	SPACE ONLY	--	--	1			--	--			1	--	--	SPACE ONLY	10	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	11	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	12	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	13	SPACE ONLY	--	--	1	--	5 VA					3	30 A	O...	PANEL OL SPD	14	K	No	Std	No	2	No	3	75	4-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	15	SPACE ONLY	--	--	1			--	5 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	SPACE ONLY	--	--	1					--	5 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
											Total Load:			35 VA		185 VA		5 VA														
											Total Amps:			0 A		2 A		0 A														
											Phase Imbalance:			-53.33%		146.67%		-93.33%														

Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals
O	Other	45 VA	80.00%	36 VA	
R	Receptacle	180 VA	100.00%	180 VA	**Total Connected Load:** 225 VA
					Total Estimated Demand: 216 VA
					Total Connected Current: 1 A
					Total Estimated Demand Current: 1 A

Notes:

FOR KEY, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP620.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfeddesm\Documents\BUCO00102_DM_ME_gfeddesm.rvt

Date: 6/30/2025 1:20:22 PM

Plot Date: 6/30/2025 1:20:22 PM

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.HEDRICK
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

PANEL SCHEDULES OFFLOAD

SHEET ID

EP631

ADVERTISEMENT

SUPPLEMENTAL SPECIAL SYSTEMS LEGEND

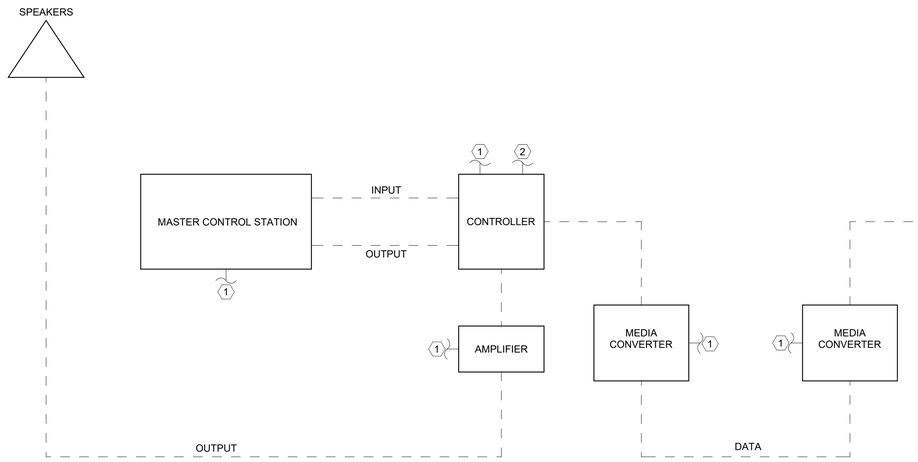
IMS	INTERCOM MASTER STATION
AV S	INTERCOM CEILING MOUNTED SPEAKER
GC	GATE CONTROLLER
IMS	INTERCOM MASTER STATION

GENERAL NOTES - EY100 THROUGH EY400 SHEETS

A	COORDINATE RECESS MOUNTING OF CONDUIT, BACKBOXES, DEVICES, AND EQUIPMENT WITH OTHER TRADES. DEVICES AND EQUIPMENT LOCATED AT PRECAST AND OTHER CONCRETE WALLS HAVE BEEN SPECIFICALLY IDENTIFIED FOR COORDINATION.
B	CONCRETE, CONCRETE, AND CONCRETE BLOCK WALLS SHALL BE SURFACE MOUNTED. JUNCTION BOXES, DEVICES, BACKBOXES, ASSOCIATED CONDUIT, ETC., SHALL BE RECESS MOUNTED ON GYPSUM WALLS. COORDINATE WITH ARCHITECTURAL SHEETS.
C	EACH PULL ROPE SHALL BE LABELED WITH A UNIQUE IDENTIFIER TAGGED ON EACH END. THE USER END OF THE PULL ROPE SHALL ALSO INDICATE THE SOURCE LOCATION AND VICE VERSA.
D	PENETRATION OPENINGS THROUGH AIR BARRIERS SHALL COMPLY WITH THE BUILDING AIR BARRIER REQUIREMENTS. CORRECT ALL PENETRATIONS THAT ARE DETERMINED DEFICIENT DURING TESTING. SEE ARCHITECTURAL SHEETS FOR AIR BARRIER TESTING BOUNDARIES. SEE ARCHITECTURE FOR SEALING PENETRATIONS.
E	DO NOT PENETRATE STRUCTURAL COLUMNS. AFIX DEVICES AND RACEWAY WITH NON-PENETRATING BEAM C-CLAMPS, BRACKETS, CLIPS, AND UNISTRUT.
F	ALL INTERCOMMUNICATIONS CABLING SHALL BE HOUSED IN PROTECTIVE CONDUIT.

(#) KEYNOTES - EY100 THROUGH EY100 SHEETS

1	CONNECT TO 120 VAC, 20 AMP DEDICATED POWER CIRCUIT FROM FIRE ALARM POWER PANEL. TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS) IS TO BE PROVIDED ON PANELS SERVING FIRE ALARM CIRCUITS. SEE ELECTRICAL (EP) SHEETS FOR POWER PANEL AND LOCATION.
2	INTERFACE FROM FACP TO MUTE AUDIBLE DISTRIBUTION OF INTERCOM SYSTEM DURING FIRE ALARM EVACUATION NOTIFICATION.



F1 INTERCOMMUNICATIONS ONE-LINE DIAGRAM
SCALE: NTS

(#) KEYNOTES FOR SHEET EY500:

1. 4" SCHEDULE 40 CONDUIT WITH 3-CELL MESH INNER DUCTS FROM NEW HAND HOLE. STUBBED UP 3" AFF. USE (1) 1 1/4" INNER DUCT TO RUN 24-STRAND SINGLE-MODE FIBER OPTIC OUTSIDE PLANT SERVICE ENTRANCE CABLE. USE SECOND INNER DUCT TO INSTALL 25-PAIR #24 AWG OUTSIDE PLANT VOICE SERVICE ENTRANCE CABLE.

2. PROVIDE CONDUITS SIZED FOR THE NUMBER OF CABLES IDENTIFIED IN TN001 GENERAL NOTES. OUTSIDE OF THE TELECOM ROOM, ALL COMMUNICATIONS MEDIA SHALL BE ROUTED USING CONDUIT OR TUBING AS APPLICABLE FOR THE LEVEL OF PHYSICAL DAMAGE TO WHICH THE RACEWAY IS SUBJECT (SEE E-120).

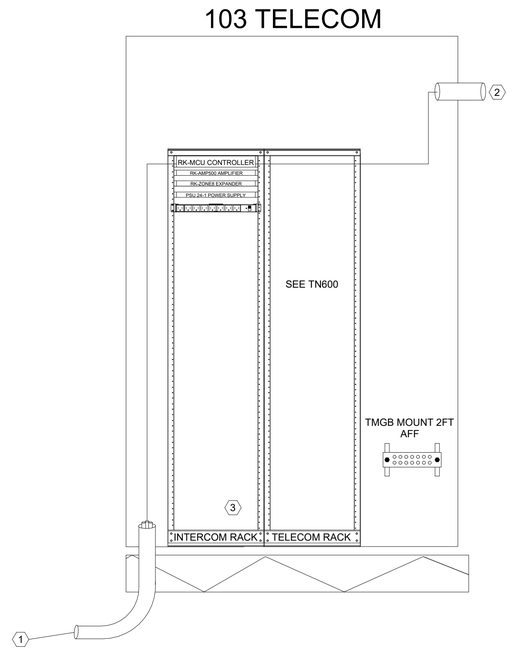
3. DEDICATED RECEPTACLES. SEE ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION.

GENERAL NOTES:

1. RISER IS TYPICAL ONLY. SEE FLOOR PLANS FOR EXACT NUMBER AND LOCATIONS OF OUTLETS, RACKS, AND CABLE TRAY.

2. GROUND TTB's RACKS, CABLE TRAYS, ETC., PER ANSI/TIA/EIA 607A.

3. SEE TN600 FOR ADDITIONAL REQUIRMENTS.



A13 INTERCOMMUNICATIONS RISER DIAGRAM
SCALE: NTS

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DRAWN BY: S.BLASER
CHECKED BY: J.COOK
SUBMITTED BY: J.MOORE
SIZE: ANSI D
ISSUE DATE: 05/01/2025
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CONTRACT NO.:
FILE NAME: BUCC000102_DM_ME.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

INTERCOMMUNICATIONS DETAILS AND NOTES
SUPPLEMENTAL LEGEND

SHEET ID
EY001

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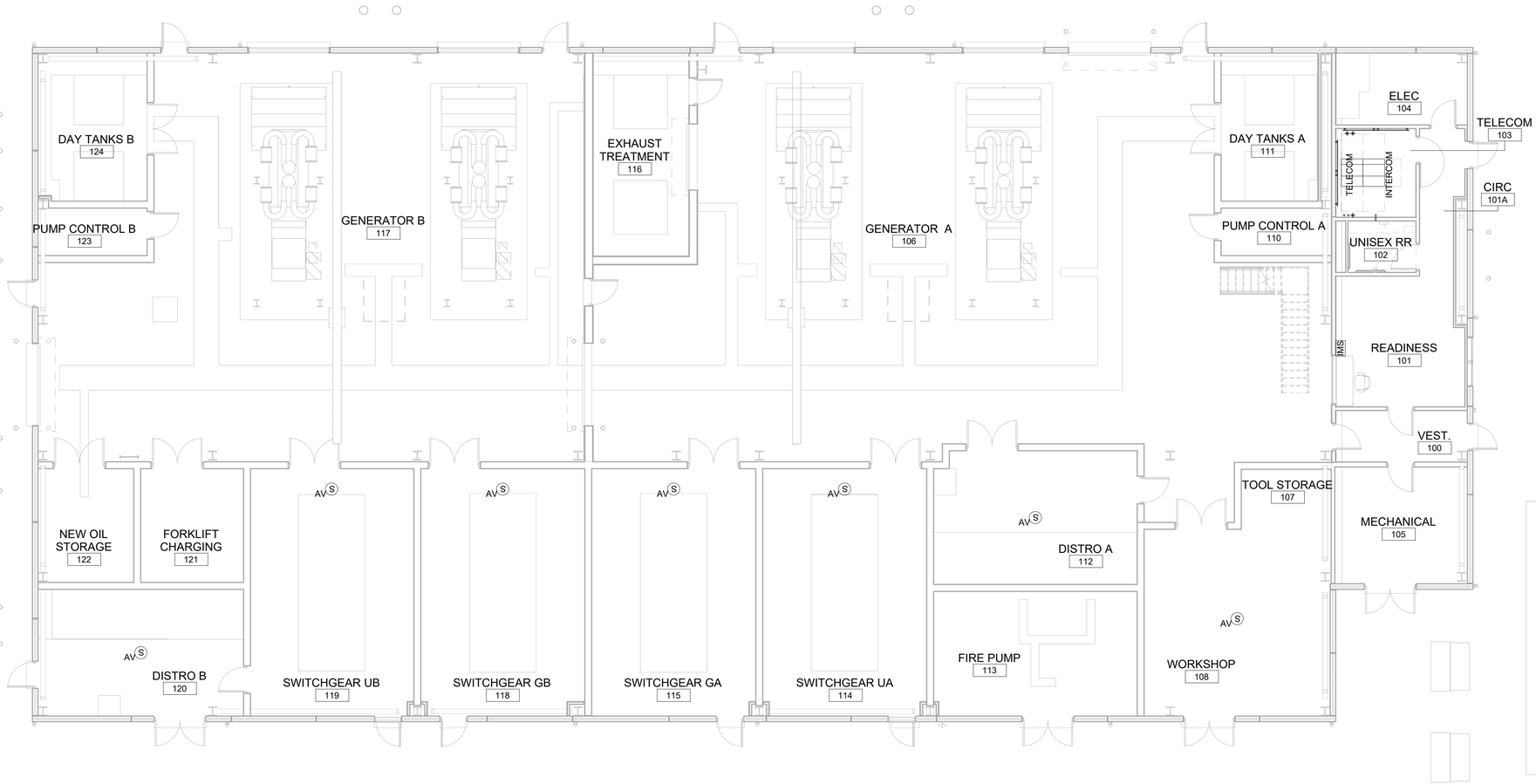
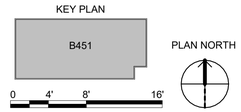


A1 INTERCOMMUNICATIONS PLAN
1/8" = 1'-0"

KEY PLAN



FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EY001.

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OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

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INTERCOMMUNICATIONS PLAN

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SUPPLEMENTAL TELECOM LEGEND

- (J) JUNCTION BOX, CEILING MOUNTED.
- (J)H JUNCTION BOX, WALL MOUNTED.
- (J) JUNCTION BOX, RECESSED FLOOR MOUNTED.
- DUPLEX TELEPHONE AND DATA, 8 POSITION, CATEGORY 6A JACK.
- SINGLE WALL-MOUNT DATA OUTLET UNLESS INDICATED BY NUMBER.
- FLOOR MOUNT TELEPHONE AND DATA, 8 POSITION, CATEGORY 6A JACK, ONE VOICE AND ONE DATA UNLESS INDICATED BY NUMBER.
- SINGLE FLOOR-MOUNT DATA OUTLET UNLESS INDICATED BY NUMBER. ALL COMMUNICATIONS FLOOR BOXES SHALL BE COMBINED WITH POWER FLOOR BOX. SEE EP SERIES SHEETS FOR COORDINATING LOCATIONS.
- W WALL MOUNT OUTLET WITH TELEPHONE LUGS.
- RED W RED WALL MOUNT OUTLET WITH TELEPHONE LUGS FOR A HOTLINE ON THE SECONDARY CRASH PHONE NETWORK (SCN). SEE TN200 FOR PATCH PANEL LANDING LOCATION.
- (TV)H CABLE TV "F" TYPE COAX OUTLET.
- (AV)## DISPLAY CEILING MOUNTED OUTLET (SEE TN510 AND TN520 SHEET SERIES FOR DETAILS). COORDINATE WITH POWER RECEPTACLE. "##" INDICATORS ARE AS FOLLOWS:
  - DI: DISPLAY PLUS AUDIO INPUT
  - DO: DISPLAY PLUS AUDIO OUTPUT
  - AI: AUDIO-ONLY INPUT
- (AV)## DISPLAY FLOOR MOUNTED OUTLET (SEE TN530 SHEET SERIES FOR DETAILS). PROVIDE IN SEPARATE FLOOR BOX FROM POWER AND/OR COMMUNICATIONS FLOOR BOX(ES). SEE CEILING AV LEGEND ENTRY FOR "##" DESIGNATIONS.
- (AV)## DISPLAY WALL MOUNTED OUTLET. MOUNTING HEIGHT SHALL BE IDENTICAL TO TYPICAL POWER AND COMMUNICATIONS OUTLETS (SEE TN530 SHEET SERIES FOR DETAILS). COORDINATE WITH POWER RECEPTACLE. LOCATE INPUTS AND OUTPUTS AT THE SAME ELEVATIONS AS WALL RECEPTACLES AND TV COAXIAL OUTLETS, RESPECTIVELY, FOR A GIVEN APPLICATION. SEE CEILING AV LEGEND ENTRY FOR "##" DESIGNATIONS.
- V LOCAL VOLUME CONTROL FOR AUDIO-VIDEO SYSTEM SPEAKERS. COORDINATE WITH FIRE ALARM SYSTEM TO AUTOMATICALLY MUTE/DISENGAGE SPEAKERS WHEN FIRE ALARM IS IN ALARM STATE AND/OR MESSAGE IS BROADCAST OVER FA/MNS SPEAKER SYSTEM. SPEAKERS SHALL UNMUTE/DISENGAGE WHEN FA SYSTEM IS RESET OR SILENCED, AND WHEN THE BROADCAST MESSAGE HAS CONCLUDED.
- S AUDIO SELECTOR SWITCH. IF POWER REQUIRED, SUPPLY FROM SAME CIRCUIT AS VOLUME CONTROL/AMPLIFIER.
- AV(S) AUDIO-VIDEO SYSTEM SPEAKER, CEILING MOUNTED.
- AV(S)H AUDIO-VIDEO SYSTEM SPEAKER, WALL MOUNTED.
- LADDER-TYPE CABLE TRAY.
- WELDED WIRE BASKET-TYPE CABLE TRAY.
- • CONDUIT DOWN
- ○ CONDUIT UP
- (#) #"Ø THROUGH-WALL CONDUITS. LOCATE AT ELEVATION SUCH THAT BOTTOM OF CONDUIT IS NO MORE THAN 1" HIGHER AND NO LESS THAN AT SAME ELEVATION AS BOTTOM OF CABLE TRAYS. FILL CONDUITS WITH FIRE STOPPING MATERIAL AT ALL LOCATIONS.
  - CONDUIT QUANTITY
  - NOMINAL CONDUIT DIAMETER
- "AC" OUTLET BOX IS TO BE LOCATED ABOVE COUNTERTOP. SEE EP501 FOR MOUNTING HEIGHT.
- "DI" DENOTES A/V DISPLAY INPUT.
- "DO" DENOTES A/V DISPLAY OUTPUT.
- "IDS" DENOTES INTRUSION DETECTION SYSTEM.
- "WP" DENOTES UL LISTED FOR WET LOCATION AND WHILE-IN-USE COVER.
- "WAP" DENOTES WIRELESS ACCESS POINT. WHERE LOCATED WITH A NEMA 4 ROUTER ENCLOSURE, LOCATE RECEPTACLE INSIDE THE ENCLOSURE AND WITHOUT THE EXTRA DUTY WHILE-IN-USE COVER.
- +12" DENOTES MOUNTING HEIGHT ABOVE FINISHED FLOOR MEASURED TO CENTER (OR ABOVE FINISHED GRADE AS APPLICABLE FOR EXTERIOR LOCATIONS). IF NO MOUNTING HEIGHT IS INDICATED ON PLANS (EITHER BY THIS NOTE OR BY KEYED NOTE), MOUNTING HEIGHT SHALL BE AS SHOWN ON EP500.
- TE COMMUNICATIONS CABINET. SEE DETAIL 3/TN521.
- DH TE "DHTE" (SEE SECTION 27 10 00). MINIMUM 24U DOUBLE-HINGED NEMA TYPE 4 (IP66) COMMUNICATIONS CABINET WITH ATTACHED/INTEGRAL AIR CONDITIONING UNIT.

CABLE TRAY ANNOTATION

108-A-1 → SEGMENT IDENTIFIER (IF PRESENT)
2"x6" → TRAY SIZE: DEPTH x WIDTH
10' - 0" → BOTTOM ELEVATION A.F.F.

108-A-1,2"x6",10' - 0"

- BOTTOM ELEVATION A.F.F.
- TRAY SIZE: DEPTH x WIDTH
- SEGMENT IDENTIFIER (IF PRESENT)

CABLE TRAY NOTES:

1. SIZE AND ELEVATION CHANGE ONLY WHEN NOTED. IF SIZE OR BOTTOM ELEVATION ARE OMITTED FROM A SEGMENT, ASSUME SEGMENT IS TO BE OF THE SAME SIZE AND AT THE ELEVATION AS THE ADJOINING SEGMENT NEARER TO THE SOURCE TELECOM ROOM OR CLOSET.

2. CABLE TRAY FITTING AND REDUCER SIZES ARE OMITTED FROM PLANS AND SHALL BE DERIVED ADJACENT SEGMENTS.

3. SIZES LISTED ARE MINIMUMS. COORDINATED INCREASE IN SIZE WITH NEARBY EQUIPMENT, DUCTBANKS, LIGHTING FIXTURES, ETC.

4. DEPTHS LISTED FOR LADDER TYPE CABLE TRAY ARE LOAD DEPTHS.

GENERAL NOTES - TN100 THROUGH TN400 SHEETS

A	UNDERGROUND CONDUITS CROSSING FOUNDATIONS SHALL BE BURIED AT A DEPTH SUCH THAT CONDUITS ARE LOCATED MINIMUM 12" BELOW THE FOUNDATIONS. REFERENCE S-500 SERIES DRAWINGS FOR FOUNDATION DIMENSIONS.
B	THE MAXIMUM NUMBER OF CAT6A CABLES PER TELECOM CONDUIT SHALL BE SIZED AS FOLLOWS: 1" C: 3 CABLES 1 1/4" C: 5 CABLES 1 1/2" C: 8 CABLES 2" C: 14 CABLES 2 1/2" C: 22 CABLES 3" C: 32 CABLES 3 1/2" C: 43 CABLES 4" C: 56 CABLES
C	CABLES SHALL BE SECURED WITH VELCRO TYPE CABLE RETAINERS. NO RATCHET-TYPE CABLE (ZIP) TIES SHALL BE USED.
D	FIRE SEAL PENETRATIONS AFTER CABLE INSTALLATION FOR CONDUIT PENETRATIONS THROUGH AIR BARRIERS AND FIRE WALLS.
E	JUNCTION BOXES, BACKBOXES, AND CONDUITS SHALL BE SURFACE MOUNTED ON PRECAST, CONCRETE, AND CONCRETE BLOCK WALLS AND STEEL MEMBERS. JUNCTION BOXES, BACKBOXES, AND CONDUITS SHALL BE RECESS MOUNTED ON GYPSUM WALLS. COORDINATE WITH ARCHITECTURAL SHEETS.
F	EACH PULL ROPE SHALL BE LABELED WITH A UNIQUE IDENTIFIER TAGGED ON EACH END. THE USER END OF THE PULL ROPE SHALL ALSO INDICATE THE SOURCE LOCATION AND VICE VERSA.
G	WHERE A CONDUIT SLEEVE IS SHOWN THROUGH A WALL BETWEEN TWO PORTIONS OF CABLE TRAY, COORDINATE HEIGHT OF SLEEVES HEIGHT WITH CABLE TRAY SUCH THAT THE SLEEVE IS SLIGHTLY ABOVE THE CABLE TRAY.
H	PROVIDE EQUIVALENT CONDUIT PATHWAYS WHERE CABLE TRAY IS INTERRUPTED BY WALLS OR NONACCESSIBLE CEILINGS.
I	REFER TO SHEET TN500 FOR COMMUNICATIONS LETTER DESIGNATIONS AND JACK AND CABLE COLOR.
J	DO NOT PENETRATE STRUCTURAL COLUMNS, BEAMS, AND TRUSSES. AFIX DEVICES AND RACEWAY WITH BEAM C-CLAMPS, BRACKETS, CLIPS, UNISTRUT, AND OTHER NON-PENETRATING AND NON-ADHESIVE HARDWARE.
K	COORDINATE TELECOMMUNICATIONS OUTLETS WITH POWER RECEPTACLES (EP DRAWING SERIES). SPACING SHALL BE NO GREATER THAN 6" CENTER TO CENTER PER UFC 3-580-01.
L	WALL VOICE OUTLETS "W" AND ALL TELECOMMUNICATION OUTLETS IN GENERATOR ROOMS SHALL BE WEATHERPROOF RATED. INSTALL "WEATHERPROOF ENCLOSURE TELEPHONE INSTRUMENT" IN EACH WALL VOICE OUTLET ENCLOSURE. REFERENCE 26 20 00 FOR TELEPHONE INSTRUMENT AND ENCLOSURE REQUIREMENTS.
M	WHERE CABLE TRAY INFORMATION IS OMITTED FROM A SEGMENT, SIZE AND ELEVATION SHALL BE ASSUMED TO BE THE SAME AS THE ADJACENT CONNECTED SEGMENT WHICH IS CLOSER TO THE ORIGINATION TELECOM ROOM OR CABINET. PLEASE NOTE WHERE KEYED NOTES ARE USED FOR ELEVATIONS AND TRANSITIONS.
N	PENETRATIONS BETWEEN ANY SPACE IDENTIFIED AS A HAZARDOUS AREA ON SHEET E-101 AND ANY OTHER SPACE (INCLUDING ANOTHER SPACE IDENTIFIED AS A HAZARDOUS AREA) SHALL NOT OCCUR BELOW 8'-0" UNLESS OTHERWISE NOTED.
O	ALL CONDUITS SHALL BE PROVIDED WITH PULL STRING IN ADDITION TO CABLES.
P	CABLE TRAY ROUTING PATHS ARE COORDINATED WITH CEILING ELEVATIONS, LIGHTING LOCATIONS, AND HVAC DUCT ROUTING, AS SHOWN IN THE RESPECTIVE CONTRACT DOCUMENTS BUT ARE NOT SHOWN ON TN SHEETS FOR CLARITY.
Q	COORDINATE RECESS MOUNTING OF CONDUIT, BACKBOXES, DEVICES, AND EQUIPMENT WITH OTHER TRADES.
R	ALL FLOOR BOXES ALSO CONTAIN POWER RECEPTACLES. FLOOR BOX LOCATION/DIMENSIONING IS LOCATED ON EP SHEETS.
S	TELECOMMUNICATIONS PENETRATION OPENINGS THROUGH AIR BARRIERS SHALL COMPLY WITH THE BUILDING AIR BARRIER REQUIREMENTS. CORRECT ALL PENETRATIONS THAT ARE DETERMINED DEFICIENT DURING TESTING. SEE ARCHITECTURAL SHEETS FOR AIR BARRIER TESTING BOUNDARIES. SEE ARCHITECTURE FOR SEALING PENETRATIONS.
T	OUTSIDE OF THE TELECOM ROOM, ALL COMMUINICATIONS MEDIA SHALL BE ROUTED USING CONDUIT OR TUBING AS APPLICABLE FOR THE LEVEL OF PHYSICAL DAMAGE TO WHICH THE RACEWAY IS SUBJECT (SEE E-120).
U	COORDINATE TELECOMMUNICATION CONDUIT STUB-UPS TO AVOID PENETRATTION OF GRADE BEAM(S).

(#) KEYNOTES - TN100 THROUGH TN400 SHEETS

1	RUN CABLE TRAY FROM TELECOMMUNICATIONS ROOM INTO CONDUIT. SEE TN502 DETAIL J13.
2	RUN 4" CONDUIT FROM CABLE TRAY TO PULL BOX. RUN 1" CONDUIT FROM PULL BOX TO WALL PHONES. SIZE PULL BOX TO PROPERLY FIT CONDUITS AND CABLING REQUIRED FOR DEVICES.
3	SEE EP201 FOR SWITCHGEAR COMPARTMENT CONTAINING DMCP AND THE RESPECTIVE SWITCHGEAR ELEVATION.
4	COORDINATE TELECOMMUNICATION CONDUIT STUB-UPS TO AVOID PENETRATION OF GRADE BEAM(S).
5	PROVIDE UL LISTED CONDUIT OR CABLE TRAY TYPE PENETRATION. SEE TN502 FOR DETAILS.
6	PROVIDE 48-INCH WIDE X 78-INCH HIGH X 3/4-INCH DEEP FIRE RATED PLYWOOD BACKBOARDS. MOUNTED 6-INCHES A.F.F. TO BOTTOM OF PLYWOOD BACKBOARD.

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CONTRACT NO.:

DESIGNED BY: S.BLASER
DRAWN BY: S.BLASER
CHECKED BY: J.COOK
SUBMITTED BY: J.HOSKINS
SIZE: ANSI D
FILE NAME: BUC000102_DM_ME.rvt

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OMAHA, NE 68102

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TELECOMMUNICATIONS NOTES AND SUPPLEMENTAL LEGEND

SHEET ID

TN001

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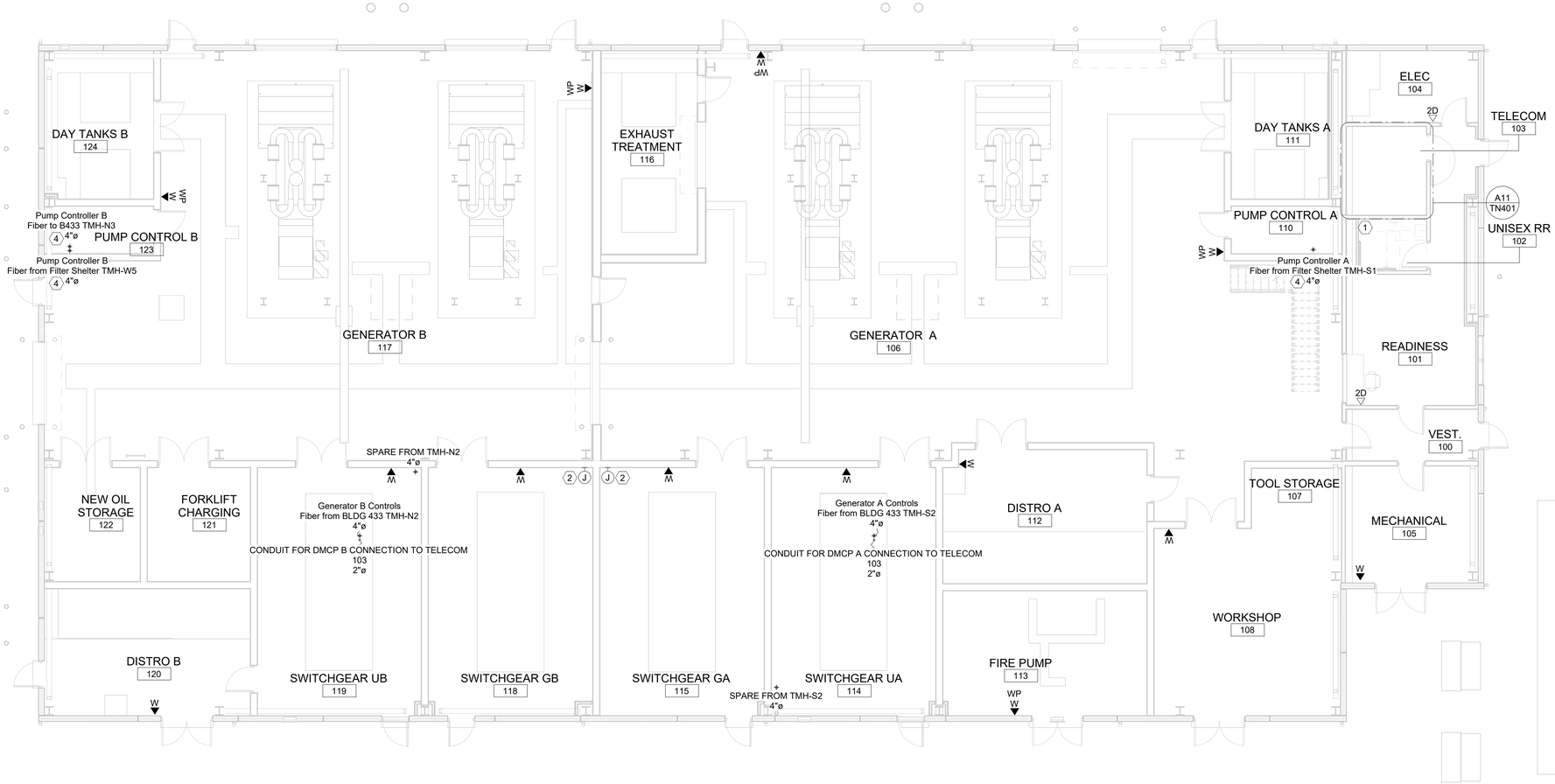
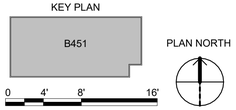


A1 TELECOMMUNICATIONS PLAN

1/8" = 1'-0"

KEY PLAN



PLAN NORTH

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET TN001.

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TELECOMMUNICATIONS PLAN

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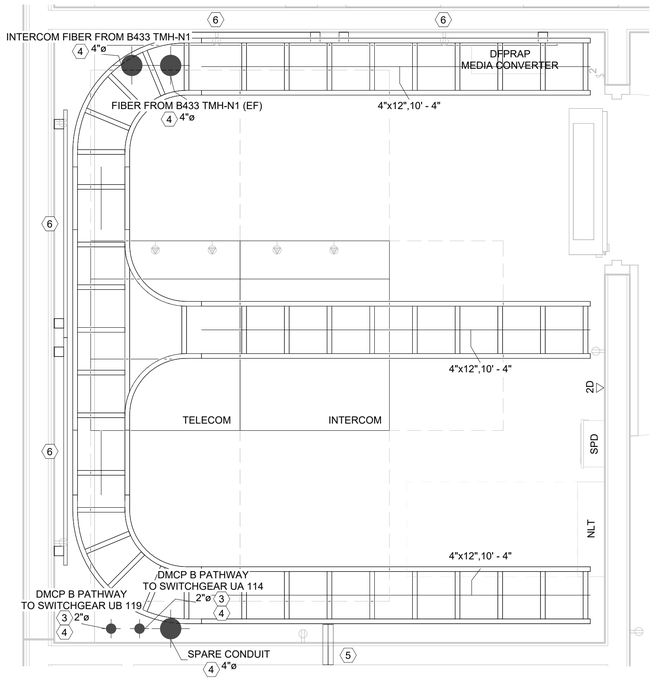

A11 TELECOMMUNICATIONS ENLARGED PLAN

3/4" = 1'-0"

PLAN NORTH

0 0.5' 1' 2' 3'

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET TN001.

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ENLARGED TELECOMMUNICATIONS PLAN

SHEET ID

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COMMUNICATIONS OUTLET CONFIGURATIONS			
SYMBOL	LABEL	PORT A B C D	DETAIL (TN500)
▽	N/A	D	1
▽	U	U	1
▼	W	V	2
▼	WP W	V	2

NOTES:
1. SEE COLOR CODE SCHEDULE ON THIS SHEET FOR CABLE AND JACK COLORS.

2. -- INDICATES BLANK PORT. FACEPLATES WITH AT LEAST ONE BLANK PORT SHALL BE PROVIDED WITH A PULL STRING TO THE CABLE TRAY.

COMMUNICATIONS COLOR CODE DESIGNATION SCHEDULE			
TYPE	LETTER	JACK	CABLE
DATA (NIPRNET)	D	BLUE	BLUE
VOICE	V	WHITE	WHITE
EMCS	E	GREEN	GREEN
SIPR	S	RED	RED

ALL COMM OUTLETS SHALL BE 8-PIN RJ-45 U.O.N.

L1 TELECOMMUNICATIONS OUTLET CONFIGURATIONS

SCALE: NTS

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CONTRACT NO.:

DESIGNED BY: S.BLASER	US ARMY CORPS OF ENGINEERS OMAHA DISTRICT 1616 CAPITOL AVE. OMAHA, NE 68102
DRAWN BY: S.BLASER	
CHECKED BY: J.COOK	
SUBMITTED BY: J.HEDGES	
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TELECOMMUNICATIONS DETAILS

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TN500

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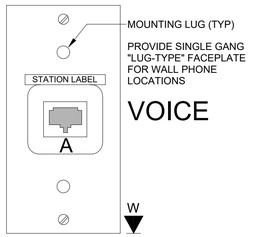
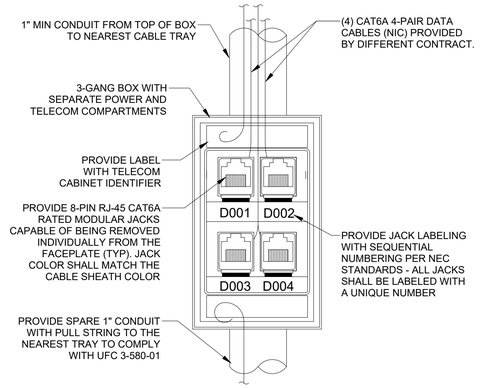


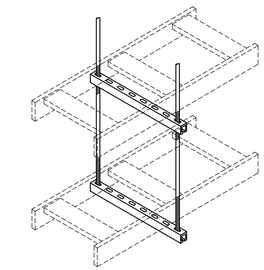
K2 WALL PHONE OUTLET

SCALE: NTS

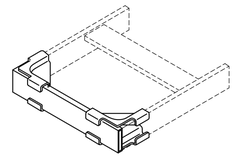


K9 TELECOMMUNICATIONS DATA OUTLET

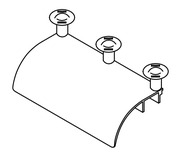
SCALE: NTS



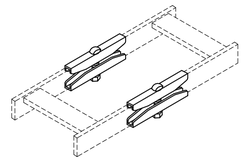
CABLE TRAY SUPPORT



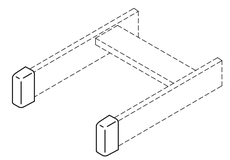
END CLOSING KIT



RADIUS DROP



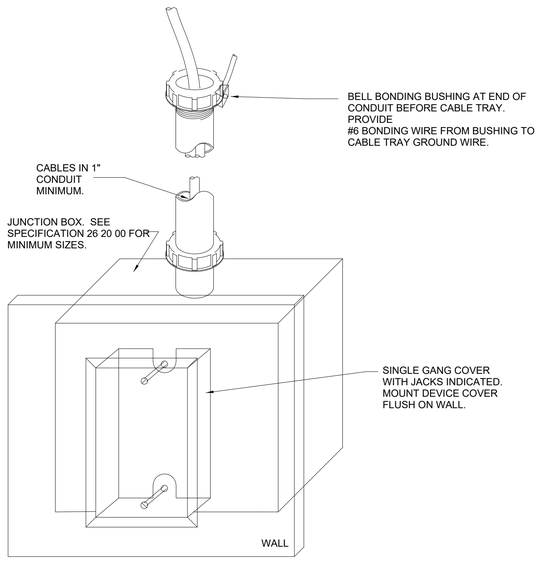
BUTT SPLICE KIT



END CAPS

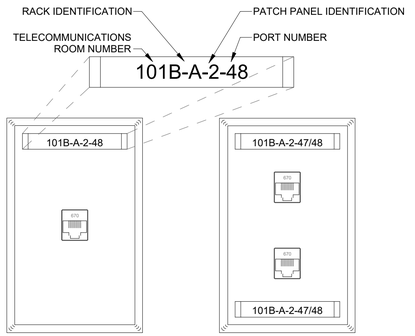
B15 LADDER TYPE CABLE TRAY FITTINGS

SCALE: NTS



B2 TYPICAL DATA AND VOICE OUTLET MOUNTING DETAIL

SCALE: NTS



OUTLET/PATCH PANEL LABELS

THE TELECOMMUNICATIONS SYSTEM LABELING MUST BE DONE IAW THE FOLLOWING GUIDELINES. ALL OUTLETS AND PATCH PANEL POSITIONS MUST BE LABELED AS TO THEIR FUNCTION (I.E., VOICE, NIPRNET, ULLS-A, OR SIPRNET) AND WITH A UNIQUE IDENTIFIER CODE.

(1) VOICE AND DATA PORT: ON THE USER END, THE DATA PORT WILL BE LABELED IDENTIFYING THE TELECOM ROOM THE DROP IS BEING FED FROM, FOLLOWED BY THE RACK IDENTIFICATION IN THAT TELECOM ROOM. THE CABLE BEING TERMINATED ON A PATCH PANEL WILL BE IDENTIFIED WITH A NUMERICAL SEQUENCE OF THE AMOUNT OF PATCH PANELS, FOLLOWED BY THE PORT NUMBER ON THAT PATCH PANEL.

(2) EACH ROOM SHALL BE LABELED IN SEQUENCE BEGINNING WITH FIRST OUTLET FROM LEFT OF THE ROOM AND CLOCKWISE AROUND THE ROOM.

(3) PATCH PANELS SHALL BE IN ORDER OF ROOM NUMBER BEGINNING WITH LOWEST ROOM NUMBER.

THE REMOVAL OF THE DASHES BETWEEN THE FIRST THREE (3) DESIGNATORS ARE ALLOWED FOR MORE SPACE ON FACEPLATE AND PATCH PANEL "DESIGNATOR STRIPS". FOR EXAMPLE, "101BA2-48" IN PLACE OF "101B-A-2-48".

B9 OUTLET PANEL LABELS

SCALE: NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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DESIGNED BY:	S.BLASER
DRAWN BY:	S.BLASER
CHECKED BY:	J.COOK
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APPROVED BY:	
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OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

TELECOMMUNICATIONS DETAILS

SHEET ID

TN501

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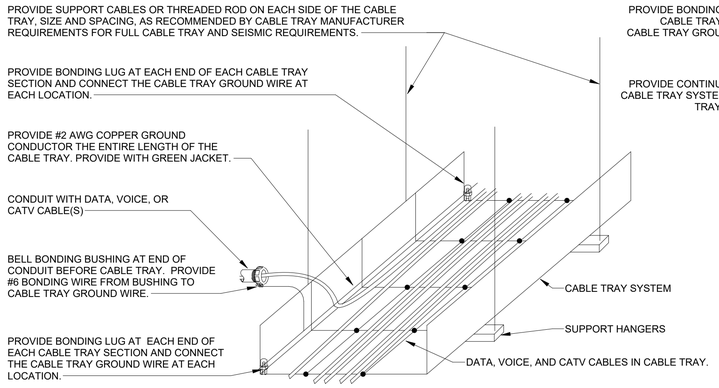
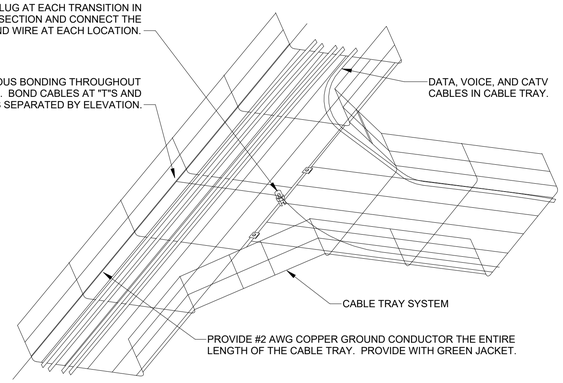
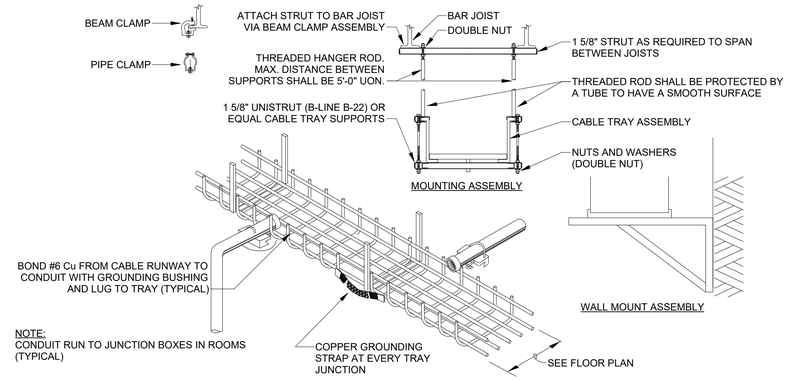




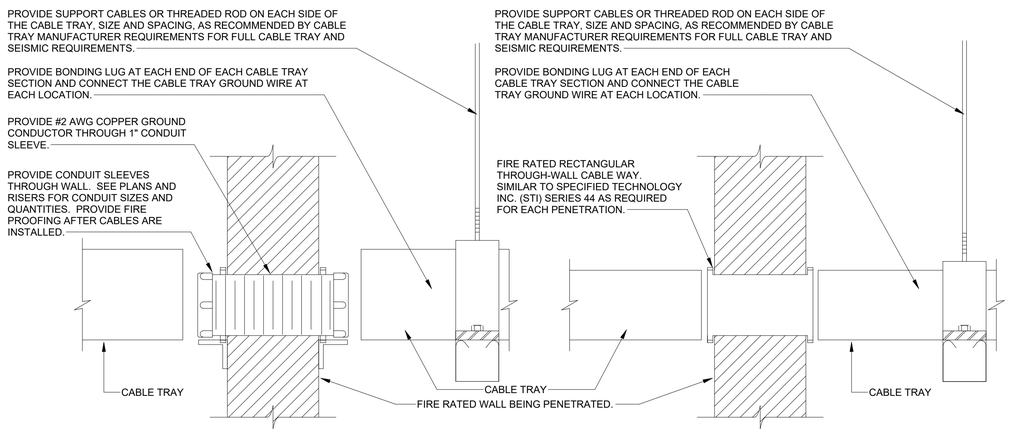
J1 TYPICAL CABLE TRAY MOUNTING AND BONDING

SCALE: NTS



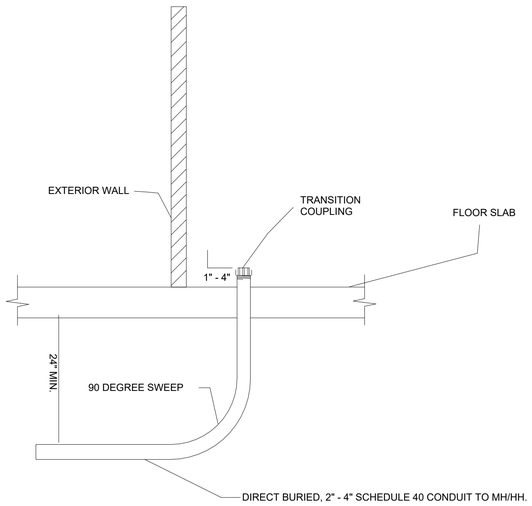
J13 TYPICAL CABLE RUNWAY TO CONDUIT TRANSITION DETAIL

SCALE: NTS



B1 TYPICAL CABLE TRAY WALL PENETRATION

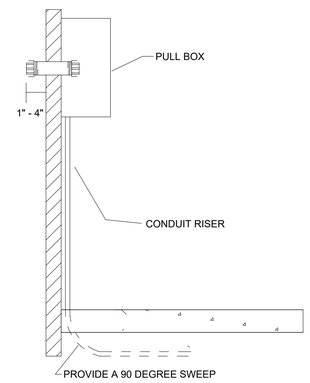
SCALE: NTS



NOTE: MINIMUM BEND RADIUS SHALL BE 10x THE OUTSIDE DIAMETER OF CONDUIT.

B11 EXTERIOR BELOW GRADE ENTRY

SCALE: NTS



B17 EXTERIOR PULLBOX ENTRY

12" = 1'-0"

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MARK	DESCRIPTION	DATE

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: S.BLASER
DRAWN BY: S.BLASER
CHECKED BY: J.COOK
SUBMITTED BY: J.HEDRICK
SIZE: FILE NAME: BUCO00102_DM_ME.rvt
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US ARMY CORPS OF ENGINEERS
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OMAHA, NE 68102

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TELECOMMUNICATIONS DETAILS

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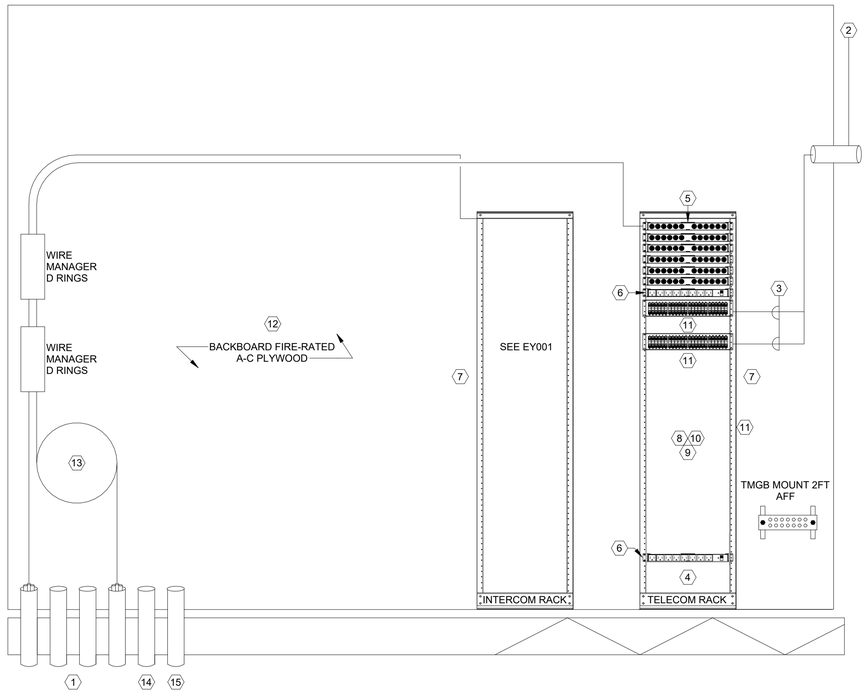

G6 TELECOMMUNICATIONS RISER DIAGRAM

SCALE: NTS

(#) KEY NOTES FOR SHEET TN601 :

1. 2" SCHEDULE 40 CONDUIT WITH 3-CELL MESH INNER DUCTS FROM NEW HAND HOLE. STUBBED UP 3" AFF. USE 1- 1 1/4" INNER DUCT TO RUN 24-STRAND SINGLE-MODE FIBER OPTIC OUTSIDE PLANT SERVICE ENTRANCE CABLE. USE SECOND INNER DUCT TO INSTALL 24-STRAND FIBER OPTIC OUTSIDE PLANT VOICE SERVICE ENTRANCE CABLE.

2. PROVIDE CONDUITS SIZED FOR THE NUMBER OF CABLES IDENTIFIED IN TN001 GENERAL NOTES.

3. 48-PORT CATEGORY 6A-RATED PATCH PANEL FOR DATA STATION CABLES.

4. DEDICATED RECEPTACLES. SEE ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION.

5. ONE RACK HIGH, OPTICAL FIBER TERMINATION ENCLOSURE WITH LC TYPE CONNECTOR.

6. RACKMOUNT POWER STRIP EIGHT (8) OUTLETS (FOUR FRONT/FOUR REAR), COLOR BLACK.

7. THREE-INCH (3") WIDE, DOUBLE SIDED VERTICAL WIRE MANAGER

8. PROVIDE A VERTICAL LADDER-TYPE CABLE TRAY FOR EVERY RACK. TRAY DIMENSIONS SHALL MATCH THE SIZE OF HORIZONTAL LADDER-TYPE CABLE TRAY. VERTICAL CABLE TRAY IS OMITTED FOR CLARITY ON THE RISER DIAGRAM.

9. SPACE FOR GOVERNMENT FURNISHED, GOVERNMENT INSTALLED EQUIPMENT.

10. 19" WIDE OPEN FRAME FREE STANDING RACK WITH REQUIRED QUANTITY OF 110 PATCH PANEL AND WIRE MANAGEMENT TO TERMINATE HORIZONTAL CABLES FROM BLACK CABLE TRAY. SEE SPECIFICATIONS FOR DETAILS. TERMINATE ALL CABLING, TEST AND CERTIFY.

11. VERTICALLY-RACK MOUNTED GROUNDING BUSBAR, NOT SHOWN FOR CLARITY.

12. 3/4" PLYWOOD BOARD FOR MOUNTING OF EQUIPMENT AND DEVICES.

13. 25 FOOT FIBER MAINTENANCE LOOP. 2 FOOT MINIMUM DIAMETER.

14. 2" SCHEDULE 40 CONDUIT WITH 3-CELL MESH INNER DUCTS FROM SWITCHGEAR UB 119 FOR DMCP B CONNECTION.

15. 2" SCHEDULE 40 CONDUIT WITH 3-CELL MESH INNER DUCTS FROM SWITCHGEAR UA 114 FOR DMCP A CONNECTION.

16. SPACE FOR GOVERNMENT FURNISHED SWITCHES.

GENERAL NOTES:

1. RISER IS TYPICAL ONLY. SEE FLOOR PLANS FOR EXACT NUMBER AND LOCATIONS OF OUTLETS, RACKS, AND CABLE TRAY.

2. GROUND TTB's RACKS, CABLE TRAYS, ETC., PER ANSI/TIA/EIA 607A.

3. FROM VOICE PATCH PANEL TO WALL MOUNT 100-PAIR 110-TYPE BLOCKS SHALL HAVE C4 CONNECTORS FOR THE FIRST FIVE SLOTS AND C5 AT THE END OF EACH 25 PAIRS.

4. CONTRACTOR TO PROVIDE TMGB IN ENTRANCE AND TGB IN TELECOMMUNICATIONS ROOM FOR TERMINATION OF VOICE AND DATA SYSTEMS GROUNDING. CONTRACTOR SHALL USE MINIMUM #6 AWG COPPER BOND FROM OPEN RACK TO GROUND BAR. CONTRACTOR SHALL INSTALL COPPER GROUNDING CONDUCTOR PER EG504.

5. DUCT STUB-UPS AND RISER CONDUITS FOR DATA AND COMMUNICATIONS CABLING SHALL BE SEALED. PROVIDE MECHANICAL PLUGS FOR EMPTY DUCTS ON BOTH ENDS. TEMPORARY MECHANICAL PLUGS SHALL BE PROVIDED FOR DUCTS UNTIL CABLING IS INSTALLED AND COMPLETED.

6. INSTALL 3/4" A/C PLYWOOD BOARD 8' HIGH ON EACH WALL WHERE CABLE ENTRENCES ARE PRESENT IN THE TELECOMMUNICATIONS ROOM FOR WALL MOUNTED COMMUNICATIONS EQUIPMENT. MUST BE FIRE-RETARDANT TREATED WOOD W/ MANUFACTURER'S STAMP. NO PAINT OR ANY SEALER SHALL BE APPLIED THE PLYWOOD BOARD. BOTTOM OF PLYWOOD SHALL BE MOUNTED 6" ABOVE THE FINISH FLOOR WITH THE BEST SIDE TOWARD THE ROOM.

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DRAWN BY: S.BLASER
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SUBMITTED BY: J.MCGRATH
SIZE: ANSI D
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TELECOMMUNICATIONS RISER DIAGRAM

SHEET ID

TN600

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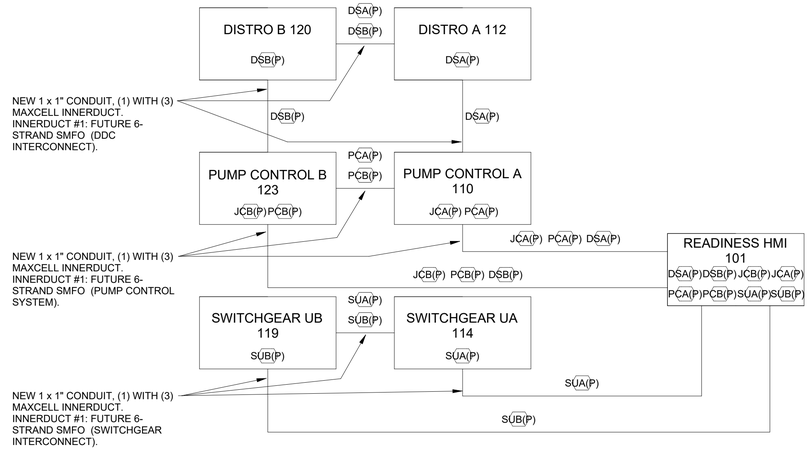


J2 TELECOMMUNICATIONS PREMISES DIAGRAM

SCALE: NTS

GENERAL NOTES:

1. COORDINATE WITH GENERATOR CONTROL DIAGRAM. EP501.

2. COORDINATE MANHOLE NAMING CONVENTION WITH BASE CE.

3. ALL PATHWAYS TO BE 4" CONDUIT. ALL CONDUITS SHALL BE PROVIDED A SPARE PATHWAY ALONGSIDE THE ORIGINAL.

4. EACH SPARE INNERDUCT AND SPARE CONDUIT SHALL BE PROVIDED WITH PULL ROPE.

5. CAP SPARE CONDUIT(S) WITH MECHANICAL PLUG.

6. ALL OSP FIBER SHALL BE HOMERUN (UNSPLICED) CABLES.

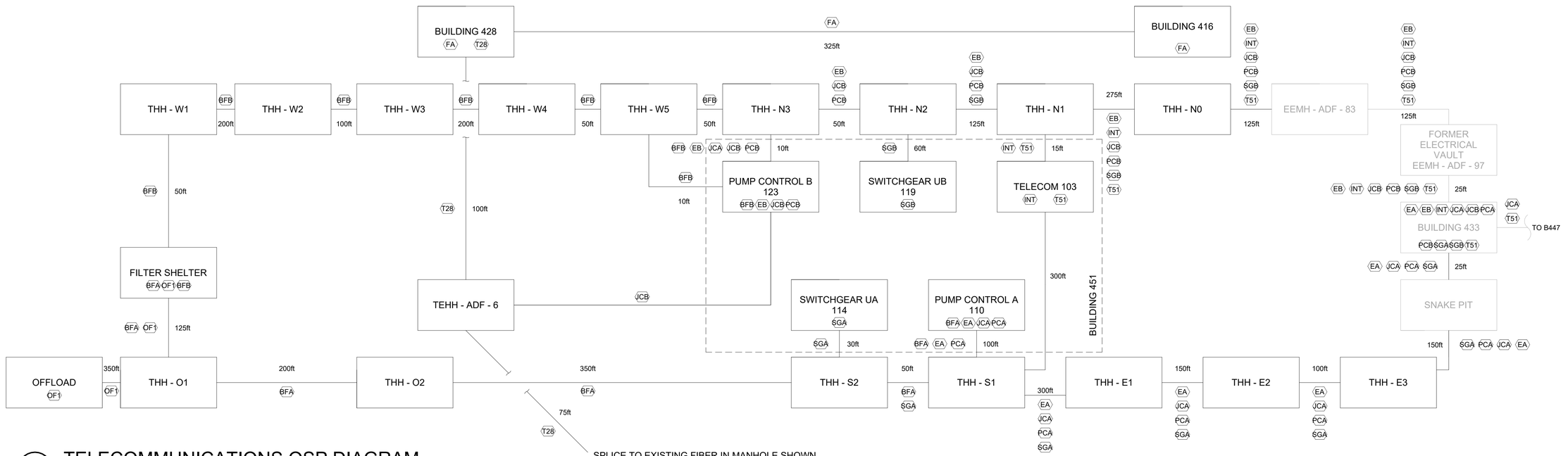
7. ALL COMMUNICATIONS CABLE MEDIA IDENTIFIED BY SYSTEM SHALL BE DEDICATED CABLES. COMMON PATHWAYS FOR DIFFERENT SYSTEMS MAY BE USED (EXCEPT __A AND __B FOR SAME SYSTEM TYPE SHALL NOT USE SAME PATHWAY).

8. LENGTH(S) PROVIDED AS ESTIMATES FOR COURTESY ONLY. CONTRACTOR TO CONFIRM PATHWAY LENGTH(S) WITH PROPOSED INSTALLATION ROUTING.

9. ALL FIBER PENETRATING THE HEMP BARRIER INTO B433 SHALL BE UNSHIELDED FIBER.

#	KEYNOTES - TN601
BFA	SYSTEM: BULK FUELS SYSTEM A TO PUMP CONTROL A MEDIA: 6-STRAND SMFO SHEET SERIES: EF
BFB	SYSTEM: BULK FUELS SYSTEM B TO PUMP CONTROL B MEDIA: 6-STRAND SMFO SHEET SERIES: EF
DSA(P)	SYSTEM: DISTRO A TO READINESS HMI MEDIA: 6-STRAND SMFO SHEET SERIES:
DSB(P)	SYSTEM: DISTRO B TO READINESS HMI MEDIA: 6-STRAND SMFO SHEET SERIES:
EA	SYSTEM: EMCS A TO B433 HMI MEDIA: 6-STRAND SMFO SHEET SERIES: M-
EB	SYSTEM: EMCS B TO B433 HMI MEDIA: 6-STRAND SMFO SHEET SERIES: M-
FA	SYSTEM: FIRE ALARM CONNECTION FROM B416 TO B428 MEDIA: 12-STRAND SMFO SHEET SERIES: TS401
INT	SYSTEM: INTERCOMMUNICATIONS CONNECTION TO B433 MEDIA: 6-STRAND SMFO SHEET SERIES: EY001
JCA	SYSTEM: JACE CONTROLLER A TO B433 HMI MEDIA: 6-STRAND SMFO SHEET SERIES: MH701
JCA(P)	SYSTEM: JACE CONTROLLER A TO READINESS 101 HMI MEDIA: 6-STRAND SMFO SHEET SERIES: MH701
JCB	SYSTEM: JACE CONTROLLER B TO B433 HMI MEDIA: 6-STRAND SMFO SHEET SERIES: MH701
JCB(P)	SYSTEM: JACE CONTROLLER B TO READINESS 101 HMI MEDIA: 6-STRAND SMFO SHEET SERIES: MH701

#	KEYNOTES - TN601
OF1	SYSTEM: FUELS OFFLOAD TO FILTER SHELTER MEDIA: 6-STRAND SMFO SHEET SERIES: EF
PCA	SYSTEM: PUMP CONTROL A TO B433 HMI MEDIA: 12-STRAND SMFO SHEET SERIES: EF
PCA(P)	SYSTEM: INTERIOR PUMP CONTROL A MEDIA: 6-STRAND SMFO SHEET SERIES:
PCB	SYSTEM: PUMP CONTROL B TO B433 HMI MEDIA: 12-STRAND SMFO SHEET SERIES: EF
PCB(P)	SYSTEM: INTERIOR PUMP CONTROL B MEDIA: 6-STRAND SMFO SHEET SERIES:
SGA	SYSTEM: SWITCHGEAR UA TO B433 HMI MEDIA: 6-STRAND SMFO SHEET SERIES: EP501
SGB	SYSTEM: SWITCHGEAR UB TO B433 HMI MEDIA: 6-STRAND SMFO SHEET SERIES: EP501
SUA(P)	SYSTEM: SWITCHGEAR UA TO READINESS HMI MEDIA: 6-STRAND SMFO SHEET SERIES:
SUB(P)	SYSTEM: SWITCHGEAR UB TO READINESS HMI MEDIA: 6-STRAND SMFO SHEET SERIES:
T28	SYSTEM: B428 FIBER SOURCE FROM B447 MEDIA: 12-STRAND SMFO SHEET SERIES: TS
T51	SYSTEM: TELECOMMUNICATIONS ROOM FIBER SOURCE FROM B433 MEDIA: 6-STRAND SMFO SHEET SERIES: EF



SPLICE TO EXISTING FIBER IN MANHOLE SHOWN ON SITE PLANS FOR CONNECTION TO B447.

A1 TELECOMMUNICATIONS OSP DIAGRAM

SCALE: NTS

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US ARMY CORPS OF ENGINEERS
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POWER INDEPENDENCE: MISSION CONTROL STATION

TELECOMMUNICATIONS OUTSIDE PLANT AND BACKBONE CONNECTION DIAGRAM

SHEET ID

TN601

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GENERAL STRUCTURAL NOTES

1. **GENERAL:**

   A. THESE NOTES AND OTHER DRAWINGS NOTES CONTAINED WITHIN, ARE PROVIDED TO MEET SPECIFIC REQUIREMENTS AND TO SUPPLEMENT CONTRACT SPECIFICATIONS. THESE NOTES NEITHER REPLACE NOR OVERRIDE PROVISIONS AND REQUIREMENTS OF CONTRACT SPECIFICATIONS.
   B. SEE CIVIL SHEETS FOR MEAN SEA LEVEL (MSL) ELEVATION OF REFERENCE ELEVATION 0'-0" FOR BUILDING FINISH FLOOR ELEVATION.
   C. COORDINATE STRUCTURAL DRAWINGS WITH DRAWINGS FROM OTHER DISCIPLINES.
   D. REPORT DISCREPANCIES IN DIMENSIONS ON THE DRAWINGS PRIOR TO BEGINNING WORK IN AREA THAT WILL AFFECTED. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE DRAWINGS OR SPECIFICATIONS, PROVIDE CONSTRUCTION OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE SHOWN OR CALLED FOR WITH APPROVAL OF CONTRACTING OFFICER'S REPRESENTATIVE.
   E. "TYPICAL" APPLIES NOT ONLY WHERE SPECIFICALLY INDICTED OR REFERENCED, BUT ALSO IN ALL OTHER CASES WHERE THE NATURE OF THE CONSTRUCTION REQUIRES THEIR USE. DETERMINE APPLICABILITY OF TYPICAL DETAILS FROM DESCRIPTIVE TITLES OR FROM THE SIMILARITY OF A CONSTRUCTION CONDITION TO ANOTHER CONDITION WHERE THE DETAIL IS SPECIFICALLY INDICATED OF REFERENCED.
   F. DRAWINGS AND SPECIFICATIONS REPRESENT FINISHED STRUCTURE. CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION INCLUDED, BUT NOT LIMITED TO SHORING AND TEMPORARY BRACING. UNDERTAKE ALL NECESSARY MEASURES TO ENSURE SAFETY OF ALL PERSONS AND STRUCTURES AT SITE AND ADJACENT TO SITE.
   G. REPRODUCTION OF CONTRACT DRAWINGS SHALL NOT BE USED AS SHOP DRAWINGS.
   H. REFERENCE SHEETS S-002, S-003 AND SPECIFICATION SECTION 01 45 35 FOR SPECIAL INSPECTION REQUIREMENTS.
   I. NO PIPES OR DUCTS SHALL BE PLACED IN OR PENETRATE STRUCTURAL MEMBERS UNLESS SPECIFICALLY DESIGNED AND DETAILED.

2. **DESIGN CRITERIA**:

STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE FOLLOWING CODES, GUIDE AND SPECIFICATIONS:

   A. INTERNATIONAL BUILDING CODE, 2021.
   B. UFC 3-301-01, STRUCTURAL ENGINEERING, 2023.
   C. UFC 3-320-06A, CONCRETE FLOOR SLABS SUBJECTED TO HEAVY LOADS, 2005.
   D. UFC 3-460-01 DESIGN: PETROLEUM FUEL FACILITIES, 2023
   E. UFC 3-301-02 DESIGN OF RISK CATEGORY V STRUCTURES NATIONAL STRATEGIC MILITARY ASSETS, 2023
   F. ASCE 7-16, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2016.
   G. ACI 318-19, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2019.
   H. ACI 302.1R-15, GUIDE TO CONCRETE FLOOR AND SLAB CONSTRUCTION, 2015.
   I. ACI 360R-10, GUIDE TO DESIGN OF SLABS-ON-GROUND, 2010.
   J. AISC 360-16, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 2016 .
   K. AISC 325, STEEL CONSTRUCTION MANUAL, 15TH EDITION, 2017.
   L. SDI DDM04 DIAPHRAGM DESIGN MANUAL, 4TH EDITION.

3. **DESIGN LOADS**:

   A. RISK CATEGORY: V
   B. DEAD LOADS (IN ADDITION TO SELF WEIGHT):
      1. SUSPENDED MEP 8 PSF
      2. ROOFING 3 PSF
   C. LIVE LOADS:
      1. SLAB-ON-GRADE 150 PSF
   D. ROOF LIVE LOAD (NON-REDUCIBLE): 20 PSF
   E. SNOW LOAD CRITERIA:
      1. GROUND SNOW LOAD, P_g 40 PSF
      2. FLAT-ROOF SNOW LOAD, P_f 50.4 PSF
      3. SLOPED ROOF SNOW LOA, P_s 50.4 PSF
      4. UNBALANCED SNOW LOADS HIP AND GABLE
         A. LEEWARD 60.0 PSF
         B. WINDWARD 16.0 PSF
      5. SNOW IMPORTANCE FACTOR, I_s 1.5
      6. SNOW EXPOSURE FACTOR, C_e 1.0
      7. SNOW THERMAL FACTOR, C_t 1.2
      8. ROOF SLOPE FACTOR, C_s 1.0
   F. WIND LOAD CRITERIA:
      1. BASIC DESIGN WIND SPEED,3-SECOND GUST, V 146 MPH
      2. ALLOWABLE STRESS DESIGN WIND SPEED, V 113 MPH
      3. WIND EXPOSURE CATEGORY C
      4. INTERNAL PRESSURE COEFFICIENTS, GCpi (OPEN BUILDING) +/- 0
      5. SEE DIAGRAMS ON S-004S FOR COMPONENTS AND CLADDING LOADS
   G. SEISMIC LOADS CRITERIA:
      1. MAPPED SPECTRAL RESPONSE ACCELERATION, Ss 0.192 g
      2. MAPPED SPECTRAL RESPONSE ACCELERATION, S1 0.055 g
      3. SITE CLASS C
      4. DESIGN SPECTRAL RESPONSE ACCELERATION, S_{MS} 0.251 g
      5. DESIGN SPECTRAL RESPONSE ACCELERATION, S_{D1} 0.083 g
      6. PER UFC 3-301-02, THE TERMS SMS AND SM1 ARE TO BE USED IN THE PLACE OF SDS AND SD1 WHERE REFERENCED IN THE IBC AND ASCE 7.
      7. ANALYTICAL PROCEDURE: MODAL RESPONSE SPECTRUM ANALYSIS
      8. SEISMIC FORCE-RESISTING SYSTEMS:
         A. ORDINARY STEEL MOMENT FRAMES

4. **FOUNDATION AND GEOTECHNICAL INFORMATION**:

   A. SEE S-001

5. **REINFORCED CONCRETE:**

   A. SEE S-001

6. **STEEL CONSTRUCTION:**

   A. FABRICATION AND ERECTION OF STRUCTURAL STEEL AND DESIGN OF CONNECTIONS SHALL BE IN ACCORDANCE WITH ANSI/AISC 360-16, "SPECIFICATION OR STRUCTURAL STEEL BUILDINGS" AND ANIS/AISC 303-16 "CODE OF STANDARD PRACTICE FOR BUILDING AND BRIDGES".
   B. UNLESS OTHERWISE NOTED, STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE ABOVE-LISTED AISC SPECIFICATION AND THE FOLLOWING:
      1. ROLLED WIDE FLANGE SHAPES ASTM A992, GRADE B, 50 KSI
      2. HSS HOLLOW SHAPES (RECTANGULAR) ASTM A500, GRADE C, 50 KSI
      3. HSS HOLLOW SHAPES (ROUND) ASTM A500, GRADE C, 46 KSI
      4. CHANNELS, ANGLES, AND OTHER HOT ROLLED SHAPES ASTM A36
      5. PLATES ASTM A572, GRADE 50
      6. STRUCTURAL PIPE ASTM A53, GR. B
      7. HIGH STRENGTH BOLTS ASTM A490
      8. ANCHOR RODS ASTM F1554, GRADE 36
      9. WELDED STEEL ANCHOR STUDS ASTM A108
   C. WELDING SHALL CONFORM TO AWS D1.1. WELDING ELECTRODES SHALL CONFORM TO E70XX. ALL WELDING TO BE DONE BY AMERICAN WELDING SOCIETY (AWS) CERTIFIED WELDERS. CURRENT AWS CERTIFICATIONS SHALL BE AVAILABLE AT THE JOB SITE FOR REVIEW BY THE OWNER'S REPRESENTATIVE.
   D. FIELD CUTTING FOR THE STRUCTURAL STEEL MEMBERS SHALL NOT BE PERMITTED. BOLT HOLES SHALL NOT BE CUT OR ENLARGED BY FLAME CUTTING IN THE FIELD.
   E. ALL FIELD-BOLTED SHEAR CONNECTIONS SHALL BE SNUG TIGHT BEARING-TYPE CONNECTIONS (U.N.O), THREADS INCLUDED IN THE SHEAR PLANE.
   F. UNLESS INDICATED OTHERWISE, ALL BOLTED CONNECTIONS SHALL BE 3/4 INCH DIAMETER A490N ALL BOLTS SHALL BE FASTEND USING THE TURN OF NUT METHOD. ALL BOLT SPACING SHALL BE 3" AND ALL BOLT EDGE DISTANCES SHALL BE 1 1/2" MINIMUM UNLESS OTHERWISE INDICATED ON THE CONTRACT DRAWINGS.
   G. STRUCTURAL STEEL SHALL BE PAINTED OR GALVANIZED PER SPECIFICATIONS. EXTERIOR STEEL EXPOSED TO THE ENVIRONMENT SHALL BE HOT DIPPED GALVANIZED.
   H. ALL COLUMN BASE PLATES. PROVISION SHALL BE MADE FOR ALL ANCHOR RODS TO BE RIGIDLY HELD IN POSITION TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT. ANCHOR RODS SHALL NOT BE TIGHTENED UNTIL THE CONCRETE COMPRESSIVE STRENGTH REACHES 0.75 TIMES f'c (28 DAY COMPRESSIVE STRENGTH).
   I. PORTIONS OF THE STRUCTURE ARE NOT SELF SUPPORTING DURING ERECTION; FOR GRAVITY AS WELL AS LATERAL LOADS. PROVIDE ANY TEMPORARY BRACING TO PROVIDE A LATERAL SUPPORT OF THE BUILDING AND INDIVIDUAL ELEMENTS UNTIL PERMANENT FRAME AND DECK ARE COMPLETELY INSTALLED..

7. **SPECIAL INSPECTIONS AND QUALITY REQUIREMENTS**

   A. **GENERAL**
      a. PERFORM STRUCTURAL TESTS AND SPECIAL INSPECTIONS FOR ALL STRUCTURAL MEMBERS AND ASSEMBLIES AS NOTED IN THE STATEMENT OF SPECIAL INSPECTIONS.
      b. REFER TO THE SPECIFICATIONS FOR ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS FOR QUALITY ASSURANCE AND QUALITY CONTROL.

PROJECT: BUCKLEY POWER INDEPENDENCE	
LOCATION: BUCKLEY AFB, CO	
PROJECT #:	
DATE:	

STATEMENT OF SPECIAL INSPECTIONS

PROJECT SEISMIC DESIGN CATEGORY:	**C**
PROJECT RISK CATEGORY:	**V**
PROJECT DESIGN WIND SPEED (MPH):	**146**
NUMBER OF STORIES:	**1.0**
STRUCTURE HEIGHT ABOVE GRADE (FT):	**15.5**
HAZARDOUS OCCUPANCY OR ATTACHED TO SUCH?	**NO** GROUP H OCCUPANCIES

SPECIAL INSPECTOR OF RECORD (SIOR)
A SPECIAL INSPECTOR OF RECORD (SIOR) **IS** REQUIRED (PER UFGS 01 45 35, SECTION 1.3.8)

SIOR NAME (REGISTERED PROFESSIONAL):	CONTRACTOR TO PROVIDE PRIOR TO CONSTRUCTION START
PROFESSIONAL REGISTRATION NUMBER:	
CONSULTING FIRM NAME (IF ANY):	
SIOR OFFICE AND MOBILE PHONE NUMBER:	

LATERAL FORCE RESISTING SYSTEM (LFRS)
2021 IBC 1704.3.2 and 1704.3.3
FOLLOWING IS A LISTING OF CRITICAL ELEMENTS OF THE MAIN WIND/SEISMIC FORCE-RESISTING SYSTEM FOR THIS STRUCTURE. CAREFULLY INSPECT THESE ELEMENTS AS PART OF THE ROLES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR (REFERENCE THE SCHEDULE OF SPECIAL INSPECTIONS FOR INSPECTION CHECKLISTS).

VERTICAL LFRS ELEMENTS	NOTES
ORDINARY STEEL MOMENT FRAME	HSS COLUMNS CONNECTED TO WIDE FLANGE BEAMS SUPPORTING LATERAL LOADS IN THE EAST-WEST DIRECTION HSS COLUMNS CONNECTED TO HSS BEAMS SUPPORTING LATERAL LOADS IN THE NORTH-SOUTH DIRECTION
HORIZONTAL LFRS ELEMENTS	**NOTES**
HORIZONTAL BRACING	STEEL CABLE X-BRACING

DESIGNATED SEISMIC SYSTEMS (DSS)
(2021 IBC 1705.13.3) (ASCE 7-16, 13.2.2, C13.2.2) (UFC 3-301-1, 2-5.3)
NON-STRUCTURAL 'DESIGNATED SEISMIC SYSTEMS' (DSS) MUST REMAIN OPERABLE AND CONTAIN HAZARDOUS SUBSTANCES FOLLOWING A DESIGN EARTHQUAKE. ACCORDINGLY, ALL DESIGNATED SEISMIC SYSTEMS MUST BE LISTED BELOW AND MUST BE CERTIFIED BY THE MANUFACTURER TO REMAIN BOTH OPERABLE AND/OR TO CONTAIN HAZARDOUS SUBSTANCES AFTER A DESIGN EARTHQUAKE PER UFC 3-301-01, SECTION 3-6.2. SUBMIT SAID CERTIFICATES OF COMPLIANCE TO THE CONTRACTING OFFICER FOR EACH DSS AFTER THEY HAVE BEEN REVIEWED AND ACCEPTED BY THE EOR/DOR.
ADDITIONALLY, THE BELOW LISTED DESIGNATED SEISMIC SYSTEMS MUST BE CAREFULLY INSPECTED BY THE SPECIAL INSPECTOR ACCORDING TO THE REQUIREMENTS NOTED IN THE SCHEDULE OF SPECIAL INSPECTIONS, SECTION AA.

ELECTRICAL DESIGNATED SEISMIC SYSTEMS (DSS) REQUIRING A CERTIFICATE OF COMPLIANCE
1. SEE SPC 26 05 48 "SEISMIC PROTECTION FOR ELECTRICAL EQUIPMENT"
MECHANICAL/PLUMBING DESIGNATED SEISMIC SYSTEMS (DSS) REQUIRING A CERTIFICATE OF COMPLIANCE
1. SEE SPC 23 05 48.19 "SEISMIC BRACING FOR HVAC"
OTHER DESIGNATED SEISMIC SYSTEMS (DSS) REQUIRING A CERTIFICATE OF COMPLIANCE
1. FIRE SPRINKLER SYSTEM
2. SEE SPC 13 48 73 "SEISMIC CONTROL FOR MISCELLANEOUS EQUIPMENT"

FINAL WALK DOWN INSPECTION AND REPORT
(UFC 3 301 01 SECTION 2-5.4)
DESIGNATED SEISMIC SYSTEMS SHALL RECEIVE A FINAL WALK-DOWN INSPECTION BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. ADDITIONALLY, BECAUSE THE PROJECT IS A RISK CATEGORY V PROJECT, THE NON-STRUCTURAL COMPONENT DESIGN REVIEW PANEL MUST ALSO PARTICIPATE IN THE DSS WALK DOWN INSPECTION.

FINAL WALK DOWN REPORT, PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, MUST INCLUDE:
1. RECORD OBSERVATIONS OF FINAL WALK DOWN INSPECTION
2. DOCUMENT THAT INSPECTIONS WERE PERFORMED IN ACCORDANCE WITH THE SCHEDULE OF SPECIAL INSPECTIONS
3. DOCUMENT THAT ALL DESIGNATED SEISMIC SYSTEMS ARE INSTALLED ACCORDING TO CONSTRUCTION/MANUFACTURER DOCUMENT REQUIREMENTS, AND THAT COMPLIANCE CERTIFICATES HAVE BEEN COLLECTED (UFC 03 301 01, 3-6.2, 13.2.2.2).

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DRAWN BY: J. SCHULZ
CHECKED BY: C. HWANG
SUBMITTED BY: S. DENNING
SIZE: ANSI D
FILE NAME: BUCO00102_PSB_DM_S.rvt

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US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
FILTER SHELTER

STRUCTURAL GENERAL NOTES

SHEET ID
S-001S

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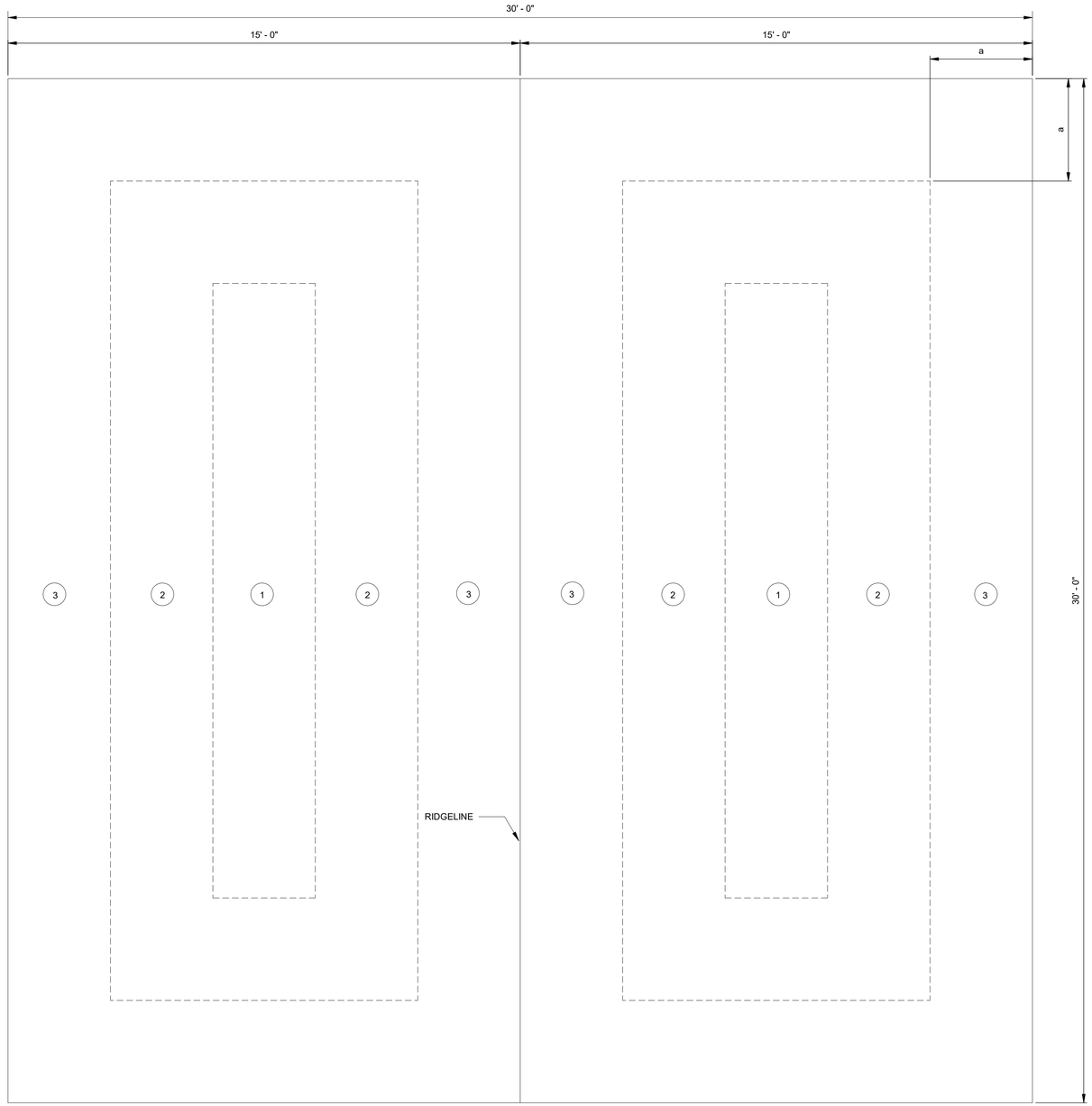

COMPONENT AND CLADDING PRESSURES (PSF)			
EFFECTIVE AREA (SQ FEET)	ROOF ZONES		
	1	2	3
9 SQFT OR LESS	21.7 -21.9	33.6 -33.7	43.4 -45.1
9 to 36 SQFT	21.7 -21.9	33.6 -33.7	33.6 -33.7
36 SQFT OR MORE	21.7 -21.9	21.7 -21.9	21.7 -21.8

COMPONENTS AND CLADDING NOTES:

1. WIND PRESSURES SHOWING IN THE TABLE CORRESPOND TO WIND PRESSURE DIAGRAMS SHOWS. INTERPOLATING BETWEEN TRIBUTARY AREA IS PERMITTED.
2. WIND PRESSURES SHOWN SHALL BE USED IN CONJUNCTION WITH LOAD COMBINATIONS SPECIFIED IN SECTIONS 2.3 AND 2.4 OF ASCE 7-16
3. ALL WIND LOADS WERE CALCULATED FROM ASCE 7-16 USING THE DESIGN WIND SPEED (SEE SHEET S-001S)
4. POSITIVE NUMBERS ARE TOWARDS THE SURFACE AND NEGATIVE NUMBERS ARE AWAY FROM THE SURFACE.
5. TRIBUTARY AREA GREATER THAN 700 SF MAY BE DESIGNED USING THE MAIN WIND FORCE RESISTING SYSTEM (MWFRS) PROVISIONS FROM ASCE 7-16, SECTION 30.2.3
6. h = MEAN ROOF HIEHGT = 12.75 FT
7. a = END ZONE WIDTH PUMP SHELTER = 5.1 FT
8. VALUES SHOWN IN TABLE ARE ULTIMATE PER ASCE 7-16. MULTIPLY LOADS BY 0.6 FOR ASD LOADS

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COMPONENT AND CLADING LOADS

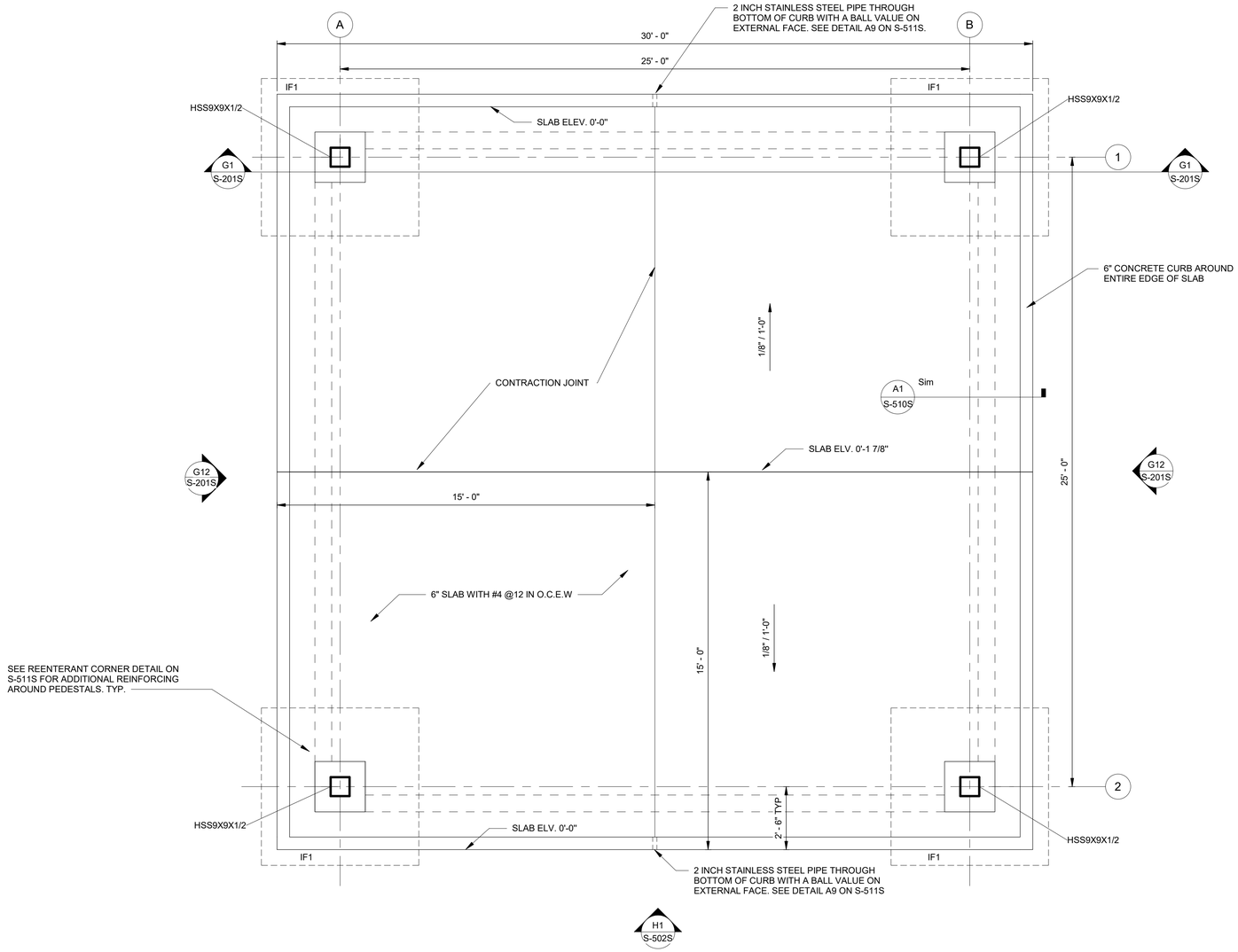
SHEET ID

S-002S

ADVERTISEMENT

ISOLATED FOOTING ("IF") SCHEDULE						
MARK	TOP ELEVATION	THICKNESS	WIDTH	LENGTH	TOP REINFORCEMENT	BOT REINFORCEMENT
IF1	-2'-0"	2'-0"	6'-3"	6'-3"	#4@8" O.C.	#6@8" O.C.

NOTE:
PROVIDE STANDARD HOOKS AT BOTH ENDS OF THE BOTTOM REINFORCEMENT.



B5 FOUNDATION AND SLAB PLAN

3/8" = 1'-0"

NOTES:
1. SEE DETAILS ON S-511S FOR SLAB ON GROUND AND SUBGRADE SUPPORT SYSTEM

KEY PLAN

0 1' 2' 4' 6'

PLAN NORTH

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MARK	DESCRIPTION	DATE

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FILTER SHELTER
FOUNDATION PLAN

SHEET ID
S-101S

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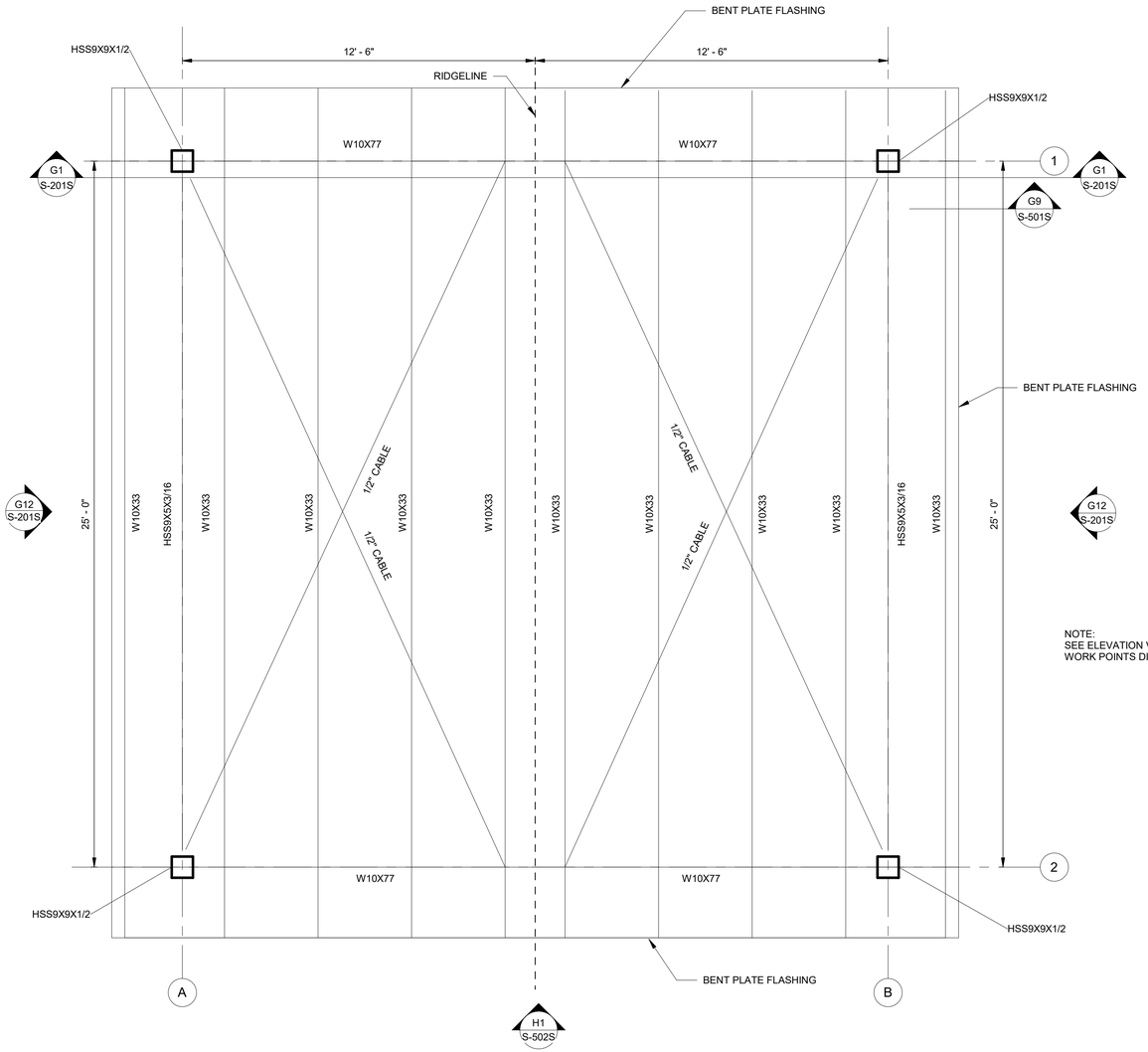
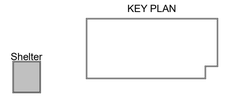


A1 ROOF FRAMING PLAN

3/8" = 1'-0"

NOTE:
SEE ELEVATION VIEWS ON S-201S FOR MEMBER SPACINGS
WORK POINTS DIMENSIONED ON S-201S

KEY PLAN



PLAN NORTH

0 1' 2' 4' 6'

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SUBMITTED BY: S. DENNING
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ROOF FRAMING PLAN

SHEET ID
S-102S

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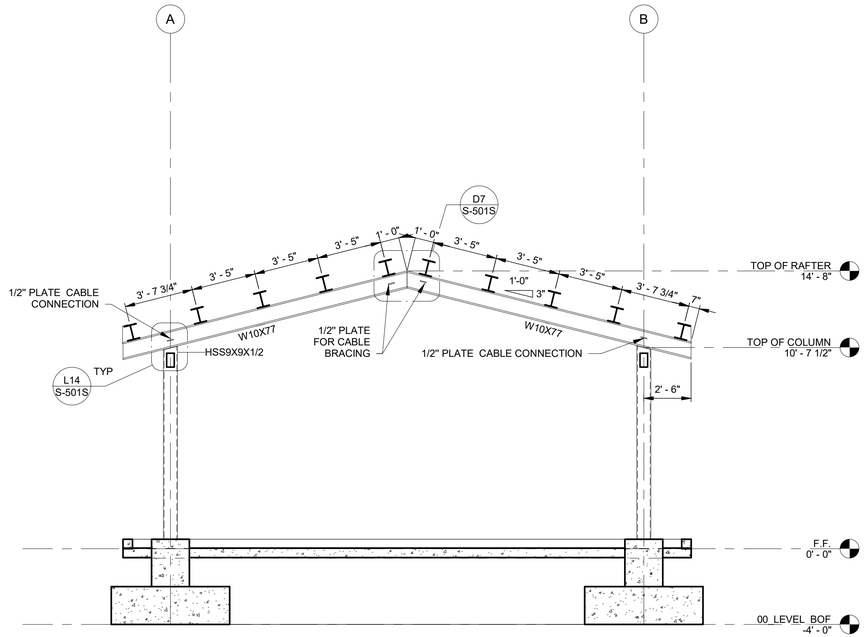
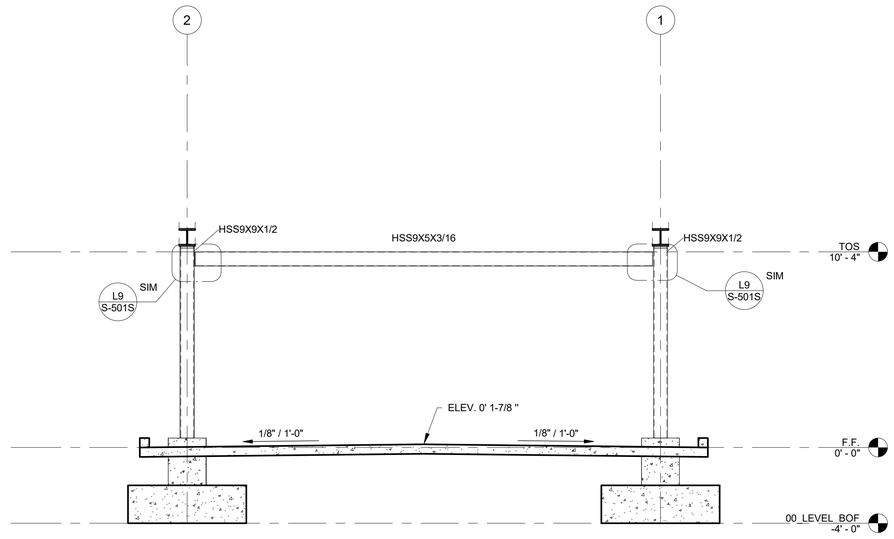


G1 FRAME SECTION

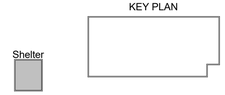
1/4" = 1'-0"



G12 EAST AND WEST ELEVATION

1/4" = 1'-0"

KEY PLAN



PLAN NORTH

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FRAMING ELEVATIONS

SHEET ID

S-201S

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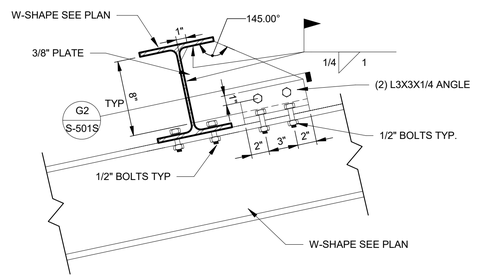
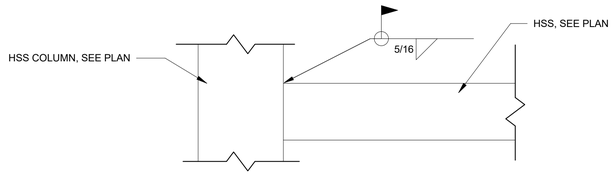
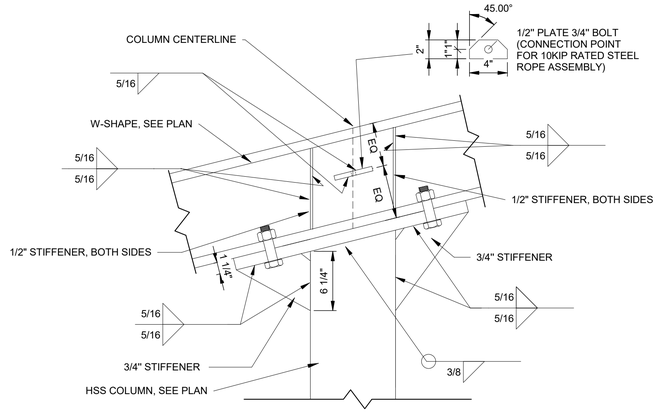


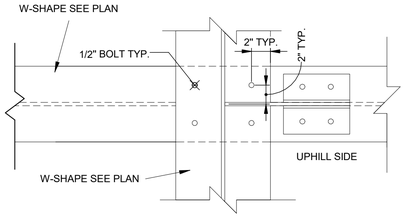
L2 PURLIN BOLTED CONNECTION
NTS



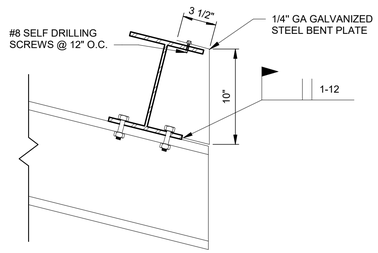
L9 MOMENT CONNECTION 1
NTS



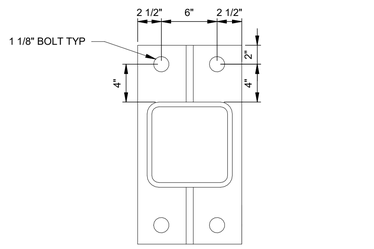
L14 MOMENT CONNECTION 2
NTS



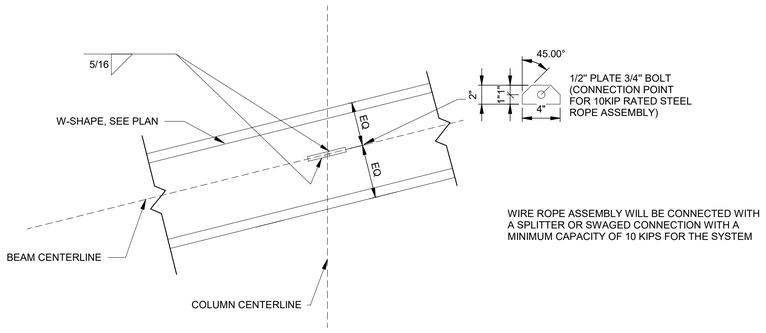
G2 PURLIN BOLTED CONNECTION PLAN
1 1/2" = 1'-0"



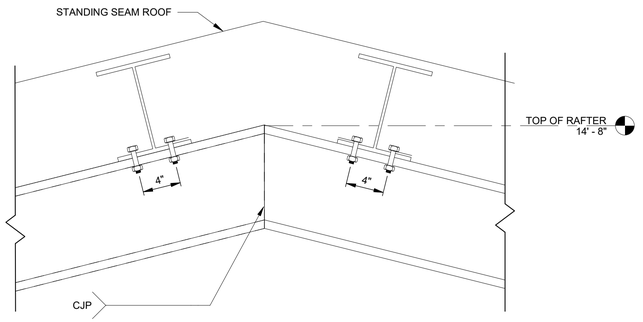
G9 EAVE BENT PLATE DETAIL
NTS



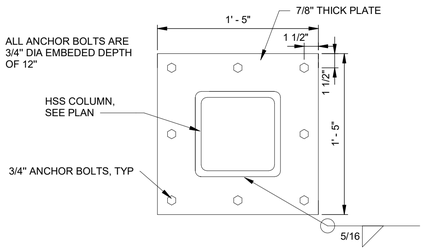
H14 COLUMN CAP PLATE
NTS



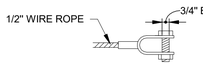
C2 BRACE CONNECTION
1 1/2" = 1'-0"



D7 RIDGE DETAIL
1 1/2" = 1'-0"



D14 BASEPLATE CONNECTION
1 1/2" = 1'-0"



A2 WIRE ROPE CONNECTION
1 1/2" = 1'-0"

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BUCKLEY SFB, COLORADO
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FILTER SHELTER
STEEL DETAILS

SHEET ID
S-501S

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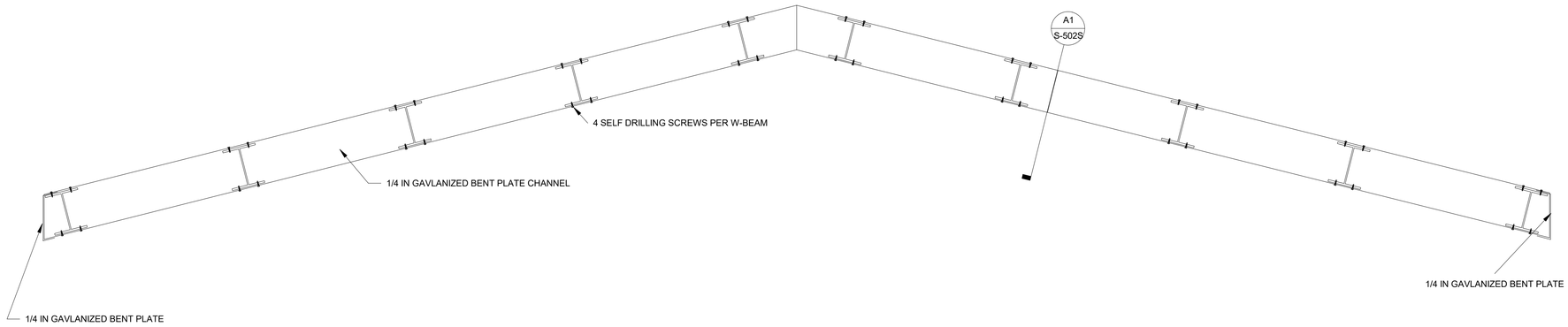
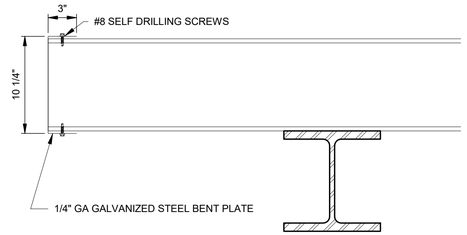


H1 RIDGE BENT PLATE

3/4" = 1'-0"



A1 RIDGE BENT PLATE PROFILE

1 1/2" = 1'-0"

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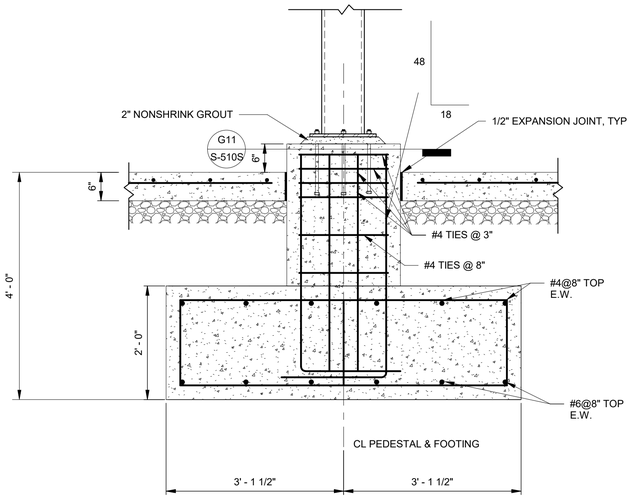
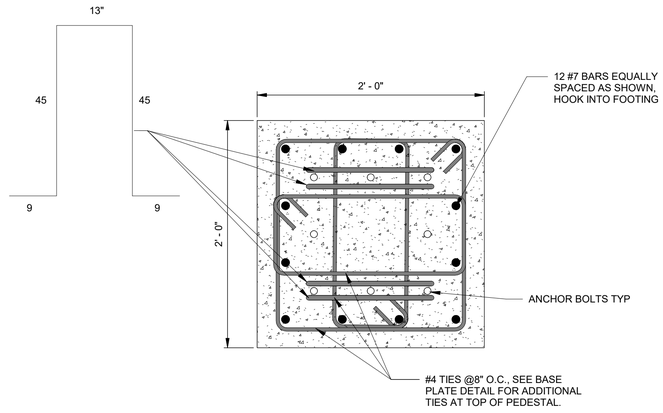
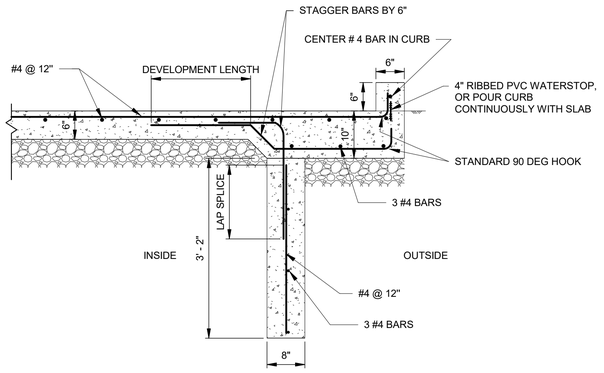


NOTE:
1. FOUNDATION WALL REINF. SHALL BE CONTINUOUS THROUGH PEDESTALS NOT SHOWN.
2. INVERTED U-BARS IN DETAIL G11/S-510S NOT SHOWN FOR CLARITY

G1 TYPICAL COLUMN FOOTING
NTS

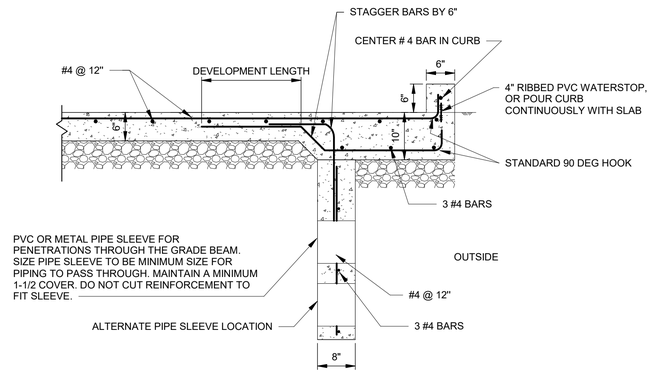


G11 FOOTING SECTION
NTS



NOTE:
1. FOUNDATION WALL REINF. SHALL BE CONTINUOUS THROUGH PEDESTALS NOT SHOWN FOR CLARITY.

A1 FOUNDATION WALL
NTS



NOTE:
1. COORDINATE WITH MECHANICAL DRAWINGS FOR LOCATIONS OF PENETRATIONS. PEDESTAL NOT SHOWN FOR CLARITY.
2. PENETRATIONS MUST NOT BE STACKED VERTICALLY.

A11 FOUNDATION WALL PENETRATION
NTS

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OMAHA, NE 68102

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DRAWN BY:	J. SCHULZ
CHECKED BY:	C. HENNA
SUBMITTED BY:	S. DENNING
SIZE:	ANSI D
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BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION
FILTER SHELTER
FOUNDATION DETAILS

SHEET ID
S-510S

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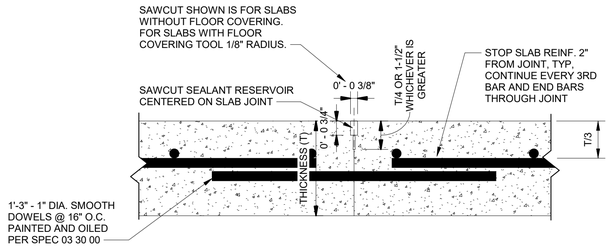
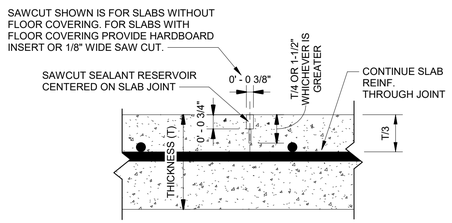
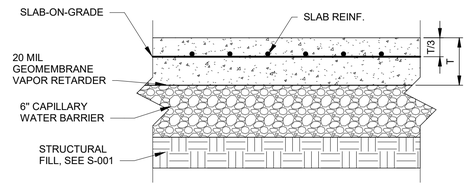


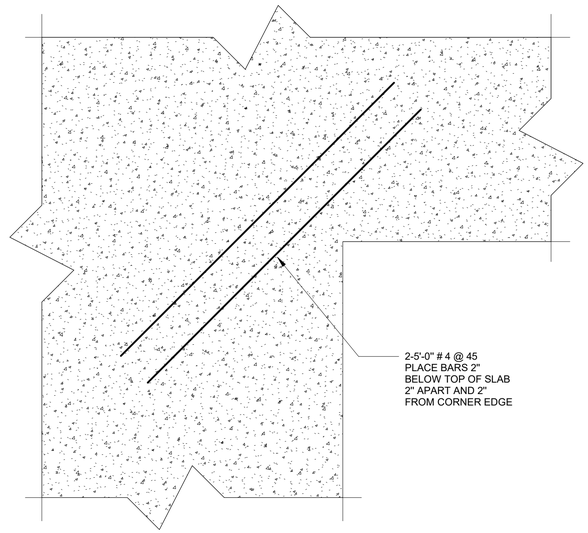
G1 SLAB-ON-GRADE CONSTRUCTION JOINT
NTS



D1 SLAB-ON-GRADE CONTRACTION JOINT
NTS

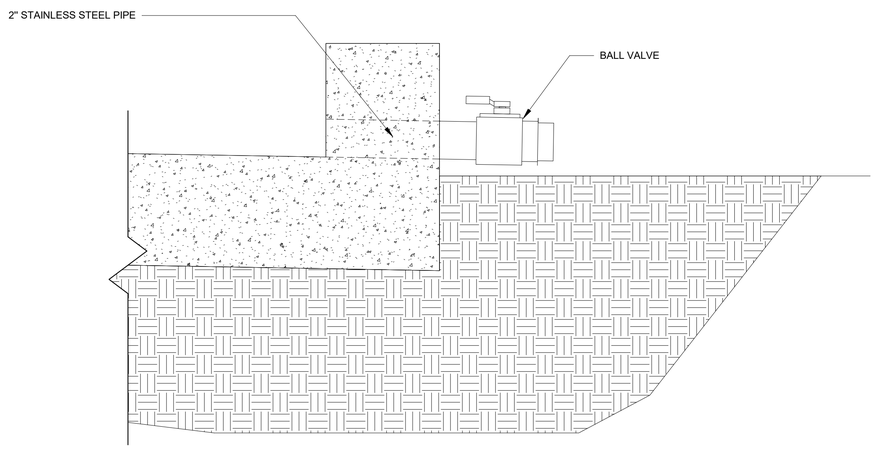


A1 SLAB ON GROUND BASE
NTS



NOTE: REINFORCEMENT SHOWN IS IN ADDITION TO TYPICAL SLAB REINFORCEMENT. BEND BARS AS NEEDED TO PROVIDE FULL LENGTH

G9 RE-ENTRANT CORNER
NTS



A9 2" DRAIN
NTS

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jjschulz\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_PSB_DM_S_Interj.rvt

Plot Date: 5/7/2025 1:43:57 PM

DESIGNED BY: J. SCHULZ	ISSUE DATE: 05/01/2025
DRAWN BY: J. SCHULZ	SOLICITATION NO.:
CHECKED BY: H. HINA	CONTRACT NO.:
SUBMITTED BY: S. DENNING	FILE NAME: BUCO00102_PSB_DM_S.rvt
SIZE: ANSI D	

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION
FILTER SHELTER

SLAB ON GRADE DETAILS

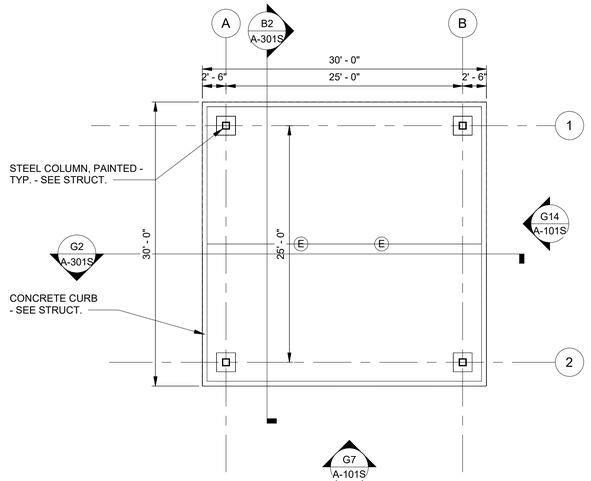
SHEET ID

S-511S

ADVERTISEMENT

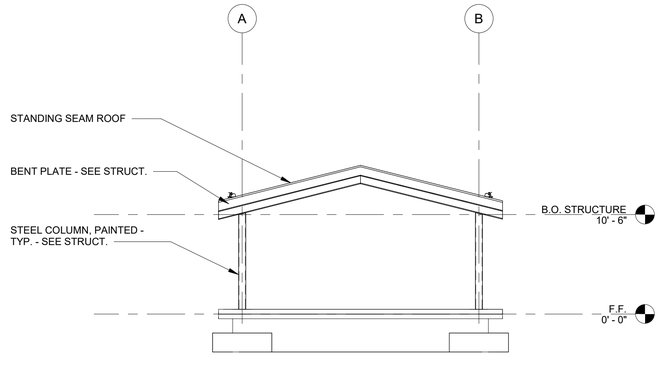
GENERAL NOTES:

1. SEE STRUCTURAL FOR SLAB, STEEL, AND FOOTING DIMENSIONS.



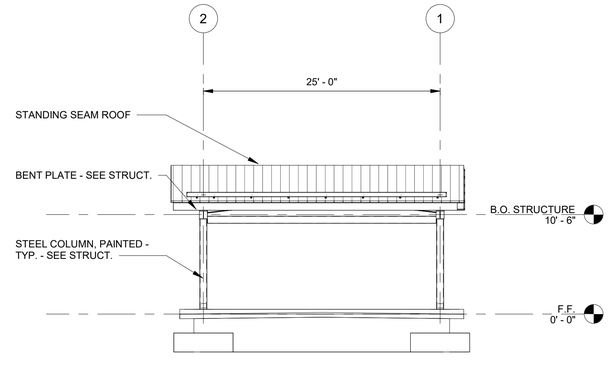
G1 FILTER SHELTER FLOOR PLAN

1/8" = 1'-0"



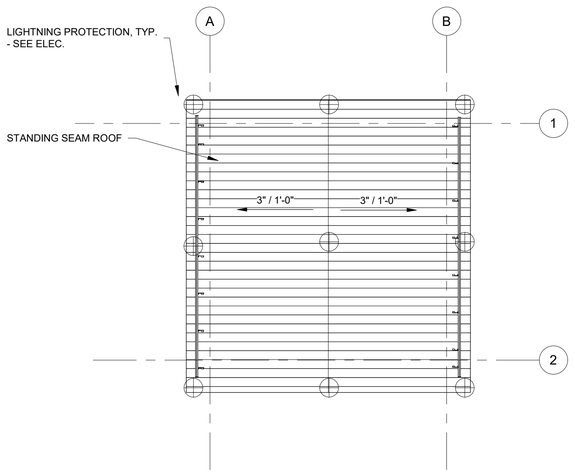
G7 FILTER SHELTER SOUTH ELEVATION

1/8" = 1'-0"



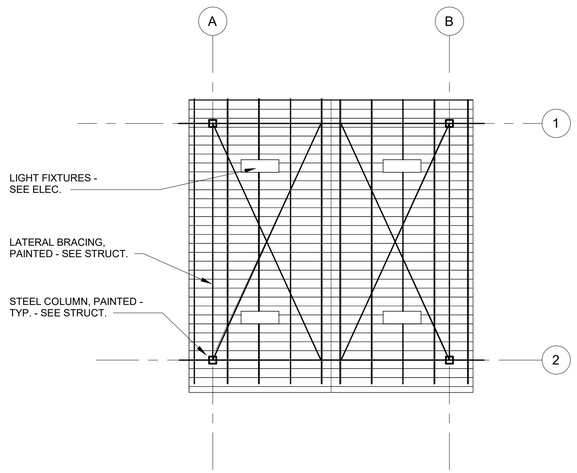
G14 FILTER SHELTER EAST ELEVATION

1/8" = 1'-0"



A1 FILTER SHELTER ROOF PLAN

1/8" = 1'-0"



A7 FILTER SHELTER REFLECTED CEILING PLAN

1/8" = 1'-0"

EXTERIOR FINISH SCHEDULE:

DESCRIPTION	COLOR/FINISH BASIS OF DESIGN
STANDING SEAM ROOF, MISC. TRIM	CHAMPAGNE METALLIC
COLUMNS, STRUCT SUPPORT	SANDSTONE
GUTTERS, DOWNSPOUTS	SANDSTONE

N

0 4' 8' 16'

1/8" = 1'-0"

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jjfeldgett\Desktop - US Army Corps of Engineers\Documents\BUCO001102_PSB_DM_A_jjfeldgett.rvt

Plot Date: 5/7/2025 1:23:49 PM

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: A. FORD
DRAWN BY: J. KAITANY
CHECKED BY: C. GRAHAM
SUBMITTED BY: B. GORUP
SIZE: ANSI D
FILE NAME: BUCO00102A110C.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FILTER SHELTER PLANS AND ELEVATIONS

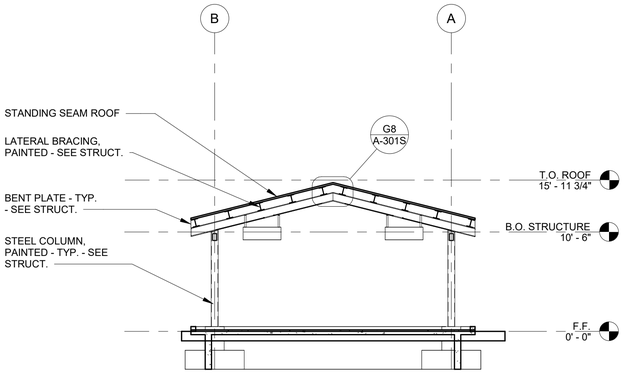
SHEET ID

A-101S

ADVERTISEMENT

GENERAL NOTES:

1. SEE STRUCTURAL FOR SLAB, STEEL, AND FOOTING DIMENSIONS.

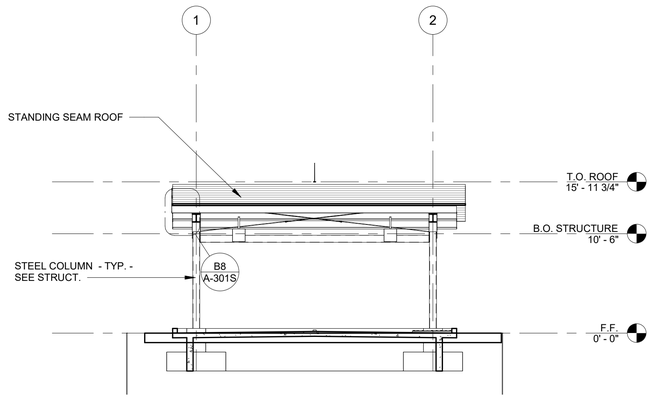


G2 SECTION

1/8" = 1'-0"

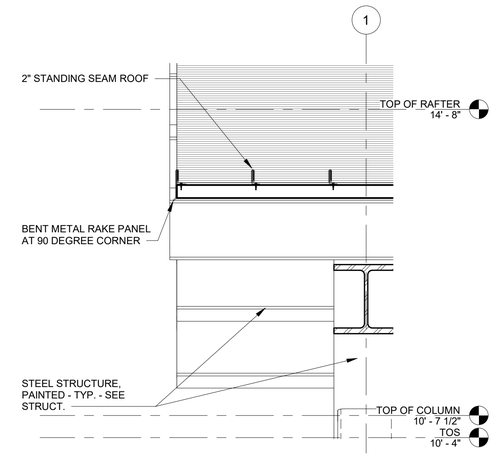
G8 RIDGE DETAIL

1" = 1'-0"



B2 SECTION

1/8" = 1'-0"



B8 RAKE DETAIL

1" = 1'-0"

0 1' 2'
1" = 1'-0"

0 4' 8' 16'
1/8" = 1'-0"

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MARK	DESCRIPTION	DATE

File Path: C:\Users\jjfeddy\d\OneDrive - US Army Corps of Engineers\Documents\BUCO00102_PSB_DM_A_jjfeddy6.rvt

Plot Date: 5/7/2025 1:23:49 PM

DESIGNED BY: A. FORD	ISSUE DATE: 05/01/2025
DRAWN BY: J. KAITANY	SOLICITATION NO.: W9128F25RA043
CHECKED BY: E. FORD	CONTRACT NO.:
SUBMITTED BY: B. GORUP	FILE NAME: BUCO00102A320C.rvt
SIZE: ANSI D	

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
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POWER INDEPENDENCE, MISSION CONTROL STATION

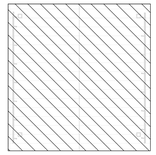
FILTER SHELTER SECTIONS AND DETAILS

SHEET ID

A-301S

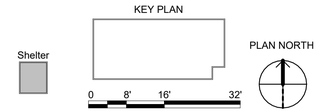
ADVERTISEMENT

ENVIRONMENTAL CONDITION LEGEND		
	0	NOT RATED FOR THE PURPOSES OF THIS LEGEND.
	1	GENERAL SPACE REQUIREMENTS CLASS I DIVISION 1: ALL EQUIPMENT LOCATED BELOW GRADE LEVEL. CLASS I DIVISION 2: ALL EQUIPMENT LOCATED AT OR ABOVE GRADE LEVEL. AREA ABOUT TANK VENTING CLASS I DIVISION 1: WITHIN 3 FT EXTENDING IN ALL DIRECTIONS. CLASS I DIVISION 2: AREA BETWEEN 3 FT AND 5 FT OF THE OPEN VENT, EXTENDING IN ALL DIRECTIONS.
	2	AREAS NOT SUITABLY SEPARATED CLASS I DIVISION 1: ANY PITS AND DEPRESSIONS. NO CLASSIFICATION: ENTIRE SPACE ABOVE FLOOR ELEVATION. NO CLASSIFICATION: BURIED UNDERFLOOR.
	3	BULK TANK FILTER SHELTER SPACE REQUIREMENTS SEE EF SHEETS FOR FUEL SPECIFIC HAZARDOUS ZONES AROUND EQUIPMENT.
	4	AREA ABOUT EXHAUST VENTING CLASS I DIVISION 2: AREA 5 FT OF THE OPEN VENT, EXTENDING IN ALL DIRECTIONS.
	5	AREA CONTAINING FORKLIFT RECHARGING STATION. CLASS 1, DIVISION 1, GROUP B FROM THE FLOOR TO THE CEILING.



H11 ENVIRONMENTAL CONDITION PLAN FILTER SHELTER

1/16" = 1'-0"



AREAS SUBJECT TO DAMAGE LEGEND			
	1	NOT SUBJECT TO PHYSICAL DAMAGE.	--
	2	UP TO CEILING HEIGHT.	PHYSICAL DAMAGE
	3	ALL AREAS AND ELEVATIONS.	PHYSICAL DAMAGE
	4	UP TO THE UNDERSIDE OF THE JOISTS/BEAMS (AS APPLICABLE) WITH A MINIMUM OF 18'-0" AFF.	SEVERE PHYSICAL DAMAGE
	5	ALL AREAS AND ELEVATIONS.	SEVERE PHYSICAL DAMAGE

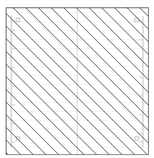
GENERAL NOTES:
1. ALL EXTERIOR AREAS SHALL BE CONSIDERED AN AREA SUBJECT TO PHYSICAL DAMAGE. THIS INCLUDES BUILDING-, ROOF-, AND REMOTE-MOUNTED OR LOCATED ABOVE GROUND EQUIPMENT AND INFRASTRUCTURE. BURIED UNDERGROUND UTILITIES SHALL BE PER SITE PLANS AND DETAILS.

14 WS / AFCCC / EWD LOCAL MEAN COINCIDENT (AVERAGE) DRY-BULB TEMPERATURES (1989-2018 BUCKLEY AFB, CO)	
M.E.L.	-22°C / -8°F
99.6%	-18°C / 0°F
99%	-14°C / 6°F
97.5%	-10°C / 14°F
M.D.R.	14°C / 25°F
2%	31°C / 88°F
1%	33°C / 91°F
0.4%	34°C / 93°F
M.E.H.	37°C / 99°F

VALUES BASED ON ICAO_KDAG FROM 14 WS / AFCCC / EWD (https://climate.af.mil/).
M.E.L.: MEDIAN OF EXTREME LOWS
M.D.R.: MEDIAN DAILY RANGE
M.E.H.: MEDIAN OF EXTREME HIGHS

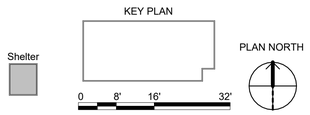
ENVIRONMENTAL TEMPERATURE CONDITION LEGEND		
	0	30°C OR LESS / 86°F OR LESS
	1	31°C-35°C / 87°F-96°F
	2	36°C-40°C / 97°F-104°F
	3	41°C-45°C / 105°F-113°F
	4	46°C-50°C / 114°F-122°F
	5	51°C-55°C / 123°F-131°F

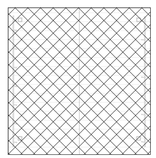
1. ALL EXTERIOR AREAS ABOVE FINISHED GRADE SHALL BE CONSIDERED TO BE 37°C (99°F) ANTICIPATED MAXIMUM TEMPERATURE.
2. ALL LOCATIONS BELOW FINISHED GRADE SHALL BE CONSIDERED TO BE 30°C (86°F) OR LESS.
3. PLENUM SPACE SHALL BE CONSIDERED TO BE 32°C (90°F).



A1 AREAS SUBJECT TO PHYSICAL DAMAGE FILTER SHELTER

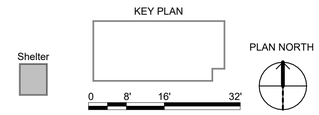
1/16" = 1'-0"





A11 ENVIRONMENTAL CONDITION PLAN FILTER SHELTER

1/16" = 1'-0"



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File Path: C:\Users\gfeddesen\Documents\BUCO00102_DM_ME_gfeddesen.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.HORSKEY
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
Date: 6/30/2025 1:15:40 PM
Plot Date: 6/30/2025 1:15:40 PM

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

ENVIRONMENTAL CONDITION PLAN AND AREAS SUBJECT TO PHYSICAL DAMAGE FILTER SHELTER

SHEET ID
E-100S

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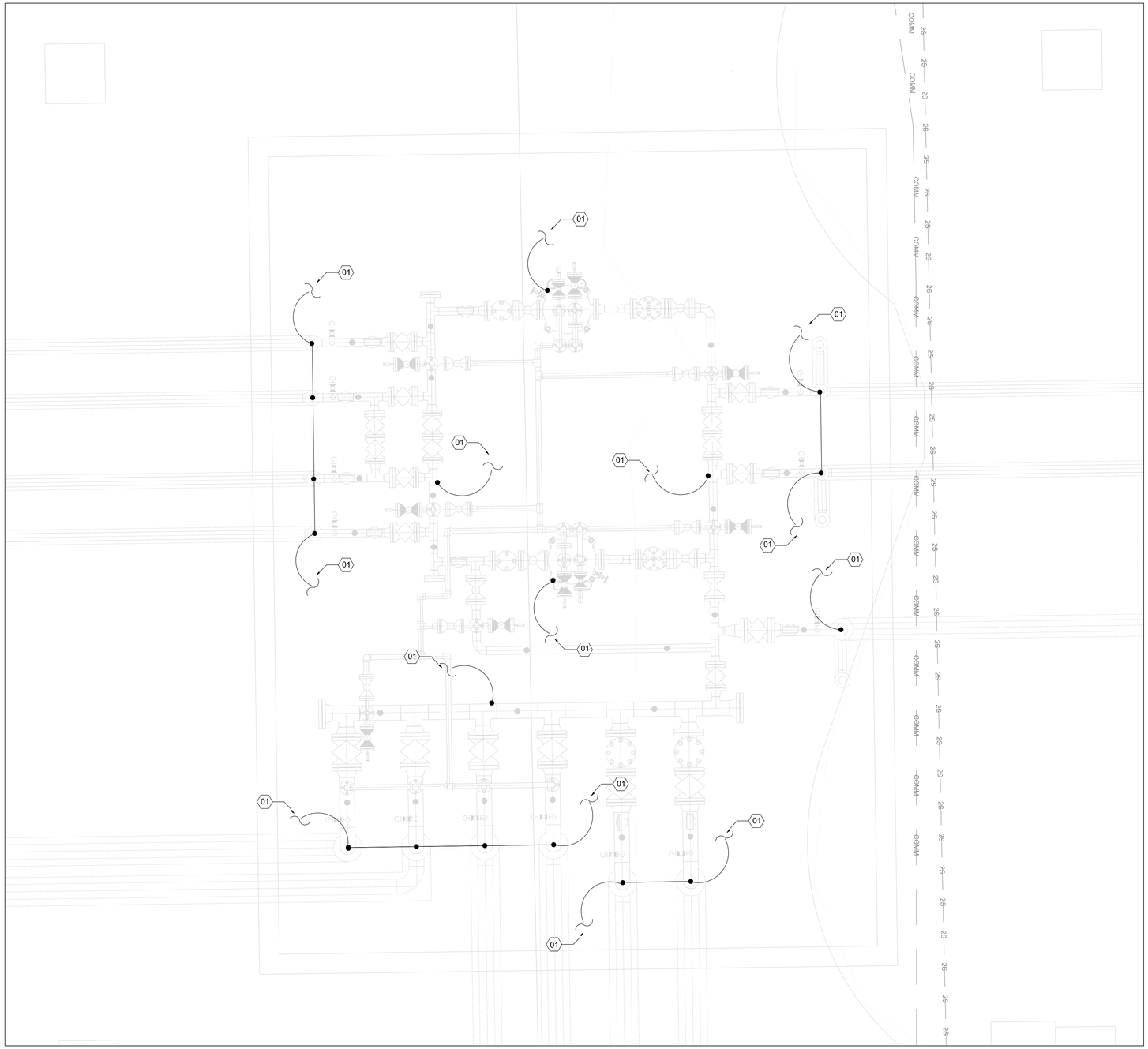

B4 FILTER SHELTER PIPING GROUNDING PLAN
SCALE: 1" = 15'

PLAN NORTH

0 15'

GENERAL SHEET NOTES

01 - SEE SHEET EG603S AND EG502 FOR DETAILS
02 - GROUNDING SHALL BE PERFORMED IN ACCORDANCE WITH UFC 3-460-01, UFC 3-575-01, AND NFPA 780.
03 - GROUNDING CONDUCTOR BONDED TO COUNTERPOISE SHALL BE CONNECTED BY EXOTHERMIC WELDS

SHEET KEYNOTES

01 - BOND GROUNDING CONDUCTOR TO FILTER SHELTER COUNTERPOISE SYSTEM

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE

P:\09Q4_PROJECTS\BUCC00102\PLAN SETS\01_MODELS\01_SITE\ELEC_FUEL_BASE.DWG
11:08:53 AM 5/9/2025
AEC_NCS_4_MONO.CTB
G\EDDESM

DESIGNED BY: C. RAISON
DRAWN BY: C. RAISON
CHECKED BY: P. WALKER
SUBMITTED BY: S. LINDGREN
ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:
FILE NUMBER:
SIZE: ANSI D
FILENAME: Elec_Fuel_Base.dwg

U.S. ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

FILTER SHELTER PIPING GROUNDING PLAN

SHEET ID
EF404S

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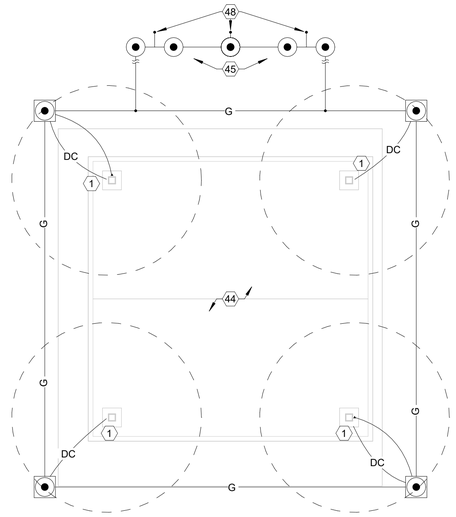
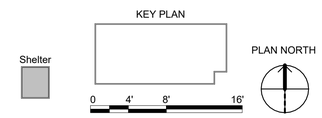


A11 GROUNDING PLAN
FILTER SHELTER
1/8" = 1'-0"



FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EG001.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfeldeen\Documents\BUCC000102_DM_ME_gfeldeen.rvt

Plot Date: 6/30/2025 1:15:54 PM

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY:	E.MCNAMARA
DRAWN BY:	E.MCNAMARA
CHECKED BY:	B.ADKINS
SUBMITTED BY:	
SUBMITTED FOR:	
SIZE:	ANSI D
FILE NAME:	BUCC000102_DM_ME.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
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OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

GROUNDING PLANS FILTER SHELTER

SHEET ID

EG111S

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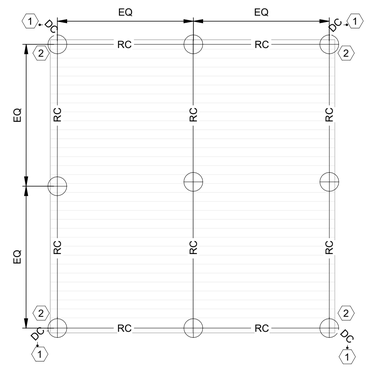
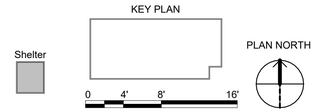


A11 ROOF GROUNDING PLAN
FILTER SHELTER
1/8" = 1'-0"



FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EG001.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
LATITUDE:
SIZE: FILE NAME: BUCC000102_DM_ME.rvt
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OMAHA DISTRICT
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OMAHA, NE 68102

Plot Date: 6/30/2025 1:15:55 PM

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LIGHTNING PROTECTION PLAN FILTER SHELTER

SHEET ID
EG114S

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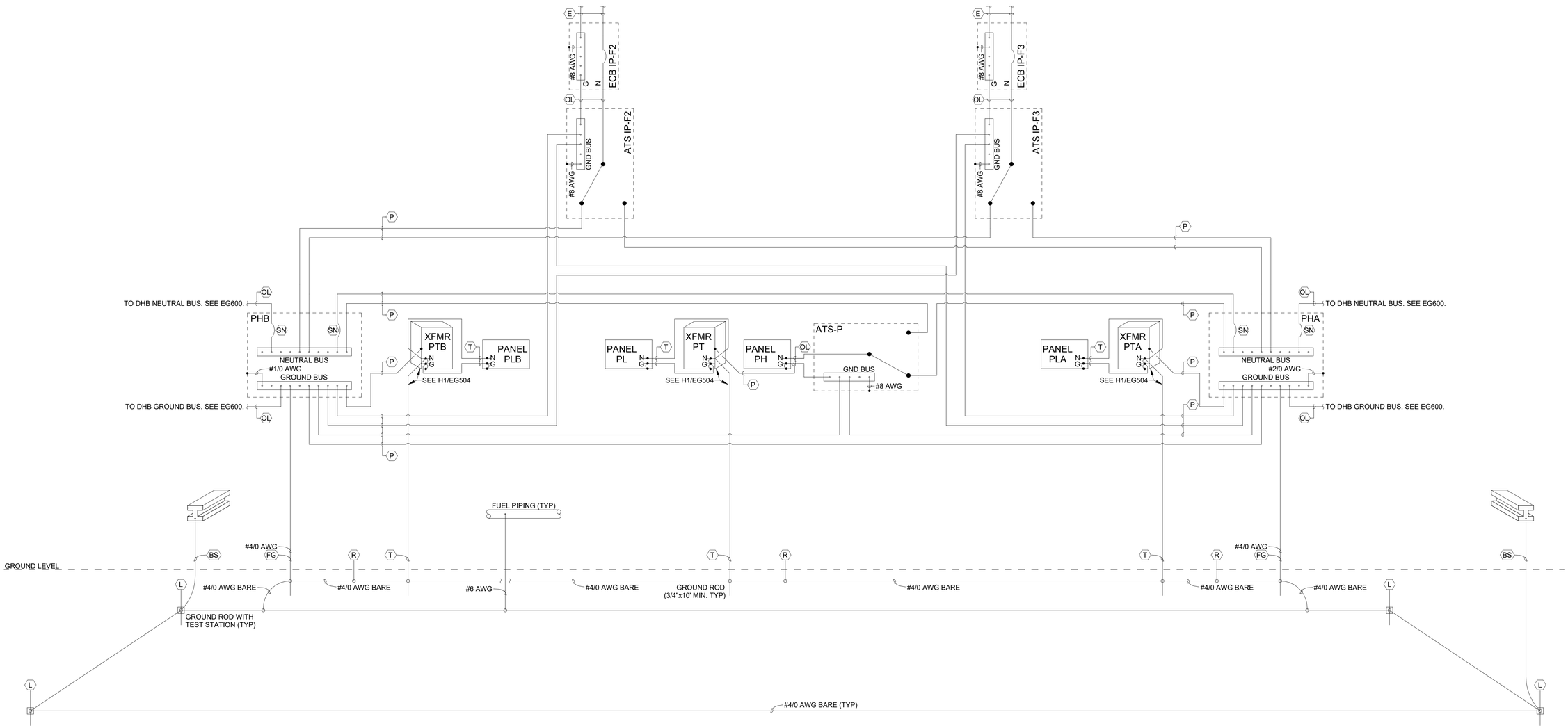

D1 GROUNDING RISER DIAGRAM: FILTER SHELTER

SCALE: NTS

#	KEYNOTES - SHEET EG603S
LP	OFFLOAD LAYOUT IS SUCH THAT A CANOPY MAY BE ADDED AT A LATER DATE. POSITION AND INTERCONNECT GROUND RODS WITH TEST WELLS AT POSITIONS WHICH WILL ACCOMMODATE THE FUTURE CANOPY.
MB	METAL BOLLARD: #6 AWG MINIMUM CONDUCTOR.
OL	SEE EP600 SERIES ONE-LINE DIAGRAMS FOR CONDUCTOR SIZE(S).
P	SEE PANEL/SWITCHBOARD SCHEDULE FOR CONDUCTOR SIZE(S).
R	BOND EQUIPMENT RACK WITH MINIMUM #1 AWG CONDUCTOR.
T	SEE TRANSFORMER SCHEDULES ON SHEET EP600 FOR CONDUCTOR SIZE(S).
WV	UNDERGROUND WATER VALVE: #6 AWG MINIMUM CONDUCTOR.

FOR GENERAL NOTES, SEE SHEET EG600.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jfieldsem\Documents\BUCC000102_DM_ME_jfieldsem.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.MOSER, PE
SIZE: ANSI D
FILE NAME: BUCC000102_DM_ME.rvt

Plot Date: 6/30/2025 1:16:32 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

GROUNDING RISER DIAGRAM FILTER SHELTER

SHEET ID

EG603S

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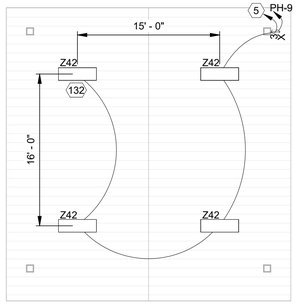
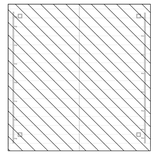


| CONTROL FUNCTION | | |

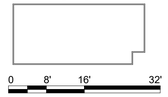
LIGHTING CONTROL TECHNOLOGY INTENT LEGEND		
	1	NETWORKED LIGHTING CONTROLS ONLY.
	2	LINE-VOLTAGE LIGHTING CONTROLS AND/OR LOCAL POWER PACKS ONLY (NO NETWORKED CONTROLS).
	3	SPACE CONTAINS A COMBINATION OF NETWORKED AND LINE-VOLTAGE LIGHTING CONTROLS.



H11 LIGHTING CONTROL TECHNOLOGY INTENT PLAN
FILTER SHELTER
1/16" = 1'-0"

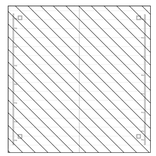
Shelter

KEY PLAN



PLAN NORTH

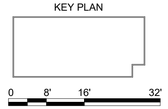
LIGHTING CONTROL PRIMARY ZONE INTENT		
	1	EACH SEPARATE AREA REPRESENTS A PRIMARY CONTROL ZONE WHOSE LUMINAIRES ARE CONTROLLED TOGETHER UNDER NORMAL CONDITIONS.



A11 LIGHTING CONTROL PRIMARY ZONE INTENT
FILTER SHELTER
1/16" = 1'-0"

Shelter

KEY PLAN



PLAN NORTH

FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EL001.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfeldeen\Documents\BUCC00102_DM_ME_gfeldeen.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
LIC/REG#:
SIZE: FILE NAME: BUCC00102_DM_ME.rvt
ANSI D

Date: 6/30/2025 1:17:03 PM
Plot Date:

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

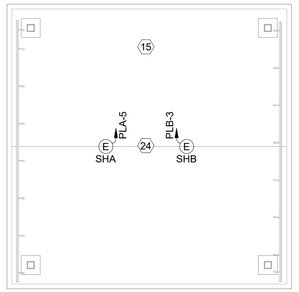
BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

LIGHTING CONTROL TECHNOLOGY AND PRIMARY ZONE INTENT FILTER SHELTER

SHEET ID

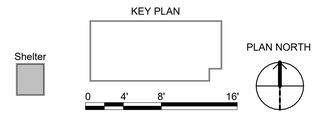
EL202S

ADVERTISEMENT



A11 EQUIPMENT POWER PLAN FILTER SHELTER

1/8" = 1'-0"



FOR SUPPLEMENTAL LEGEND, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP001.
SEE EP610 FOR ELECTRICAL EQUIPMENT CONNECTION SCHEDULE KEY.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfieldsem\Documents\BUCC000102_DM_ME_gfieldsem.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
LAYOUT(S):
SIZE: FILE NAME: BUC000102_DM_ME.rvt
ANSI D

Date: 6/30/2025 1:17:30 PM
Plot Date:

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

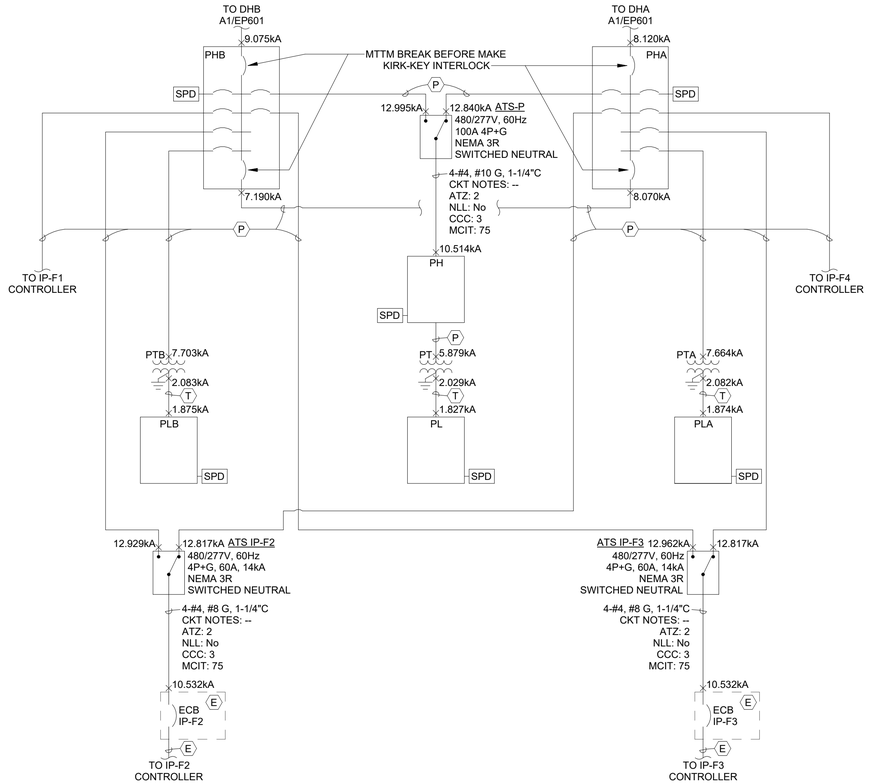
BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

EQUIPMENT POWER PLAN FILTER SHELTER

SHEET ID

EP101S

ADVERTISEMENT



D12 ONE-LINE DIAGRAM: FILTER SHELTER

SCALE: NTS

FOR TRANSFORMER SCHEDULES, GENERAL NOTES, AND KEYNOTES, SEE SHEET EP600.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfeddeem\Documents\BUCC000102_DM_ME_gfeddeem.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: S.MOORE
SIZE: ANSI D
FILE NAME: BUCC000102_DM_ME.rvt

Plot Date: 6/30/2025 1:18:32 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE, MISSION CONTROL STATION

ONE-LINE DIAGRAM FILTER SHELTER

SHEET ID

EP604S

ADVERTISEMENT

EQUIPMENT ELECTRICAL CONNECTION SCHEDULE PUMP SHELTER

E.Q. I.D. TAG	DESCRIPTION	LOCATION	VOLTS	PH	HP	FLA	MCA	PKG UNIT	NEMA ENCL.	DISCONNECT TYPE	DISCONNECT SIZE	DISCONNECT FUSE	STARTER TYPE	STARTER SIZE	PNL-CKT	COORDINATING DOCUMENTS SPECIFICATION(S)	COORDINATING DOCUMENTS SHEET(S)	REMARKS
EW-C	WATER HEATING ELECTRIC BLANKET	SITE FILTER SHELTER	120 V	1	--	2.0 A	2.5 A	Yes	3R	REC	--	--	--	--	PL-5	33 57 55	--	--
HT-HEAT TRACE	HEAT TRACE	SITE FILTER SHELTER	277 V	1	--	18.1 A	22.6 A	Yes	--	CB	--	--	--	--	PH-7	33 52 40	--	SEE NOTE 16. ESTIMATED 5W/FT OVER 325 FEET.
IP-F1	VERTICAL TURBINE ISSUE PUMP	SITE FILTER SHELTER	480 V	3	5	8.6 A	10.8 A	No	--	CB	--	--	FVNR	0	PHB-7,9,11	33 57 55	M-601	SEE NOTES 2, 17.
IP-F2	VERTICAL TURBINE ISSUE PUMP	SITE FILTER SHELTER	480 V	3	5	8.6 A	10.8 A	No	--	ECB	--	--	FVNR	0	ECB IP-F2-1,3,5	33 57 55	M-601	SEE NOTES 2, 17.
IP-F3	VERTICAL TURBINE ISSUE PUMP	SITE FILTER SHELTER	480 V	3	5	8.6 A	10.8 A	No	--	ECB	--	--	FVNR	0	ECB IP-F3-1,3,5	33 57 55	M-601	SEE NOTES 2, 17.
IP-F4	VERTICAL TURBINE ISSUE PUMP	SITE FILTER SHELTER	480 V	3	5	8.6 A	10.8 A	No	--	CB	--	--	FVNR	0	PHA-8,10,12	33 57 55	M-601	SEE NOTES 2, 17.
SHA	SUMP HEATER	SITE FILTER SHELTER	120 V	1	--	4.2 A	5.3 A	Yes	--	CB	--	--	--	--	PLA-5	33 52 43.28	M-503	SEE NOTE 14.
SHB	SUMP HEATER	SITE FILTER SHELTER	120 V	1	--	4.2 A	5.3 A	Yes	--	CB	--	--	--	--	PLB-3	33 52 43.28	M-503	SEE NOTE 14.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\gfeddeem\Documents\BUCC00102_DM_ME_gfeddeem.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA	
DRAWN BY: E.MCNAMARA	
CHECKED BY: B.ADKINS	
SUBMITTED BY:	
LAST ISSUED:	
SIZE: ANSI D	FILE NAME: BUCC00102_DM_ME.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

EQUIPMENT ELECTRICAL CONNECTION SITE
FILTER SHELTER

SHEET ID

EP614S

Date: 6/30/2025 1:19:02 PM

Plot Date: 6/30/2025 1:19:02 PM

ADVERTISEMENT

Branch Panel: PHA

Location: FILTER SHELTER
Supply From: 112 SWITCHBOARD DHA
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 14kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 100 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: See Notes "KI" and "SN"

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
4-#4, #8 G, 1-1/4"C	75	3	No	2	No	Std	No	--	1	TRANSFER SWITCH ATS-P (PANEL PH)	Sp...	60 A	3	5272 VA	5 VA					3	30 A	O...	PANEL PHA SPD	2	K	No	Std	No	2	No	3	75	4-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	3	--	--	--	--			760 VA	5 VA			--	--	--	--	4	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	5	--	--	--	--					1272 VA	5 VA	--	--	--	--	6	--	--	--	--	--	--	--	--	--
4-#4, #8 G, 1-1/4"C	75	3	No	2	Yes	Std	No	--	7	TRANSFER SWITCH ATS IP-F2 (ECB IP-F2)	M...	60 A	3	2382 VA	2382 VA					3	20 A	LM...	IP-F4 VERTICAL TURBINE/CONTROLLER	8	B,L	No	Std	No	2	No	3	75	3-#12, #12 G, 3/4"C
--	--	--	--	--	--	--	--	--	9	--	--	--	--			2382 VA	2382 VA			--	--	--	--	10	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	11	--	--	--	--					2382 VA	2382 VA	--	--	--	--	12	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	13	SPARE	--	20 A	3	0 VA	2382 VA					3	60 A	M...	TRANSFER SWITCH ATS IP-F3 (ECB IP-F3)	14	--	No	Std	Yes	2	No	3	75	4-#4, #8 G, 1-1/4"C
--	--	--	--	--	--	--	--	--	15	--	--	--	--			0 VA	2382 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	--	--	--	--					0 VA	2382 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	19	SPARE	--	20 A	3	0 VA	267 VA					3	30 A	Sp...	TRANSFORMER PTA (PANEL PLA)	20	--	No	Std	Yes	2	No	3	75	3-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	21	--	--	--	--			0 VA	1267 VA			--	--	--	--	22	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	23	--	--	--	--					0 VA	771 VA	--	--	--	--	24	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	25	SPACE ONLY	--	20 A	3	0 VA	--					1	--	--	SPACE ONLY	26	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	--	--	--	--			0 VA	--			1	--	--	SPACE ONLY	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	--	--	--	--					0 VA	--	1	--	--	SPACE ONLY	30	--	--	--	--	--	--	--	--	--
4-#1, #8 G, 2"C	75	3	No	2	Yes	Std	No	KI,SFN,V		TIE TO PANEL PHB	P...	100 A	3	4546 VA	--							--	SUBFEED POSITION FOR TIE TO PANEL PHB			No	Std	Yes	2	No	3	--	See Panel Schedule PHA for Tie Conductors
--	--	--	--	--	--	--	--	--		--	--	--	--			4546 VA	--			--	--	--	--		--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--		--	--	--	--					4546 VA	--						--	--	--	--	--	--	--	--	--
											Total Load:			17237 VA		13718 VA		13741 VA														
											Total Amps:			62 A		50 A		50 A														
											Phase Imbalance:			15.69%		-7.92%		-7.77%														

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	1504 VA	100.00%	1504 VA
L	Lighting	316 VA	100.00%	316 VA
LM	Largest Motor	7147 VA	125.00%	8933 VA
M	Motor	19293 VA	80.00%	15435 VA
O	Other	60 VA	80.00%	48 VA
P	Power	14638 VA	100.00%	14638 VA
R	Receptacle	180 VA	100.00%	180 VA
T	Transformer Losses	1574 VA	100.00%	1574 VA

Panel Totals

Total Connected Load: 44696 VA
Total Estimated Demand: 42612 VA
Total Connected Current: 54 A
Total Estimated Demand Current: 51 A

Notes:

Branch Panel: PHB

Location: FILTER SHELTER
Supply From: 120 SWITCHBOARD DHB
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 14kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 100 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: See Note "KI" and "SN"

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
4-#10, #10 G, 3/4"C	75	3	No	2	No	Std	No	K	1	PANEL PHB SPD	O...	30 A	3	5 VA	5272 VA					3	60 A	Sp...	TRANSFER SWITCH ATS-P (PANEL PH)	2	--	No	Std	No	2	No	3	75	4-#4, #8 G, 1-1/4"C
--	--	--	--	--	--	--	--	--	3	--	--	--	--			5 VA	760 VA			--	--	--	--	4	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	5	--	--	--	--					5 VA	1272 VA	--	--	--	--	6	--	--	--	--	--	--	--	--	--
3-#12, #12 G, 3/4"C	75	3	No	2	No	Std	No	B,L	7	IP-F1 VERTICAL TURBINE/CONTROLLER	LM...	20 A	3	2382 VA	2382 VA					3	60 A	M...	TRANSFER SWITCH ATS IP-F3 (ECB IP-F3)	8	--	No	Std	Yes	2	No	3	75	4-#4, #8 G, 1-1/4"C
--	--	--	--	--	--	--	--	--	9	--	--	--	--			2382 VA	2382 VA			--	--	--	--	10	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	11	--	--	--	--					2382 VA	2382 VA	--	--	--	--	12	--	--	--	--	--	--	--	--	--
4-#4, #8 G, 1-1/4"C	75	3	No	2	Yes	Std	No	--	13	TRANSFER SWITCH ATS IP-F2 (ECB IP-F2)	M...	60 A	3	2382 VA	0 VA					3	20 A	--	SPARE	14	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	15	--	--	--	--			2382 VA	0 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	--	--	--	--					2382 VA	0 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
3-#10, #10 G, 3/4"C	75	3	No	2	Yes	Std	No	-	19	TRANSFORMER PTB (PANEL PLB)	Sp...	30 A	3	267 VA	0 VA					3	20 A	-	SPARE	20	--	-	-	-	-	-	-	-	-	-
--	--	--	--	--	--	--	--	--	21	--	--	--	--			771 VA	0 VA			--	--	--	--	22	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	23	--	--	--	--					1267 VA	0 VA	--	--	--	--	24	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	25	SPACE ONLY	--	--	1	--	0 VA					3	20 A	--	SPARE	26	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	27	SPACE ONLY	--	--	1			--	0 VA			--	--	--	--	28	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	29	SPACE ONLY	--	--	1					--	0 VA	--	--	--	--	30	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--		SUBFEED POSITION FOR TIE TO PANEL PHB	--	--		--	4546 VA					3	100 A	P...	TIE TO PANEL PHA		KI,SN	No	Std	Yes	2	No	3	--	See Panel Schedule PHA for Tie Conductors
--	--	--	--	--	--	--	--	--		--	--	--	--			--	4546 VA			--	--	--	--		--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--		--	--	--						--	4546 VA	--	--	--	--		--	--	--	--	--	--	--	--	--
											Total Load:			17237 VA		13222 VA		14237 VA														
											Total Amps:			63 A		48 A		52 A														
											Phase Imbalance:			15.69%		-11.25%		-4.44%														

Load Classification		Connected Load	Demand Factor	Estimated Demand
C	Continuous	1504 VA	100.00%	1504 VA
L	Lighting	316 VA	100.00%	316 VA
LM	Largest Motor	7147 VA	125.00%	8933 VA
M	Motor	19293 VA	80.00%	15435 VA
O	Other	60 VA	80.00%	48 VA
P	Power	14638 VA	100.00%	14638 VA
R	Receptacle	180 VA	100.00%	180 VA
T	Transformer Losses	1574 VA	100.00%	1574 VA

Panel Totals

Total Connected Load: 44696 VA
Total Estimated Demand: 42612 VA
Total Connected Current: 54 A
Total Estimated Demand Current: 51 A

Notes:

SEE SHEET EP620 FOR NOTES, KEY, AND LEGEND.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jfieldsen\Documents\BUCO00102_DM_ME_jfieldsen.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY:
QA/QC BY:
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

Date: 6/30/2025 1:20:26 PM
Plot Date: 6/30/2025 1:20:26 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

PANEL SCHEDULES FILTER SHELTER

SHEET ID
EP632S

ADVERTISEMENT

Branch Panel: PH

Location: FILTER SHELTER
Supply From: FILTER SHELTER ATS-P
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 14kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 480/277 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 60 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
3-#10, #10 G, 3/4"C	75	3	No	2	Yes	Std	No	--	1	TRANSFORMER PT (PANEL PL)	Sp...	30 A	3	267 VA	--					1	--	--	SPACE ONLY	2	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	3	--	--	--	--			447 VA	--			1	--	--	SPACE ONLY	4	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	5	--	--	--	--					1267 VA	--	1	--	--	SPACE ONLY	6	--	--	--	--	--	--	--	--	--
2-#10, #10 G, 3/4"C	75	2	No	2	No	Std	No	B,L	7	HT-HEAT TRACE	M...	25 A	1	5000 VA	--					1	--	--	SPACE ONLY	8	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	--	9	CANOPY LIGHTING	L...	20 A	1			316 VA	--			1	--	--	SPACE ONLY	10	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	11	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	12	--	--	--	--	--	--	--	--	--
4-#10, #10 G, 3/4"C	75	3	No	2	No	Std	No	K	13	PANEL PH SPD	O...	30 A	3	5 VA	--					1	--	--	SPACE ONLY	14	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	15	--	--	--	--			5 VA	--			1	--	--	SPACE ONLY	16	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	--	--	--	--					5 VA	--	1	--	--	SPACE ONLY	18	--	--	--	--	--	--	--	--	--
											Total Load:			5272 VA		760 VA		1272 VA														
											Total Amps:			19 A		3 A		5 A														
											Phase Imbalance:			116.55%		-68.80%		-47.74%														

Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals
C	Continuous	1000 VA	100.00%	1000 VA	
L	Lighting	316 VA	100.00%	316 VA	**Total Connected Load:** 7298 VA
M	Motor	5000 VA	80.00%	4000 VA	**Total Estimated Demand:** 6293 VA
O	Other	30 VA	80.00%	24 VA	**Total Connected Current:** 9 A
R	Receptacle	180 VA	100.00%	180 VA	**Total Estimated Demand Current:** 8 A
T	Transformer Losses	787 VA	100.00%	787 VA	

Notes:

Branch Panel: PL

Location: FILTER SHELTER
Supply From: FILTER SHELTER XFMR PT
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 3' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 50 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
--	--	--	--	--	--	--	--	--	1	SPARE	--	20 A	1	0 VA	--					1	--	--	SPACE ONLY	2	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	2	No	Std	No	--	3	RACK RECEPTACLE	R...	20 A	1			180 VA	--			1	--	--	SPACE ONLY	4	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	2	No	Std	No	B,VM	5	EW-C ELECTRIC WATER BLANKET	C...	20 A	1					1000 VA	--	1	--	--	SPACE ONLY	6	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	7	SPARE	--	20 A	1	0 VA	--					1	--	--	SPACE ONLY	8	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	9	SPARE	--	20 A	1			0 VA	--			1	--	--	SPACE ONLY	10	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	11	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	12	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	13	SPACE ONLY	--	--	1	--	5 VA					3	30 A	O...	PANEL PL SPD	14	K	No	Std	No	2	No	3	75	4-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	15	SPACE ONLY	--	--	1			--	5 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	SPACE ONLY	--	--	1					--	5 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
											Total Load:			5 VA		185 VA		1005 VA														
											Total Amps:			0 A		2 A		9 A														
											Phase Imbalance:			-98.74%		-53.56%		152.30%														

Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals
C	Continuous	1000 VA	100.00%	1000 VA	
O	Other	15 VA	80.00%	12 VA	**Total Connected Load:** 1195 VA
R	Receptacle	180 VA	100.00%	180 VA	**Total Estimated Demand:** 1192 VA
					Total Connected Current: 3 A
					Total Estimated Demand Current: 3 A

Notes:

SEE SHEET EP620 FOR NOTES, KEY, AND LEGEND.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

File Path: C:\Users\jfieldsem\Documents\BUCO00102_DM_ME_jfieldsem.rvt

ISSUE DATE: 05/01/2025
SOLICITATION NO.: W9128F25RA043
CONTRACT NO.:

DESIGNED BY: E.MCNAMARA
DRAWN BY: E.MCNAMARA
CHECKED BY: B.ADKINS
SUBMITTED BY: J.HEDRICK
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

Date: 6/30/2025 1:20:33 PM
Plot Date: 6/30/2025 1:20:33 PM

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

PANEL SCHEDULES FILTER SHELTER

SHEET ID

EP633S

ADVERTISEMENT

Branch Panel: PLA

Location: FILTER SHELTER
Supply From: FILTER SHELTER XFMR PTA
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 50 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
--	--	--	--	--	--	--	--	--	1	SPARE	--	20 A	1	0 VA	--					1	--	--	SPACE ONLY	2	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	--	3	FIBER CONVERTER A	P...	20 A	1			1000 VA	--			1	--	--	SPACE ONLY	4	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	2	No	Std	No	B	5	SHA SUMP HEATER A	C...	15 A	1					504 VA	--	1	--	--	SPACE ONLY	6	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	7	SPARE	--	20 A	1	0 VA	--					1	--	--	SPACE ONLY	8	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	9	SPACE ONLY	--	--	1			--	--			1	--	--	SPACE ONLY	10	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	11	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	12	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	13	SPACE ONLY	--	--	1	--	5 VA					3	30 A	O...	PANEL PLA SPD	14	K	No	Std	No	2	No	3	75	4-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	15	SPARE	--	20 A	1			0 VA	5 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	SPARE	--	20 A	1					0 VA	5 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
											Total Load:			5 VA		1005 VA		509 VA														
											Total Amps:			0 A		9 A		5 A														
											Phase Imbalance:			-99.01%		98.49%		0.53%														

Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals
C	Continuous	504 VA	100.00%	504 VA	
O	Other	15 VA	80.00%	12 VA	**Total Connected Load:** 1519 VA
P	Power	1000 VA	100.00%	1000 VA	**Total Estimated Demand:** 1516 VA
					Total Connected Current: 4 A
					Total Estimated Demand Current: 4 A

Notes:

Branch Panel: PLB

Location: FILTER SHELTER
Supply From: FILTER SHELTER XFMR PTB
Mounting: Surface
Sections: 1

Enclosure: NEMA 3R
Fault Duty (Minimum): 10kA
Minimum Front Clearance: 4' - 0"
Main Meter: No

Volts: 120/208 Wye
Phases: 3
Wires: 4
Neutral Bus: 100%

Mains Type: MCB
Frame Rating: 100 A
MCB Ampacity Rating: 50 A

MCB Service Rating: Std
MCB Solid State: Yes
MCB Other Features: None

CIRCUIT	MCIT	CCC	NLL	ATZ	SSCB	CB SVC	METER	NOTES	NO	LOAD NAME	LT	CB	P	PHASE A		PHASE B		PHASE C		P	CB	LT	LOAD NAME	NO	NOTES	METER	CB SVC	SSCB	ATZ	NLL	CCC	MCIT	CIRCUIT
--	--	--	--	--	--	--	--	--	1	SPARE	--	20 A	1	0 VA	--					1	--	--	SPACE ONLY	2	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	No	2	No	Std	No	B	3	SHB SUMP HEATER B	C...	15 A	1			504 VA	--			1	--	--	SPACE ONLY	4	--	--	--	--	--	--	--	--	--
2-#12, #12 G, 3/4"C	75	2	Yes	2	No	Std	No	--	5	FIBER CONVERTER B	P...	20 A	1					1000 VA	--	1	--	--	SPACE ONLY	6	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	7	SPARE	--	20 A	1	0 VA	--					1	--	--	SPACE ONLY	8	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	9	SPACE ONLY	--	--	1			--	--			1	--	--	SPACE ONLY	10	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	11	SPACE ONLY	--	--	1					--	--	1	--	--	SPACE ONLY	12	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	13	SPACE ONLY	--	--	1	--	5 VA					3	30 A	O...	PANEL PLB SPD	14	K	No	Std	No	2	No	3	75	4-#10, #10 G, 3/4"C
--	--	--	--	--	--	--	--	--	15	SPARE	--	20 A	1			0 VA	5 VA			--	--	--	--	16	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	17	SPARE	--	20 A	1					0 VA	5 VA	--	--	--	--	18	--	--	--	--	--	--	--	--	--
											Total Load:			5 VA		509 VA		1005 VA														
											Total Amps:			0 A		5 A		9 A														
											Phase Imbalance:			-99.01%		0.53%		98.49%														

Load Classification		Connected Load	Demand Factor	Estimated Demand	Panel Totals
C	Continuous	504 VA	100.00%	504 VA	
O	Other	15 VA	80.00%	12 VA	**Total Connected Load:** 1519 VA
P	Power	1000 VA	100.00%	1000 VA	**Total Estimated Demand:** 1516 VA
					Total Connected Current: 4 A
					Total Estimated Demand Current: 4 A

Notes:

SEE SHEET EP620 FOR NOTES, KEY, AND LEGEND.

US Army Corps of Engineers ®

MARK	DESCRIPTION	DATE

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JURISDICTION:
SIZE: ANSI D
FILE NAME: BUCO00102_DM_ME.rvt

US ARMY CORPS OF ENGINEERS
OMAHA DISTRICT
1616 CAPITOL AVE.
OMAHA, NE 68102

BUCKLEY SFB, COLORADO
POWER INDEPENDENCE: MISSION CONTROL STATION

PANEL SCHEDULES FILTER SHELTER

SHEET ID

EP634S

ADVERTISEMENT