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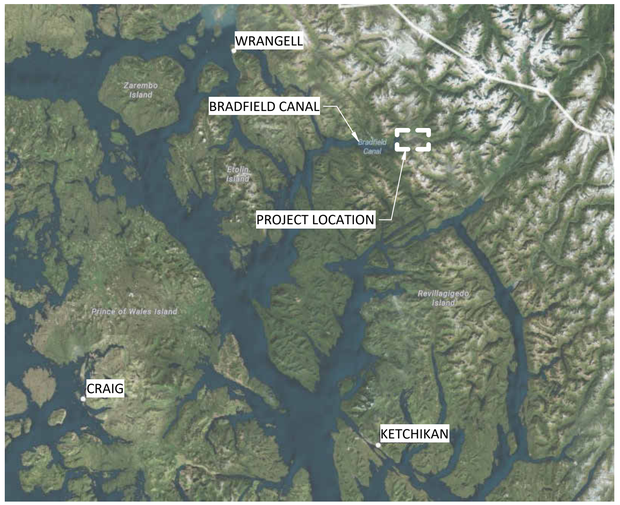
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Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation

VOLUME 2 - CONSTRUCTION DRAWINGS
MAY, 2026

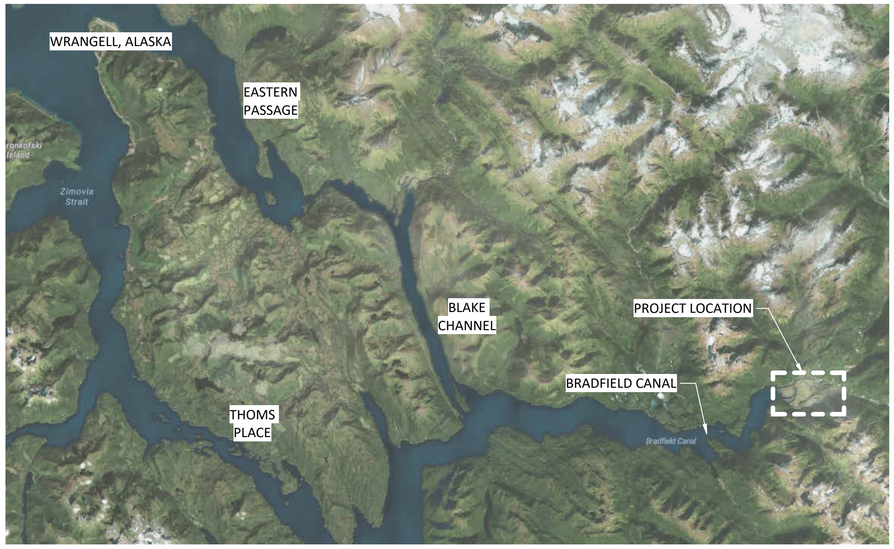
ISSUED FOR CONSTRUCTION

SOUTHEAST ALASKA POWER AGENCY
TYEE LAKE 3rd TURBINE & GENERATOR INSTALLATION



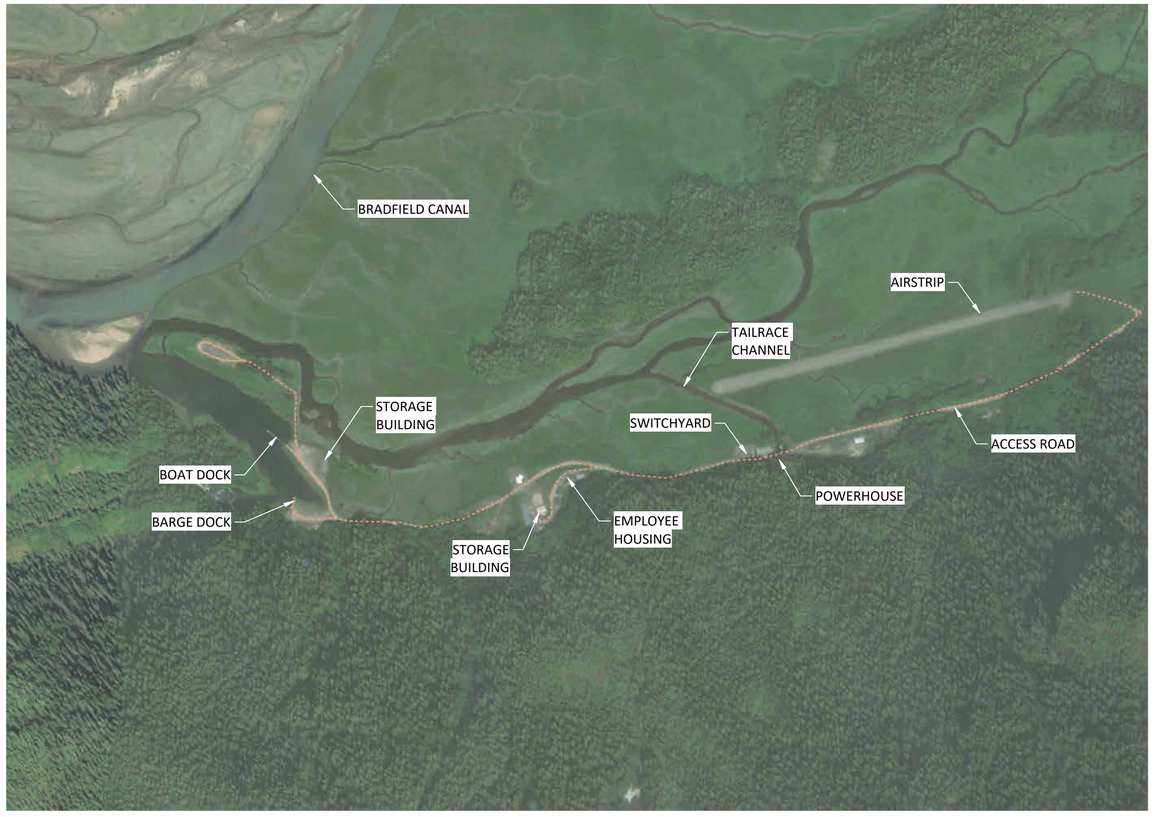
LOCATION MAP

SCALE: NTS



VICINITY MAP

SCALE: NTS



PROJECT MAP

SCALE: NTS

STATE OF ALASKA 49 TH Jay Dallas Date 5-18-2026 No. ME-242634 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation

DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
LOCATION MAP, VICINITY MAP, AND PROJECT MAP

REF DWG(S):

DRAWING NO: H02-D-10-0004-R00

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TYEE 3rd TURBINE & GENERATOR INSTALLATION
DRAWING INDEX

REF DWG(S):

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STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
REFERENCE DRAWING INDEX 1

REF DWG(S):

DRAWING NO: H02-D-41-0016-R00

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CANYON HYDRO	
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253059-1001	#253059 Tyee Lake U3 - Assembly Plan Submittal
253059-1002	#253059 Tyee Lake U3 - Turbine Elevation Submittal
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PG000044-1A-E10-01	EXC 125VDC Power Distribution DC Distrbution and Control
PG000044-1A-E10-02	EXC 24VDC Power Distribution DC Distrbution and Control
PG000044-1A-E15-01	EXC Discrete Inputs DECS-250N Discrete Inputs
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PG000044-1A-E19-01	EXC Terminal Diagram Wiring Diagrams
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L&S ELECTRIC	
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PG000044-1D-E12-14	GCC Analog Inputs TM5 Analog Inputs
PG000044-1D-E12-15	GCC Analog Inputs TM6 Analog Inputs
PG000044-1D-E12-16	GCC Analog Inputs TM7 Analog Inputs
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PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
REFERENCE DRAWING INDEX 2

REF DWG(S):

DRAWING NO: H02-D-41-0017-R00 SHEET 5 OF 144

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PG000044-1D-E20-21	GCC Rail Details Panel Layouts
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PG000044-D35051	Unit 3 Governor System Hydraulic Schematic Diagram, Sheet 1 of 2
PG000044-D35051	Unit 3 Governor System Hydraulic Schematic Diagram, Sheet 2 of 2
PG000044-E05-01	Unit 3 Network Diagram Network Overview
PG000044-E06-01	Unit 3 Single Line Diagram
PG000044-E08-01	Unit 3 Three Line Diagram
PG000044-E08-02	Unit 3 Three Line Diagram
PG000044-E08-03	Unit 3 Three Line Diagram
PG000044-E08-04	Unit 3 Three Line Diagram
EATON	
SHEET NO.	SHEET NAME
MD961A2-M	Master Drawing List
MD961A2-O	Medium Voltage Switchgear Outlines Sheet 000
MD961A2-O	Medium Voltage Switchgear Outlines Sheet 001
MD961A2-O	Medium Voltage Switchgear Outlines Sheet 002
MD961A2-O	Medium Voltage Switchgear Outlines Sheet 003
MD961A2-O	Medium Voltage Switchgear Outlines Sheet 004
MD961A2-O	Medium Voltage Switchgear Outlines Sheet 005
MD961A2-O	Medium Voltage Switchgear Outlines Sheet 006
MD961A2-O	Medium Voltage Switchgear Outlines Sheet 007
MD961A2-V	Medium Voltage Switchgear Section View Sheet 000
MD961A2-V	Medium Voltage Switchgear Section View Sheet 001
MD961A2-V	Medium Voltage Switchgear Section View Sheet 002
MD961A2-V	Medium Voltage Switchgear Section View Sheet 003
MD961A2-R	Medium Voltage Switchgear Front Layout Sheet 000
MD961A2-R	Medium Voltage Switchgear Front Layout Sheet 001
MD961A2-N	Medium Voltage Switchgear Schedules Sheet 000
MD961A2-N	Medium Voltage Switchgear Schedules Sheet 001
MD961A2-Y101	Medium Voltage Switchgear Device Nameplates Sheet 001
MD961A2-Y101	Medium Voltage Switchgear Device Nameplates Sheet 002
MD961A2-Y301	Medium Voltage Switchgear Ratings Markings Sheet 001
MD961A2-Y301	Medium Voltage Switchgear Ratings Markings Sheet 002
MD961A2-Y301	Medium Voltage Switchgear Ratings Markings Sheet 003
MD961A2-Y301	Medium Voltage Switchgear Ratings Markings Sheet 004
MD961A2-Y301	Medium Voltage Switchgear Ratings Markings Sheet 005
MD961A2-Y301	Medium Voltage Switchgear Ratings Markings Sheet 006
MD961A2-Y301	Medium Voltage Switchgear Ratings Markings Sheet 007
MD961A2-P	Medium Voltage Switchgear Customer BOM Sheet 001
MD961A2-P	Medium Voltage Switchgear Customer BOM Sheet 002
MD961A2-P	Medium Voltage Switchgear Customer BOM Sheet 003
MD961A2-P	Medium Voltage Switchgear Customer BOM Sheet 004
MD961A2-P	Medium Voltage Switchgear Customer BOM Sheet 005
MD961A2-P	Medium Voltage Switchgear Customer BOM Sheet 006
MD961A2-P	Medium Voltage Switchgear Customer BOM Sheet 007
MD961A2-P	Medium Voltage Switchgear Customer BOM Sheet 008
MD961A2-E	Medium Voltage Switchgear Legend Sheet 000
MD961A2-E	Medium Voltage Switchgear Legend Sheet 001
MD961A2-E	Medium Voltage Switchgear Legend Sheet 002
MD961A2-E	Medium Voltage Switchgear Legend Sheet 003
MD961A2-T	Medium Voltage Switchgear Three Line Sheet 000
MD961A2-T	Medium Voltage Switchgear Three Line Sheet 001
MD961A2-S	Medium Voltage Switchgear Schematic Sheet 000
MD961A2-S	Medium Voltage Switchgear Schematic Sheet 001
MD961A2-S	Medium Voltage Switchgear Schematic Sheet 002
MD961A2-S	Medium Voltage Switchgear Schematic Sheet 003

STATE OF ALASKA
49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
REFERENCE DRAWING INDEX 3

REF DWG(S):

DRAWING NO: H02-D-41-0018-R00 SHEET 5A OF 144

A/C	AIR CONDITIONING
A/E	ARCHITECT/ENGINEER
A	ARCHITECTURAL (DWG DISCIPLINE), AMP
AB	ANCHOR BOLT
ABC	AGGREGATE BASE COURSE
AC	ALTERNATING CURRENT
ACST	ACOUSTIC
AD	ADDENDUM, AREA DRAIN
ADDL	ADDITIONAL
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT
AF	AMP FRAME, AMP FUSE
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AGGR	AGGREGATE
AIC	AMPS INTERRUPTING CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE, ALTITUDE
AM	ACOUSTICAL MATERIAL
AMB	AMBIENT
ANC	ANCHOR
AP	ACCESS PANEL
APRX	APPROXIMATE
APVD	APPROVED
ARCH	ARCHITECTURAL
ASSY	ASSEMBLY
AT	AMP TRIP
ATM	ATMOSPHERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
AWG	AMERICAN WIRE GAGE
B/B	BACK TO BACK
BAL	BALANCE
BC	BOTTOM CHORD, BOLT CENTER, BOLT CIRCLE
BD	BOARD
BE	BOTH ENDS, BELL END
BF	BOTH FACES, BLIND FLANGE, BOARD FEET
BITUM	BITUMINOUS
BL	BASE LINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCHMARK, BEAM
BOC	BACK OF CURB
BOD	BOTTOM OF DUCT
BOG	BOTTOM OF GRILLE
BOL	BOTTOM OF LOUVER
BOP	BOTTOM OF PIPE
BOR	BOTTOM OF REGISTER
BOT	BOTTOM
BOU	BOTTOM OF UNIT
BP	BASE PLATE
BRG	BEARING
BRGP	BEARING PLATE
BRKT	BRACKET
BS	BOTH SIDES
BTU	BRITISH THERMAL UNIT
BTW	BETWEEN
BTWLD	BUTT WELD
BW	BOTH WAYS
BYP	BYPASS
C TO C	CENTER TO CENTER
C&G	CURB AND GUTTER
C	CHANNEL SHAPE, CONDUIT, CIVIL(DWG DISCIPLINE
CAB	CABINET
CAP	CAPACITY
CAT	CATALOG
CB	CATCH BASIN
CCW	COUNTER CLOCKWISE
CDF	CONTROLLED DENSITY FILL
CF	CUBIC FEET (FOOT)
CHD	CHORD
CHH	COMMUNCATION HANDHOLE
CI	CURB INLET
CIP	CAST-IN-PLACE
CIPC	CAST-IN-PLACE CONCRETE
CIRC	CIRCUIT, CIRCULATION, CIRCULAR
CJ	CONSTRUCTION JOINT
CL	CENTRELINE, CLASSM CLOSE
CLJ	CONTROL JOINT
CLR	CLEAR
CMH	COMMUNCATION MANHOLE
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT, CONCRETE OPENING
COL	COLUMN
COMB	COMBINATION
COMM	COMMUNICATION
COMP	COMPOSITION, COMPRESSIBLE, COMPOSITE
CONC	CONCENTRIC, CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COOR	COORDINATE
CORR	CORROSIVE,CORRIGATED
CP	CHECKER PLATE, CONTROL JOINT
CPLG	COUPLING
CSK	COUNTERSINK
CTR	CENTER
CTRL	CONTROL
CU	COPPER, CUBIC
CW	CLOCKWISE
CY	CUBIC YARD
d	PENNY (NAIL MEASURE)
D	DEEP, DIFFUSER
DB	DUCT BANK, DECIBEL, DRY BULB
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DC	DIRECT CURRENT
DEG	DEGREE
DEG C	DEGREE CENTIGRADE
DEG F	DEGREE FAHRENHEIT
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL, DIAGRAM
DIFF	DIFFERENTIAL, DIFFERENCE
DIM	DIMENSION
DISCH	DISCHARGE
DIST	DISTANCE, DISTRIBUTION
DIV	DIVISION
DL	DEAD LOAD
DN	DOWN
DP	DEPTH
DS	DOWN SPOUT
DT	DOUBLE TREE, DRIP TRAP ASSEMBLY
DUP	DUPLICATE
DWG	DRAWING
DWL	DOWEL
E	EAST, ELECTRICAL (DWG DISCIPLINE)
EA	EACH, EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
EDB	ELECTRICAL DUCT BANK
EE	EACH END
EF	EACH FACE
EG	EXISTING GRADE
EJ	EXPANSION JOINT
EL	ELBOW, ELEVATION
ELEC	ELECTRICAL
EMBD	EMBEDDED
EMER	EMERGENCY
EMH	ELECTRICAL MANHOLE
ENGR	ENGINEER
ENTR	ENTRANCE
EOP	EDGE OF PAVEMENT
EOW	EDGE OF WATER
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE, EQUAL SPACE, EMERGENCY SHOWER
ESEW	EMERGENCY SHOWER AND EYE WASH
EST	ESTIMATE
EW	EACH WAY, EMERGENCY EYE/FACE WASH
EWEF	EACH WAY, EACH FACE
EWTB	EACH WAY, TOP AND BOTTOM
EXC	EXCAVATION
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION, EXPOSED
EXT	EXTERIOR, EXTERNAL, EXTENSION
F TO F	FACE TO FACE
FAB	FABRICATE
FBO	FURNISHED BY OWNER
FCA	FLANGED COUPLING ADAPTER
FD	FLOOR DRAIN
FDTN	FOUNDATION
FDR	FEEDER
FE	FLANGED END
FEC	FIRE EXTINGUISHER CABINET
FEXT	FIRE EXTINGUISHER
FF	FAR FACE, FLAT FACE, FINISHED FLOOR
FG	FINISHED GRADE
FIG	FIGURE
FH	FIRE HYDRANT
FIN	FINISH
FL	FLOW, FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE
FLOR	FLUORESCENT
FLR	FLOOR
FM	FLOW METER
FNC	FENCE
FO	FINISHED OPENING
FOB	FLAT ON BOTTOM
FOC	FACE OF CONCRETE, FACE OF CURB
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FOT	FLAT ON TOP
FPT	FEMALE PIPE THREAD
FR	FRAME
FRP	FIBERGLASS REINFORCED PLASTIC
FRTM	FIRE RETARDENT TREATED MATERIAL
FS	FLOOR SINK, FAR SIDE
FT	FEET, FOOT
FTG	FOOTING, FITTING
FUR	FURRED, FURRING
FURN	FURNITURE, FURNISH
FUT	FUTURE
FW	FIELD WELD, FIRE WALL
FWD	FORWARD
FWE	FURNISHED WITH EQUIPMENT
FXTR	FIXTURE
G	GRILLE, GROUND, GENERAL(DWG DISCIPLINE)
GA	GAGE (METAL THICKNESS)
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GEN	GENERAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GL	GLASS
GP	GUY POLE
GR	GRADE
GRND	GROUND
GRTG	GRATING
GWB	GYPSUM WALLBOARD
GYP	GYPSUM HARDBOARD
H	HIGH
HB	HOSE BIB
HBD	HARDBOARD
HC	HORIZONTAL CENTRELINE, HORIZONTAL CURVE
HDPE	HIGH-DENSITY POLYETHYLENE
HDR	HEADER
HDW	HARDWARE
HEX	HEXAGONAL
HH	HANDHOLE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT, HORSEPOWER
HPC	HORIZONTAL POINT OF CURVATURE
HPS	HIGH PRESSURE SODIUM
HPT	HORIZONTAL POINT OF TANGENCY
HR	HOSE REEL, HOUR
HS	HEADED STUD, HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SHAPE
HT	HEIGHT
HTG	HEATING
HV	HIGH VOLTAGE
HVAC	HEATING VENTILATION AND AIR CONDITIONING
HWD	HARDWOOD
HWL	HIGH WATER LEVEL
HYD	HYDRAULIC
HZ	HERTZ, CYCLES PER SECOND
I	INSTRUMENTATION (DWG DISCIPLINE)
ID	INSIDE DIAMTER, INTERIOR DIMENSION
IE	INVERT ELEVATION
IF	INSIDE FACE
IH	INTAKE HOOD
IMP	IMPACT
IN	INCH
INC	INCLUDE, INCANDESCENT
INF	INFLUENT
INSTR	INSTRUMENTATION
INSUL	INSULATION
INT	INTERIOR, INTERSECTION
INTR	INTERMEDIATE
INV	INVERT
IPS	IRON PIPE SIZE
IPT	INTERNAL PIPE THREAD
IR	INSIDE RADIUS
IRR	IRRIGATION
ISO	ISOMETRIC
JB	JUNCTION BOX
JCT	JUNCTION
JF	JOINT FILLER
JST	JOIST
JT	JOINT
K	KIP
KCMIL	THOUSAND CIRCULAR MILS
KD	KNOCK DOWN
KO	KNOCK OUT
KSI	KIPS PER SQUARE INCH
L	ANGLE, LENGTH, LAVATORY
LAM	LAMINATE
LATL	LATERAL
LB	LAG BOLT, POUND
LDR	LEADER
LF	LINEAR FOOT
LG	LONG
LH	LEFT HAND
LIN	LINEAR
LIQ	LIQUID
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNG	LONGITUDINAL
LOC	LOCATION
LP	LOW POINT
LPS	LOW PRESSURE SODIUM
LR	LONG RADIUS
LT	LEFT
LTD	LIMITED
LTG	LIGHTING
LTNG	LIGHTNING
LV	LOW VOLTAGE
LVR	LOUVRE
LW	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
LWL	LOW WATER LEVEL
M	MECHANICAL (DWG DISCIPLINE)
MA	MIXED AIR
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MCB	METAL CORNER BEAD
MCJ	MASONRY CONTROL JOINT
MDMJ	MODIFIED DOUBLE MECHANICAL JOINT
MECH	MECHANICAL
MED	MEDIUM
MFR	MANUFACTURER
MH	MANHOLE, METAL HALIDE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MMB	MEMBRANE
MO	MASONRY OPENING
MOD	MODULAR, MODIFY
MON	MONUMENT
MPT	MALE PIPE THREAD
MS	MOP SINK
MU	MASONRY UNIT
MULL	MULLION
MV	MEDIUM VOLTAGE
MW	MONITORING WELL
N	NORTH, NEUTRAL
NA	NOT APPLICABLE
NAT	NATURAL
NC	NORMALLY CLOSED
NEG	NEGATIVE
NF	NEAR FACE, NON-FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
NPT	NATIONAL PIPE THREAD
NS	NEAR SIDE
NTS	NOT TO SCALE
NWL	NORMAL WATER LEVEL
O TO O	OUT-TO-OUT
OA	OUTSIDE AIR, OVERALL
OC	ON CENTRE
OCPD	OVER CURRENT PROTECTION DEVICE
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OR	OUTSIDE RADIUS
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
OFL	OVERFLOW
OVHG	OVERHANG
OZ	OUNCE
OVS	OVERSIZE
P	PAINT, PROCESS(DWG DISCIPLINE), PUMP
PB	PANIC BAR, PULL BOX
PBD	PARTICLE BOARD
PC	POINT OF CURVE, PIECE, PRECAST
PCC	POINT OF COMPOUND CURVATURE
PCF	POUNDS PER CUBIC FOOT
PCT	PERCENT
PE	PLAIN END
PED	PEDESTAL
PEMB	PRE-ENGINEERED METAL BUILDING
PEN	PENETRATION
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PF	POWER FACTOR
PH	PHASE
PI	POINT OF INTERSECTION
PKG	PACKAGE
PL	PLATE, PROPERTY LINE
PLF	POUNDS PER LINEAR FOOT
PNEU	PNEUMATIC
POS	POSITIVE, POSITION
PP	POLYPROPYLENE, POWER POLE
PRC	POINT OF REVERSE CURVATURE
PREF	PREFINISHED
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PREP	PREPARE
PRES	PRESSURE
PROP	PROPERTY
PROT	PROTECTION
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PT	POINT, POINT OF TANGENCY
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PZ	GEORGIAN WIRE GLASS
Q	RATE OF FLOW
QTR	QUARTER
QTY	QUANTITY
QUAL	QUALITY
R	RADIUS, REGISTER, RISER
RA	RETURN AIR
RB	RESILIENT BASE, ROCK BERM
RCPT	RECEPTACLE
RD	ROOF DRAIN
REC	RECESS
RECD	RECEIVED
RECT	RECTANGULAR
RED	REDUCER
REF	REFERENCE
REINF	REINFORCING
REQD	REQUIRED
RESIL	RESILIENT
RET	RETAINING, RETURN
REV	REVISION, REVERSE
RGS	RIGID GALVANIZED STEEL
RH	RELIEF HOOD, RIGHT HAND, RELATIVE HUMIDITY
RL	REQUIRED LAP
RLFA	RELIEF AIR
RND	ROUND
RNG	RENEWABLE NATURAL GAS
RO	ROUGH OPENING
ROW	RIGH OF WAY
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RT	RIGHT
S	SOUTH, SINK, STRUCTURAL (DWG DISCIPLINE)
SA	SUPPLY AIR
SAN	SANITARY
SC	SOLID CORE
SCH	SCHEDULE
SCHEM	SCHEMATIC
SCRN	SCREEN
SE	STEEL/ALUMINUM EDGE
SEC	SECONDARY, SECONDS
SECT	SECTION
SEP	SEPARATE
SF	SQUARE FOOT
SG	SHEET GLASS, SEALANT GROOVE
SH	SHOWER
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SL	SLOPE
SLTD	SLOTTED
SLV	SLEEVE
SMLS	SEAMLESS
SOG	SLAB ON GRADE
SP	SOUNDPROOF, STANDPIPE, SPACING
SPC	SPACING
SPEC	SPECIFICATION
SPLY	SUPPLY
SQ	SQUARE
SR	SHORT RADIUS
SS	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STOR	STORAGE
STR	STRCUTURAL, STRAIGHT
SUB	SUBSTITUTE
SUC	SUCTION
SUSP	SUSPEND
SY	SQUARE YARD
SYM	SYMBOL
SYMM	SYMMETRICAL
SYN	SYNTHETIC
SYS	SYSTEM
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
T	TILE, TREAD, TANK
TA	TOILET ACCESSORY, TEMPERED AIR
TAN	TANGENT
TBM	TEMPORARY BENCHMARK
TEMP	TEMPERATURE
THRD	THREAD
THK	THICK
THRU	THROUGH
TOB	TOP OF BOLT, TOP OF BANK, TOP OF BEAM
TOC	TOP OF CURB, TOP OF CONCRETE
TOD	TOP OF DUCT
TOF	TOP OF FOOTING
TOG	TOP OF GRATING
TOL	TOLERANCE, TOP OF LEDGER
TOM	TOP OF MASONRY
TOP	TOP OF PLATE
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB, TOP OF STEEL
TOW	TOP OF WALL
TP	TELEPHONE POLE, TOE PLATE, TRAP PRIMER
TPG	TOPPING
TRD	TRENCH DRAIN
TYP	TYPICAL
UG	UNDERGROUND
UMAT	COUNTY IDENTIFIER FOR WELLS
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
V	VENT, VELOCITY, VOLT, VALVE
VA	VOLT AMPERE
VAC	VACUUM
VAR	VARNISH, VARIABLE, VOLT AMPERES REACTIVE
VB	VAPOR BARRIER, VINYL BASE, VALVE BOX
VCT	VINYL COMPOSITION TILE, VERTICAL CENTERLINE
VEL	VELOCITY
VENT	VENTILATION
VERT	VERTICAL
VOL	VOLUME
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
W	WATT, WEST, WIDE, WINDOW, WIRE, WIDE FLANGE BEAM
WC	WATER CLOSET, WATER COLUMN
WD	WOOD, WIDTH
WF	WIDE FLANGE, WASH FOUNTAIN
WG	WIRE GLASS, WATER GAGE
WH	WALL HYDRANT, WEEP HOLE, WATER HEADER
WL	WATER LEVEL
WLD	WELDED
WM	WIRE MESH
WP	WATERPROOF, WORK POINT
WTHP	WEATHERPROOF
WS	WATERSTOP, WATER SURFACE
WSEL	WATER SURFACE ELEVATION
WT	WEIGHT, WATER TIGHT
WWF	WELDED WIRE FABRIC
XS	EXTRA STRONG
XXS	DOUBLE EXTRA STRONG
XSECT	CROSS SECTION
YH	YARD HYDRANT
YS	YIELD STRENGTH

GENERAL NOTES

1. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF CONTRACT DOCUMENTS
2. LISTING OF ABBREVIATIONS DOES NOT IMPLY ALL ABBREVIATIONS ARE USED IN THE CONTRACT DRAWINGS
3. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF THE WORD. FOR EXAMPLE, "MOD" MAY MEAN MODIFY OR MODIFICATION; "INC" MAY MEAN EITHER INCLUDE OR INCLUDING; "REINF" MAY MEAN EITHER REINFORCE OR REINFORCING
4. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT FOR EACH SHEET FOR USAGE.
5. SEE SHEET PF001 FOR PROJECT SPECIFIC EQUIPMENT SYMBOLS, EQUIPMENT ABBREVIATIONS, AND PIPING SYSTEM ABBREVIATIONS

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
STANDARD ABBREVIATIONS

REF DWG(S):

DRAWING NO: H02-D-41-0019-R00 SHEET 6 OF 144

SHEET SYMBOLS

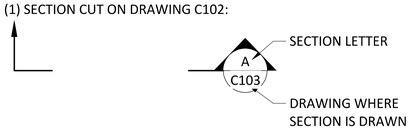
PLAN

SCALE: 1/2"=1'-0" 0 2' 4'

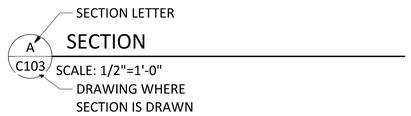
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SECTION IDENTIFICATION

(1) SECTION CUT ON DRAWING C102:

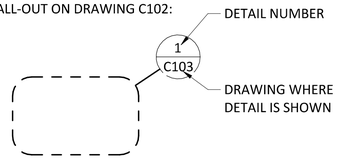


(2)ON DRAWING C103 THIS SECTION IS IDENTIFIED AS:

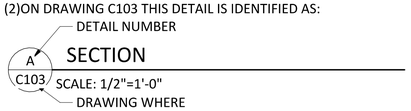


DETAIL IDENTIFICATION

(1) DETAIL CALL-OUT ON DRAWING C102:



(2)ON DRAWING C103 THIS DETAIL IS IDENTIFIED AS:



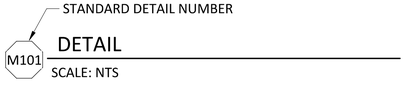
*NOTE: IF PLAN AND SECTION (OR DETAIL CALL-OUT AND DETAIL) ARE SHOWN ON SAME DRAWING. DRAWING NUMBER IS REPLACED BY A LINE.

STANDARD DETAIL IDENTIFICATION

(1) DETAIL CALL-OUT ON PLAN OR SECTION:



(2)ON DETAIL DRAWINGS, IDENTIFIED AS:



ELEVATION/IMAGE IDENTIFICATION



SITE PLAN LINETYPES

455	MAJOR CONTOUR
456	MINOR CONTOUR
455	EXIST MAJOR CONTOUR
456	EXIST MINOR CONTOUR
	EDGE OF WATERLINE
TOE	TOE OF SLOPE
TOB	TOP OF BANK
SS	SANITARY SEWER
SD	STORM DRAIN
EP	EDGE OF PAVEMENT
EG	EDGE OF GRAVEL
W	WATTLE
SF	SILT FENCE
CF	CONSTRUCTION FENCE
GAS	GAS LINE
TC	TURBIDITY CURTAIN
IRR	IRRIGATION LINE
WTR	WATER LINE
TEL	TELEPHONE LINE
COM	COMMUNICATION LINE
OHP	OVERHEAD ELECTRICAL/POWER
EUG	UNDERGROUND ELECTRICAL
P/L	PROPERTY LINE
	PROJECT BOUNDARY
X	FENCE LINE
	DITCH/FLOW LINE
TOE	EXIST TOE OF SLOPE
TOB	EXIST TOP OF BANK
SS	EXIST SANITARY SEWER
SD	EXIST STORM DRAIN
EP	EXIST EDGE OF PAVEMENT
EG	EXIST EDGE OF GRAVEL
GAS	EXIST GAS LINE
IRR	EXIST IRRIGATION LINE
WTR	EXIST WATER LINE
TEL	EXIST TELEPHONE LINE
COM	EXIST COMMUNICATION LINE
OHP	EXIST OVERHEAD ELECTRICAL/POWER
EUG	EXIST UNDERGROUND ELECTRICAL
P/L	EXIST PROPERTY LINE
X	EXIST FENCE LINE
	EXIST DITCH/FLOW LINE

SITE PLAN SYMBOLS

N	ARROW INDICATES DIRECTION OF PLAN NORTH
	CONIFER TREE: FIR, SPRUCE, LARCH OR PINE. 8" DIAMETER OR LARGER
	DECIDUOUS TREE: COTTONWOOD HAWTHORN, ASPEN, 8" DIAMETER OR LARGER
MH	MANHOLE
EB	ELECTRICAL BOX
	STORM DRAIN MANHOLE
FH	FIRE HYDRANT
YH-X	YARD HYDRANT
	SURVEY CONTROL POINT, AS NOTED
	POLE ANCHOR
	POWER POLE
	LIGHT POLE
	SIGN
	SURVEY HUB
	SECTION CORNER
	BENCHMARK
	EXISTING HEADWALL
	EXISTING MONITORING STATION
X	EXISTING FENCE
	STATE PLANE COORDINATE MARKER
	EXISTING TREE LINE
	EXISTING BUILDING,STRUCTURES
	EXISTING SECTION CORNER MONUMENT FOUND AS DESCRIBED
	EXISTING 5/8" REBAR CONTROL POINT MONUMENT BORING LOCATION
W	EXISTING HOSE BIB
P	EXISTING PORTABLE IRRIGATION WATER PUMP
WELL	EXISTING 6" WATER WELL
	EXISTING ELECTRICAL OUTLET
P	EXISTING POWER POLE
T	EXISTING TELEPHONE PEDESTAL
	CONTROL POINT
	PUMP
	PUMP
TP	TEST PIT LOCATION

MISCELLANEOUS SYMBOLS

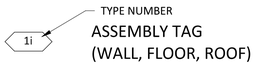
	CHANGE OF PIPE MTL
OR	END OF PIPE
℄	CENTERLINE
Ø	DIAMETER
∠	ANGLE
ℙ	PLATE
±	PLUS/MINUS

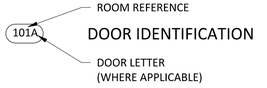
ARCHITECTURAL SYMBOLS

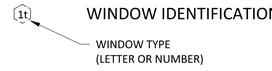














HATCH SYMBOLS

	SOIL EXISTING
	TYPE A
	TYPE C
	BEDDING SAND
	CONCRETE EXISTING
	CONCRETE 1ST STAGE
	CONCRETE 2ND STAGE
	STEEL
	GRATING
	EXIST GRATING
	EXISTING
	EXISTING TO BE REMOVED OR DEMOLISHED
	EXIST PLYWOOD FLOORING
	SWITCHYARD SURFACE COURSE

GENERAL NOTES

1. ALL SYMBOLS ARE NOT NECESSARILY USED. THIS IS A STANDARD DRAWING SHOWING COMMON SYMBOLS ON THIS PROJECT
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO BE DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH DRAWING FOR USAGE



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
STANDARD SYMBOLS

REF DWG(S):

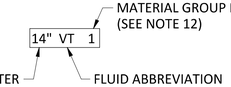
DRAWING NO: H02-D-41-0020-R00 SHEET 7 OF 144

FLUID ABBREVIATION	FUNCTION	ALLOWABLE PIPING MATERIAL GROUP NO. (SEE NOTE 1)				FIELD TEST REQUIREMENTS (SEE NOTE 3)		
	THIS LIST MAY INCLUDE FLUIDS NOT USED IN THIS PROJECT	EXPOSED PIPING (SEE NOTE 14)		BURIED PIPING (SEE NOTE 13)		MINIMUM TEST PRESSURE PSI	TEST MEDIUM	LEAKAGE ALLOWANCE (SEE NOTE 2)
		3" DIA AND SMALLER	4" DIA AND LARGER	3" DIA AND SMALLER	4" DIA AND LARGER			
COMMONLY USED FUNCTIONS								
CWS	COOLING WATER SUPPLY	14	14	--	--	125	WATER	(A)
CWR	COOLING WATER RETURN	14	14	--	--	125	WATER	(A)
CO2	CARBON DIOXIDE (FIRE SUPPRESSION) (SEE NOTE 8)	1	--	--	--	SEE SECTION 21 21 01 OF THE SPECIFICATIONS		
TD	TANK / PROCESS DRAIN (TANK/BASIN)	16	16	16	16,27	NOTE 6	WATER	--
DR	DRAIN	--	--	12	--	NOTE 6	WATER	(D)
VT	VENT	15,16	15,16	--	--	15 IN Hg	VACUUM	(A) (D)

PIPING MATERIAL SCHEDULE (SEE NOTE 1)

GROUP NO.	PIPE MATERIAL	FITTINGS / JOINTS	LININGS AND COATINGS (SEE NOTE 13)
1	STEEL, ASTM A53, SCHEDULE 40, BLACK WELDED.	2 1/2" AND SMALLER, MALLEABLE IRON, ASME B16.3, THREADED, BANDED, BLACK, 150 PSI OR STEEL, ASME B16.9, BUTT-WELDED. 3" AND LARGER, CAST IRON, ASME B16.1, 125 PSI FLANGED OR MECHANICAL COUPLING OR (STEEL, ASME B16.9, BUTT WELDED).	NOT APPLICABLE
12	CAST IRON SOIL, ANSI/ASTM A-74, SERVICE WEIGHT. (AT CONTRACTOR'S OPTION, DUCTILE IRON (GROUP NO. 11 MAY BE SUBSTITUTED)	CAST IRON SOIL, ANSI/ASTM A-74, SERVICE WEIGHT, BELL AND SPIGOT OR HUBLESS. (AT CONTRACTOR'S OPTION - DUCTILE IRON (GROUP NO 11) MAY BE SUBSTITUTED.)	NOT APPLICABLE
14	STAINLESS STEEL, TYPE 316, ASTM A312, SCHEDULE 40S.	STAINLESS STEEL, TYPE 316, WELDED SLIP-ON FLANGE ASME B16.5, OR SOCKET WELDED FITTINGS SCHEDULE 40S, OR BUTT-WELDED	NOT APPLICABLE
15	STEEL, ASTM A53, SCHEDULE 20, BLACK, WELDED OR SEAMLESS	STEEL, WELDED SLIP-ON FLANGE ASME B16.5, OR SPLIT SLEEVE COUPLING PER AWWA C227	PER SPEC 09 90 00
16	POLYVINYL CHLORIDE, SCHEDULE 80, NORMAL IMPACT. ASTM D1785. (TYP SERVICE - INDOORS/COVERED)	POLYVINYL CHLORIDE, SCHEDULE 80, NORMAL IMPACT, SOCKET SOLVENT WELD JOINTS, ASTM D2467. (SOLVENT & GLUE SHALL BE COMPATIBLE WITH FLUID SERVICE)	NOT APPLICABLE
27	POLYVINYL CHLORIDE GRAVITY SEWER PIPE, ASTM D3034, SDR 35 (TYP SERVICE - SANITARY SEWERS)	POLYVINYL CHLORIDE, ANSI/ASTM D3034, BELL & SPIGOT.	NOT APPLICABLE

TYPICAL PIPE DESIGNATION:



NOTES:

NOTE 1
ALTHOUGH SEVERAL PIPE MATERIAL GROUPS MAY BE LISTED ON THIS SHEET FOR A GIVEN FLUID SERVICE, CONTRACTOR SHALL PROVIDE ONLY THE PIPE MATERIAL GROUP SHOWN ON THE DRAWINGS AND SPECIFIED FOR THAT FLUID SERVICE.

NOTE 2
LEAKAGE ALLOWANCE IS AS FOLLOWS
A. PIPES SO DESIGNATED SHALL SHOW ZERO LEAKAGE.
B. PIPES SO DESIGNATED SHALL SHOW ZERO LEAKAGE FOR UNBURIED PIPE AND NOT MORE THAN 0.02 GALLON PER HOUR PER INCH DIAMETER PER 100 FEET OF BURIED PIPE.
C. PIPES SO DESIGNATED SHALL NOT SHOW A LEAKAGE OF MORE THAN 0.15 GALLON PER HOUR PER INCH OF DIAMETER PER 100 FEET OF PIPE.
D. PIPES SO DESIGNATED SHALL NOT SHOW A LOSS OF PRESSURE OF MORE THAN 5 PERCENT.
E. PIPE SO DESIGNATED SHALL NOT SHOW A LOSS OF VACUUM OF MORE THAN 4 INCHES MERCURY COLUMN.

NOTE 3
FOR FIELD TEST PROCEDURES AND ADDITIONAL TEST REQUIREMENTS, SEE PIPING SECTION OF SPECIFICATIONS.

NOTE 4
NOT USED

NOTE 5
NOT USED

NOTE 6
STATIC WATER TEST WITH SURFACE 5 FEET ABOVE HIGH POINT OF PIPE.

NOTE 7
NOT USED

NOTE 8
REFER TO FIRE SUPPRESSION PLAN FOR PIPE FITTING SPECIFICATIONS AND ADDITIONAL REQUIREMENTS.

NOTE 9
NOT USED

NOTE 10
NOT USED

NOTE 11
NOT USED

NOTE 12
CHANGE IN PIPING MATERIAL GROUP NUMBER IS INDICATED THUS: ——◆

NOTE 13
FOR FULL PIPE LINING AND COATING REQUIREMENTS, SEE SPECIFICATIONS.

NOTE 14
EXPOSED OUTDOOR PIPING SHALL BE PAINTED IN ACCORDANCE WITH SPECIFICATIONS. COLORS TO BE SELECTED BY OWNER.

NOTE 15
NOT USED

NOTE 16
NOT USED

NOTE 17
NOT USED



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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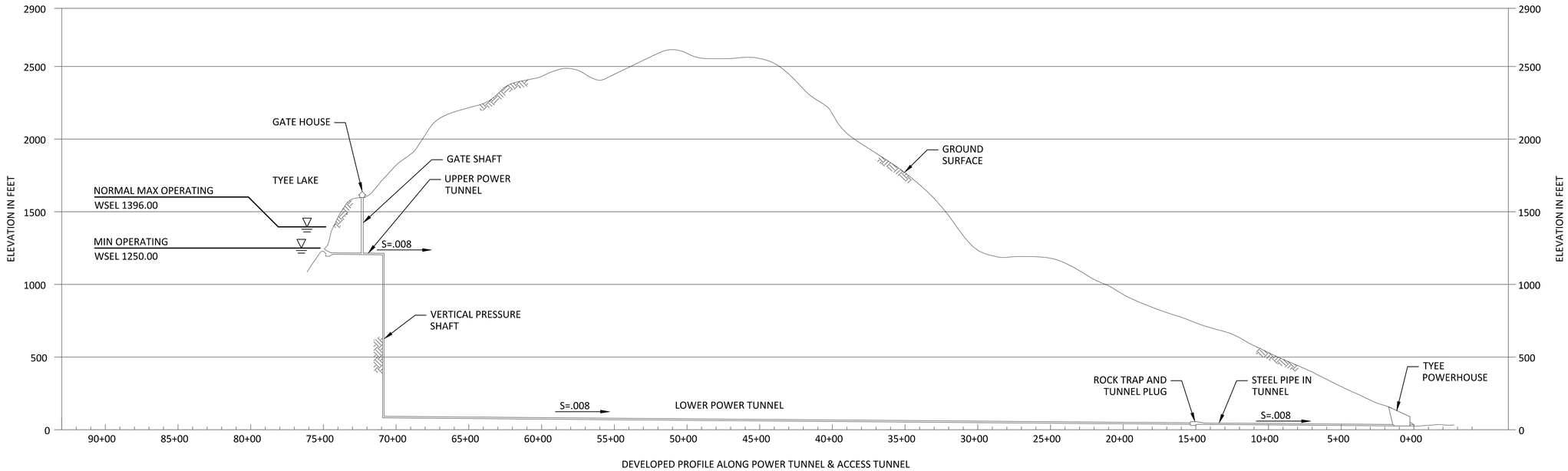
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
PIPING SCHEDULE

REF DWG(S):

DRAWING NO: H02-D-41-0021-R00



HYDRAULIC PROFILE

SCALE: NTS

HYDRAULIC DESIGN CRITERIA					
TYEE LAKE		TYEE POWERHOUSE		HYDRAULIC CONVEYANCE	
CRITERIA	VALUE	CRITERIA	VALUE	CRITERIA	VALUE
MAX OPERATING WSEL	1,396.00 FT MSL	NO. UNITS	2 (EXISTING) + 1 (NEW)	TUNNEL/SHAFT DIAMETER	10 FT
50TH PCT OPERATING WSEL	1,368.69 FT MSL	MAXIMUM STATIC HEAD	1,367 FT	TUNNEL/SHAFT LENGTH	6,940.20 FT
NORMAL LOW OPERATING WSEL	1,309.85 FT MSL	MINIMUM STATIC HEAD	1,221 FT	MAXIMUM FLOW	351 CFS
MIN OPERATING WSEL	1,250.00 FT MSL	RATED HEAD	1,275 FT	MAX TUNNEL VELOCITY	4.5 FT/S
ACTIVE STORAGE	52,400 ACRE-FT	RATED FLOW (PER UNIT)	117 CFS	PENSTOCK DIAMETER	54-INCH
SURFACE AREA AT MAX POOL	434 ACRES	HYDRAULIC OUTPUT	11,800 kW	PENSTOCK LENGTH	1,382 FT
DRAINAGE AREA	14.2 SQ MI	GENERATOR RATING (MVA)	12,500 kVA	MAXIMUM PENSTOCK VELOCITY	22 FT/S

STATE OF ALASKA 49 TH
Jay Dallas
Date: 5-18-2026
No. ME-042634

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
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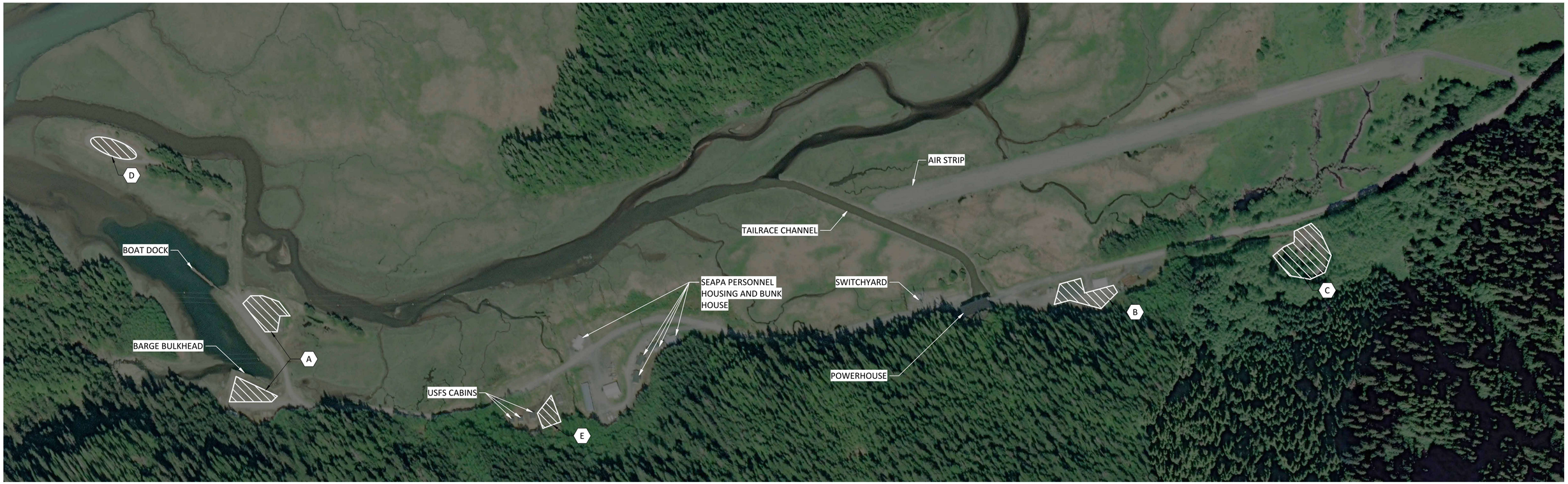
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
HYDRAULIC PROFILE AND DESIGN CRITERIA

REF DWG(S):

DRAWING NO.: H02-D-41-0022-R00



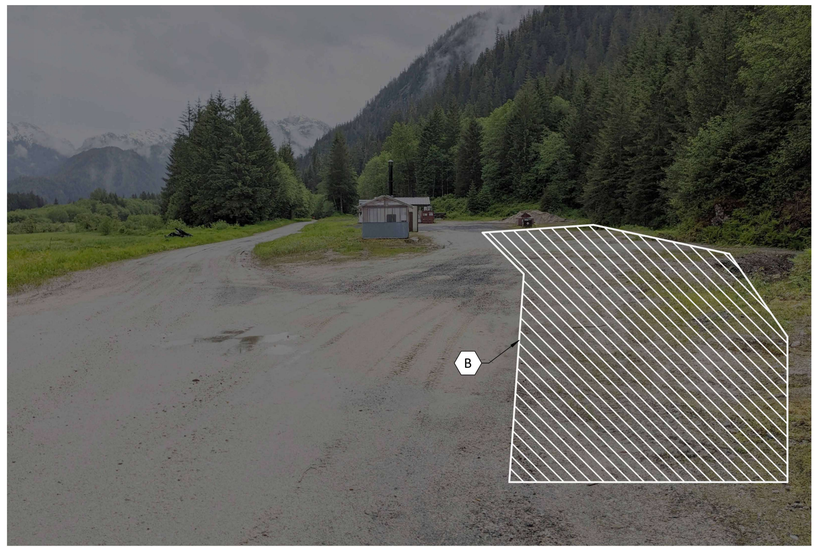
TYEE LAKE HYDROELECTRIC PROJECT AERIAL VIEW

SCALE: NTS



PHOTOGRAPH OF STAGING AREA A

SCALE: NTS



PHOTOGRAPH OF STAGING AREA B

SCALE: NTS

KEY NOTES:

A. POTENTIAL CONTRACTOR STAGING OR STOCKPILE AREA. DO NOT IMPEDE SEAPA PERSONNEL ACCESS TO BOAT DOCK OR EXISTING BUILDINGS.

B. POTENTIAL CONTRACTOR STAGING OR STOCKPILE AREA. DO NOT IMPEDE SEAPA PERSONNEL TO EXISTING BUILDINGS.

C. POTENTIAL CONTRACTOR STAGING OR STOCKPILE AREA. SITE PREPARATION MAY BE REQUIRED. COORDINATE WITH SEAPA FOR SITE PREPARATION REQUIREMENTS IF THIS SITE IS TO BE USED.

D. AREA AVAILABLE FOR CONTRACTOR USE.

E. CONTRACTOR TEMPORARY HOUSING AREA (WATER AND SEPTIC AVAILABLE).

STATE OF ALASKA 49 TH — Jay Dobes — Date 5-18-2026 — No. ME-242634 — REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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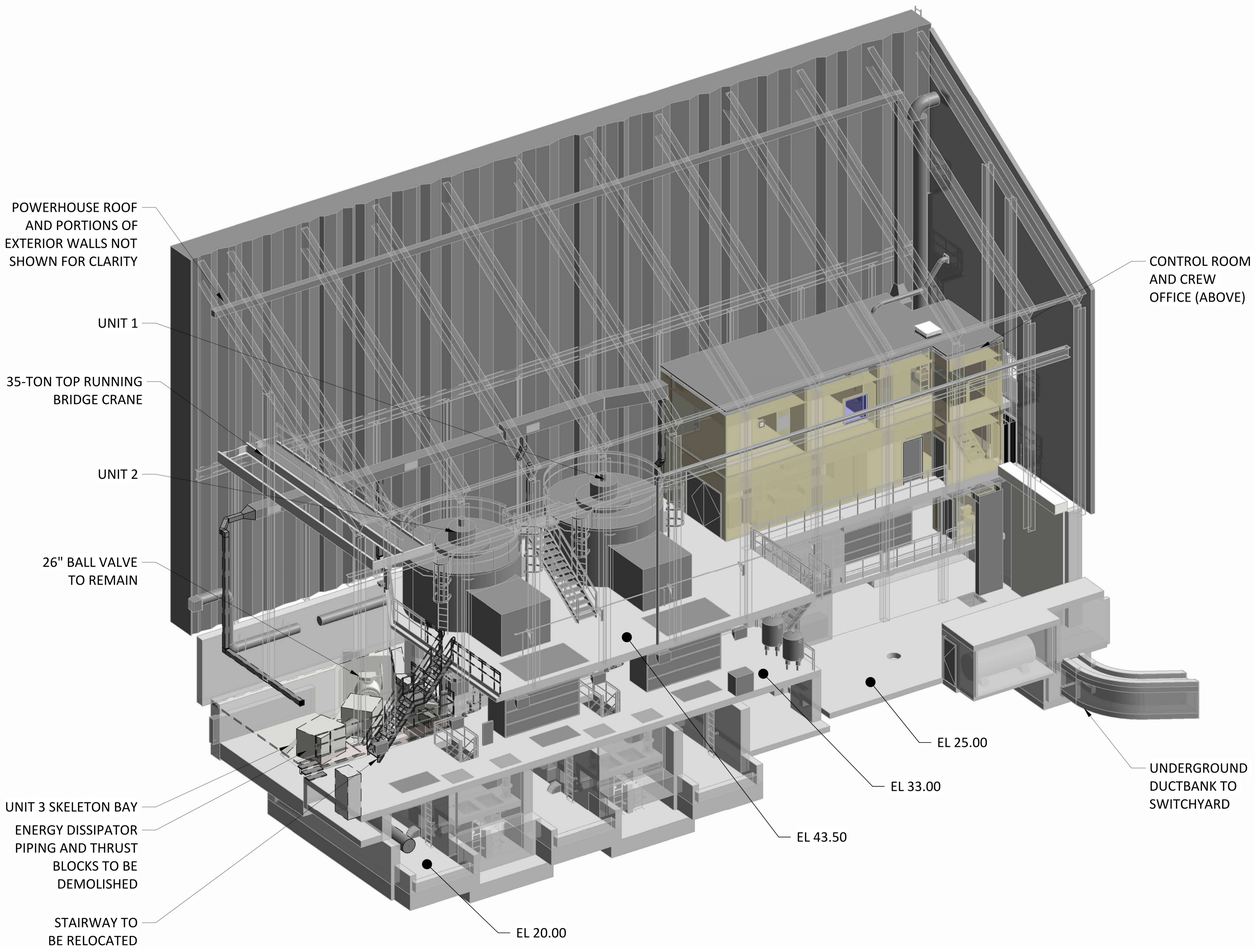
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
CONTRACTOR STAGING AND STOCKPILE AREAS

REF DWG(S):

DRAWING NO: H02-D-41-0023-R00 SHEET 10 OF 144

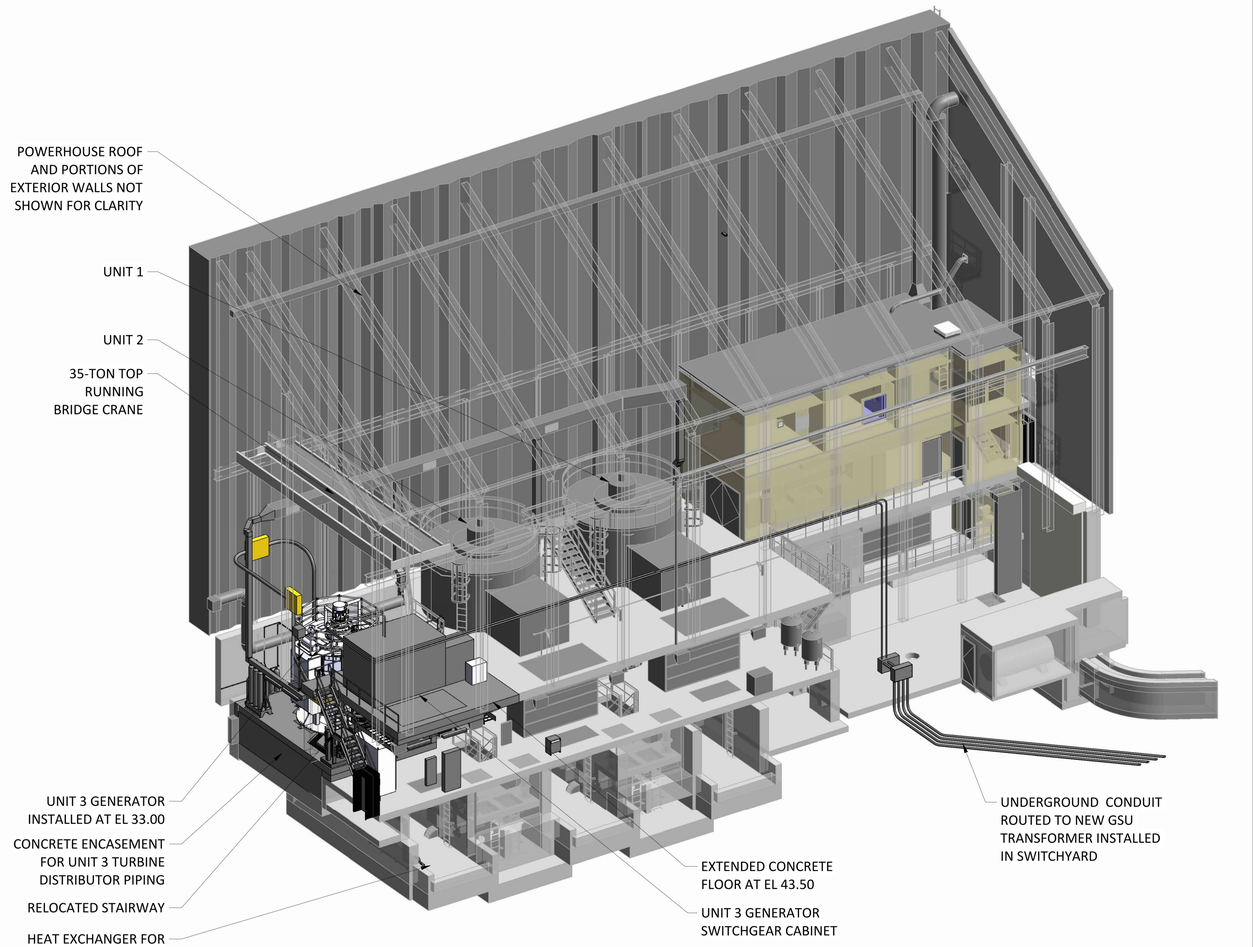
SHEET NOTES:

1. INTENT OF THIS PROJECT IS TO INSTALL A NEW HYDROELECTRIC GENERATING UNIT IN THE EXISTING UNIT 3 SKELETON BAY.
2. DATUM: MEAN LOWER LOW WATER FOR NOAA STATION 9451012, BRADFIELD CANAL, AK=0.00FT. PROJECT BENCHMARK IS THE POWERHOUSE SERVICE FLOOR LEVEL (ERECTION AREA) ACCEPTED ELEVATION=25.00FT.
3. NOT ALL NEW COMPONENTS OF UNIT 3 TO BE INSTALLED BY THE CONTRACTOR ARE SHOWN.



EXISTING POWERHOUSE ISOMETRIC VIEW

SCALE: NTS



POWERHOUSE ISOMETRIC VIEW THIRD UNIT INSTALLED

SCALE: NTS

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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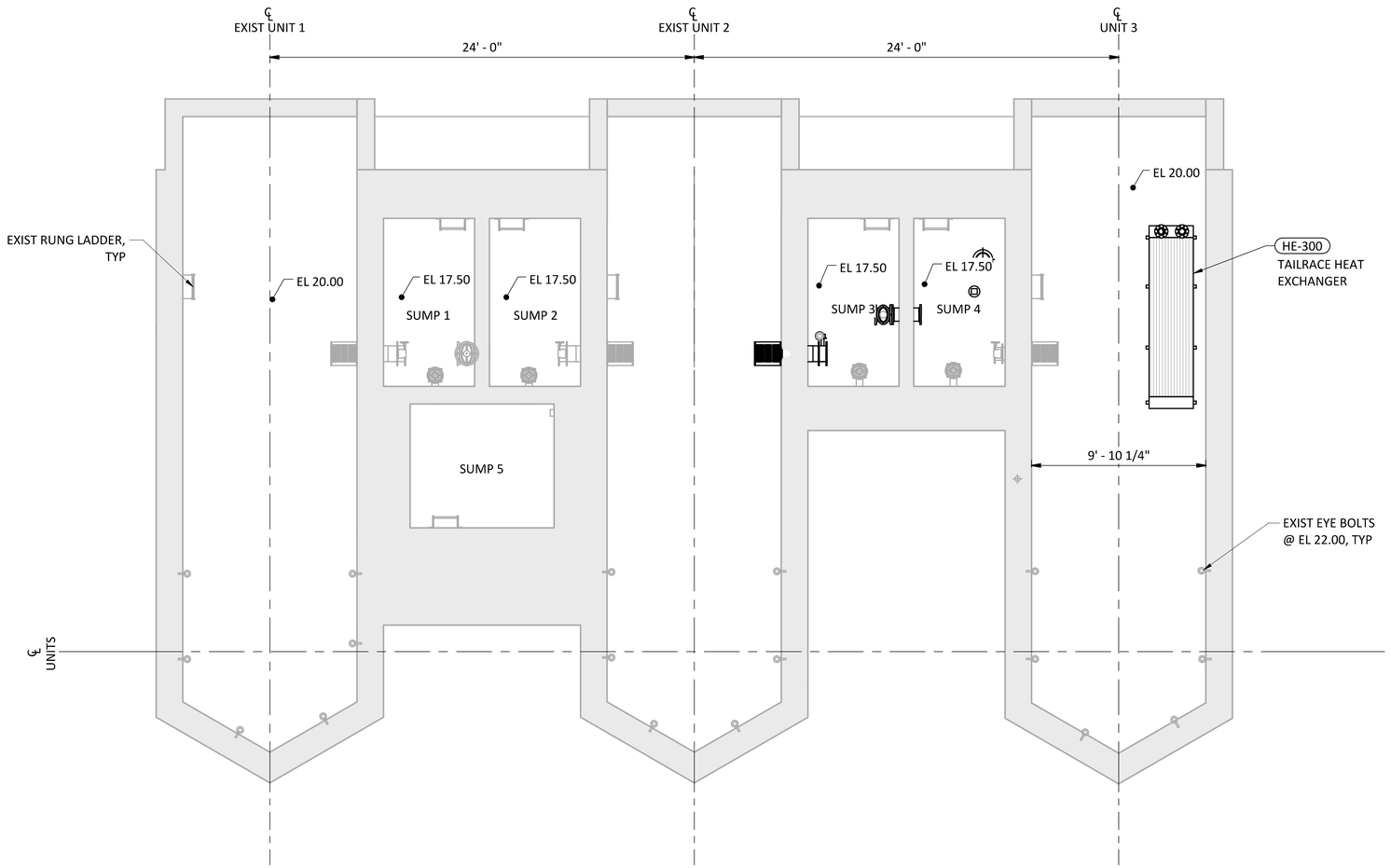
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERAL ARRANGEMENT PLAN ISOMETRIC VIEWS

REF DWG(S):

DRAWING NO: H02-D-41-0024-R00

SHEET NOTES:

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2. DATUM: MEAN LOWER LOW WATER FOR NOAA STATION 9451012, BRADFIELD CANAL, AK=0.00FT. PROJECT BENCHMARK IS THE POWERHOUSE SERVICE FLOOR LEVEL (ERECTION AREA) ACCEPTED ELEVATION=25.00FT.
3. NOT ALL NEW COMPONENTS OF UNIT 3 TO BE INSTALLED BY THE CONTRACTOR ARE SHOWN.



1 / 45-0102 GENERAL ARRANGEMENT PLAN TAILRACE FLOOR EL 20.00

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

0 4' 8'

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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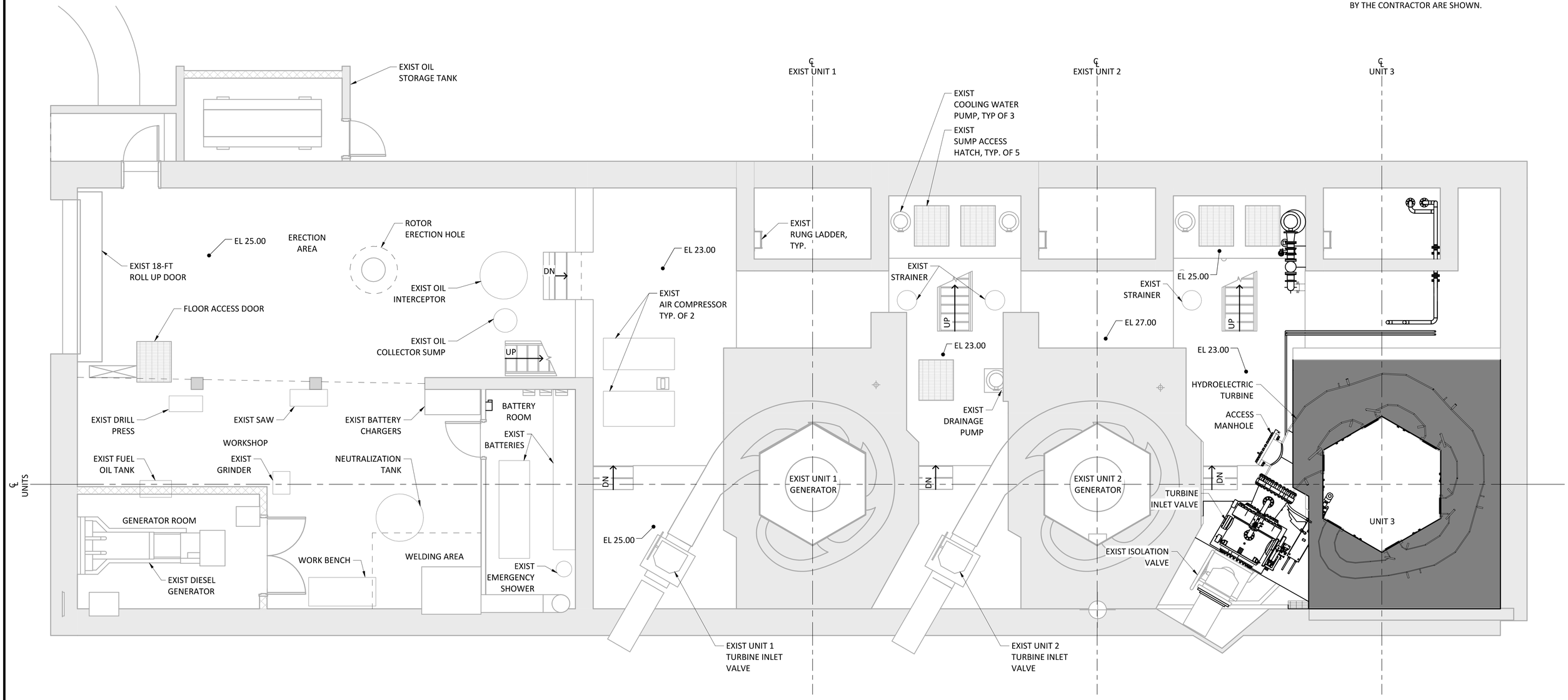
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERAL ARRANGEMENT PLAN TAILRACE FLOOR EL 20.00

REF DWG(S):

DRAWING NO: H02-D-41-0025-R00

SHEET NOTES:

1. INTENT OF THIS PROJECT IS TO INSTALL A NEW HYDROELECTRIC GENERATING UNIT IN THE EXISTING UNIT 3 SKELETON BAY.
2. DATUM: MEAN LOWER LOW WATER FOR NOAA STATION 9451012, BRADFIELD CANAL, AK=0.00FT. PROJECT BENCHMARK IS THE POWERHOUSE SERVICE FLOOR LEVEL (ERECTION AREA) ACCEPTED ELEVATION=25.00FT.
3. NOT ALL NEW COMPONENTS OF UNIT 3 TO BE INSTALLED BY THE CONTRACTOR ARE SHOWN.



1 / 45-0102 GENERAL ARRANGEMENT PLAN TURBINE CL EL 29.00

SCALE: 1/4" = 1'-0" 0 4' 8'

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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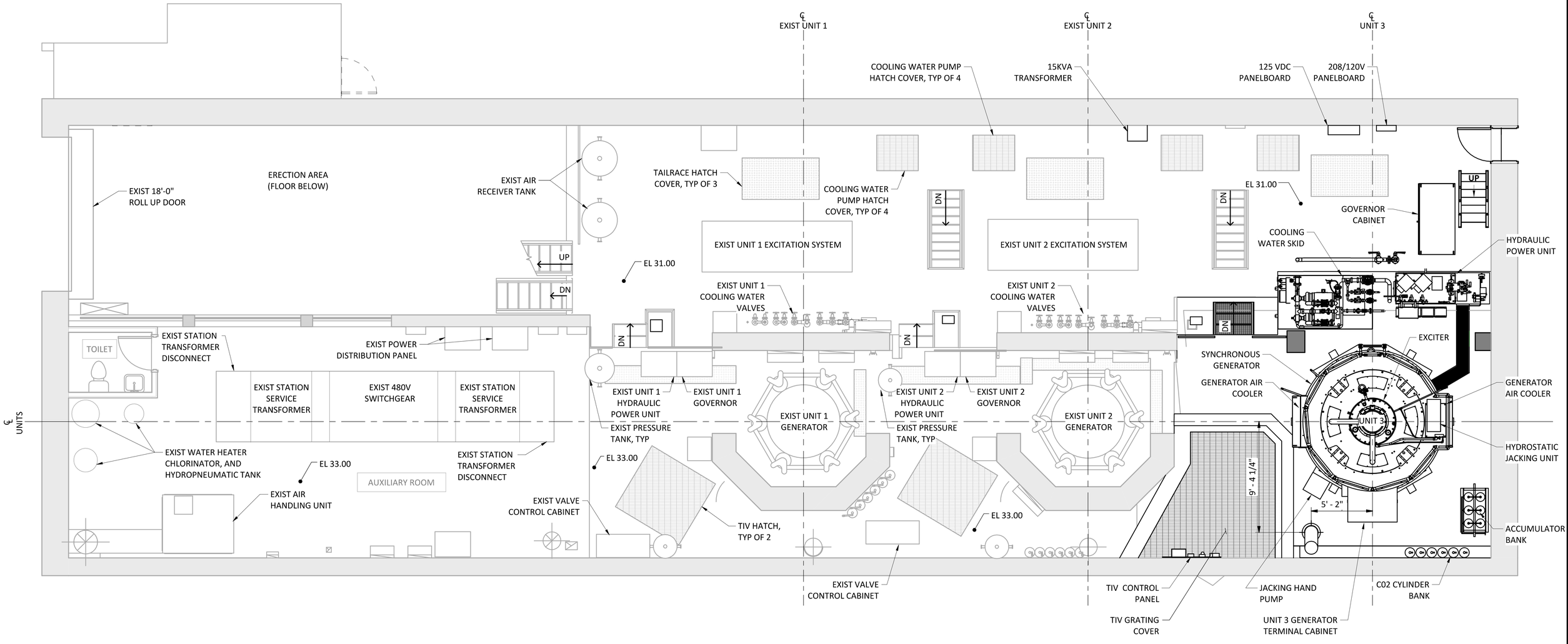
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERAL ARRANGEMENT PLAN TURBINE CL EL 29.00

REF DWG(S):

DRAWING NO: H02-D-41-0026-R00

SHEET NOTES:

1. INTENT OF THIS PROJECT IS TO INSTALL A NEW HYDROELECTRIC GENERATING UNIT IN THE EXISTING UNIT 3 SKELETON BAY.
2. DATUM: MEAN LOWER LOW WATER FOR NOAA STATION 9451012, BRADFIELD CANAL, AK=0.00FT. PROJECT BENCHMARK IS THE POWERHOUSE SERVICE FLOOR LEVEL (ERECTION AREA) ACCEPTED ELEVATION=25.00FT.
3. NOT ALL NEW COMPONENTS OF UNIT 3 TO BE INSTALLED BY THE CONTRACTOR ARE SHOWN.



1 GENERAL ARRANGEMENT PLAN MACHINE FLOOR EL 33.00
45-0102 SCALE: 1/4" = 1'-0"

0 4' 8'

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

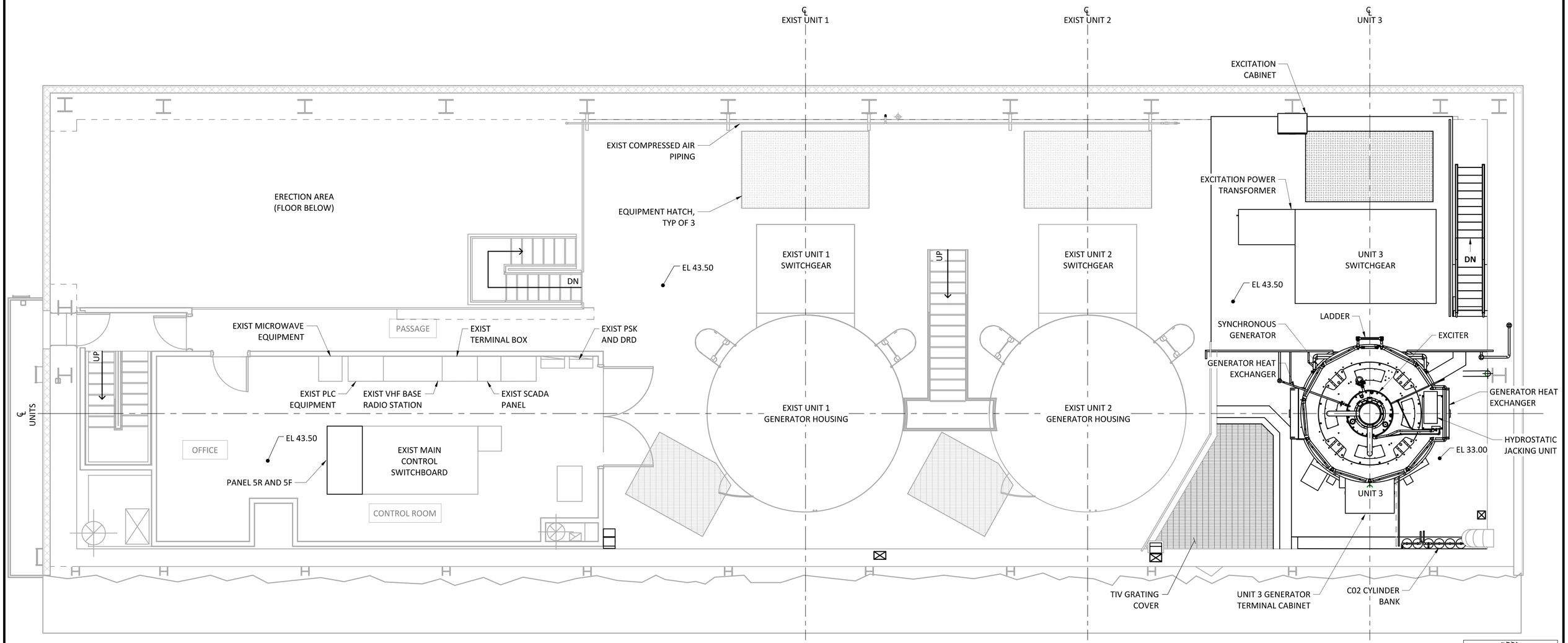
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERAL ARRANGEMENT PLAN MACHINE FLOOR EL 33.00

REF DWG(S):

DRAWING NO: H02-D-41-0027-R00

SHEET NOTES:

1. INTENT OF THIS PROJECT IS TO INSTALL A NEW HYDROELECTRIC GENERATING UNIT IN THE EXISTING UNIT 3 SKELETON BAY.
2. DATUM: MEAN LOWER LOW WATER FOR NOAA STATION 9451012, BRADFIELD CANAL, AK=0.00FT. PROJECT BENCHMARK IS THE POWERHOUSE SERVICE FLOOR LEVEL (ERECTION AREA) ACCEPTED ELEVATION=25.00FT.
3. NOT ALL NEW COMPONENTS OF UNIT 3 TO BE INSTALLED BY THE CONTRACTOR ARE SHOWN.



1 / 45-0102 GENERAL ARRANGEMENT PLAN GENERATOR FLOOR EL 43.50

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

0 4' 8'

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242834
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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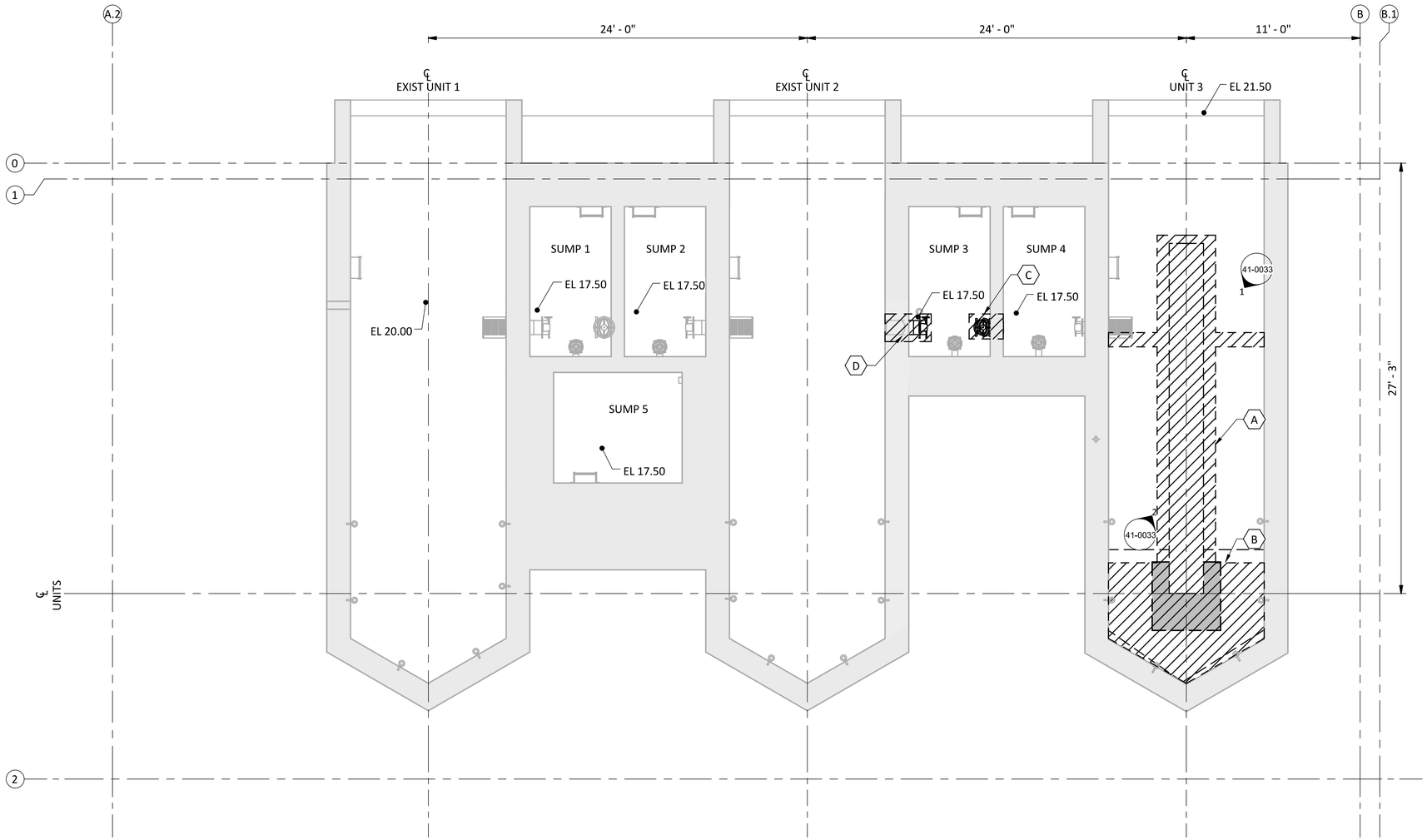
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Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERAL ARRANGEMENT PLAN GENERATOR FLOOR EL 43.50

REF DWG(S):

DRAWING NO: H02-D-41-0028-R00



DEMOLITION PLAN TAILRACE FLOOR EL 20.00

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

0 4' 8'

SHEET KEY NOTES:

A. DEMOLISH AND DISPOSE OF EXISTING VALVE TEST OUTLET PIPING, INCLUDING FLOOR AND WALL BRACKETS. REMOVE EXISTING SUPPORT ANCHORS TO MINIMUM 3/4 INCH DEPTH AND REPAIR WITH THE SAME MATERIAL SPECIFIED FOR SLAB.

B. REMOVE THRUST BLOCK AND SLAB CONCRETE TO 3/4-INCH BELOW FINISH FLOOR IN AREAS WHICH WILL REMAIN EXPOSED AFTER CONSTRUCTION. LEAVE SURFACE WITH MINIMUM 1/4-INCH AMPLITUDE FOR REPAIR MATERIAL

C. DEMOLISH EXISTING 4" COOLING WATER SUMP INTERCONNECT PIPE AND GATE VALVE. REMOVE CONCRETE AS REQUIRED TO EXPOSE AND REMOVE EXISTING PIPE PENETRATION. CORE DRILL 12" DIAMETER OPENING THROUGH EXISTING CONCRETE WALL FOR NEW 8" TRANSFER PIPING PENETRATION. PRESERVE AND PROTECT EXISTING VALVE EXTENSION STEM AND STEM GUIDE BRACKET.

D. DEMOLISH EXISTING 8" COOLING WATER SUMP INTAKE PIPE, BUTTERFLY VALVE, AND ASSOCIATED FITTINGS. SAW-CUT AND REMOVE CONCRETE AS REQUIRED TO EXPOSE AND REMOVE EXISTING PIPE. PRESERVE AND PROTECT EXISTING INTAKE SCREEN. SEE STANDARD DETAIL S900

SHEET NOTES:

1. VERIFY EXTENTS OF DEMOLITION IN THE FIELD. OBTAIN OWNER CONCURRENCE PRIOR TO PROCEEDING WITH DEMOLITION.
2. REFER TO SPECIFICATION 02 41 00 FOR DEMOLITION REQUIREMENTS.

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
DEMOLITION PLAN TAILRACE FLOOR EL 20.00

REF DWG(S):

DRAWING NO: H02-D-41-0029-R00

SHEET NOTES:

1. VERIFY EXTENTS OF DEMOLITION IN THE FIELD. OBTAIN OWNER CONCURRENCE PRIOR TO PROCEEDING WITH DEMOLITION.
2. REFER TO SPECIFICATION 02 41 00 FOR DEMOLITION REQUIREMENTS.

SHEET KEY NOTES:

A. REMOVE CONCRETE TO 3/4" BELOW FINISHED FLOOR IN AREAS WHICH WILL REMAIN EXPOSED. AFTER DEMOLITION LEAVE SURFACE WITH MINIMUM 1/4" AMPLITUDE FOR REPAIR MATERIAL.

B. PRESERVE AND PROTECT EXISTING 26" BALL VALVE.

C. BEYOND EXTENTS OF NEW CONCRETE SLAB CUT ALL EXISTING DOWELS OFF AT FACE OF CONCRETE.

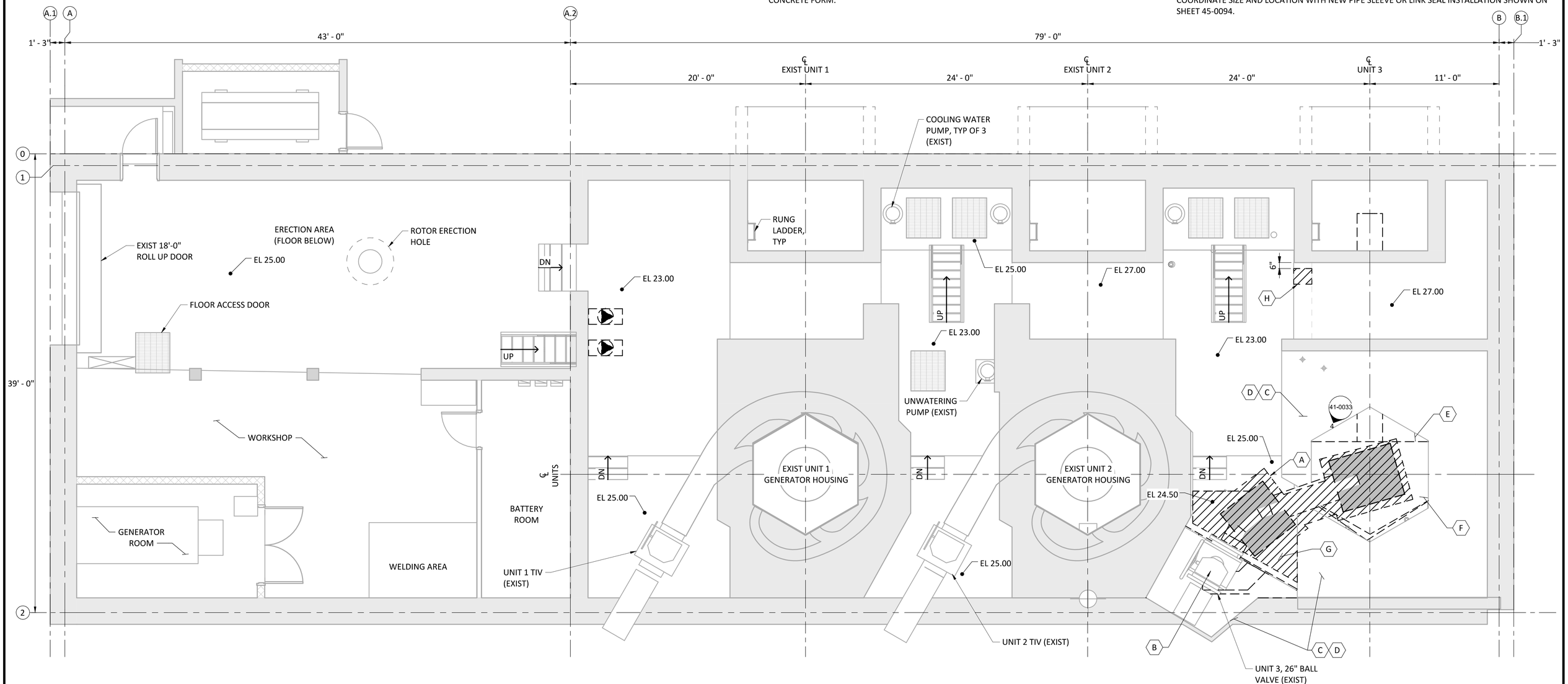
D. ALL EXISTING REINFORCING AND EXISTING CONCRETE TO BE INCORPORATED INTO NEW CONCRETE CONSTRUCTION SHALL BE WIRE BRUSHED OR LIGHT SAND BLASTED TO REMOVE LOOSE MATERIAL OR OTHER CONTAMINANTS PRIOR TO PLACEMENT OF NEW CONCRETE.

E. REMOVE EXISTING WOOD INFILL AT PENETRATION TO TAILRACE. PRESERVE REINFORCING PENETRATING WOOD PLATFORM.

F. REMOVE CONCRETE SLAB AT TAILRACE. PRESERVE REINFORCING PENETRATING THROUGH CONCRETE FORM.

G. NEW TIV INSTALLATION REQUIRES CONCRETE REMOVAL OF EXISTING CONCRETE TO ELEVATION 24.50 OVER AREA SHOWN FOR NEW TIV INSTALLATION. REMOVE ADDITIONAL CONCRETE TO ELEVATION 23.00 TO PROVIDE BLOCKOUT FOR NEW TIV ANCHORS AS INDICATED. ELEVATION 23.00 DEMOLITION AREA SHALL BE MINIMUM 5'-0" PERPENDICULAR TO TIV AND 4'-4" PARALLEL TO THE TIV. DEMOLITION AREA TO EL 23.00 SHALL NOT DISTURB EXISTING #8@12 REINFORCING AT APPROXIMATELY EL 23.50.

H. CORE DRILL FOR NEW 10" LINE FOR NEW COOLING WATER PUMP DISCHARGE PIPE PENETRATION. COORDINATE SIZE AND LOCATION WITH NEW PIPE SLEEVE OR LINK SEAL INSTALLATION SHOWN ON SHEET 45-0094.



DEMOLITION PLAN TURBINE CL EL 29.00

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

0 4' 8'

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
DEMOLITION PLAN TURBINE CL EL 29.00

REF DWG(S):

DRAWING NO: H02-D-41-0030-R00

SHEET NOTES:

1. VERIFY EXTENTS OF DEMOLITION IN THE FIELD. OBTAIN OWNER CONCURRENCE PRIOR TO PROCEEDING WITH DEMOLITION.
2. REFER TO SPECIFICATION 02 41 00 FOR DEMOLITION REQUIREMENTS.

SHEET KEY NOTES:

A. DISASSEMBLE STAIRCASE AND RAILING FOR RELOCATION TO NORTHEAST CORNER OF POWERHOUSE.

B. REMOVE EXISITNG WOOD AND STEEL PLATFORM. ITEMS INCLUDE BUT NOT LIMITED TO ALL STEEL BEAMS, LEDGER ANGLES, STAIRS AND WOOD FLOOR. ANCHORS THAT WILL REMAIN EXPOSED SHALL BE CUT FLUSH WITH THE FACE OF CONCRETE.

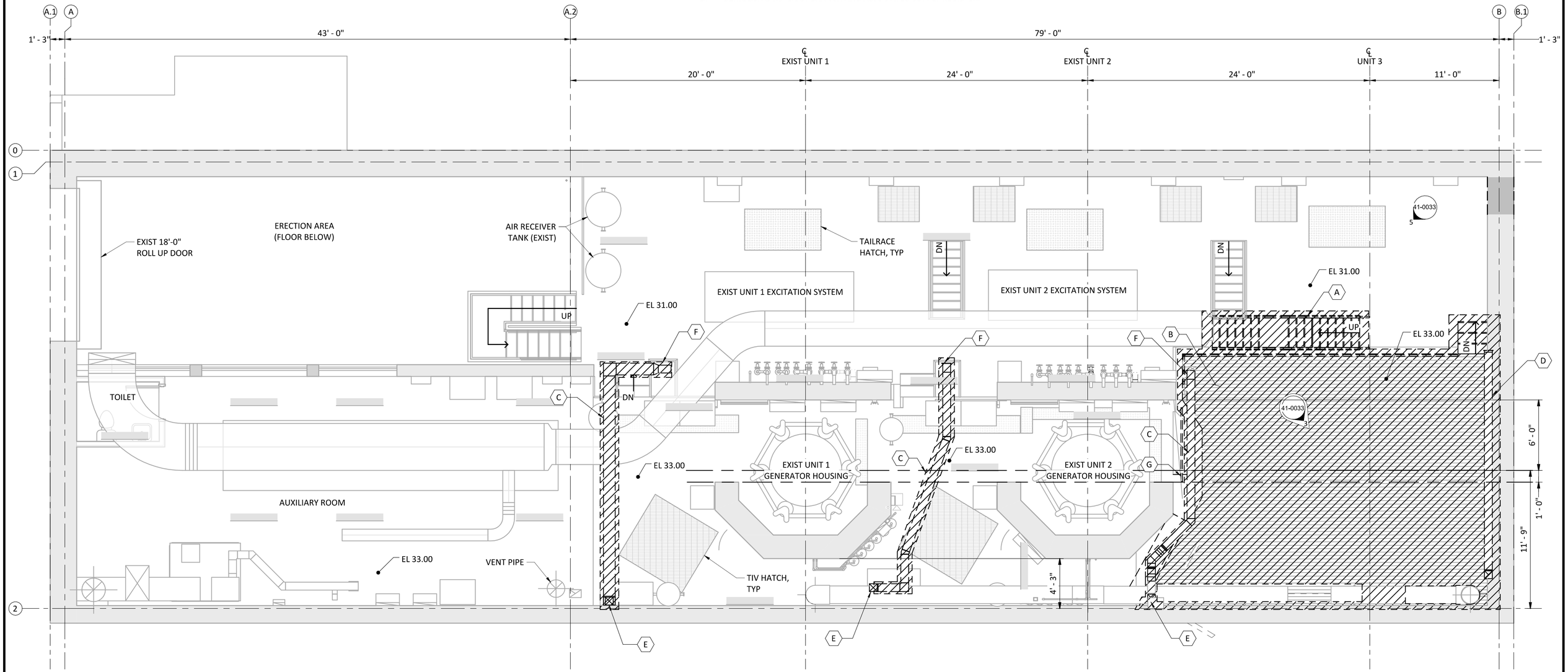
C. DEMOLISH 8"X8" DUCT BRANCH AND ASSOCIATED SUPPLY REGISTERS.

D. DEMOLISH 8"x6" DUCT BRANCH AND ASSOCIATED SUPPLY REGISTER.

E. DUCT ELBOW UP. DEMOLISH TRANSITION FITTING AND 12"x6" DUCTED FLOOR PENETRATION ABOVE. PREPARE OPENING FOR NEW DUCTWORK.

F. DUCT ELBOW DOWN. DEMOLISH SUPPLY REGISTER AND TRANSITION FITTING. PROTECT EXISTING 7"x4" VERTICAL DUCT AND PREPARE FOR CONNECTION TO NEW DUCTWORK.

G. REMOVE RAILING AT UNIT 2 FOR INSTALLATION OF NEW EL 33.00 CONCRETE SLAB.



DEMOLITION PLAN MACHINE FLOOR EL 33.00

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

0 4' 8'

STATE OF ALASKA 49 TH
Jay Dallas
Date: 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
DEMOLITION PLAN MACHINE FLOOR EL 33.00

REF DWG(S):

DRAWING NO: H02-D-41-0031-R00 SHEET 18 OF 144

SHEET NOTES:

1. VERIFY EXTENTS OF DEMOLITION IN THE FIELD. OBTAIN OWNER CONCURRENCE PRIOR TO PROCEEDING WITH DEMOLITION.
2. REFER TO SPECIFICATION 02 41 00 FOR DEMOLITION REQUIREMENTS.

SHEET KEY NOTES

A. DISASSEMBLE STAIRCASE FOR RELOCATION TO NORTHEAST CORNER OF POWERHOUSE.

B. REMOVE AND SAVE RAILING FOR RE-USE IN NEW CONSTRUCTION. TERMINATE RAILING DEMOLITION AT FIRST POST PAST THE POINT SHOWN.

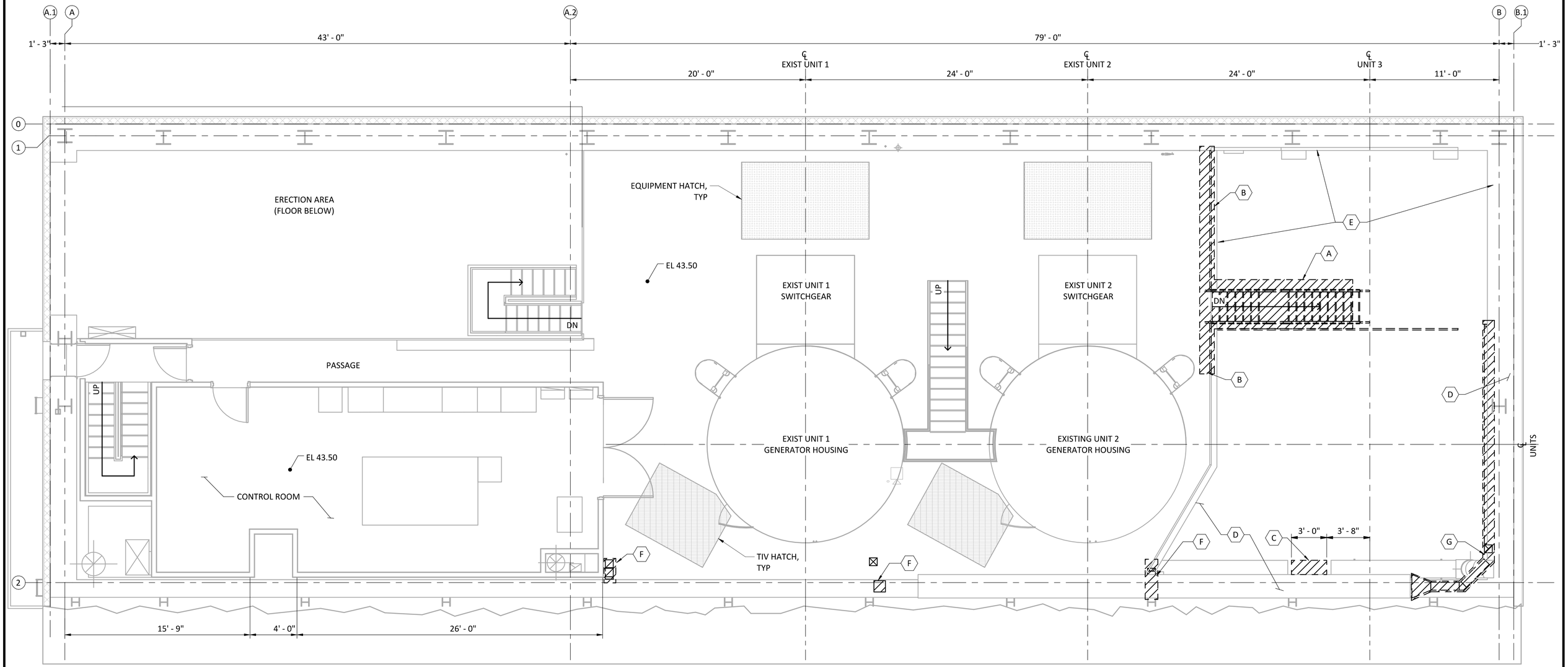
C. DEMOLISH AND DISPOSE OF 36" SEGMENT OF TURBINE VENT PIPING.

D. BEYOND EXTENTS OF NEW CONCRETE SLAB CUT ALL EXISTING DOWELS OFF AT FACE OF CONCRETE . AT GRIDLINE B, REMOVE ALL BARS EXCEPT THOSE AT THE NEW TOP STAIR LANDING.

E. ALL EXISTING REINFORCING AND EXISTING CONCRETE TO BE INCORPORATED INTO NEW CONCRETE CONSTRUCTION SHALL BE WIRE BRUSHED OR LIGHT SAND BLASTED TO REMOVE LOOSE MATERIAL OR OTHER CONTAMINANTS.

F. DEMOLISH 8"x8" VERTICAL DUCT BRANCH AND TRANSITION FITTING BELOW.

G. DEMOLISH TRANSITION FITTING AND 6"x8" DUCT BRANCH.



DEMOLITION PLAN GENERATOR FLOOR EL 43.50

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

0 4' 8'

STATE OF ALASKA
49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen, Inc.		JOB # T.O. No. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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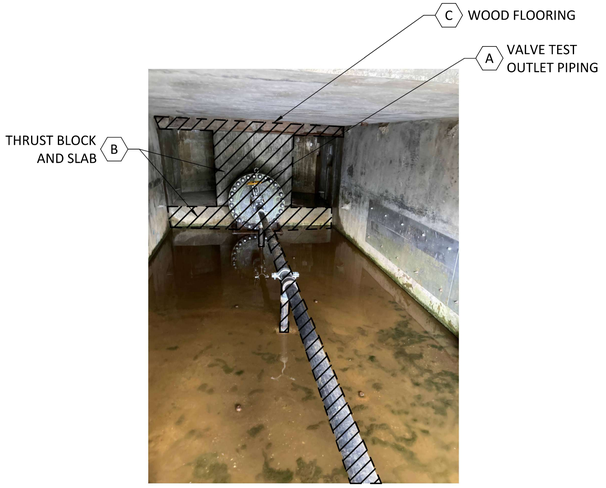
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
DEMOLITION PLAN GENERATOR FLOOR EL 43.50

REF DWG(S):

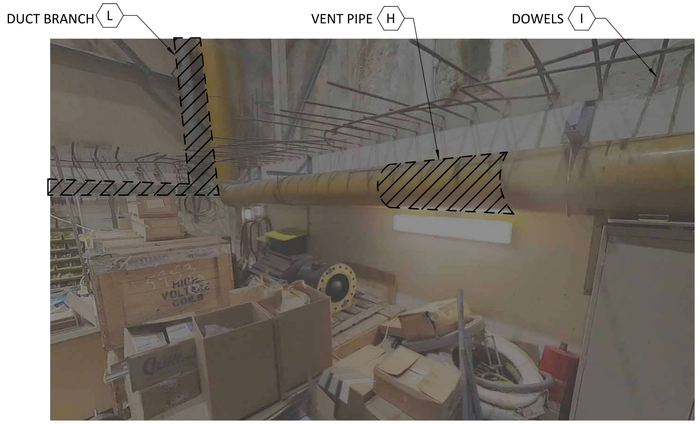
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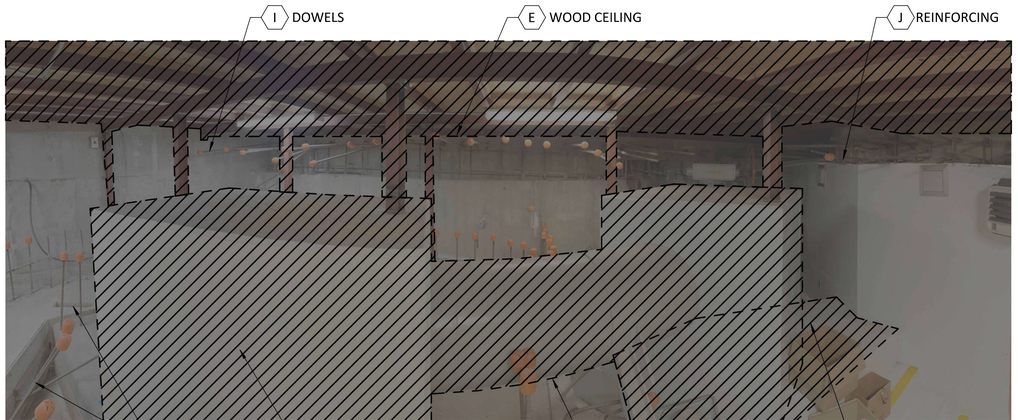
1 41-0029 PHOTO 1
SCALE: NTS



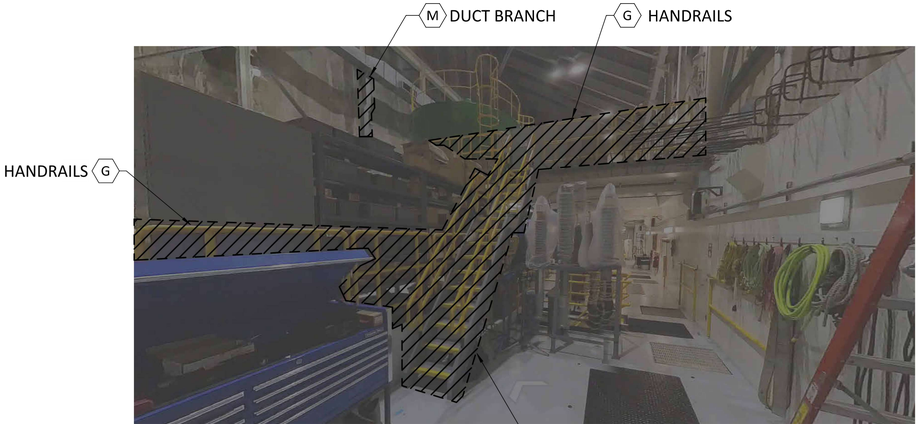
2 41-0029 PHOTO 2
SCALE: NTS



3 41-0031 PHOTO 3
SCALE: NTS



4 41-0030 PHOTO 4
SCALE: NTS



5 41-0031 PHOTO 5
SCALE: NTS

SHEET KEY NOTES:

A. DEMOLISH AND DISPOSE OF EXISTING VALVE TEST OUTLET PIPING, INCLUDING FLOOR AND WALL BRACKETS. ALL ANCHORS TO BE REMOVED TO MINIMUM 3/4 INCH BELOW CONCRETE SURFACE AND PATCHED AS SPECIFIED.

B. DEMOLISH AND DISPOSE OF CONCRETE THRUST BLOCK AND SLAB TO MINIMUM 3/4 INCH BELOW FINISHED CONCRETE SURFACE.

C. DEMOLISH AND DISPOSE OF EXISTING WOOD FLOORING AND FORMWORK SEPARATING THE TAILRACE CHANNEL FROM THE TURBINE FLOOR.

D. DEMOLISH AND DISPOSE OF CONCRETE THRUST BLOCKS.

E. DEMOLISH AND DISPOSE OF EXISTING WOOD CEILING AND STEEL COLUMNS SEPARATING THE TURBINE FLOOR FROM THE MACHINE FLOOR.

F. DISASSEMBLE STAIRCASE FOR RELOCATION TO NORTHEAST CORNER OF POWERHOUSE.

G. DEMOLISH AND SALVAGE HANDRAILS FOR RE-USE.

H. DEMOLISH AND DISPOSE OF 36" SEGMENT OF TURBINE VENT PIPING.

I. BEYOND EXTENTS OF NEW CONCRETE SLAB CUT ALL EXISTING DOWELS OFF AT FACE OF CONCRETE. AT GRID B BARS FOR NEW BEAM AND STAIR LANDING TO REMAIN.

J. ALL EXISTING REINFORCING AND EXISTING CONCRETE TO BE INCORPORATED INTO NEW CONCRETE CONSTRUCTION SHALL BE SAND BLASTED AND CLEANED OR HYDRO BLASTED TO REMOVE LOOSE MATERIAL AND CONTAMINANTS. EXPOSED CONCRETE SURFACE SHALL HAVE 1/4-INCH AMPLITUDE FOR BONDING WITH NEW CONCRETE.

K. EXISTING REINFORCING ENCASED IN CONCRETE OR DOWELED INTO CONCRETE AND INCORPORATED INTO NEW CONCRETE SHALL BE PRESERVED DURING THE DEMOLITION PROCESS.

L. DEMOLISH 8"x6" DUCT BRANCH AND ASSOCIATED SUPPLY REGISTER.

M. DEMOLISH 8"x8" VERTICAL DUCT BRANCH AND TRANSITION FITTING BELOW.

N. NEW TIV INSTALLATION REQUIRES CONCRETE REMOVAL OF EXISTING CONCRETE TO ELEVATION 24.50 OVER AREA SHOWN FOR NEW TIV INSTALLATION. REMOVE ADDITIONAL CONCRETE TO ELEVATION 23.50 TO PROVIDE BLOCKOUT FOR NEW TIV ANCHORS AS INDICATED. ELEVATION 23.50 DEMOLITION AREA SHALL BE MINIMUM 5'-0" PERPENDICULAR TO TIV AND 4'-4" PARALLEL TO THE TIV.

SHEET NOTES:

1. VERIFY EXTENTS OF DEMOLITION IN THE FIELD. OBTAIN OWNER CONCURRENCE PRIOR TO PROCEEDING WITH DEMOLITION

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
DEMOLITION PHOTOS

REF DWG(S):

DRAWING NO: H02-D-41-0033-R00 SHEET 20 OF 144

LIFE SAFETY REQUIREMENTS SUMMARY

BUILDING CODE

1. EXISTING BUILDINGS MUST COMPLY WITH ALASKA EXISTING BUILDING CODE 2021, AMENDED INTERNATIONAL EXISTING BUILDING CODE (IEBC). WORK PERFORMED UNDER THIS PROJECT CLASSIFIED AS AN ADDITION IS A LEVEL 2 ALTERATION UNDER THE IEBC. THE EXISTING POWERHOUSE WAS ACCEPTED AT THE TIME OF CONSTRUCTION. THIS ANALYSIS ASSUMES ANY MODIFICATIONS MADE SINCE THEN HAVE BEEN IN COMPLIANCE WITH THE APPLICABLE CODES AT THE TIME THE MODIFICATION TOOK PLACE. THIS ANALYSIS COVERS APPLICABLE SCOPE FOR NEWLY INSTALLED WORK COVERED BY THE CONTRACT DRAWINGS IN ACCORDANCE WITH CURRENT APPLICABLE CODES AND STANDARDS LISTED.

2. PER IEBC §801.4, NEW CONSTRUCTION ELEMENTS, COMPONENTS, SYSTEMS, AND SPACES MUST COMPLY WITH THE REQUIREMENTS OF THE BUILDING CODE.

3. APPLICABLE BUILDING CODE FOR PROJECT: ALASKA BUILDING CODE 2021, AMENDED 2021 INTERNATIONAL BUILDING CODE (IBC).

4. OCCUPANCY CLASSIFICATION: MODERATE-HAZARD FACTORY INDUSTRIAL, GROUP F-1 (IBC §306.2).

DEFINITIONS (IBC §202)

1. COMMON PATH OF EGRESS TRAVEL: THAT PORTION OF EXIT ACCESS TRAVEL DISTANCE MEASURED FROM THE MOST REMOTE POINT OF EACH ROOM, AREA OR SPACE TO THAT POINT WHERE THE OCCUPANTS HAVE SEPARATE AND DISTINCT ACCESS TO TWO EXITS OR EXIT ACCESS DOORWAYS.

2. EQUIPMENT PLATFORM: AN UNOCCUPIED, ELEVATED PLATFORM USED EXCLUSIVELY FOR MECHANICAL SYSTEMS OR INDUSTRIAL PROCESS EQUIPMENT, INCLUDING THE ASSOCIATED ELEVATED WALKWAYS, STAIRWAYS, ALTERNATING TREAD DEVICES AND LADDERS NECESSARY TO ACCESS THE PLATFORM.

3. OCCUPIABLE SPACE: A ROOM OR ENCLOSED SPACE DESIGNED FOR HUMAN OCCUPANCY IN WHICH INDIVIDUALS CONGREGATE FOR AMUSEMENT, EDUCATIONAL OR SIMILAR PURPOSES OR IN WHICH OCCUPANTS ARE ENGAGED AT LABOR, AND WHICH IS EQUIPPED WITH MEANS OF EGRESS AND LIGHT AND VENTILATION FACILITIES MEETING THE REQUIREMENTS OF THIS CODE.

MEANS OF EGRESS REQUIREMENTS

1. MAXIMUM ALLOWABLE COMMON PATH OF EGRESS TRAVEL: 75'-0" (IBC TABLE 1006.2.1: F-1, UNSPRINKLERED OL < 30).
2. MAXIMUM ALLOWABLE EXIT ACCESS TRAVEL DISTANCE: 200'-0" (IBC TABLE 1017.2: F-1, UNSPRINKLERED).
3. MAXIMUM ALLOWABLE NUMBER OF STORIES TRANSVERSED: 2 STORIES (IBC §1006.3.2).

START	END	COMMON PATH OF TRAVEL DISTANCE (ft)	TRAVEL DISTANCE (ft)	ELEVATION(S) TRANSVERSED
MAXIMUM ALLOWABLE				
N/A	N/A	75	200	2 STORIES
STARTING POINT 1 TRAVEL PATH				
S1	C1	16	16	EL. 23.00
C1	E2	3	30	EL. 31.00
S1	E2	19	46	TOTAL
STARTING POINT 2 TRAVEL PATH				
S2	C2	16	16	EL. 23.00
C2	E2	3	52	EL. 31.00
S2	E2	19	68	TOTAL
STARTING POINT 3 TRAVEL PATH				
S3	E1	23	62	EL. 23.00 & 25.00
STARTING POINT 4 TRAVEL PATH				
S4	E1	24	60	EL. 25.00
STARTING POINT 5 TRAVEL PATH				
S5	E2	51*	78*	EL. 33.00 & 31.00
STARTING POINT 6 TRAVEL PATH				
S6	E2	26	86	EL. 33.00 & 31.00
STARTING POINT 7 TRAVEL PATH				
S7	C3	58	92	EL. 33.00 & 31.00
C3	E1	0	42	EL. 25.00
S7	E1	58	134	TOTAL
STARTING POINT 8 TRAVEL PATH				
S8	E3	13	105	EL. 43.50
STARTING POINT 9 TRAVEL PATH				
S9	C4	0	60*	EL. 43.50
C4	E2	0	17*	EL. 31.00
S9	E2	0	77*	TOTAL
STARTING POINT 10 TRAVEL PATH				
S10	E3	0	32	EL. 43.50
STARTING POINT 11 TRAVEL PATH				
S11	E4	43	50	EL. 53.00
* INDICATES THAT DISTANCE WAS ALTERED BY BUILDING MODIFICATION				



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
LIFE SAFETY NOTES

REF DWG(S):

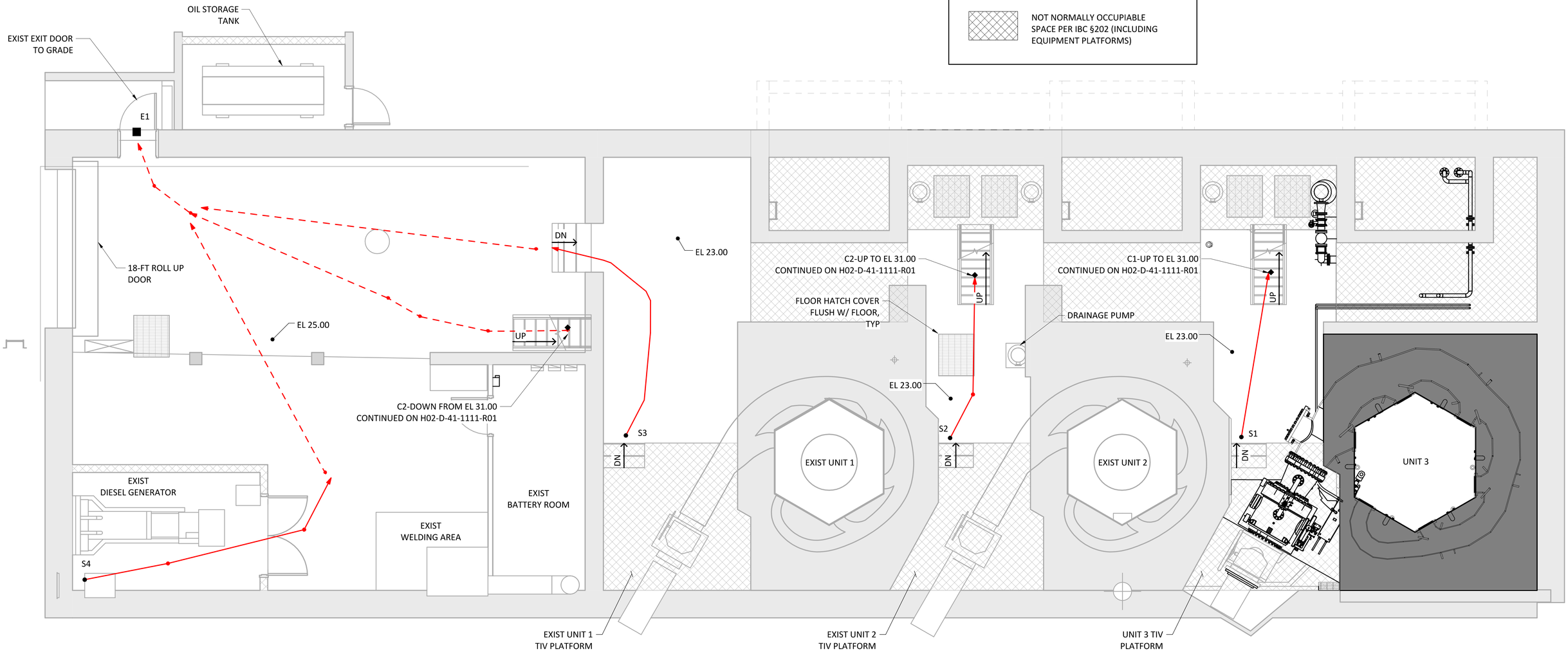
DRAWING NO: H02-D-41-1109-R00

LIFE SAFETY LEGEND

- STARTING TRAVEL PATH POINT (S)
- COMMON PATH OF TRAVEL
- PATH OF TRAVEL
- TRAVEL PATH CONTINUATION POINT (C)
- EXIT (E)
- NOT NORMALLY OCCUPIABLE SPACE PER IBC §202 (INCLUDING EQUIPMENT PLATFORMS)

SHEET NOTES:

1. SEE H02-D-41-1109-R00 FOR LIFE SAFETY REQUIREMENTS SUMMARY AND EGRESS PATH MEASUREMENTS.
2. PLAN INDICATES EGRESS ROUTING FOR NEW AND EXISTING SPACES. EGRESS ROUTING FROM EXISTING SPACES IS ASSUMED BASED ON FACILITY LAYOUT AND IS ASSUMED TO COMPLY WITH THE CODE OF RECORD AT THE TIME OF ORIGINAL CONSTRUCTION. EGRESS FROM NEW SPACES AND NEW OR MODIFIED EGRESS COMPONENTS (DOORS, STAIRS, ETC.) MUST COMPLY WITH CURRENT CODES AND STANDARDS APPLICABLE TO THE STATE OF ALASKA, UNLESS EXEMPTIONS HAVE BEEN APPROVED BY THE AHJ.
3. SPACES CONSIDERED NOT NORMALLY OCCUPIABLE ARE NOT REQUIRED TO MEET THE MEANS OF EGRESS REQUIREMENTS OF IBC CHAPTER 10.



LIFE SAFETY PLAN ERECTION AREA FLOOR EL 25.00

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

0 4' 8'

STATE OF ALASKA 49TH
CHRISTOPHER LEE CURTIS
No. FP-234201
18 May 2026
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

McMillen
1471 Shoreline Dr. Ste 100, Boise, ID 83702 | (208) 342-4214 | mcmillen.com

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Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
LIFE SAFETY PLAN ERECTION AREA FLOOR EL 25.00

REF DWG(S):

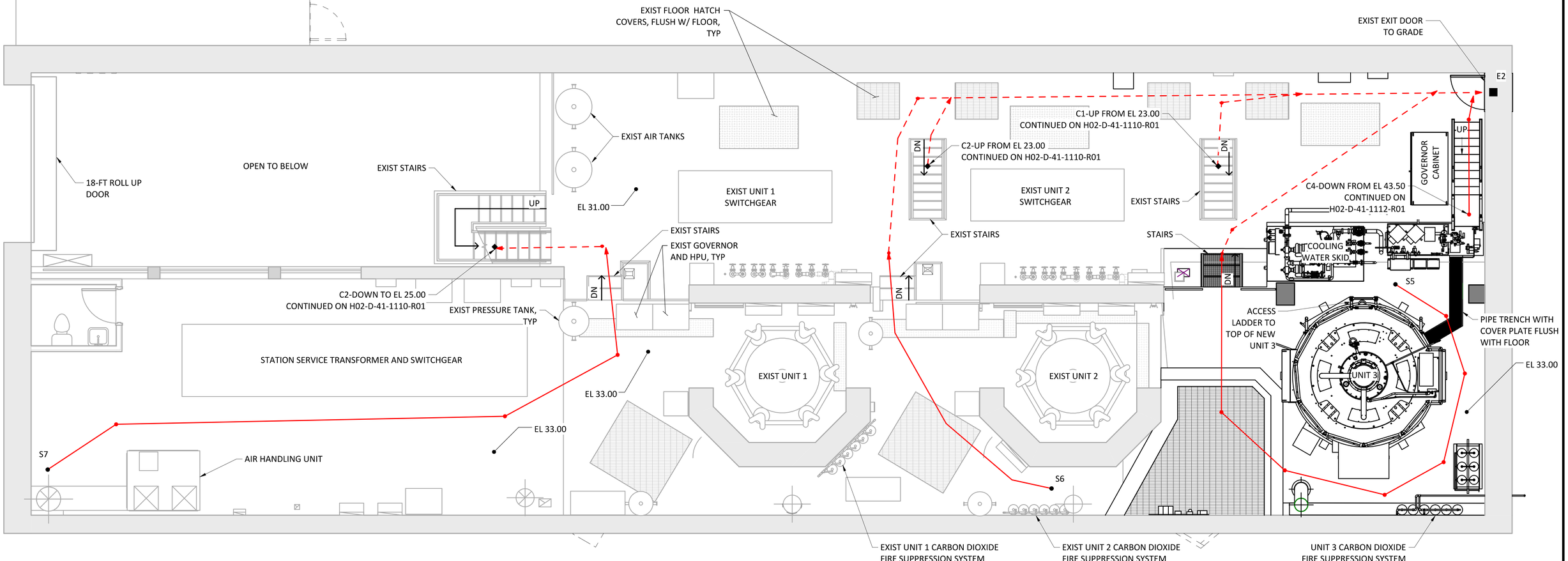
DRAWING NO: H02-D-41-1110-R00

LIFE SAFETY LEGEND

- STARTING TRAVEL PATH POINT (S)
- COMMON PATH OF TRAVEL
- PATH OF TRAVEL
- TRAVEL PATH CONTINUATION POINT (C)
- EXIT (E)
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SHEET NOTES:

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LIFE SAFETY PLAN MACHINE FLOOR EL 33.00

SCALE: 1/4" = 1'-0" 0 4' 8'

STATE OF ALASKA 49TH
CHRISTOPHER LEE CURTIS
No. FP-234201
19 May 2025
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
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DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
LIFE SAFETY PLAN MACHINE FLOOR EL 33.00

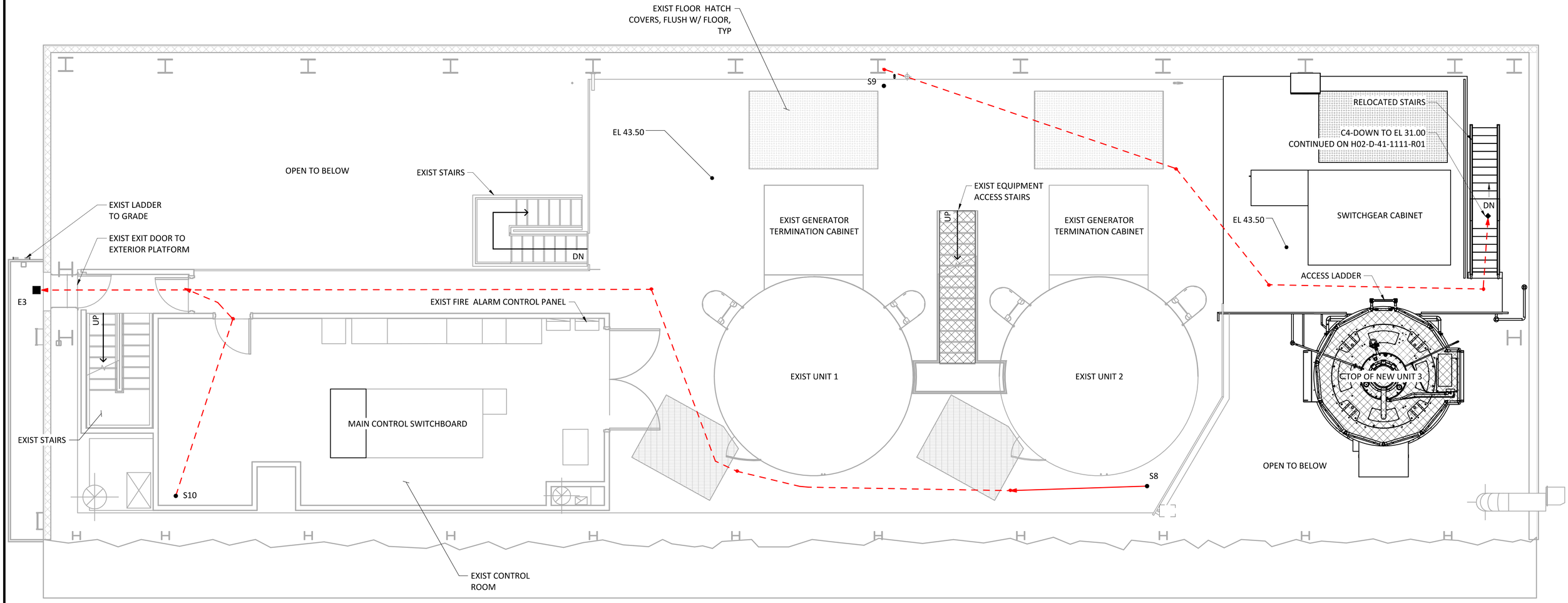
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DRAWING NO: H02-D-41-1111-R00 SHEET 23 OF 144

LIFE SAFETY LEGEND	
●	STARTING TRAVEL PATH POINT (S)
———	COMMON PATH OF TRAVEL
- - -	PATH OF TRAVEL
◆	TRAVEL PATH CONTINUATION POINT (C)
■	EXIT (E)
▨	NOT NORMALLY OCCUPIABLE SPACE PER IBC §202 (INCLUDING EQUIPMENT PLATFORMS)

SHEET NOTES:

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LIFE SAFETY PLAN GENERATOR FLOOR EL 43.50

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

0 4' 8'

STATE OF ALASKA 49TH
CHRISTOPHER LEE CURTIS
No. FP-234201
18 May 2026
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
LIFE SAFETY PLAN GENERATOR FLOOR EL 43.50

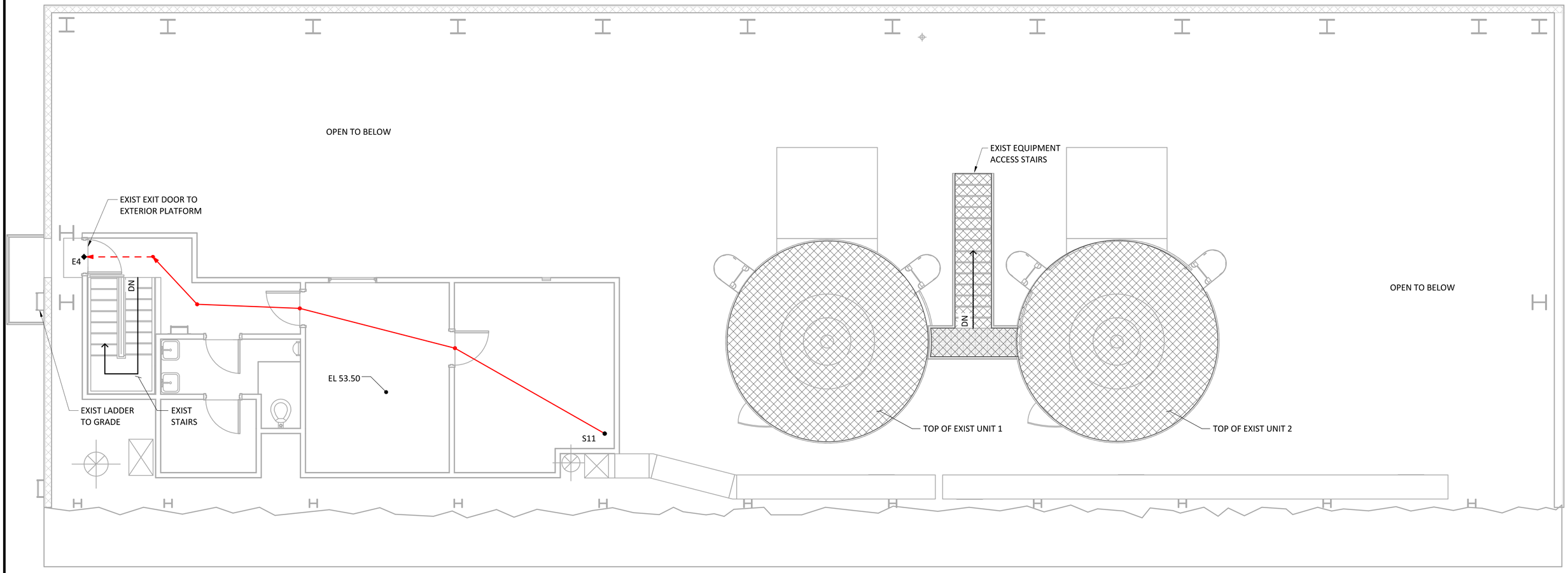
REF DWG(S):

DRAWING NO: H02-D-41-1112-R00

LIFE SAFETY LEGEND	
●	STARTING TRAVEL PATH POINT (S)
———	COMMON PATH OF TRAVEL
- - - - -	PATH OF TRAVEL
◆	TRAVEL PATH CONTINUATION POINT (C)
■	EXIT (E)
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SHEET NOTES:

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LIFE SAFETY PLAN CREW OFFICE FLOOR EL 53.00

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

0 4' 8'

STATE OF ALASKA 49TH
CHRISTOPHER LEE CURTIS
No. FP-234201
18 May 2026
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen, Inc.		JOB # T.O. No. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
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DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
LIFE SAFETY PLAN CREW OFFICE FLOOR EL 53.00

REF DWG(S):

DRAWING NO: H02-D-41-1113-R00

GENERAL STRUCTURAL NOTES:

THE FOLLOWING NOTES ARE GENERAL AND APPLY TO THE ENTIRE PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE.

GENERAL:

1. DO NOT SUBSTITUTE MATERIALS OR COMPONENTS WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
2. DO NOT SCALE THE DRAWINGS.
3. FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS: PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME). THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY ABBREVIATIONS UNKNOWN TO THE CONTRACTOR.
4. SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER STANDARD DETAILS NOTES.
5. STANDARD DETAILS ARE APPLICABLE WHEN REFERRED TO OR WHEN NO OTHER MORE RESTRICTIVE OR SPECIFIC DETAILS ARE SHOWN ON THE DRAWINGS.
6. STANDARD AND SPECIFIC DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT, UNLESS NOTED OTHERWISE.
7. INFORMATION (DETAILING, DIMENSIONS, CONFIGURATIONS, AND ELEVATIONS, ETC.) OF EXISTING CONSTRUCTION SHOWN REFLECTS AVAILABLE EXISTING DESIGN DOCUMENTS AND DOES NOT NECESSARILY REPRESENT THE AS-CONSTRUCTED CONDITIONS. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS, ELEVATIONS AND DETAILING OF THE EXISTING STRUCTURES PRIOR TO UNDERTAKING ANY WORK THAT IS AFFECTED BY THE EXISTING STRUCTURE.
8. CONTRACTOR'S WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK.
9. SPECIFICATIONS, CODES AND STANDARDS NOTED SHALL BE OF THE LATEST APPROVED ISSUE, INCLUDING SUPPLEMENTS, UNLESS NOTED OTHERWISE.

DESIGN CRITERIA:

1. APPLICABLE CODES AND STANDARDS

AMERICAN CONCRETE INSTITUTE	
ACI 318-14	BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
ACI 350-20	CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES
AMERICAN INSTITUTE OF STEEL CONSTRUCTION	
AISC 325-17	STEEL CONSTRUCTION MANUAL, 15TH EDITION, 2017
AISC 360-16	SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, 2016
AMERICAN SOCIETY OF CIVIL ENGINEERS	
ASCE 7-22	MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2022
AMERICAN WELDING SOCIETY	
AWS D1.1	STRUCTURAL WELDING CODE - STEEL
INTERNATIONAL BUILDING CODE	
IBC	2021 IBC
U.S. ARMY CORP OF ENGINEERS	
EM 1110-2-2104	STRENGTH DESIGN FOR REINFORCEMENT CONCRETE HYDRAULIC STRUCTURES, 2016

2. REFER TO THE DRAWINGS FOR ADDITIONAL SPECIFIC STRUCTURAL LOADINGS AND REQUIREMENTS.
3. LOADS SHOWN ARE SERVICE LEVEL (UNFACTORED) UNLESS NOTED OTHERWISE.
4. DEAD LOAD:

TYPICAL (UNLESS NOTED OTHERWISE)	SELF WEIGHT
EQUIPMENT SELF WEIGHT	
GENERATOR	170,000 LBS
TRANSFORMER	95,000 LBS

5. LIVE LOAD:

TYPICAL UNIFORM (UNLESS NOTED OTHERWISE)	500 PSF
GRATED FLOOR AREAS	300 PSF

6. WIND LOADS:

BASIC DESIGN WIND SPEED (V)	151 MPH
RISK CATEGORY	IV
WIND EXPOSURE	C

DESIGN CRITERIA (CONT'D):

7. EQUIPMENT SEISMIC LOAD:

PEAK GROUND ACCELERATION (PGA)	0.20
RISK CATEGORY	IV
SEISMIC IMPORTANCE FACTOR (Ie) & (Ip)	1.5
MAPPED SHORT-PERIOD RESPONSE ACCELERATION (Ss)	0.63
MAPPED 1-SECCOND RESPONSE ACCELERATION (S1)	0.34
SITE CLASS	B
DESIGN SHORT-PERIOD RESPONSE ACCELERATION (SDS)	0.3
DESIGN 1-SECOND RESPONSE ACCELERATION (SD1)	0.16
SEISMIC DESIGN CATEGORY	D
RESPONSE MODIFICATION COEFFICIENT (R)	2.5
ANALYSIS PROCEDURE	ASCE 7 13.3

GEOTECHNICAL DESIGN PARAMETERS:

1. GEOTECHNICAL DESIGN CRITERIA IS BASED ON THE TYEE LAKE HYDROELECTRIC PROJECT FINAL DESIGN REPORTS, VOLUMES 1-3, MAY 1984.

ALLOWABLE BEARING PRESSURE	
SWITCHYARD	2,000 PSF
POWERHOUSE / BEDROCK	20 TSF
LATERAL EARTH PRESSURES (MOIST)	
ACTIVE	30 PCF
AT-REST	60 PCF
COEFFICIENT OF FRICTION	
CONCRETE ON STRUCTURAL FILL	0.30

TESTING AND INSPECTIONS:

1. CONTRACTOR SHALL MAKE THE WORK ACCESSIBLE FOR INSPECTION BY OWNER, ENGINEER, AND THE AUTHORITY HAVING JURISDICTION. WORK SHALL REMAIN ACCESSIBLE AND EXPOSED FOR INSPECTION UNTIL APPROVED.
2. VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE CONSTRUCTION DO NOT MEAN THAT THE ENGINEER IS GUARANTOR OF CONTRACTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.

FOUNDATIONS AND EXCAVATION:

1. EXCAVATIONS SHALL BE SHORED TO PREVENT SUBSIDENCE OR DAMAGE TO ADJACENT EXISTING STRUCTURES, STREETS, UTILITIES, ETC.
2. FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY THE ENGINEER OF QUALIFIED DESIGNEE PRIOR TO PLACEMENT OF FORMWORK OR REINFORCING STEEL.

FORMWORK, SHORING AND BRACING:

1. STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. CONTRACTOR SHALL DETERMINE METHODS OF ERECTION, BRACING, SHORING, RIGGING, FALSEWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK.
2. DO NOT BACKFILL CANTILEVER CONCRETE WALLS UNTIL CONCRETE HAS ATTAINED 100 PERCENT OF THE DESIGN COMPRESSIVE STRENGTH.
3. DO NOT BACKFILL CONCRETE WALLS SUPPORTED AT THE TOP OF THE WALL UNTIL WALL CONCRETE AND SUPPORTING SLAB CONCRETE HAS ATTAINED 100 PERCENT AND 80 PERCENT OF THEIR DESIGN COMPRESSIVE STRENGTH RESPECTIVELY.

CONCRETE:

1. CAST IN PLACE CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH AS INDICATED:

TYPICAL (UNLESS NOTED OTHERWISE)	4,500 psi

2. CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE AND ACI 117 SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS, EXCEPT AS OTHERWISE NOTED.
3. CONTRACTOR SHALL SUBMIT JOINT LOCATION PLAN FOR APPROVAL.
4. CONSTRUCTION JOINTS INDICATED ARE SUGGESTED LOCATIONS. CONTRACTOR MAY REVISE LOCATION OF JOINTS, SUBJECT TO SPECIFIED REQUIREMENTS AND ENGINEER APPROVAL.
5. CONCRETE SHALL BE NORMAL WEIGHT UNLESS NOTED OTHERWISE.
6. CONTINUOUS WATERSTOP SHALL BE INSTALLED IN CONSTRUCTION JOINTS IN WALLS AND WATER HOLDING BASINS, CHANNELS, AND BELOW GRADE STRUCTURES, EXCEPT WHERE NOTED OTHERWISE.
7. ROUGHEN AND CLEAN CONSTRUCTION JOINTS PRIOR TO PLACING ADJACENT CONCRETE BY WATER BLASTING OR OTHER METHOD APPROVED BY THE ENGINEER.
8. COORDINATE PLACEMENT OF OPENINGS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT, INCLUDING COORDINATION WITH OTHER DISCIPLINE DRAWINGS.
9. PLACE NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE INTO THE CONCRETE.

CONCRETE REINFORCING:

1. REINFORCING STEEL:

TYPICAL (UNLESS NOTED OTHERWISE)	ASTM A651, GRADE 60
WELDED (WHERE PERMITTED)	ASTM A706, GRADE 60

2. FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 MANUAL OF STANDARD PRACTICE AND ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE.
3. CLEARANCE FOR REINFORCEMENT BARS, UNLESS NOTED OTHERWISE, SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

INTERIOR	1.5 INCHES
EXTERIOR OR EXPOSED TO WATER	2 INCHES
PLACED ON GROUND	3 INCHES

4. 90 DEGREE BENDS SHALL BE ACI 318 STANDARD HOOKS UNLESS NOTED OTHERWISE.
5. REINFORCING STEEL FOR FOOTINGS AND SLABS ON GRADE SHALL BE ADEQUATELY SUPPORTED ON BAR SUPPORTS WITH SPACERS TO KEEP REINFORCING ABOVE THE PREPARED GRADE.
6. LIFTING REINFORCEMENT OFF THE GRADE DURING CONCRETE PLACEMENT IS NOT PERMITTED.
7. "BURY" BARS OR "CARRIER" BARS ARE NOT ALLOWED IN BOTTOM MATS OF REINFORCEMENT IN ELEVATED SLABS OR FOR THE TOP MATS IN ELEVATED SLABS LESS THAN 12 INCHES THICK.
8. LAP SPLICES OF LONGITUDINAL REINFORCEMENT IN ELEVATED SLABS OR BEAMS SHALL BE LOCATED AT MIDSPAN FOR TOP BARS AND AT SUPPORTS FOR BOTTOM BARS.
9. WELDING OF REINFORCEMENT IS NOT PERMITTED UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER.

STRUCTURAL STEEL AND METAL FABRICATION:

1. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION.
2. WELDS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

STEEL	AWS D1.1: STRUCTURAL WELDING CODE - STEEL
REINFORCING STEEL	AWS D1.4: STRUCTURAL WELDING CODE - REINFORCING STEEL

3. WELDS FOUND TO BE DEFECTIVE SHALL BE REPAIRED AND/OR REPLACED.
4. FIELD WELDS OF ELEMENTS EMBEDDED IN CONCRETE SHALL BE LOW HEAT AND INTERMITTENT WELDS TO AVOID SPALLING AND/OR CRACKING OF THE CONCRETE.
5. BUTT WELDS SHALL BE FULL PENETRATION UNLESS INDICATED OTHERWISE.
6. STEEL TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF PAINT, OIL, OR DIRT.
7. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STEEL MEMBERS. NO CUTTING OR BURNING OF STEEL WILL BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

STATE OF ALASKA 49th
MARK MERKLEIN
No. 185381
REGISTERED PROFESSIONAL ENGINEER
05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL GENERAL NOTES 1 OF 2

REF DWG(S):

DRAWING NO: H02-D-42-1168-R00

STRUCTURAL STEEL AND METAL FABRICATION (CONT'D):

8. MATERIALS SHALL CONFORM WITH THE FOLLOWING UNLESS NOTED OTHERWISE:

STRUCTURAL STEEL	
WIDE FLANGE SHAPES	ASTM A992, GRADE 50
OTHER SHAPES, PLATES, ANGLES AND BARS	A36
HSS, SQUARE AND RECTANGULAR	A500, GRADE B
HSS, ROUND	A500, GRADE B
PIPE	A53, GRADE B
BOLTS	A325-N

9. BOLTS AND THREADED PARTS SHALL CONFORM WITH THE FOLLOWING UNLESS NOTED OTHERWISE:

HIGH-STRENGTH BOLTS	F3125 GRADE A325 TYPE 1 (GROUP A) HEAVY HEX HEAD, WITH A563 DH NUT & F436-1 WASHERS, HOT DIP GALVANIZED
ANCHOR RODS	F1554 GRADE 50 WITH A563 GRADE A HEAVY HEX NUTS & F436 WASHERS, GALVANIZED
ADHESIVE ANCHORS	F593 GROUP 2 (316 OR 316L) WITH F594 NUTS AND SS316 A240 WASHERS
FLAT-HEAD SCREWS	18-8 STAINLESS STEEL

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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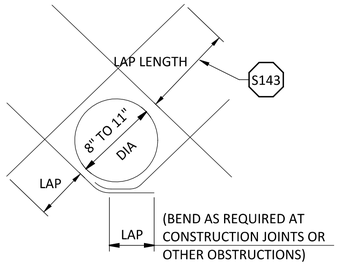
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SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL GENERAL NOTES 2 OF 2

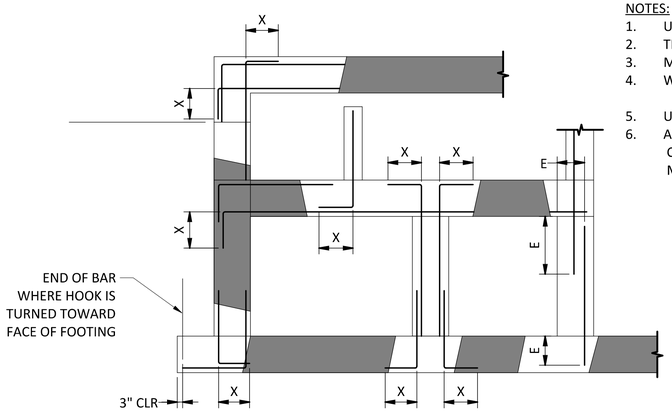
REF DWG(S):

DRAWING NO: H02-D-42-1169-R00



NOTES:
1. CUT NORMAL REINFORCEMENT 2" CLEAR OF OPENING.
2. DIAGONAL BARS TO BE PLACED;
   A. AT CENTERLINE OF WALL OR SLAB WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED.
   B. AT EACH FACE OF WALL OR SLAB WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED.
3. UNLESS OTHERWISE NOTED, SIZE OF DIAGONAL BARS SHALL BE THE SIZE OF THE LARGEST NORMAL REINFORCING BAR CUT.
4. THIS DETAIL TO BE USED WHEN CALLED FOR ON THE DRAWINGS OR WHEN NO OTHER DETAIL IS SPECIFIED.

S142 DIAGONAL REINFORCING AT CIRCULAR OPENINGS
SCALE: NTS



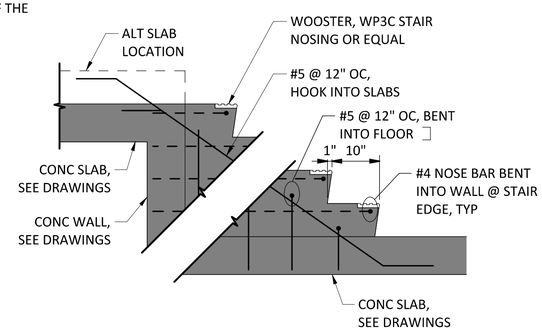
SECTION

NOTES:
1. USE LAP LENGTHS AS DETERMINED FROM THESE TABLES UNLESS SHOWN OTHERWISE.
2. THE TABLES SHOWN ARE FOR f'c=4000psi, fy=60,000psi, 1.5" MIN CONCRETE COVER AND 3" MIN BAR SPACING.
3. MULTIPLY THE LAP AND E SHOWN IN THESE TABLES BY 1.5 FOR EPOXY COATED REINFORCING.
4. WHEN BARS OF DIFFERENT SIZES ARE LAP SPLICED, LAP LENGTH SHALL BE THE LARGER OF: EMBEDMENT LENGTH OF LARGER BAR LAP OR LENGTH OF SMALLER BAR.
5. UNLESS NOTED OTHERWISE USE REBAR COUPLERS FOR SPLICES OF #11 AND LARGER BARS.
6. ALL DOWEL BARS SHALL EXTEND AN EMBEDMENT LENGTH E INTO ANOTHER MEMBER OR ACROSS A CONSTRUCTION JOINT UNLESS SHOWN TO SPLICE WITH OTHER BARS OR TO EXTEND TO THE FAR FACE OF THE MEMBER AND END WITH A STANDARD HOOK.

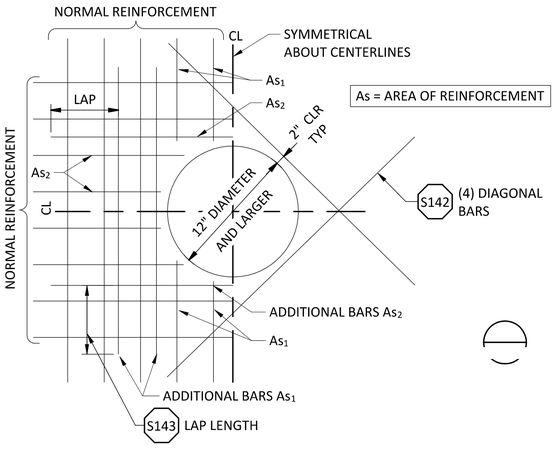
	LENGTH (*)		
BAR SIZE	HOOK X	LAP	EMBEDMENT E
#3	6"	16" (21")	12" (16")
#4	8"	16" (21")	12" (16")
#5	10"	20" (26")	15" (20")
#6	12"	28" (37")	22" (28")
#7	14"	48" (62")	37" (48")
#8	16"	62" (81")	48" (62")
#9	19"	79" (102")	61" (79")
#10	22"	100" (130")	77" (100")
#11	24"	123" (160")	95" (123")

* USE LENGTH IN PARENTHESIS FOR WALL HORIZONTAL REBARS AND SLAB BARS WITH 12" OR MORE OF FRESH CONCRETE UNDERNEATH

S143 STANDARD 90° BAR HOOKS, EMBEDMENT LENGTHS AND LAP LENGTHS
SCALE: NTS

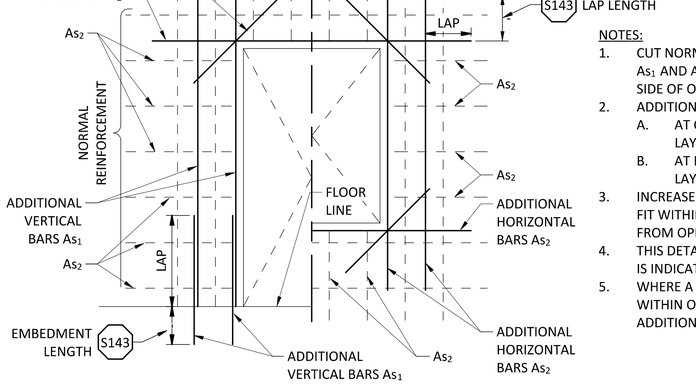


S154 SOLID CONCRETE STAIRS
SCALE: NTS



NOTES:
1. CUT NORMAL REINFORCEMENT AT OPENINGS: As_1 AND As_2 = 1/2 AREA OF CUT BARS TO BE ADDED ON EACH SIDE OF OPENING.
2. ADDITIONAL BARS As_1 AND As_2 TO BE PLACED:
   A. AT CENTERLINE OF WALLS OR SLABS WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED.
   B. AT EACH FACE OF WALLS OR SLABS WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED.
3. INCREASE SIZE OF ADDITIONAL BARS AS NEEDED TO FIT WITHIN A DISTANCE OF 2X WALL/SLAB THICKNESS FROM OPENING, PROVIDE 2" MIN CLEAR BETWEEN BARS.
4. THIS DETAIL TO BE USED ONLY WHEN NO OTHER DETAIL IS INDICATED ON THE DRAWINGS.
5. WHERE A SLAB OR INTERSECTING WALL CONNECTS WITHIN ONE WALL THICKNESS OF THE OPENINGS, ADDITIONAL BARS ON THAT SIDE MAY BE OMITTED.

S144 ADDITIONAL REINFORCEMENT AT CIRCULAR OPENINGS (12" DIA OR LARGER)
SCALE: NTS



ELEVATION

NOTES:
1. CUT NORMAL REINFORCEMENT AT OPENING: As_1 AND As_2 AREA OF CUT BARS TO BE ADDED ON EACH SIDE OF OPENING.
2. ADDITIONAL BARS As_1 AND As_2 TO BE PLACED:
   A. AT CENTERLINE OF WALLS OR SLABS WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED.
   B. AT EACH FACE OF WALLS OR SLABS WHERE TWO LAYERS OF REINFORCEMENT ARE PROVIDED.
3. INCREASE SIZE OF ADDITIONAL BARS AS NEEDED TO FIT WITHIN A DISTANCE OF 2X WALL/SLAB THICKNESS FROM OPENING, PROVIDE 2" MIN CLEAR BETWEEN BARS.
4. THIS DETAIL TO BE USED ONLY WHEN NO OTHER DETAIL IS INDICATED ON THE DRAWINGS.
5. WHERE A SLAB OR INTERSECTING WALL CONNECTS WITHIN ONE WALL THICKNESS OF THE OPENINGS, ADDITIONAL BARS ON THAT SIDE MAY BE OMITTED.

S148 ADDITIONAL REINFORCEMENT AROUND RECTANGULAR OPENINGS
SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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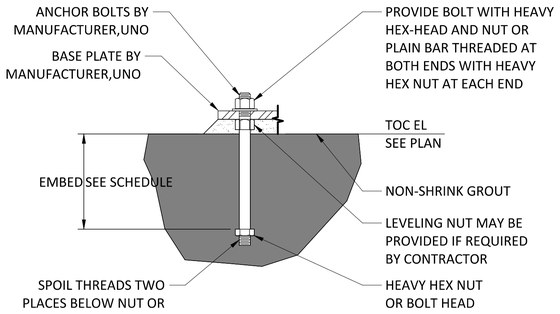
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL STANDARD DETAILS 1

REF DWG(S):

DRAWING NO: H02-D-42-1170-R00

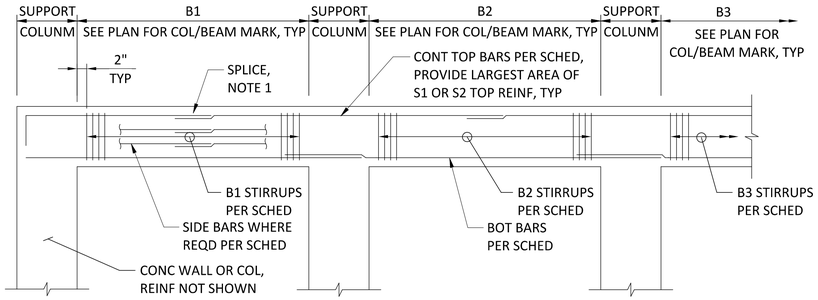


ANCHOR BOLT DIAMETER (IN)	MINIMUM EMBEDMENT	
	TOP OF COLUMNS	OTHER APPLICATIONS
1/4	5	3
3/8	5	3
1/2	6	4
5/8	6	4.5
3/4	7	5
7/8	8	6
1	9	7
1 1/8	10	8
1 1/4	11	9

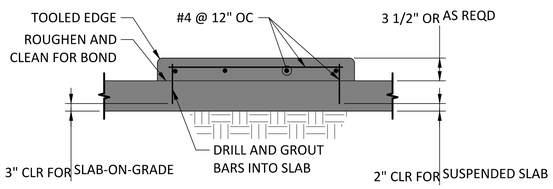
NOTES:
1. USE ONLY HEADED ANCHORS. J-BOLTS ARE NOT ALLOWED.
2. THIS DETAIL APPLIES TO BOTH CONCRETE AND MASONRY.
3. FOR ADHESIVE ANCHORS, USE THE TOP OF COLUMN EMBEDMENTS.

S175 ANCHOR BOLT EMBEDMENT

SCALE: NTS

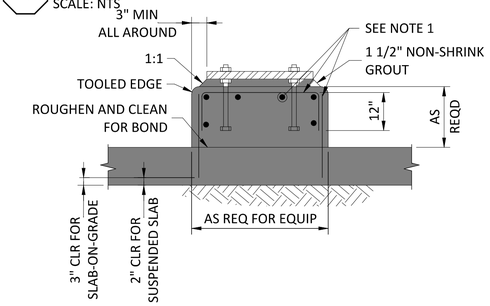


ELEVATION



S191 HOUSEKEEPING PAD

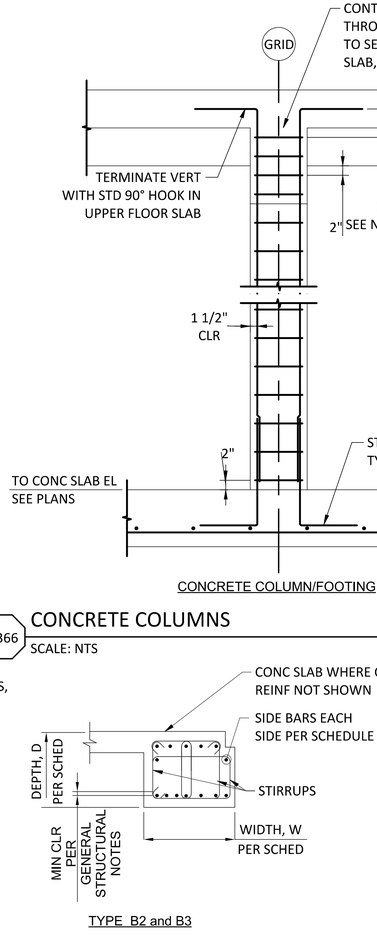
SCALE: NTS



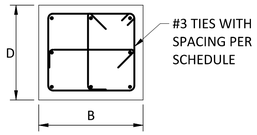
NOTE:
1. 5# @ 12" OC OR AS REQD TO DEVELOP ANCHOR BOLTS

S192 EQUIPMENT BASE

SCALE: NTS



CONCRETE COLUMN/FOOTING

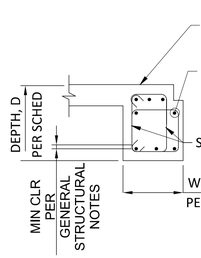


CONCRETE COLUMN SCHEDULE				
MARK	SIZE D x B	REINFORCING LAYOUT TYPE	TIE SPACING	ADDL BOT REINFORCING EA WAY
C1	18" x 22"	(8) #9	12" MAX	-
C2	18" x 16"	(8) #9	12" MAX	-

NOTES:
1. SEE FACILITY PLANS FOR COLUMN SCHEDULES.
2. TIE SPACING:
   A. BEAMS FRAME INTO ALL FOUR SIDES OF COLUMN.
   B. ALL OTHER BEAM ARRANGEMENTS.
3. COLUMNS C2 TIES SHALL BE ADHESIVE #4 BARS WITH 4-INCH EMBEDMENT INTO EXISTING CONCRETE WALL.

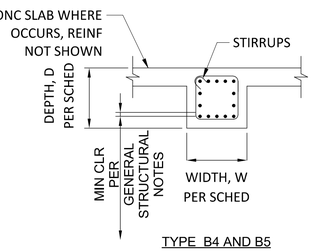
S366 CONCRETE COLUMNS

SCALE: NTS



TYPE B1

TYPE B2 and B3



TYPE B4 AND B5

NOTE:
1. CONTINUOUS TOP BARS AND SIDE BARS MAY BE SPLICED AT MIDDLE OF BEAM SPAN AT THE CONTRACTOR'S OPTION. PROVIDE CONTACT LAP SPLICE.
2. REFER TO THE "CONCRETE BEAM SCHEDULE" FOR BAR CALLOUTS.
3. TOP BARS AND BOTTOM BARS SHALL BE PLACED IN A SINGLE LAYER UNLESS NOTED OTHERWISE IN THE SCHEDULE.
4. WHERE BEAM WIDTH EXCEEDS 18" PROVIDE ADDITIONAL SINGLE LEG STIRRUP TO MATCH TYPICAL.
5. SEE DETAIL XXX FOR FLOOR HATCH EMBED AT BEAMS B1, B2 AND B3.

CONCRETE BEAM SCHEDULE						
MARK	SIZE (WIDTH x DEPTH)	BOTTOM BARS	TOP BARS	STIRRUPS	SIDE BARS	COMMENTS
B1	18" x 24"	(3) #8	(3) #8	#4 @ 12"	(1) #8	PROVIDE SIDE BAR AT NOTCH FOR ACCESS HATCH.
B2	25" x 24"	(7) #8	(5) #8	#4 @ 12"	(1) #8	#8 TOP AND BOT BARS EXIST AND EXTEND 3'-8" FROM FACE OF EXIST CONCRETE. CONNECT TO EXIST BARS SHALL BE WITH MECHANICAL COUPLER. PROVIDE SIDE BAR AT NOTCH FOR ACCESS HATCH.
B3	20" x 24"	(7) #8	(5) #8	#4 @ 12"	(1) #8	#8 TOP AND BOT BARS EXIST AND EXTEND 3'-8" FROM FACE OF EXIST CONCRETE. CONNECT TO EXIST BARS SHALL BE WITH MECHANICAL COUPLER. PROVIDE SIDE BAR AT NOTCH FOR ACCESS HATCH.
B4	18" x 24"	(3) #6	(3) #6	#4 @ 12"	-	#8 TOP AND BOT BARS EXIST AND EXTEND 3'-8" FROM FACE OF EXIST CONCRETE. LAP NEW BARS WITH EXISTING.
B5	18" x 24"	(5) #8	(5) #8	#4 @ 12"	-	PROVIDE STIRRUPS AT 6" OC. 3'-0" EACH END OF BEAM AND INTERMEDIATE SPACING PER TABLE.

S365 CONCRETE BEAM

SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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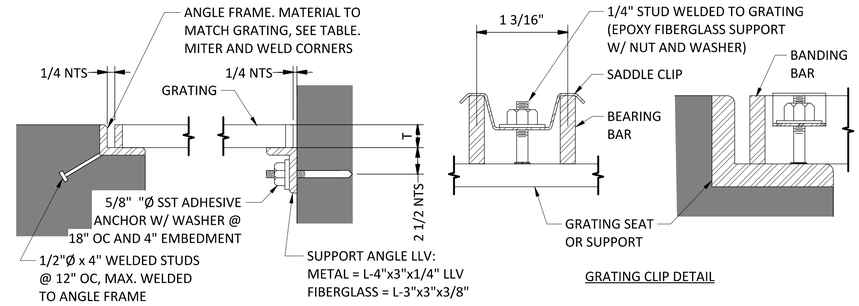
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

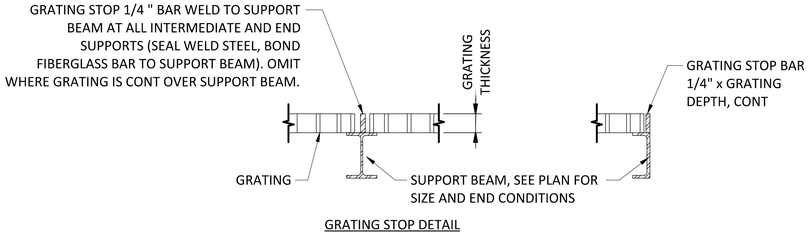
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL STANDARD DETAILS 2

REF DWG(S):

DRAWING NO: H02-D-42-1171-R00



GRATING CLIP DETAIL



GRATING STOP DETAIL

NOTES:

1. UNLESS INDICATED OTHERWISE, ALL GRATING SHALL BE GALVANIZED.
2. GRATING DEPTH TO BE DETERMINED BY MANUFACTURER AND APPROVED BY ENGINEER, UNO.
3. ALL ENDS AND OPENINGS SHALL BE BANDED.
4. WEIGHT OF GRATING SECTION SHALL NOT EXCEED 80 LBS.
5. METAL BEARING BARS SHALL BE DEPTH T x 3/16" @ 1 3/16" OC. CROSS BARS SHALL BE @ 4" OC.
6. PROVIDE A MINIMUM OF 4 CLIPS PER GRATING PANEL, APPROX 4" FROM PANEL CORNERS. MAXIMUM CLIP SPACING AT 36" OC.
7. MATERIALS:
   - A. ALUM GRATING - USE ALUM ANGLE SUPPORTS AND SST BOLTS AND CLIPS. IF SUPPORTED BY STEEL BEAMS, USE STEEL STOP BARS. ALUM IN CONTACT WITH CONC OR STEEL SHALL BE COATED PER THE PROTECTIVE COATING SPECS.
   - B. GALV STEEL GRATING - USE STEEL ANGLE SUPPORTS, BOLTS AND CLIPS. GALV AFTER FABRICATION.
   - C. SST GRATING - USE SST ANGLE SUPPORTS, BOLTS AND CLIPS.
   - D. FIBERGLASS GRATING - USE FIBERGLASS FOR ALL COMPONENTS EXCEPT DRILLED ANCHORS; ALL CUT EDGES SHALL BE SEALED WITH RESIN; BONDING: USE EPOXY ADHESIVE BONDING AGENT.

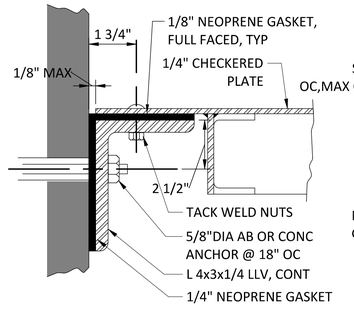
GRATING FRAME TABLE SIZED TO MATCH GRATING
(FOR FIBERGLASS USE CONTINUOUS PROTRUDED FIBERGLASS SEAT & ANCHOR)

GRATING DEPTH (T)	STEEL ANGLE (STEEL)	GRATING DEPTH (T)	STEEL ANGLE (STEEL)
1"	1 3/4 x 1 1/4 x 1/4 (1 1/4 x 1 1/4 x 1/4)	2"	*2 1/2 x 2 1/2 x 1/2
1 1/4"	2 x 1 1/2 x 1/4 (1 1/2 x 1 1/4 x 1/4)	2 1/4"	*2 1/2 x 2 1/2 x 1/4
1 1/2"	1 3/4 x 1 3/4 x 1/4	2 1/2"	3 x 3 x 1/2
1 3/4"	2 x 2 x 1/4		

* OR USE 2 1/2" x 2 1/2" x 1/4" W/ 1/4" SHIM PLATE WELDED TO BOTTOM

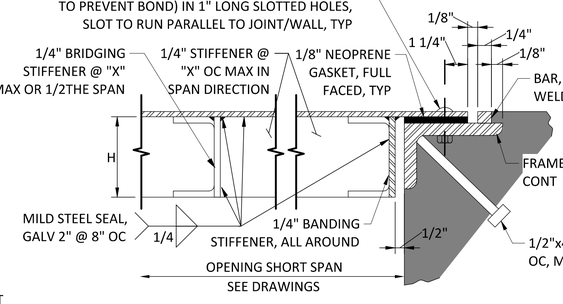
S501 GRATING

SCALE: NTS



WALL MOUNTED FRAME

(USE ONLY WHERE CAST-IN FRAME CANNOT BE USED)



CAST IN FRAME

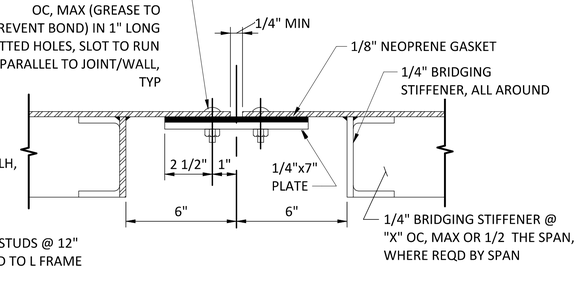


PLATE JOINT DETAIL

NOTES:

1. CHKD PLATE COVERS SHALL BE ALUM UNLESS INDICATED OTHERWISE.
2. MAX WEIGHT OF PLATES = 80 LBS.
3. ALUM CHKD PLATE COVERS SHALL HAVE A ALUM FRAME AND STUDS, AND SST ANCHORS AND FASTENERS, INSTEAD OF TACK WELDING SST NUTS, USE BACKER PLATE 1/4"x1 1/2"x3/8" DRILL AND TAP.
4. STEEL CHKD PLATE SHALL HAVE A STEEL FRAME AND ANCHORS, SEAL ALL WELDS, GALV AFTER FABRICATION.
5. SST CHKD PLATE SHALL HAVE A SST FRAME AND ANCHORS.
6. "X" = MAXIMUM SPAN OF UNSTIFFENED PLATE COVER.

MATERIAL	LOADING (PSF)	X MAX (IN)	MAXIMUM SPAN OF OPENING (FT) STIFFENER SIZE 1/4" x H				
			2"	3"	C4x2.331	C5x3.089	C6x4.030
ALUMINUM	100	25	4.5	5.5	6	7	8
	150	25	3.5	4.5	5.5	6.5	7.5
	200	20	3.5	4.5	5.5	6.5	7
	250	20	3	4	5	6	7
	300	20	3	3.5	5	5.5	6.5

MATERIAL	LOADING (PSF)	X MAX (IN)	MAXIMUM SPAN OF OPENING (FT) STIFFENER SIZE 1/4" x H						
			2"	3"	4"	5"	C6x8.2	C7x9.8	C8x11.5
STEEL	100	40	4.5	6	7	8.5	6	7	8
	150	35	4	5	6	7.5	5.5	6.5	7.5
	200	30	3.5	4.5	5.5	7	5.5	6.5	7
	250	30	3	4	5	6	5	6	7
	300	30	3	4	4.5	5.5	5	5.5	6.5

S503 PLATE COVERED OPENING

SCALE: NTS

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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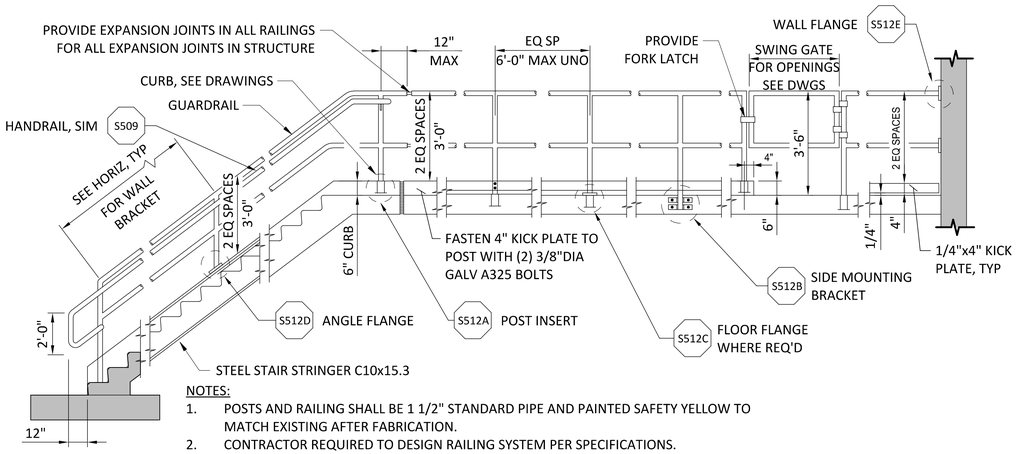
NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL STANDARD DETAILS 3

REF DWG(S):

DRAWING NO: H02-D-42-1172-R00

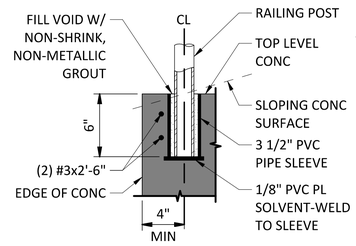
SHEET 30 OF 144



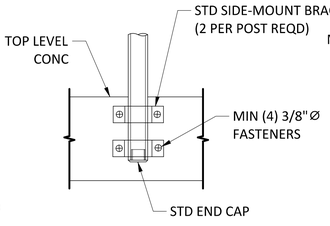
NOTES:
1. POSTS AND RAILING SHALL BE 1 1/2" STANDARD PIPE AND PAINTED SAFETY YELLOW TO MATCH EXISTING AFTER FABRICATION.
2. CONTRACTOR REQUIRED TO DESIGN RAILING SYSTEM PER SPECIFICATIONS.
3. ALL RAILING TO HAVE A 4" KICK PLATE UNLESS MOUNTED ON A CURB.

S510 TWO-RAIL RAILING GUARDRAIL DETAIL

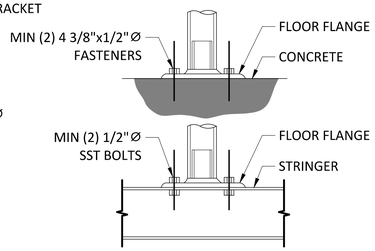
SCALE: NTS



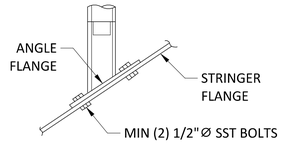
POST INSERT IN CONCRETE (SEE NOTE 2) — A



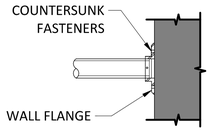
SIDE-MOUNTING BRACKET — B



FLOOR FLANGE (WHEN REQUIRED) — C



ANGLED FLANGE — D

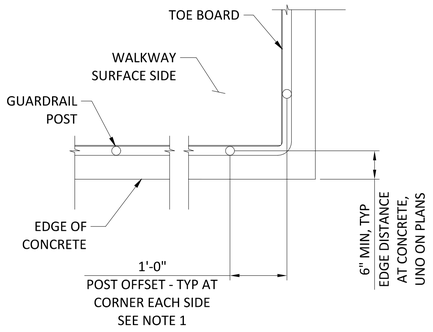


WALL FLANGE — E

NOTES:
1. IF FASTENING TO CONCRETE, FASTENERS SHALL BE SST ADHESIVE ANCHORS WITH MINIMUM 4-INCH EMBEDMENT.
2. POST INSERTS NOT ALLOWED IN APPLICATIONS SUBJECT TO FREQUENT FREEZING.
3. CONTRACTOR REQUIRED TO DESIGN RAILING SYSTEM PER SPECIFICATIONS.

S512 RAILING, GUARDRAIL AND HANDRAIL SUPPORT DETAIL

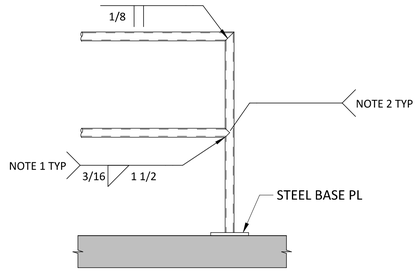
SCALE: NTS



NOTES:
1. CORNER POST SPACING APPLIES TO GUARDRAIL ANCHORED TO BOTH CONCRETE AND STEEL.

S520 GUARDRAIL CORNER DETAIL - STEEL

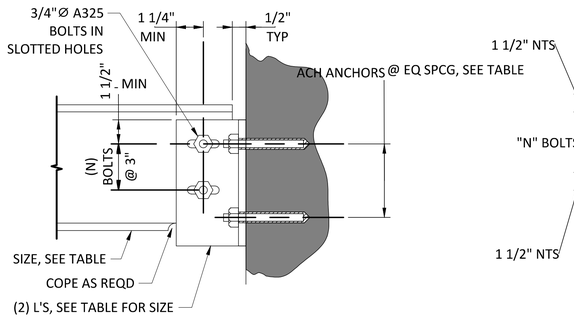
SCALE: NTS



NOTE:
1. TOP AND BOTTOM OF HORIZONTAL RAIL.
2. INFILL SEAL WELD BETWEEN TOP AND BOTTOM WELDS.

S521 GUARDRAIL WELDED CONNECTION - STEEL

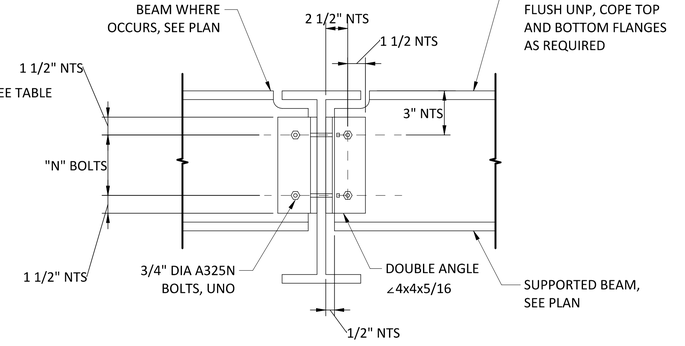
SCALE: NTS



BEAM TO CONC CONNECTION SCHEDULE			
BEAM SIZE	DOUBLE ANGLE SIZE	# OF BOLTS (N)	ADHESIVE ANCHORS NUMBER AND SIZE
W8x13	L4x3x1/4	2	(2) 1/2" ADHESIVE ANCHOR 4-INCH EMBEDMENT.

S563 BEAM TO CONCRETE CONNECTION

SCALE: NTS



BEAM TO BEAM CONNECTION SCHEDULE								
SUPPORTED BEAM SIZE	W8 C8	W10 C10	W12 C12	W14 C15	W16	W18	W21	W24
NO. OF BOLTS "N"	2	2	3	3	4	4	5	6

S568 BEAM TO BEAM CONNECTION

SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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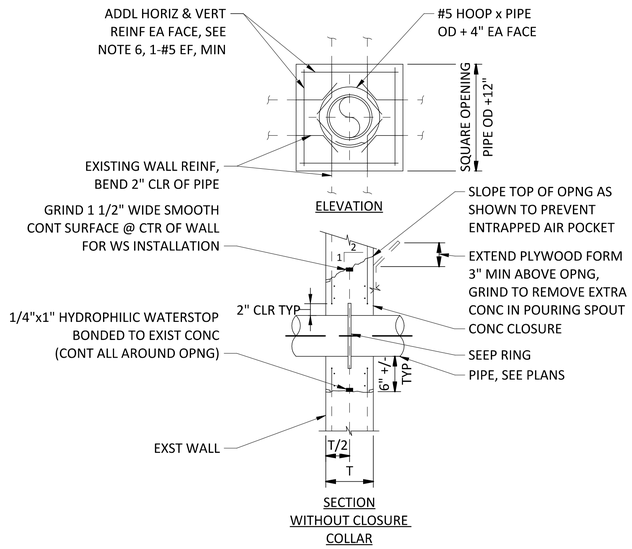
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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL STANDARD DETAILS 4

REF DWG(S):

DRAWING NO: H02-D-42-1173-R00



NOTES:

1. SAW-CUT 1-INCH DEEP x PIPE OD + 12" SQUARE SCORE LINE ON EACH FACE OF WALL. (VERIFY DEPTH OF CUT TO CLEAR REINFORCING.) (INCREASE HEIGHT AS NOTED AT TOP ON WATERSIDE FACE FOR POURING.)

2. CHIP TO REMOVE THE CONCRETE WITHIN THE SCORE LINE, WHILE PRESERVING THE EXISTING WALL REINFORCING.

3. CUT EXISTING REINFORCING AT CENTER OF OPENING AND BEND TO CLEAR PIPE.

4. GRIND 1 1/2" WIDE x CONT SMOOTH SURFACE ALL AROUND THE OPENING AT CENTER OF WALL. CLEAN SURFACES AND BOND CONTINUOUS HYDROPHILIC WATERSTOP IN PLACE.

5. INSTALL WALL PIPE. (COAT CONCRETE ENCASED PORTION OF PIPE WITH SPECIFIED COATING SYSTEM.)

6. INSTALL ADDITIONAL REINFORCING EACH FACE, EACH SIDE, ABOVE AND BELOW PIPE. HORIZONTAL REINFORCING TO HAVE COMBINED AREA EQUAL TO AREA OF HORIZONTAL REINFORCING CUT. VERTICAL REINFORCING TO HAVE COMBINED AREA EQUAL TO AREA OF VERTICAL REINFORCING CUT.

S900 PIPE PENETRATION - EXISTING WALL

SCALE: NTS

STATE OF ALASKA 49th
MARK MERKLEIN
No. 185381
REGISTERED PROFESSIONAL ENGINEER
05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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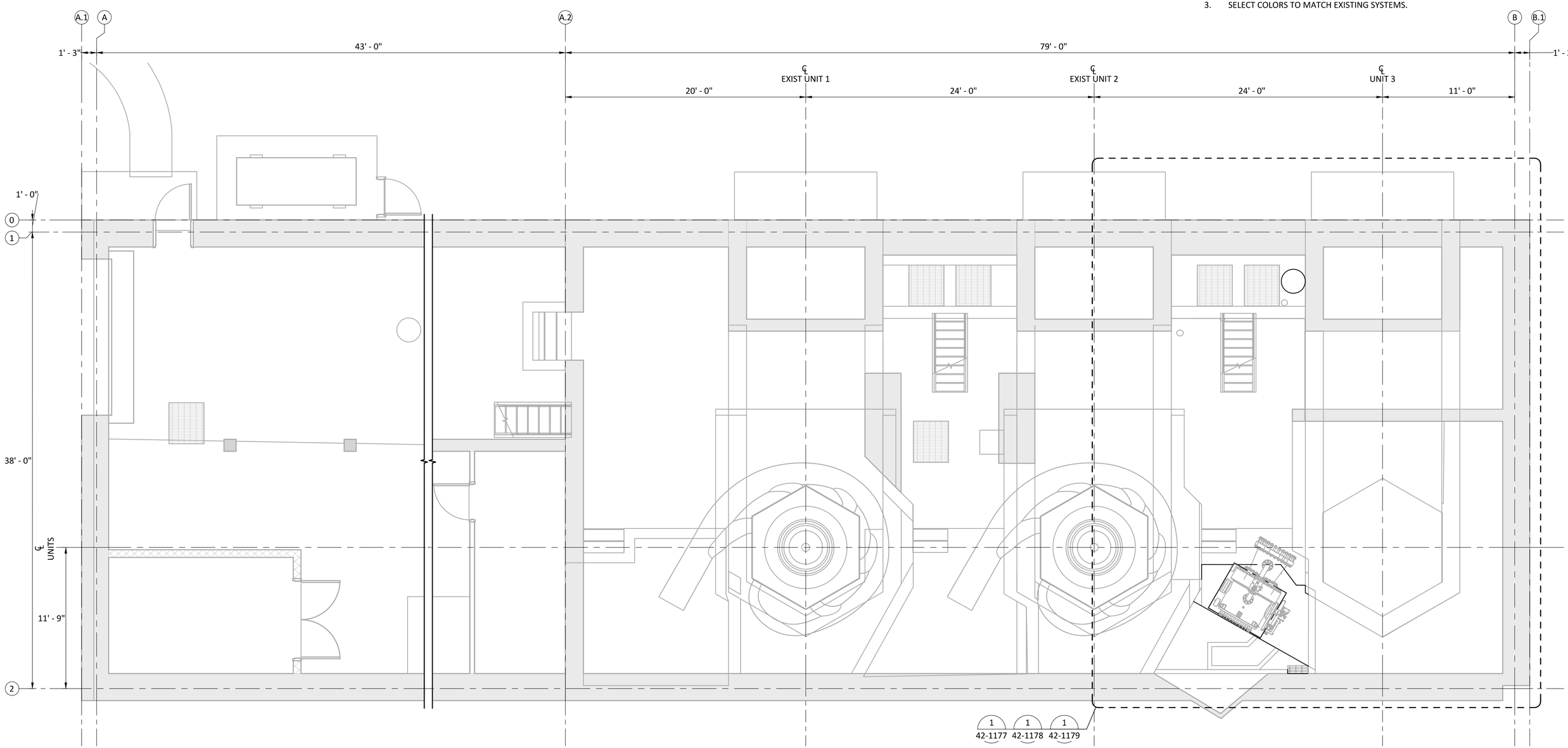
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL STANDARD DETAILS 5

REF DWG(S):

DRAWING NO: H02-D-42-1174-R00

SHEET NOTES:

1. ALL NEW CONCRETE SURFACES SHALL BE PAINTED PER SPECIFICATION SECTION 09 90 00.
2. EXISTING CONCRETE SURFACE COATING DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE COATED PER SECTION 09 90 00.
3. SELECT COLORS TO MATCH EXISTING SYSTEMS.



STRUCTURAL KEY PLAN

SCALE: 1/4" = 1'-0" 0 4' 8'

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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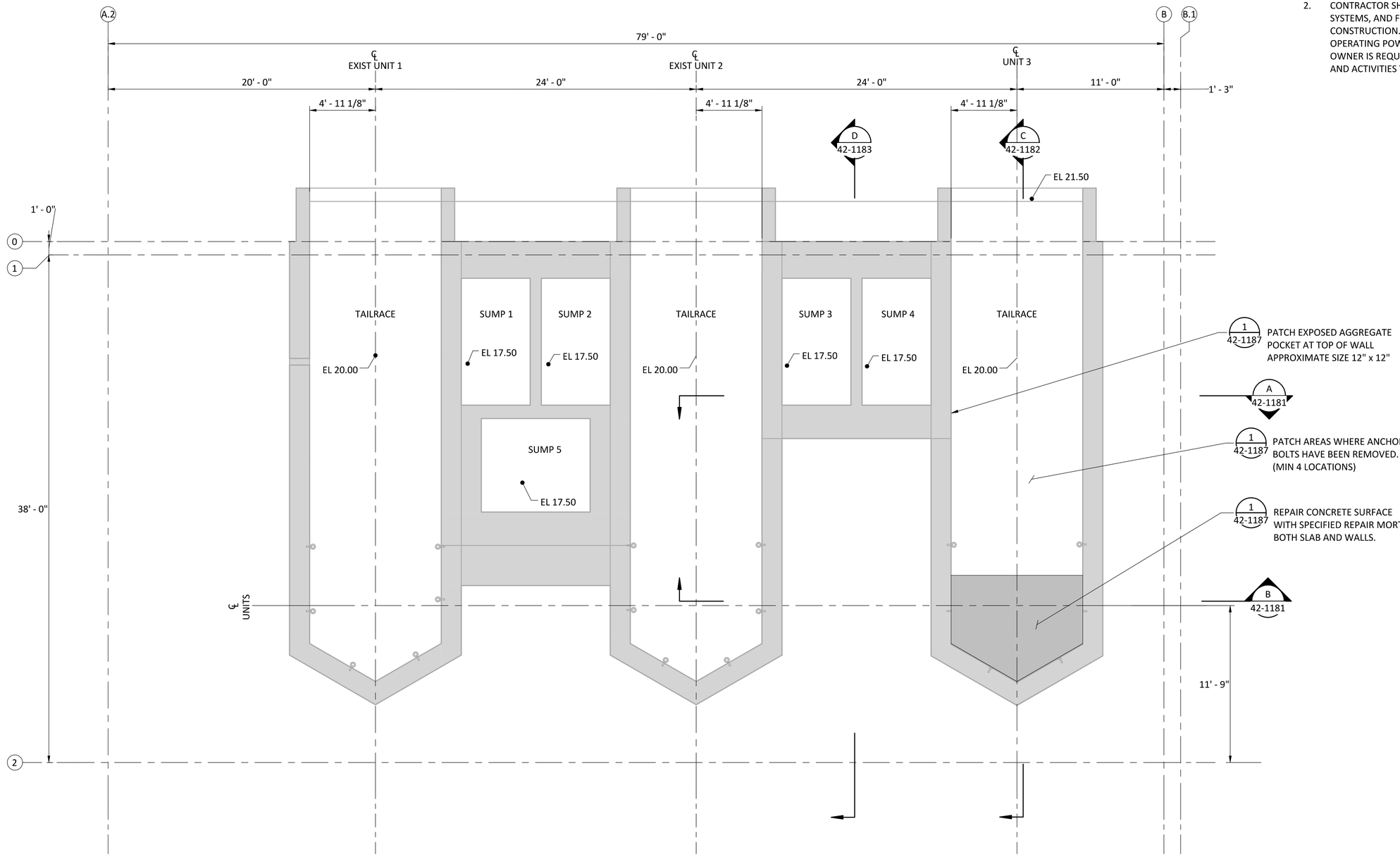
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL KEY PLAN

REF DWG(S):

DRAWING NO: H02-D-42-1175-R00

SHEET NOTES:S:

1. TAILRACE HEAT EXCHANGER TO BE PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR THROUGH THE TAILRACE HATCH LOCATED ON FLOOR ELEVATION 31.00.
2. CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT, SYSTEMS, AND FINISHES FROM DAMAGE DURING CONSTRUCTION. WORK WILL OCCUR WITHIN AN OPERATING POWERHOUSE; COORDINATION WITH THE OWNER IS REQUIRED FOR ACCESS, OUTAGES, TIE-INS, AND ACTIVITIES THAT MAY AFFECT OPERATIONS.



STRUCTURAL ARRANGEMENT TAILRACE PLAN EL 20.00

SCALE: 1/4" = 1'-0" 0 4' 8'

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

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DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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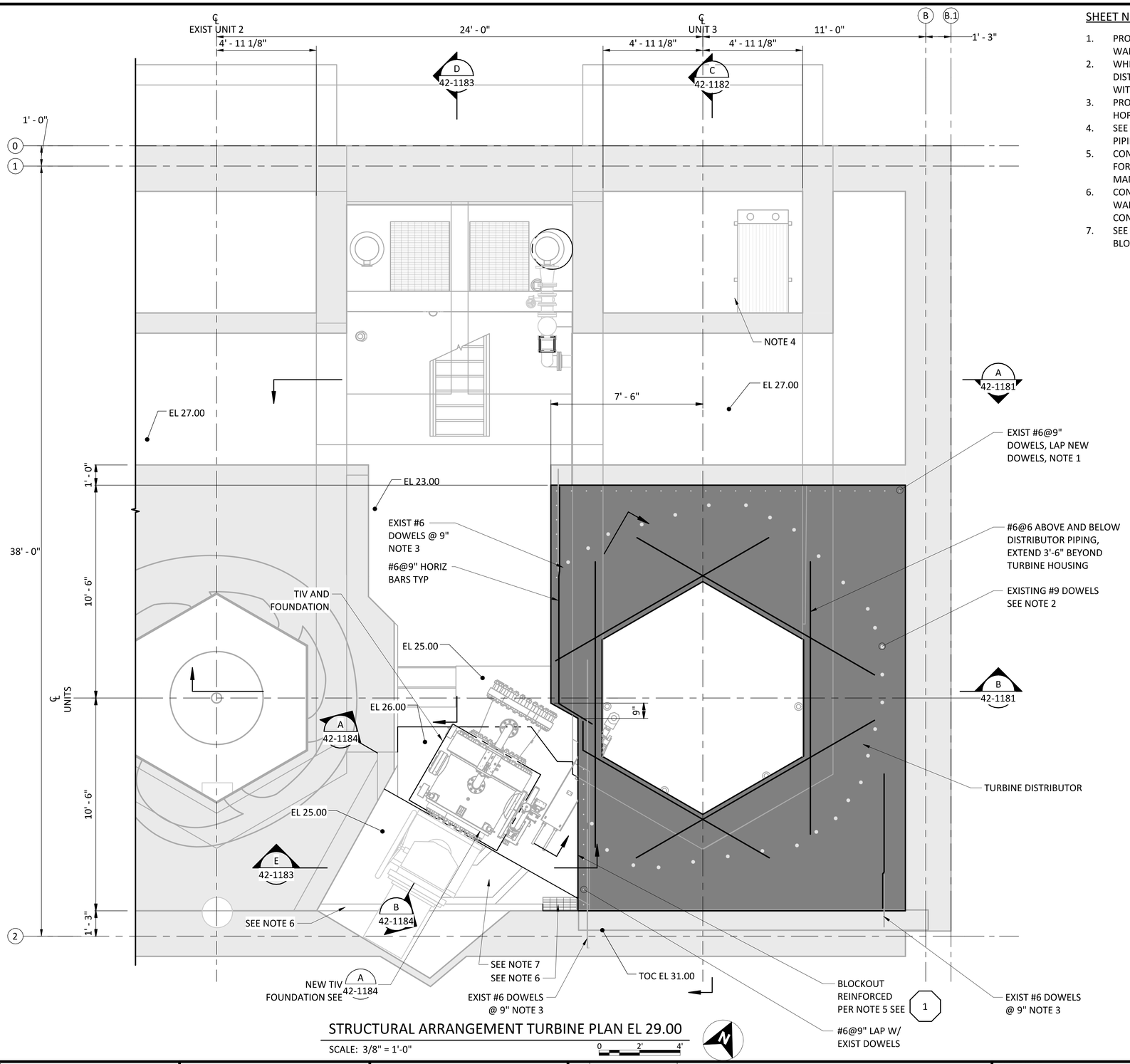
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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL ARRANGEMENT PLAN TAILRACE FLOOR EL 20.00

REF DWG(S):

DRAWING NO: H02-D-42-1176-R00



SHEET NOTES:

1. PROVIDE DOWELS TO LAP AND MATCH EXISTING ALONG GRID 2 WALL SEE SECTION C ON 42-1182
2. WHERE EXISTING DOWELS WILL INTERFERE WITH NEW DISTRIBUTOR, FIELD BEND DOWELS TO CLEAR DISTRIBUTOR PIPING WITH 6 INCHES CLEAR.
3. PROVIDE NEW #6 HORIZONTAL BARS TO LAP WITH ALL EXIST #6 HORIZONTAL DOWELS.
4. SEE MECHANICAL FOR CORE DRILL LOCATIONS FOR MECHANICAL PIPING TYPICAL
5. CONTRACTOR TO USE VOID FORM TO BLOCK OUT REQUIRED AREA FOR DEFLECTOR ACTUATOR. COORDINATE WITH EQUIPMENT MANUFACTURER.
6. CONTRACTOR TO MAINTAIN EXISTING TRENCH DRAIN ALONG THE WALL AND PROTECT FLOOR DRAIN OUTLET ADJACENT TO NEW CONCRETE.
7. SEE DRAWING 42-1181 FOR EXISTING FLOOR TRENCH AND BLOCKOUTS TO BE FILLED ADJACENT TO TIV VALVE.

STRUCTURAL ARRANGEMENT TURBINE PLAN EL 29.00

SCALE: 3/8" = 1'-0"

0 2' 4'

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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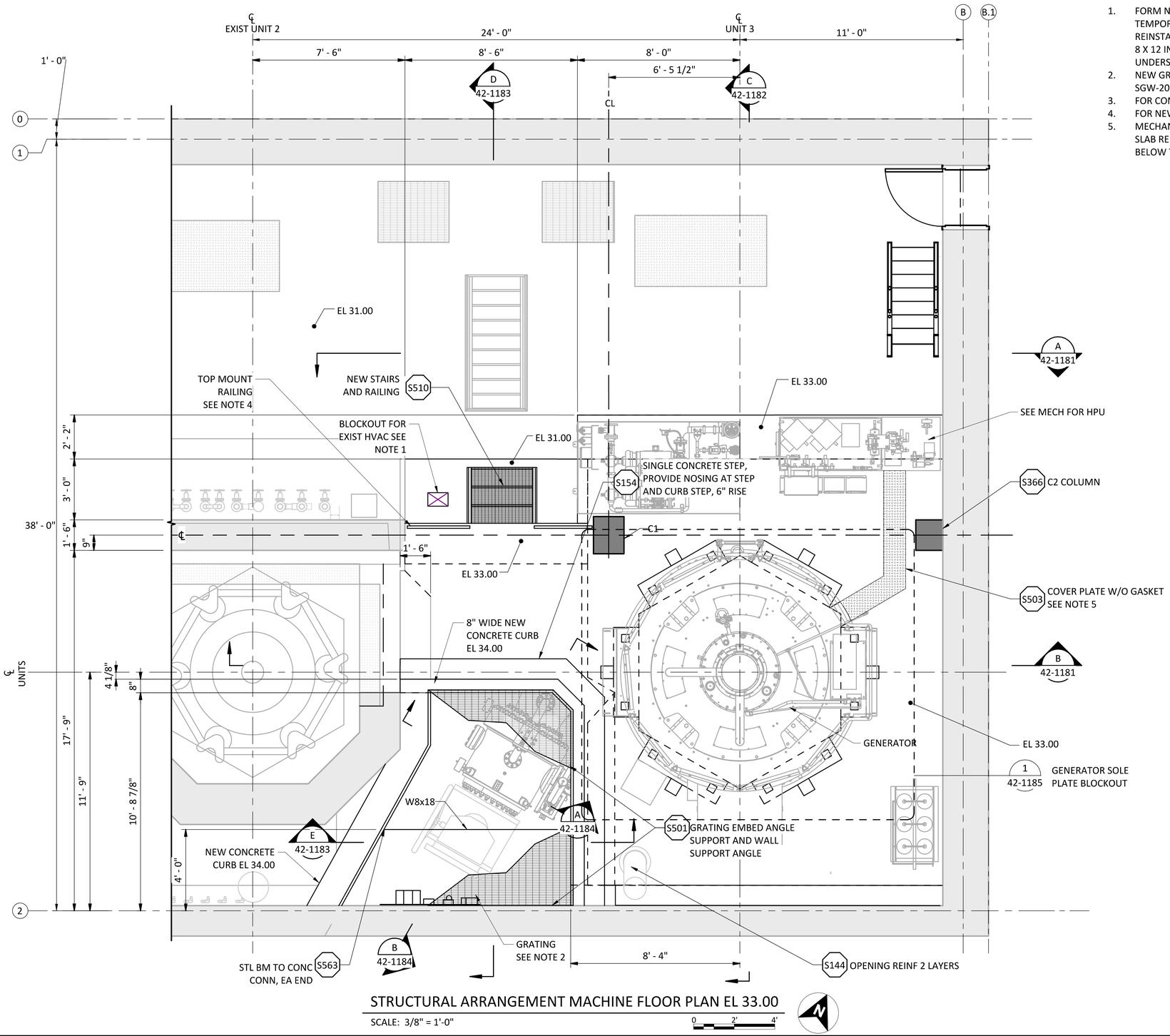
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL ARRANGEMENT PLAN TURBINE CL EL 29.00

REF DWG(S):

DRAWING NO: H02-D-42-1177-R00

SHEET NOTES:

1. FORM NEW CONCRETE SLAB AROUND EXISTING HVAC OR TEMPORARILY REMOVE EXISTING DUCT FOR PLACEMENT OF SLAB AND REINSTALL ONCE COMPLETE. EXISTING HVAC DUCT IS APPROXIMATELY 8 X 12 INCHES. PROVIDE NEW SEAL AND ATTACH DUCT FLANGE TO UNDERSIDE OF CONCRETE SLAB WITH CONCRETE SCREWS.
2. NEW GRATING SHALL BE MCNICHOLS 2" GALVANIZED BAR GRATING, SGW-200.
3. FOR CONCRETE COLUMNS SEE STANDARD DETAIL S366
4. FOR NEW RAILING SEE STANDARD DETAILS S510, S512, S520 AND S521
5. MECHANICAL TRENCH SHALL BE 7.5 INCHES DEEP. HOOK TYPICAL SLAB REINFORCING DOWN AT TRENCH AND #8@12 STRAIGHT BARS BELOW THE TRENCH 2XTEH DEVELOPMENT LENGTH.



STRUCTURAL ARRANGEMENT MACHINE FLOOR PLAN EL 33.00

SCALE: 3/8" = 1'-0"

0 2' 4'

STATE OF ALASKA 49th
MARK MERKLEIN
No. 185381
REGISTERED PROFESSIONAL ENGINEER
05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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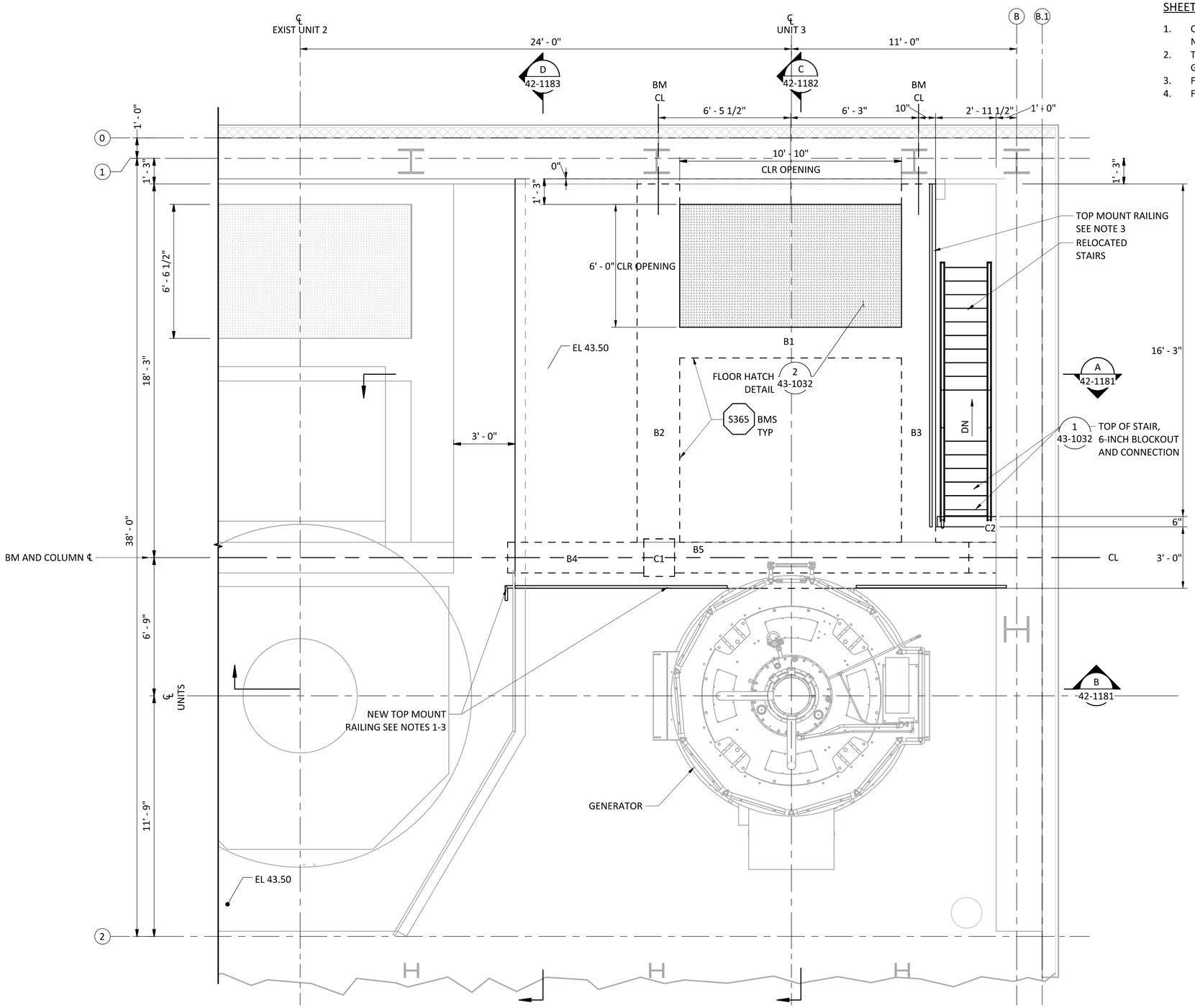
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL ARRANGEMENT PLAN MACHINE FLOOR EL 33.00

REF DWG(S):

DRAWING NO: H02-D-42-1178-R00

SHEET NOTES:

1. CONTINUOUS NEW RAILING AROUND CORNER AND TERMINATE WITH NEW POST MAXIMUM 4 INCHES CLEAR OF EXISTING RAILING POST.
2. TERMINATE NEW RAILING TO STOP 4 INCHES CLEAR OF NEW GENERATOR RAILING AND GATE.
3. FOR NEW RAILING SEE STANDARD DETAILS S510, S512, S520 AND S521
4. FOR CONCRETE BEAMS SEE STANDARD DETAIL S365



STRUCTURAL ARRANGEMENT GENERATOR PLAN EL 43.50

SCALE: 3/8" = 1'-0"

0 2' 4'

STATE OF ALASKA 49th MARK MERKLIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

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DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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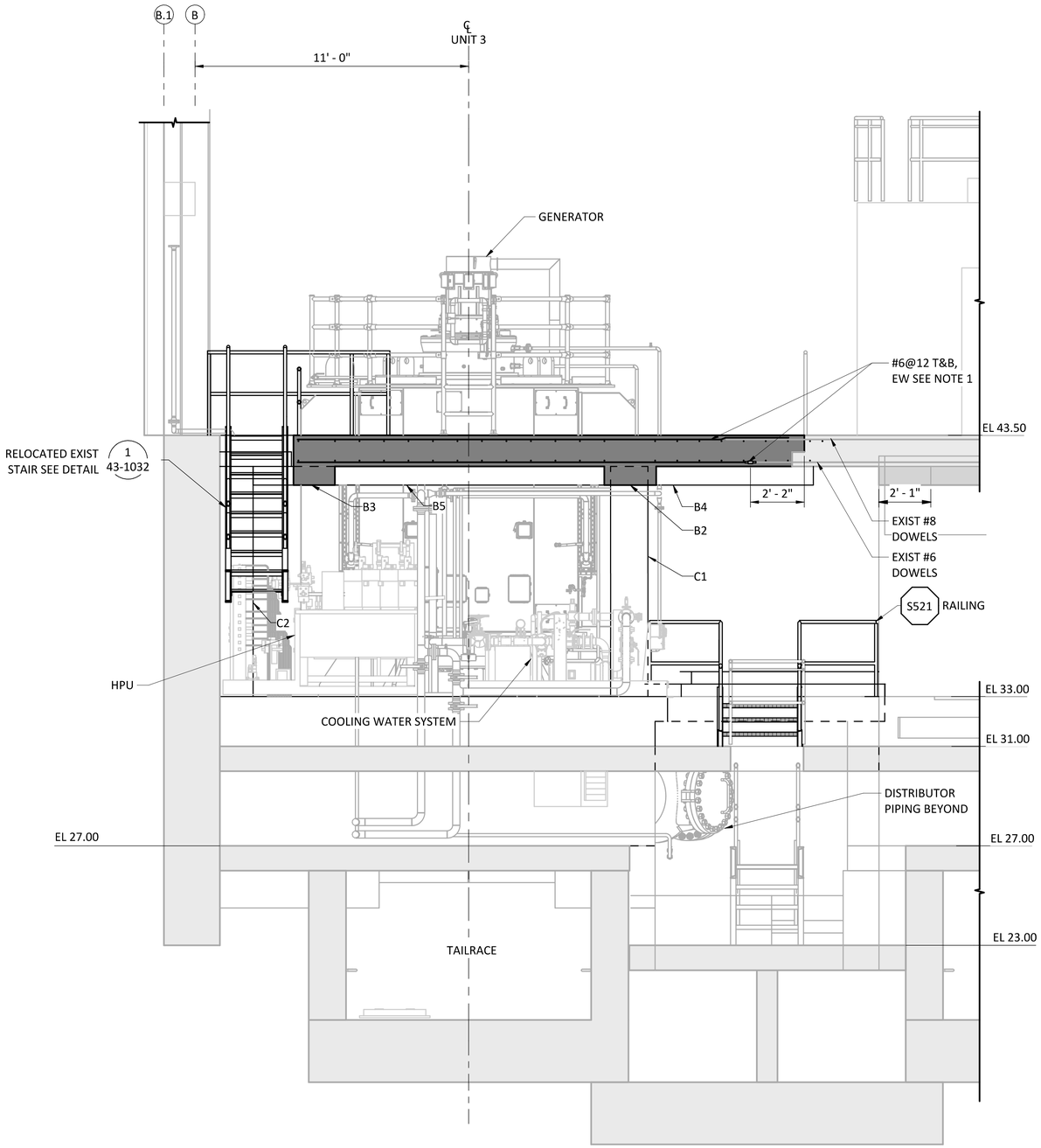
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SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STRUCTURAL ARRANGEMENT PLAN GENERATOR FLOOR EL 43.50

REF DWG(S):

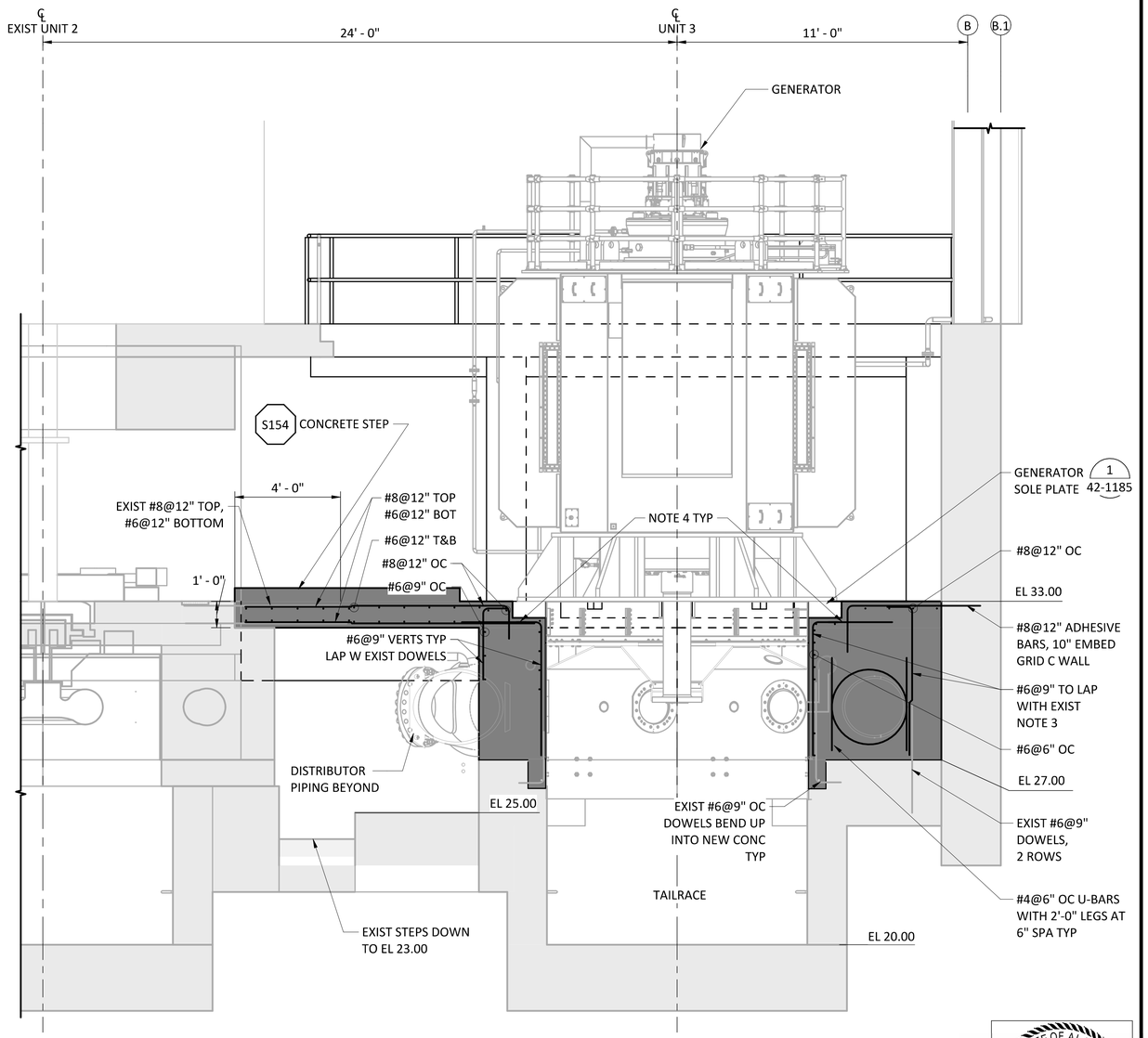
DRAWING NO: H02-D-42-1179-R00

SHEET NOTES:

1. TOP SHALL BE LAPPED 48" WITH EXISTING #8 DOWELS. BOTTOM BARS SHALL BE CONNECTED TO EXISTING #6 DOWELS WITH REBAR COUPLERS AS SPECIFIED.
2. ALL TRANSVERSE SLAB REINFORCING SHALL BE CONTINUOUS THROUGH BEAMS.
3. WHERE #6 VERTS ALIGN WITH GENERATOR SOLE PLATE BLOCKOUTS, HOOK 12" INCHES CLEAR OF TOP OF SLAB.
4. USE 3'-0" HOOKS AT FOR VERTICAL AND HORIZONTAL BARS AT GENERATOR SOLE PLATE BLOCKOUTS.
5. FOR CONCRETE BEAMS SEE STANDARD DETAIL S365 AND FOR CONCRETE COLUMNS SEE STANDARD DETAIL S366
6. FOR NEW RAILING SEE STANDARD DETAILS S510, S512, S520 AND S521



A 42-1176 SECTION
SCALE: 3/8" = 1'-0" 0 2' 4'



B 42-1176 SECTION
SCALE: 3/8" = 1'-0" 0 2' 4'

STATE OF ALASKA 49th
MARK MERKLEIN
No. 185381
REGISTERED PROFESSIONAL ENGINEER
05-18-26

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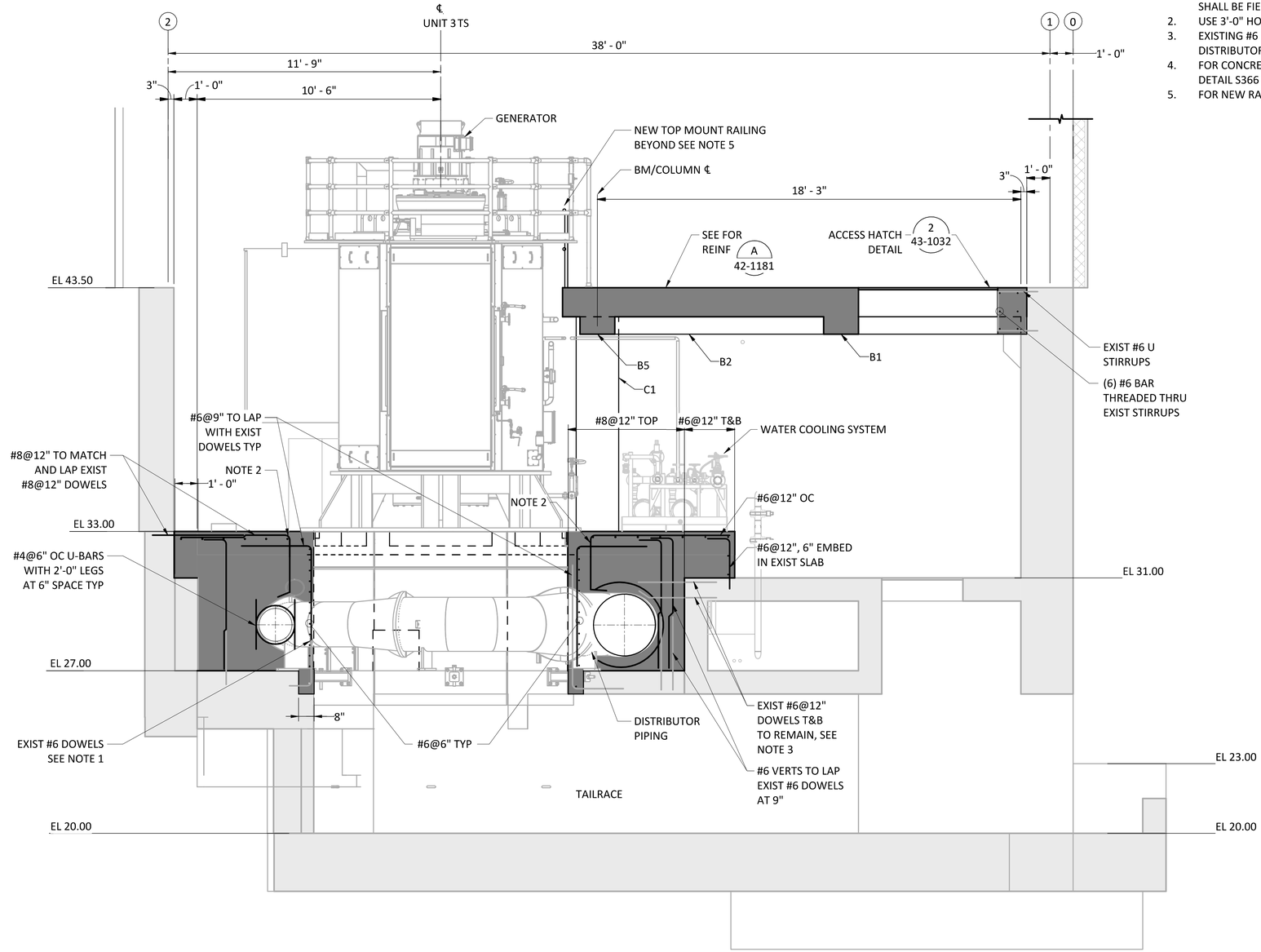
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
REINFORCEMENT SECTIONS 1

REF DWG(S):

DRAWING NO: H02-D-42-1181-R00

SHEET NOTES:

1. #6 DOWELS ALONG GRID 2.0 WALL ARE NOT ADEQUATE FOR LAP WITH NEW BARS. PROVIDE #6 MECHANICAL COUPLERS AS SPECIFIED. (16 TOTAL) ALL EXISTING BARS AT EXISTING EL 27.00 SLAB SHALL BE FIELD BENT UP INTO NEW CONCRETE.
2. USE 3'-0" HOOKS FOR VERTICAL AND HORIZONTAL BARS AT GENERATOR SOLE PLATE BLOCKOUTS.
3. EXISTING #6 BARS EXTEND 24-28" INTO NEW CONCRETE. FIELD BEND AS REQUIRED TO MISS NEW DISTRIBUTOR PIPING.
4. FOR CONCRETE BEAMS SEE STANDARD DETAIL S365 AND FOR CONCRETE COLUMNS SEE STANDARD DETAIL S366
5. FOR NEW RAILING SEE STANDARD DETAILS S510, S512, S520 AND S521



C 42-1176 SECTION

SCALE: 3/8" = 1'-0" 0 2' 4'



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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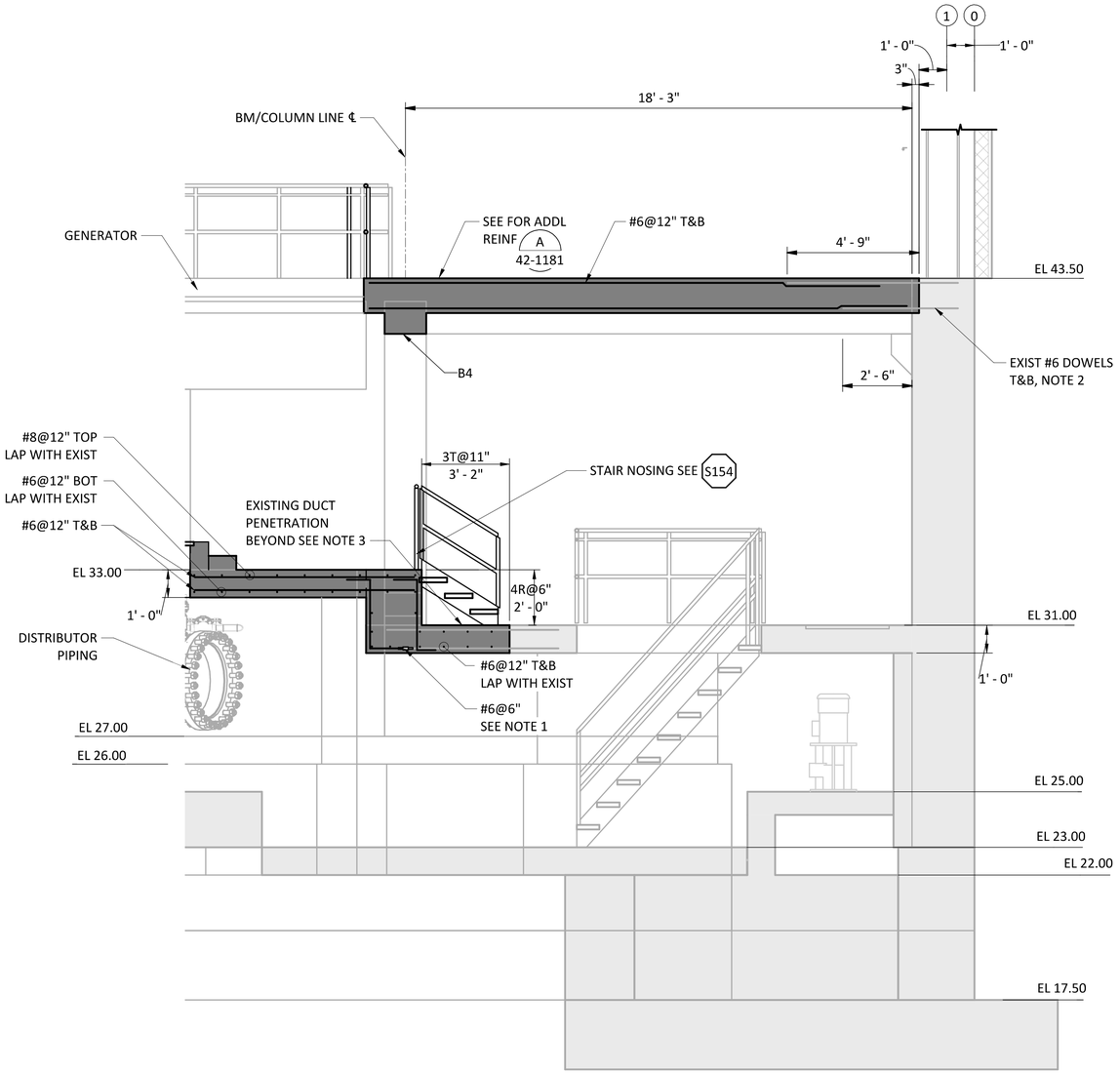
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
REINFORCEMENT SECTIONS 2

REF DWG(S):

DRAWING NO: H02-D-42-1182-R00

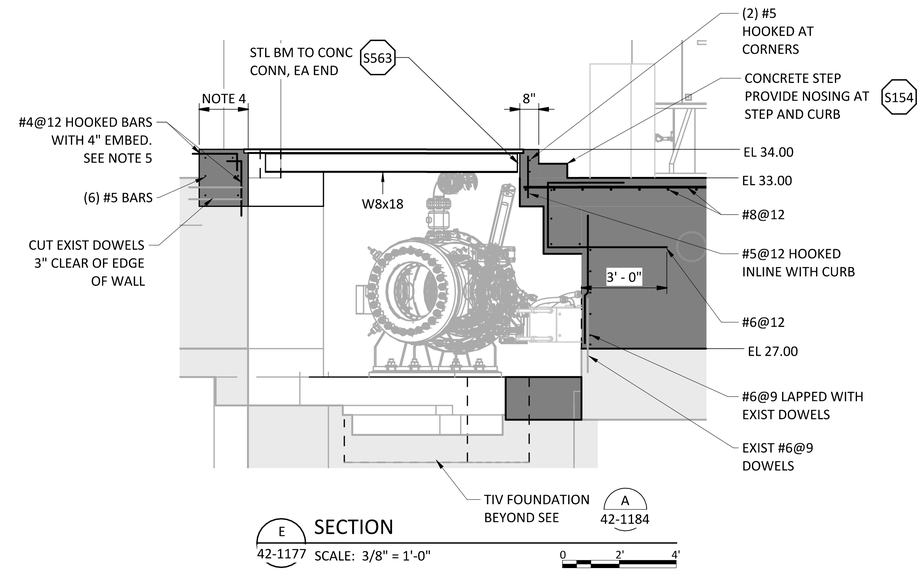
SHEET NOTES:

1. ATTACH NEW BARS TO EXISTING DOWELS WITH BAR COUPLERS AS SPECIFIED.
2. EXISTING TOP BARS EXTEND APPROXIMATELY 4'-6" AND BOTTOM BARS 2'-6".
3. FORM NEW CONCRETE SLAB AROUND EXISTING HVAC OR TEMPORARILY REMOVE EXISTING DUCT FOR PLACEMENT OF SLAB AND REINSTALL ONCE COMPLETE. EXISTING HVAC DUCT IS APPROXIMATELY 8 X 12 INCHES. PROVIDE NEW SEAL AND ATTACH DUCT FLANGE TO UNDERSIDE OF CONCRETE SLAB WITH CONCRETE SCREWS.
4. NEW CURB ALONG BLOCKOUT VARIES IN WIDTH FROM 6-INCHES TO 1'-6", MATCH EXISTING BLOCKOUT WIDTH.
5. FOR ADHESIVE DOWELS DO NOT CUT THROUGH EXISTING WALL STEEL. IF STEEL IS ENCOUNTERED REDRILL HOLE TO MISS STEEL AND PATCH PREVIOUS HOLE WITH NONSHRINK GROUT
6. FOR CONCRETE BEAMS SEE STANDARD DETAIL S365 AND FOR CONCRETE COLUMNS SEE STANDARD DETAIL S366
7. FOR NEW RAILING SEE STANDARD DETAILS S510, S512, S520 AND S521



D 42-1176 SECTION

SCALE: 3/8" = 1'-0" 0 2' 4'



E 42-1177 SECTION

SCALE: 3/8" = 1'-0" 0 2' 4'

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen, Inc.		JOB # T.O. No. 24017	
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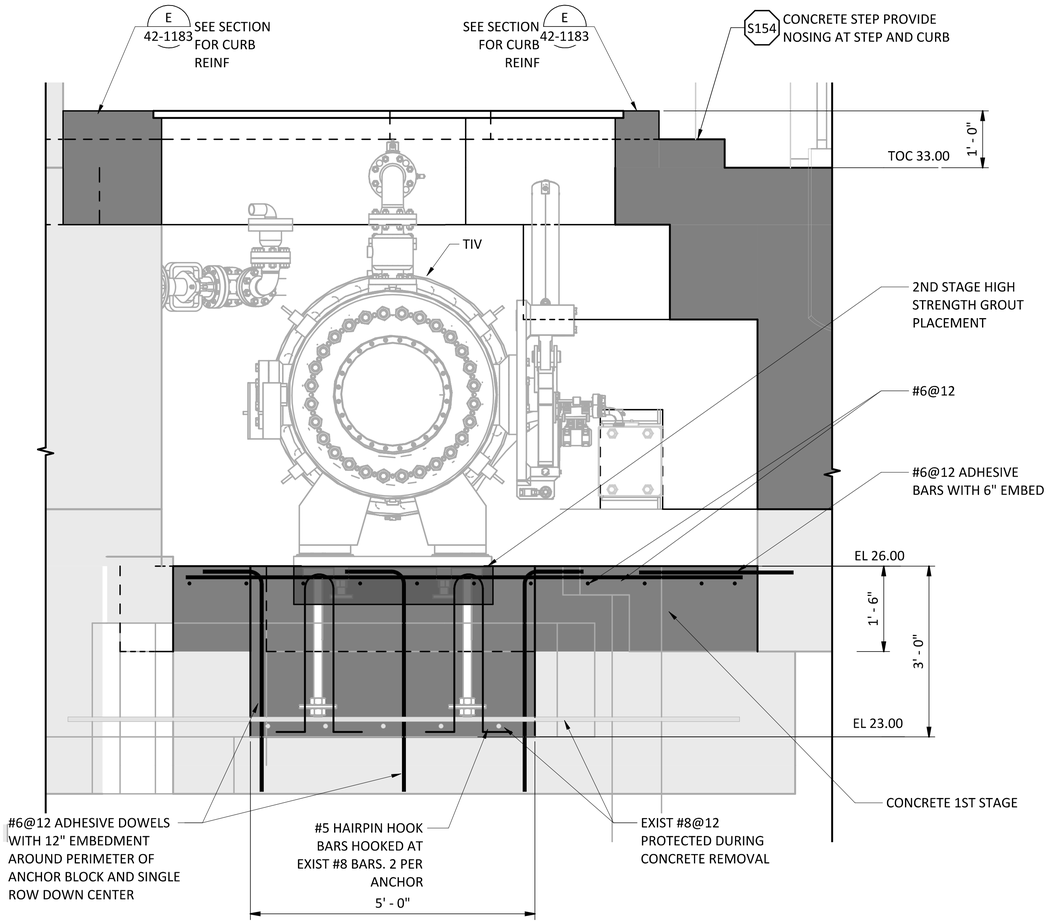
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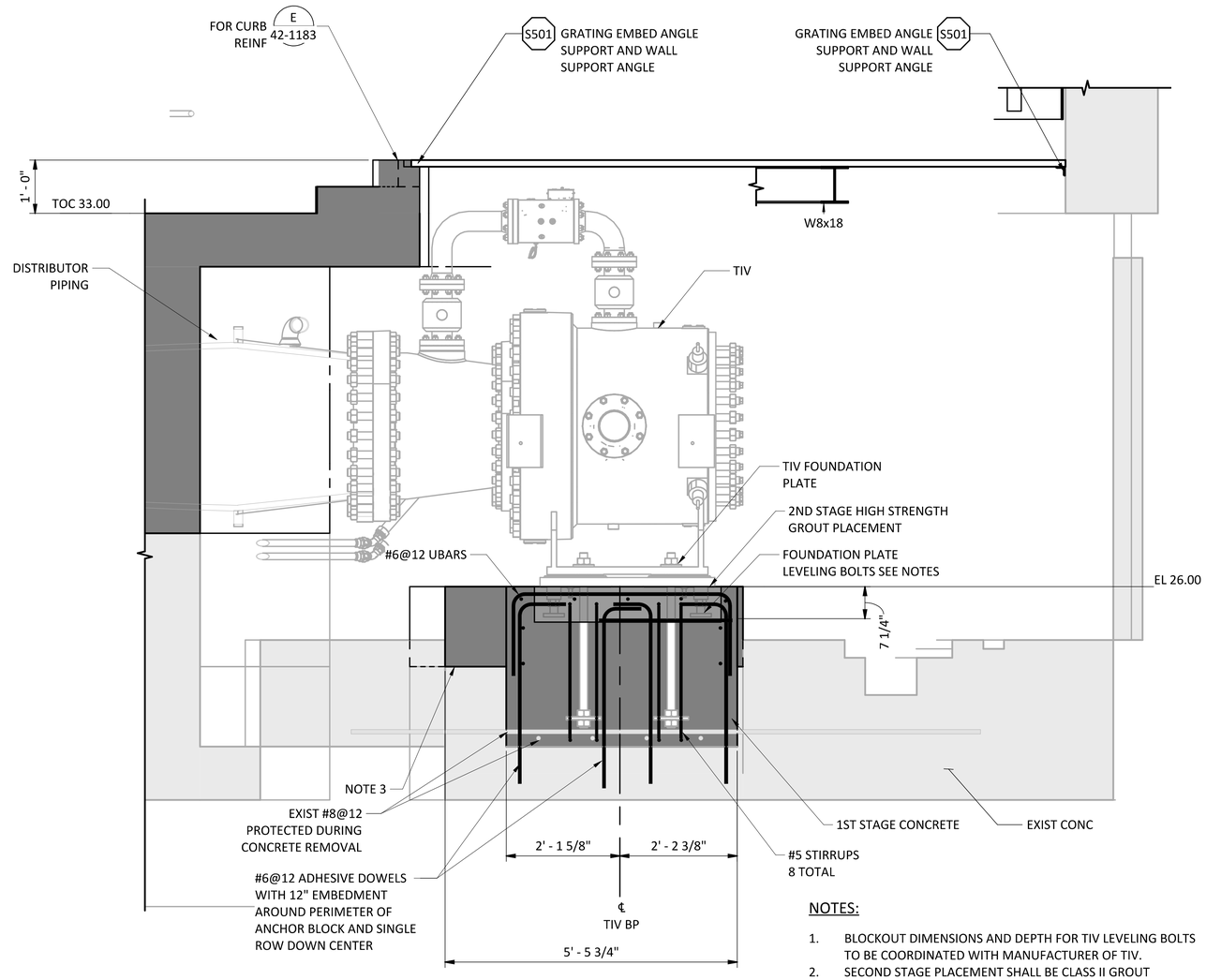
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
REINFORCEMENT SECTIONS 3

REF DWG(S):

DRAWING NO: H02-D-42-1183-R00



A 42-1177 SECTION
SCALE: 3/4" = 1'-0" 0 1' 2'



B 42-1177 SECTION
SCALE: 3/4" = 1'-0" 0 1' 2'

NOTES:

1. BLOCKOUT DIMENSIONS AND DEPTH FOR TIV LEVELING BOLTS TO BE COORDINATED WITH MANUFACTURER OF TIV.
2. SECOND STAGE PLACEMENT SHALL BE CLASS II GROUT EXTENDED WITH PEA GRAVEL.
3. OUTSIDE OF THE DEEP TIV ANCHOR BLOCK REINFORCING SHALL BE #5@12 EW, EF. ADHESIVE DOWELS WITH 6" EMBEDMENT TYPICAL.

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

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DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

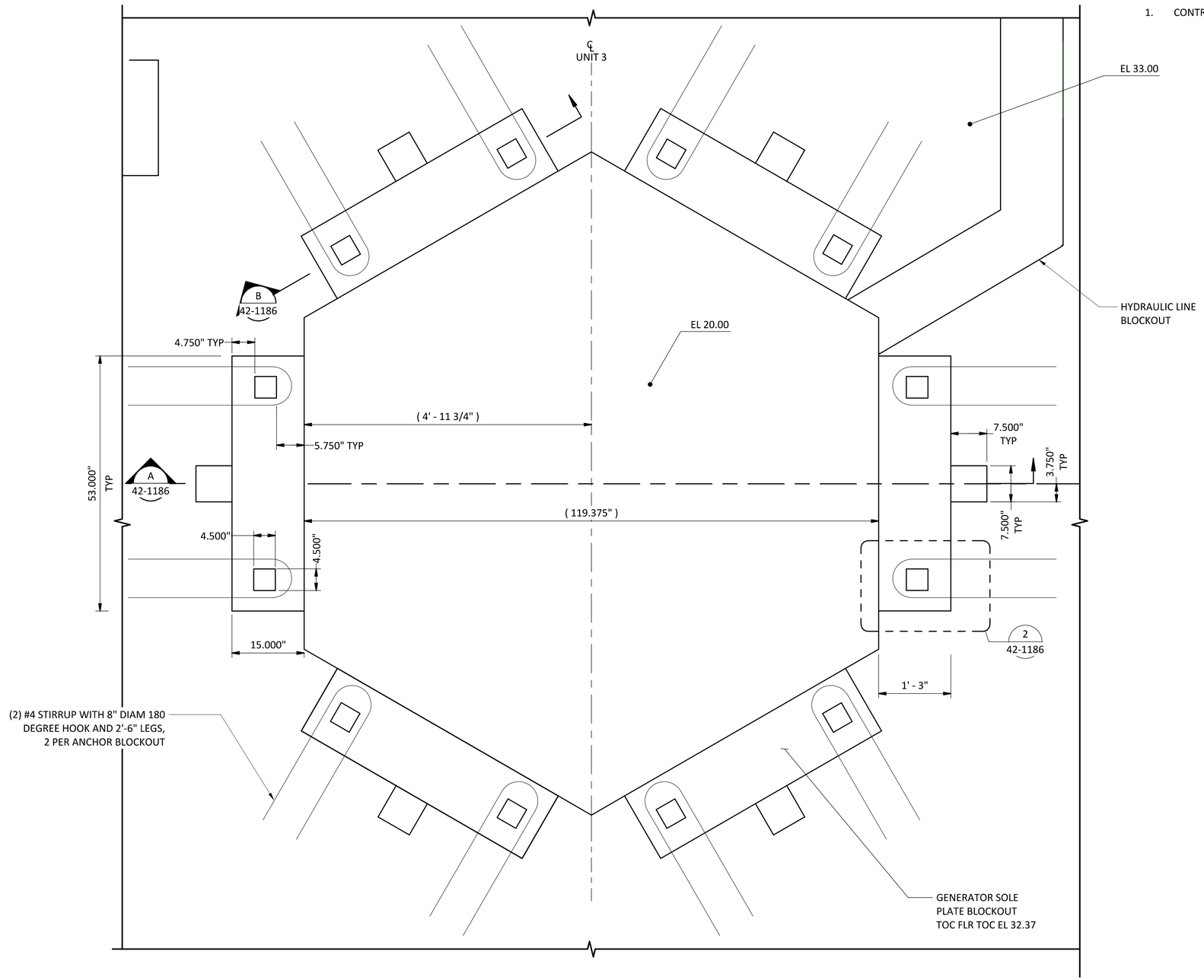
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
REINFORCEMENT SECTIONS 4

REF DWG(S):

DRAWING NO: H02-D-42-1184-R00

SHEET NOTES:

1. CONTRACTOR TO CONFIRM ALL DIMENSIONS WITH EQUIPMENT MANUFACTURER.



1 / 42-1178 GENERATOR SOLE PLATE PLAN EL 33.00

SCALE: 1" = 1'-0"

0 1' 2'

STATE OF ALASKA
49th
MARK MERKLEIN
No. 185381
REGISTERED PROFESSIONAL ENGINEER
05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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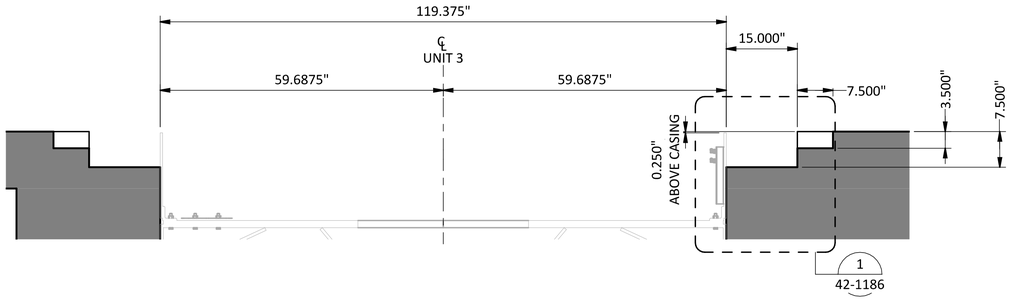
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERATOR SOLE PLATE PLAN

REF DWG(S):

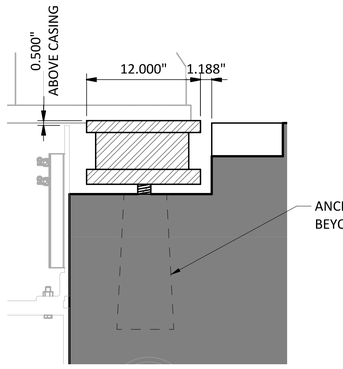
DRAWING NO: H02-D-42-1185-R00

SHEET NOTES:

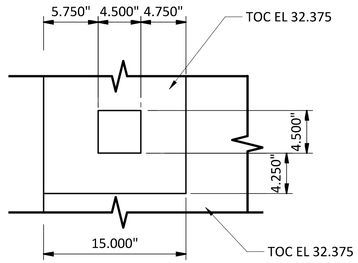
1. PRIOR TO GROUTING ENSURE ALL ALIGNMENT AND LEVELING ACTIVITIES ARE COMPLETE.
2. CONTRACTOR TO SUBMIT METHOD FOR ENSURING GROUT FULLY FILLS THE ANCHOR BOLT BLOCKOUTS FROM BOTTOM TO TOP. ONCE THE ANCHOR BOLTS BLOCKOUTS ARE COMPLETELY FILLED THE GROUTING SHALL CONTINUE TO COMPLETELY FILL BENEATH THE SOLE PLATE.
3. CONTRACTOR TO CONFIRM ALL DIMENSIONS WITH EQUIPMENT MANUFACTURER.



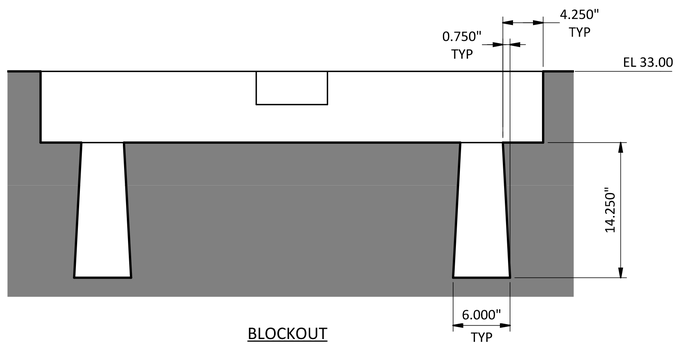
A 42-1185 SECTION
SCALE: 3/4" = 1'-0"



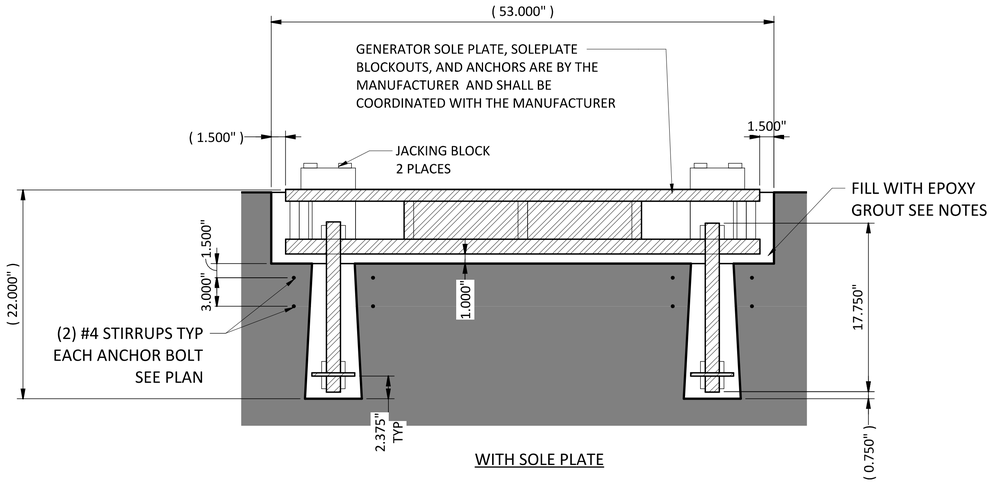
1 - DETAIL
SCALE: 1 1/2" = 1'-0"



2 42-1185 DETAIL
SCALE: 1 1/2" = 1'-0"



BLOCKOUT



WITH SOLE PLATE

B 42-1185 SECTION
SCALE: 1 1/2" = 1'-0"



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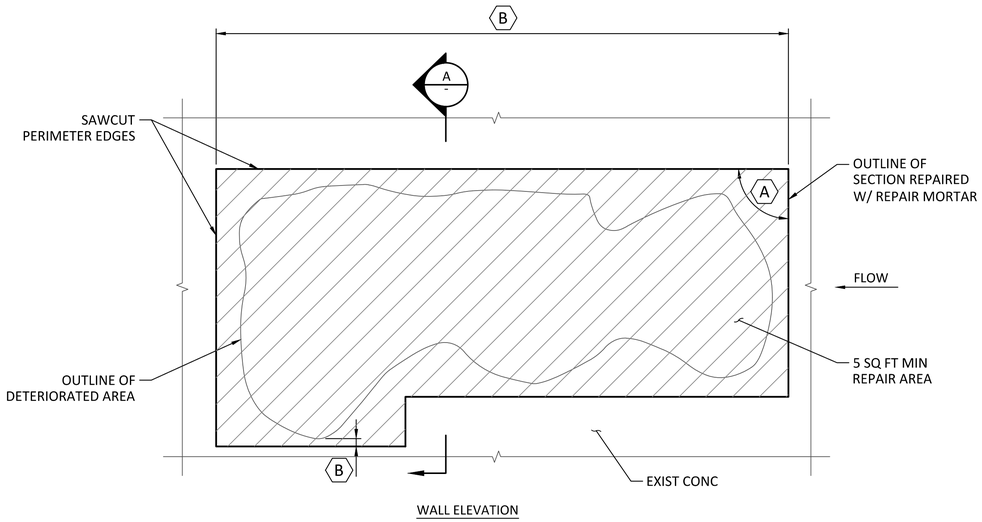
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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERATOR SOLE PLATE DETAILS

REF DWG(S):
IDEAL ELECTRIC DWG NO 530999-B16

DRAWING NO: H02-D-42-1186-R00

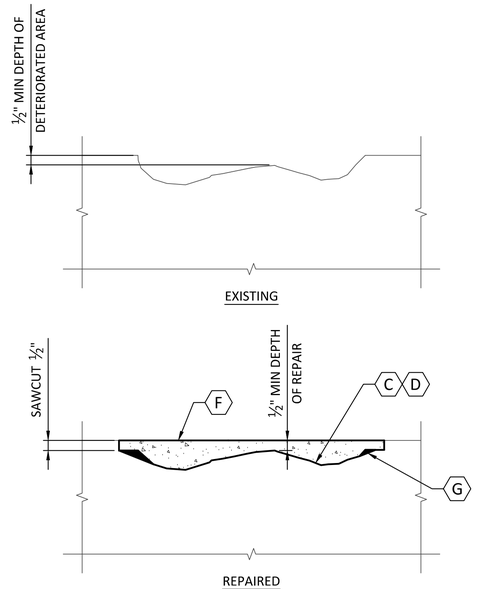


WALL ELEVATION

1 42-1176 CONCRETE SURFACE REPAIR

SCALE: 3"= 1'-0"

0" 4" 8"



A - SECTION

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

0' 8' 16'

SHEET KEY NOTES:

A 90 DEG MINIMUM INSIDE ANGLE AT ADJACENT SAWCUT LINES.

B SAWCUT AND REMOVE CONCRETE 1" MIN BEYOND DETERIORATED AREA.

C PREPARE SURFACE IN ACCORDANCE W/ MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS.

D ROUGHEN AND REMOVE SURFACE TO EXPOSE AGGREGATE. PROFILE SHALL BE A MINIMUM OF 1/8-INCH OR AS DIRECTED BY MANUFACTURER. CLEAN SURFACE WITH WATER AND OBTAIN SATURATED SURFACE DRY (SSD) CONDITION PRIOR TO REPAIR PLACEMENT. USE OF BONDING AGENT OR SCRUB COAT ONLY AS DIRECTED BY MANUFACTURER. SURFACES TO RECEIVE REPAIR MORTAR.

E APPLY REPAIR MORTAR PER MANUFACTURER'S INSTRUCTIONS. DO NOT EXCEED MATERIAL MANUFACTURER'S MAXIMUM LIFT THICKNESS. IF MULTIPLE LIFTS ARE REQUIRED, APPLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

F APPLY REPAIR MORTAR PER MANUFACTURER'S INSTRUCTIONS.

G REMOVE CONCRETE AS NEEDED FOR A SMOOTH TRANSITION.

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 PROFESSIONAL ENGINEER 05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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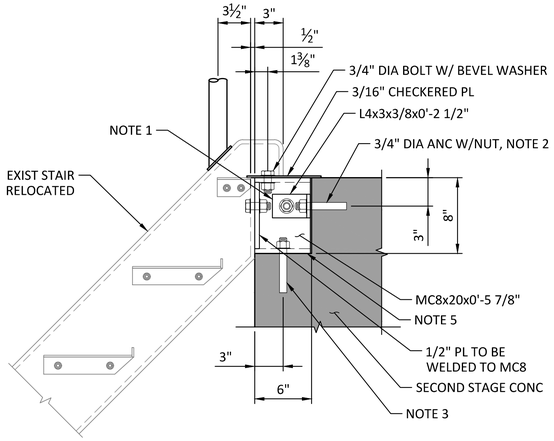
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Southeast Alaska Power Agency

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
DETAILS 1

REF DWG(S):
–

DRAWING NO.: H02-D-42-1187-R00

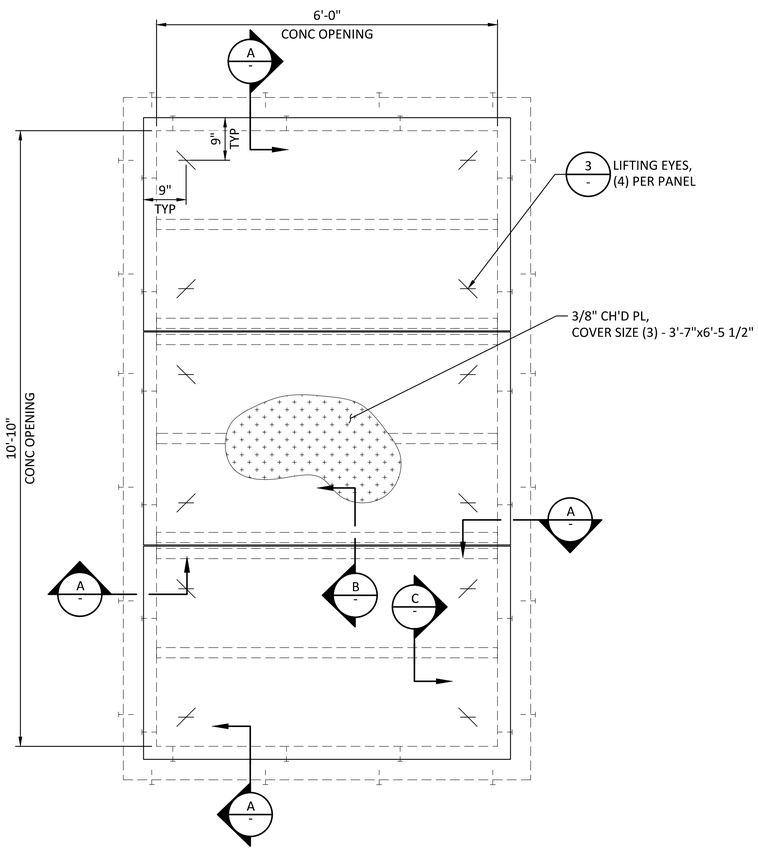


NOTES:

1. CONTRACTOR TO REUSE MC8 WITH CHECKER PLATE FROM ORIGINAL INSTALLATION.
2. REPLACE ANCHORS FOR ANGLE CONNECTION WITH 3/4" ADHESIVE ANCHORS WITH 4-INCH EMBEDMENT.
3. ANCHOR THROUGH MC8 FLANGE WILL NOT BE ACCESSIBLE. INSTALL NEW L4X3X3/8 ON BACKSIDE OF MC8 TO BEAR ON CONCRETE LEDGE.
4. TOUCH UP PAINT ALL SURFACES.
5. PROVIDE CONCRETE BLOCKOUT FULL WIDTH OF OPENING.
6. BASE SLAB TO STRINGER CONNECTION PROVIDE 3/4" ADHESIVE ANCHOR WITH 4-INCH EMBEDMENT. ONE PER STRINGER.

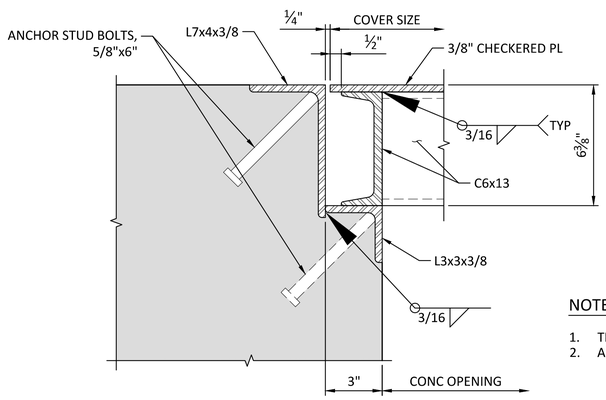
1 / 42-1179 STAIR TOP DETAIL

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



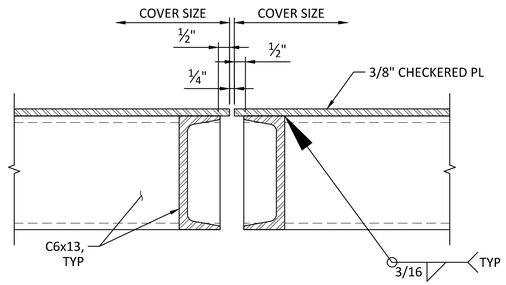
2 / 42-1179 FLOOR HATCH DETAIL

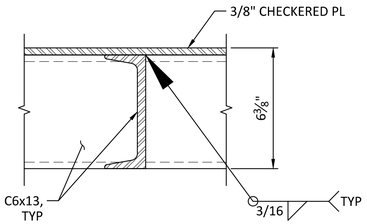
SCALE: 3/4"= 1'-0"



A SECTION

SCALE: 3"= 1'-0"





NOTES:

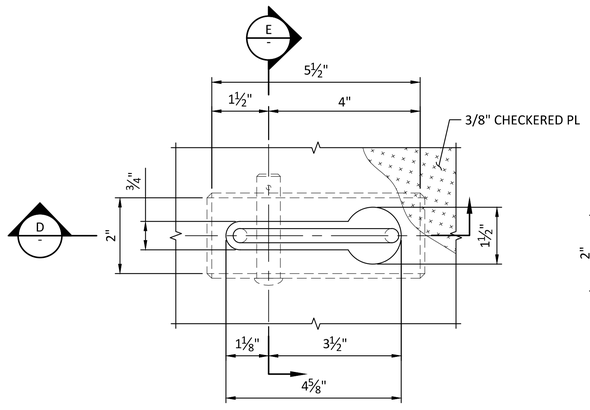
1. THESE DETAILS MATCH THOSE ON RECORD DRAWING TY-41-140.
2. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION.

B SECTION

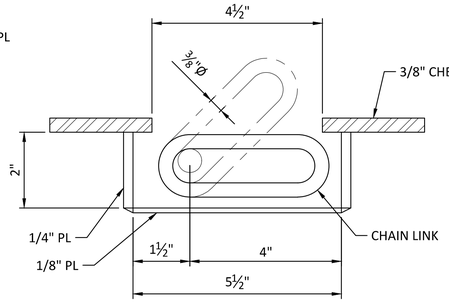
SCALE: 3"= 1'-0"

C SECTION

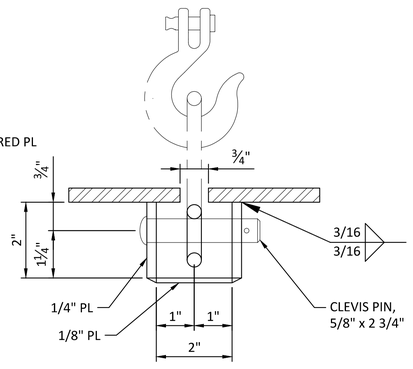
SCALE: 3"= 1'-0"



PLAN



SECTION D



SECTION E

3 / - LIFTING EYE

SCALE: 6"= 1'-0"

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 PROFESSIONAL ENGINEER 05-18-26

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NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION
2	H02-D-43-1005-R01	MISCELLANEOUS METAL – METAIL HANDRAILS & LADDER DETAILS
1	H02-D-43-1001-R01	MISCELLANEOUS METAL – HATCH DETAIL

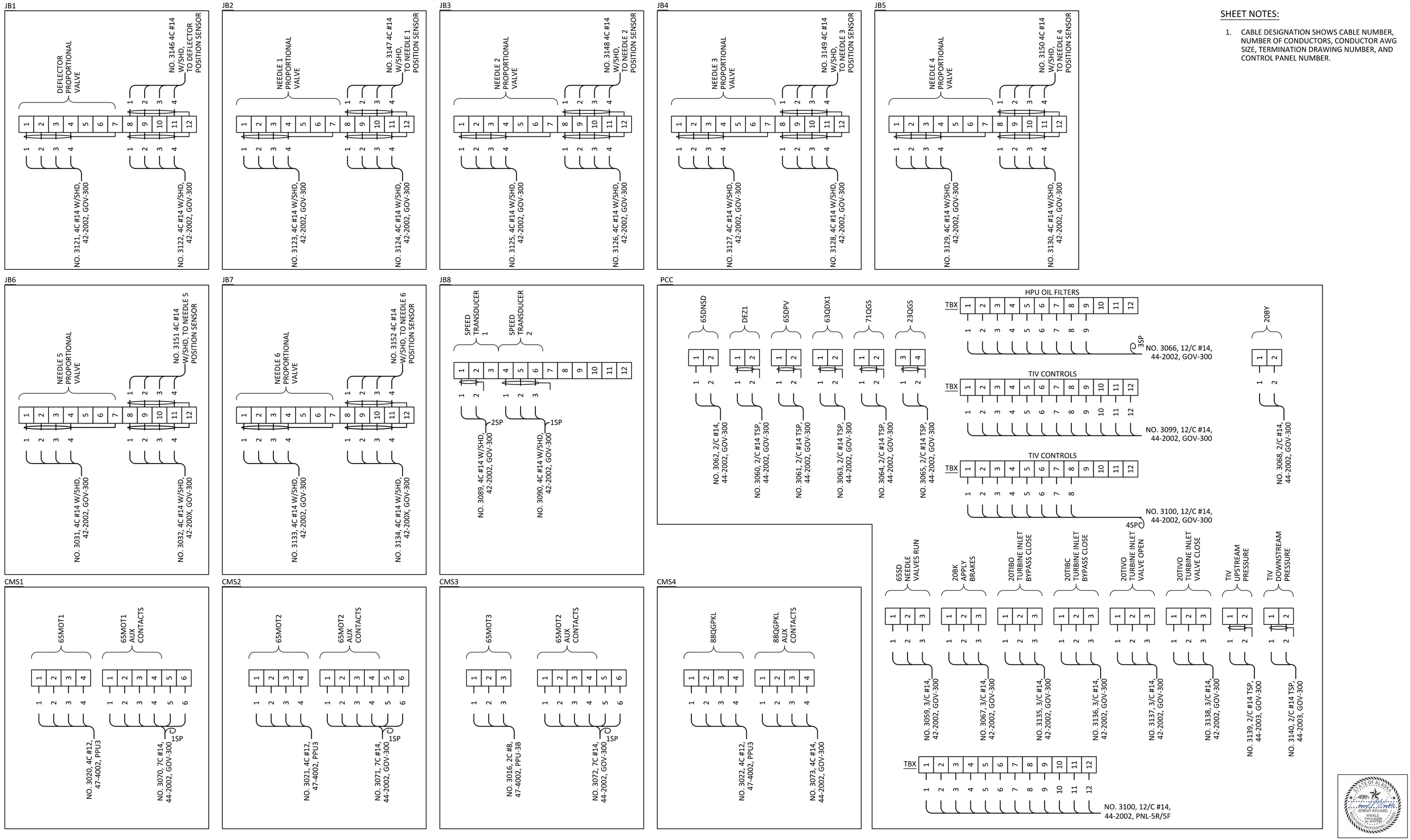
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MISCELLANEOUS METAL DETAILS

REF DWG(S):

DRAWING NO.: H02-D-43-1032-R00

SHEET NOTES:

1. CABLE DESIGNATION SHOWS CABLE NUMBER, NUMBER OF CONDUCTORS, CONDUCTOR AWG SIZE, TERMINATION DRAWING NUMBER, AND CONTROL PANEL NUMBER.



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen Inc		JOB #: T.O. 24017	
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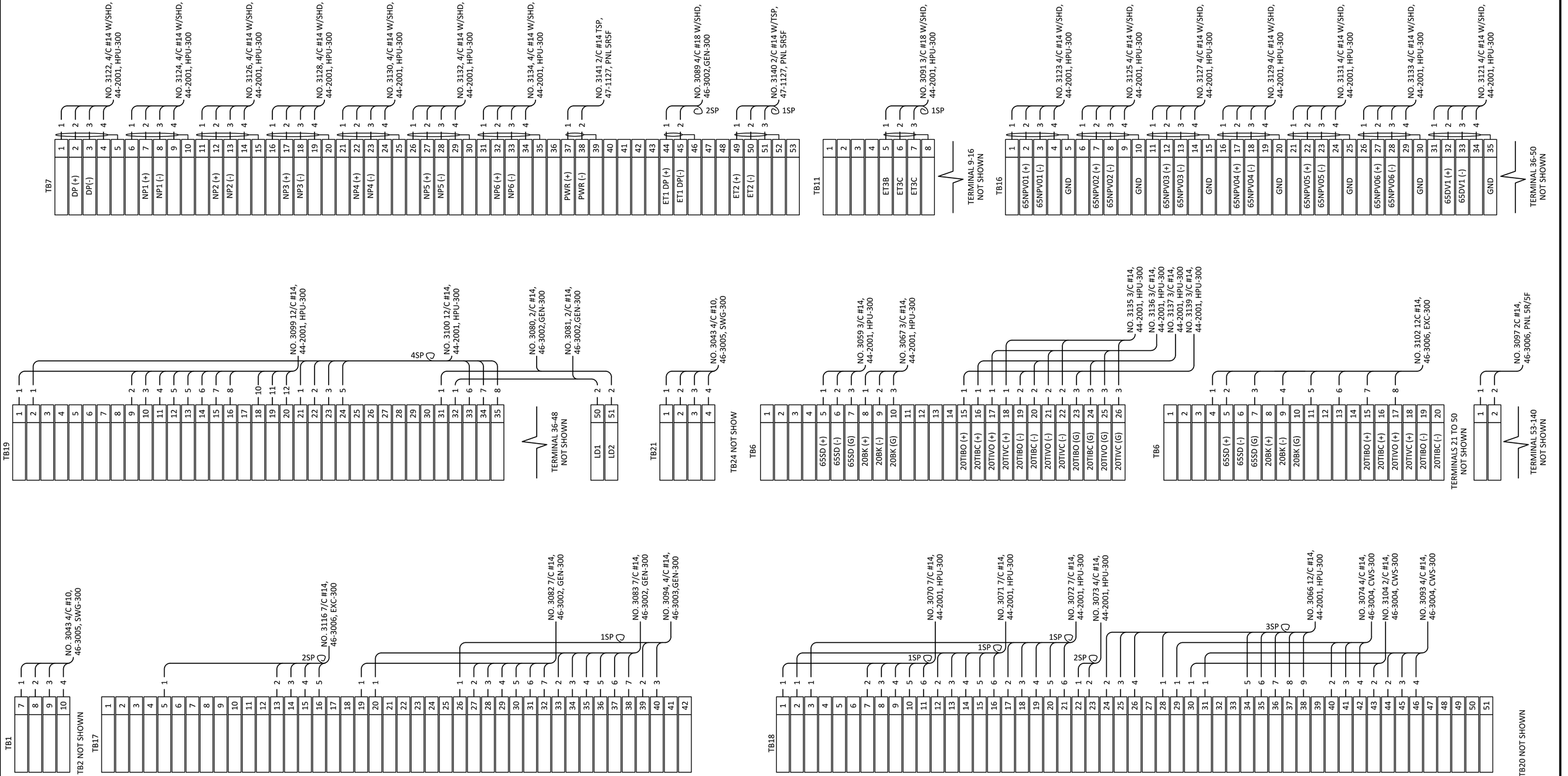
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Southeast Alaska Power Agency

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
HPU WIRING DIAGRAM

REF DWG(S):
–

DRAWING NO.: H02-D-44-2001-R00



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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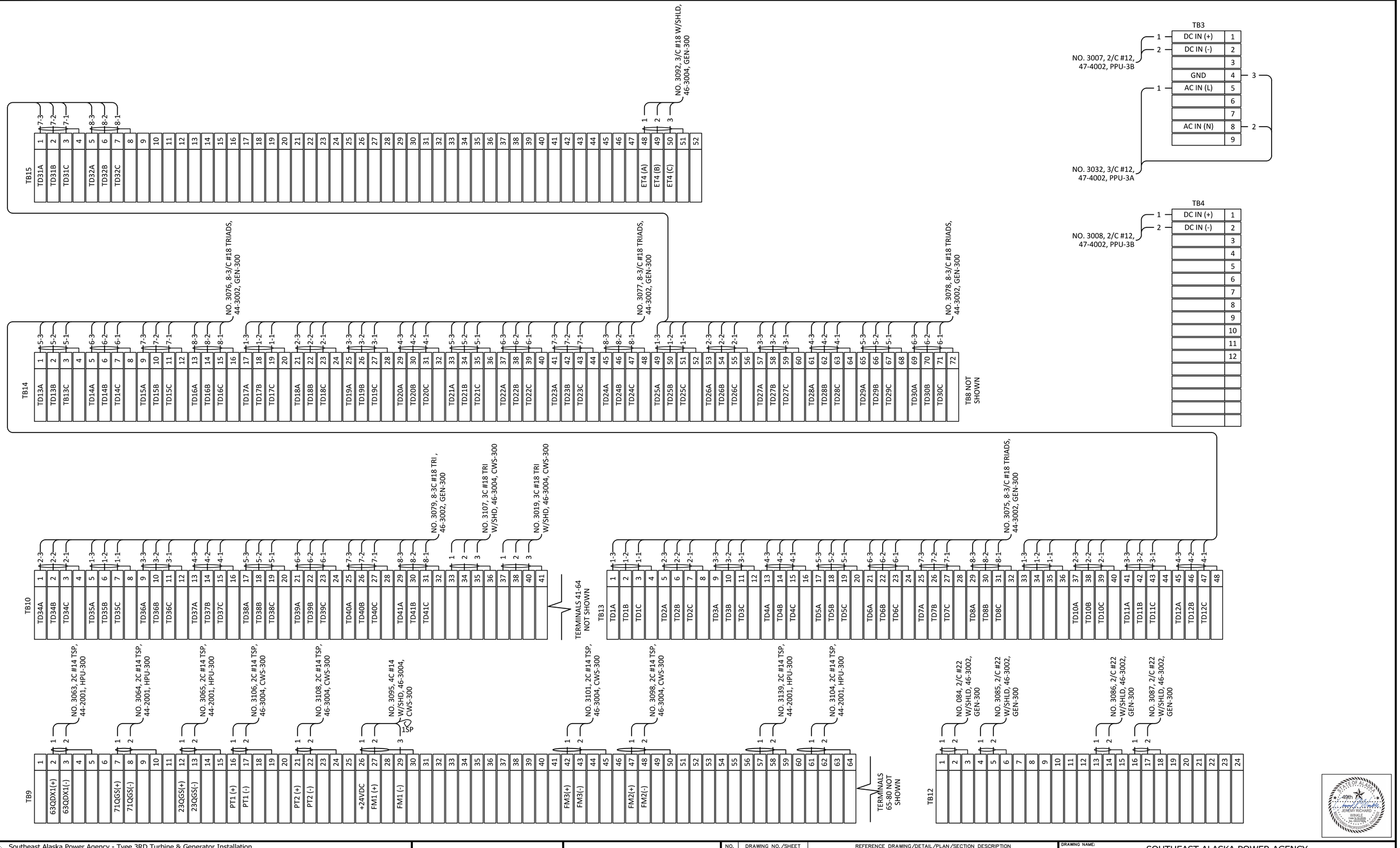
SEAPA
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NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GOVERNOR CONTROLS WIRING DIAGRAM 1

REF DWG(S):
L&S – PG000044-1D-E19

DRAWING NO.: H02-D-44-2002-R00



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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Southeast Alaska Power Agency

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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GOVERNOR CONTROLS WIRING DIAGRAM 2

REF DWG(S):
L&S – PG000044–1D–E19

DRAWING NO.: H02-D-44-2003-R00

TURBINE SCHEDULE

EQUIPMENT NUMBER	LOCATION	SERVICE	EQUIPMENT DESCRIPTION	FLOW CAPACITY AND NET HEAD	HYDRAULIC OUTPUT (Kw)	REGULATION	SPEC SECTION	COMMENTS
TUR-100	TURBINE FLOOR	HYDROELECTRIC TURBINE	VERTICAL PELTON	127 CFS @ 1,306 FT	12,500	INTERNAL NOZZLE		EXISTING
TUR-200	TURBINE FLOOR	HYDROELECTRIC TURBINE	VERTICAL PELTON	127 CFS @ 1,306 FT	12,500	INTERNAL NOZZLE		EXISTING
TUR-300	TURBINE FLOOR	HYDROELECTRIC TURBINE	VERTICAL PELTON	117 CFS @ 1,275 FT	11,300	INTERNAL NOZZLE	48 13 13	OWNER FURNISHED

GENERATOR SCHEDULE

EQUIPMENT NUMBER	LOCATION	SERVICE	SPEED (RPM)	POWER OUTPUT (kVA)	POWER FACTOR	ELECTRICAL SERVICE (V/PH/CY)	CONNECTION	INSULATION	EXCITATION	SPEC SECTION	COMMENTS
GEN-100	GENERATOR FLOOR	SYNCHRONOUS GENERATOR	720	12,500	0.90	13,800/3/60	WYE	F/F	STATIC		EXISTING
GEN-200	GENERATOR FLOOR	SYNCHRONOUS GENERATOR	720	12,500	0.90	13,800/3/60	WYE	F/F	STATIC		EXISTING
GEN-300	MACHINE FLOOR	SYNCHRONOUS GENERATOR	720	12,500	0.90	13,800/3/60	WYE	F/F	BRUSHLESS		OWNER FURNISHED

TURBINE INLET VALVE SCHEDULE

EQUIPMENT NUMBER	LOCATION	SERVICE	FLUID	TYPE	DIAMETER (IN)	ASME PRESSURE CLASS	ENDS	ACTUATOR TYPE (NORMAL POSITION)	MATERIAL	SPEC SECTION	COMMENTS
TIV-100	EL 27.00	TURBINE INLET VALVE	WATER	BALL VALVE	26	300	FLG X FLG	WATER (OPEN)	STEEL, FORGED		EXISTING
TIV-200	EL 27.00	TURBINE INLET VALVE	WATER	BALL VALVE	26	300	FLG X FLG	WATER (OPEN)	STEEL, FORGED		EXISTING
TIV-300	EL 27.00	ISOLATION VALVE	WATER	BALL VALVE	26	300	FLG X FLG	MANUAL (OPEN)	STEEL, FORGED		EXISTING
TIV-301	EL 27.00	TURBINE INLET VALVE	WATER	BALL VALVE	26	300	FLG X FLG	HYDRAULIC (OPEN)	STEEL, FORGED		OWNER FURNISHED

EQUIPMENT SCHEDULE

EQUIPMENT NUMBER	LOCATION	SERVICE	EQUIPMENT DESCRIPTION	FLUID	FLOW CAPACITY (GPM) AND PRESSURE (PSI)	MOTOR SIZE (QTY x HP, POWER TYPE)	ELECTRICAL SERVICE (V/PH/CY)	SPEC SECTION	COMMENTS
CWS-300	MACHINE FLOOR	COOLING WATER	COOLING WATER SKID	WATER/GLYCOL	234 GPM @ 75 PSI	(2x) 20 HP, AC	460V/3/60 HZ	43 24 13	OWNER FURNISHED
HPU-300	MACHINE FLOOR	HYDRAULIC POWER	HYDRAULIC POWER UNIT SKID	OIL	13 GPM @ 1,700 PSI	(2x) 20 HP, AC / (1x) 5 HP DC	460V/3/60 HZ	43 24 13	OWNER FURNISHED
HE-300	TAILRACE FLOOR	COOLING WATER	HEAT EXCHANGER	WATER/GLYCOL	234 GPM @ 75 PSI	N/A	N/A	43 24 13	OWNER FURNISHED
HJU-300	MACHINE FLOOR	HYDRAULIC POWER	HYDROSTATIC JACKING UNIT	OIL	7 GPM @ 3,000 PSI	(1x) 15 HP, AC	460V/3/60 HZ	43 24 13	OWNER FURNISHED

PUMP SCHEDULE

EQUIPMENT NUMBER	LOCATION	SERVICE	EQUIPMENT DESCRIPTION	FLUID	FLOW CAPACITY (GPM) AND TDH (FT)	MOTOR SIZE (HP)	ELECTRICAL SERVICE (V/PH/CY)	SPEC SECTION	COMMENTS
P-300	TURBINE DISTRIBUTOR FLOOR	COOLING WATER	VERTICAL TURBINE PUMP	RAW WATER	763 GPM @ 17 PSI	5	460V/3/60 HZ	40 05 13	

VALVE SCHEDULE

EQUIPMENT NUMBER	LOCATION	SERVICE	TYPE	FLUID	DIAMETER (IN)	ASME PRESSURE CLASS	ENDS	ACTUATOR TYPE (NORMAL POSITION)	MATERIAL	SPEC SECTION	COMMENTS
V-300	TURBINE DISTRIBUTOR FLOOR	COOLING WATER	BUTTERFLY	RAW WATER	6	150	FL X FL	MANUAL (OPEN)	DUCTILE IRON	40 05 13	WITH HANDWHEEL OPERATOR
V-301	TURBINE DISTRIBUTOR FLOOR	COOLING WATER	SWING CHECK	RAW WATER	6	150	FL X FL	N/A	DUCTILE IRON	40 05 13	
V-302	TURBINE DISTRIBUTOR FLOOR	COOLING WATER	ORFICE PLATE	RAW WATER	6	150	N/A	N/A	STAINLESS STEEL		
V-303	SUMP #3	COOLING WATER	GATE	RAW WATER	8	150	FL X FL	MANUAL (OPEN)	DUCTILE IRON	40 05 13	NON RISING STEM; 2 INCH SQUARE NUT...
V-304	SUMP #3	COOLING WATER	BUTTERFLY	RAW WATER	10	150	FL X FL	MANUAL (OPEN)	DUCTILE IRON	40 05 13	2 INCH SQUARE NUT OPERATOR
V-305	SWITCHYARD	DRAIN	GATE	RAW WATER	4	150	FL X FL	MANUAL (OPEN)	DUCTILE IRON	40 05 13	PETRO-PIPE MANIFOLD ISOLATION VALVE
V-306	SWITCHYARD	DRAIN	GATE	RAW WATER	4	150	FL X FL	MANUAL (CLOSED)	DUCTILE IRON	40 05 13	PETRO-PIPE MANIFOLD ISOLATION VALVE

SUPPLY DIFFUSER SCHEDULE

TAG	DIMENSIONS		MOUNTING	MATERIAL	THROW PATTERN	BLADE SPACING	NOISE CRITERIA NOT TO EXCEED	BASIS OF DESIGN	NOTES
	FACE	DUCT							
SD-1	12"x12"	10"x10"	SURFACE	STEEL/ALUMINUM	DOUBLE DEFLECTION	1 1/4"	NC 24 @ 472CFM	TITUS 112RS	STEEL FRAME DIFFUSER WITH ALUMINUM AIRFOIL BLADES. SELECT MOUNTING TYPE SUITABLE FOR ATTACHMENT TO DUCT FLANGE, REFER TO DRAWINGS.
SD-2	10"x10"	8"x8"	SURFACE	STEEL/ALUMINUM	DOUBLE DEFLECTION	1 1/4"	NC 24 @ 472CFM	TITUS 112RS	STEEL FRAME DIFFUSER WITH ALUMINUM AIRFOIL BLADES. SELECT MOUNTING TYPE SUITABLE FOR ATTACHMENT TO DUCT FLANGE, REFER TO DRAWINGS.

STATE OF ALASKA
49 TH
Jay Dobos
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MECHANICAL EQUIPMENT SCHEDULE

REF DWG(S):

DRAWING NO: H02-D-45-0085-R00

VALVES

- 3 WAY MULT-PORT VALVE
- 4 WAY MULTI-PORT VALVE
- AIR VACUUM, AIR RELEASE, OR AIR VACUUM AND AIR RELEASE ASSEMBLY
- BALL VALVE
- BALL CHECK VALVE
- BUTTERFLY VALVE
- OR CHECK VALVE
- CONE VALVE
- FLAP VALVE
- GATE VALVE
- DIAPHRAGM VALVE
- ECCENTRIC PLUG VALVE
- GLOBE VALVE
- HB
- HB OR HB HOSE BIBB FROM TOP, FRONT AND SIDE VIEW
- HB
- NEEDLE VALVE
- PRESSURE REGULATING VALVE
- PRESSURE RELIEF VALVE
- SLEEVE VALVE
- STOP CHECK VALVE
- TELESCOPING VALVE
- PINCH VALVE
- METER OUT FLOW CONTROL VALVE
- 3 POSITION, 4 WAY DIRECTIONAL CONTROL VALVE, CLOSED CENTER, SOLENOID OPERATED, SPRING CENTERED

VALVE AND GATE ACTUATORS

- E — ELECTRIC ACTUATOR
- H — HYDRAULIC ACTUATOR
- P — PNEUMATIC ACTUATOR
- S — SOLENOID ACTUATOR
- M — MOTOR OPERATOR
- HAND / MANUAL ACTUATOR

GATES

- SLIDE GATE (CAST IRON, ALUMINUM OR STAINLESS STEEL)
- STOP GATE OR SHEAR GATE

FITTINGS AND ACCESSORIES

- ANNULAR SEAL
- ATMOSPHERIC VENT
- BLIND FLANGE
- CAP (THREAD-ON)
- CAP (WELD-ON)
- QUICK DISCONNECT
- MALE QUICK DISCONNECT WITH CAP
- FEMALE QUICK DISCONNECT WITH CAP
- T — CONDENSATE TRAP
- INJECTOR/EDUCTOR
- OR — LEVEL SWITCH
- IN-LINE STATIC MIXER

FITTINGS AND ACCESSORIES

- CALIBRATION COLUMN
- FLOW METER
- UM — ULTRASONIC METER
- DIAPHRAGM SEAL
- DRAIN
- EXPANSION JOINT
- OR FLEXIBLE CONNECTION
- FCO / FCO — FLOOR CLEANOUT
- FLOOR DRAIN
- FLOOR SINK
- HUB DRAIN
- LEVEL TRANSMITTER
- VOLUMETRIC FEEDER
- MECHANICAL TYPE COUPLING
- PIPE SUPPORT (PLAN)
- PULSATION DAMPENER
- REDUCER - CONCENTRIC
- REDUCER - ECCENTRIC
- REMOVABLE SPOOL PIECE
- SLEEVE TYPE COUPLING
- STRAINER - WYE TYPE
- G — PRESSURE GAGE
- G S — PRESSURE GAGE AND SWITCH WITH DIAPHRAGM SEALS
- T — TRAP
- UNION
- WCO / WCO — WALL CLEANOUT
- VERT ELBOW DOWN
- VERT ELBOW UP
- VERT TEE UP
- VERT TEE DOWN

PUMPS & COMPRESSORS

- HORIZONTAL ANSI END SUCTION PUMP
- CENTRIFUGAL PUMP
- CHEMICAL METERING PUMP
- CIRCULATING PUMP
- DRUM PUMP
- GEAR PUMP OR ROTARY POSITIVE DISPLACEMENT BLOWER
- HOSE PUMP
- PROGRESSIVE CAVITY PUMP
- ROTARY LOBE PUMP
- SUBMERSIBLE PUMP
- VERTICAL TURBINE PUMP
- PISTON DRIVEN COMPRESSOR
- COMPRESSOR
- M — MOTORIZED MIXER
- LEVEL TRANSMITTER
- DIAPHRAGM PUMP
- CHEMICAL METERING/TUBING PUMP
- CENTRIFUGAL PUMP

GENERAL NOTES:

1. ALL SYMBOLS ARE NOT NECESSARILY USED. THIS IS A STANDARD DRAWING SHOWING COMMON SYMBOLS ON THIS PROJECT.
2. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH DRAWING FOR USAGE.

ABBREVIATIONS

AV	AIR RELEASE VALVE
AVV	VACUUM RELEASE VALVE
BP	BYPASS
BS	BASKET STRAINER
CGW	CHILLED WATER
CH	CHILLER
CV	CHECK VALVE
DG	WATER DEGASSER
DR	DRAIN
EA	EACH
ER	RECYCLED WATER
ERP	ENERGY RECOVERY PUMP
FF	FINISHED FLOOR
FM	FLOW METER
GPM	GALLONS PER MINUTE
GW	WELL WATER
GWP	GROUNDWATER PUMP
HEX	HEAT EXCHANGER
MS	MICRO STRAINER
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
NT	NORMALLY THROTTLED
OF	OVERFLOW
P	PUMP
PCW	PRE-CHILLED WATER
RP	REUSE WATER PUMP
SC	SCREEN
SP	SURFACE WATER PUMP
V	VALVE

GENERAL NOTES FOR MECHANICAL DRAWINGS:

1. FOR EXTERIOR YARD PIPING, SEE CIVIL ("C") DRAWINGS. FOR INTERIOR PROCESS PIPING AND PLANT/PROCESS DRAINS, SEE PROCESS MECHANICAL AND FLOOR DRAIN PIPING ("M") DRAWINGS. FOR MECHANICAL AND OTHER HVAC EQUIP. - SEE HVAC ("H") DRAWINGS. FOR FIRE PROTECTION PIPING REQUIREMENTS, SEE FIRE PROTECTION ("FP") DRAWINGS.
2. SEE GENERAL ("G") DRAWINGS FOR ADDITIONAL NOTES, LEGEND, SYMBOLS, ABBREVIATIONS, AND EQUIPMENT, PIPE, AND AREA DESIGNATION SYSTEMS.
3. THE "FIELD LEVEL" OF THE INSTRUMENTATION (P&ID) DRAWINGS ARE INTENDED TO SERVE AS PROCESS PIPING SCHEMATICS FOR ALL UTILITY WATER AND HYD ACTUATOR SYSTEMS. PROCESS SYSTEM INSTRUMENTATION & ALL PIPING OF 1.5" DIAMETER AND SMALLER ARE NOT SHOWN IN ENTIRETY ON PROCESS MECH. (M SHEETS) PLANS AND SECTIONS. CONTRACTOR SHALL SUPPLY & FIELD ROUTE PIPING IN AGREEMENT WITH THE P&ID "FIELD LEVEL" PIPING SCHEMATICS AS WELL AS THE INFORMATION SHOWN ON THE M SHEETS.
4. PIPING SHALL RUN THROUGH CONC. SLABS AND WALLS WHERE INDICATED ON THE DRAWINGS UTILIZING WALL AND FLOOR FITTINGS AS NOTED OR REQUIRED.
5. ALL PIPING NEAR VALVES, FITTINGS, APPURTENANCES, EXPANSION JOINTS, COUPLINGS, AND EQUIPMENT CONNECTIONS ARE TO BE PROPERLY SUPPORTED AND ANCHORED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS (IN ADDITION TO PIPE SUPPORT REQUIREMENTS OF THE CONTRACT DOCUMENTS). SUPPORT AND THRUST DETAILS SHALL BE ACCEPTABLE TO THE DESIGN ENGINEER AND SHALL BE BASED UPON ALL PIPES FULL OF WATER.
6. PIPING SHALL BE INSTALLED SUCH THAT ANY PIPES, LAYER OF PIPING, OR EQUIPMENT CAN BE REMOVED WITHOUT DISTURBING REMAINING PIPES OR SUPPORTS. PIPE ANCHORS, EQUIPMENT, AND PIPE SUPPORTS / HANGERS ARE TYPICALLY NOT SHOWN FOR PIPES OF 2-INCH DIAMETER AND SMALLER. SEE CONTRACT SPECIFICATIONS AND STANDARD DETAILS.
7. WHERE MECHANICAL (SPLIT RING) OR SLEEVE-TYPE COUPLINGS ARE REQUIRED, INSURE THAT THE JOINTS ARE FULLY SEPARATED AND EQUALLY SPACED EACH SIDE OF SEPARATION AFTER THE RINGS ARE IN PLACE AND PRIOR TO TIGHTENING THE BOLTS.
8. EQUIPMENT PADS INDICATED ARE APPROXIMATE. EXACT DIMENSIONS SHALL BE DETERMINED BY THE FINAL APPROVED SUBMITTALS AND EQUIPMENT VENDOR REQUIREMENTS. ALL FLOOR-MOUNTED EQUIPMENT, UNO, SHALL BE SET ON EQUIPMENT PADS IN ACCORDANCE WITH THE TYPICAL EQUIPMENT PAD AND ANCHOR BOLT DETAILS SHOWN ON THE STRUCTURAL DRAWINGS AND AS SPECIFIED.
9. THE FINAL ORIENTATION OF VALVE OPERATORS INCLUDING HANDWHEELS AND GEAR OPERATORS SHALL BE COORDINATED BETWEEN THE CONTRACTOR AND DESIGN ENGINEER / CONSTRUCTION MANAGER DURING SHOP DRAWING SUBMITTALS AND INSTALLATION.
10. THE DESIGN ENGINEER IS RESPONSIBLE FOR MAKING NECESSARY ADJUSTMENTS TO LAYOUTS AND DIMENSIONS SHOWN TO ACCOMMODATE FINAL EQUIPMENT FURNISHED.
11. FOR PIPES 4-INCHES IN DIAMETER OR LARGER, PIPE SUPPORT SPACING SHALL BE AS SHOWN ON THE DRAWINGS OR AS SPECIFIED, WHICHEVER IS MORE RESTRICTIVE.

STATE OF ALASKA 49 TH — Jay Dubas — Date: 5-16-2026 — No. ME-242634 — REGISTERED PROFESSIONAL ENGINEER

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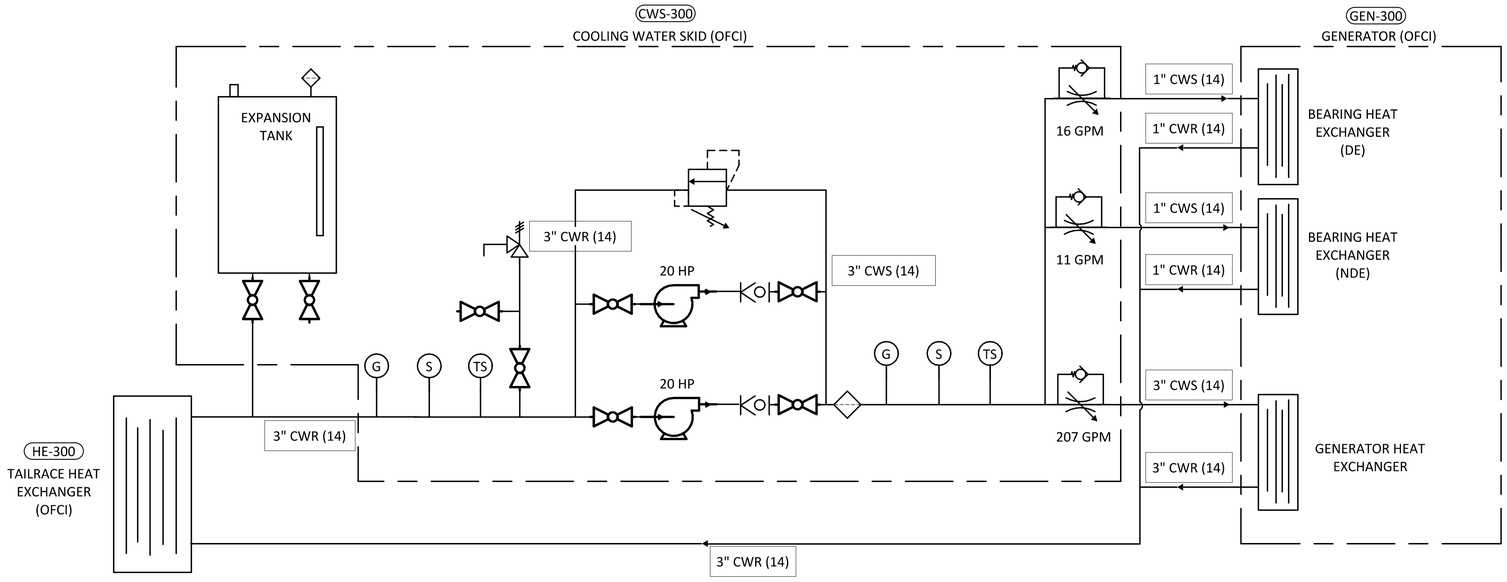
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
PROCESS FLOW DIAGRAM STANDARD SYMBOLS AND NOTES

REF DWG(S):

DRAWING NO: H02-D-45-0088-R00 SHEET 50 OF 144

SHEET NOTES:

1. COOLING WATER SYSTEM DESIGN SHOWN IS PRELIMINARY AND BASED ON THE CANYON HYDRO HYDRAULIC SCHEMATIC DRAWING NO. 027097. CONTRACTOR SHALL REFER TO LATEST REVISION OF HYDRAULIC SCHEMATIC FOR INSTALLATION REQUIREMENTS.
2. COOLING WATER SYSTEM CONSISTS OF A SELF-CONTAINED SKID HOUSING THE NECESSARY COOLING WATER PUMPS, VALVES AND EXPANSION TANK WHICH DRAWS COOL WATER FROM A KEEL-COOLER STYLE HEAT EXCHANGER LOCATED WITHIN THE UNIT 3 TAILRACE AND SUPPLIES PRESSURIZED WATER THROUGH THE HEAT EXCHANGERS LOCATED WITHIN THE GENERATOR HOUSING AND BEARINGS. THE COOLING WATER SKID, GENERATOR HEAT EXCHANGERS, AND TAILRACE HEAT EXCHANGERS ARE OWNER SUPPLIED. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF THE EQUIPMENT AND ROUTING OF THE COOLING WATER PIPING.
3. COOLING WATER SYSTEM IS INTENDED SOLELY FOR OPERATION OF UNIT 3. THE EXISTING UNITS 1 AND 2 OPERATE OFF SEPARATE OPEN LOOP COOLING WATER SYSTEMS.



COOLING WATER SYSTEM PROCESS SCHEMATIC

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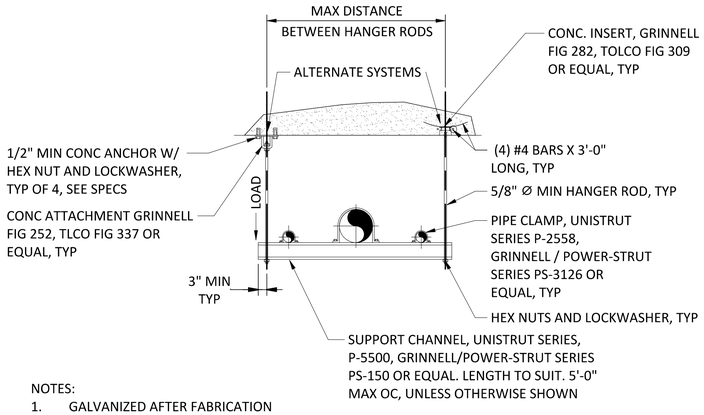
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TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
COOLING WATER SYSTEM PROCESS SCHEMATIC

REF DWG(S):

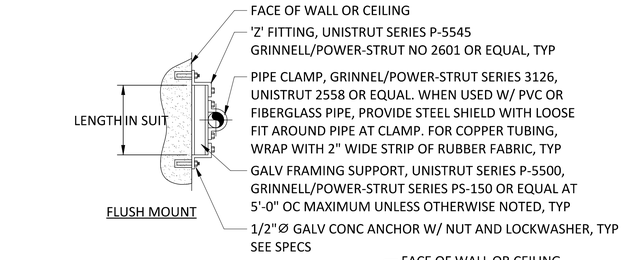
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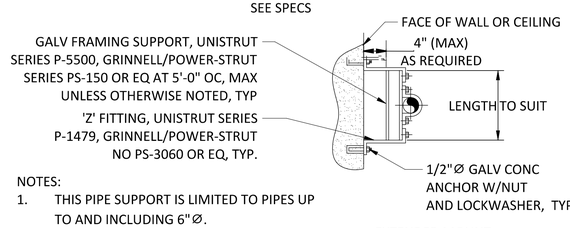


NOTES:
1. GALVANIZED AFTER FABRICATION
2. FOR ADDITIONAL REQUIREMENTS, SEE SECTION "PIPE SUPPORTS"
3. THIS PIPE HANGER IS LIMITED TO PIPE SIZED 1/2" Ø.
4. THIS PIPE HANGER IS NOT SUITABLE FOR PRECAST TEE BEAMS.
5. FOR PVC OR FIBER GLASS PIPE, PROVIDE STL SHIELD WITH LOOSE FIT AROUND PIPE AT "U" BOLT, WRAP COPPER TUBING 360° WITH 2" WIDE STRIP OR 1/8" THK RUBBER FABRIC.

M115 TRAPEZE HANGER - FOR PIPE 6"DIA & SMALLER

SCALE: NTS



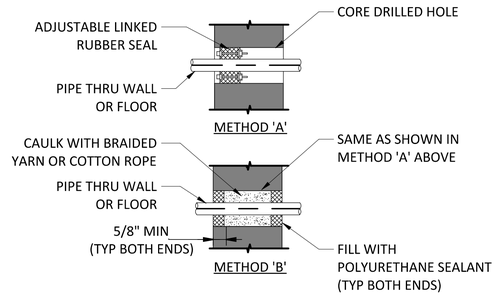


EXTENDED MOUNT

NOTES:
1. THIS PIPE SUPPORT IS LIMITED TO PIPES UP TO AND INCLUDING 6"Ø.
2. FOR ADDITIONAL REQUIREMENTS SEE SPECIFICATION SECTION 'PIPE SUPPORTS'.

M122 PIPE SUPPORT FOR INDIVIDUAL PIPES - FOR PIPES 6" DIA & SMALLER

SCALE: NTS



NOTES:
THESE PIPE OPENING DETAILS ARE TO BE USED IN DRY WALLS ONLY AND SHALL NOT BE USED FOR WALLS WITH WATER ON ONE OR BOTH SIDES.

M401 SEALED PIPE PENETRATIONS

SCALE: NTS

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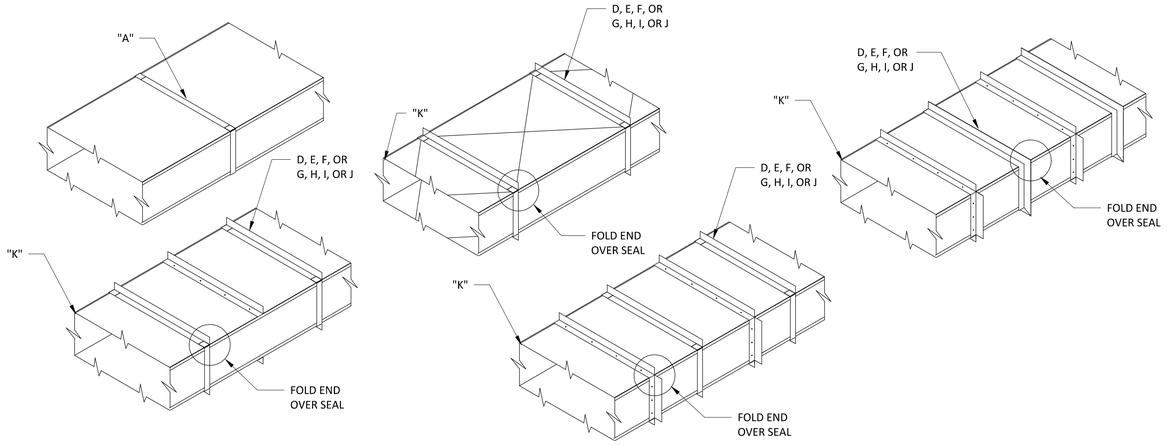
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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MECHANICAL STANDARD DETAILS 1

REF DWG(S):

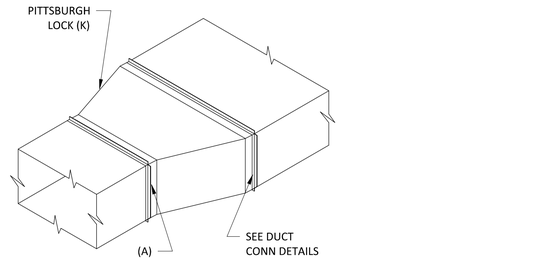
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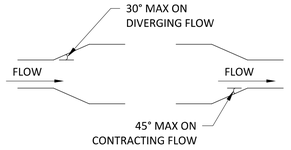
SHEET 52 OF 144



H201 TRAVERSE JOINTS

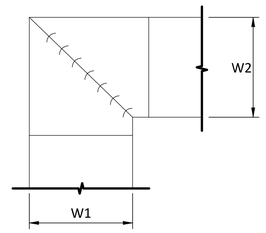
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H202 TAPERS-OFF SETS DETAILS

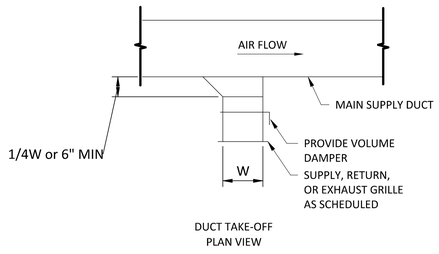
SCALE: NTS



NOTE:
1. ALL VANE ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE THICKNESS VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE THICKNESS VANES SHALL HAVE A 50mm RADIUS, 40mm MAXIMUM SPACE BETWEEN VANES AND A 20mm TRAILING EDGE.
4. WHEN W EQUALS W2 AND W1 IS GREATER THAN 500mm VANES SHALL BE DOUBLE VANE TYPE.

H204 DUCTWORK SQUARE VANE ELBOWS

SCALE: NTS

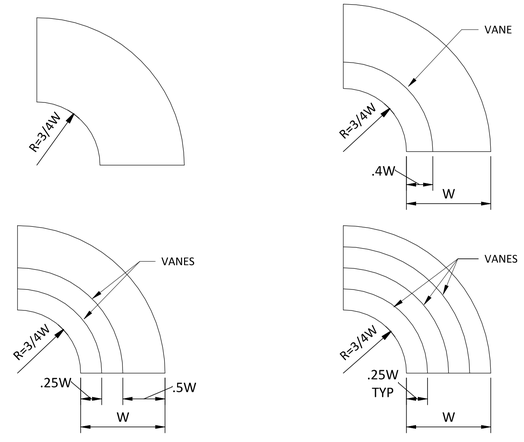


DUCT TAKE-OFF
PLAN VIEW

NOTE:
1. THE SUPPLY REGISTER TAKE-OFF MAY BE USED FOR UP TO 25% OF THE MAIN DUCT FLOW CAPACITY. THE BRANCH DUCT TAKE-OFF MAY BE USED FOR UP TO 15% OF THE MAIN DUCT FLOW CAPACITY ANYTIME AND UP TO 40% WHEN THE MAIN DUCT VELOCITY IS 5.1 M/S OR LESS. THE AIR SPLIT DUCT TAKE-OFF SHALL BE USED IN ALL OTHER CASES AND MAY BE USED AT ANYTIME.
2. SHOW ALL VOLUME DAMPERS ON FLOOR PLANS.

H205 SUPPLY DUCTWORK TAKE-OFF

SCALE: NTS



H208 RADIUS ELBOW TURNING VANE

SCALE: NTS



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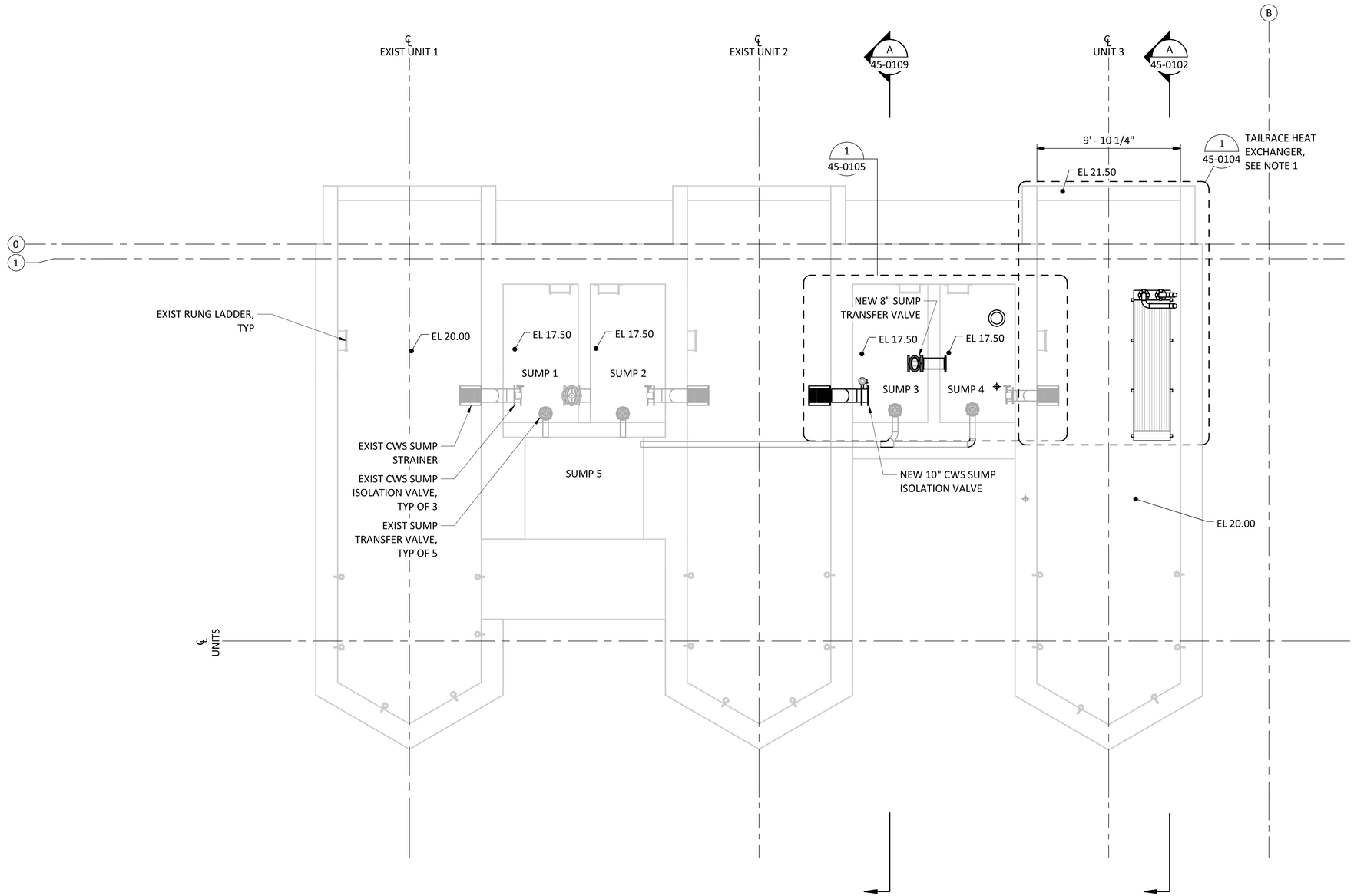
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TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MECHANICAL STANDARD DETAILS 2

REF DWG(S):

DRAWING NO: H02-D-45-0095-R00

SHEET NOTES:

1. TAILRACE HEAT EXCHANGER TO BE PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR THROUGH THE TAILRACE HATCH LOCATED ON FLOOR EL 31.00.
2. CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT, SYSTEMS, AND FINISHES FROM DAMAGE DURING CONSTRUCTION. WORK WILL OCCUR WITHIN AN OPERATING POWERHOUSE; COORDINATION WITH THE OWNER IS REQUIRED FOR ACCESS, OUTAGES, TIE-INS, AND ACTIVITIES THAT MAY AFFECT OPERATIONS.



MECHANICAL ARRANGEMENT PLAN TAILRACE FLOOR EL 20.00

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

0 4' 8'

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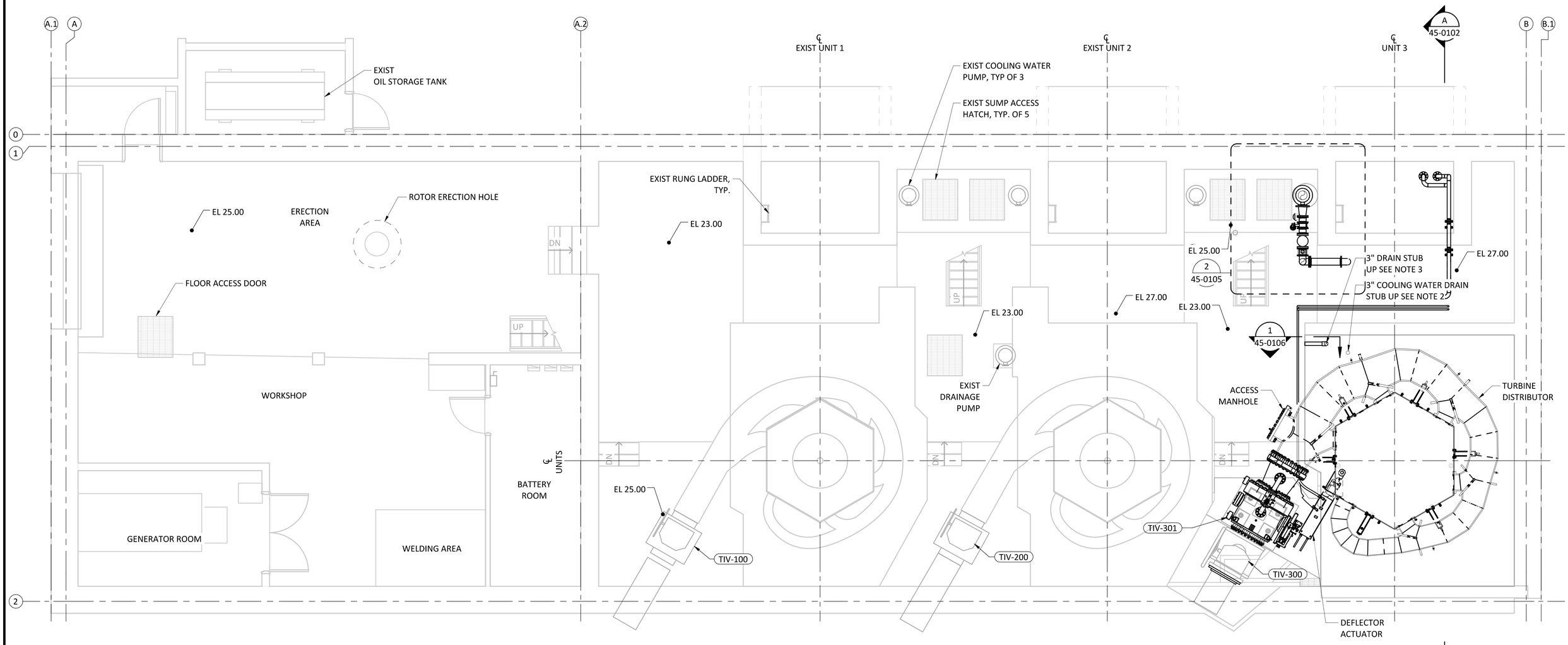
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POWERHOUSE
MECHANICAL ARRANGEMENT PLAN TAILRACE FLOOR EL 25.00

REF DWG(S):

DRAWING NO: H02-D-45-0097-R00

SHEET NOTES:

1. CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT, SYSTEMS, AND FINISHES FROM DAMAGE DURING CONSTRUCTION. WORK WILL OCCUR WITHIN AN OPERATING POWERHOUSE; COORDINATION WITH THE OWNER IS REQUIRED FOR ACCESS, OUTAGES, TIE-INS, AND ACTIVITIES THAT MAY AFFECT OPERATIONS.
2. EXISTING COOLING WATER DRAIN STUB UP TO BE ENCASED IN CONCRETE AND ABANDONED IN PLACE.
3. CONTRACTOR SHALL CONNECT 3" PIPING TO EXISTING 3" DRAIN STUB UP AND ROUTE TO ELEVATION 28.0 PRIOR TO PLACING CONCRETE.



MECHANICAL ARRANGEMENT PLAN TURBINE CL EL 29.00

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

0 4' 8'



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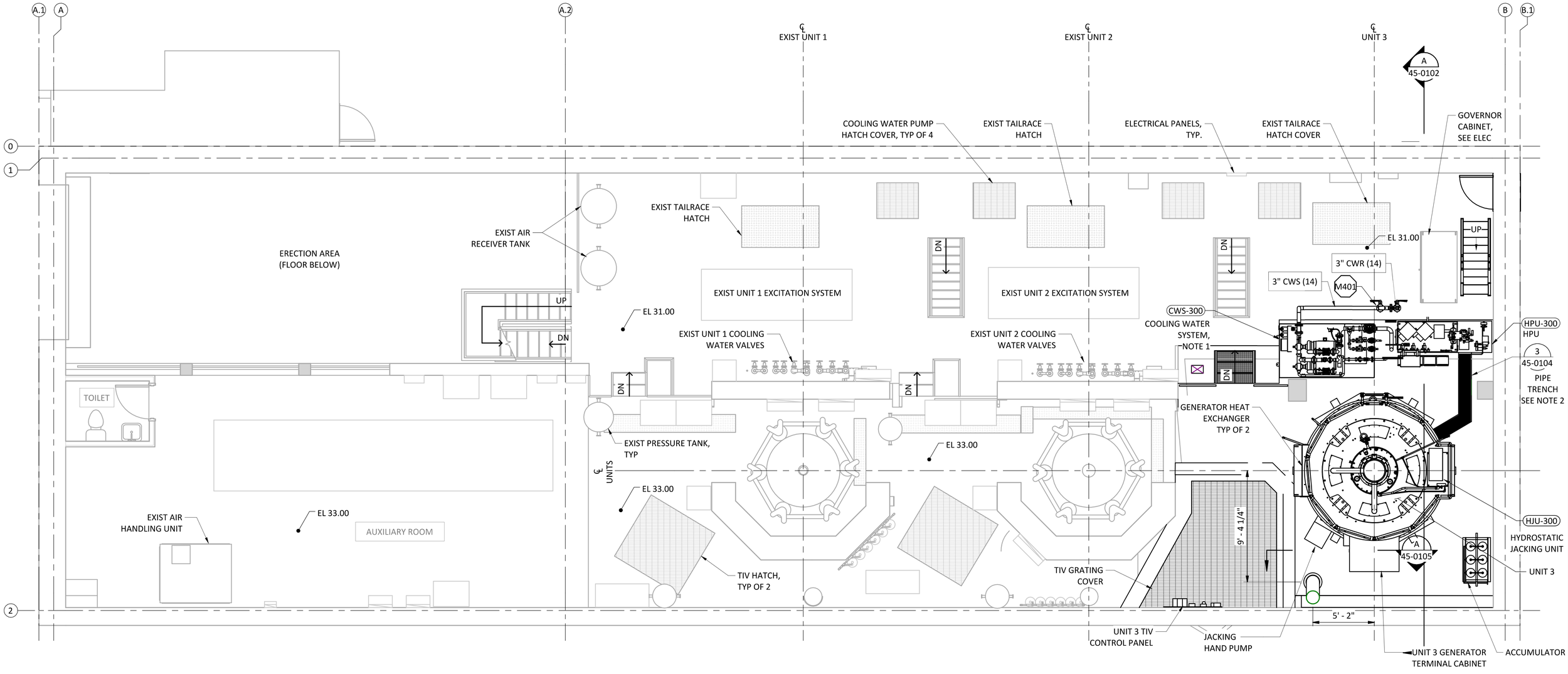
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MECHANICAL ARRANGEMENT PLAN TURBINE CL EL 29.00

REF DWG(S):

DRAWING NO: H02-D-45-0098-R00

SHEET NOTES:

1. CONTRACTOR TO FIELD ROUTE COOLING WATER PIPING BETWEEN GENERATOR, COOLING WATER SKID, AND HEAT EXCHANGER.
2. CONTRACTOR TO FIELD ROUTE HYDRAULIC PIPING BETWEEN HPU AND TURBINE.
3. CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT, SYSTEMS, AND FINISHES FROM DAMAGE DURING CONSTRUCTION. WORK WILL OCCUR WITHIN AN OPERATING POWERHOUSE; COORDINATION WITH THE OWNER IS REQUIRED FOR ACCESS, OUTAGES, TIE-INS, AND ACTIVITIES THAT MAY AFFECT OPERATIONS.



MECHANICAL ARRANGEMENT PLAN MACHINE FLOOR EL 33.00

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

0 4' 8'

N

STATE OF ALASKA
49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen, Inc.		JOB # T.O. No. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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1471 Shoreline Dr. Ste 100, Boise, ID 83702 | (208) 342-4214 | mcmillen.com

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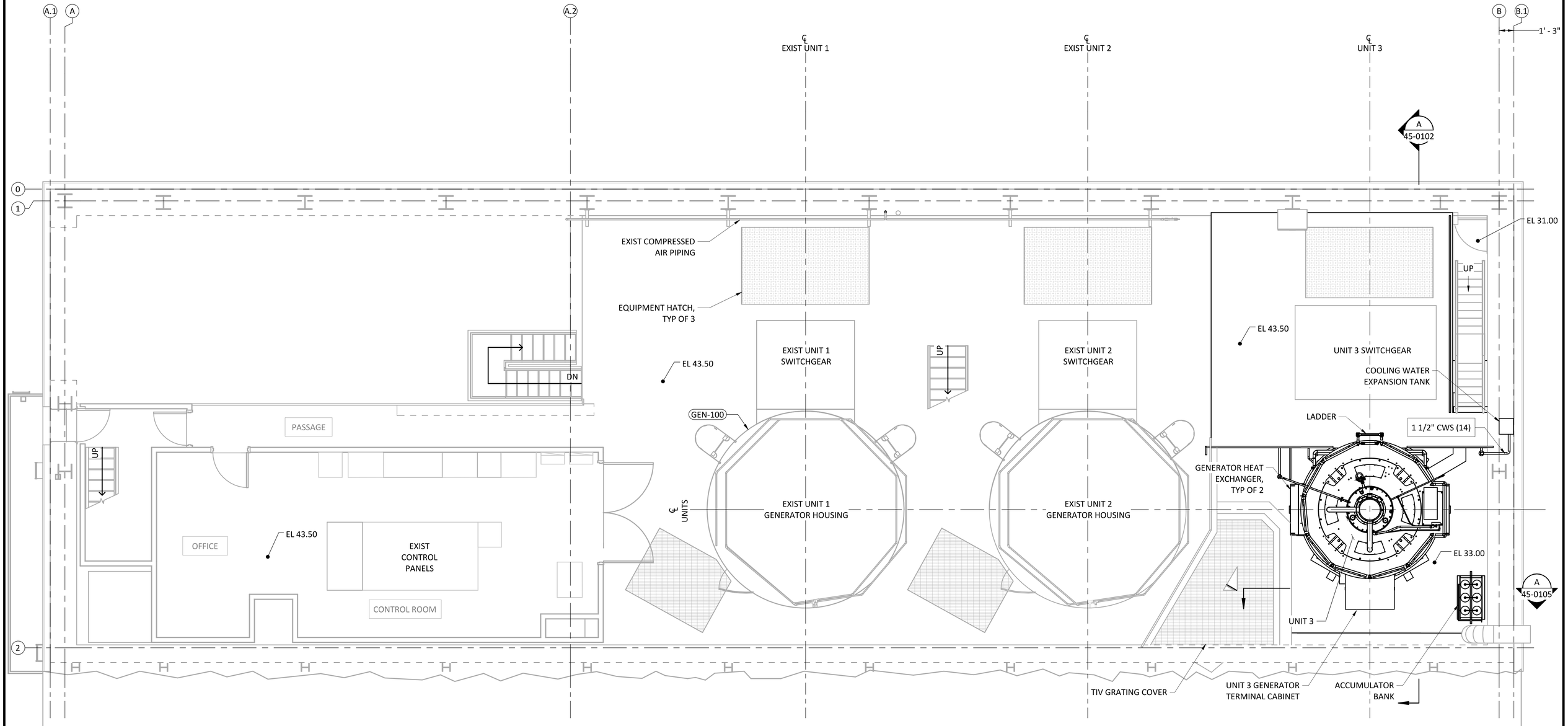
NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MECHANICAL ARRANGEMENT PLAN MACHINE FLOOR EL 33.00

REF DWG(S):

DRAWING NO: H02-D-45-0099-R00

SHEET 56 OF 144



MECHANICAL ARRANGEMENT PLAN GENERATOR FLOOR EL 43.50

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

0 4' 8'

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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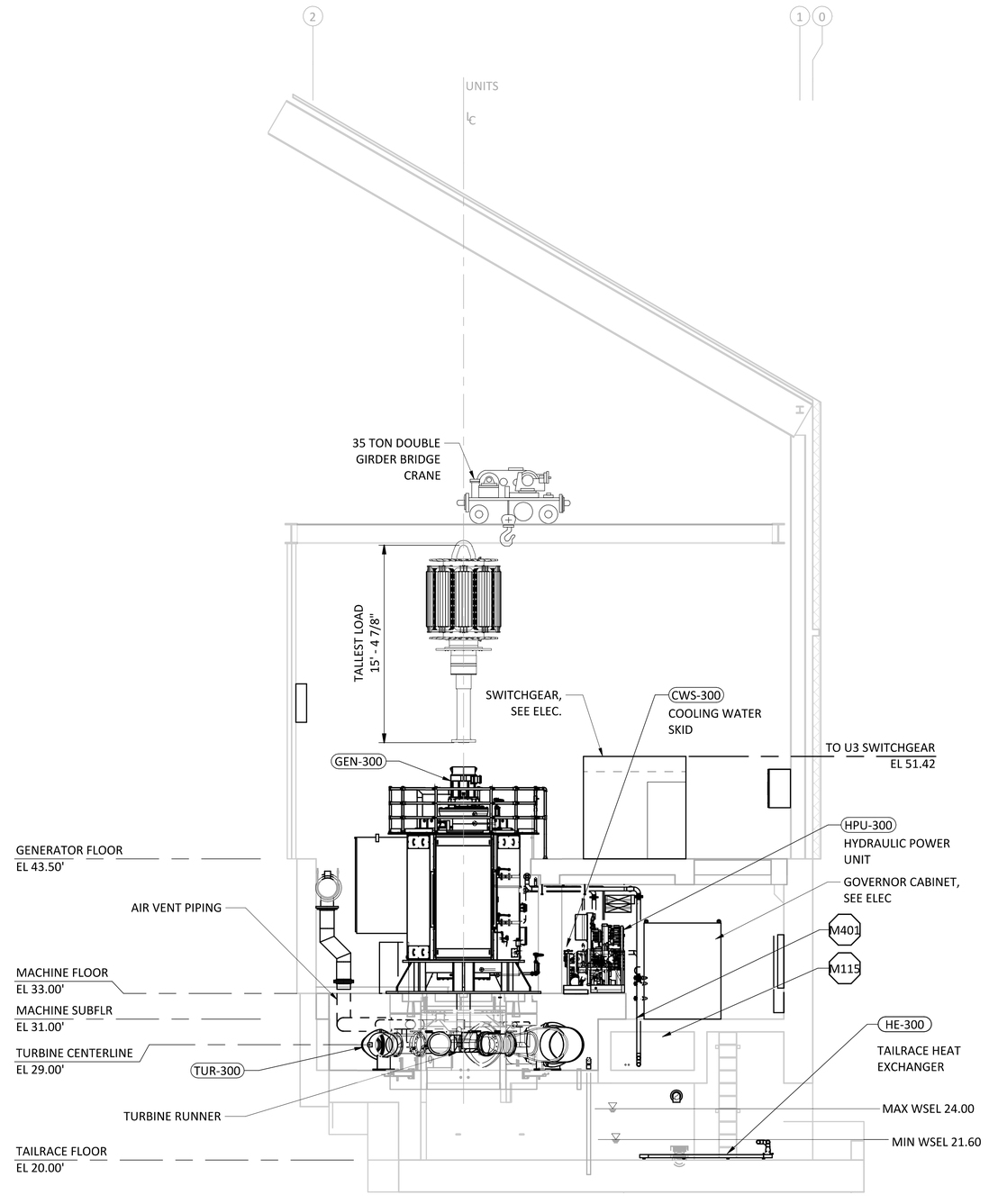
NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MECHANICAL ARRANGEMENT PLAN GENERATOR FLOOR EL 43.50

REF DWG(S):

DRAWING NO: H02-D-45-0100-R00

SHEET 57 OF 144



A 45-0097 SECTION

SCALE: 3/16" = 1'-0" 0 4' 8'

SHEET NOTES:

1. CONTRACTOR TO INSTALL EQUIPMENT UTILIZING EXISTING 35 TON BRIDGE CRANE.

ANTICIPATED EQUIPMENT WEIGHTS:

ICLC BOX:	1,200 LBS
ROTOR:	68,500 LBS
STATOR:	54,100 LBS
LOWER BRACKET ASSEMBLY:	11,000 LBS
UPPER BRACKET ASSEMBLY:	9,000 LBS
EXCITER FRAME:	1,350 LBS
LOWER BEARING:	5,400 LBS
UPPER BEARING:	11,570 LBS
TEWAC COOLER COVER:	2,400 LBS
TEWAC COOLERS:	2,500 LBS
LADDER AND PLATFORM:	2,790 LBS
TURBINE INLET VALVE:	19,200 LBS
DISTRIBUTOR:	17,000 LBS
TURBINE HOUSING:	11,200 LBS
NOZZLE:	1,700 LBS
RUNNER:	2,500 LBS
DEFLECTOR CYLINDER ASSEMBLY:	1,000 LBS
TOTAL GENERATOR WEIGHT:	169,810 LBS
TOTAL TURBINE WEIGHT:	61,110 LBS

STATE OF ALASKA 49 TH Jay Dallas Date 5-18-2026 No. ME-242634 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MECHANICAL TRANSVERSE SECTION

REF DWG(S):

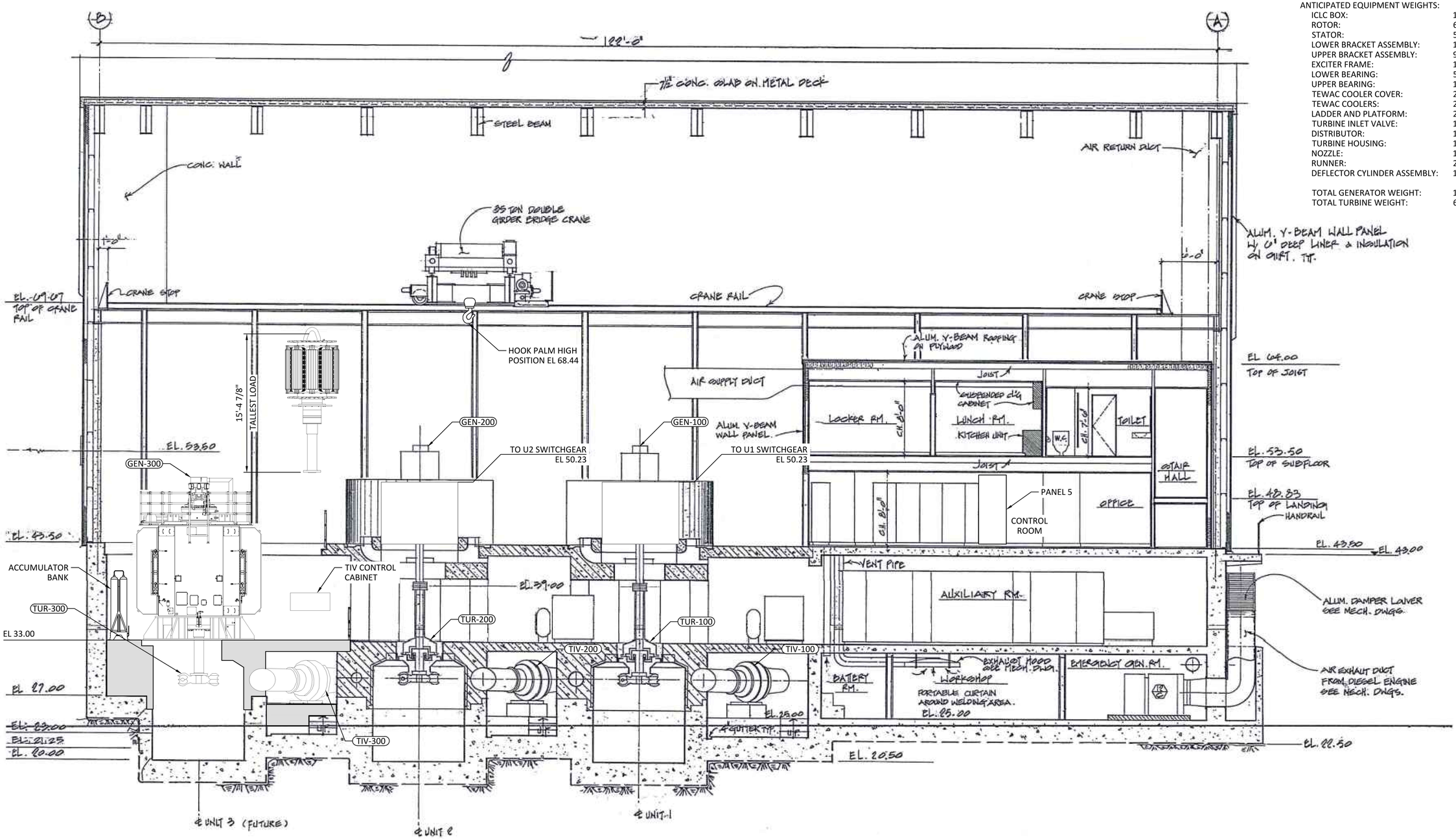
DRAWING NO: H02-D-45-0102-R00 SHEET 58 OF 144

SHEET NOTES:

1. CONTRACTOR TO INSTALL EQUIPMENT UTILIZING EXISTING 35 TON BRIDGE CRANE.

ANTICIPATED EQUIPMENT WEIGHTS:

ICLC BOX:	1,200 LBS
ROTOR:	68,500 LBS
STATOR:	54,100 LBS
LOWER BRACKET ASSEMBLY:	11,000 LBS
UPPER BRACKET ASSEMBLY:	9,000 LBS
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TURBINE INLET VALVE:	19,200 LBS
DISTRIBUTOR:	17,000 LBS
TURBINE HOUSING:	11,200 LBS
NOZZLE:	1,700 LBS
RUNNER:	2,500 LBS
DEFLECTOR CYLINDER ASSEMBLY:	1,000 LBS
TOTAL GENERATOR WEIGHT:	169,810 LBS
TOTAL TURBINE WEIGHT:	61,110 LBS



B
45-0097

LONGITUDINAL SECTION

SCALE: 3/16"= 1'-0"

0' 4' 8'

STATE OF ALASKA 49TH Jay Dalton Date: 5-18-2026 No. ME-242634

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

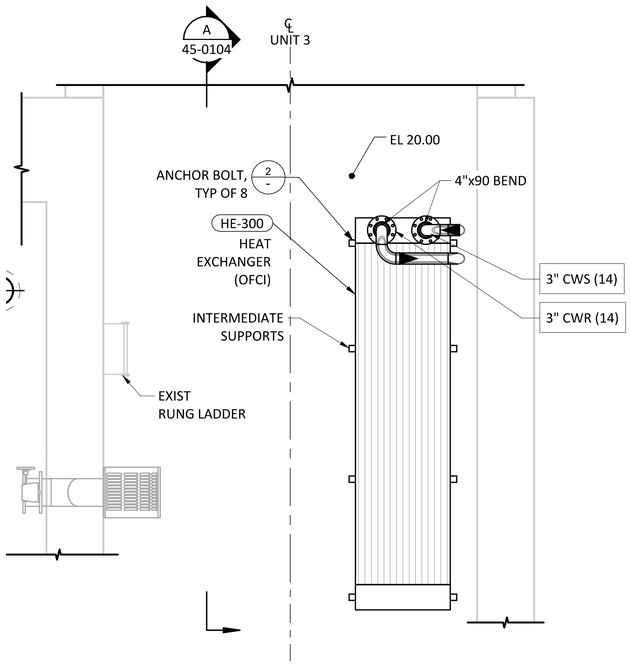
McMillen
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NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION
1	H02-D-41-0012-R01	POWERHOUSE GENERAL ARRANGEMENT LONGITUDINAL SECTION 1/2

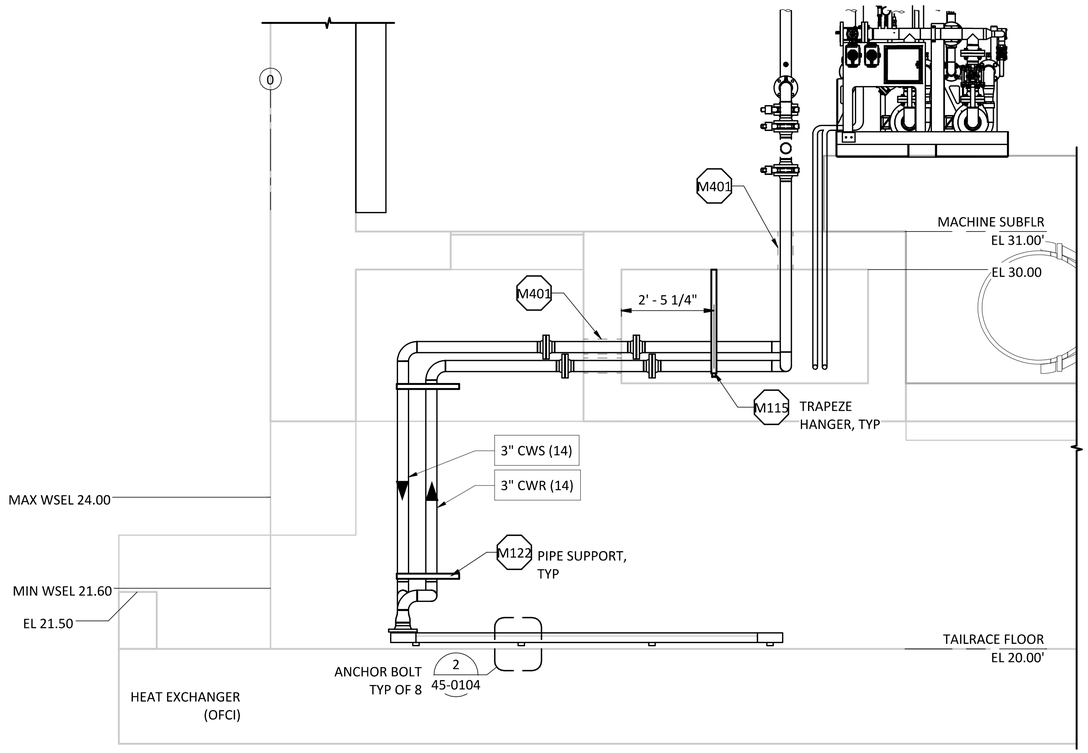
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MECHANICAL LONGITUDINAL SECTION

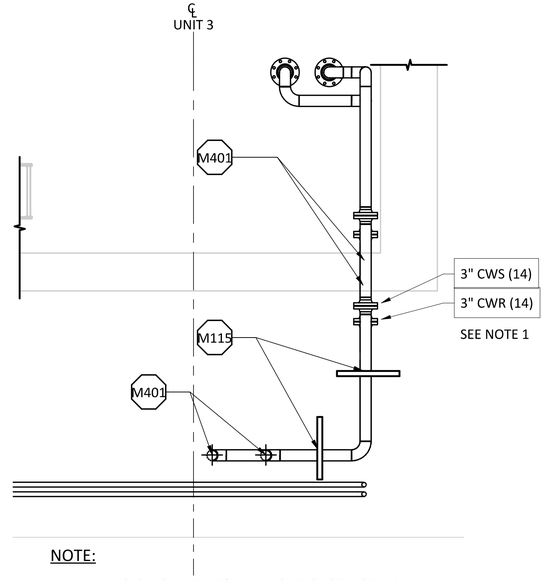
REF DWG(S): H02-D-41-0012-R01
DRAWING NO.: H02-D-45-0103-R00
SHEET 59 OF 144



NOTE:

1. CONTRACTOR TO FIELD ROUTE COOLING WATER BETWEEN GENERATOR COOLING WATER SKID AND HEAT EXCHANGER.





NOTE:

1. PIPING IS MOUNTED TO UNDERSIDE OF STRUCTURE AT ELEVATION 30.00 UNLESS NOTED OTHERWISE.

1 TAILRACE HEAT EXCHANGER DETAIL

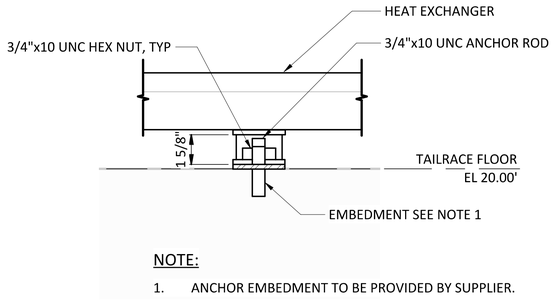
45-0097 SCALE: 1/2" = 1'-0" 0 2' 4'

A SECTION

\- SCALE: 1/2" = 1'-0" 0 2' 4'

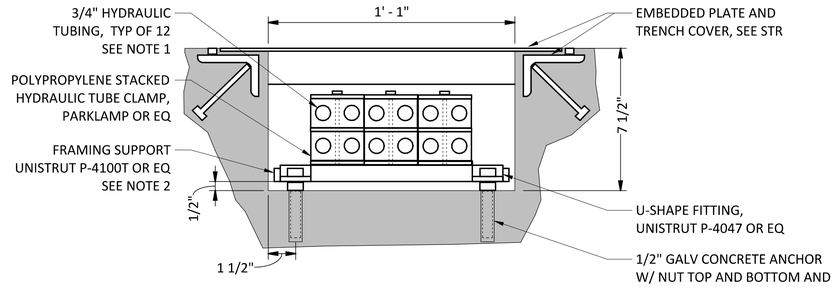
B REFLECTED CEILING PLAN EL 30.00

\- SCALE: 1/2" = 1'-0" 0 2' 4'



NOTE:

1. ANCHOR EMBEDMENT TO BE PROVIDED BY SUPPLIER.



NOTES:

1. HYDRAULIC PIPING SIZE MAY VARY FROM 1/2" TO 3/4". SEE TURBINE VENDOR APPROVED SUBMITTALS.
2. SUPPORT TUBING IN TRENCH MIN 5-FT OC.

2 ANCHOR BOLT DETAIL, TYP OF 8

\- SCALE: 3" = 1'-0" 0 4" 8"

3 PIPE TRENCH DETAIL

SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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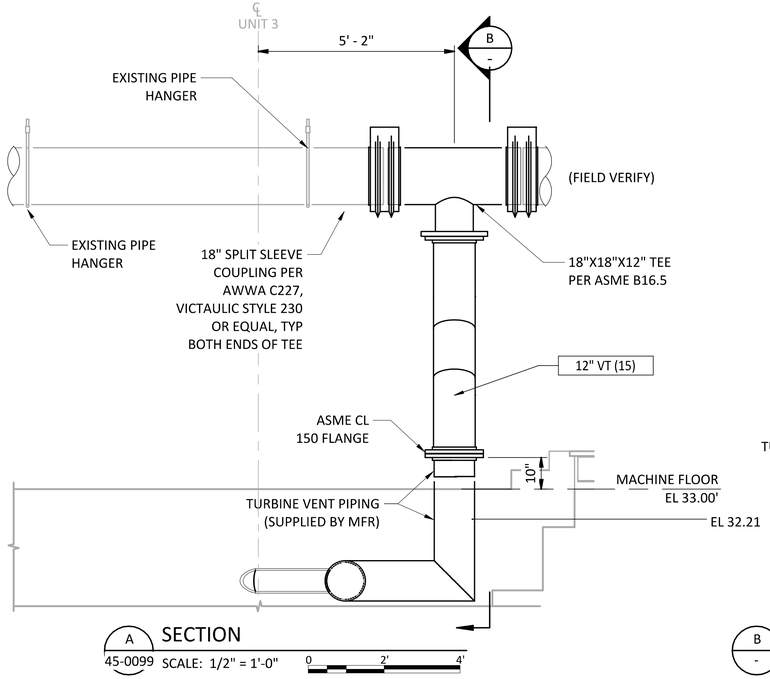
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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

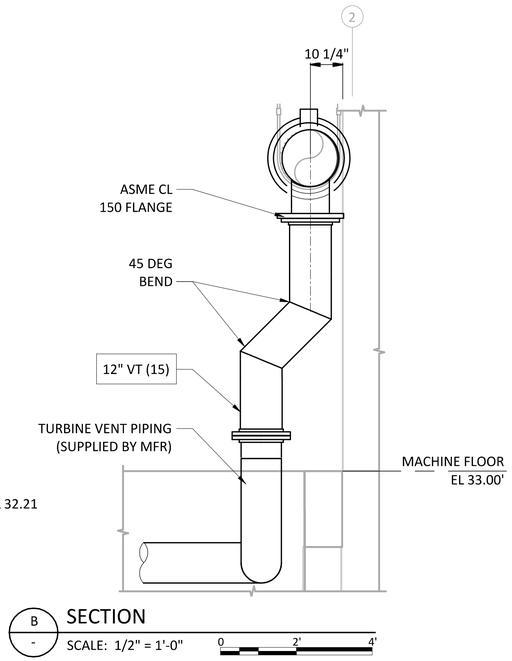
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MECHANICAL SECTIONS AND DETAILS 1

REF DWG(S):

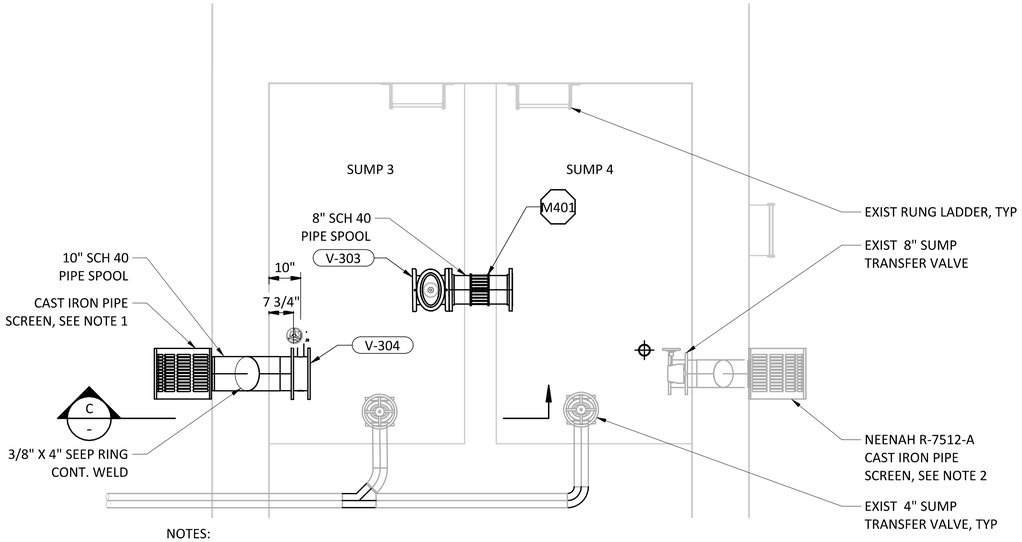
DRAWING NO: H02-D-45-0104-R00



A 45-0099 SECTION
SCALE: 1/2" = 1'-0" 0 2' 4'

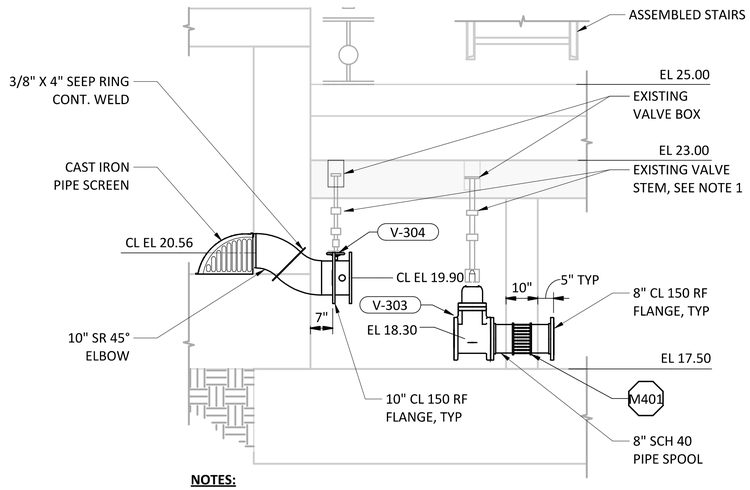


B - SECTION
SCALE: 1/2" = 1'-0" 0 2' 4'



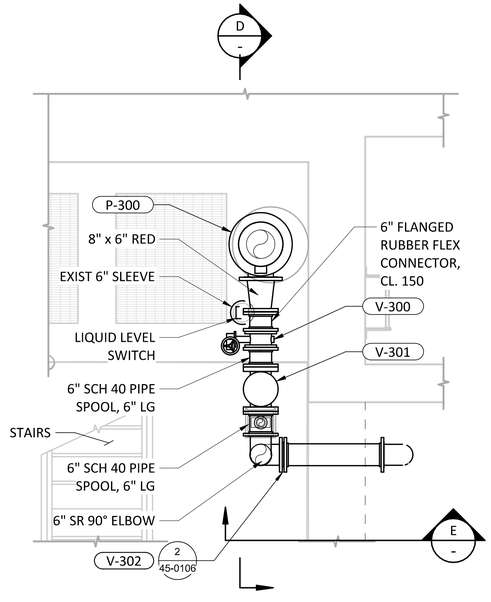
NOTES:
1. REMOVE AND REINSTALL EXISTING PIPE SCREEN FOLLOWING INSTALLATION OF NEW 10-INCH CWS SUMP INLET PIPING.
2. INSTALL NEW NEENAH R-7512-A OVER EXISTING UNIT 3 CWS PIPE INTAKE. UTILIZE (6X) 5/8" WEDGE ANCHORS TO MOUNT TO EXISTING CONCRETE SURFACE.

1 45-0097 DETAIL
SCALE: 1/2" = 1'-0" 0 1' 2'

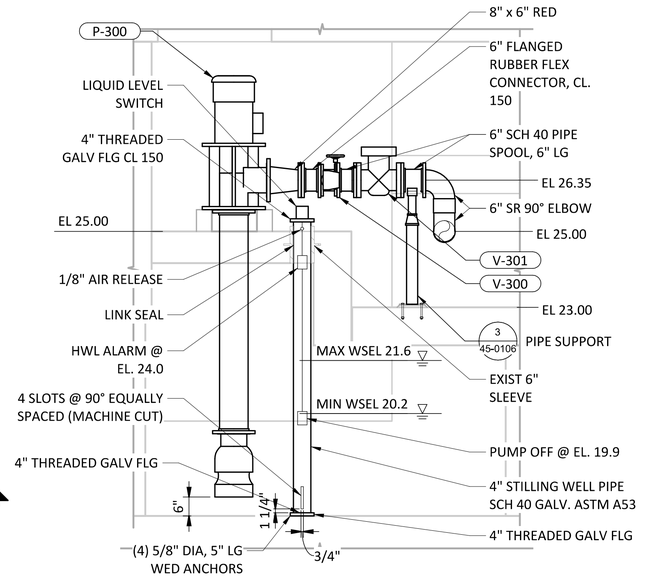


NOTES:
1. EXTENSION STEM SHALL BE MODIFIED OR REPLACED AS REQUIRED TO ACCOMMODATE NEW VALVE CENTERLINE LOCATION AND SIZE

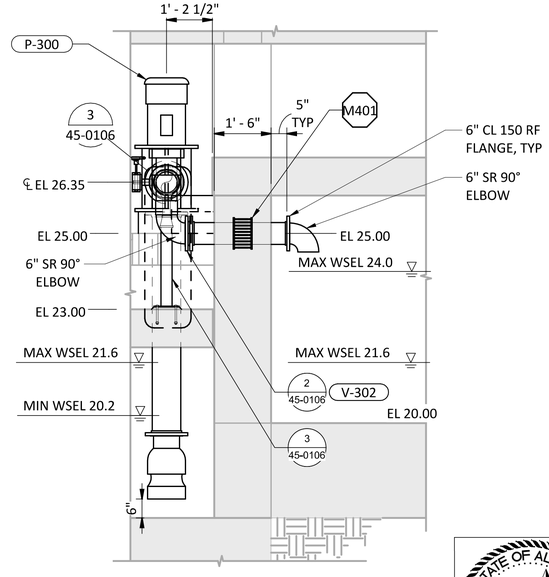
C - SECTION
SCALE: 1/2" = 1'-0" 0 1' 2'



2 45-0098 DETAIL
SCALE: 1/2" = 1'-0" 0 1' 2'



D - SECTION
SCALE: 1/2" = 1'-0" 0 1' 2'



E - SECTION
SCALE: 1/2" = 1'-0" 0 1' 2'

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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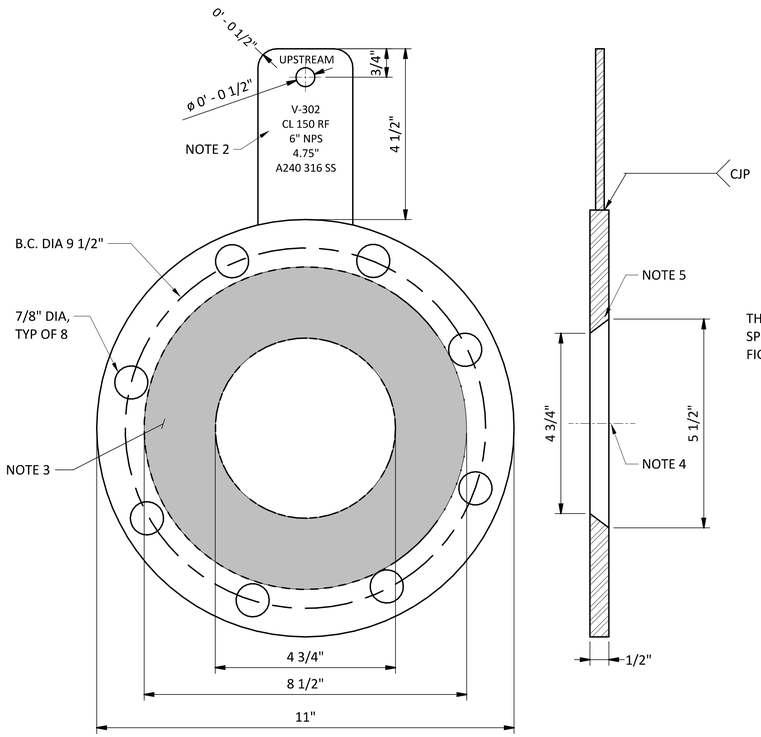
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Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MECHANICAL SECTIONS AND DETAILS 2

REF DWG(S):

DRAWING NO: H02-D-45-0105-R00

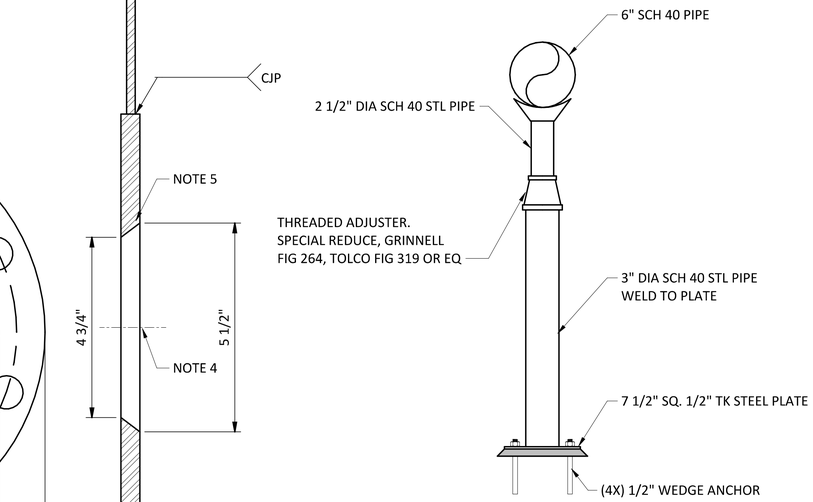


NOTES:

1. MATERIAL ASTM A240 TYPE 316 SS PLATE
2. STAMP SHALL BE APPROX 1/8" LETTER HEIGHT WITH 1/4" LINE SPACING
3. THE UPSTREAM AND DOWNSTREAM FACES OF ORIFICE PLATE SHALL HAVE A SURFACE ROUGHNESS Ra ≤ 0.8 µM PER ASME B46.1
4. THE CENTER OF THE ORIFICE SHALL NOT DIFFER FROM THE CENTER OF THE ORIFICE PLATE BY MORE THAN 0.1 MM.
5. THE THROAT AND OUTLET CONE SHAL HAVE A SURFACE ROUGHNESS Ra ≤ 0.4 µM PER ASME B46.1. DEBURR SHARP EDGES.

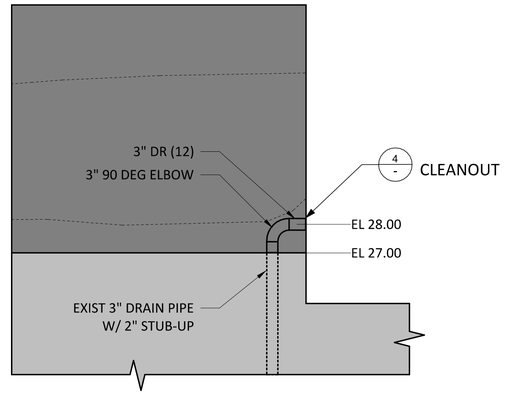
2 / 45-0105 ORFICE PLATE DETAIL

SCALE: 6" = 1'-0"



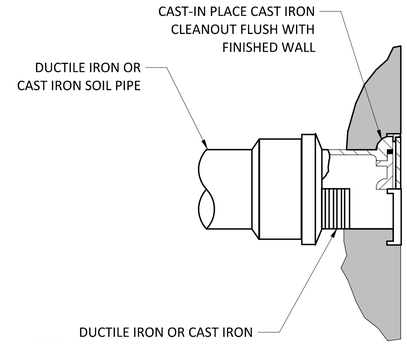
3 / 45-0105 PIPE SUPPORT DETAIL

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



1 / 45-0098 SECTION

SCALE: 1" = 1'-0"



4 / - CLEANOUT DETAIL

SCALE: 1" = 1'-0"

STATE OF ALASKA
49 TH
Jay Dallas
Date 5-16-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MECHANICAL SECTIONS AND DETAILS 3

REF DWG(S):

DRAWING NO: H02-D-45-0106-R00

SHEET NOTES:

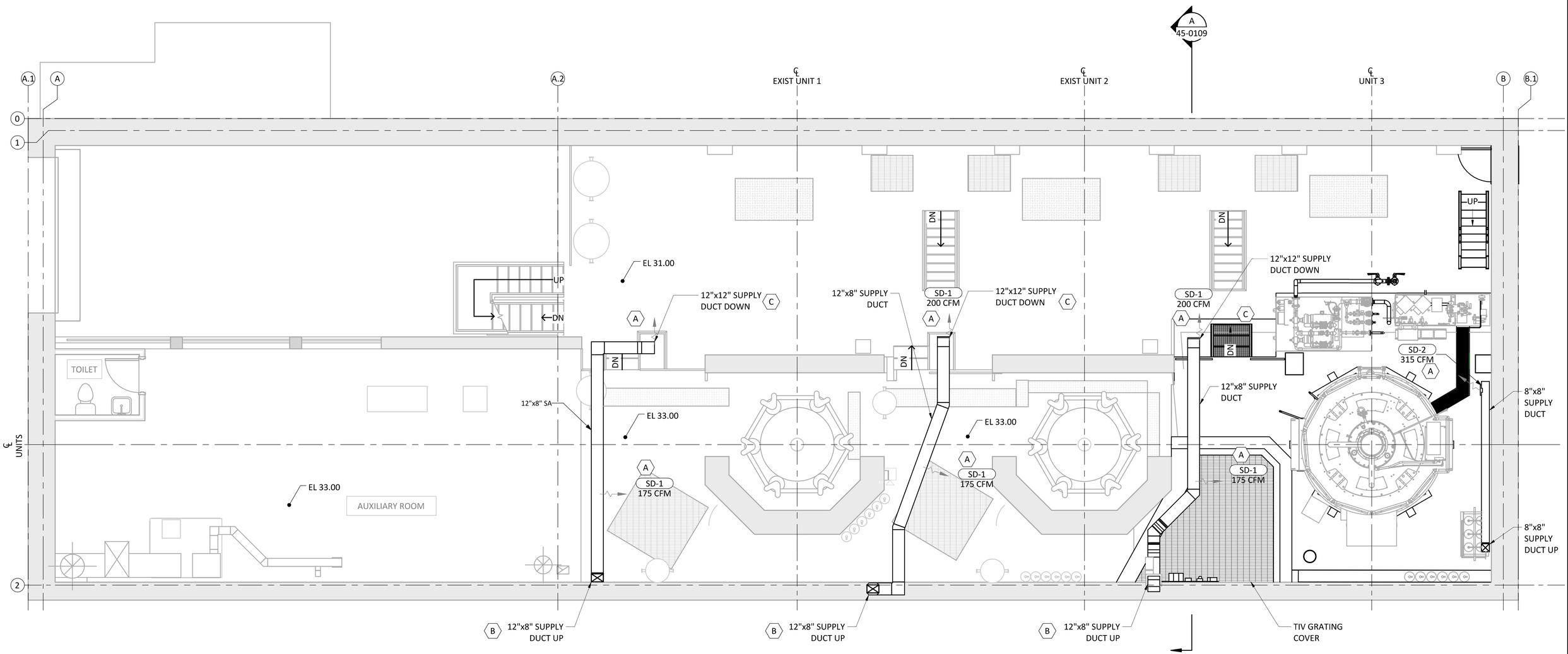
1. REFER TO MECHANICAL SCHEDULES SHEET 45-0085 FOR HVAC EQUIPMENT SCHEDULES.
2. REFER TO SPECIFICATION SECTION 23 05 93 FOR TESTING, ADJUSTING, AND BALANCING REQUIREMENTS.
3. REFER TO SPECIFICATION SECTION 23 30 00 FOR DUCTWORK MATERIAL, SUPPORT, AND INSTALLATION REQUIREMENTS.

SHEET KEY NOTES:

A. INSTALL DIFFUSERS WITH FRONT BLADES CONFIGURED FOR THROW PATTERN INDICATED.

B. EXISTING FIRE DAMPER AT PENETRATION THROUGH GENERATOR FLOOR, PROTECT IN PLACE AND CONNECT NEW DUCTWORK. TRANSITION SUPPLY DUCT BRANCH TO 6"x12" IMMEDIATELY ABOVE FLOOR PENETRATION AT GENERATOR FLOOR. TRANSITION BACK TO 8"x12" IMMEDIATELY BELOW PENETRATION AT MACHINE FLOOR CEILING. FIELD COORDINATE EXACT ROUTING, MATCH EXISTING. TYPICAL THREE DUCT BRANCHES.

C. PROVIDE DUCT TRANSITION TO CONNECT TO EXISTING 7"x4" VERTICAL BRANCH DUCT. REBALANCE EXISTING DIFFUSERS AT TURBINE FLOOR CEILING TO MAINTAIN 70 CFM PER DIFFUSER, TYPICAL THREE. REFER TO SPECIFICATION 23 30 00.



HVAC PLAN MACHINE FLOOR EL 33.00

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

0 4' 8'

STATE OF ALASKA 49 TH
Jay Dolan
Date 5-16-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen, Inc.		JOB # T.O. No. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
HVAC PLAN MACHINE FLOOR EL 33.00

REF DWG(S):

DRAWING NO: H02-D-45-0107-R00

SHEET 63 OF 144

SHEET NOTES:

1. REFER TO MECHANICAL SCHEDULES SHEET 45-0085 FOR HVAC EQUIPMENT SCHEDULES.
2. REFER TO SPECIFICATION SECTION 23 05 93 FOR TESTING, ADJUSTING, AND BALANCING REQUIREMENTS.
3. REFER TO SPECIFICATION SECTION 23 30 00 FOR DUCTWORK MATERIAL, SUPPORT, AND INSTALLATION REQUIREMENTS.

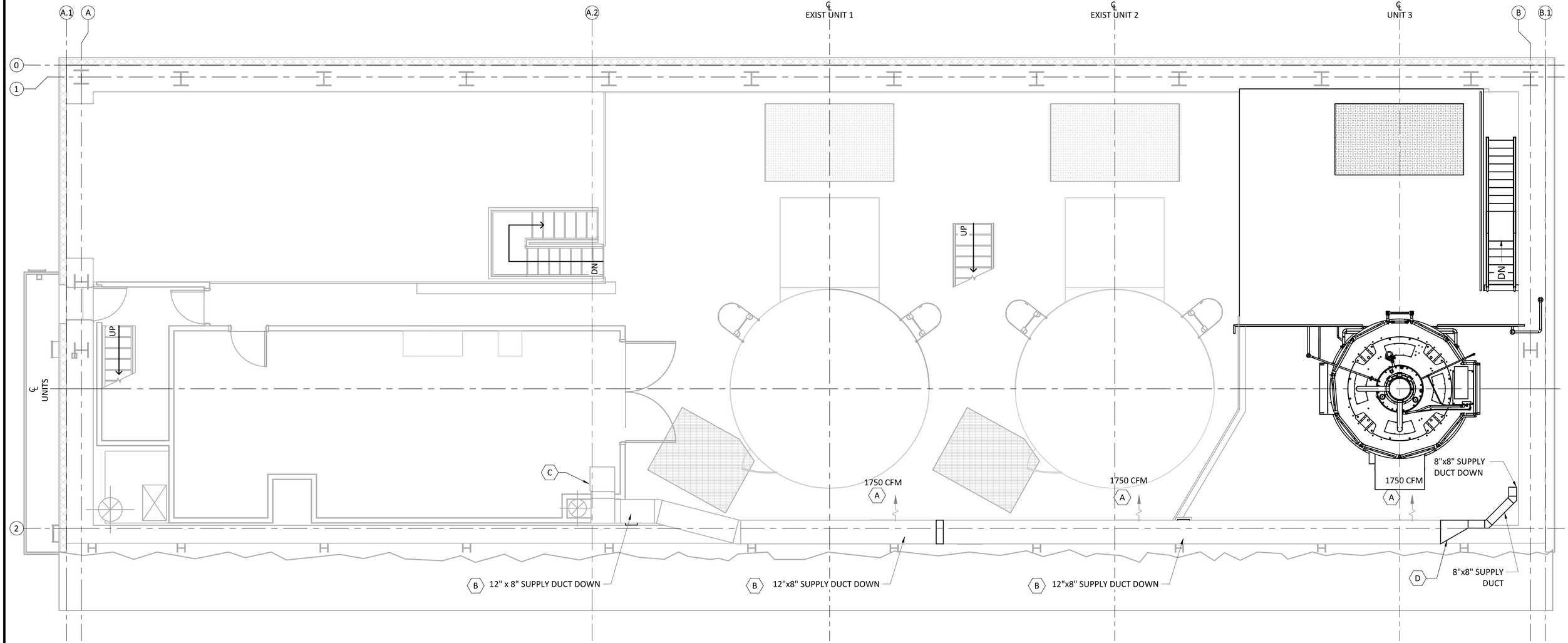
SHEET KEY NOTES:

A. REBALANCE EXISTING DRUM LOUVERS ABOVE GENERATOR FLOOR AS INDICATED. REFER TO SPECIFICATION 23 05 93.

B. EXISTING FIRE DAMPER AT PENETRATION THROUGH GENERATOR FLOOR, PROTECT IN PLACE AND CONNECT NEW DUCTWORK. TRANSITION SUPPLY DUCT BRANCH TO 6"x12" IMMEDIATELY ABOVE FLOOR PENETRATION AT GENERATOR FLOOR. TRANSITION BACK TO 8"x12" IMMEDIATELY BELOW PENETRATION AT MACHINE FLOOR CEILING. FIELD COORDINATE EXACT ROUTING, MATCH EXISTING. TYPICAL THREE DUCT BRANCHES.

C. EXISTING 30"x24" SUPPLY DUCT, PROTECT IN PLACE. VERIFY AND MAINTAIN AIR BALANCE AT ALL SUPPLY OUTLETS UPSTREAM FROM LOCATION INDICATED.

D. PROVIDE DUCT TRANSITION TO CONNECT TO EXISTING 20"x16" SUPPLY DUCT. FIELD COORDINATE EXACT ROUTING, MATCH EXISTING.



HVAC PLAN GENERATOR FLOOR EL 43.50

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

0 4' 8'

STATE OF ALASKA 49 TH
Jay Dallas
Date 5-16-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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1471 Shoreline Dr. Ste 100, Boise, ID 83702 | (208) 342-4214 | mcmillen.com

SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

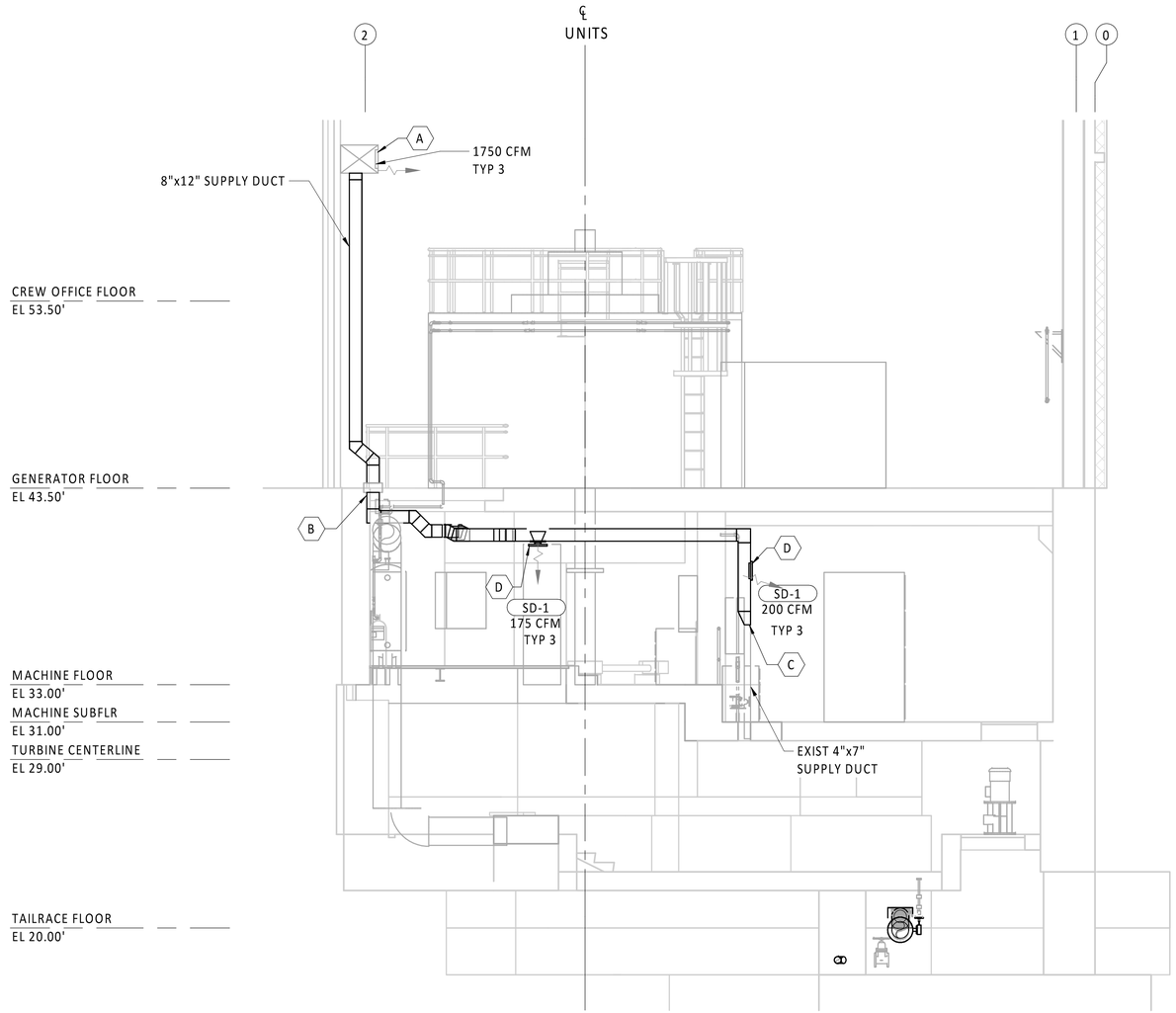
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
HVAC PLAN GENERATOR FLOOR EL 43.50

REF DWG(S):

DRAWING NO: H02-D-45-0108-R00

SHEET NOTES:

1. REFER TO MECHANICAL SCHEDULES SHEET 45-0085 FOR HVAC EQUIPMENT SCHEDULES.
2. REFER TO SPECIFICATION SECTION 23 05 93 FOR TESTING, ADJUSTING, AND BALANCING REQUIREMENTS.
3. REFER TO SPECIFICATION SECTION 23 30 00 FOR DUCTWORK MATERIAL, SUPPORT, AND INSTALLATION REQUIREMENTS.



A 41-1110 HVAC TRANSVERSE SECTION
SCALE: 1/4" = 1'-0"
0 4' 8'

SHEET KEY NOTES:

A. REBALANCE EXISTING DRUM LOUVERS ABOVE GENERATOR FLOOR AS INDICATED. REFER TO SPECIFICATION 23 05 93.

B. EXISTING FIRE DAMPER AT PENETRATION THROUGH GENERATOR FLOOR, PROTECT IN PLACE AND CONNECT NEW DUCTWORK. TRANSITION SUPPLY DUCT BRANCH TO 6"x12" IMMEDIATELY ABOVE FLOOR PENETRATION AT GENERATOR FLOOR. TRANSITION BACK TO 8"x12" IMMEDIATELY BELOW PENETRATION AT MACHINE FLOOR CEILING. FIELD COORDINATE EXACT ROUTING, MATCH EXISTING. TYPICAL THREE DUCT BRANCHES.

C. PROVIDE DUCT TRANSITION TO CONNECT TO EXISTING 7"x4" VERTICAL BRANCH DUCT. REBALANCE EXISTING DIFFUSERS AT TURBINE FLOOR CEILING TO MAINTAIN 70 CFM PER DIFFUSER, TYPICAL THREE. REFER TO SPECIFICATION 23 05 93.

D. INSTALL DIFFUSERS WITH FRONT BLADES CONFIGURED FOR THROW PATTERN INDICATED.

STATE OF ALASKA
49 TH
Jay Dallas
Date 5-18-2026
No. ME-242634
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
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SEAPA
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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
HVAC TRANSVERSE SECTION

REF DWG(S):

DRAWING NO: H02-D-45-0109-R00

SHEET NOTES:

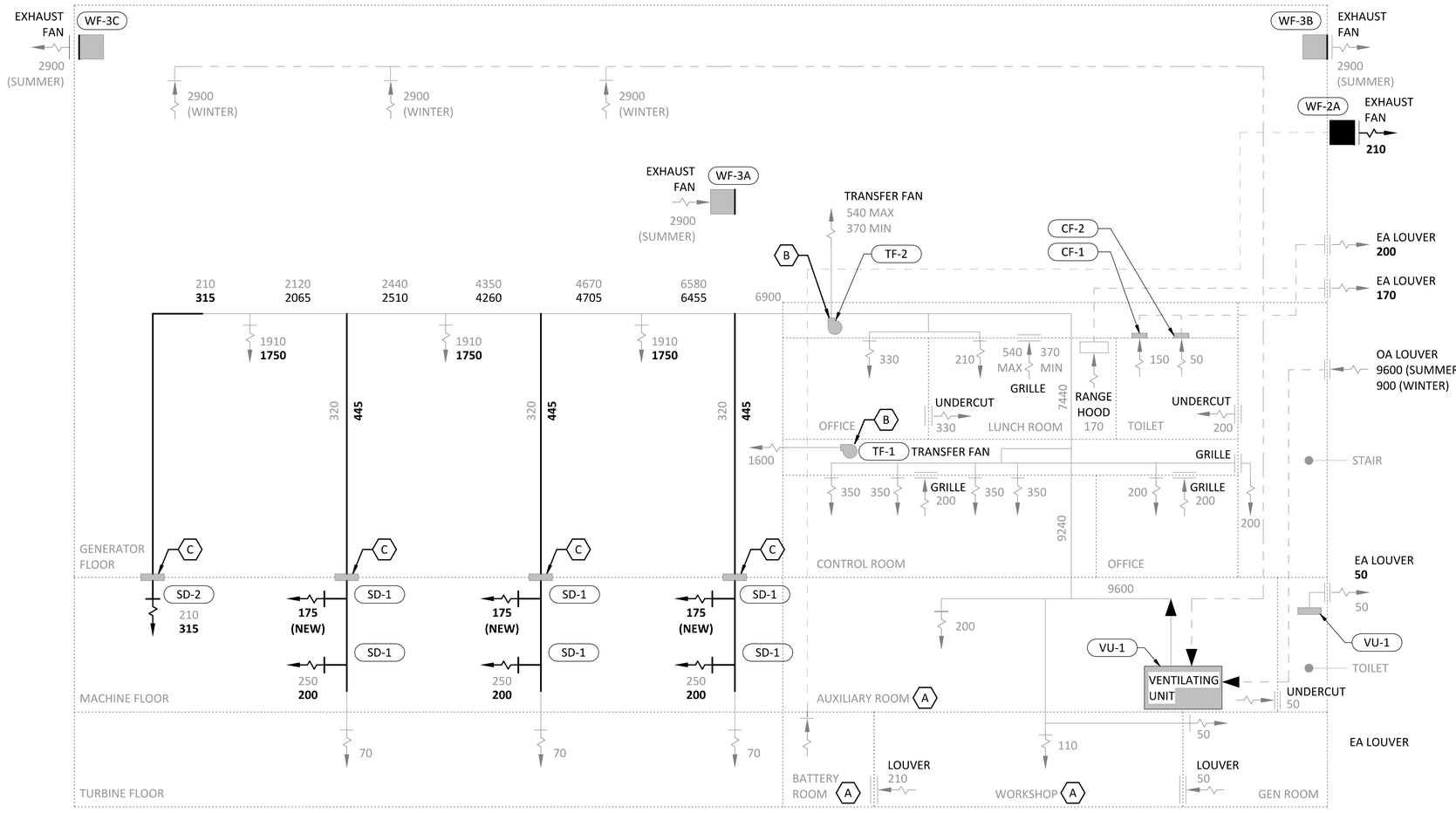
1. REFER TO MECHANICAL SCHEDULES SHEET 45-0085 FOR HVAC EQUIPMENT SCHEDULES.
2. REFER TO SPECIFICATION SECTION 23 05 93 FOR TESTING, ADJUSTING, AND BALANCING REQUIREMENTS.
3. REFER TO SPECIFICATION SECTION 23 30 00 FOR DUCTWORK MATERIAL, SUPPORT, AND INSTALLATION REQUIREMENTS.

SHEET KEY NOTES:

A. EXISTING OPENINGS AROUND DUCT PENETRATIONS PROVIDE TRANSFER AIR PATHS BETWEEN SPACES.

B. TRANSFER FANS ARE LOCATED IN THE CEILING PLENUMS AND DISCHARGE AIR TO THE GENERATOR FLOOR.

C. EXISTING FIRE DAMPER AT PENETRATION THROUGH GENERATOR FLOOR, PROTECT IN PLACE AND CONNECT NEW DUCTWORK.



HVAC SCHEMATIC DIAGRAM

SCALE: NTS

LEGEND

- 50 — TRANSFER OPENING (LOUVER, GRILLE, UNDERCUT) FLOW RATE AND DIRECTION AS INDICATED, CFM
- OFFICE — SPACE, AS LABELED
- AIR SUPPLY OR RETURN/EXHAUST REGISTER, FLOW RATE AND DIRECTION AS INDICATED
- EXHAUST FAN
- TRANSFER FAN
- VENTILATION SUPPLY DUCT, NEW
- VENTILATION SUPPLY DUCT, EXISTING
- VENTILATION RETURN DUCT
- VENTILATION EXHAUST OR FRESH AIR DUCT
- EXISTING FIRE DAMPER, PROTECT IN PLACE; PROVIDE TRANSITION FITTINGS AS REQUIRED TO CONNECT NEW DUCTWORK
- 1910 / 1750 — AIR FLOW RATE AT REGISTER OR DUCT, CFM: (AS CONSTRUCTED, VERIFY FOR RECORD OF EXISTING CONDITION) (DESIGN AIR FLOW RATE, BALANCE IN ACCORDANCE WITH 23 05 93)

STATE OF ALASKA 49 TH — Jay Dallas — Date 5-18-2026 — No. ME-242834 — REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
HVAC SCHEMATIC

REF DWG(S): H02-D-45-6001-R01

DRAWING NO: H02-D-45-0110-R00

FIRE PROTECTION GENERAL NOTES:

1. INSTALLING CONTRACTOR SHALL BE LICENSED IN THIS TYPE OF WORK AND SHALL BE RESPONSIBLE FOR FINAL DESIGN, OBTAINING AND PAYING ALL FEES FOR ALL BUILDING PERMITS AND ANY OTHER PERMITS REQUIRED OF HIS EQUIPMENT, WORK FORCE, OR PARTICULAR OPERATIONS IN THE PERFORMANCE OF THE CONTRACT AND PROVIDING A FULLY OPERATIONAL SYSTEM ACCEPTED BY THE AHJ.
2. FIELD VERIFY ALL EXISTING LOCATIONS AND CONDITIONS OF ITEMS RELATED TO THIS PROJECT PRIOR TO START OF INSTALLATION.
3. BECOME FAMILIAR WITH THE DETAILS OF WORK. VERIFY DIMENSIONS IN THE FIELD AND ADVISE OWNER OF ANY DISCREPANCY BEFORE PERFORMING WORK.
4. ALL CURRENTLY APPLICABLE AND ADOPTED GOVERNING CODES IN THE STATE OF ALASKA SHALL APPLY.

FIRE EXTINGUISHING SYSTEM NOTES:

1. THE CO2 FIRE EXTINGUISHING SYSTEM SHALL CONFORM TO THE REQUIREMENTS OF NFPA 12. THE CO2 SYSTEM SHALL BE INSTALLED, INSPECTED AND TESTED AS A HIGH PRESSURE TOTAL FLOODING SYSTEM AS DEFINED PER NFPA 12.
2. ALL SYSTEM COMPONENT SHALL BE LISTED AND RATED FOR THE EXPECTED SYSTEM PRESSURES.
3. THE SYSTEM LAYOUT SHOWS SUGGESTED LOCATIONS. FINAL EQUIPMENT LOCATION, PIPE ROUTING, NOZZLE LAYOUT, AND COORDINATION IS THE RESPONSIBILITY OF THE CONTRACTOR. FOR ADDITIONAL REQUIREMENTS, SEE SPECIFICATION SECTION 21 21 01, CARBON DIOXIDE FIRE-EXTINGUISHING SYSTEM.

FIRE ALARM SYSTEM NOTES

1. THE FIRE ALARM MODIFICATIONS SHALL CONFORM TO THE REQUIREMENTS OF NFPA 72. THE SYSTEM SHALL BE INSTALLED, INSPECTED AND TESTED PER NFPA 72.
2. THE SYSTEM LAYOUT SHOWS THE INTENT OF THE COVERAGE AND IS SHOWN IN SUGGESTED LOCATIONS. FINAL QUANTITY, LAYOUT, AND COORDINATION IS THE RESPONSIBILITY OF THE CONTRACTOR. FOR ADDITIONAL REQUIREMENTS, SEE SPECIFICATION SECTION 21 21 01.
3. PROVIDE ALL STROBES RATED AT 15 CANDELA MINIMUM UNLESS NOTED OTHERWISE. SYNCHRONIZE ALL STROBES THROUGHOUT ANY GIVEN FIRE ZONE.
4. PROVIDE ALL SLC AND NAC CONDUCTORS SIZED A MINIMUM OF #18 AWG. PROVIDE ALL AUDIBLE NAC CONDUCTORS SIZED A MINIMUM OF #16 AWG. PROVIDE ALL VISUAL NAC CONDUCTORS SIZED A MINIMUM OF #14 AWG. INCREASE CONDUCTOR GAUGE AS NECESSARY ACCORDING TO APPROVED VOLTAGE DROP CALCULATIONS.
5. ROUTE ALL SYSTEM CONDUCTORS IN CONDUIT SIZED A MINIMUM 3/4" SIZE. FIELD PAINT OR FACTORY GALVANIZE ALL JUNCTION BOXES, COVER PLATES, AND CONDUIT RED IN COLOR.
6. COORDINATE LOCATION OF NOTIFICATION APPLIANCES WITH OTHER DEVICES (HVAC, PROCESS MECHANICAL, ELECTRICAL, ETC.) BUT MAINTAIN ADEQUATE SPACE AND QUANTITY TO MEET NFPA 72 REQUIREMENTS. ADJUST AND SET HORN TAP SETTINGS AS NECESSARY TO ACHIEVE AUDIBILITY ABOVE AMBIENT NOISE CONDITIONS AS REQUIRED BY NFPA 72.
7. PROVIDE ROUGH-IN AND INSTALLATION OF CONDUITS AND BACKBOXES BY QUALIFIED LICENSED ELECTRICIANS. PROVIDE INSTALLATION AND TERMINATION OF DEVICES AND PANELS BY NICET CERTIFIED FIRE ALARM TECHNICIANS. CONDUCTORS MAY BE INSTALLED BY EITHER.
8. PROVIDE AND INSTALL AIR SAMPLING SMOKE DETECTION SYSTEM, INCLUDING PIPING, PORTS, BRACING, AND OTHER COMPONENTS IN ACCORDANCE WITH NFPA 72 AND MANUFACTURER INSTRUCTIONS. PROVIDE TWO SEPERATE UNITS AND PIPING NETWORKS FOR SMOKE DETECTION WITHIHN UNIT 3 GENERATOR. PROVIDE REFERENCE UNIT WITH PIPING TO DRAW REFERENCE AIR FROM POWERHOUSE.
9. THE FIRE ALARM DESIGNER SHALL COORDINATE ALL GENERATOR AND FIRE ALARM CONTROL INTERFACES TO INCLUDE BUT NOT LIMITED TO DIFFERENTIAL TRIPS (87G) AND GENERATOR SHUTDOWN (86G) WITH THE TURBINE/GENERATOR MANUFACTURER.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFFF	AQUEOUS FILM FORMING FOAM
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
BG	BELOW GRADE
BLDG	BUILDING
C	CONDUIT
CLG	CEILING
CONT	CONTINUED
DN	DOWN
DWG	DRAWING
(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EMT	ELECTRICAL METALLIC TUBING
EQ	EQUIPMENT
EXP	EXPLOSION PROOF RATED
FAC	FIRE ALARM CONTRACTOR
FAS	FIRE ALARM SYSTEM
FD	FIRE DOOR
FLR	FLOOR
FO	FIBER OPTIC
FZ	FIRE ZONE
G	GROUND CONDUCTOR
HTR	HEATER
IDC	INITIATING DEVICE CIRCUIT (CONVENTIONAL)
IR	INFRARED
MC	METAL CLAD
NAC	NOTIFICATION APPLIANCE CIRCUIT (AUDIBLE OR VISUAL)
PR	PAIR
PVC	POLYVINYL CHLORIDE CONDUIT
QTY	QUANTITY
RM	ROOM
SH	SHIELD OR SHIELDED
SLC	SIGNALING LINE CIRCUIT (ADDRESSABLE)
SPD	SURGE PROTECTIVE DEVICE
TB	TERMINAL BLOCK
TW	TWISTED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
W/O	WITHOUT
WCH	WALL MOUNTED CONNECTOR HOUSING
WP	WEATHERPROOF

STATE OF ALASKA 49TH
CHRISTOPHER LEE CURTIS
No. FP-234201
18 May 2026
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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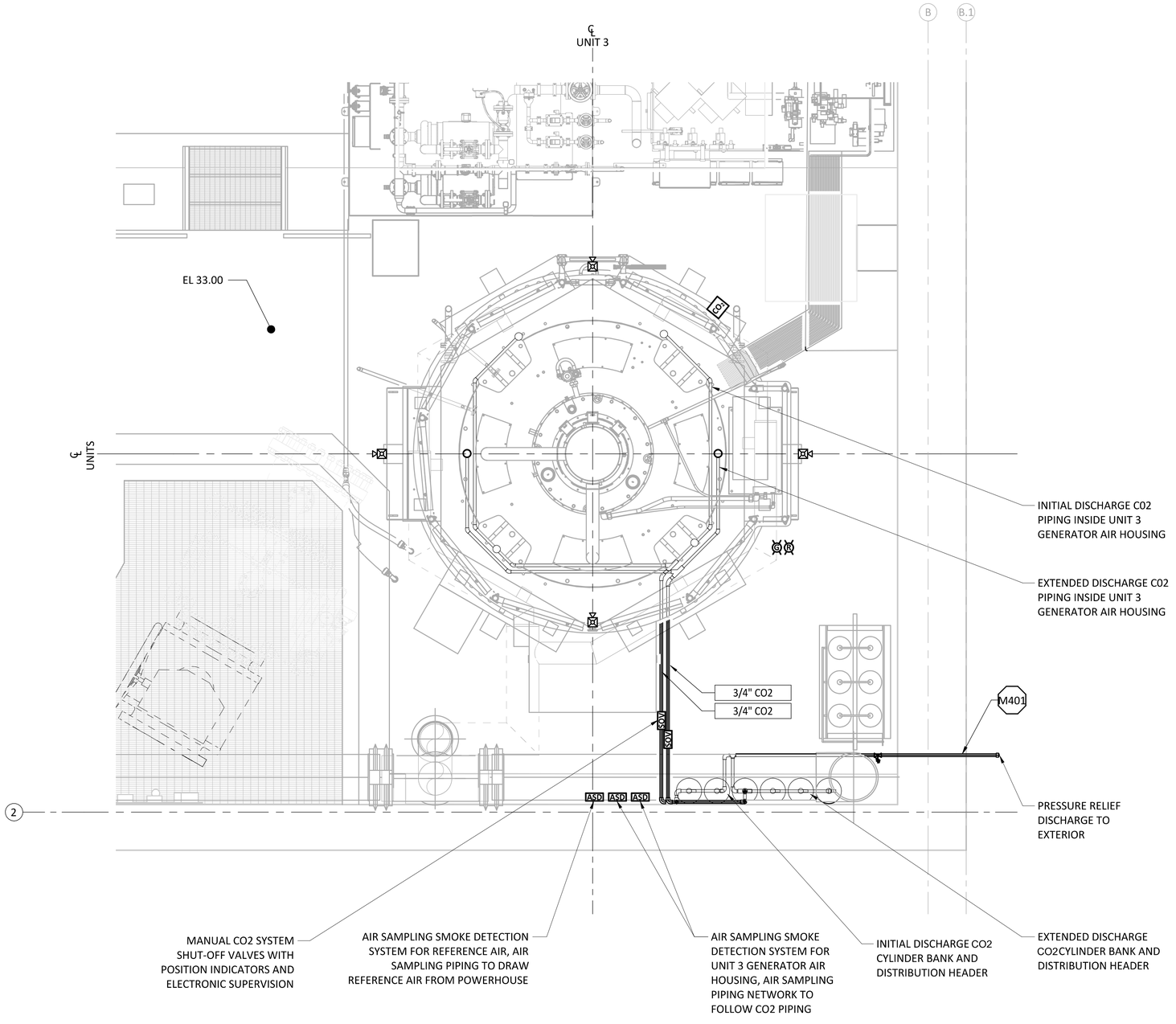
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
FIRE PROTECTION ABBREVIATIONS & GENERAL NOTES

REF DWG(S):

DRAWING NO: H02-D-45-4051-R00



UNIT 3 FIRE PROTECTION PLAN MACHINE FLOOR EL 33.00

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

0 2' 4'

SHEET NOTES:

1. PLANS DEPICT EXAMPLE LOCATION AND ROUTING. FINAL PIPE ROUTING, SIZE, AND EQUIPMENT LOCATIONS SHALL BE BASED ON CONTRACTOR'S SHOP DRAWINGS AND COORDINATED WITH OTHER TRADES.
2. DESIGN CO2 SYSTEM TO THE REQUIREMENTS AND RECOMMENDED PRACTICES OF 2025 EDITION NFPA 12. SYSTEM SHALL BE A TOTAL FLOODING HIGH PRESSURE SYSTEM WITH EXTENDED DISCHARGE. DESIGN FOR DEEP SEATED DRY ELECTRICAL HAZARDS IN ACCORDANCE WITH NFPA 12. EXTENDED DISCHARGE VOLUME SHALL BE DESIGNED TO ACCOUNT FOR LEAKAGE RATES OF ENCLOSED RECIRCULATING ROTATING ELECTRICAL EQUIPMENT WITH A DECELERATION TIME OF 20 MINUTES IN ACCORDANCE WITH NFPA 12.
3. DESIGN NEW PORTIONS OF THE RELEASING SYSTEM AND DISCHARGE NOTIFICATION TO 2025 EDITION NFPA 72. INTEGRATE SYSTEM WITH THE EXISTING RSFACU AND FACP.
4. CO2 PIPING SHALL BE AS SCHEDULED FOR PIPING GROUP NO. 1, EXCEPT FITTINGS SHALL BE 300 PSI XH-WEIGHT BLACK MALLEABLE IRON PER ASME B16.3. REFER TO PIPING MATERIAL SCHEDULE, SHEET 41-0018. FIELD TESTING SHALL COMPLY WITH NFPA 12 REQUIREMENTS AND RECOMMENDED PRACTICES, SPEC SECTION 21 21 01, AND MANUFACTURER INSTRUCTIONS.
5. NEW CO2 CYLINDER BANK, MOUNT AGAINST WALL. COORDINATE INSTALLATION WITH TURBINE-GENERATOR CONTROL PANELS AND WORK OF OTHER TRADES. CYLINDERS SHALL BE SECURELY MOUNTED, PROVIDE WITH SINGLE-ROW CYLINDER RACK AND FRAME ASSEMBLY.
6. PROVIDE AND INSTALL AIR SAMPLING SMOKE DETECTION SYSTEM, INCLUDING PIPING, PORTS, BRACING, AND OTHER COMPONENTS IN ACCORDANCE WITH NFPA 72 AND MANUFACTURER INSTRUCTIONS.

SYMBOLS

- ○ INITIAL DISCHARGE CO2 NOZZLE
- ○ EXTENDED DISCHARGE CO2 NOZZLE
- ⊠ WALL MOUNTED HORN/STROBE
- CO2 CO_2 MANUAL RELEASE STATION
- SAFETY VALVE
- SOV INDICATING SHUT-OFF VALVE
- ASD ASPIRATING SMOKE DETECTOR SYSTEM
- G 24 VDC LED LAMP WITH GREEN LENS (READY)
- R 24 VDC LED LAMP WITH RED LENS (DISCHARGED)

STATE OF ALASKA 49TH
CHRISTOPHER LEE CURTIS
No. FP-234201
18 May 2026
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
UNIT FIRE PROTECTION PLAN MACHINE FLOOR EL 33.00

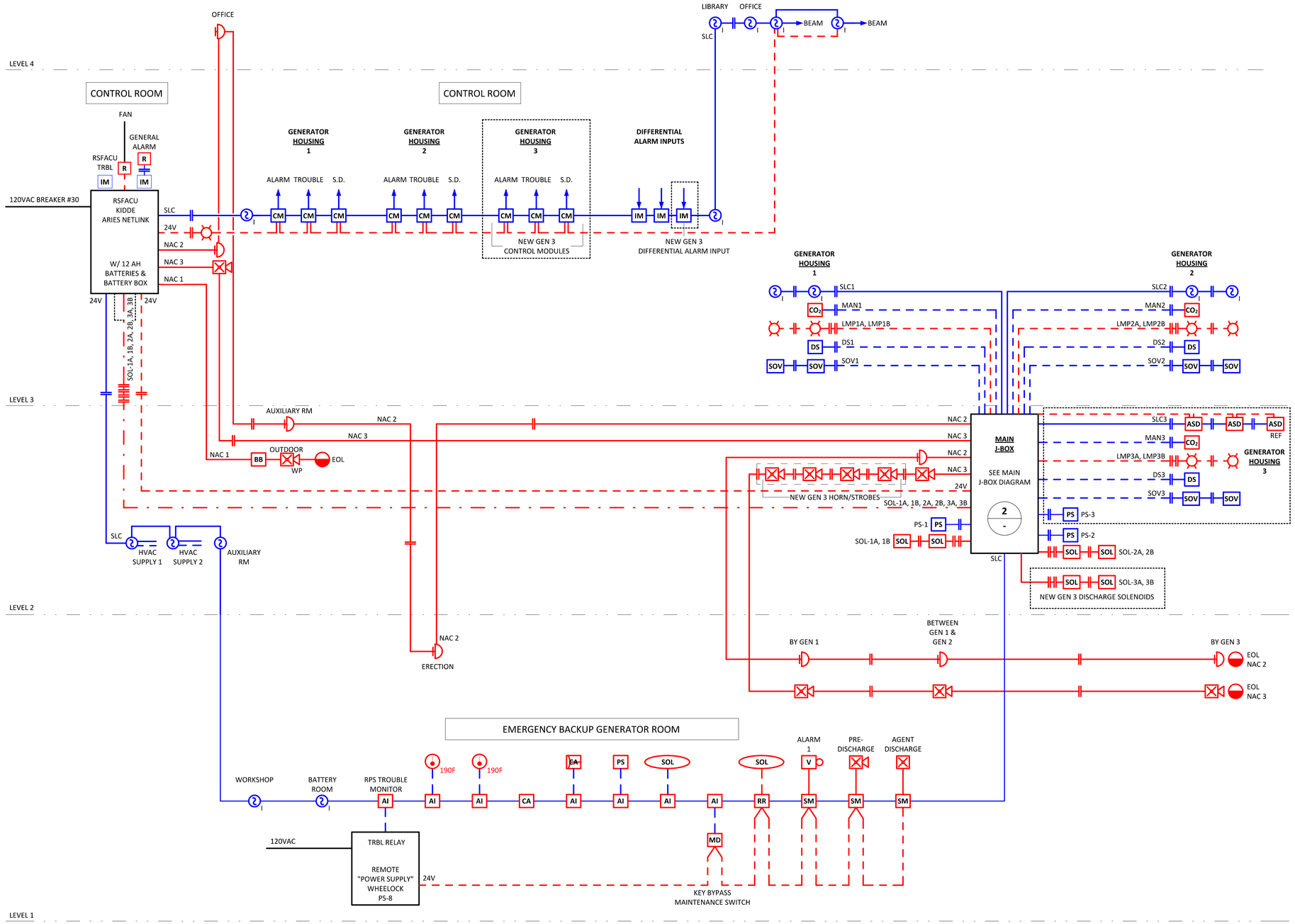
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DRAWING NO: H02-D-45-4053-R00

SHEET NOTES:

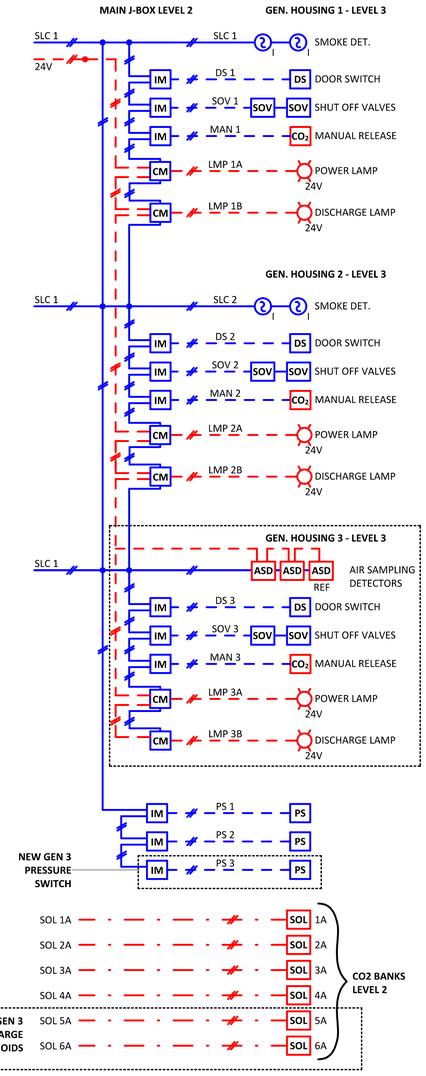
1. MATRIX BASED OFF OF EXISTING FIRE ALARM SYSTEM MATRIX. BLACK INDICATES EXISTING EQUIPMENT AND CONTROLS. RED INDICATES NEW EQUIPMENT AND CONTROLS.

| | | | SYSTEM OUTPUTS | | |



1 FIRE ALARM RISER DIAGRAM

SCALE: NTS



2 MAIN J-BOX DIAGRAM

SCALE: NTS

WIRING INDEX		
CIRCUIT	WIRE SIZE/TYPE	LINETYPE
SLC	16 AWG, TWISTED/UN-SHIELDED	
NAC	14 AWG, UN-SHIELDED	
AI CIRCUIT	16 AWG, TWISTED/UN-SHIELDED	
24V	14 AWG, UN-SHIELDED	
RELEASING	16 AWG, TWISTED/UN-SHIELDED	

NEW WORK

STATE OF ALASKA 49TH CHRISTOPHER LEE CURTIS No. FP-234201 18 May 2026 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
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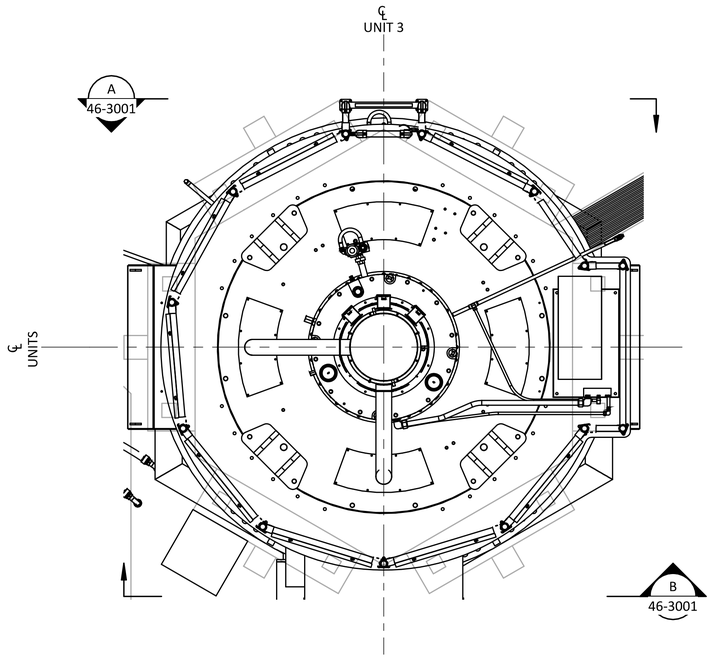
NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
FIRE ALARM RISER DIAGRAM

REF DWG(S):

DRAWING NO: H02-D-45-4058-R00

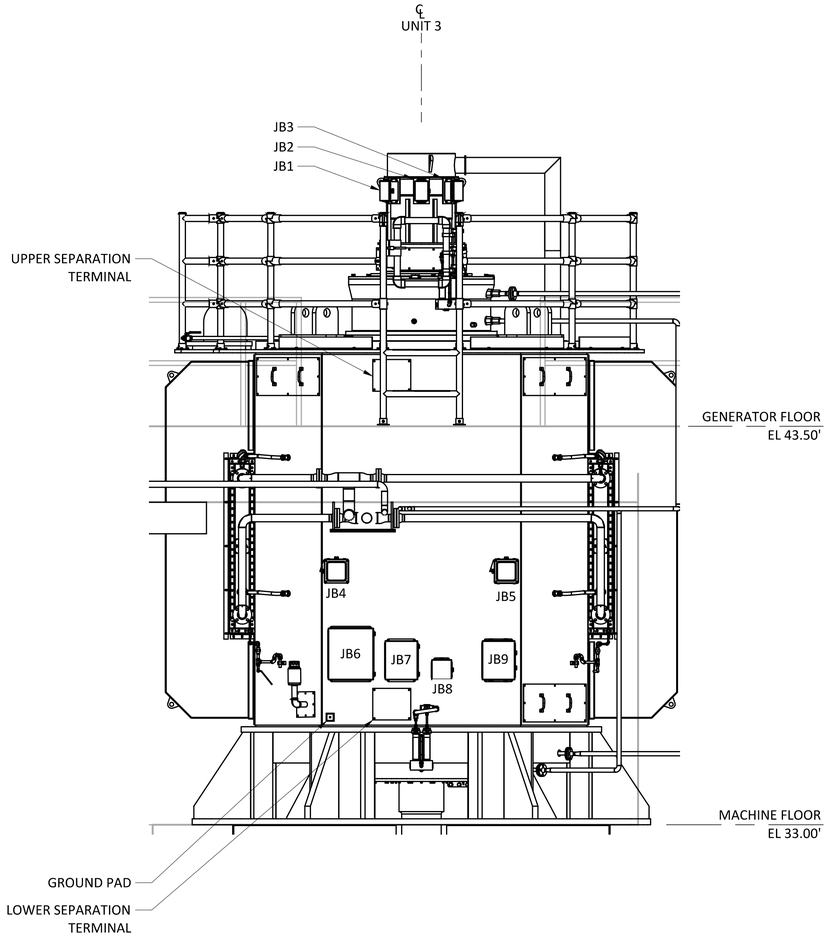
SHEET 70 OF 144



GENERATOR ELECTRICAL CONNECTIONS PLAN

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

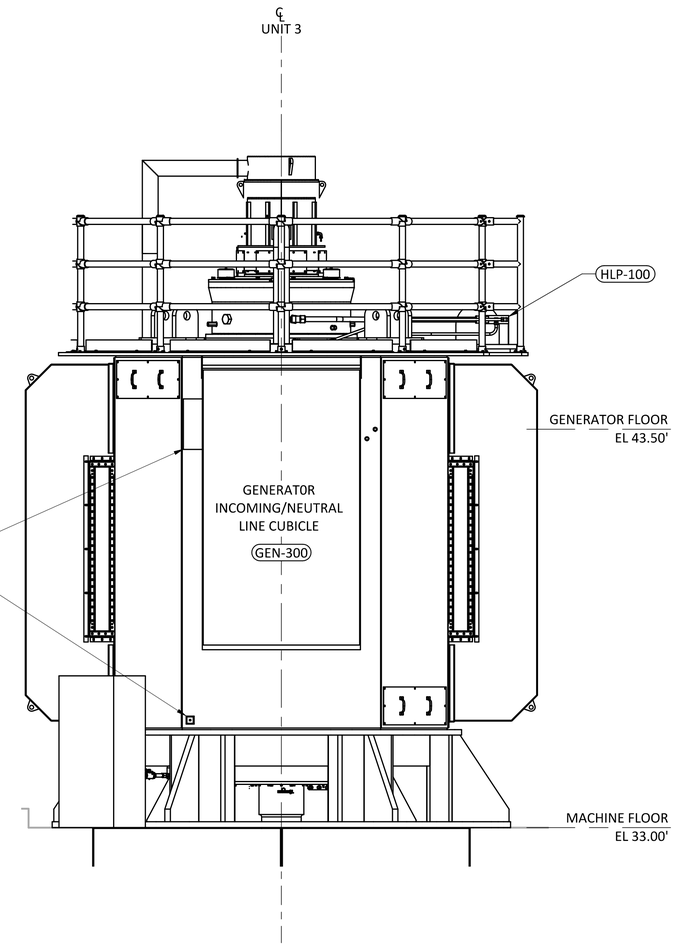
0 2' 4'



A SECTION

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

0 2' 4'



B SECTION

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

0 2' 4'

STATE OF ALASKA 49th
JEREMY RICHARD WINKLE
Date 5.18.2026
No. EE237995
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERATOR ELECTRICAL CONNECTIONS OUTLINE

REF DWG(S):
IDEAL ELECTRIC 5091A1-A09

DRAWING NO: H02-D-46-3001-R00

SHEET NOTES:

1. CABLE DESIGNATION SHOWS CABLE NUMBER, NUMBER OF CONDUCTORS, CONDUCTOR AWG SIZE, TERMINATION DRAWING NUMBER, AND CONTROL PANEL NUMBER.

GEN-JB1

SPEED PROBE 1	ET1A	1	1
	ET2B	2	2
	ET1C	3	3
SPEED PROBE 2	ET2A	4	1
	ET2B	5	2
	ET2C	6	3
SPEED PROBE 3	ET3A	7	1
	ET3B	8	2
	ET3C	9	3
SPEED PROBE 4	ET4A	10	1
	ET4C	11	2
	ET4B	12	3

1SP
NO. 3089, 4/C #18 W/SHLD, 44-2002, GOV-300
1SP
NO. 3090 4/C #18 W/SHLD, 44-2002, GOV-300
1SP
NO. 3091, 4/C #18 W/SHLD, 44-2002, GOV-300
1SP
NO. 3092, 4/C #18 W/SHLD, 44-2003, GOV-300

GEN-JB2

EXCITER FIELD	EF1 (+)	1	1
	EF1 (-)	2	2

NO. 3004,2 #10 46-3006, EXC-300

GEN-JB3

EXCITER FRAME SPACE HTR	SH3	1	1
	SH4	2	2

NO. 3036, 3/C #12, 47-4002, PPU-U3A, CKT 6

GEN-JB4

L1	1	1
L2	2	2
H	3	
L	4	
G	5	3
NO	6	
NC	7	
COM	8	1
NO	9	2
NC	10	

NO. 3037, 3/C #12, 47-4002 PPU-U3A, CKT 7
NO. 3080, 2/C #14, 44-2002, GOV-300

GEN-JB5

L1	1	1
L2	2	2
H	3	
L	4	
G	5	3
NO	6	
NC	7	
COM	8	1
NO	9	2
NC	10	

NO. 3038, 3/C #12, 47-4002, PPU-U3A, CKT 8
NO. 3081 2/C #14, 44-2002, GOV-300

GEN-JB4

STATOR RTD #1	TD1A	1	1-3
	TD1B	2	1-2
	TD1C	3	1-1
STATOR RTD #2	TD2A	4	2-3
	TD2B	5	2-2
	TD2C	6	2-1
STATOR RTD #3	TD3A	7	3-3
	TD3B	8	3-2
	TD3C	9	3-1
STATOR RTD #4	TD4A	10	4-3
	TD4B	11	4-2
	TD4C	12	4-1
STATOR RTD #5	TD5A	13	5-3
	TD5B	14	5-2
	TD5C	15	5-1
STATOR RTD #6	TD6A	16	6-3
	TD6B	17	6-2
	TD6C	18	6-1
STATOR RTD #7	TD7A	19	7-3
	TD7B	20	7-2
	TD7C	21	7-1
STATOR RTD #8	TD8A	22	8-3
	TD8B	23	8-2
	TD8C	24	8-1

NO. 3075, 8-3/C #18 TRIADS, 44-2003, GOV-300

STATOR RTD #9	TD9A	1	1-3
	TD9B	2	1-2
	TD9C	3	1-1
STATOR RTD #10	TD10A	4	2-3
	TD10B	5	2-2
	TD10C	6	2-1
STATOR RTD #11	TD11A	7	3-3
	TD11B	8	3-2
	TD11C	9	3-1
STATOR RTD #12	TD12A	10	4-3
	TD12B	11	4-2
	TD12C	12	4-1
STATOR RTD #13	TD13A	13	5-3
	TD13B	14	5-2
	TD13C	15	5-1
STATOR RTD #14	TD14A	16	6-3
	TD14B	17	6-2
	TD14C	18	6-1
STATOR RTD #15	TD15A	19	7-3
	TD15B	20	7-2
	TD15C	21	7-1
STATOR RTD #16	TD16A	22	8-3
	TD16B	23	8-2
	TD16C	24	8-1

NO. 3076, 8-3/C #18 TRIADS, 44-2003, GOV-300

STATOR RTD #17	TD17A	1	1-3
	TD17B	2	1-2
	TD17C	3	1-1
STATOR RTD #18	TD18A	4	2-3
	TD18B	5	2-2
	TD18C	6	2-1
STATOR RTD #19	TD19A	7	3-3
	TD19B	8	3-2
	TD19C	9	3-1
STATOR RTD #20	TD20A	10	4-3
	TD20B	11	4-2
	TD20C	12	4-1
STATOR RTD #21	TD21A	13	5-3
	TD21B	14	5-2
	TD21C	15	5-1
STATOR RTD #22	TD22A	16	6-3
	TD22B	17	6-2
	TD22C	18	6-1
STATOR RTD #23	TD23A	19	7-3
	TD23B	20	7-2
	TD23C	21	7-1
STATOR RTD #24	TD24A	22	8-3
	TD24B	23	8-2
	TD24C	24	8-1

NO. 3077, 8-3/C #18 TRIADS,44-2003, GOV-300

LWR GUIDE BRG RTD #1	TD25A	1	1-3
	TD25B	2	1-2
	TD25C	3	1-1
LWR GUIDE BRG RTD #2	TD26A	4	2-3
	TD26B	5	2-2
	TD26C	6	2-1
LWR SUMP RTD	TD27A	7	3-3
	TD27B	8	3-2
	TD27C	9	3-1
UPR GUIDE BRG RTD #1	TD28A	10	4-3
	TD28B	11	4-2
	TD28C	12	4-1
UPR GUIDE BRG RTD #2	TD29A	13	5-3
	TD29B	14	5-2
	TD29C	15	5-1
UPR THRUST BRG RTD #1	TD30A	16	6-3
	TD30B	17	6-2
	TD30C	18	6-1
UPR THRUST BRG RTD #2	TD31A	19	7-3
	TD31B	20	7-2
	TD31C	21	7-1
UPR SUMP RTD	TD32A	22	8-3
	TD32B	23	8-2
	TD32C	24	8-1

NO. 3078, 8-3/C #18 TRIADS, 44-2003, GOV-300

COOLER (1) AIR OUTLET RTD	TD33A	1	1-3
	TD33B	2	1-2
	TD33C	3	1-1
COOLER (1) AIR INLET RTD	TD34A	4	2-3
	TD34B	5	2-2
	TD34C	6	2-1
COOLER (1) WATER INLET RTD	TD35A	7	3-3
	TD35B	8	3-2
	TD35C	9	3-1
COOLER (1) WATER OUTLET RTD	TD36A	10	4-3
	TD36B	11	4-2
	TD36C	12	4-1
COOLER (2) AIR OUTLET RTD	TD37A	13	5-3
	TD37B	14	5-2
	TD37C	15	5-1
COOLER (2) AIR INLET RTD	TD38A	16	6-3
	TD38B	17	6-2
	TD38C	18	6-1
COOLER (2) WATER INLET RTD	TD39A	19	7-3
	TD39B	20	7-2
	TD39C	21	7-1
COOLER (2) WATER OUTLET RTD	TD40A	22	8-3
	TD40B	23	8-2
	TD40C	24	8-1

NO. 3079, 8-3/C #18 TRIADS, 44-2003, GOV-300

GEN-JB7

OLS1A	1	1
OLS1B	2	2
OLS1C	3	
OLS1D	4	3
OLS2A	5	
OLS2B	6	4
OLS2C	7	
OLS2D	8	5

NO. 3082, 7/C #14, 44-2002,GEN-300

BKS1A	9	
BKS1B	10	6
BKS1C	11	
BKS1D	12	7
BKS2A	13	1
BKS2B	14	2
BKS2C	15	
BKS2D	16	3

BKS3A	17	
BKS3B	18	4
BKS3C	19	
BKS3D	20	5
BKS4A	21	
BKS4B	22	6
BKS4C	23	
BKS4D	24	7

NO. 3083, 7/C #14, 44-2002,GEN-300

GEN-JB8

SH1	1	1
SH2	2	2
SH3	3	3

NO. 3027, 4/C #12, 47-4002, PPU3, CKT

GEN-JB9

LWR BRG VIB PROBE 1	VT1A	1	1
	VT1B	2	2
LWR BRG VIB PROBE 2	VT2A	3	1
	VT2B	4	2
UPR BRG VIB PROBE 1	VT3A	5	1
	VT3B	6	3
UPR BRG VIB PROBE 2	VT4A	7	1
	VT4B	8	2

NO. 3084 2/C #22, 44-2003, GOV-300
NO. 3085 2/C #22, 44-2003, GOV-300
NO. 3086 2/C #22, 44-2003, GOV-300
NO. 3087 2/C #22, 44-2003, GOV-300

V(-24VDC)	1	1
COMM	2	2
OUTPUT	3	3

NO. 3088, 3/C #18 SHD, 44-2002, GOV-300

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
UNIT 3 GENERATOR WIRING DIAGRAM 1

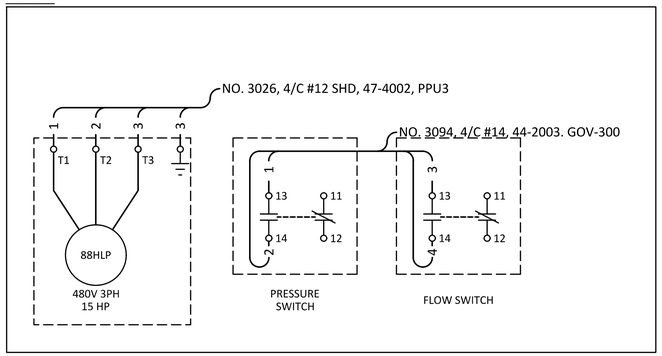
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DRAWING NO.: H02-D-46-3002-R00

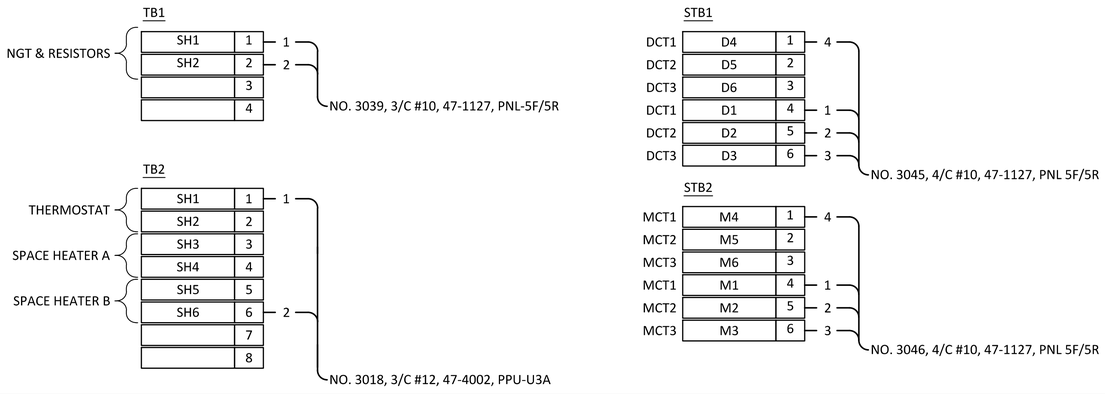
SHEET NOTES:

1. CABLE DESIGNATION SHOWS CABLE NUMBER, NUMBER OF CONDUCTORS, CONDUCTOR AWG SIZE, TERMINATION DRAWING NUMBER, AND CONTROL PANEL NUMBER.

HLP-100



GEN-JB7



GEN-300



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen Inc		JOB #: T.O. 24017	
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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
UNIT 3 GENERATOR WIRING DIAGRAM 2

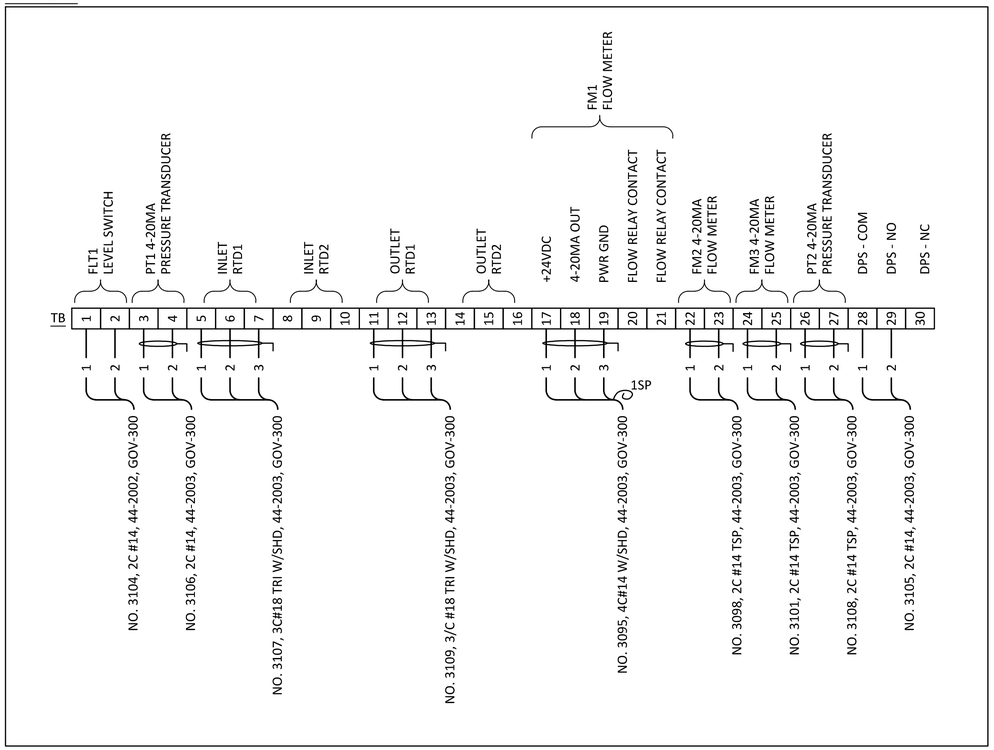
REF DWG(S):
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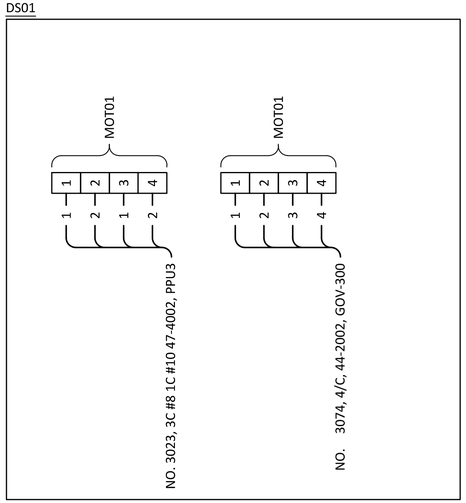
SHEET NOTES:

1. CABLE DESIGNATION SHOWS CABLE NUMBER, NUMBER OF CONDUCTORS, CONDUCTOR AWG SIZE, TERMINATION DRAWING NUMBER, AND CONTROL PANEL NUMBER.

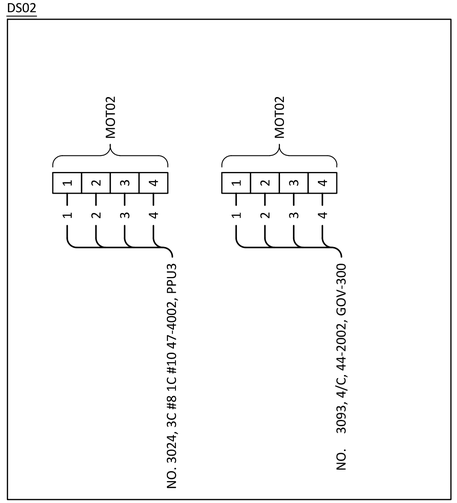
CONTROL JB



DS01



DS02





PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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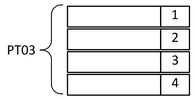
NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
UNIT 3 COOLING WATER WIRING DIAGRAM

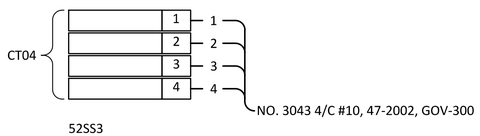
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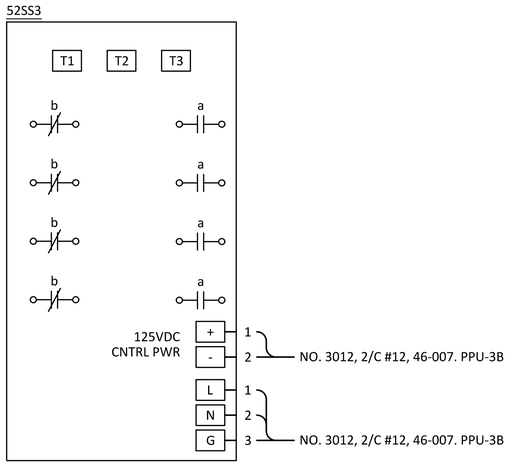
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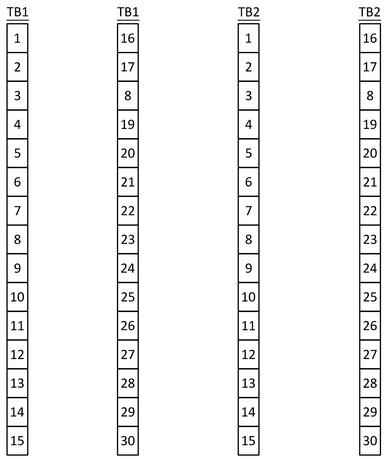
1A

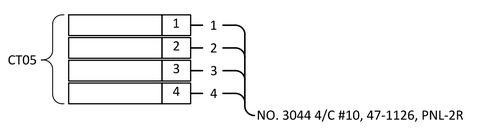


1D

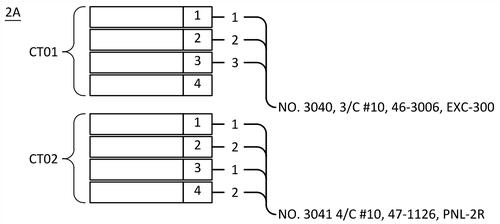


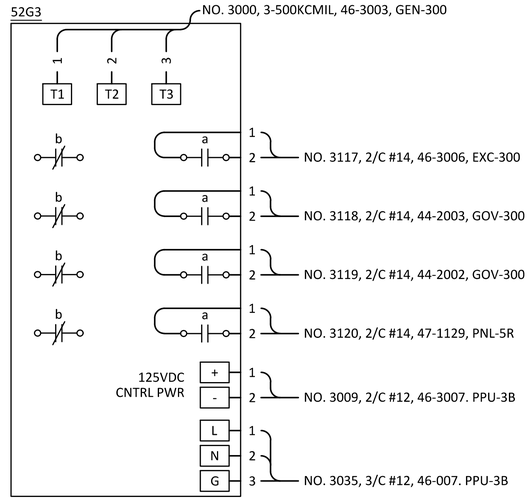




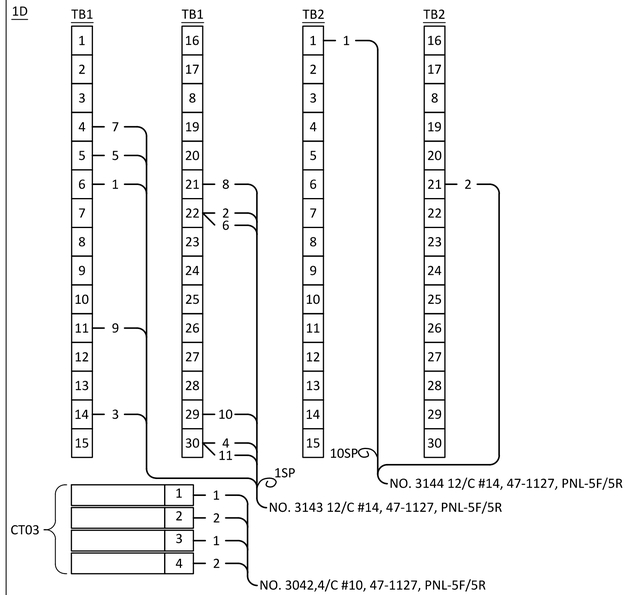


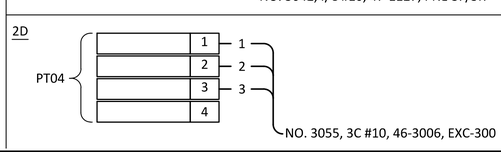
2A





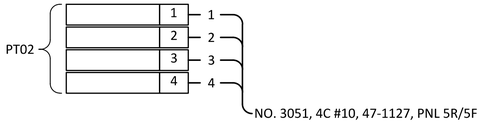
1D



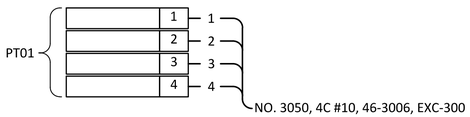


2D

3A



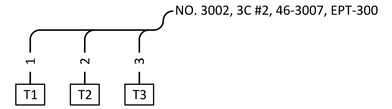
3D



4A

SHEET NOTES:

1. CABLE DESIGNATION SHOWS CABLE NUMBER, NUMBER OF CONDUCTORS, CONDUCTOR AWG SIZE, TERMINATION DRAWING NUMBER, AND CONTROL PANEL NUMBER.



4D



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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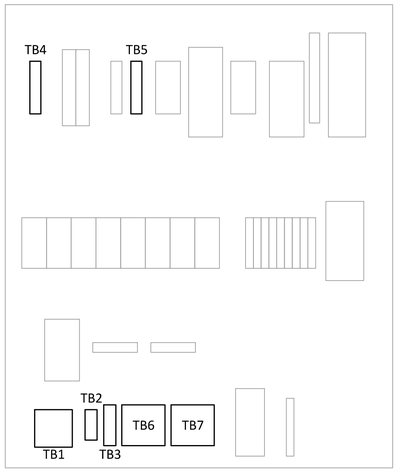
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
UNIT 3 SWITCHGEAR WIRING DIAGRAM

REF DWG(S):
EATON – MD961A2-S

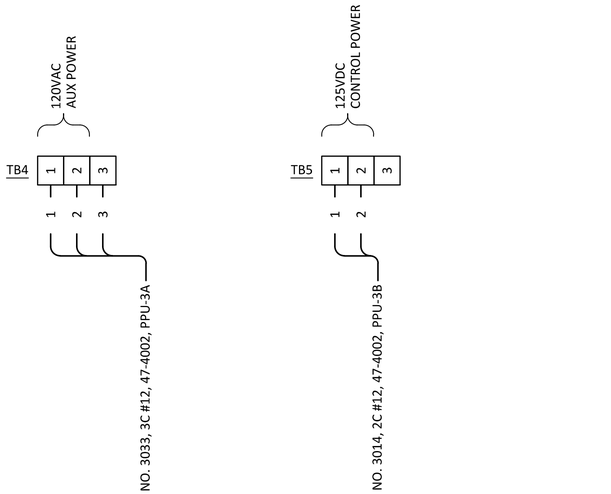
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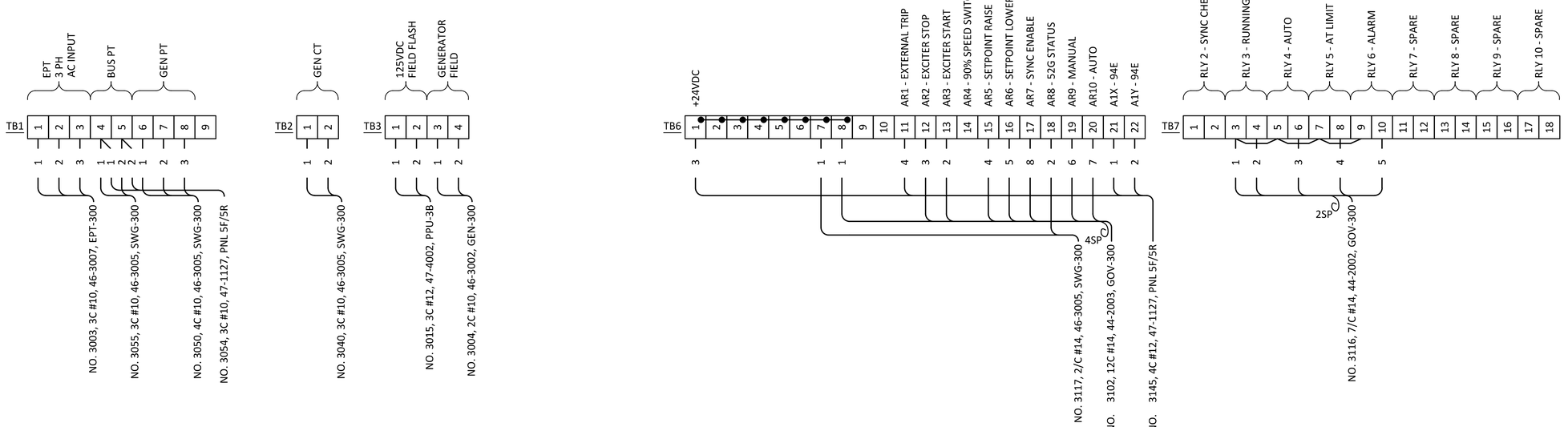
SHEET NOTES:

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EXITATION CONTROL CABINET INTERNAL LAYOUT







PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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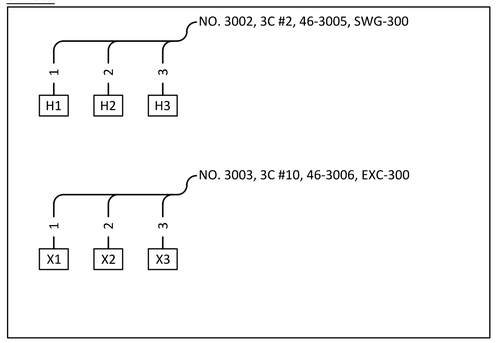
NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
UNIT 3 EXCITATION CONTROL SYSTEM WIRING DIAGRAM

REF DWG(S):
L&S PG000044-1C

DRAWING NO.: H02-D-46-3006-R00

EPT-300



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation

DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
UNIT 3 EXCITATION POWER TRANSFORMER WIRING DIAGRAM

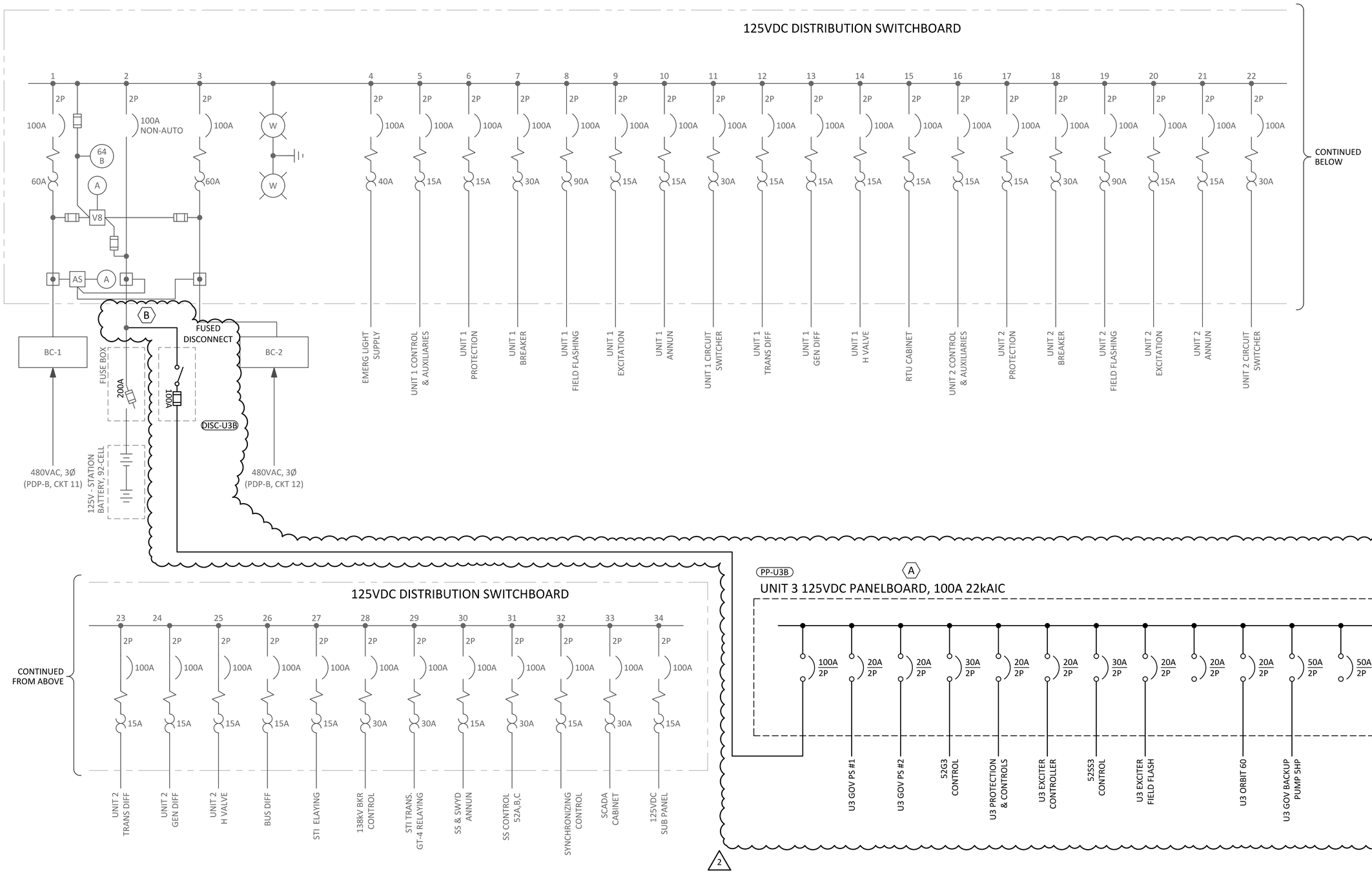
REF DWG(S):
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DRAWING NO.: H02-D-46-3007-R00

SHEET 77 OF 144

SHEET KEY NOTES:

A. INSTALL NEW 125VDC PANEL BOARD DEDICATED TO UNIT 3.
B. INSTALL FUSED DISCONNECT AS SHOWN TAP INTO EXISTING CIRCUIT IMMEDIATELY UPSTREAM OF EXISTING 125VDC DISTRIBUTION SWITCHBOARD.



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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
125V DISTRIBUTION ONE-LINE DIAGRAM

REF DWG(S): TY-47-102
DRAWING NO.: H02-D-47-0002-R02
SHEET 78 OF 144

SHEET NOTES:

1. FOR UNIT 3 ONELINE AND RELAY PROTECTION, SEE DWG TBD.
2. SYNCH SWITCH TO BE REPLACE AS NEEDED TO ADD ADDITION POSITION FOR UNIT.
3. UNIT 3 GOVERNOR AND VOLTAGE REGULATOR CONSTITUTE THE AUTO SYNCHRONIZER. IN SYNCHRONIZE MODE, GOVERNOR WILL ADJUST SPEED TO MATCH FREQUENCY AND VOLTAGE REGULATOR MATCH VOLTAGE. SEL-700G WILL CLOSE BREAKER WHEN IN SYNCH.

DEVICE LIST

21	LINE DISTANCE RELAY
25SC	LINE SYNCHRONISM CHECK RELAY
25A	AUTOMATIC SYNCHRONIZER
*32GI	REVERSE POWER RELAY
*40GI	LOSS OF FIELD RELAY
41	FIELD CIRCUIT BREAKER
*46GI	NEGATIVE SEQUENCE RELAY
*49GI	STATOR OVERTEMPERATURE RELAY
49TI	TRANSFORMER OVERTEMPERATURE RELAY
50	FAULT DETECTOR RELAY
50/51E1	EXCITER OVERCURRENT RELAY
51NT	TRANSFORMER NEUTRAL GROUND OVERCURRENT RELAY
*51VGI	VOLTAGE CONTROLLED OVERCURRENT RELAY
52	CIRCUIT BREAKER
*59GI	GENERATOR OVERVOLTAGE RELAY
*60GI	GENERATOR VOLTAGE BALANCE RELAY
62	TIMER FOR DISTANCE RELAYS
63TF	TRANSFORMER FAULT PRESSURE RELAY
64FI	FIELD GROUND RELAY
*64GI	GENERATOR STATOR GROUND RELAY
67G	DIRECIONAL OVERCURRENT GROUND RELAY
86B,D,T	BUS, GENERATOR OR TRANSFORMER DIFFERENTIAL LOCKOUT RELAY
*87B,G,T	BUS, GENERATOR OR TRANSFORMER DIFFERENTIAL RELAY
89TI	TRANSFORMER CIRCUIT SWITCHER
65SD	GOVERNOR SHUTDOWN SOLENOID
65SNL	GOVERNOR SPEED-NO-LOAD SOLENOID
	CHART RECORDER
*	DENOTES RELAY FUNCTIONS NOW INCLUDED IN SEL-300G RELAY.

SYNCHRONIZING

3

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Design
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MAIN ONE-LINE DIAGRAM

REF DWG(S):
TY--47--103

DRAWING NO.: H02-F-47-0003-R02

EQUIPMENT NOTES

1. PANELBOARD U3 (PPU3) INSTALLED UNDER STATION SERVICE CONSTRUCTION PROJECT. UNIT 3 INSTALLATION CONTRACTOR TO PROVIDE REQUIRED CIRCUIT BREAKERS AS INDICATED. ALL BREAKERS IN PANELBOARD TO BE MOLDED CASE.
2. PANELBOARD U3A (PPU3A) AND TRANSFORMER ARE NEW, PROVIDING 208/120V POWER AND DEDICATED TO UNIT 3 ACCESSORIES.

LEGEND

- GROUND
- SURGE ARRESTER
- BUSHING CURRENT TRANSFORMER
- CURRENT TRANSFORMER
- POWER TRANSFORMER
- POTENTIAL TRANSFORMER
- POWER FUSE
- (24) VOLT/HZ
- (25) SYNCH CHECK
- (27) UNDERVOLTAGE
- (59) OVERVOLTAGE
- (50) TIME OVERCURRENT RELAY (G-GROUND)
- (51) INST. OVERCURRENT RELAY (G-GROUND)
- (52A) AC CIRCUIT BREAKER POSITION
- (81) OVER/UNDER FREQUENCY RELAY
- (M) VOLT, AMP, WATT MULTIFUNCTION METER
- [ARMS] ARC FLASH REDUCTION MAINTENANCE SWITCH
- [ZSI] ZONE SELECTIVE INTERLOCKING

C-HRG	EATON HIGH RESISTANCE GROUND DEVICE
M	MULTI-METER
NC	NORMALLY CLOSED
NCT	NEUTRAL CURRENT TRANSFORMER
SEL-700G	GENERATOR PROTECTION RELAY
SEL-735	WATTHOUR METER
SEL-751	FEEDER/ARC FLASH PROTECTION RELAY
TC-100	EATON TRANSFORMER TEMP CONTROL DEVICE
Vs	SYNCH VOLTAGE

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen Inc	JOB #: T.O. 24017		
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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STATION SERVICE SWITCHGEAR ONE-LINE DIAGRAM

REF DWG(S): SEAPA EL-101

DRAWING NO.: H02-D-47-0010-R01

SHEET 80 OF 144

SHEET KEY NOTES:

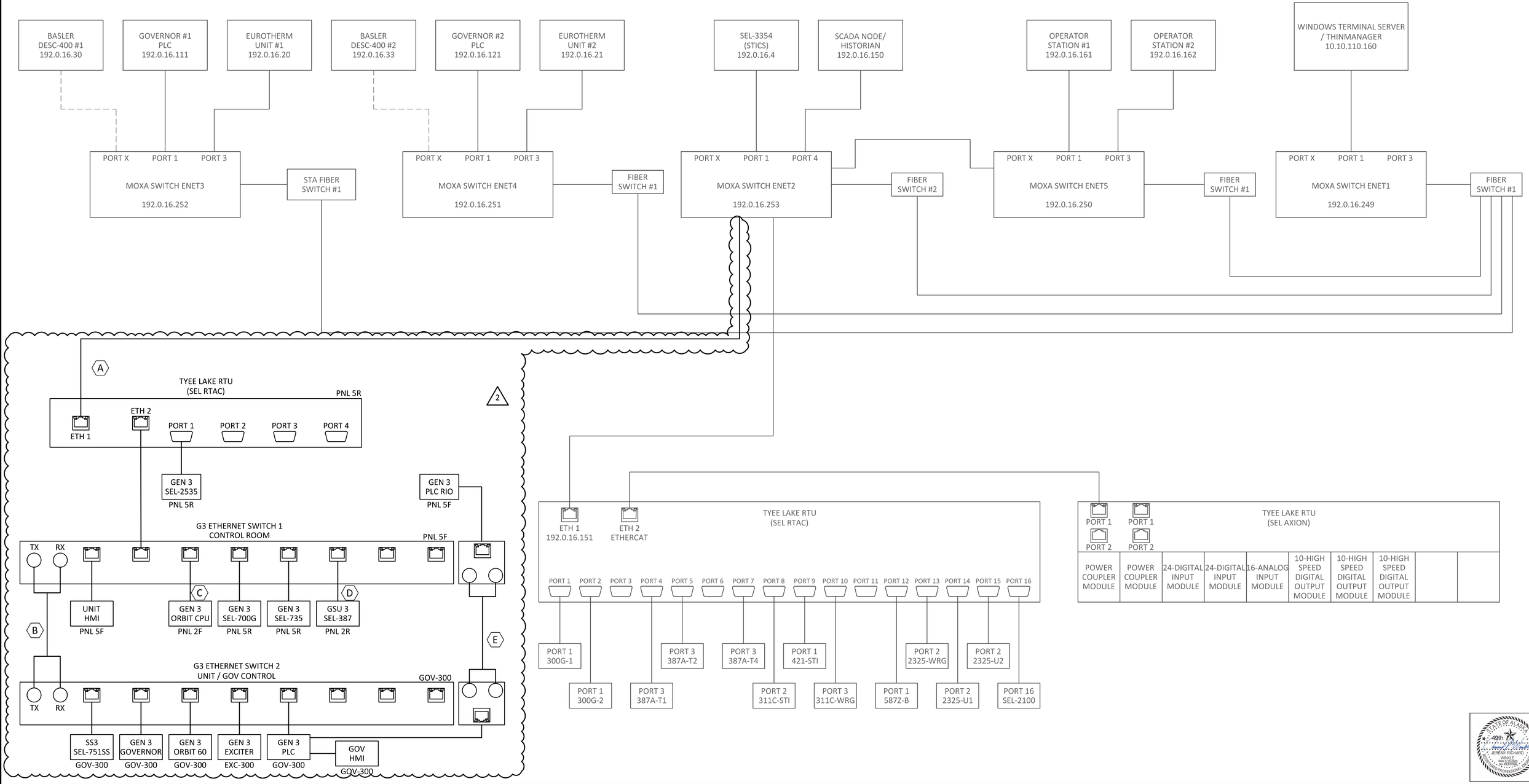
A. CONTRATOR TO INSTALL ETHERNET CONNECTION BETWEEN RTAC AND SCADA NETWORK SWITCH

B. CONTRACTOR TO INSTALL FIBER BETWEEN GOV-300 NETWORK SWITCH AND PANEL 5F ETHERNET SWITCH

C. CONTRACTOR TO INSTALL ETHERNET CONNECTION BETWEEN PANEL 5F ETHERNET SWITCH AND ORBIT CPU IN PANEL 2F

D. CONTRACTOR TO INSTALL ETHERNET CONNECTION BETWEEN PANEL 5F ETHERNET SWITCH AND SLE-387 IN PANEL 2R

E. CONTRACTOR TO INSTALL FIBER BETWEEN GOV-300 MEDIA CONVERTER AND PANEL 5F MEDIA CONVERTER



STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5/20/2026

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
DATA NETWORK DIAGRAM

REF DWG(S):
& L&S PG000044-E05-01

DRAWING NO.: H02-D-47-0502-R02

DIAGRAMS

HIGH - MEDIUM VOLTAGE SWITCHING

- POWER CIRCUIT BRK, DRAWOUT
- POWER CIRCUIT BRK, NON-DRAWOUT
- HV ISOLATING SW MOTOR OPERATED
- HV INTERRUPTER SW FUSED
- CENTER-BREAK SW MOTOR OPERATED
- DUAL-BREAK SW MOTOR OPERATED
- LOAD-BREAK SW MOTOR OPERATED
- HORN GAP SW

TRANSFORMERS WINDING CONNECTIONS:

- DELTA 3PH3W
- DELTA CENTER TAP GND 3PH4W
- DELTA CORNER GRD 3PH3W
- BROKEN DELTA 3PH2W
- OPEN DELTA 2PH2W
- WYE 3PH3W
- WYE GRD 3PH4W
- ZIG-ZAG 3PH3W
- ZIG-ZAG GRD 3PH4W

TRANSFORMERS:

- POWER XMFR
- MAG CORE XMFR
- LOAD TAP CHANGING XMFR
- SPLIT SECONDARY XMFR
- AUTO XMFR

HIGH - MEDIUM VOLTAGE DEVICES

- LIGHTNING ARRESTER
- WAVE TRAP
- GROUND SW MOTOR OPER
- MV CABLE TERMINATION
- CABLE POTHEAD OIL-FILLED

INSTRUMENT TRANSFORMERS:

- POTENTIAL XFMR
- POTENTIAL XFMR DUAL SECONDARY
- (3) 800:5 CURRENT XFMR, QTY & RATIO AS INDICATED
- (1) 50:5 CORE BALANCE CURRENT XFMR RATIO AS INDICATED
- (3) 800:5 BUSHING CURRENT XFMR, QTY & RATIO AS INDICATED
- KILOWATT-HOUR METER

MISC DEVICES & CONNECTIONS:

- IN/OUT LINE
- PROTECTIVE DEVICE ELEMENT, SEE DEVICE FUNCTION INDEX
- TEST SWITCH
- TEST SWITCH, CURRENT SHORTING
- BATTERY
- GROUND
- DISCONNECTING DEVICE
- NEUTRAL CONNECTION
- ISOL PH BUS FLEX CONN
- ISOL PH BUS REMOVEABLE LINK

MACHINES:

- MOTOR-DC
- MOTOR-AC
- AC GENERATOR

MISC DEVICES & CONNECTIONS:

- DEVICE TERMINAL POINT
- TERMINAL BLOCK
- EXTERNAL EQUIPMENT INTERCONNECTION
- RELAY, SOLENOID, OR CONTACTOR COIL
- TRANSDUCER
- INDICATING METER
- TELEMETRY
- PUSH-TO-TEST LIGHT
- PILOT/INDIC LIGHT
- FUSE, SIZE AS INDICATED
- FUSE DUMMY
- DISC SW FUSED
- FUSIBLE LINK
- CAPACITOR
- REACTOR
- RESISTOR
- RESISTOR VARIABLE
- HEATER ELEMENT
- RECTIFIER SOLID STATE
- RECTIFIER FULLWAVE
- DC BRAKE
- GROUND
- CHASSIS GROUND
- CURRENT SHUNT

LOW VOLTAGE SWITCHING:

- DISCONNECTING SWITCH, MANUALLY GANG-OPERATED
- MOLDED CASE OR AIR CIRCUIT BREAKER
- CONTACTOR WITH THERMAL OL TRIP
- CONTACTOR WITH MAGNETIC OL TRIP
- CONTACTOR WITH THERMAL AND MAGNETIC OL TRIP
- CIR BKR DRAWOUT ELEC OPER
- CIR BKR THERMO O/L DRAWOUT ELEC OPER
- CIR BKR MAG O/L DRAWOUT ELEC OPER
- CIR BKR THERMO/MAG O/L DRAWOUT ELEC OPER

SELECTOR:

TWO-POSITION X-CONTACT CLOSED

	J	K
A1	X	
A2		X

THREE-POSITION X-CONTACT CLOSED

	J	K	L
A1	X		
A2			X

TWO-POSITION SELECTOR PUSHBUTTON X-CONTACT CLOSED

CONTACTS	SELECTOR POSITION			
	A		B	
	BUTTON		BUTTON	
	FREE	CONTACTS	FREE	CONTACTS
1-2	X			
3-4		X	X	X

CONTROL SWITCHING:

- XX PB SWITCH NORM OPEN
- XX PB SWITCH NORM CLOSED
- XX OFF MAN AUTO SELECTOR SWITCH
- XX LIMIT SW NORM OPEN
- XX LIMIT SW NORM CLOSED
- XX LIMIT SW NORM OPEN HELD CLOSED
- XX LIMIT SW NORM CLOSED HELD OPEN
- SOLENOID
- XX CONTACT NORM OPEN
- XX CONTACT NORM CLOSED
- XX FLOW OPER NORM OPEN
- XX FLOW OPER NORM CLOSED
- XX LEVEL OPER NORM OPEN
- XX LEVEL OPER NORM CLOSED
- XX SWITCH NORM OPEN
- XX SWITCH NORM CLOSED
- XX TEMP ACT SW NORM OPEN
- XX TEMP ACT SW NORM CLOSED
- XX FOOT OPER NORM OPEN
- XX FOOT OPER NORM CLOSED
- XX PRESS OPER NORM OPEN
- XX PRESS OPER NORM CLOSED

MOMENTARY CONTACTS:

- NO / NC SINGLE CIRCUIT
- NO & NC DOUBLE CIRCUIT

MAINTAINED CONTACTS:

- TWO SINGLE CIRCUIT
- ONE DOUBLE CIRCUIT
- ESS E-STOP, 2NC

INSTANT OPERATION CONTACTS WITH BLOWOUT

- XA NO
- XA NC

INSTANT OPERATION CONTACTS WITHOUT BLOWOUT

- XA NO
- XA NC

TIMED CONTACTS - CONTACT ACTION DELAYED AFTER COIL IS ENERGIZED

- NOTC XX SEC
- NCTC XX SEC

TIMED CONTACTS - CONTACT ACTION DELAYED AFTER COIL IS DE-ENERGIZED

- NOTC XX SEC
- NCTC XX SEC

SUPPLEMENTARY CONTACTS SYMBOLS:

- SPST, NO SINGLE-BREAK
- SPST, NO DOUBLE-BREAK
- SPST, NC SINGLE-BREAK
- SPST, NC DOUBLE-BREAK
- SPDT, SINGLE-BREAK
- SPDT, DOUBLE-BREAK
- DPST, NO, SINGLE-BREAK
- DPST, NO, DOUBLE-BREAK
- DPST, NC, SINGLE-BREAK
- DPST, NC, DOUBLE-BREAK
- DPDT, SINGLE-BREAK
- DPDT, DOUBLE-BREAK

NOTE:

1. "X" OR "XX" SHOWN ON SYMBOLS WILL BE SUBSTITUTED WITH DEVICE FUNCTION NUMBERS, LETTER SUFFIXES, PILOT LIGHT COLORS, OR OTHER DESCRIPTIVE TEXT, WHICH ARE DEFINED ELSEWHERE IN THESE LEGEND DRAWINGS.

STATE OF ALASKA 49th — JEREMY RICHARD WINKLE Date 5/18/2026 No. EE23736 — REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
ELECTRICAL STANDARD SYMBOLS 1

REF DWG(S):

DRAWING NO: H02-D-47-0521-R00 SHEET 82 OF 144

PRIVATE TELEPHONE SYSTEM

- SB SWITCHBOARD
- TC TERMINAL CABINET
- D DESK PHONE
- W WALL PHONE
- DATA JACK
- VOICE/DATA JACK

PAGE/SOUND SYSTEM

- A AMPLIFIER
- WS SPEAKER, WALL MTD
- CS SPEAKER, CEIL MTD
- WH HORN, WALL MTD
- CH HORN, CEIL MTD
- MIC MICROPHONE
- P HANDSET

INTRUSION ALARM/ACCESS SYSTEM

- S A SECURITY ALARM
  - A POINT OF CONTACT
  - C SECURITY PROXIMITY CARD READER (+48" AFF)
  - E SECURITY ELEVATOR LOCKOUT CONTROL
  - K SECURITY KEYPAD
  - P SECURITY PANIC BUTTON (MOUNT UNDER CABINET)
- SC D SECURITY DOOR CONTACT
  - D INTEGRAL TO DOOR HARDWARE OR HINGE. SEE ARCHITECTURAL DOOR HARDWARE SCHEDULE
  - S SURFACE MOUNTED CONTACT/MAGNET COMBO WITH TAMPER RESISTANT METAL-CLAD PIGTAIL.
  - M FULLY RECESSED CONTACT/MAGNET COMBO INSTALLED IN DOOR FRAME HEADER/TOP OF DOOR.
- SL D SECURITY DOOR LOCK CONNECTION (LOCK BY OTHERS)
  - D INTEGRAL TO DOOR HARDWARE OR HINGE. SEE ARCHITECTURAL DOOR HARDWARE SCHEDULE
  - S ELECTRICAL STRIKE IN DOOR FRAME LATCH.
  - M MAGNETIC LOCK ON DOOR FRAME HEADER.
- S M SECURITY MOTION SENSOR - ARROW INDICATES DIRECTION OF SENSING; 360° INDICATES SENSING IN ALL DIRECTIONS
- SM SECURITY MONITOR AND MULTIPLEXOR/DVM
- REX D REQUEST TO EXIT SIGNAL DEVICE
  - D INTEGRAL TO DOOR HARDWARE OR HINGE. SEE ARCHITECTURAL DOOR HARDWARE SCHEDULE
  - P PASSIVE INFRARED DETECTOR MOUNTED ABOVE DOOR FRAME. PROVIDE J-BOX TYPE 'B' HORIZONTALLY MOUNTED 6" ABOVE DOOR.
- P POWERED DOOR OPERATOR ACTUATOR
- CCTV CAMERA FIXED POSITION
- PTZ CCTV CAMERA, PAN-TILT-ZOOM
- CCTV CCTV MONITOR
- CCTV CCTV MONITOR

LOW VOLTAGE ELECTRICAL MATERIALS

- CB CIRCUIT BREAKER SWITCH
- UF UNFUSED DISCONNECT SWITCH
- F FUSED DISCONNECT SWITCH
- MOTOR STARTER MANUAL
- MOTOR STARTER MAGNETIC
- CB MOTOR STARTER MAG. COMBINATION C.B. SW.
- F MOTOR STARTER MAG. COMBINATION FUSED D.S.
- VFD VARIABLE FREQUENCY DRIVE
- PUSHBUTTON SW. EMERG. STOP
- PUSHBUTTON SW. STOP/START
- PUSHBUTTON STATION
- SELECTOR SWITCH
- CS CONTROL STATION
- FS FLOAT SWITCH
- LI LEVEL SWITCH
- BI BIN LEVEL SWITCH
- LS LIMIT SWITCH
- PS PRESSURE SWITCH
- PE ELECTRICAL/PNEUMATIC SWITCH
- PT PRESSURE TRANSMITTER
- SV SOLENOID VALVE
- T THERMOSTAT
- TS TEMPERATURE SWITCH
- MOTOR
- POINT OF CONNECTION
- J JUNCTION BOX OR CONDUIT FITTING
- $ WALL SWITCH
  - (1a) NUMBER & LETTER IN PARENTHESES INDICATES PANELBOARD CIRCUIT & SWITCHING ZONE
  - 3 THREE WAY
  - 4 FOUR WAY
  - D DIMMER
  - OS OCC SENSOR
  - T TIMER
  - XP EXPLOSIVE PROOF
  - WP WATERPROOF
- $ MOTOR SWITCH
  - M MOTOR RATED TOGGLE SWITCH WITHOUT OVERLOADS
  - MS MANUAL MOTOR STARTER WITH OVERLOADS
- DS DAYLIGHT SENSOR
- OS WALL MOUNTED OCCUPANCY SENSOR
- OS CEILING MOUNTED OCCUPANCY SENSOR
- PC PHOTOCELL, SUBSCRIPT INDICATES CIRCUIT
- CONVENIENCE RECEPTACLE - DUPLEX
  - C CLOCK
  - CR CORROSION RESISTANT
  - GFI GROUND FAULT INTERRUPTER
  - TL TWIST LOCK, NEMA CONFIGURATION AS INDICATED
  - U UPS FED
  - WP WEATHERPROOF

SUBSCRIPT NUMBER AT RECEPTACLE INDICATES CIRCUIT

- QUADRUPLEX RECEPTACLE
- SINGLE RECEPTACLE
- FLOOR RECEPTACLE
- SPECIAL PURPOSE RECEPTACLE, NEMA CONFIGURATION AS INDICATED

SITE ELECTRICAL

- POLE CONCRETE
- POLE WOOD
- POLE MOUNTED TRANSFORMER
- DOWN GUY
- SIDEWALK GUY
- M MANHOLE
- H HANDHOLE
- V VAULT
- S PAD MOUNTED SWITCH
- T TRANSFORMER VAULT
- PAD MOUNTED TRANSFORMER

GROUNDING

- GROUND ROD
- GROUND ROD WITH ACCESS BOX
- GROUND CONNECTION EXOTHERMIC
- GROUND CONNECTION MECHANICAL BOLTED
- GROUND CONNECTION COMPRESSION
- GROUND COIL (PIGTAIL) 5'0" (1.5M)
- GROUND GRADIENT MAT (SAFETY MAT) 4'X 4'
- GROUND GRADIENT MAT (SAFETY MAT) 4'X 6'

ELECTRICAL LIGHTING FIXTURES

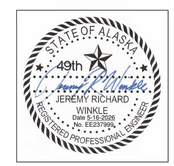
- SURFACE/PENDANT LINEAR FIXTURE
- SURFACE/PENDANT LINEAR FIXTURE WITH BATTERY BACKUP
- RECESSED LINEAR FIXTURE
- RECESSED LINEAR FIXTURE WITH BATTERY BACKUP
- DOWNLIGHT FIXTURE SURFACE/PENDANT CEILING MOUNT
- DOWNLIGHT OR SCONCE FIXTURE SURFACE WALL MOUNT
- R DOWNLIGHT FIXTURE RECESSED CEILING MOUNT
- R DOWNLIGHT OR SCONCE FIXTURE RECESSED WALL MOUNT
- H HAZARDOUS AREA LIGHT FIXTURE CEILING MOUNT
- EXIT SIGN, ARROW INDICATES DIRECTION SURFACE/PENDANT CEILING MOUNT, FILLED QUARTER INDICATES INDICATING FACE
- EXIT SIGN, ARROW INDICATES DIRECTION SURFACE WALL MOUNT,FILLED QUARTER INDICATES INDICATING FACE
- R EXIT SIGN, ARROW INDICATES DIRECTION RECESSED WALL MOUNT, FILLED QUARTER INDICATES INDICATING FACE
- EMERGENCY DOWNLIGHT FIXTURE SURFACE/PENDANT CEILING MOUNT
- EMERGENCY DOWNLIGHT OR SCONCE FIXTURE SURFACE WALL MOUNT
- R EMERGENCY DOWNLIGHT FIXTURE RECESSED CEILING MOUNT
- R EMERGENCY DOWNLIGHT OR SCONCE FIXTURE RECESSED WALL MOUNT
- EMERGENCY LIGHTING UNIT, 1 HEAD
- EMERGENCY LIGHTING UNIT, 2 HEAD
- EMERGENCY LIGHTING UNIT, 3 HEAD
- SURFACE MTD. DISTR. PANELBOARD
- FLUSH MTD. DISTR. PANELBOARD
- LF-1 LF-1 POLE-MOUNTED AREA LIGHT, NUMBER OF FIXTURES AND CONFIGURATION AS SHOWN AND PER SCHEDULE
- A (2a) LETTER NEXT TO LUMINAIRE INDICATES TYPE PER SCHEDULE. NUMBER AND LOWER CASE LETTER IN PARENTHESES INDICATES CIRCUIT AND SWITCHING ZONE IN PANELBOARD.

PLAN LINETYPES AND CONVENTIONS

- EXPOSED CONDUCTOR/CONDUIT
- CONCEALED/EMBEDDED CONDUCTOR/CONDUIT
- CONDUCTOR/CONDUIT DOWN
- CONDUCTOR/CONDUIT UP
- G GROUNDING ELECTRODE CONDUCTOR, BARE COPPER
- G GROUND CONNECTION, EXOTHERMIC OR WELDED
- G GROUND CONNECTION, BOLTED
- EOH OH POWER
- EUG UG POWER
- [3/4"C, 3#12, 1#12G] CIRCUIT CALLOUT, CONDUIT AND CONDUCTOR SIZES AS INDICATED; "n-" IN FRONT OF CALLOUT INDICATES "n" PARALLEL SETS
- RXX RACEWAY CALLOUT, INDEX NUMBER AS INDICATED IN RACEWAY SCHEDULE

DIAGRAM LINETYPES AND CONVENTIONS

- ENCLOSURE
- CONDUCTOR, CABLE, CIRCUIT, OR BUS INTERCONNECTION WITH EXTERNAL EQUIPMENT
- GANG OPERATED INTERLOCK
- OR CONDUCTOR, CROSSING OF PATHS OR CONDUCTORS NOT CONNECTED
- CONDUCTOR, JUNCTION OF CONNECTED PATHS, CONDUCTORS OR WIRES



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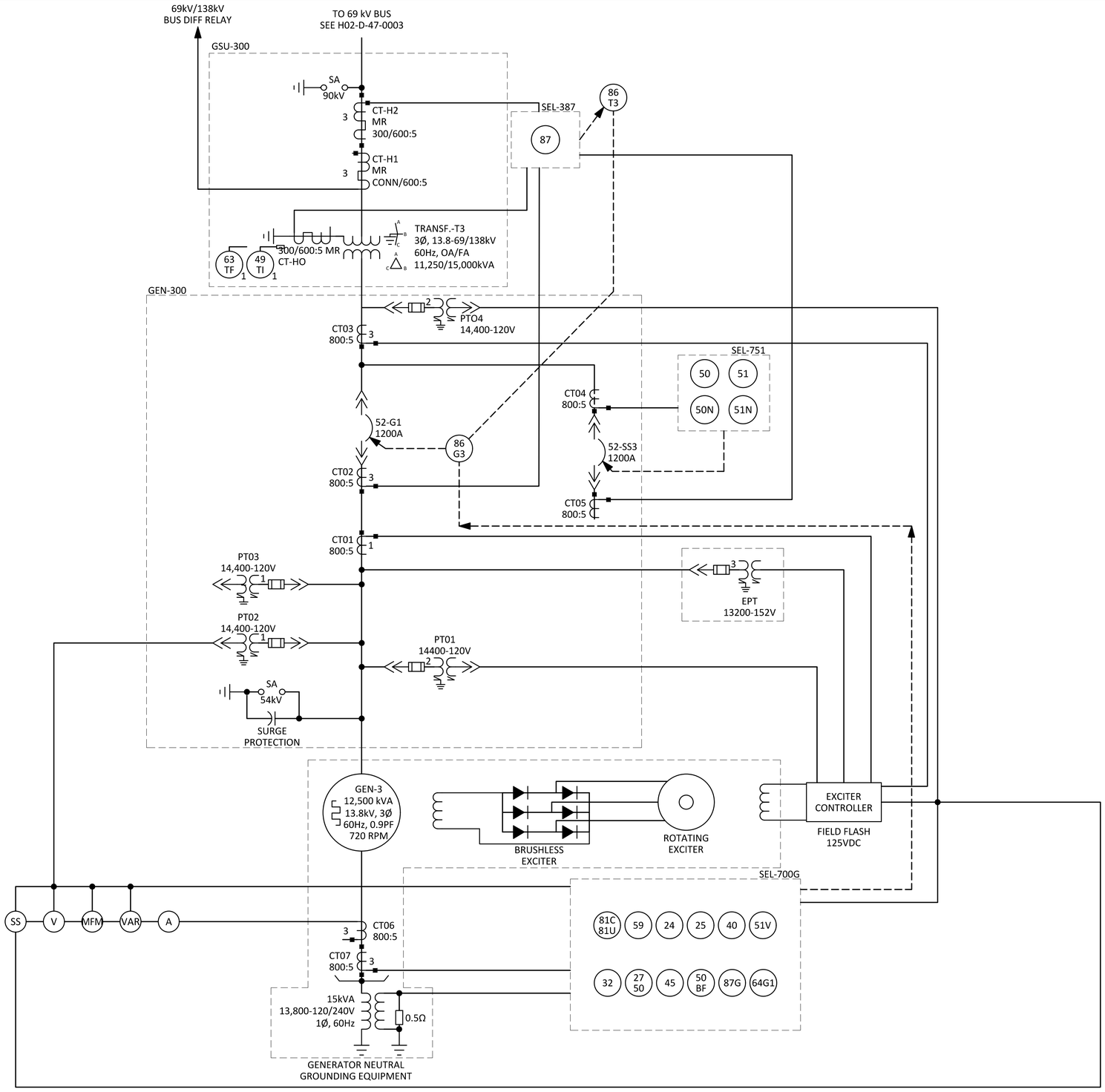
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DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
ELECTRICAL STANDARD SYMBOLS 2

REF DWG(S):

DRAWING NO: H02-D-47-0522-R00



SHEET NOTES:

1. UNIT 3 HAS A DEDICATED AUTO SYNCHRONIZER AND DOES NOT SHARE WITH OTHER UNITS.

DEVICE LIST

21	LINE DISTANCE RELAY
25	LINE SYNCHRONISM CHECK RELAY
25A	AUTOMATIC SYNCHRONIZER
32	REVERSE POWER RELAY
40	LOSS OF FIELD RELAY
46	NEGATIVE SEQUENCE RELAY
49G	WINDING OVERTEMPERATURE RELAY
50	INSTANTANEOUS OVERCURRENT ELEMENT
51	TIME OVERCURRENT RELAY
51G	GENERATOR GROUND OVERCURRENT
51V/C	VOLTAGE CONTROL/RESTRAINED PHASE OVERCURRENT
52	CIRCUIT BREAKER
59G	GENERATOR OVER VOLTAGE ELEMENT
59N	NEUTRAL OVERVOLTAGE ELEMENT
81-O/U	FREQUENCY ELEMENT, OVER AND UNDER
87	DIFFERENTIAL ELEMENT/RELAY

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERATOR 3 ONE-LINE DIAGRAM

REF DWG(S): L&S_PG000044-E06-01
DRAWING NO.: H02-D-47-0523-R00

TO 69/12 KV XFMR 3
H02-D-47-0525-R00

ΦA ΦB ΦC

SWG-300

CT03
800:5 MRCT
CONN: 800:5

52G3

EPT-300

EXC-300

DECS-250N

TB1

SWG-300 FU1 H1 X1 — 1 — 88
FU2 H2 X2 — 2 — 89
FU2 H3 X3 — 3 — 90

GND

VM

SS1
SYNC
SCOPE

11 21
12 23

SWG-300

TO 387-T3
WINDING 2
SEE H02-D-47-0528-R00

CT02
800:5 MRCT
CONN: 800:5

PNL 5R/5F
TB1
5
4
3
6

PT02
13800/120V

PT03
13800/120V
SWG-300

8 6 4 2 TS112G3 7 5 3 1
Z10 VN Z09 VC Z08 VB Z07 VA
MFM-G3

8 6 4 2 TS111G3 7 5 3 1
Z12 VN Z11 VC Z10 VB Z09 VA
11G3

SWG-300
PT01
13800/120V

EXC-300
DECS-250N
TS-1
TB1
E1 1 2 6
E2 3 4 7
E3 5 6 8

CT01
SR 800/5

SWG-300

EXC-300
TB2
TS-1
DECS-250N
2 12 11 76 CTA-
1 10 9 75 CTA+

ΦA ΦB ΦC

12.7 kV MCOV

0.25uF,
13.8 kV
1PH

GENERATOR 3
12,500 KVA
60 Hz, 0.9PF
720 RPM

EXC-300
TB1
6
DECS-250N
93
94
7

GEN-300
F1
F2

EM

PNL 5R/5F
TB2
7

SWG-300

VARM
2 1
4 3
6 5
8 7

12 11 AM 21 22
13 23
14 24

TS112G3 MFM-G3 TS112G3
IAW1
10 9 Z02 Z01 11 12 8
IBW1
14 13 Z04 Z03 15 16 9
ICW1
18 17 Z06 Z05 19 20 10

CT06
800:5 MRCT
CONN: 800:5
SWG-300

CT07
800:5 MRCT
CONN: 800:5

NGT3
13800/240V
H1 X1
H2 X2
(SWG3)

0.5 Ohm

GEN-300

PNL 5F/5R
TB1
7
8

TS211G3 11G3
6 5 E11
8 7 E12
VN

PNL 5FR/5R
2 TB2
1 4 3

TS211G3 11G3
20 16 12
19 15 11
E05 E03 E01
ICY IBY IAX
E06 E04 E02
17 13 9
18 14 10

TS111G3 11G3
18 14 10
17 13 9
Z06 Z04 Z02
ICX IBX IAX
Z05 Z03 Z01
19 15 11
20 16 12

11 14 13 12

STATE OF ALASKA
49th
JEREMY RICHARD WINKLE
Date 5.18.2026
No. EE23799
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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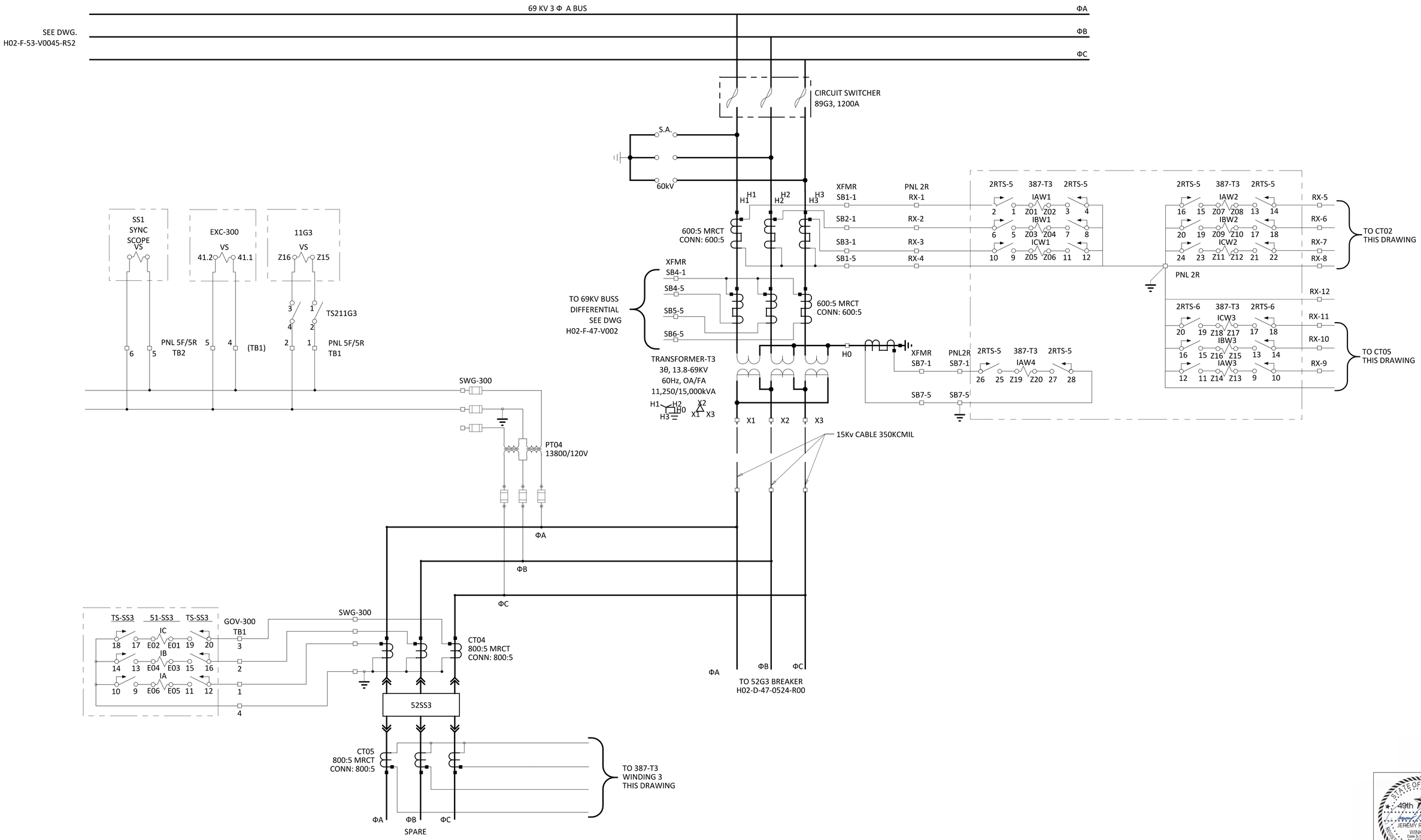
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
UNIT 3 THREE-LINE DIAGRAM SHEET 1

REF DWG(S):
L&S - P0000044-E08, IDEAL - 14DSB-2950, & EATON - MD961A2-T

DRAWING NO: H02-D-47-0524-R00





PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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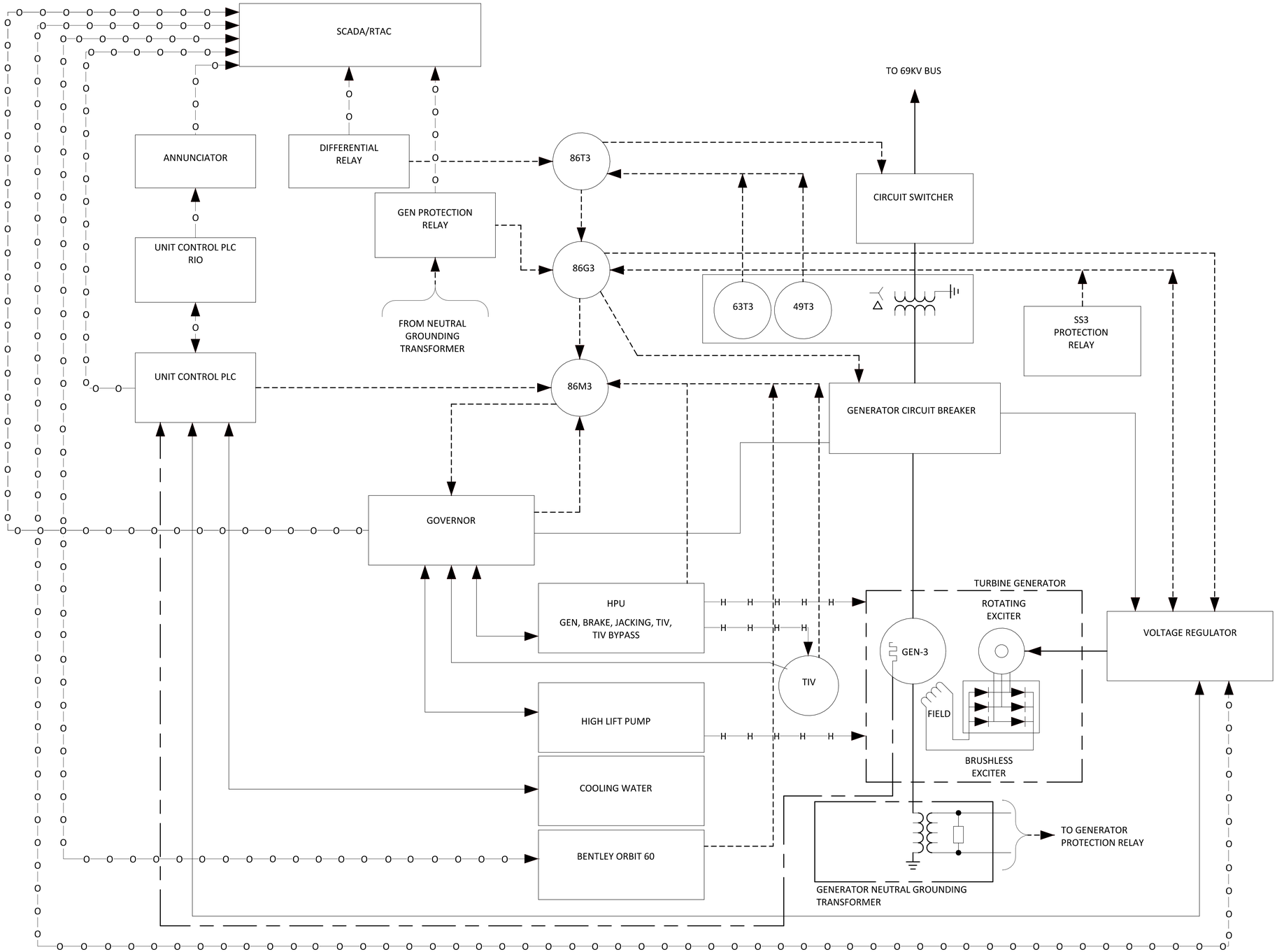
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
UNIT 3 THREE-LINE DIAGRAM SHEET 2

REF DWG(S):
L&S - PG000044-E08, IDEAL - 14DSB-2950, & EATON - MD961A2-T

DRAWING NO: H02-D-47-0525-R00



SHEET NOTES:

1. INSTRUMENT TRANSFORMERS AND ASSOCIATED CONNECTIONS ARE NOT SHOWN ON THIS DIAGRAM.
2. POWER SUPPLY WIRING NOT SHOWN ON THIS DIAGRAM.
3. GENERATOR BREAKER DURING START AND STOP IS CLOSED BY 11G3 RELAY, USING A RUN MODE CONTACT FROM THE GOVERNOR. WHEN RUN CONTACT FROM GOVERNOR IS OPEN, RELAY WILL OPEN GENERATOR BREAKER WHEN LOAD IS BELOW 100 KW.

86 LOR TRIPS

86G3 - TRIPS GEN-3 BREAKER STA SER G3 BREAKER AND 86M3 RELAY

86M3 - HYDRAULIC SHUT DOWN TO CLOSE NOZZLES AND TIV. 11G3 WILL TRIP GEN-3 BREAKER ON NORMAL SHUTDOWN

86T3 - DIFFERENTIAL FAULT TRIP GEN-3 BREAKER AND CIRCUIT SWITCHER CS-T23

LINE LEGEND

- HYDRAULIC LINE
- HARD WIRING CONNECTION
- POWER WIRING
- DIGITAL CONNECTION (CAT6)
- RTD WIRING
- TRIP SIGNAL

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-12-2026 No. IE2377000 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
UNIT 3 CONTROL BLOCK DIAGRAM 1

REF DWG(S):

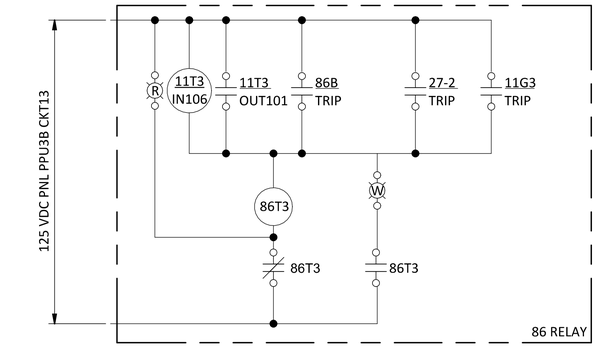
DRAWING NO: H02-D-47-0526-R00

SHEET NOTES:

1. LOCKOUT RELAYS LOCATED ON PANEL 5R IN CONTROL ROOM. SEE DRAWING H02-D-47-0544-R00 FOR PANEL LAYOUT.
2. TURBINE SUPPLIER TO PROVIDE DETAIL WIRING DIAGRAMS AND CABLE TERMINATIONS IMPLEMENTING THE SCHEMATIC FUNCTION SHOWN.
3. THE CONTRACTOR TO COORDINATE ALL GENERATOR AND FIRE ALARM CONTROL INTERFACES TO INCLUDE BUT NOT LIMITED TO DIFFERENTIAL TRIPS (87G) AND GENERATOR SHUTDOWN (86G) WITH THE FIRE ALARM DESIGNER AND TURBINE SUPPLIER

LEGEND

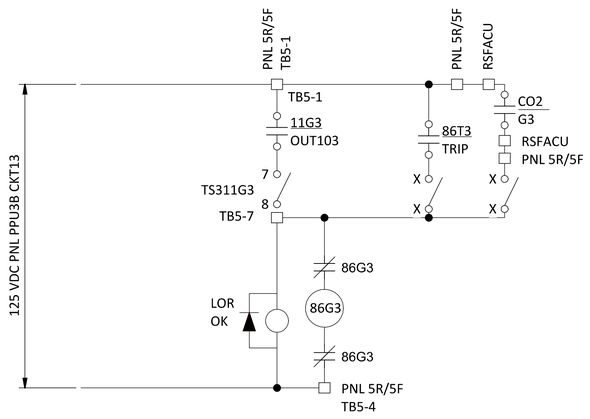
11EX3	EXCITER MULTIFUNCTIONAL CONTROLLER
11G3	SEL-700G DIGITAL GENERATOR RELAY
27-2	TRANSFORMER TRIP
49G3	BENTLY MECHANICAL MONITOR
49T3	TRANSFORMER OVERTEMPURATURE RELAY
63P3	PENSTOCK PRESSURE SWITCH
63T3	TRANSFORMER SUDDEN PRESSURE RELAY
65G3	GOVERNOR, DIGITAL
86B	BUS DIFFERENTIAL RELAY
86G3	GENERATOR 3 LOCKOUT RELAY
86M3	GENERATOR 3 MECHANICAL LOCKOUT RELAY
86T3	TRANSFORMER 3 LOCKOUT RELAY
87T3	SEL-386 DIGITAL DIFFERENTIAL RELAY
CO2G3	GENERATOR 3 CO2 SYSTEM OPERATION
TIV3	TURBINE INLET VALVE, GENERATOR 3



86T3X OUTPUT CONTACT LIST
U3 PLC - D2-IN14

OUTPUT CONTACT LIST
69CSG3 - CIRCUIT SWITCHER, 69KV
U3 PLC D2-IN13
86G3 - G3 LOR

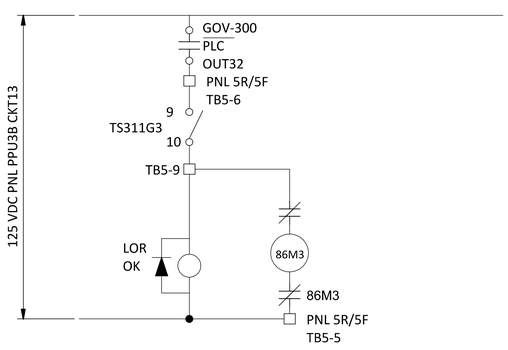
86T3 TRANSFORMER 3 LOCKOUT RELAY



LOR OK OUTPUT CONTACT LIST
U3 PLC - D2-IN09

86G3 OUTPUT CONTACT LIST
52G3 CLOSE
11G3 IN102
U3 PLC D2-IN10
65G3 - GOVERNOR INPUT

86G3 GENERATOR 3 LOCKOUT RELAY



LOR OK OUTPUT CONTACT LIST
U3 PLC - D2-IN11

86M3 OUTPUT CONTACT LIST
52G3 CLOSE
11G3 IN103
65G3 - GOVERNOR INPUT
U3 PLC D2-IN134

86M3 GENERATOR 3 MECHANICAL LOCKOUT RELAY

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5.18.2026 No. EE237994 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERATOR 3 TRIP & LOCK SCHEMATIC

REF DWG(S):
L&S - P0000044-1B-E10-03

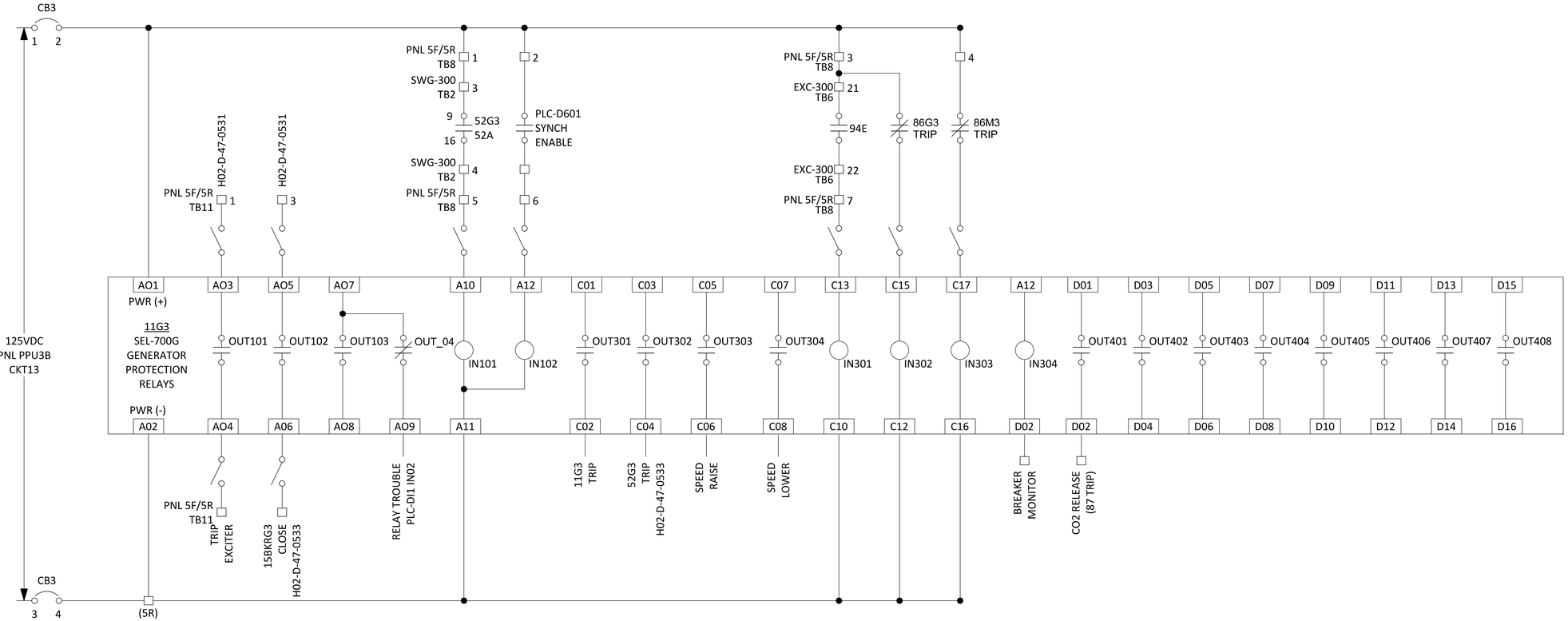
DRAWING NO: H02-D-47-0527-R00

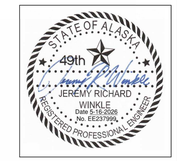
SHEET NOTES:

1. LOCKOUT RELAYS LOCATED ON PANEL 5R IN CONTROL ROOM.
2. TURBINE SUPPLIER TO PROVIDE PANEL LAYOUT, DETAIL WIRING DIAGRAMS AND CABLE TERMINATIONS IMPLEMENTING THE SCHEMATIC FUNCTION SHOWN.
3. CONTRACTOR WILL INSTALL CABLES AND RACEWAYS BETWEEN PANELS AND SWITCHGEAR, AND OTHER DEVICES AS SHOWN ON SCHEMATICS AND WIRING DIAGRAMS.
4. THE CONTRACTOR TO COORDINATE ALL GENERATOR AND FIRE ALARM CONTROL INTERFACES TO INCLUDE BUT NOT LIMITED TO DIFFERENTIAL TRIPS (87G) AND GENERATOR SHUTDOWN (86G) WITH THE FIRE ALARM DESIGNER AND TURBINE SUPPLIER

LEGEND

11EX3	EXCITER MULTIFUNCTIONAL CONTROLLER
11G3A	GEN RELAY ALARM
11G3-1	GEN RELAY MULTIFUNCTION ALARM (32G3 & 27G3)
27G3	GEN UNDERVOLTAGE
30G3	ANNUNCIATOR
46G3	GEN PHASE SEQUENCE UNBLANCED
59G3	GEN OVERVOLTAGE
64F3	FIELD GROUND RELAY
64G3	STATOR GROUND RELAY





PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen, Inc.		JOB # T.O. No. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
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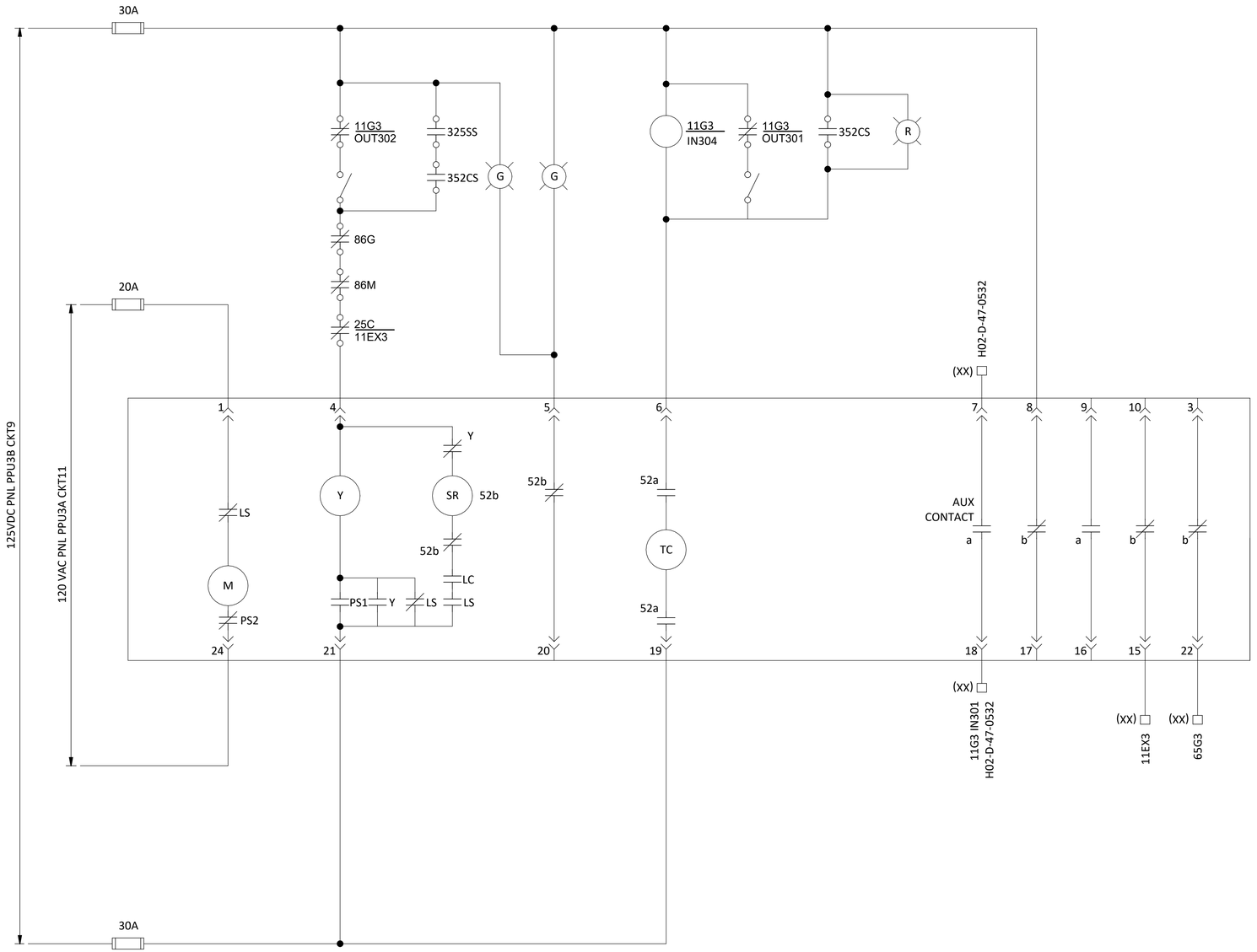
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GENERATOR 3 RELAY (700G3) PROTECTION SCHEMATIC

REF DWG(S):
L&S - PG000044-1B-E12-01, PG000044-1B-E14-01, & PG000044-1B-E15-02

DRAWING NO: H02-D-47-0528-R00

SHEET NOTES:

1. CONTRACTOR TO PROVIDE THE CONTROL AND PROTECTION FUNCTION DEPICTED IN THE ENGINEERING PLANS.
2. CONTRACTOR TO REVISE THIS DRAWING AS REQUIRED, INCLUDING FINAL LABELING, TERMINAL NUMBERS, TERMINAL BLOCKS, AND CIRCUIT NUMBERING, TO MATCH EQUIPMENT SUPPLIED AND AS INSTALLED. CONTRACTOR CAN SUPPLY A REPLACEMENT DRAWING, HOWEVER IT SHALL BE DESIGNATED AS A REVISION AND UPDATING REVISION BLOCK USING SAME DRAWING NUMBER. DRAWING SHALL BE SUPPLIED IN AUTOCAD.



52G3 GENERATOR BREAKER

SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen, Inc.		JOB # T.O. No. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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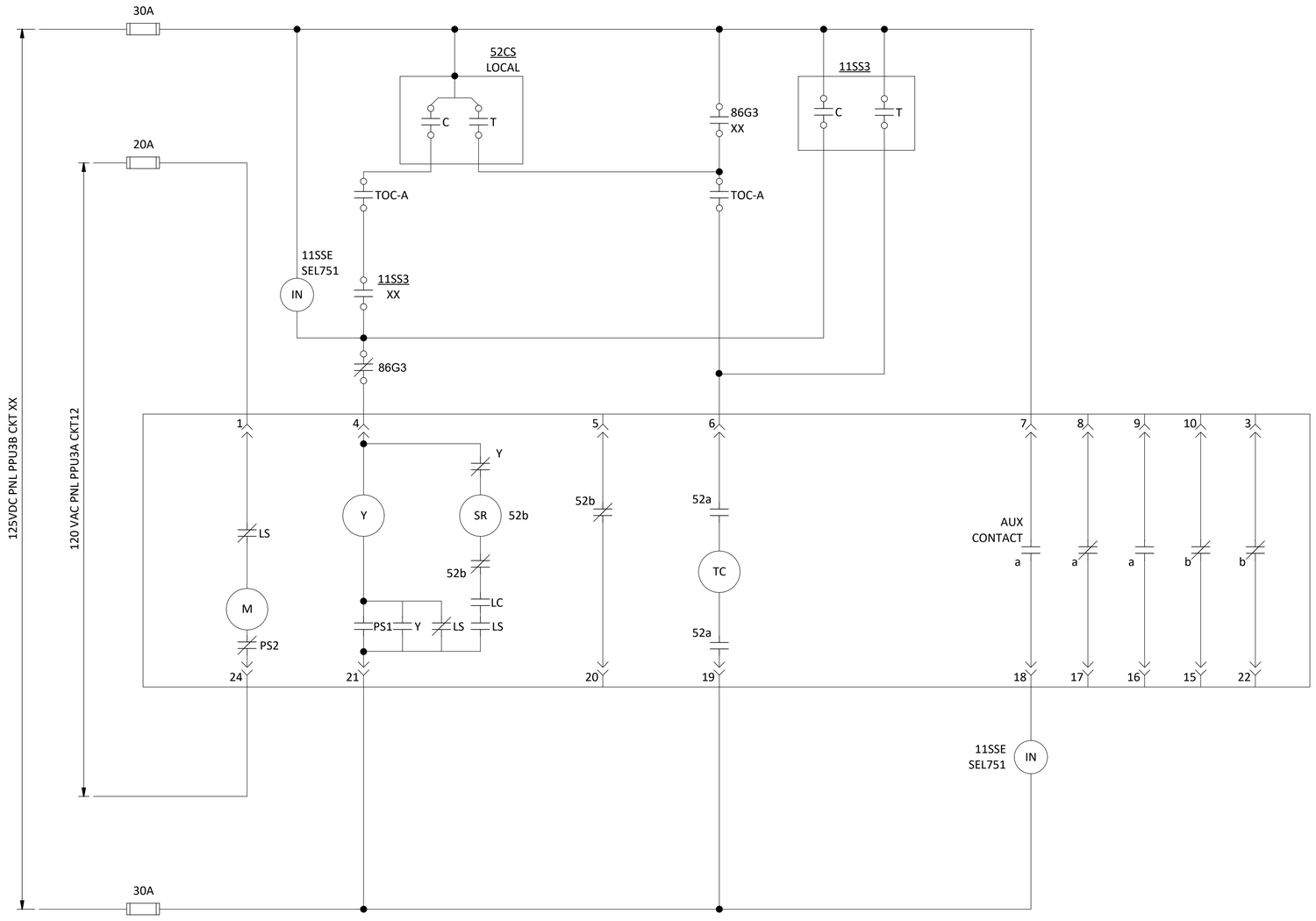
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
15BKR-G3 GENERATOR BREAKER DC SCHEMATIC

REF DWG(S):
EATON - MD961A2-S & L&S - PG000044-1B

DRAWING NO: H02-D-47-0529-R00

SHEET NOTES:

1. CONTRACTOR TO PROVIDE THE CONTROL AND PROTECTION FUNCTION DEPICTED IN THE ENGINEERING PLANS.
2. CONTRACTOR TO REVISE THIS DRAWING AS REQUIRED, INCLUDING FINAL LABELING, TERMINAL NUMBERS, TERMINAL BLOCKS, AND CIRCUIT NUMBERING, TO MATCH EQUIPMENT SUPPLIED AND AS INSTALLED. CONTRACTOR CAN SUPPLY A REPLACEMENT DRAWING, HOWEVER IT SHALL BE DESIGNATED AS A REVISION AND UPDATING REVISION BLOCK USING SAME DRAWING NUMBER. DRAWING SHALL BE SUPPLIED IN AUTOCAD.



52SS3 STATION SERVICE BREAKER

SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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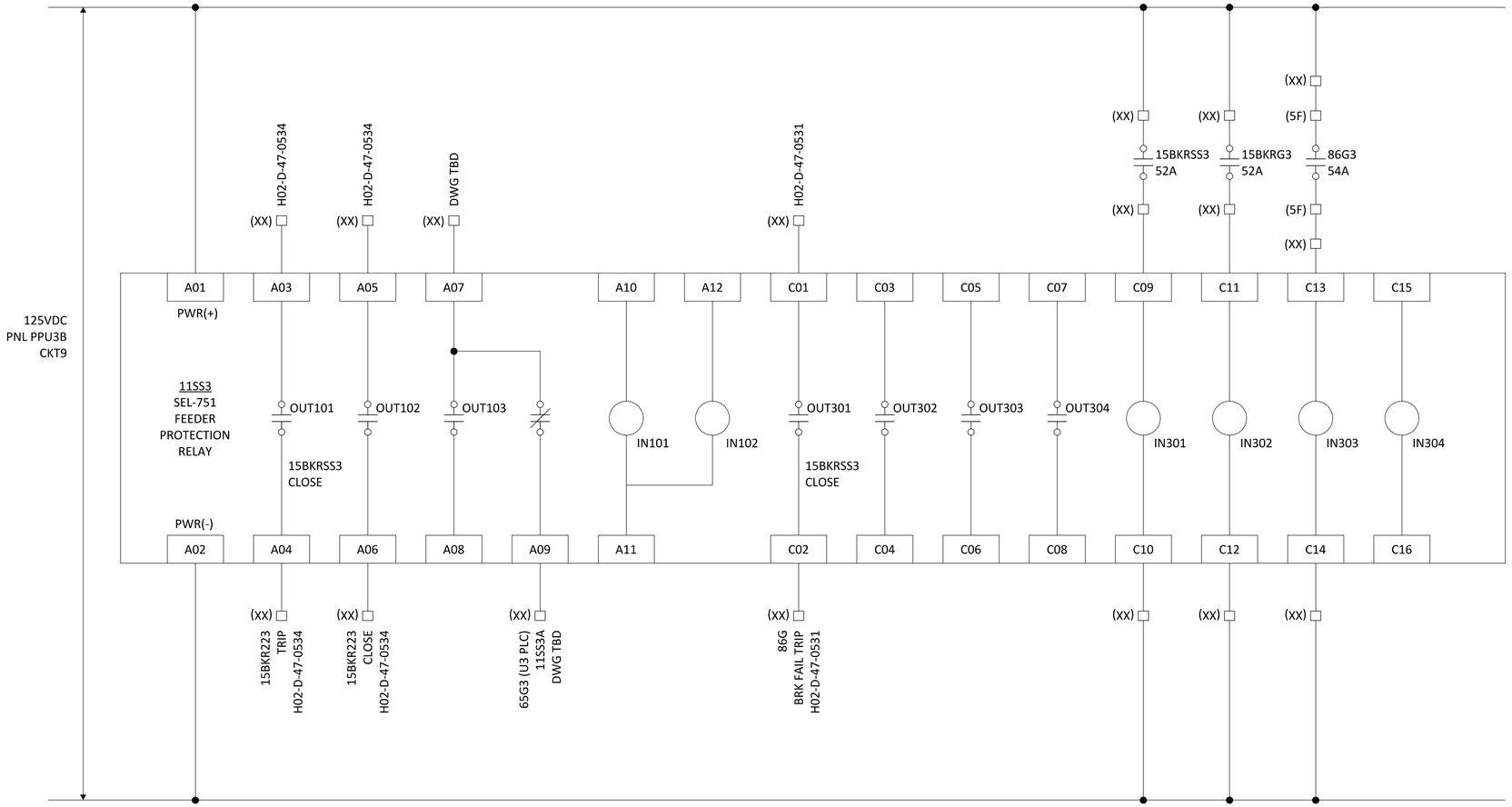
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
15BKR-SS3 SERVICE BREAKER RELAY PROTECTION SCHEMATIC

REF DWG(S):
EATON - MD961A2-S & L&S - PG000044-1D

DRAWING NO: H02-D-47-0530-R00

SHEET NOTES:

1. CONTRACTOR TO PROVIDE THE CONTROL AND PROTECTION FUNCTION DEPICTED IN THE ENGINEERING PLANS.
2. CONTRACTOR TO REVISE THIS DRAWING AS REQUIRED, INCLUDING FINAL LABELING, TERMINAL NUMBERS, TERMINAL BLOCKS, AND CIRCUIT NUMBERING, TO MATCH EQUIPMENT SUPPLIED AND AS INSTALLED. CONTRACTOR CAN SUPPLY A REPLACEMENT DRAWING, HOWEVER IT SHALL BE DESIGNATED AS A REVISION AND UPDATING REVISION BLOCK USING SAME DRAWING NUMBER. DRAWING SHALL BE SUPPLIED IN AUTOCAD.





PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen, Inc.		JOB # T.O. No. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
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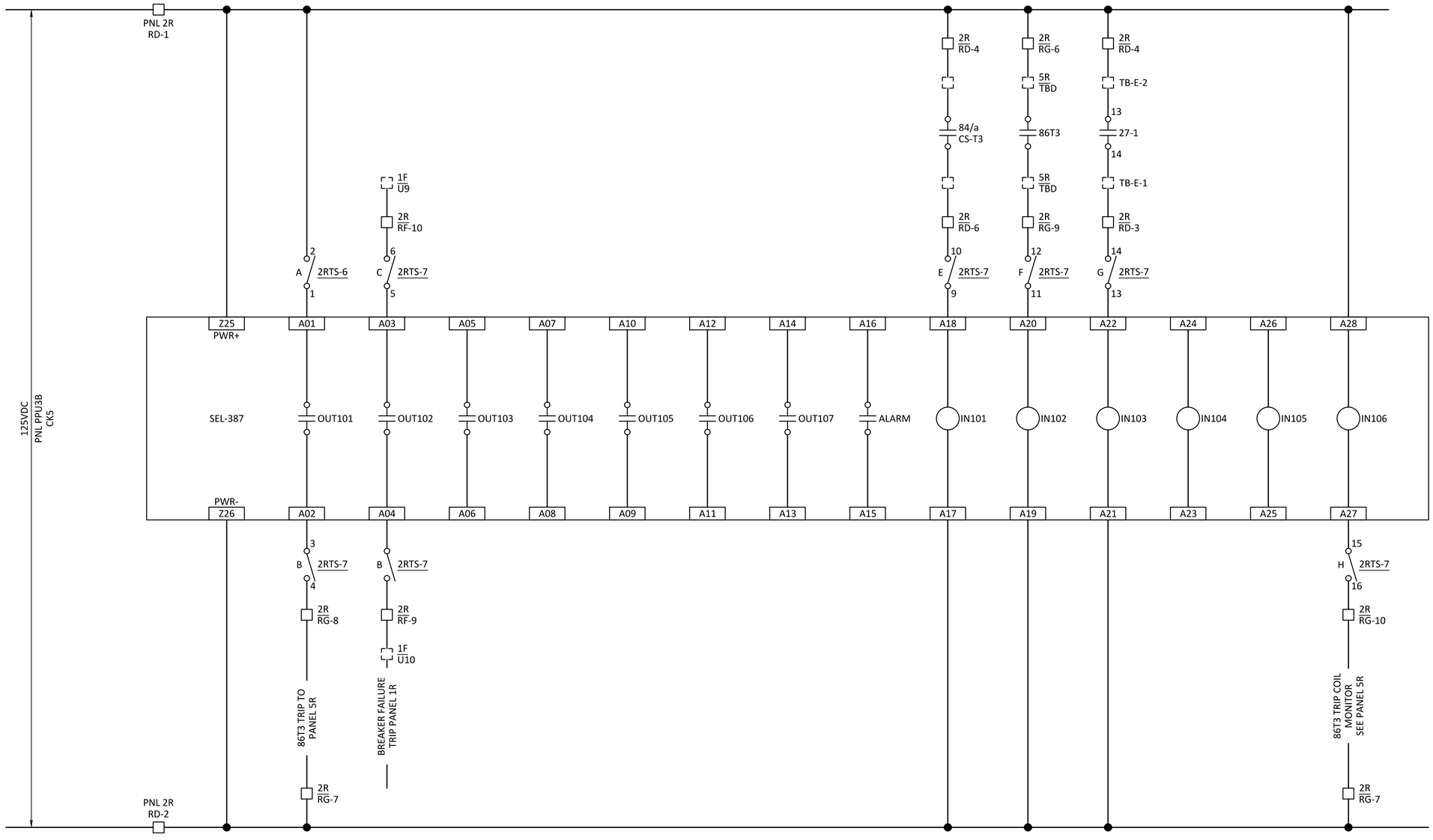
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
15BKR-SS3 SERVICE BREAKER DC SCHEMATIC

REF DWG(S):
L&S - PG000044-1D-E15-09 & PG000044-1D-E16-06

DRAWING NO: H02-D-47-0531-R00

SHEET NOTES:

1. CONTRACTOR TO PROVIDE THE CONTROL AND PROTECTION FUNCTION DEPICTED IN THE ENGINEERING PLANS.
2. CONTRACTOR TO REVISE THIS DRAWING AS REQUIRED, INCLUDING FINAL LABELING, TERMINAL NUMBERS, TERMINAL BLOCKS, AND CIRCUIT NUMBERING, TO MATCH EQUIPMENT SUPPLIED AND AS INSTALLED. CONTRACTOR CAN SUPPLY A REPLACEMENT DRAWING, HOWEVER IT SHALL BE DESIGNATED AS A REVISION AND UPDATING REVISION BLOCK USING SAME DRAWING NUMBER. DRAWING SHALL BE SUPPLIED IN AUTOCAD.



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen Inc		JOB #: T.O. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
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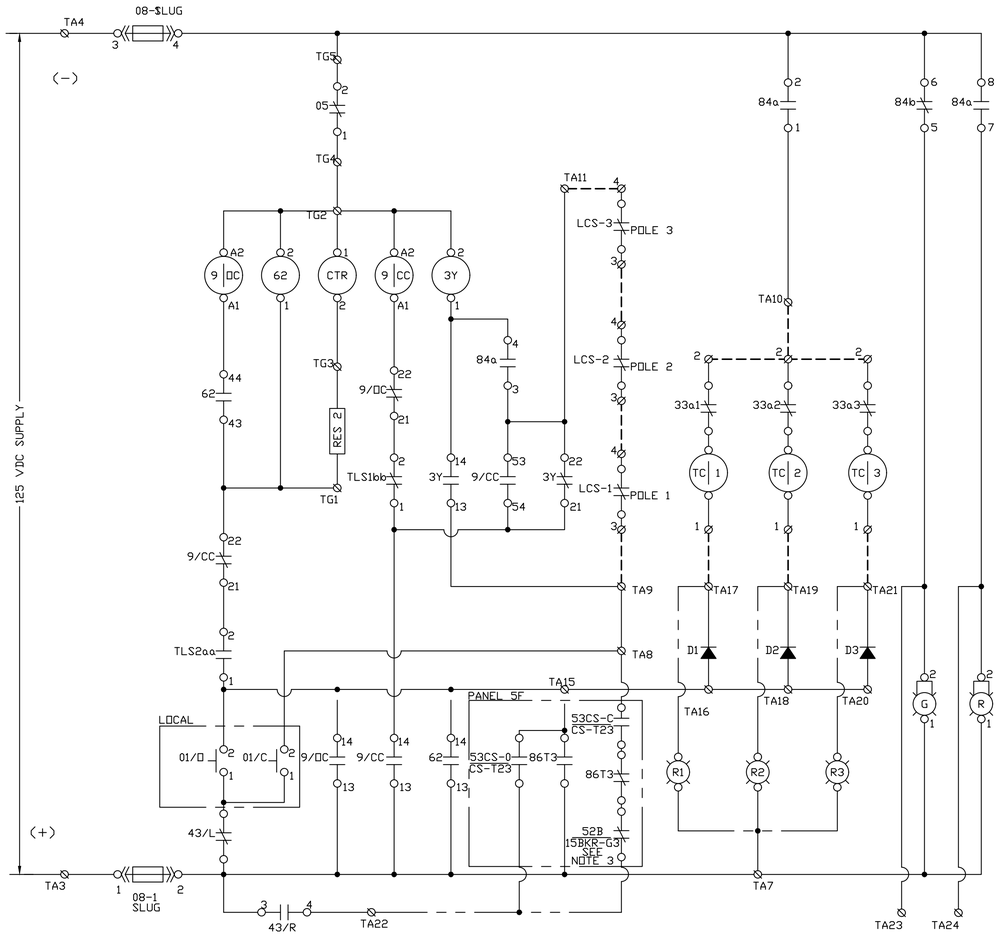
SEAPA
Southeast Alaska Power Agency

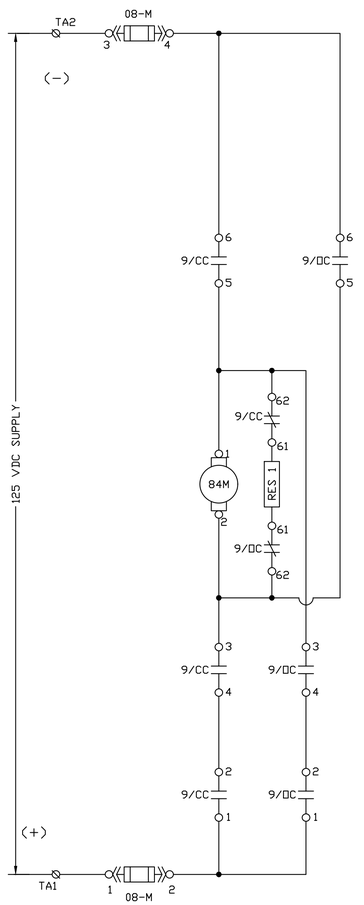
NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
SEL-387-3 SCHEMATIC DIAGRAM

REF DWG(S):
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DRAWING NO.: H02-D-47-0532





NOTES

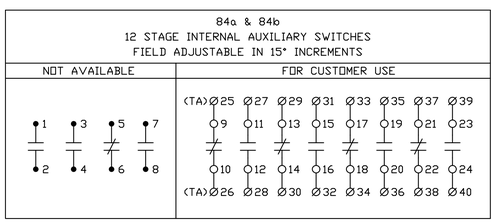
1. SCHEMATIC TAKEN FROM EXISTING LAKE TYEE SOUTHERN STATE CIRCUIT SWITCHER.
2. CONTRACTOR TO UPDATE THIS DRAWING BASED ON NEW CIRCUIT SWITCHER AS REQUIRED TO ACCURATELY REPRESENT AS-BUILT CONDITION.
3. CIRCUIT SWITCH SUPERVISORY CONTACT FROM GENERATOR BREAKER TO PREVENT CIRCUIT SWITCHER CLOSURE WHEN GENERATOR BREAKER IS CLOSED.

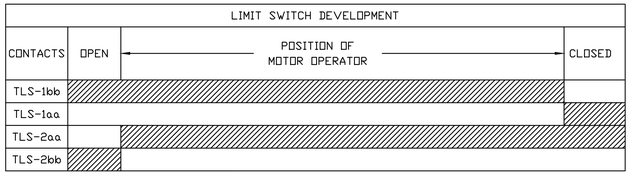
SCHEMATIC LEGEND

01/O	PUSH BUTTON OPEN
01/C	PUSH BUTTON CLOSE
3Y	ANTI-PUMP RELAY
05	HAND CRANK INTERLOCK SWITCH
08-1	CONTROL POWER DISCONNECT
08-M	MOTOR POWER DISCONNECT
08-H	HEATER POWER DISCONNECT
9/CC	CLOSE CONTACTOR
9/DC	OPEN CONTACTOR
23	THERMOSTAT
33a	TRIP COIL CUTOFF SWITCH (CLOSED WHEN SHUNT TRIP UNIT IS CHARGED)
43 L/R	LOCAL REMOTE SWITCH
62	TIME DELAY (FIXED) RELAY
84M	MOTOR
84a & 84b	INTERNAL AUXILIARY SWITCHES
86	CUSTOMER LOCK OUT RELAY
CAB LT	INTERIOR CABINET LIGHT
53CS-O/CS-T23	PANEL 5F CONTROL SWITCH (OPEN)
53CS-C/CS-T23	PANEL 5F CONTROL SWITCH (CLOSE)
CTR	OPERATIONS COUNTER
D 1,2,3	DIODES
G	GREEN INDICATING LIGHT
R	RED INDICATING LIGHT
SW1	CABINET LIGHT SWITCH
LCS	LATCH CHECK SWITCH (CLOSED WHEN SHUNT TRIP UNIT IS CHARGED)
TC	TRIP COIL (SHUNT TRIP)
TLS-1aa	LIMIT SWITCH, OPEN EXCEPT IN OPERATOR FULLY CLOSED POSITION
TLS-1bb	LIMIT SWITCH, CLOSED EXCEPT IN OPERATOR FULLY CLOSED POSITION
TLS-2aa	LIMIT SWITCH, OPEN ONLY IN OPERATOR FULLY OPEN POSITION
TLS-2bb	LIMIT SWITCH, CLOSED ONLY IN OPERATOR FULLY OPEN POSITION
Ø	TERMINAL BLOCK POINTS IN MOTOR OPERATOR
Ø	TERMINAL BLOCK POINTS IN SHUNT TRIP UNITS
O	TERMINAL POINT ON DEVICE
————	DENOTES CUSTOMER CONNECTION
– – – –	DENOTES SHUNT-TRIP CONDUIT CONNECTION PROVIDED BY VENDOR. (ALL WIRES ARE INSIDE LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT)

NOTE:

1. SHOWN WITH MOTOR OPERATOR IN THE OPEN POSITION AND ALL DEVICES DEENERGIZED
2. ALL WIRING #14 AWG, TYPE "SIS" (GRAY).
3. TO INTERLOCK THE CLOSE CIRCUIT, INSTALL INTERLOCK DEVICE BETWEEN TA8 AND TA9, AND REMOVE SHOP JUMPER.
4. "84" AUX. SWITCHES ADJUSTED AS FOLLOWS:
   (a) AFTER 160° OF CLOSING ROTATION SET "a" CONTACT CLOSED TO PERMIT OPERATION OF ANTI-PUMP (3Y) RELAY.
   (b) AFTER 170° OF CLOSING ROTATION SET "a" CONTACT CLOSED TO PERMIT OPERATION OF SHUNT TRIP COILS (TC).
5. SHUNT TRIP COIL CURRENTS AND MOTOR INRUSH CURRENTS ARE SEQUENTIAL.
6. MOTOR CONNECTIONS SHOWN FOR CW ROTATION OF MOTOR OPERATOR TO CLOSE THE CIRCUIT SWITCHER. TO REVERSE ROTATION, SEE INSTRUCTION MANUAL.
7. SHOWN FOR 120 VAC HEATER CIRCUIT WITH HEATERS CONNECTED IN PARALLEL. TO CONNECT FOR 240 VAC, REMOVE JUMPERS TE1 TO TE3 & TA12 TO TA14. RECONNECT WIRE ON TE2 TO TE3. PARALLELED SHUNT TRIP HEATERS MUST BE CHANGED TO SERIES CONNECTION, (i.e. NO. 6 ON POLE 1 TO NO. 5 ON POLE 2, etc.). APPLY NEUTRAL TO TA12 FOR CABINET LIGHT (AND RECEPTACLE IF PRESENT).
8. 86 TRIP CAPABILITY:
   REMOTE : CONNECT TO TA22.
   TO BYPASS REMOTE : CONNECT TO TA7.





LEGEND FOR LIMIT SWITCH DEVELOPMENT

SHADED AREA EXP. ▨ IS CLOSED.



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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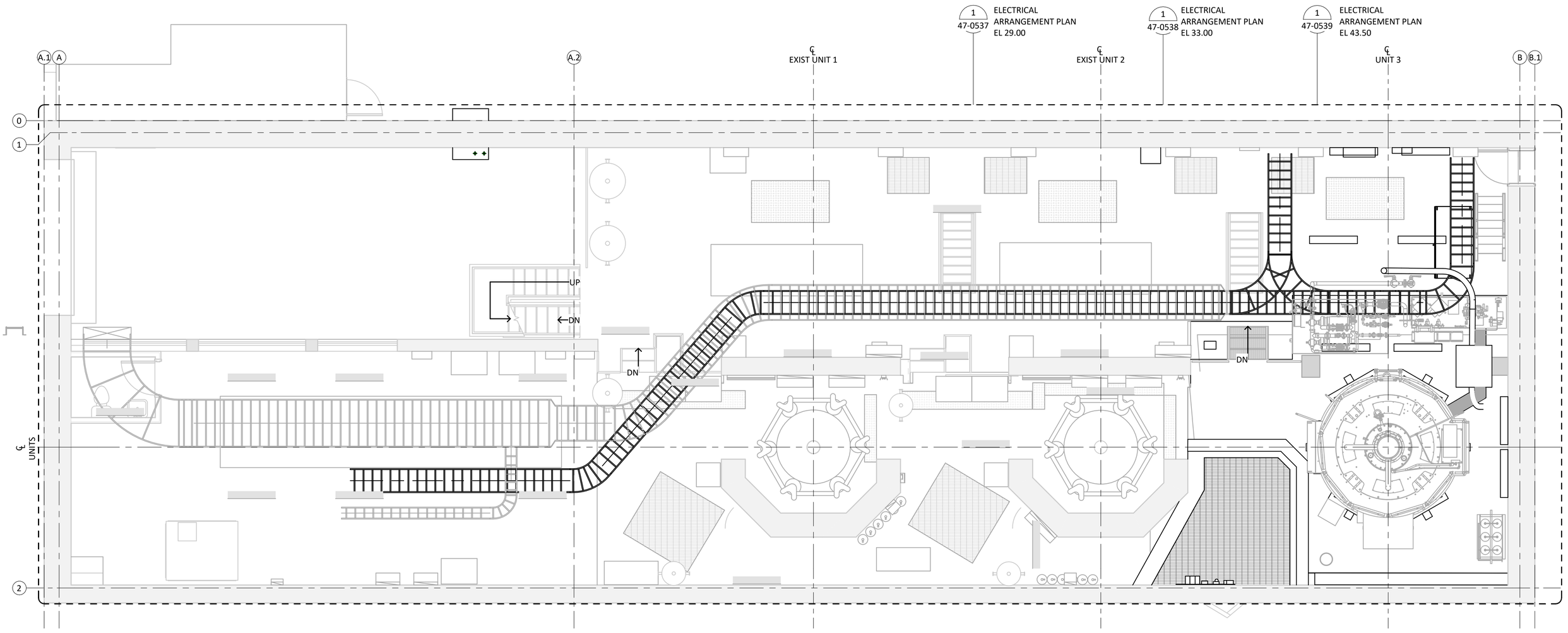
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
STATION SERVICE SWITCHGEAR CONTROL SCHEMATIC

REF DWG(S):
SEAPA EL-101 & L&S – PG000044-1D-E18-01

DRAWING NO.: H02-D-47-0533-R01



POWERHOUSE - ELECTRICAL KEY PLAN

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

0 4' 8'

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-15-2026 24-12379 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation

DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
ELECTRICAL KEY PLAN

REF DWG(S):

DRAWING NO: H02-D-47-0536-R00

SHEET KEY NOTES:

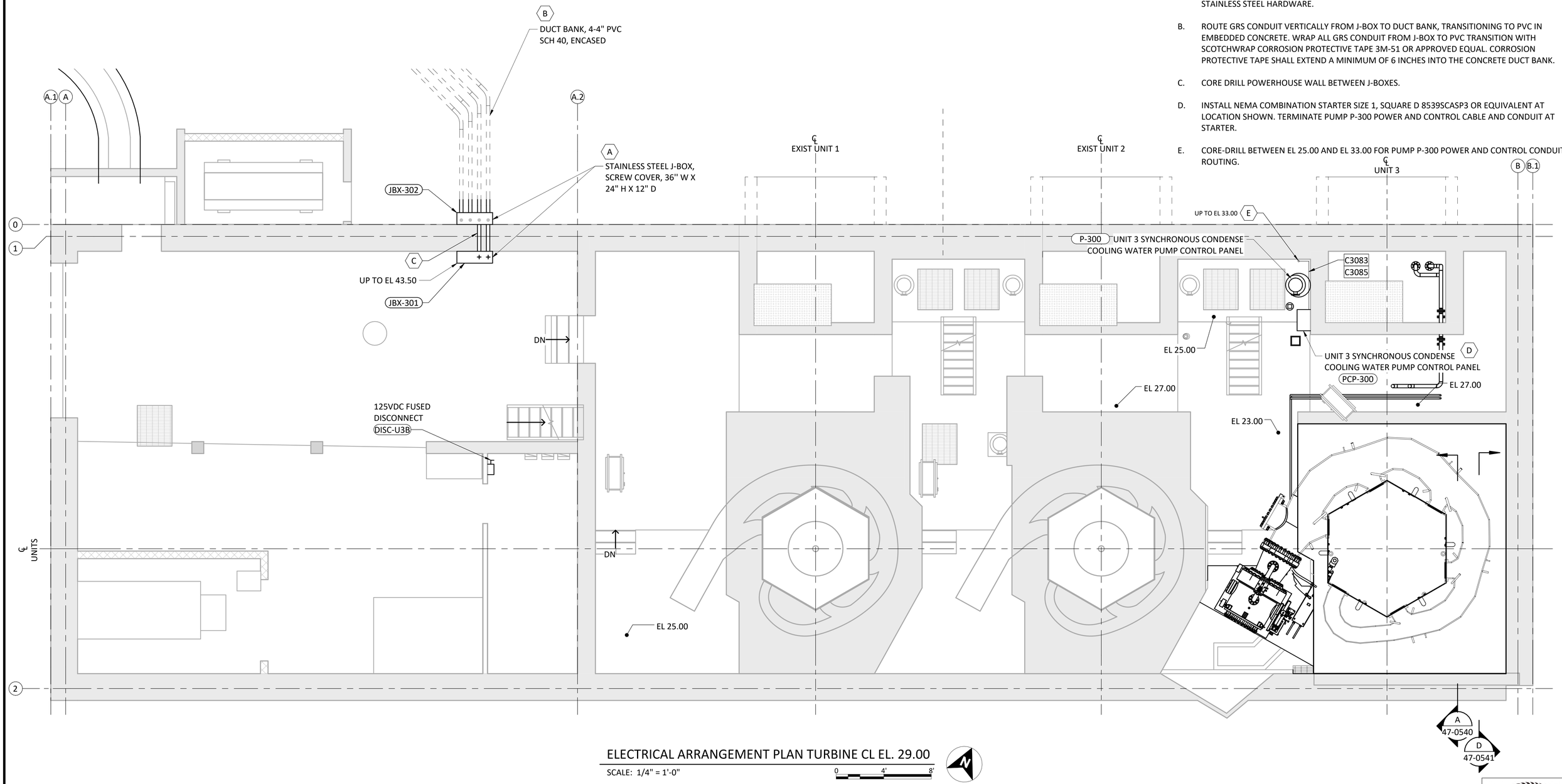
A. MOUNT STAINLESS STEEL PULL BOXES (J-BOX) ON INSIDE AND OUTSIDE FACE OF POWERHOUSE WALL AS INDICATED. BOXES TO BE ORIENTED HORIZONTALLY LENGTHWISE. ATTACH WITH STAINLESS STEEL HARDWARE.

B. ROUTE GRS CONDUIT VERTICALLY FROM J-BOX TO DUCT BANK, TRANSITIONING TO PVC IN EMBEDDED CONCRETE. WRAP ALL GRS CONDUIT FROM J-BOX TO PVC TRANSITION WITH SCOTCHWRAP CORROSION PROTECTIVE TAPE 3M-51 OR APPROVED EQUAL. CORROSION PROTECTIVE TAPE SHALL EXTEND A MINIMUM OF 6 INCHES INTO THE CONCRETE DUCT BANK.

C. CORE DRILL POWERHOUSE WALL BETWEEN J-BOXES.

D. INSTALL NEMA COMBINATION STARTER SIZE 1, SQUARE D 8539SCASP3 OR EQUIVALENT AT LOCATION SHOWN. TERMINATE PUMP P-300 POWER AND CONTROL CABLE AND CONDUIT AT STARTER.

E. CORE-DRILL BETWEEN EL 25.00 AND EL 33.00 FOR PUMP P-300 POWER AND CONTROL CONDUIT ROUTING.



ELECTRICAL ARRANGEMENT PLAN TURBINE CL EL. 29.00

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

0 4' 8'



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
ELECTRICAL ARRANGEMENT PLAN TURBINE CL EL 29.00

REF DWG(S):

DRAWING NO: H02-D-47-0537-R00

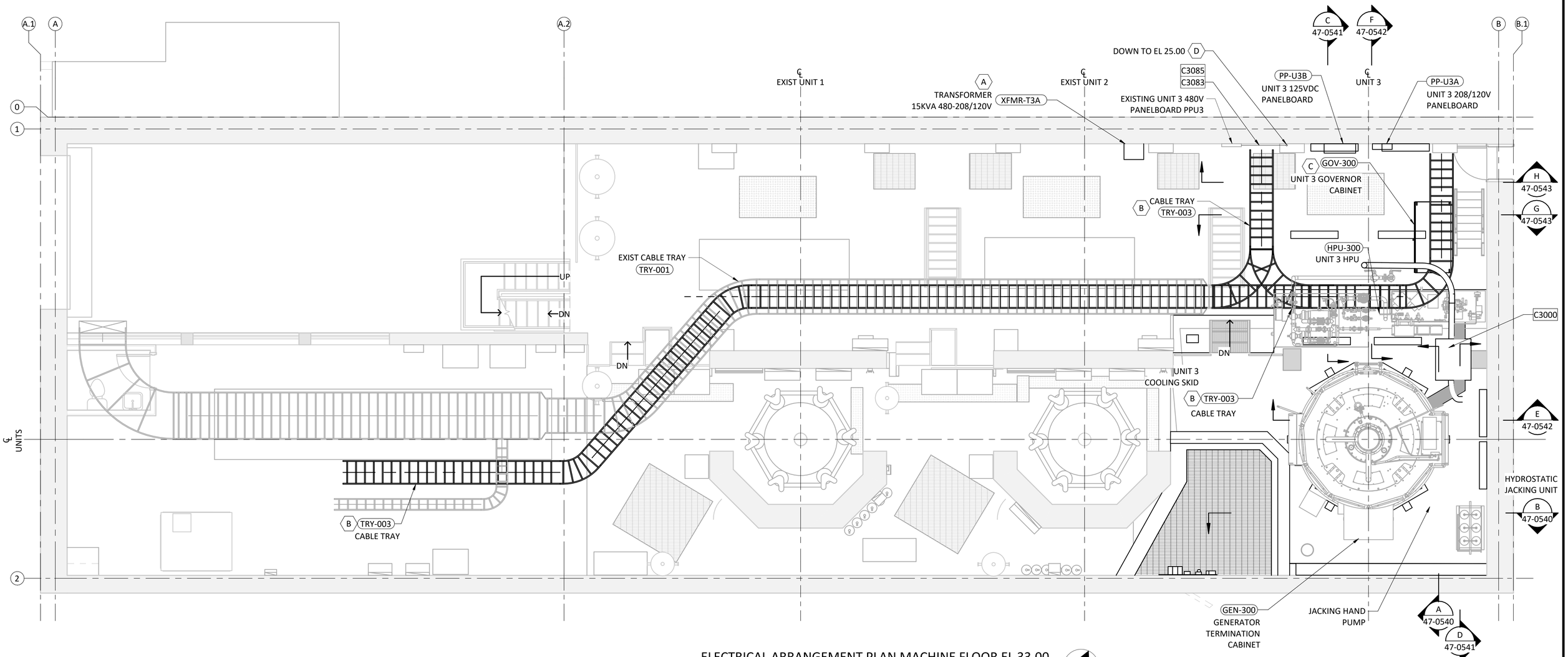
SHEET KEY NOTES:

A. INSTALL TRANSFORMER ON WALL ABOVE PANELBOARD.

B. INSTALL 24" WIDTH CABLE TRAY AS SHOWN. ROUTE UNDERNEATH EXISTING CABLE TRAY AS NEEDED.

C. GOV-300 (GOVERNOR AND UNIT PLC CABINET) DIMENSIONS: 90" H X 72" W X 36" D.

D. CORE-DRILL BETWEEN EL 25.00 AND EL 33.00 FOR PUMP P-300 POWER AND CONTROL CONDUIT ROUTING.



ELECTRICAL ARRANGEMENT PLAN MACHINE FLOOR EL 33.00

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

0 4' 8'

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-18-2026 No. EE23795 REGISTERED PROFESSIONAL ENGINEER

PROJECT:	Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER:	McMillen, Inc.
JOB #	T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
ELECTRICAL ARRANGEMENT PLAN MACHINE FLOOR EL 33.00

REF DWG(S):

DRAWING NO: H02-D-47-0538-R00

SHEET 97 OF 144

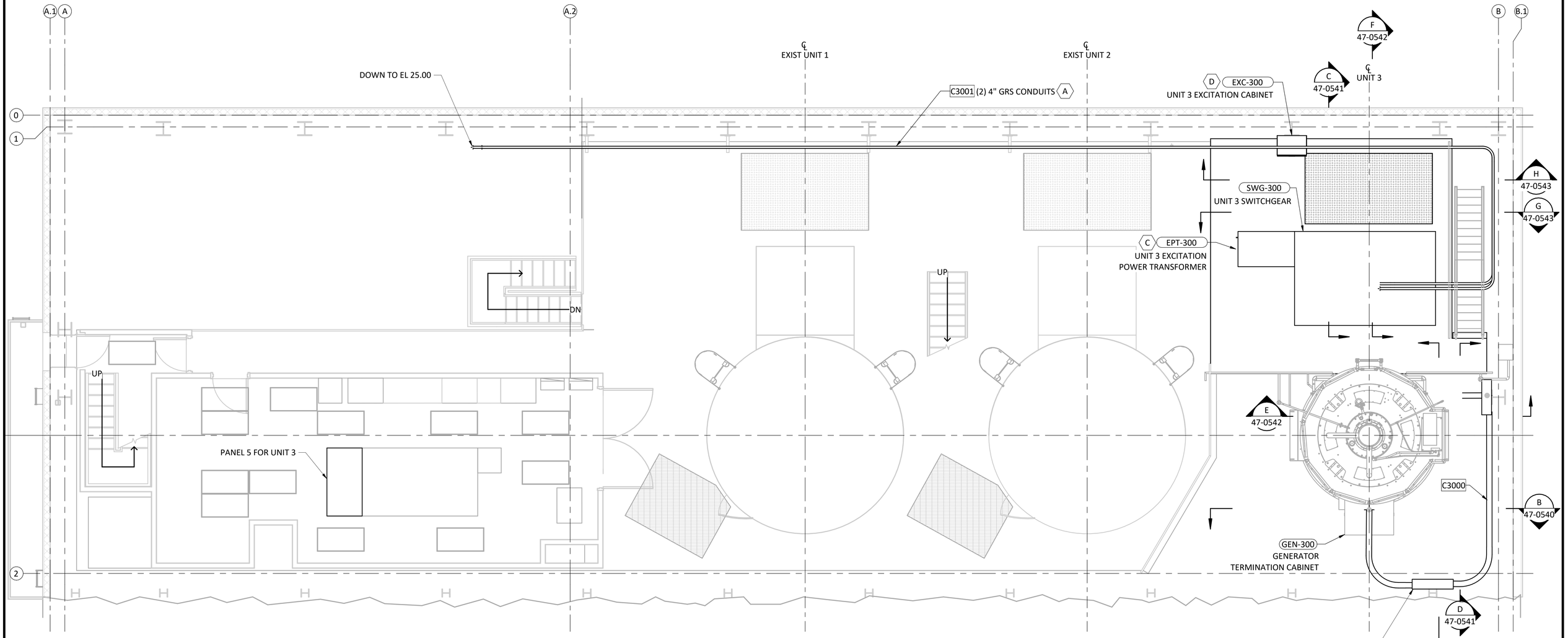
SHEET KEY NOTES:

A. ROUTE HORIZONTAL CONDUITS BETWEEN EQUIPMENT AS SHOWN. ATTACH USING CONDUIT CLAMPS EVERY 10 FEET. FASTENING HARDWARE SHALL BE STAINLESS STEEL.

B. SWG-300 (UNIT 3 SWITCHGEAR ENCLOSURE) DIMENSIONS: 127" H X 144" W X 97.5" D.

C. EPT-300 (EXCITATION POWER TRANSFORMER) DIMENSIONS: 72" H X 60" W X 39" D.

D. EXC-300 (EXCITE CABINET) DIMENSIONS: 36" H x 30" W x 20" D.



ELECTRICAL ARRANGEMENT PLAN GENERATOR EL 43.50

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

0 4' 8'

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-15-2026 Exp. 12/31/2026 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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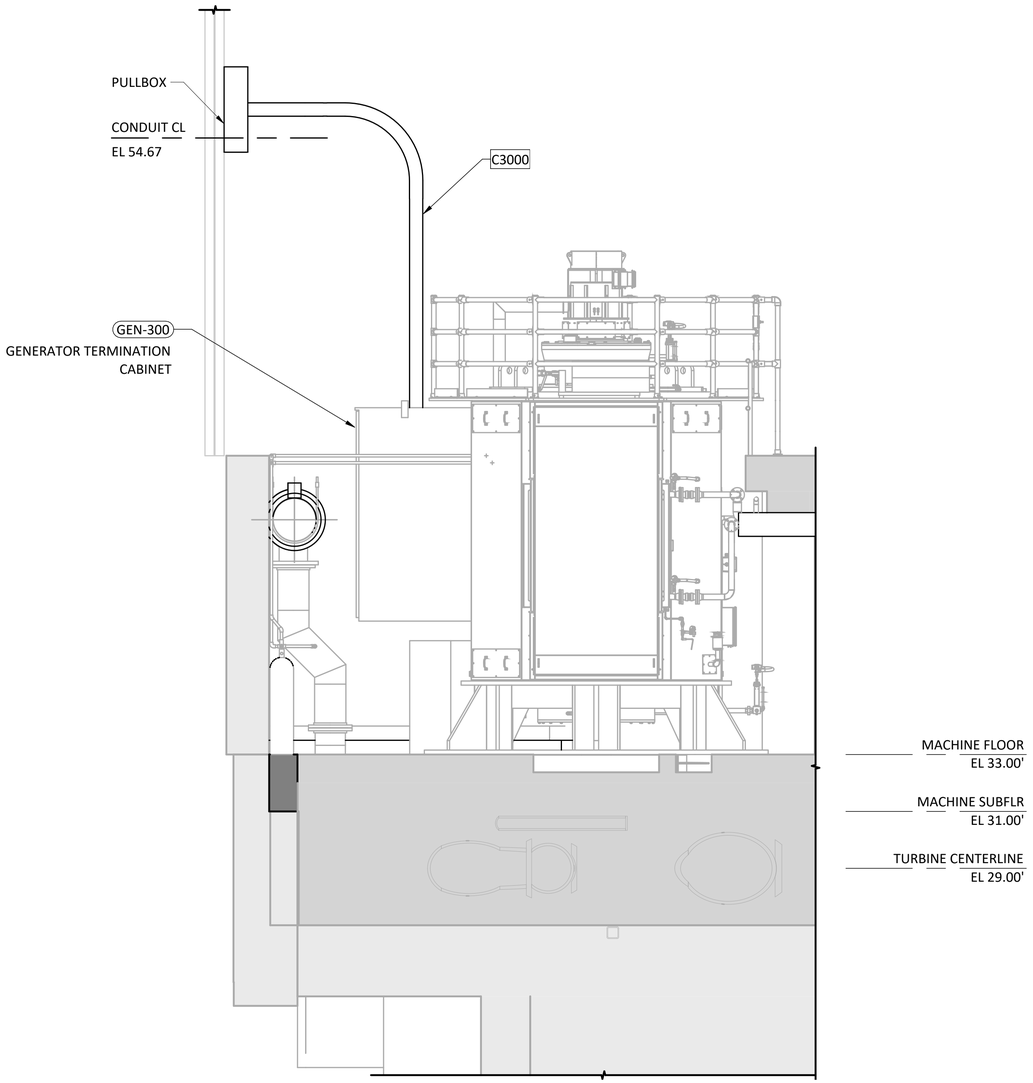
NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
ELECTRICAL ARRANGEMENT PLAN GENERATOR FLOOR EL 43.50

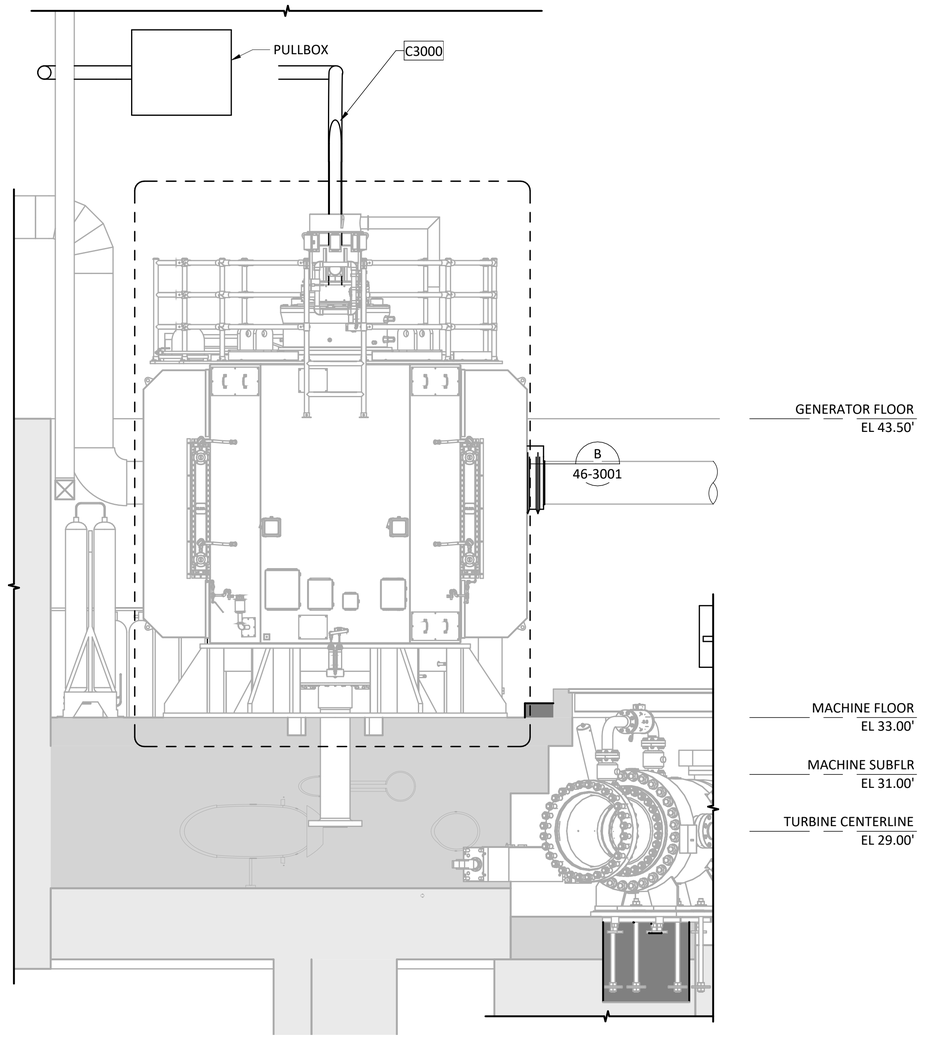
REF DWG(S):

DRAWING NO: H02-D-47-0539-R00

SHEET 98 OF 144



A 47-0537 SECTION
SCALE: 3/8" = 1'-0" 0 2' 4'



B 47-0538 SECTION
SCALE: 3/8" = 1'-0" 0 2' 4'

STATE OF ALASKA 49th
JEREMY RICHARD WINKLE
No. EE23799
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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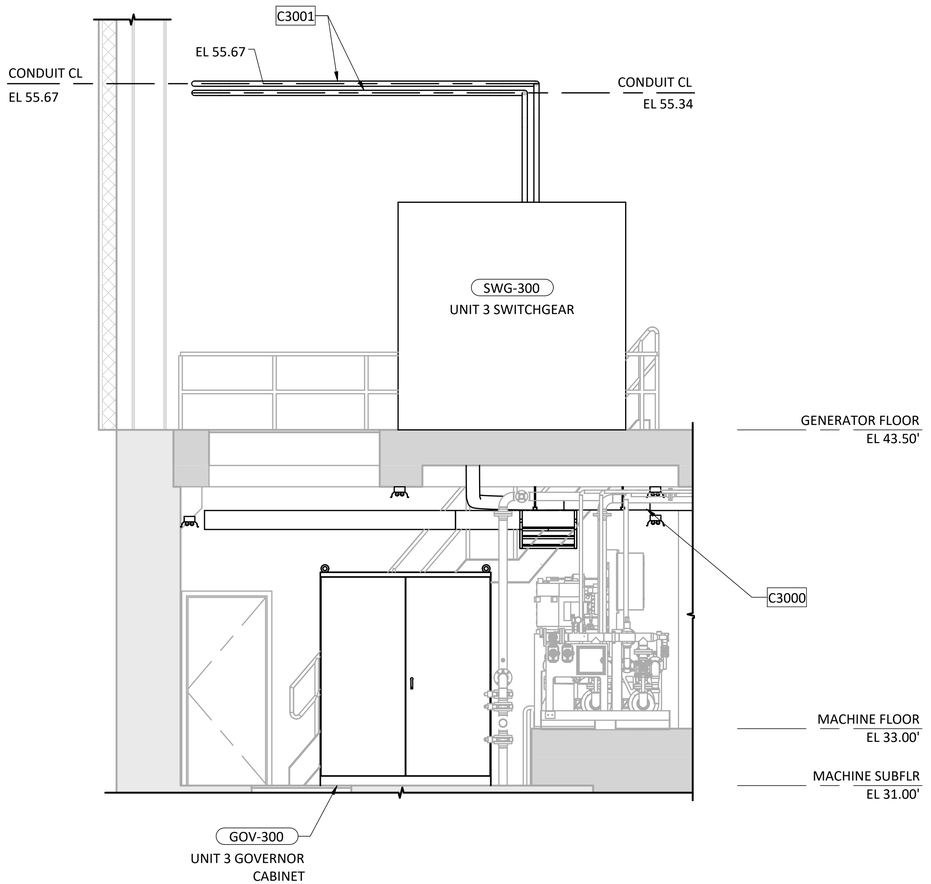
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
ELECTRICAL ELEVATIONS 1

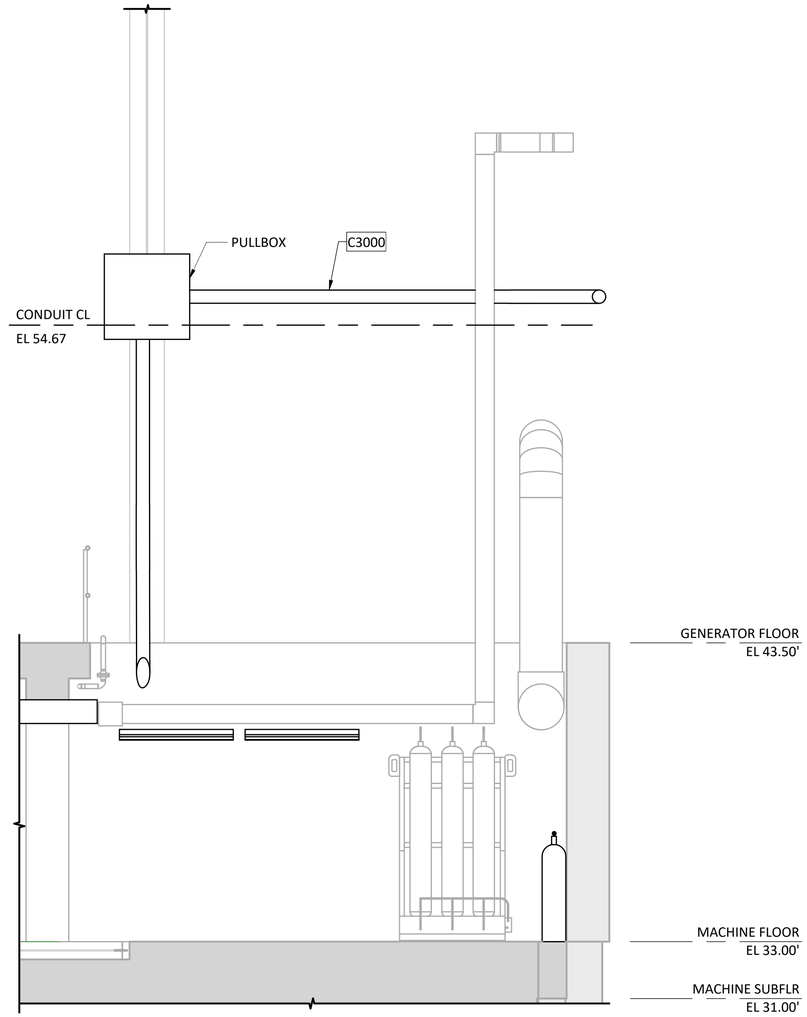
REF DWG(S):

DRAWING NO: H02-D-47-0540-R00



C 47-0538 SECTION

SCALE: 3/8" = 1'-0"



D 47-0537 SECTION

SCALE: 3/8" = 1'-0"

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-18-2026 No. EE23799 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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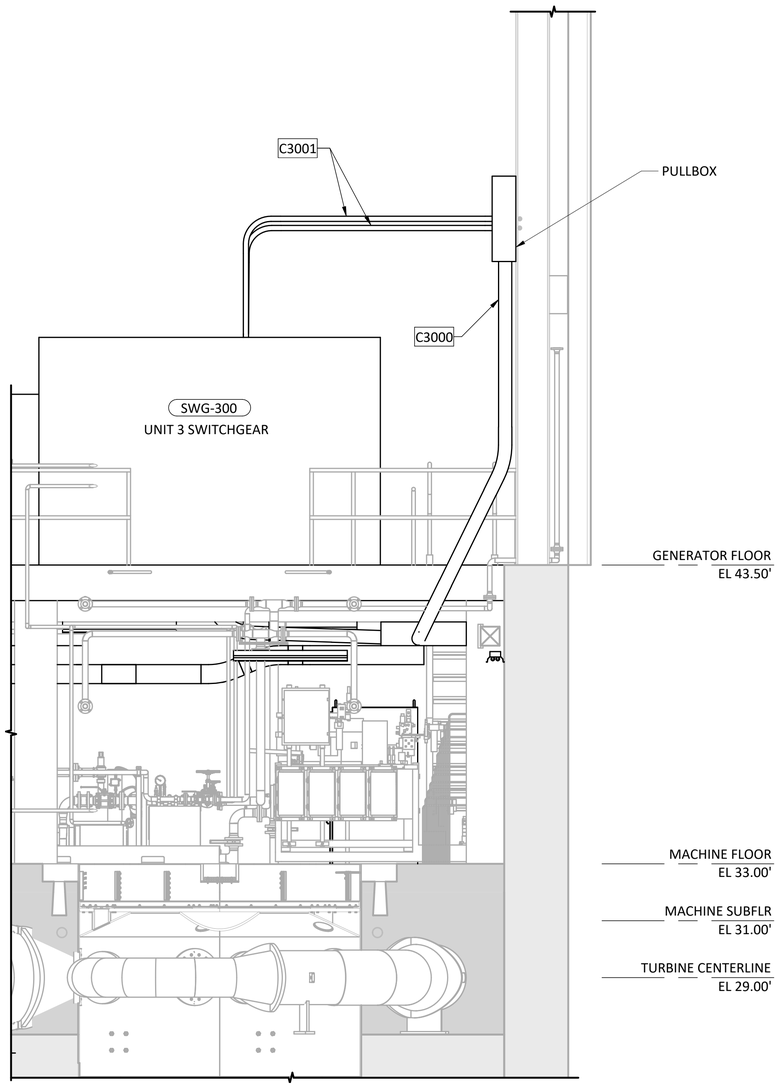
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

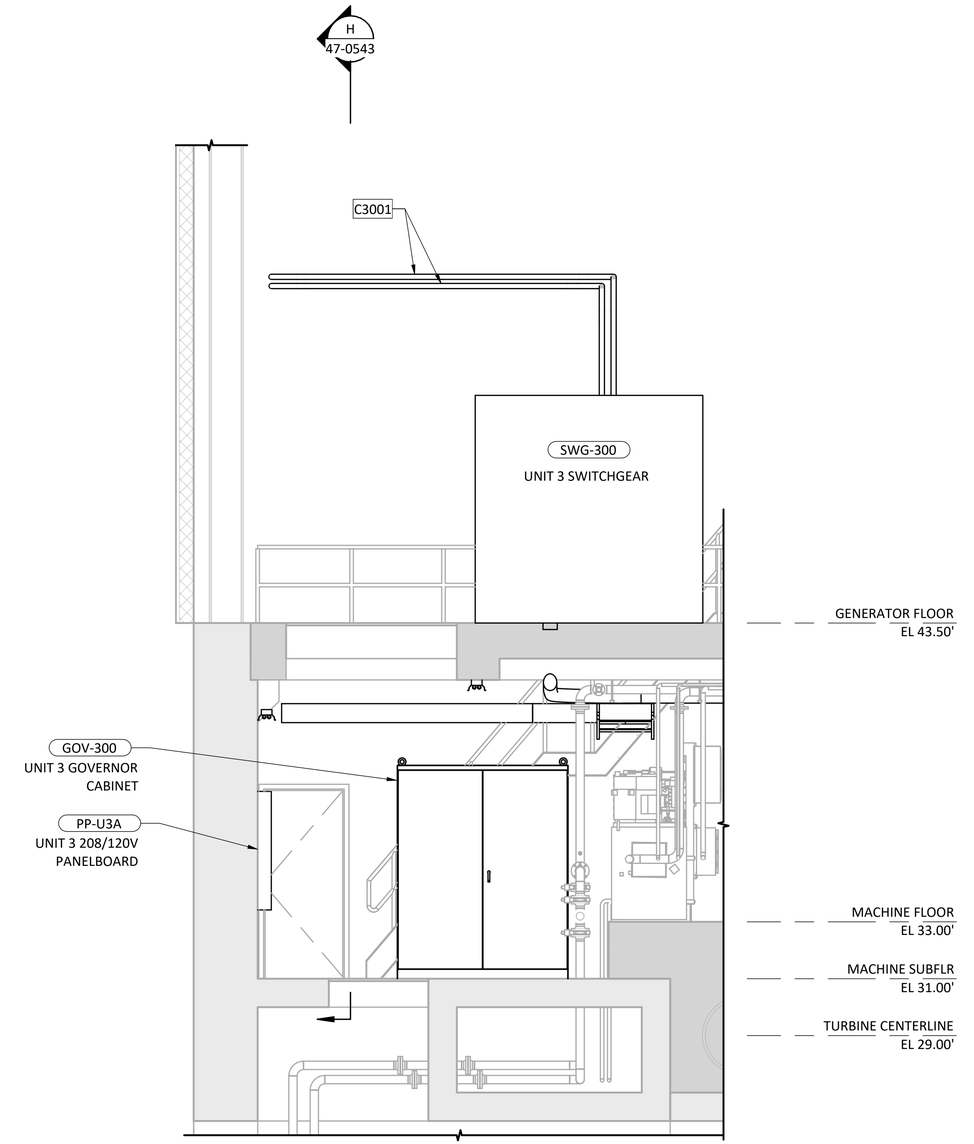
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
ELECTRICAL ELEVATIONS 2

REF DWG(S):

DRAWING NO: H02-D-47-0541-R00



E 47-0538 SECTION
SCALE: 3/8" = 1'-0" 0 2' 4'



F 47-0538 SECTION
SCALE: 3/8" = 1'-0" 0 2' 4'

STATE OF ALASKA 49th
JEREMY RICHARD WINKLE
Date 5-18-2026
No. EE237999
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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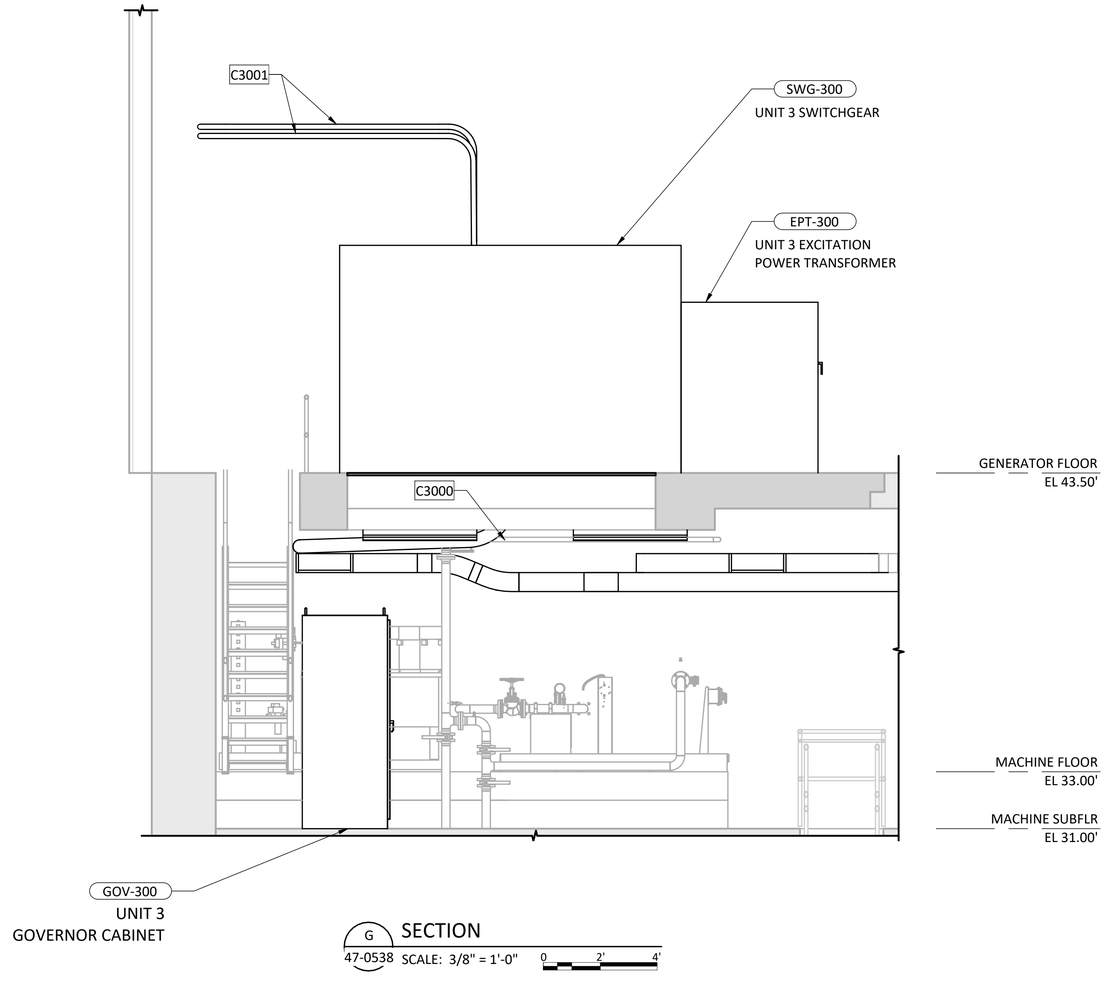
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Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

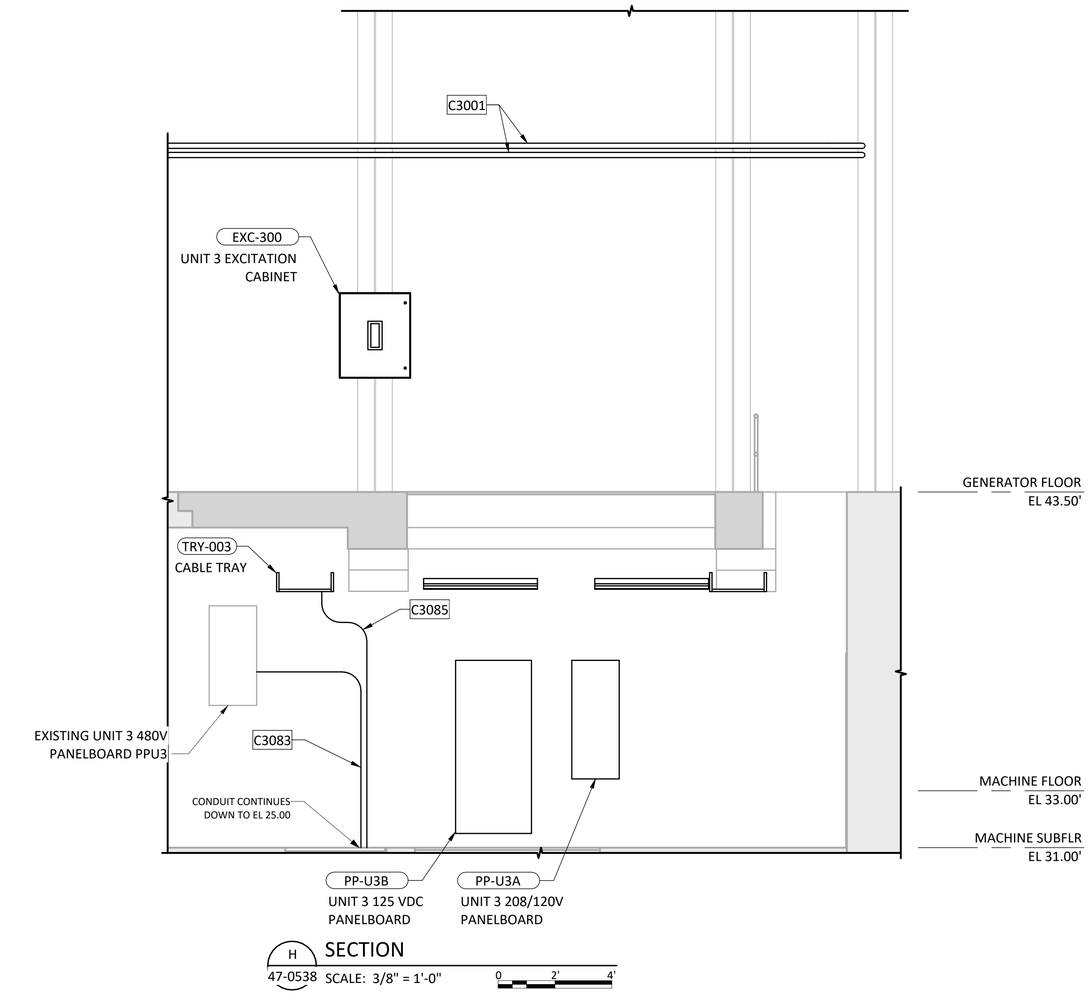
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
ELECTRICAL ELEVATIONS 3

REF DWG(S):

DRAWING NO: H02-D-47-0542-R00



G 47-0538 SECTION
SCALE: 3/8" = 1'-0" 0 2' 4'



H 47-0538 SECTION
SCALE: 3/8" = 1'-0" 0 2' 4'



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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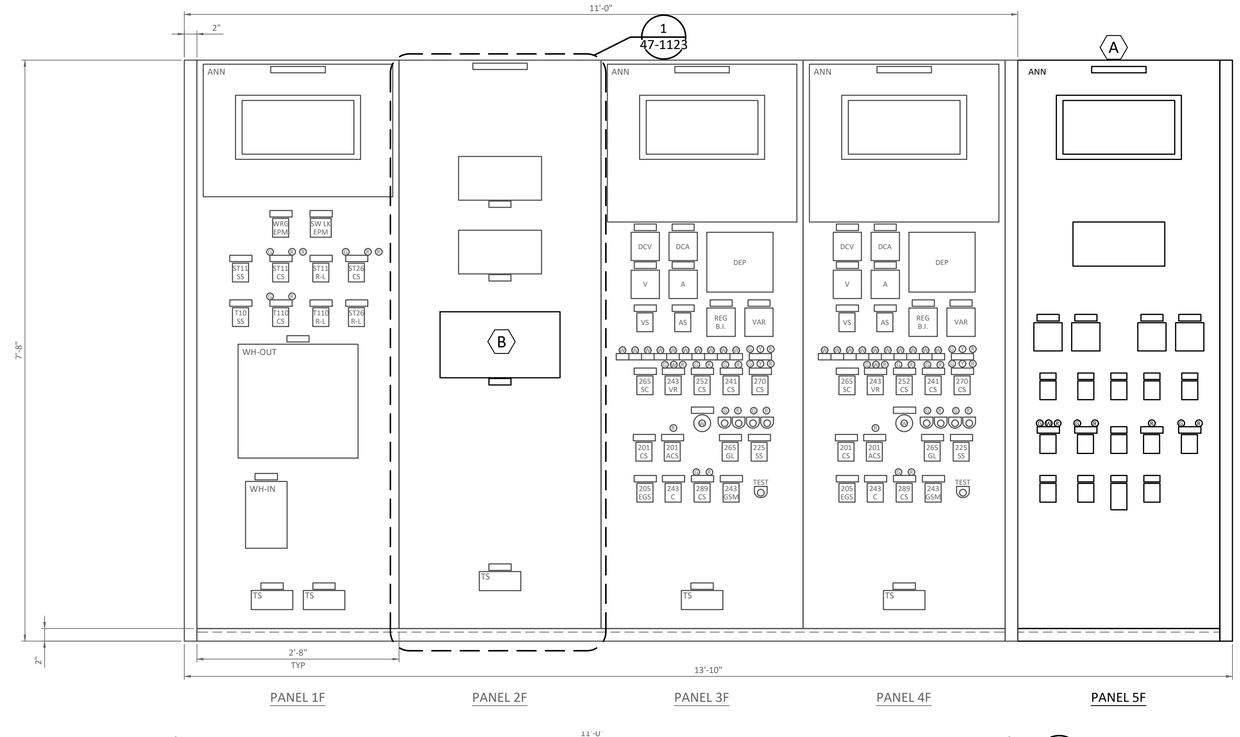
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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
ELECTRICAL ELEVATIONS 4

REF DWG(S):

DRAWING NO: H02-D-47-0543-R00



SHEET KEY NOTES:

A. CONTRACTOR TO INSTALL PANELS 5F AND 5R. PANELS 5F AND 5R. PANELS WILL BE MANUFACTURERED BY THE TURBINE SUPPLIER AND READY TO INSTALL IN THE CONTROL ROOM.

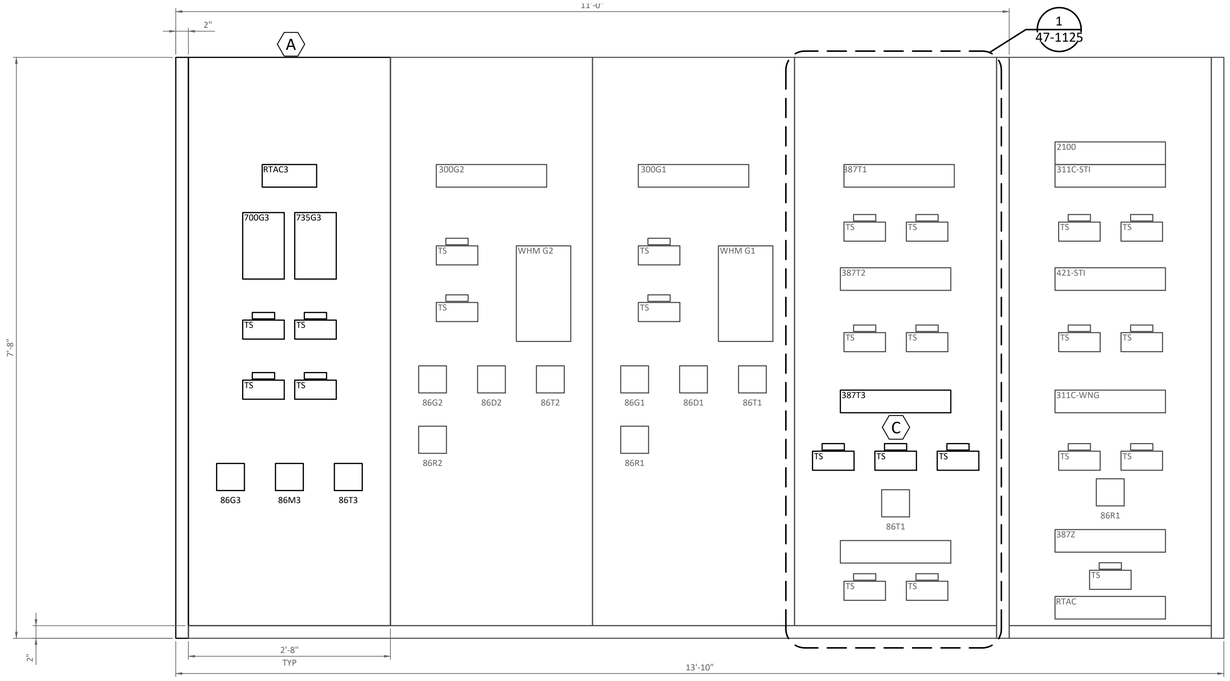
B. CONTRACTOR TO INSTALL ORBIT 60 HMI AND CPU ON PANEL 2F.

C. CONTRACTOR TO INSTALL TRANSFORMER 3 SEL-387 AND TEST SWITCHES.

MAIN CONTROL SWITCHBOARD ARRANGEMENT - FRONT

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

0" 8" 16"



MAIN CONTROL SWITCHBOARD ARRANGEMENT - REAR

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

0" 8" 16"

STATE OF ALASKA 49th JEREMY RICHARD WINKLE 15000 EXPIRES: 12/31/2027 PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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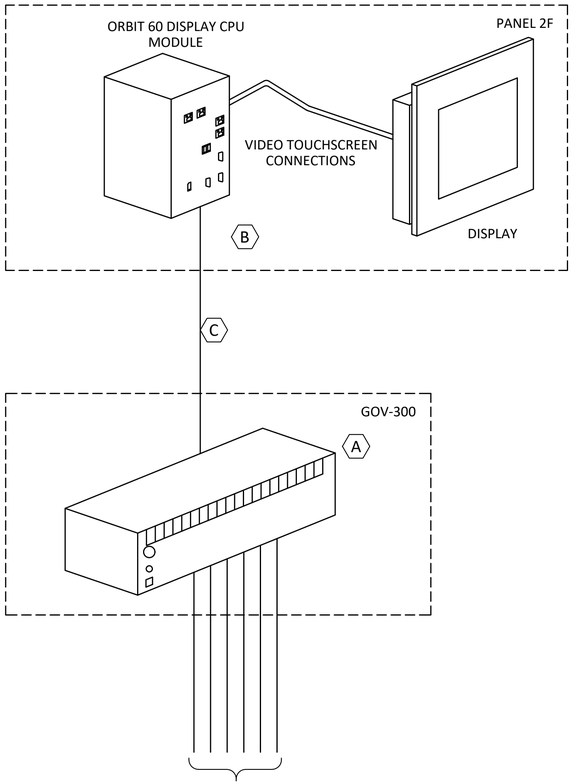
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

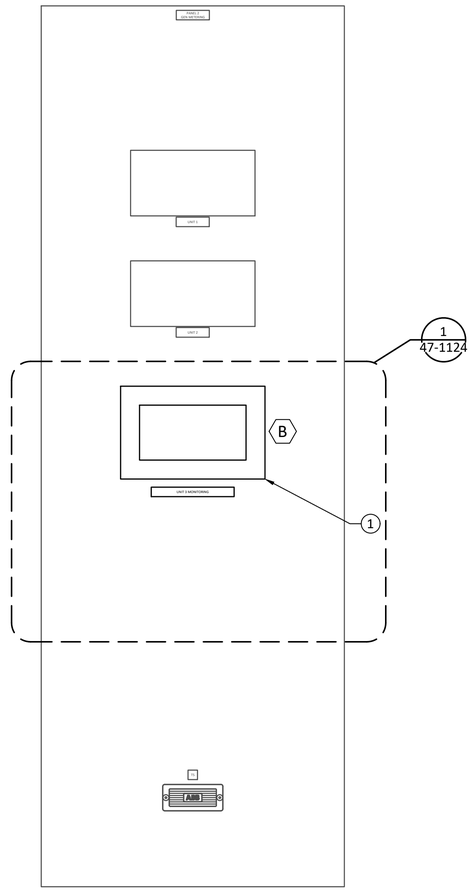
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MAIN CONTROL SWITCHBOARD ARRANGEMENT

REF DWG(S):
L&S PG000044-1B-E20-01 & PG000044-1B-E20-02

DRAWING NO.: H02-D-47-1122-R01



ORBIT 60 SYSTEM OVERVIEW



1 PANEL 2F REAR LAYOUT DETAIL
47-1122 SCALE: 1 1/2"= 1'-0"

0" 8" 16"

SHEET KEY NOTES:

A. TURBINE SUPPLIER TO WILL SUPPLY BENTLY NEVADA SYSTEM. ORBIT 60 CHASIS AND MODULES WILL BE INSTALLED IN THE GOV-300 CABINET.

B. CONTRACTOR WILL INSTALL ALL COMPONENTS ON PANEL 2F INCLUDING HMI, CPU, AND POWER SUPPLY.

C. CONTRACTOR WILL INSTALL ETHERNET CONNECTIONS BETWEEN ORBIT 60 CHASIS LOCATED IN GOV-300 ON FLOOR EL.33.00. SEE DRAWING H02-D-47-0502 FOR NETWORK CONNECTION DETAILS.

BILL OF MATERIALS SEE NOTE 3				
ITEM #	DESCRIPTION	QTY	MANUFACTURER	PART #
1	DISPLAY, TOUCHSCREEN, 10.4"	1	BENTLY NEVADA	120M8155-01

2F PANEL NAME PLATES			
QTY	ENGRAVING	DIMENSIONS	CHAR SIZE
1	UNIT 3 MONITORING	8.75" W x 1" H	3/8"

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2024	JMD 05/18/2024

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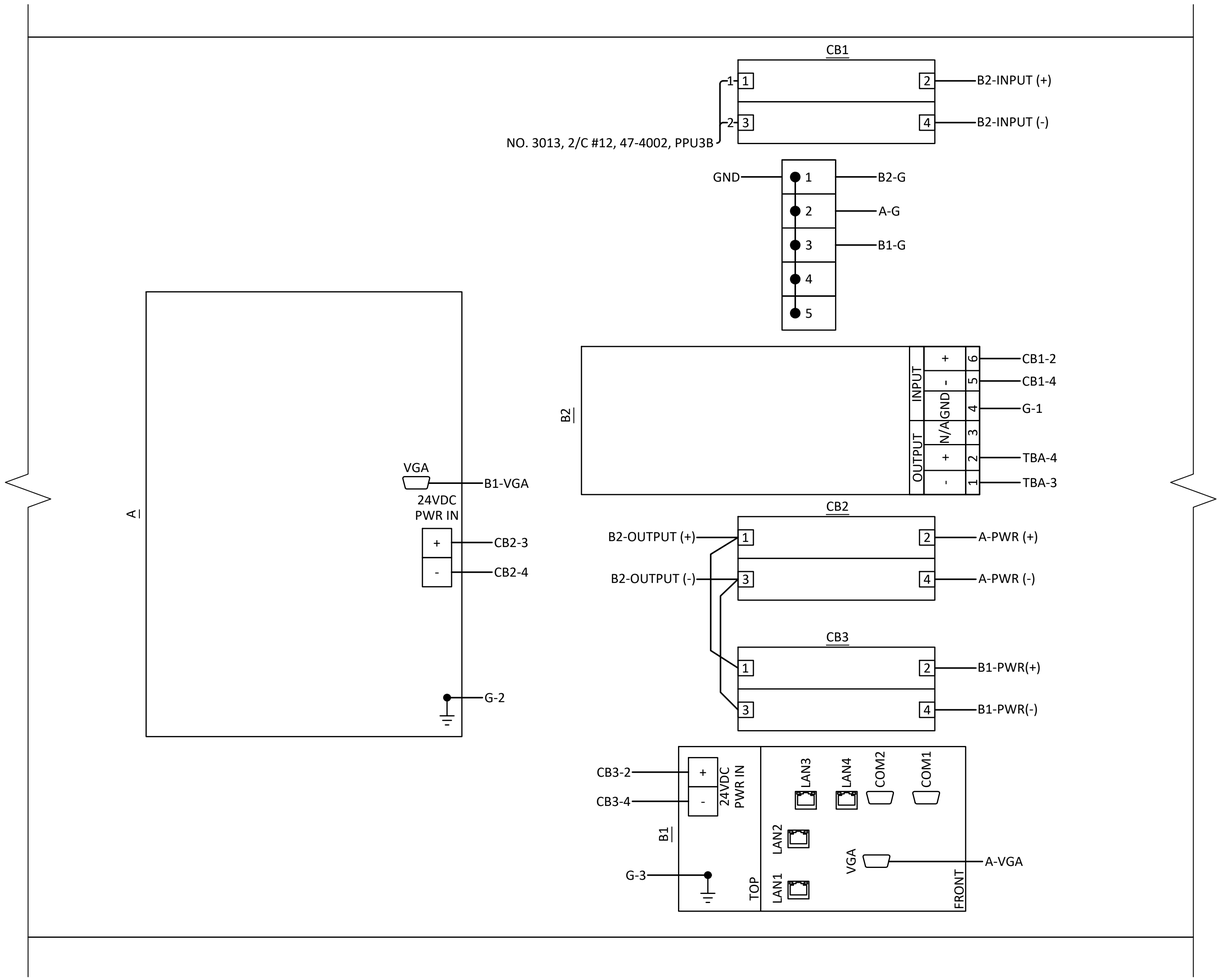
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MAIN CONTROL SWITCHBOARD PANEL 2F

REF DWG(S):
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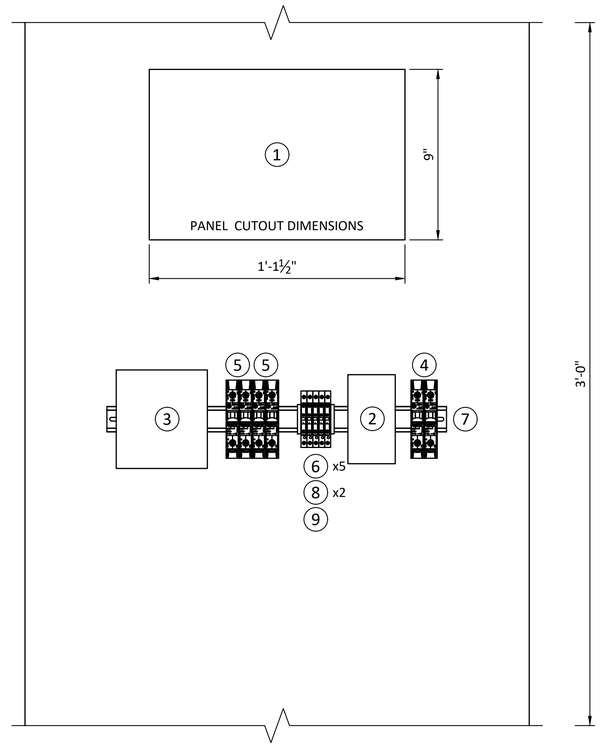
DRAWING NO.: H02-D-47-1123-R00



PANEL 2F REAR WIRING DIAGRAM

SCALE: NTS

BILL OF MATERIALS				
ITEM #	DESCRIPTION	QTY	MANUFACTURER	PART #
1	DISPLAY, TOUCHSCREEN, 10.4"	1	BENTLY NEVADA	120M8155-01
2	POWER SUPPLY, 125VDC TO 24VDC	1	BENTLY NEVADA	120M8155-01
3	CPU	1	BENTLY NEVADA	INTEL ATOM PROCESSOR E3845
4	MINATURE CIRCUIT BREAKER	1	ALLEN BRADLEY	1498-D2C020
5	THERMAL-MAGNETIC CIRCUIT BREAKER	2	ALLEN BRADLEY	1498-M2C020
6	UT 4-PE - PROTECTIVE CONDUCTOR TERMINAL BLOCK	5	PHOENIX CONTACT	3044128
7	DIN RAIL, NS 35/7.5	A/R	PHOENIX CONTACT	0801733
8	CLIPFIX 35 - END BRACKET	2	PHOENIX CONTACT	3022218
9	FBSR 5-6 PLUG-IN BRIDGE	1	PHOENIX CONTACT	3001596



1 47-1123 PANEL 2F REAR LAYOUT DETAIL

SCALE: 3"= 1'-0"

0" 4" 8"

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-18-2026 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen Inc		JOB #: T.O. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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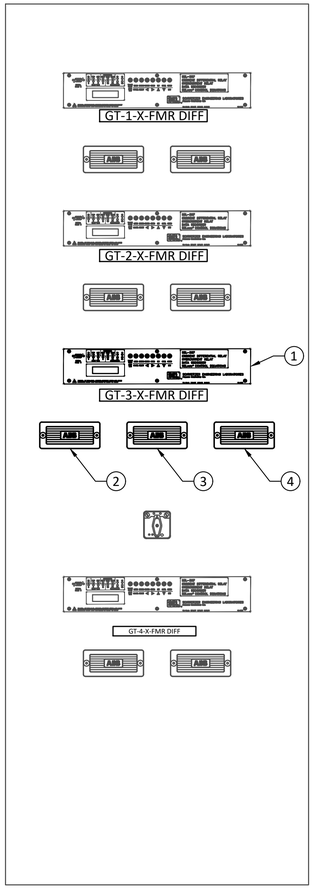
NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MAIN CONTROL PANEL SWITCHBOARD PANEL 2F WIRING DIAGRAM

REF DWG(S):
—

DRAWING NO.: H02-D-47-1124-R00

SHEET 105 OF 144



1 47-1122 PANEL 2R LAYOUT

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

0" 8" 16"

SHEET NOTES:

1. CONTRACTOR TO PROVIDE CUTOUT DETAIL DRAWING PRIOR TO FABRICATION FOR PANEL WORK.
2. CONTRACTOR TO INSTALL ITEMS LISTED IN BILL OF MATERIALS AND AS SHOWN IN PANEL 2R LAYOUT.

BILL OF MATERIALS				
ITEM #	DESCRIPTION	QTY	MANUFACTURER	PART #
1	SEL-387-5 CURRENT DIFFERENTIAL RELAY	1	SEL	0387503X13XX4XX
2	FT-14, 14 CURRENT POLES, SHORTING TYPE	1	ABB	FT4A14T00CN4063
3	FT-1, 6 CURRENT POLES, 4 POTENTIAL POLES	1	ABB	774B430G20
4	FT-1, 10 POTENTIAL POLES	1	ABB	129A501G01

STATE OF ALASKA 49th JEREMY RICHARD WINKLE 13466 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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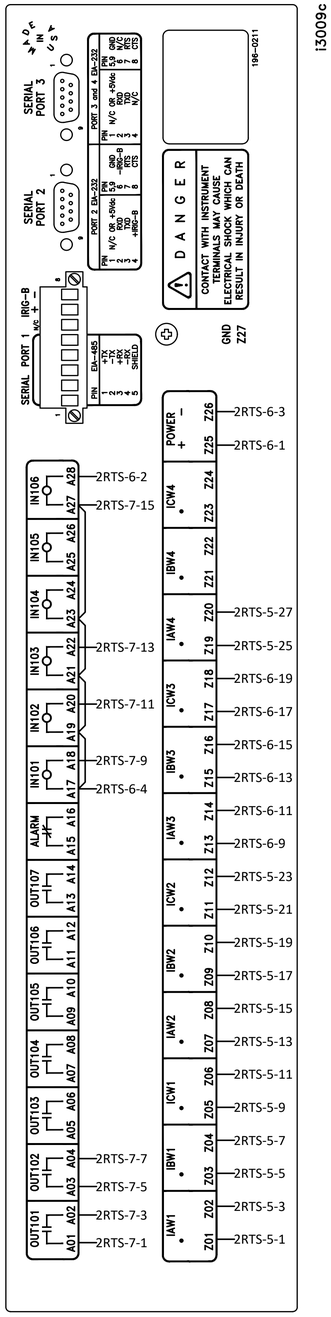
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MAIN CONTROL PANEL SWITCHBOARD PANEL 2R LAYOUT

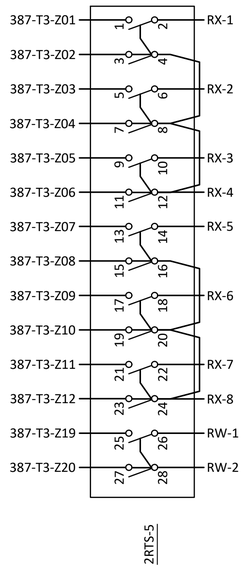
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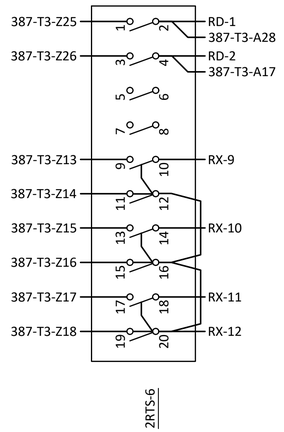
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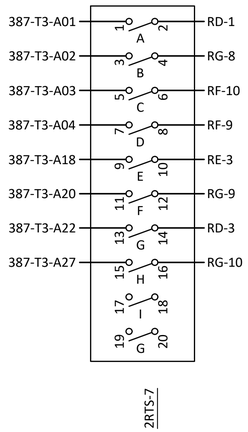
SHEET NOTES:

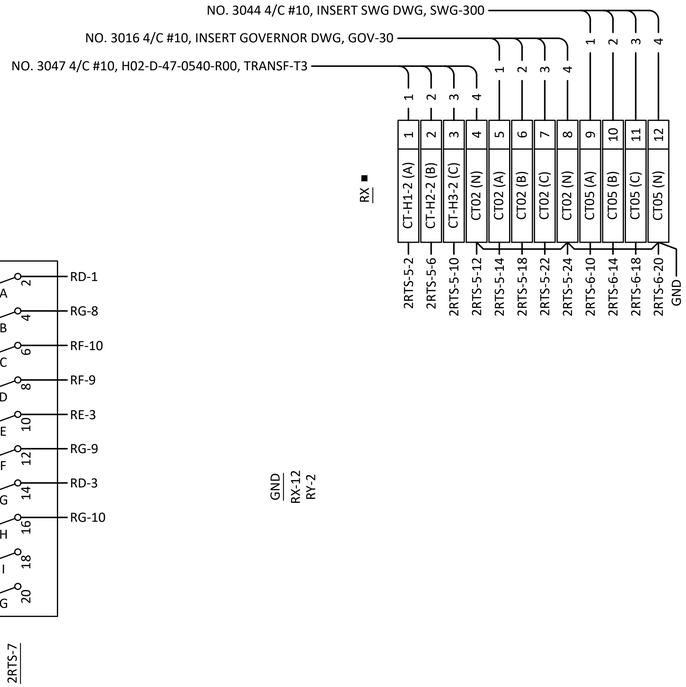
1. TERMINAL BLOCKS "RX" AND "RY" ARE TO BE ORDERED AS SHORTING BLOCK TYPE FOR CT CIRCUITS.

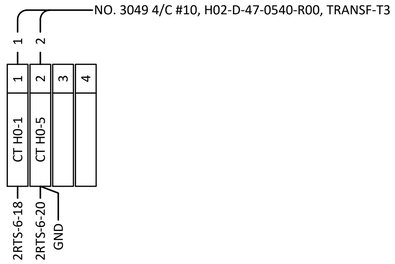


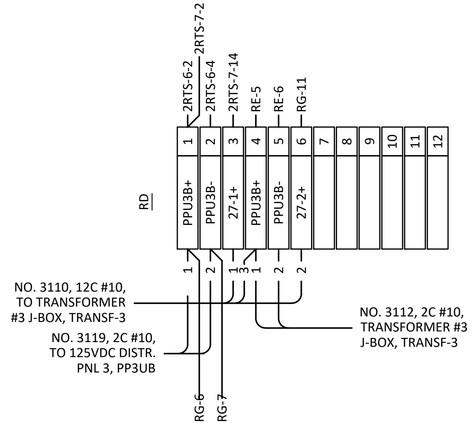


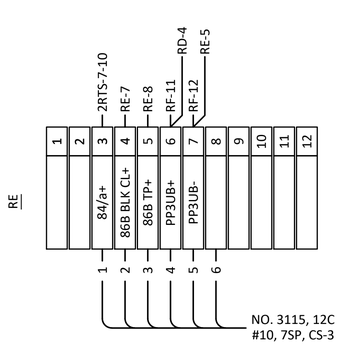


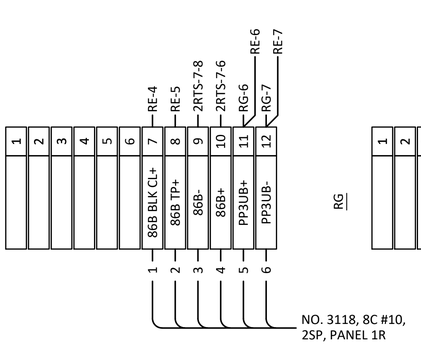


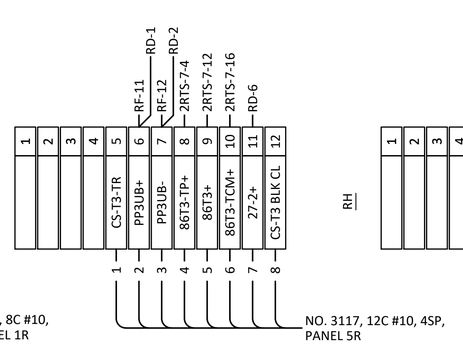


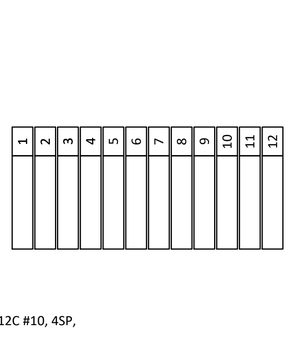














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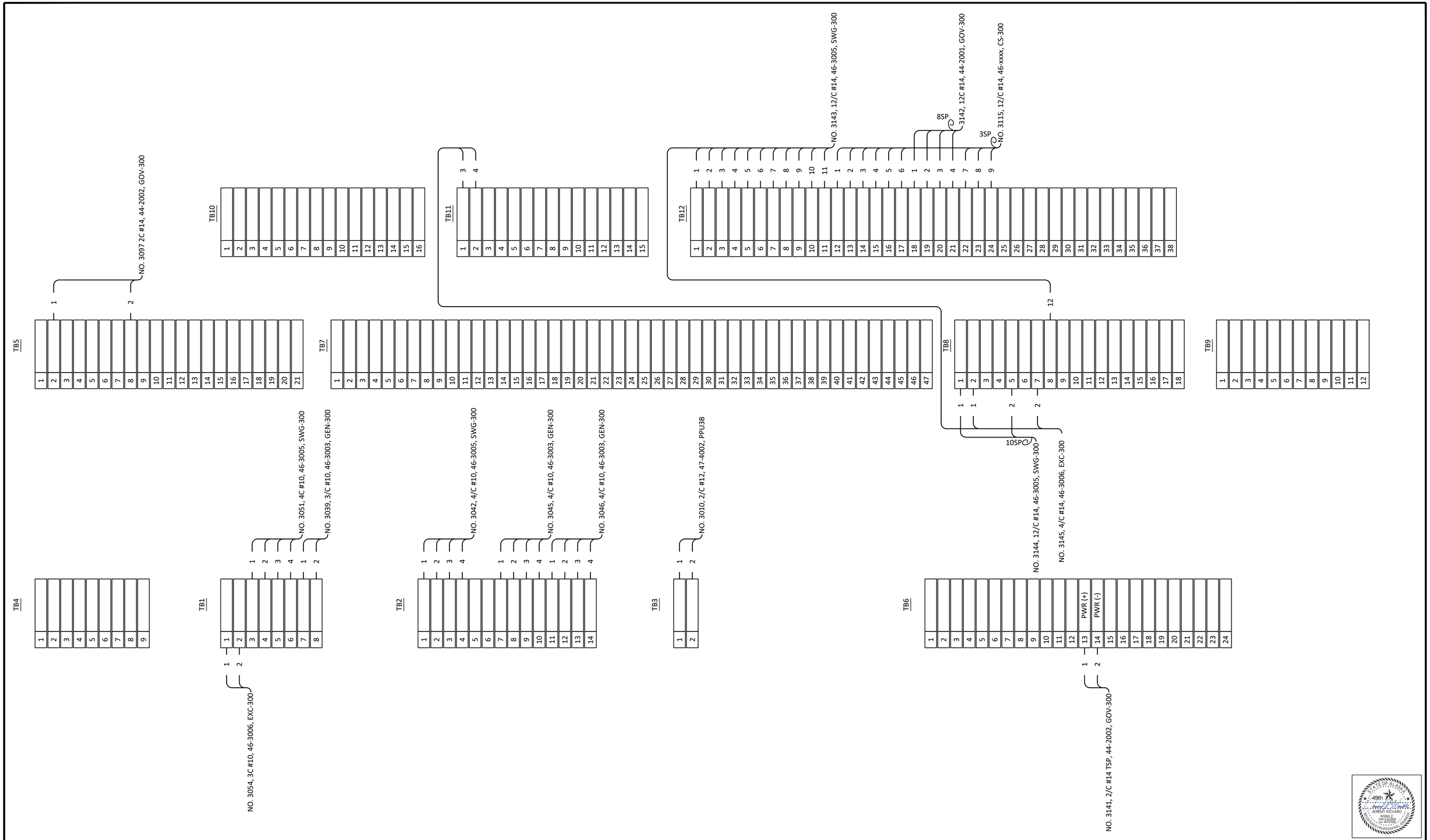
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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MAIN CONTROL PANEL SWITCHBOARD PANEL 2R WIRING DIAGRAM

REF DWG(S):
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DRAWING NO.: H02-D-47-1126-R01



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation

DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
MAIN CONTROL PANEL SWITCHBOARD PANEL 5F/5R WIRING DIAGRAM

REF DWG(S):
L&S – PG000044–1B–E19

DRAWING NO.: H02-D-47-1127-R01

SHEET 108 OF 144

PANELBOARD SCHEDULE

PANEL: PPU3 (EXISTING) | **PROJECT:** LAKE TYEE 3RD TURBINE AND GENERATOR

VOLTAGE (L-L): 480 | **PHASE:** 3 | **WIRE:** 4 | **AMPERE RATING:** 400 | **SOURCE OF SUPPLY:** PANEL PPCL

ENTRY: TOP/BOTTOM | **MOUNTING:** SURFACE | **MCB:** MLO | **SHORT CIRCUIT CURRENT RATING:** 65 kA

LOADS: PHASE A: 48131 | PHASE B: 48131 | PHASE C: 48131 | TOTAL: 144393

LOAD TYPES: 1 = LIGHTING, 2 = RECEPTACLE, 3 = MISC, 4 = MOTOR

MIN. CALCULATED O.C.P. SIZE: 188.8

REMARKS:

LOAD (VA)	LOAD SERVED	LOAD TYPE	AMPS/ POLES		CKT NO	PHASE	CKT NO	AMPS/ POLES		LOAD TYPE	LOAD SERVED	LOAD (VA)
1000	STATOR SPACE HEATER	3	35	3	1	A	2	50	3	4	COOLING WATER PUMP - U3 PUMP-2	7482
1000	3KW	3			3	B	4			4	20HP	7482
1000		3			5	C	6			4		7482
944	U3 KIDNEY LOOP OIL PUMP	4	20	3	7	A	8	40	3	4	U3 OIL LIFT PUMP	5820
944	2HP	4			9	B	10			4	15HP	5820
944		4			11	C	12			4		5820
7482	GOVERNOR OIL - U3 PUMP-1	4	50	3	13	A	14	50	3	4	GOVERNOR OIL - U3 PUMP-2	7482
7482	20HP	4			15	B	16			4	20HP	7482
7482		4			17	C	18			4		7482
7482	COOLING WATER PUMP -U3 PUMP-1	4	50	3	19	A	20	20	3	3	HEATER UNIT UH-3	3333
7482	20HP	4			21	B	22			3	10KW	3333
7482		4			23	C	24			3		3333
2106	SYNCHRONOUS CONDENSE COOLING WATER PUMP P-300	4	20	3	25	A	26	25	3	3	XFMR-T3A	5000
2106	5HP	4			27	B	28			3		5000
2106		4			29	C	30			3		5000

	LIGHTING	RECPT	MISC.	MOTOR	TOTAL LOAD
CONNECTED VA	0	0	27,999	116,394	144,393
DEMAND FACTOR	1.00	SEE NOTE 1	1.00	SEE NOTE 2	
DEMAND VA	0	0	27,999	122,006	150,005
LOADING FOR O.C.P.	0	0	34,999	122,006	157,004

NOTES
1. DEMAND FACTOR: 1ST 10kVA AT 100%; OVER 10KVA AT 50%.
2. LARGEST MOTOR LOAD AT 125%; ALL OTHERS AT 100%.

PANELBOARD SCHEDULE

PANEL: PPU3A | **PROJECT:** LAKE TYEE 3RD TURBINE AND GENERATOR

VOLTAGE (L-L): 208 | **PHASE:** 3 | **WIRE:** 4 | **AMPERE RATING:** 225A | **SOURCE OF SUPPLY:** XFMR-T3A

ENTRY: TOP | **MOUNTING:** SURFACE | **MCB:** 40A | **SHORT CIRCUIT CURRENT RATING:** 22 kA

LOADS: PHASE A: 1124 | PHASE B: 1300 | PHASE C: 2500 | TOTAL: 4924

LOAD TYPES: 1 = LIGHTING, 2 = RECEPTACLE, 3 = MISC, 4 = MOTOR

MIN. CALCULATED O.C.P. SIZE: 17.1

REMARKS:

LOAD (VA)	LOAD SERVED	LOAD TYPE	AMPS/ POLES		CKT NO	PHASE	CKT NO	AMPS/ POLES		LOAD TYPE	LOAD SERVED	LOAD (VA)
204	U3 LIGHTING	1	20	1	1	A	2	20	1	2	U3 RECEPTACLES	720
400	U3 GOVERNOR CONTROL POWER	3	20	1	3	B	4	20	1	3	U3 COOLING WATER SKID CONTROL POWER	400
400	U3 HPU CONTROL POWER	3	20	1	5	C	6	20	1	3	EXCITER FRAME SPACE HEATERS	100
100	GENERATOR COOLING WATER LEAK DETECTOR 1	3	20	1	7	A	8	20	1	3	GENERATOR COOLING WATER LEAK DETECTOR 2	100
400	EXCITER CONTROL CABINET	3	20	1	9	B	10	20	1	3	GENERATOR CUBICLE SPACE HEATERS	100
1000	GENERATOR 3 CIRCUIT BREAKER	3	30	1	11	C	12	30	1	3	STATION SERVICE 3 CIRCUIT BREAKER	1000
	SPARE		20	2	13	A	14	20	3		SPARE	
					15	B	16					
	SPARE		20	2	17	C	18					
					19	A	20	20	3		SPARE	
					21	B	22					
					23	C	24					
					25	A	26					
					27	B	28					
					29	C	30					

	LIGHTING	RECPT	MISC.	MOTOR	TOTAL LOAD
CONNECTED VA	204	720	4,000	0	4,924
DEMAND FACTOR	1.00	SEE NOTE 1	1.00	SEE NOTE 2	
DEMAND VA	204	720	4,000	0	4,924
LOADING FOR O.C.P.	255	900	5,000	0	6,155

NOTES
1. DEMAND FACTOR: 1ST 10kVA AT 100%; OVER 10KVA AT 50%.
2. LARGEST MOTOR LOAD AT 125%; ALL OTHERS AT 100%.

PANELBOARD SCHEDULE

PANEL: PPU3B | **PROJECT:** LAKE TYEE 3RD TURBINE AND GENERATOR

VOLTAGE (L-L): 125 | **PHASE:** 1 | **WIRE:** 3 | **AMPERE RATING:** 100 | **SOURCE OF SUPPLY:** DISC-U3B

ENTRY: TOP | **MOUNTING:** SURFACE | **MCB:** 100 | **SHORT CIRCUIT CURRENT RATING:** 22 kA

LOADS: PHASE A: 1900 | PHASE B: 5840 | TOTAL: 7740

LOAD TYPES: 1 = LIGHTING, 2 = RECEPTACLE, 3 = MISC, 4 = MOTOR

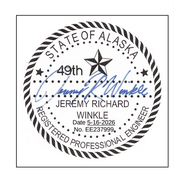
MIN. CALCULATED O.C.P. SIZE: 82.4

REMARKS: 125VDC PANEL

LOAD (W)	LOAD SERVED	LOAD TYPE	AMPS/ POLES		CKT NO	PHASE	CKT NO	AMPS/ POLES		LOAD TYPE	LOAD SERVED	LOAD (W)
200	U3 GOV PS#1	4	20	2	1	A	2	20	2	3	U3 ORBIT 60 (PNL 2F)	300
200		4			3	B	4			3		300
200	U3 GOV PS#2	4	20	2	5	A	6	20	2	3	U3 EXCITER CONROL CABINET	400
200		4			7	B	8			3		400
200	GENERATOR 3 CIRCUIT BREAKER	3	30	2	9	A	10	50	2	4	U3 GOV BACKUP PUMP	3725
200		3			11	B	12			4	5HP	3725
400	U3 PROTECTION & CONTROLS (PNL 5R)	3	20	2	13	A	14	50	2			
400		3			15	B	16					
400	STATION SERVICE 3 CIRCUIT BREAKER	3	20	2	17	A	18	50	2			
400		3			19	B	20					
15	U3 ANNUNCIATOR (PNL 5F)	3	20	2	21	A	22	50		3	EXCITER FIELD FLASH	1000
15		3			23	B	24			3		1000
					25	A	26					
					27	B	28					
					29	A	30					

	LIGHTING	RECPT	MISC.	MOTOR	TOTAL LOAD
CONNECTED W	0	0	5,430	8,250	13,680
DEMAND FACTOR	1.00	SEE NOTE 1	1.00	SEE NOTE 2	
DEMAND W	0	0	5,430	11,044	16,474
LOADING FOR O.C.P.	0	0	6,788	11,044	17,831

NOTES
1. DEMAND FACTOR: 1ST 10kW AT 100%; OVER 10kW AT 50%.
2. LARGEST MOTOR LOAD AT 125%; ALL OTHERS AT 100%.



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DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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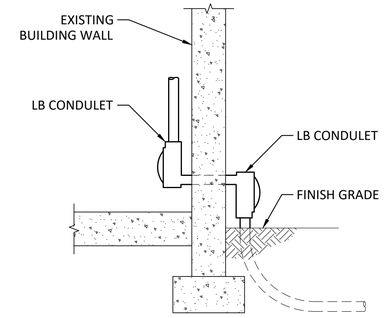
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SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
POWER PANEL SCHEDULES

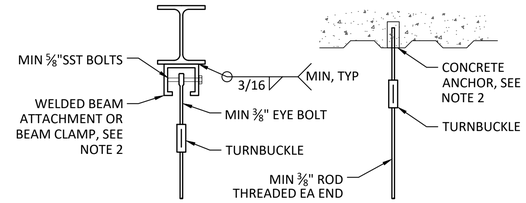
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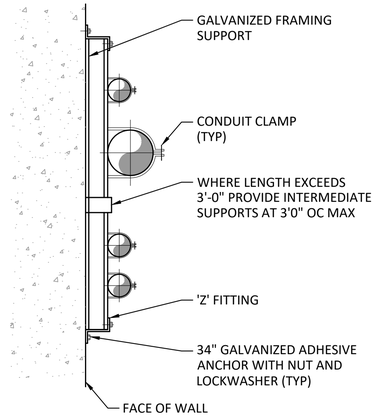
NOTES:
1. INSTALL CONDUITS THROUGH EXISTING WALLS IN ACCORDANCE WITH THIS DETAIL IF NOT OTHERWISE INDICATED.
2. DRILL HOLE USING METHODS THAT LEAVE A SMOOTH OPENING. SEAL OPENING AROUND CONDUIT, INSIDE , AND OUTSIDE, WITH ONE PART POLYURETHANE IMMERSIBLE SEALANT.

E102 CONDUIT ENTRANCE, ABOVE GRADE
SCALE: NTS

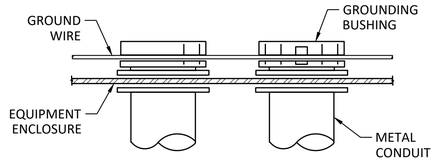


NOTES:
1. ALL CABLE TRAY SUPPORT MATERIAL SHALL BE FABRICATED FROM HOT DIP GALVANIZED STEEL. REPAIR ALL DAMAGED COATING AS PER SPECIFICATIONS.
2. DETERMINE SPAN AND TYPE OF SUPPORTS, LOCATE SUPPORTS, AND SIZE SUPPORT RODS, CONNECTIONS AND BRACES PER MANUFACTURERS RECOMMENDATIONS AND SEISMIC REQUIREMENTS.
3. USE STAINLESS STEEL HARDWARE IN WET OR CORROSIVE AREAS.

E114 CABLE TRAY SUPPORT
SCALE: NTS

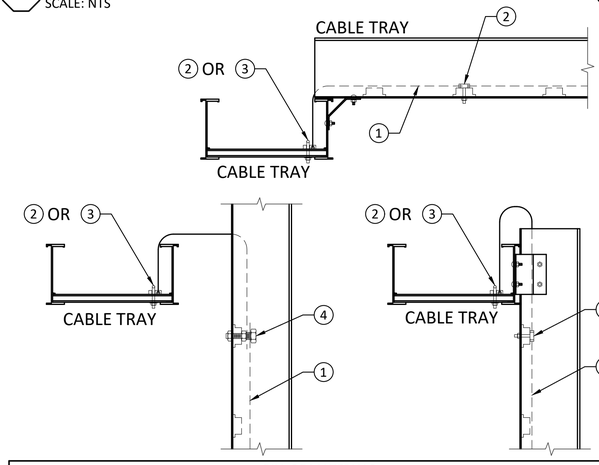


E117 CONDUIT SUPPORT
SCALE: NTS



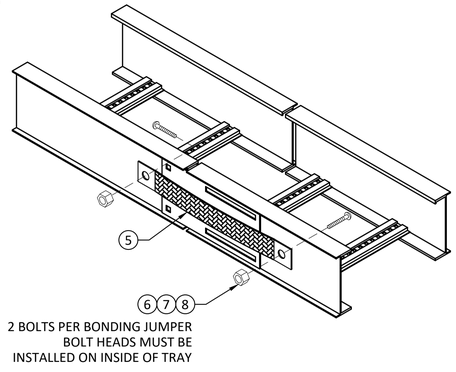
NOTES:
1. THE ENDS OF ALL CONDUIT REQUIRED TO BE GROUNDED BY THE SPECIFICATION SHALL BE GROUNDED IN ACCORDANCE WITH THIS DETAIL.

E209 CONDUIT GROUNDING
SCALE: NTS



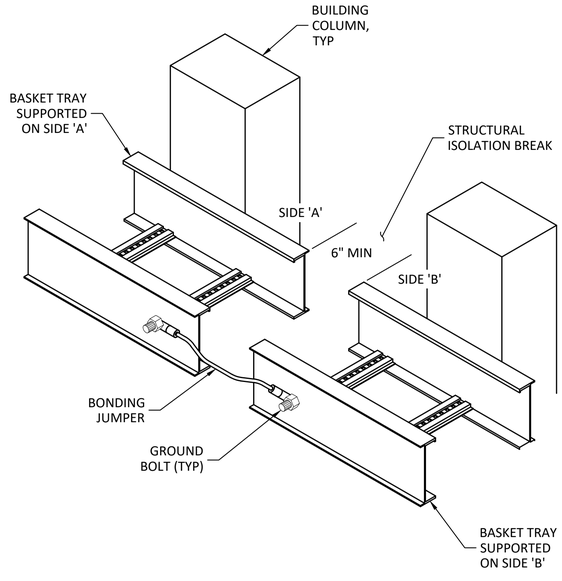
BILL OF MATERIALS	
ITEM #	DESCRIPTION
1	#4/0 AWG, BARE M.H.D COPPER GROUND CONDUCTOR, RUN THROUGHOUT CABLE TRAY SYSTEM
2	GROUND CONNECTOR, STEEL RUNG MOUNTED, C/W HARDWARE BURNDY CAT NO GC2929 OR EQUAL
3	SERVIT CONNECTOR, BURNDY CAT NO KS26 OR EQUAL
4	SERVIT POST CONNECTOR, BURNDY CAT NO KC28B OR EQUAL
5	#1 BARE COPPER, 600 AMP, 16", BONDING JUMPER, BURNDY CAT NO B2F12 OR EQUAL
6	BOLT, ½"-13x1"
7	NUT, ½"-13
8	LOCKWASHER, ½"

E401 TYP CABLE TRAY GROUNDING ARRANGEMNT
SCALE: NTS



CABLE TRAY GROUNDING NOTES:

1. CABLE TRAY INSTALLATION SHALL BE ELECTRICALLY CONTINUOUS IN ACCORDANCE WITH NEC ARTICLE 392.18.
2. A #4/0 AWG BARE COPPER GROUND CONDUCTOR SHALL BE ATTACHED TO THE TRAY AND RUN ALONG THE TRAYS ENTIRE LENGTH. IT SHALL BE CONNECTED TO THE TRAY APPROXIMATELY EVERY 10'-0".
3. ALL TRAY GROUND CONDUCTOR RUNS SHALL BE CONNECTED TO THE STRUCTURAL STEEL GROUND SYSTEM A MINIMUM OF TWO LOCATIONS AND/OR AT 80'-0" MAXIMUM SPACING VIA A #4/0 AWG GROUND CONDUCTOR.
4. EXPANSION BONDING JUMPERS ARE REQUIRED AT ALL EXPANSION SPLICE PLATES.



E402 TRAY EXPANSION JOINT, WHERE APPLICABLE
SCALE: NTS



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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
CONDUIT AND RACEWAY DETAILS 1

REF DWG(S):
—

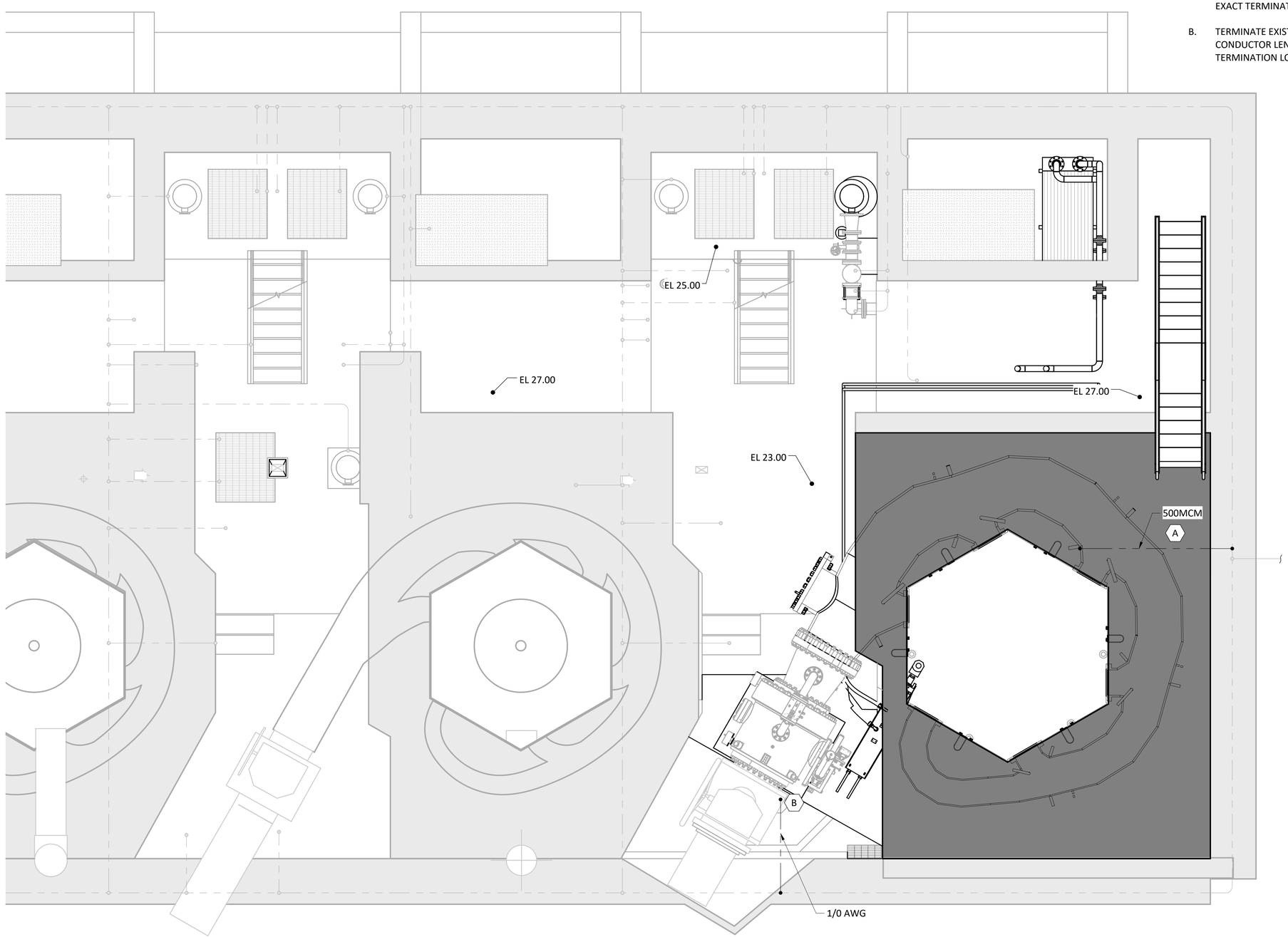
DRAWING NO.: H02-D-47-5024-R00

SHEET 110 OF 144

SHEET KEY NOTES:

A. TERMINATE EXISTING 500MCM PIGTAIL FROM SKELETON BAY TO TURBINE DISTRIBUTOR HOUSING. PROVIDE ADDITIONAL CONDUCTOR LENGTH AND CONNECTORS AS NEEDED. REFER TO TURBINE SUPPLIER DRAWINGS FOR EXACT TERMINATION LOCATION.

B. TERMINATE EXISTING #1/0 PIGTAIL FROM SKELETON BAY TO TURBINE INLET VALVE HOUSING. PROVIDE ADDITIONAL CONDUCTOR LENGTH AND CONNECTORS AS NEEDED. REFER TO TURBINE INLET VALVE DRAWINGS FOR EXACT TERMINATION LOCATION.



POWERHOUSE GROUNDING PLAN TURBINE CL EL 29.00

SCALE: 3/8" = 1'-0"

0 2' 4'

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-12-2026 No. EE2379905 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation

DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GROUNDING PLAN TURBINE CL EL 29.00

REF DWG(S): H02-D-47-5003-R49

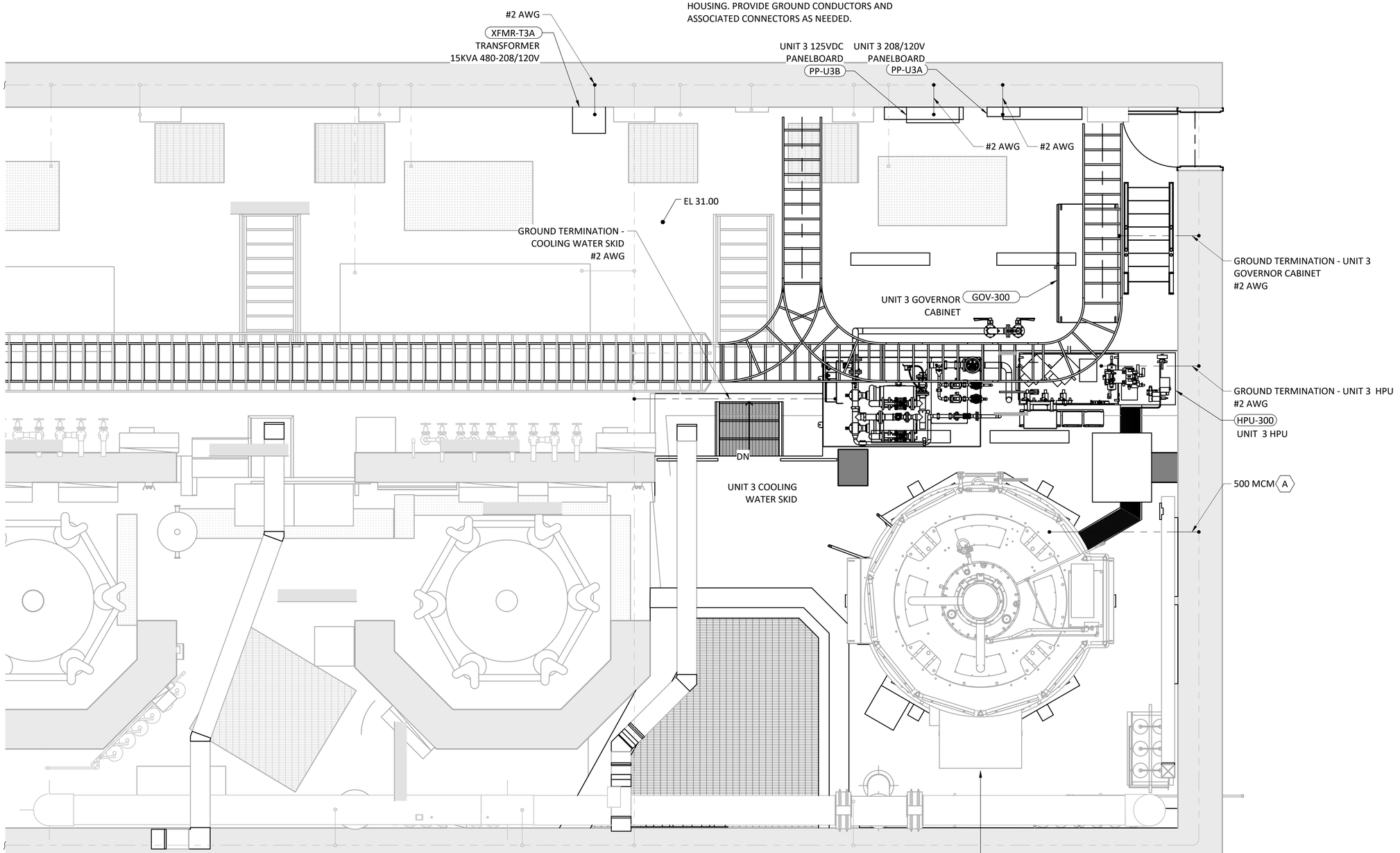
DRAWING NO: H02-D-47-5026-R00

SHEET NOTES:

1. CONNECT EQUIPMENT TO EXISTING POWERHOUSE GROUND BUS WITH GROUNDING CONDUCTOR SIZE AS SHOWN. TERMINATE AT EQUIPMENT GROUND BUS AND HOUSING. PROVIDE GROUND CONDUCTORS AND ASSOCIATED CONNECTORS AS NEEDED.

SHEET KEY NOTES:

A. TERMINATE EXISTING 500MCM PIGTAIL FROM SKELETON BAY TO GENERATOR GROUND BUS. PROVIDE ADDITIONAL CONDUCTOR LENGTH AND CONNECTORS AS NEEDED. REFER TO TURBINE SUPPLIER DRAWINGS FOR EXACT TERMINATION LOCATION.



GROUNDING PLAN MACHINE FLOOR EL 33.00

SCALE: 3/8" = 1'-0"

0 2' 4'

STATE OF ALASKA 49th
JEREMY RICHARD WINKLE
Date 5-18-2026
No. EE23799
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GROUNDING PLAN MACHINE FLOOR EL 33.00

REF DWG(S):
H02-D-47-5002-R50

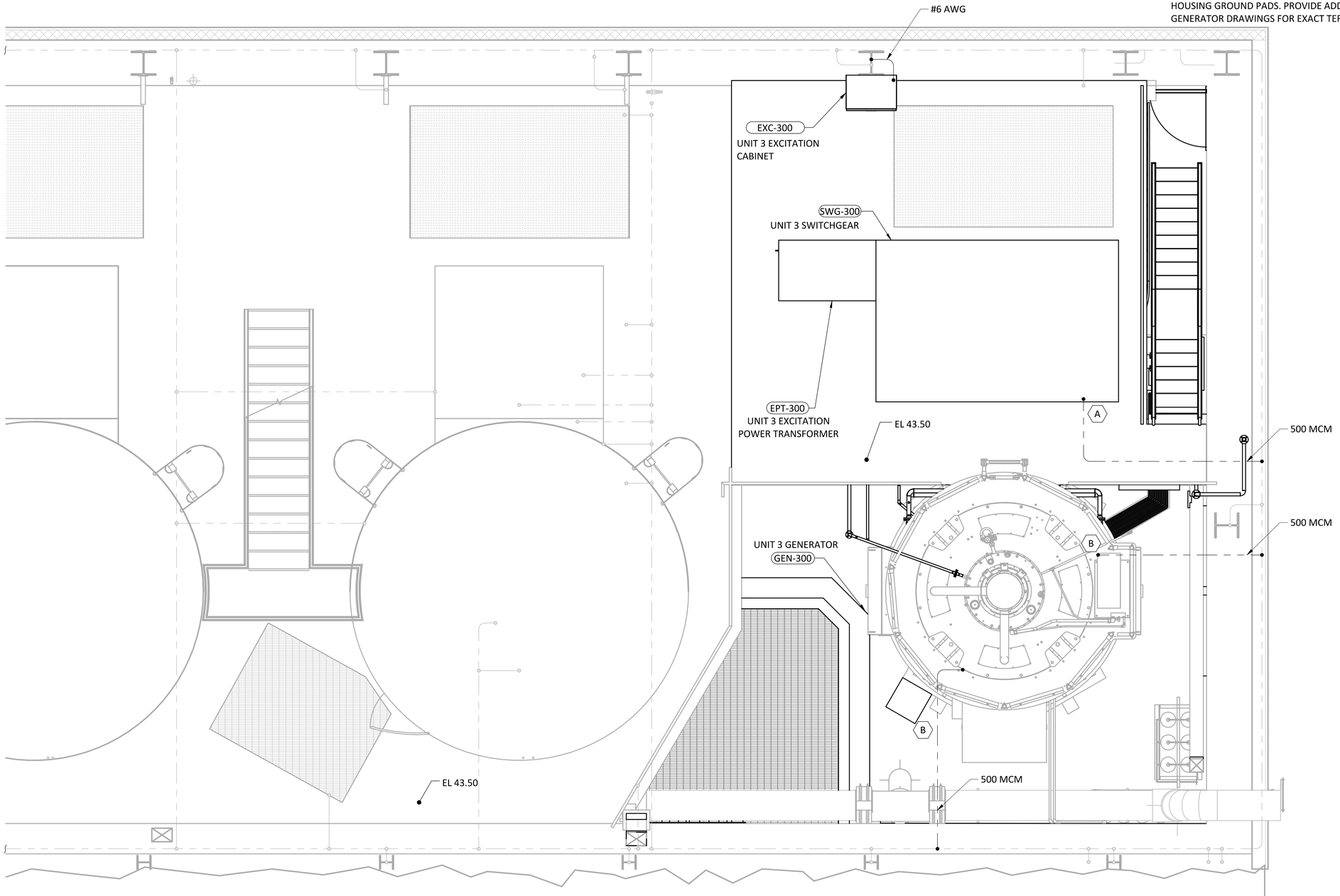
DRAWING NO: H02-D-47-5027-R00

SHEET 112 OF 144

SHEET KEY NOTES:

A. TERMINATE EXISTING 500MCM PIGTAIL FROM SKELETON BAY TO SWITCHGEAR GROUND BUS. PROVIDE ADDITIONAL CONDUCTOR LENGTH AND CONNECTORS AS NEEDED. REFER TO SWITCHGEAR DRAWINGS FOR EXACT TERMINATION LOCATION.

B. TERMINATE EXISTING 500MCM PIGTAILS FROM SKELETON BAY TO GENERATOR GROUND BUS AND GENERATOR HOUSING GROUND PADS. PROVIDE ADDITIONAL CONDUCTOR LENGTH AND CONNECTORS AS NEEDED. REFER TO GENERATOR DRAWINGS FOR EXACT TERMINATION LOCATIONS.



GROUNDING PLAN GENERATOR FLOOR EL 43.50

SCALE: 3/8" = 1'-0" 0 4' 8'

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5.18.2026 No. EE237994 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
GROUNDING PLAN GENERATOR FLOOR EL 43.50

REF DWG(S): H02-D-47-5001-R49
DRAWING NO: H02-D-47-5028-R00

ID#	CLASS	FROM	FROM TAG	TO	TO TAG	SIZE	TYPE	CABLES IN CONDUIT	ROUTING TYPE	COMMENTS
C3000	POWER	GENERATOR	GEN-300	GENERATOR SWITCHGEAR	SWG-300	5"	RGS	3000	SURFACE	
C3001	POWER	GENERATOR SWITCHGEAR	SWG-300	JUNCTION BOX 1	JBX-301	(3) 4"	RGS	3001	SURFACE	
C3002	POWER	JUNCTION BOX 1	JBX-301	JUNCTION BOX 2	JBX-302	(3) 4"	RGS	3001	SURFACE	
C3003	POWER	JUNCTION BOX 2	JBX-302	GENERATOR STEP UP TRANSFORMER 3	TRANSF-T3	(4) 4"	RGS / SCH 40 PVC	3001	SURFACE / EMBEDDED	(1) 4" CONDUIT SPARE, TRANSITION TO CORROSION TAPE WRAPPED RGS WHERE EXPOSED
C3004	POWER	CABLE TRAY 3	TRY-003	GENERATOR FIELD	GEN-300	TBD	RGS	3004	SURFACE	
C3005	POWER	125VDC DISTRIBUTION SWITCHBOARD	-	UNIT 3 125VDC DISCONNECT	DISC-U3B	1.25"	RGS	3005	SURFACE	
C3006	POWER	UNIT 3 125VDC DISCONNECT	DISC-U3B	CABLE TRAY 3	TRY-003	1.25"	RGS	3006	SURFACE	
C3007	POWER	CABLE TRAY 3	TRY-003	UNIT 3 125VDC PANELBOARD	PP-U3B	1.25"	RGS	3006	SURFACE	
C3008	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3007	SURFACE	
C3009	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3008	SURFACE	
C3010	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3009	SURFACE	
C3011	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3010	SURFACE	
C3012	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3011	SURFACE	
C3013	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3012	SURFACE	
C3014	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3013	SURFACE	
C3015	POWER	U3 125VDC PANELBOARD	PPU-3B	U3 EXCITER CONTROL CABINET	EXC-300	0.75"	RGS	3014, 3015	SURFACE	
C3016	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3016	SURFACE	
C3017	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3017	SURFACE	
C3018	POWER	CABLE TRAY 3	TRY-003	DC LUBE OIL PUMP	GEN-300	0.75"	RGS	3017	SURFACE	
C3019	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3018	SURFACE	
C3020	POWER	CABLE TRAY 3	TRY-003	DC HIGH LIFT PUMP	HLP-100	0.75"	RGS	3018	SURFACE	
C3021	POWER	U3 480VAC PANELBOARD	PPU3	CABLE TRAY 3	TRY-003	0.75"	RGS	3020	SURFACE	
C3022	POWER	CABLE TRAY 3	TRY-003	U3 GOV OIL PUMP 1 - 88QP1	HPU-300	0.75"	RGS	3020	SURFACE	
C3023	POWER	U3 480VAC PANELBOARD	PPU3	CABLE TRAY 3	TRY-003	0.75"	RGS	3021	SURFACE	
C3024	POWER	CABLE TRAY 3	TRY-003	U3 GOV OIL PUMP 2 - 88QP2	HPU-300	0.75"	RGS	3021	SURFACE	
C3025	POWER	U3 480VAC PANELBOARD	PPU3	CABLE TRAY 3	TRY-003	0.75"	RGS	3022	SURFACE	
C3026	POWER	CABLE TRAY 3	TRY-003	U3 KIDNEY LOOP OIL PUMP - 88QGPKL	HPU-300	0.75"	RGS	3022	SURFACE	
C3027	POWER	U3 480VAC PANELBOARD	PPU3	CABLE TRAY 3	TRY-003	0.75"	RGS	3023	SURFACE	
C3028	POWER	CABLE TRAY 3	TRY-003	U3 COOLING WATER PUMP 1	CWS-300	0.75"	RGS	3023	SURFACE	
C3029	POWER	U3 480VAC PANELBOARD	PPU3	CABLE TRAY 3	TRY-003	0.75"	RGS	3024	SURFACE	
C3030	POWER	CABLE TRAY 3	TRY-003	U3 COOLING WATER PUMP 2	CWS-300	0.75"	RGS	3024	SURFACE	
C3031	POWER	U3 480VAC PANELBOARD	PPU3	CABLE TRAY 3	TRY-003	0.75"	RGS	3025	SURFACE	
C3032	POWER	CABLE TRAY 3	TRY-003	U3 LUBE OIL PUMP	GEN-300	0.75"	RGS	3025	SURFACE	
C3033	POWER	U3 480VAC PANELBOARD	PPU3	CABLE TRAY 3	TRY-003	0.75"	RGS	3026	SURFACE	
C3034	POWER	CABLE TRAY 3	TRY-003	U3 HIGH LIFT PUMP	HLP-100	0.75"	RGS	3026	SURFACE	
C3035	POWER	U3 480VAC PANELBOARD	PPU3	CABLE TRAY 3	TRY-003	0.75"	RGS	3027	SURFACE	
C3036	POWER	CABLE TRAY 3	TRY-003	U3 STATOR FRAME HEATERS	GEN-300	0.75"	RGS	3027	SURFACE	
C3037	POWER	U3 480VAC PANELBOARD	PPU3	15KVA TRANSFORMER - PRIMARY SIDE	T3A	0.75"	RGS	3028	SURFACE	
C3038	POWER	15KVA TRANSFORMER - SECONDARY SIDE	T3A	U3 208/120 PANELBOARD	PPU-U3A	1.25"	RGS	3029	SURFACE	
C3039	POWER	U3 208/120 PANELBOARD	PPU-U3A	U3 LIGHTING	-	0.75"	RGS	3030	SURFACE	
C3040	POWER	U3 208/120 PANELBOARD	PPU-U3A	U3 RECEPTACLES	-	0.75"	RGS	3031	SURFACE	
C3041	POWER	U3 208/120 PANELBOARD	PPU-U3A	CABLE TRAY 3	TRY-003	0.75"	RGS	3032	SURFACE	
C3042	POWER	CABLE TRAY 3	TRY-003	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	0.75"	RGS	3032	SURFACE	
C3043	POWER	U3 208/120 PANELBOARD	PPU-U3A	U3 EXCITER CONTROL CABINET	EXC-300	0.75"	RGS	3033	SURFACE	
C3044	POWER	U3 208/120 PANELBOARD	PPU-U3A	CABLE TRAY 3	TRY-003	0.75"	RGS	3034	SURFACE	
C3045	POWER	CABLE TRAY 3	TRY-003	U3 COOLING WATER SKID	CWS-300	0.75"	RGS	3034	SURFACE	
C3046	POWER	U3 208/120 PANELBOARD	PPU-U3A	CABLE TRAY 3	TRY-003	0.75"	RGS	3035	SURFACE	
C3047	POWER	CABLE TRAY 3	TRY-003	U3 HPU CONTROL POWER	HPU-300	0.75"	RGS	3035	SURFACE	
C3048	POWER	U3 208/120 PANELBOARD	PPU-U3A	CABLE TRAY 3	TRY-003	0.75"	RGS	3036	SURFACE	
C3049	POWER	CABLE TRAY 3	TRY-003	U3 EXCITER FRAME HEATERS	GEN-300	0.75"	RGS	3036	SURFACE	
C3050	POWER	U3 208/120 PANELBOARD	PPU-U3A	CABLE TRAY 3	TRY-003	0.75"	RGS	3037	SURFACE	
C3051	POWER	CABLE TRAY 3	TRY-003	U3 GEN COOLER 1 LEAK DETECTOR	GEN-300	0.75"	RGS	3037	SURFACE	
C3052	POWER	U3 208/120 PANELBOARD	PPU-U3A	CABLE TRAY 3	TRY-003	0.75"	RGS	3038	SURFACE	
C3053	POWER	CABLE TRAY 3	TRY-003	U3 GEN COOLER 2 LEAK DETECTOR	GEN-300	0.75"	RGS	3038	SURFACE	
C3054	SIGNAL	GENERATOR CUBICLE	GEN-300	CABLE TRAY 3	TRY-003	0.75"	RGS	3039	SURFACE	
C3055	SIGNAL	CABLE TRAY 3	TRY-003	U3 EXCITER CONTROL CABINET	EXC-300	0.75"	RGS	3040	SURFACE	
C3056	SIGNAL	GENERATOR CUBICLE	GEN-300	CABLE TRAY 3	TRY-003	0.75"	RGS	3045	SURFACE	
C3057	SIGNAL	GENERATOR CUBICLE	GEN-300	CABLE TRAY 3	TRY-003	0.75"	RGS	3046	SURFACE	
C3058	SIGNAL	CABLE TRAY 3	TRY-003	U3 EXCITER CONTROL CABINET	EXC-300	0.75"	RGS	3050	SURFACE	
C3059	SIGNAL	CABLE TRAY 3	TRY-003	U3 EXCITER CONTROL CABINET	EXC-300	0.75"	RGS	3055	SURFACE	
C3060	SIGNAL	HPU TERMINAL BOX	HPU-300	CABLE TRAY 3	TRY-003	2.5"	RGS	3057, 3058, 3060, 3061, 3063, 3064, 3065	SURFACE	
C3061	SIGNAL	HPU TERMINAL BOX	HPU-300	CABLE TRAY 3	TRY-003	2"	RGS	3059, 3062, 3066, 3067, 3068, 3069	SURFACE	
C3062	SIGNAL	HPU MOTOR STARTER 1	HPU-300	CABLE TRAY 3	TRY-003	1"	RGS	3070	SURFACE	
C3063	SIGNAL	HPU MOTOR STARTER 2	HPU-300	CABLE TRAY 3	TRY-003	1"	RGS	3071	SURFACE	
C3064	SIGNAL	HPU MOTOR STARTER 3	HPU-300	CABLE TRAY 3	TRY-003	1"	RGS	3072	SURFACE	
C3065	SIGNAL	HPU MOTOR STARTER 4	HPU-300	CABLE TRAY 3	TRY-003	1.25"	RGS	3073	SURFACE	
C3066	SIGNAL	GENERATOR - JB6	GEN-300	CABLE TRAY 3	TRY-003	1.5"	RGS	3075	SURFACE	
C3067	SIGNAL	GENERATOR - JB6	GEN-300	CABLE TRAY 3	TRY-003	1.5"	RGS	3076	SURFACE	
C3068	SIGNAL	GENERATOR - JB6	GEN-300	CABLE TRAY 3	TRY-003	1.5"	RGS	3077	SURFACE	
C3069	SIGNAL	GENERATOR - JB6	GEN-300	CABLE TRAY 3	TRY-003	1.5"	RGS	3078	SURFACE	



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
CONDUIT SCHEDULE 1

REF DWG(S):

DRAWING NO: H02-D-47-5029-R00

ID#	CLASS	FROM	FROM TAG	TO	TO TAG	SIZE	TYPE	CABLES IN CONDUIT	ROUTING TYPE	COMMENTS
C3070	SIGNAL	GENERATOR - JB6	GEN-300	CABLE TRAY 3	TRY-003	1.5"	RGS	3079	SURFACE	
C3071	SIGNAL	GENERATOR - JB4	GEN-300	CABLE TRAY 3	TRY-003	1"	RGS	3080	SURFACE	
C3072	SIGNAL	GENERATOR - JB5	GEN-300	CABLE TRAY 3	TRY-003	1"	RGS	3081	SURFACE	
C3073	SIGNAL	GENERATOR - JB7	GEN-300	CABLE TRAY 3	TRY-003	1"	RGS	3082	SURFACE	
C3074	SIGNAL	GENERATOR - JB7	GEN-300	CABLE TRAY 3	TRY-003	1"	RGS	3083	SURFACE	
C3075	SIGNAL	GENERATOR - JB9	GEN-300	CABLE TRAY 3	TRY-003	1"	RGS	3084, 3085, 3086, 3087, 3088	SURFACE	
C3076	SIGNAL	GENERATOR - JB1	GEN-300	CABLE TRAY 3	TRY-003	1"	RGS	3089, 3090, 3091, 3092	SURFACE	
C3077	SIGNAL	HYDROSTATIC LIFT SYSTEM	HLP-100	CABLE TRAY 3	TRY-003	1"	RGS	3093, 3094	SURFACE	
C3078	SIGNAL	COOLING WATER SYSTEM	CWS-300	CABLE TRAY 3	TRY-003	1.5"	RGS	3095, 3096, 3104, 3105, 3106, 3108	SURFACE	
C3079	SIGNAL	COOLING WATER SYSTEM	CWS-300	CABLE TRAY 3	TRY-003	2"	RGS	3097, 3098, 3099, 3100, 3101, 3102, 3103, 3107, 3109	SURFACE	
C3080	POWER	MANHOLE NO. 4	MNH-4	GENERATOR STEP UP TRANSFORMER 3	TRANSF-T3	2"	RGS / SCH 40 PVC		SURFACE / EMBEDDED	
C3081	POWER	MANHOLE NO. 4	MNH-4	GENERATOR STEP UP TRANSFORMER 3	TRANSF-T3	2"	RGS / SCH 40 PVC		SURFACE / EMBEDDED	
C3082	SIGNAL	MANHOLE NO. 4	MNH-4	GENERATOR STEP UP TRANSFORMER 3	TRANSF-T3	2"	RGS / SCH 40 PVC		SURFACE / EMBEDDED	
C3083	SIGNAL	MANHOLE NO. 4	MNH-4	GENERATOR STEP UP TRANSFORMER 3	TRANSF-T3	2"	RGS / SCH 40 PVC		SURFACE / EMBEDDED	
C3081	POWER	MANHOLE NO. 4	MNH-4	CIRCUIT SWITCHER NO. 3	TRANSF-T3	1"	RGS / SCH 40 PVC		SURFACE / EMBEDDED	
C3082	SIGNAL	MANHOLE NO. 4	MNH-4	CIRCUIT SWITCHER NO. 3	TRANSF-T3	1"	RGS / SCH 40 PVC		SURFACE / EMBEDDED	
C3081	POWER	MANHOLE NO. 4	MNH-4	OIL WATER SEPARATOR	OWS	1"	RGS / SCH 40 PVC		SURFACE / EMBEDDED	
C3082	SIGNAL	MANHOLE NO. 4	MNH-4	OIL WATER SEPARATOR	OWS	1"	RGS / SCH 40 PVC		SURFACE / EMBEDDED	
C3083	POWER	U3 480VAC PANELBOARD	PPU3	U3 SYNCHRONOUS CONDENSE CW PUMP CONTROL PNL	PCP-300	0.75"	RGS	3025	SURFACE	
C3084	POWER	U3 SYNCHRONOUS CONDENSE COOLING WATER PUMP CONTROL...	PCP-300	U3 SYNCHRONOUS CW PUMP	P-300	0.75"	RGS	3034	SURFACE	
C3085	SIGNAL	U3 SYNCHRONOUS CONDENSE COOLING WATER PUMP CONTROL...	PCP-300	CABLE TRAY 3	TRY-003	0.75"	RGS	3096	SURFACE	
C3086	POWER	GENERATOR SWITCHGEAR	SWG-300	EXCITATION POWER TRANSFORMER	EPT-300	0.75"	RGS	3002	SURFACE	
C3087	POWER	U3 125VDC PANELBOARD	PPU-3B	CABLE TRAY 3	TRY-003	0.75"	RGS	3011	SURFACE	
C3088	POWER	U3 208/120 PANELBOARD	PPU-U3A	CABLE TRAY 3	TRY-003	0.75"	RGS	3017	SURFACE	
C3089	POWER	U3 208/120 PANELBOARD	PPU-U3A	CABLE TRAY 3	TRY-003	0.75"	RGS	3018	SURFACE	
C3090	POWER	U3 208/120 PANELBOARD	PPU-U3A	CABLE TRAY 3	TRY-003	0.75"	RGS	3019	SURFACE	
C3091	SIGNAL	COOLING WATER SYSTEM CONTROL PANEL	CWS-300	CABLE TRAY 3	TRY-003	1"	RGS	3074, 3093	SURFACE	
C3092	SIGNAL	HPU TERMINAL BOX	HPU-300	CABLE TRAY 3	TRY-003	1"	RGS	3099, 3100	SURFACE	
C3093	SIGNAL	EXCITER CONTROL CABINET	EXC-300	CABLE TRAY 3	TRY-003	1"	RGS	3102, 3145	SURFACE	
C3094	SIGNAL	GENERATOR SWITCHGEAR	SWG-300	CABLE TRAY 3	TRY-003	1"	RGS	3117	SURFACE	
C3095	SIGNAL	GENERATOR SWITCHGEAR	SWG-300	CABLE TRAY 3	TRY-003	1"	RGS	3118, 3119	SURFACE	
C3096	SIGNAL	DEFLECTOR JUNCTION BOX	DP-JB1	CABLE TRAY 3	TRY-003	0.75"	RGS	3121, 3122	SURFACE	
C3097	SIGNAL	NEEDLE 1 JUNCTION BOX	NP1-JB2	CABLE TRAY 3	TRY-003	0.75"	RGS	3123, 3124	SURFACE	
C3098	SIGNAL	NEEDLE 2 JUNCTION BOX	NP2-JB3	CABLE TRAY 3	TRY-003	0.75"	RGS	3125, 3126	SURFACE	
C3099	SIGNAL	NEEDLE 3 JUNCTION BOX	NP3-JB4	CABLE TRAY 3	TRY-003	0.75"	RGS	3127, 3128	SURFACE	
C3100	SIGNAL	NEEDLE 4 JUNCTION BOX	NP4-JB5	CABLE TRAY 3	TRY-003	0.75"	RGS	3129, 3130	SURFACE	
C3101	SIGNAL	NEEDLE 5 JUNCTION BOX	NP5-JB6	CABLE TRAY 3	TRY-003	0.75"	RGS	3131, 3132	SURFACE	
C3102	SIGNAL	NEEDLE 6 JUNCTION BOX	NP6-JB7	CABLE TRAY 3	TRY-003	0.75"	RGS	3133, 3134	SURFACE	
C3103	SIGNAL	HPU TERMINAL BOX	HPU-300	CABLE TRAY 3	TRY-003	0.75"	RGS	3135, 3136, 3137, 3138	SURFACE	
C3104	SIGNAL	HPU TERMINAL BOX	HPU-300	CABLE TRAY 3	TRY-003	0.75"	RGS	3139, 3140	SURFACE	
C3105	SIGNAL	HPU TERMINAL BOX	HPU-300	CABLE TRAY 3	TRY-003	0.75"	RGS	4142	SURFACE	
C3106	SIGNAL	HPU TERMINAL BOX	HPU-300	CABLE TRAY 3	TRY-003	0.75"	RGS	3143, 3145	SURFACE	
C3107	SIGNAL	DEFLECTOR JUNCTION BOX	DP-JB1	DEFLECTOR POSITION TRANSDUCER	DEZ1	0.5"	RGS	3146	SURFACE	INSTALL CONDUIT IN TRENCH WITH HYDRAULIC LINES TO POSITION TRANSDUCER
C3108	SIGNAL	NEEDLE 1 JUNCTION BOX	NP1-JB2	NEEDLE 1 POSITION TRANSDUCER	NEZ1	0.5"	RGS	3147	SURFACE	INSTALL CONDUIT IN TRENCH WITH HYDRAULIC LINES TO POSITION TRANSDUCER
C3109	SIGNAL	NEEDLE 2 JUNCTION BOX	NP2-JB3	NEEDLE 2 POSITION TRANSDUCER	NEZ2	0.5"	RGS	3148	SURFACE	INSTALL CONDUIT IN TRENCH WITH HYDRAULIC LINES TO POSITION TRANSDUCER
C3110	SIGNAL	NEEDLE 3 JUNCTION BOX	NP3-JB4	NEEDLE 3 POSITION TRANSDUCER	NEZ3	0.5"	RGS	3149	SURFACE	INSTALL CONDUIT IN TRENCH WITH HYDRAULIC LINES TO POSITION TRANSDUCER
C3111	SIGNAL	NEEDLE 4 JUNCTION BOX	NP4-JB5	NEEDLE 4 POSITION TRANSDUCER	NEZ4	0.5"	RGS	3150	SURFACE	INSTALL CONDUIT IN TRENCH WITH HYDRAULIC LINES TO POSITION TRANSDUCER
C3112	SIGNAL	NEEDLE 5 JUNCTION BOX	NP5-JB6	NEEDLE 5 POSITION TRANSDUCER	NEZ5	0.5"	RGS	3151	SURFACE	INSTALL CONDUIT IN TRENCH WITH HYDRAULIC LINES TO POSITION TRANSDUCER
C3112	SIGNAL	NEEDLE 6 JUNCTION BOX	NP6-JB7	NEEDLE 6 POSITION TRANSDUCER	NEZ6	0.5"	RGS	3152	SURFACE	INSTALL CONDUIT IN TRENCH WITH HYDRAULIC LINES TO POSITION TRANSDUCER



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

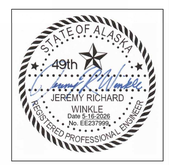
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
CONDUIT SCHEDULE 2

REF DWG(S):

DRAWING NO: H02-D-47-5030-R00

CIRCUIT SCHEDULE 1

ID#	SIZE	TYPE	VOLT	FROM	FROM TAG	TO	TO TAG	C	C	C	C	COMMENTS
3000	3-500KCMIL	POWER	15kV	GENERATOR	GEN-300	GENERATOR SWITCHGEAR	SWG-300	C3000				GENERATOR LEADS
3001	6-350KCMIL	POWER	15kV	GENERATOR SWITCHGEAR	SWG-300	GENERATOR STEP UP TRANSFORMER 3	TRANSF-T3	C3001	C3002	C3003		GSU TRANSFORMER 3 - PRIMARY SIDE - 3 CABLES PER PHASE
3002	3#2	POWER	15kV	GENERATOR SWITCHGEAR	SWG-300	EXCITATION POWER TRANSFORMER	EPT-300	C3086				EPT - PRIMARY SIDE
3003	3#10	POWER	480VAC	EXCITATION POWER TRANSFORMER	EPT-300	U3 EXCITER CONTROL CABINET	EXC-300	TRY-003				EPT - SECONDARY SIDE
3004	2#10	POWER	125VDC	U3 EXCITER CONTROL CABINET	EXC-300	GENERATOR FIELD	GEN-300	TRY-003	C3004			EXCITER FIELD
3005	2#2, 1#8G	POWER	125VDC	125VDC DISTRIBUTION SWITCHBOARD	-	UNIT 3 125VDC DISCONNECT	DISC-U3B	C3005				UNIT 3 125VDC PANELBOARD POWER
3006	2#2, 1#8G	POWER	125VDC	UNIT 3 125VDC DISCONNECT	DISC-U3B	UNIT 3 12DVDC PANELBOARD	PP-U3B	C3006	TRY-003	C3007		UNIT 3 125VDC PANELBOARD POWER
3007	2#12	POWER	125VDC	U3 125VDC PANELBOARD	PPU-3B	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3008	TRY-003			GOVERNOR POWER SUPPLY 1 FEEDER
3008	2#12	POWER	125VDC	U3 125VDC PANELBOARD	PPU-3B	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3009	TRY-003			GOVERNOR POWER SUPPLY 2 FEEDER
3009	2#12	POWER	125VDC	U3 125VDC PANELBOARD	PPU-3B	GEN #3 BKR	SWG-300	C3010	TRY-003			GENERATOR BREAKER CONTROL POWER
3010	2#12	POWER	125VDC	U3 125VDC PANELBOARD	PPU-3B	U3 PROTECTION & CONTROLS	PNL 5F/5R	C3011	TRY-003			UNIT 3 PROTECTION CONTROL POWER
3011	2#12	POWER	125VDC	U3 125VDC PANELBOARD	PPU-3B	SS #3 BRK	SWG-300	C3087	TRY-003			STATION SERVICE BREAKER CONTROL POWER
3012												
3013	2#12	POWER	125VDC	U3 125VDC PANELBOARD	PPU-3B	ORBIT 60 SYSTEM	PNL 2R	C3014	TRY-003			UNIT 3 MONITORING SYSTEM POWER
3014	2#12	POWER	125VDC	U3 125VDC PANELBOARD	PPU-3B	U3 EXCITER CONTROL CABINET	EXC-300	C3015				UNIT 3 EXCITATION CONTROLLER (DECS-250N) FEEDER
3015	2#12	POWER	125VDC	U3 125VDC PANELBOARD	PPU-3B	U3 EXCITER CONTROL CABINET	EXC-300	C3015				FIELD FLASH
3016	2#8	POWER	125VDC	U3 125VDC PANELBOARD	PPU-3B	U3 GOV OIL PUMP 3 - 88QP3	HPU-300	C3016	TRY-003			U3 GOVERNOR BACKUP PUMP POWER
3017	2#12, 1#12G	POWER	120VAC	U3 208/120 PANELBOARD	PPU-U3A	SS #3 BRK	SWG-300	C3088	TRY-003			STATION SERVICE BREAKER CHARGING MOTOR
3018	2#12, 1#12G	POWER	120VAC	U3 208/120 PANELBOARD	PPU-U3A	GEN #3 CUBICLE SPACE HEATERS	GEN-300	C3089	TRY-003			
3019	3-500KCMIL,...	POWER	480VAC	COMMON LOADS 480VAC PANELBOARD	PPCL	U3 480VAC PANELBOARD	PPU3					U3 480VAC PANELBOARD FEED
3020	3#12, 1#12G	POWER	480VAC	U3 480VAC PANELBOARD	PPU3	U3 GOV OIL PUMP 1 - 88QP1	HPU-300	C3021	TRY-003	C3022		U3 GOVERNOR OIL PUMP 1 POWER - 20HP
3021	3#12, 1#12G	POWER	480VAC	U3 480VAC PANELBOARD	PPU3	U3 GOV OIL PUMP 2 - 88QP2	HPU-300	C3023	TRY-003	C3024		U3 GOVERNOR OIL PUMP 2 POWER - 20 HP
3022	3#12, 1#12G	POWER	480VAC	U3 480VAC PANELBOARD	PPU3	U3 KIDNEY LOOP OIL PUMP - 88QGPKL	HPU-300	C3025	TRY-003	C3026		GOVERNOR OIL KIDNEY LOOP PUMP - 2HP
3023	3#8, 1#10G	POWER	480VAC	U3 480VAC PANELBOARD	PPU3	U3 COOLING WATER PUMP 1	CWS-300	C3027	TRY-003	C3028		U3 COOLING WATER PUMP 1 - 30 HP PUMP
3024	3#8, 1#10G	POWER	480VAC	U3 480VAC PANELBOARD	PPU3	U3 COOLING WATER PUMP 2	CWS-300	C3029	TRY-003	C3030		U3 COOLING WATER PUMP 2 - 30 HP PUMP
3025	3#12, 1#12G	POWER	480VAC	U3 480VAC PANELBOARD	PPU3	U3 SYNC CONDENSE COOLING WATER PUMP CNTRL PNL	PCP-300	C3083				
3026	3#12, 1#12G	POWER	480VAC	U3 480VAC PANELBOARD	PPU3	U3 HIGH LIFT PUMP	HLP-100	C3033	TRY-003	C3034		U3 OIL LIFT PUMP - 15 HP
3027	3#12, 1#12G	POWER	480VAC	U3 480VAC PANELBOARD	PPU3	U3 STATOR FRAME HEATERS	GEN-300	C3035	TRY-003	C3036		U3 UNIT HEATERS - 3 KW
3028	3#10, 1#12G	POWER	480VAC	U3 480VAC PANELBOARD	PPU3	15KVA TRANSFORMER - PRIMARY SIDE	T3A	C3037				15KVA TRANSFORMER - PRIMARY SIDE
3029	2#2, 1#8G	POWER	480VAC	15KVA TRANSFORMER - SECONDARY SIDE	T3A	U3 208/120 PANELBOARD	PPU-U3A	C3038				PP-U3A FEEDER
3030	2#12, 1#12G	POWER	208VAC	U3 208/120 PANELBOARD	PPU-U3A	U3 LIGHTING	-	C3039				
3031	2#12, 1#12G	POWER	120VAC	U3 208/120 PANELBOARD	PPU-U3A	U3 RECEPTACLES	-	C3040				
3032	2#12, 1#12G	POWER	120VAC	U3 208/120 PANELBOARD	PPU-U3A	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3041	TRY-003	C3042		AC CONTROL & AUXILLARY POWER
3033	2#12, 1#12G	POWER	120VAC	U3 208/120 PANELBOARD	PPU-U3A	U3 EXCITER CONTROL CABINET	EXC-300	C3043				AC CONTROL & AUXILLARY POWER
3034	3#12, 1#12G	POWER	480VAC	U3 SYNC CONDENSE COOLING WATER PUMP CNTRL PNL	PCP-300	U3 SYNCHRONOUS CONDENSE COOLING WATER PUMP	P-300	C3084				
3035	2#12, 1#12G	POWER	120VAC	U3 208/120 PANELBOARD	PPU-U3A	GEN #3 BRK	SWG-300	C3090	TRY-003			GENERATOR BREAKER CHARGING MOTOR
3036	2#12, 1#12G	POWER	120VAC	U3 208/120 PANELBOARD	PPU-U3A	U3 EXCITER FRAME HEATERS	GEN-300	C3048	TRY-003	C3049		EXCITER FRAME SPACE HEATER 100W 120VAC 1 PH
3037	2#12, 1#12G	POWER	120VAC	U3 208/120 PANELBOARD	PPU-U3A	U3 GEN COOLER 1 LEAK DETECTOR	GEN-300	C3050	TRY-003	C3051		COOLER 1 LEAK DETECTOR POWER
3038	2#12, 1#12G	POWER	120VAC	U3 208/120 PANELBOARD	PPU-U3A	U3 GEN COOLER 2 LEAK DETECTOR	GEN-300	C3052	TRY-003	C3053		COOLER 2 LEAK DETECTOR POWER
3039	2#10, 1#10G	SIGNAL	120VAC	GENERATOR CUBICLE	GEN-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	C3054	TRY-003			NGT3 -NEUTRAL GROUNDING TRANSFORMER TO SEL-700G GEN 3 RELAYS (11G3)
3040	2#10, 1#10G	CT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	U3 EXCITER CONTROL CABINET	EXC-300	TRY-003	C3055			CT01 GEN SIDE TO DECS-250
3041	3#10, 1#10G	CT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	CONTROL ROOM SWITCHBOARD PANEL 2R	PNL 2R	TRY-003				CT02 GEN SIDE TO SEL-387
3042	3#10, 1#10G	CT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	TRY-003				CT03 LINE SIDE TO SEL-700G GEN 3 RELAYS (11G3)
3043	3#10, 1#10G	CT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	13.8KV SWITCHGEAR #3	SWG-300					CT04 LINE SIDE TO SEL-751
3044	3#10, 1#10G	CT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	CONTROL ROOM SWITCHBOARD PANEL 2R	PNL 2R	TRY-003				CT05 TO SEL-387
3045	3#10, 1#10G	CT SIGNAL	120VAC	GENERATOR CUBICLE	GEN-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	C3056	TRY-003			CT06 LEADS TO SEL-735 GEN 3 MEGAWATT-HOURS METER (MFM-G3)
3046	3#10, 1#10G	CT SIGNAL	120VAC	GENERATOR CUBICLE	GEN-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	C3057	TRY-003			CT07 LEADS TO SEL-700G GEN 3 RELAYS (11G3)
3047	3#10, 1#10G	CT SIGNAL	120VAC	GENERATOR STEP UP TRANSFORMER 3	TRANSF-T3	CONTROL ROOM SWITCHBOARD PANEL 2R	PNL 2R	C666	C648	C618	TRY-001	CT GSU HV SIDE TO SEL-387
3048	3#10, 1#10G	CT SIGNAL	120VAC	GENERATOR STEP UP TRANSFORMER 3	TRANSF-T3	CONTROL ROOM SWITCHBOARD PANEL 2R	PNL 2R	C666	C648	C618	TRY-001	CT GSU HV SIDE TO 69KV DIFFERENTIAL
3049	2#10	CT SIGNAL	120VAC	GENERATOR STEP UP TRANSFORMER 3	TRANSF-T3	CONTROL ROOM SWITCHBOARD PANEL 2R	PNL 2R	C666	C648	C618	TRY-001	CT GSU LV SIDE TO SEL-387
3050	3#10, 1#10G	PT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	U3 EXCITER CONTROL CABINET	EXC-300	TRY-003	C3058			PT01 GEN SIDE TO DECS-250
3051	3#10, 1#10G	PT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	CONTROL ROOM SWITCHBOARD PANEL 2R	PNL 2R	TRY-003				PT02 GEN SIDE TO PNL 5F METERING AND SEL-700G (11G3)
3052	2#10, 1#10G	PT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	TRY-003				PT03 GEN SIDE TO U3 GOV CONTROL CABINET (GCC) - GOV SYNC
3053	3#10, 1#10G	PT SIGNAL	120VAC	U3 EXCITER CONTROL CABINET	EXC-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5R	TRY-003				PT03 GEN SIDE TO SEL-700G (11G3) & SEL-735 (MFM-G3)
3054	2#10, 1#10G	PT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL-5R	TRY-003				PT04 LINE SIDE TO SEL-700G (11G3)- SYNC
3055	2#10, 1#10G	PT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	U3 EXCITER CONTROL CABINET	EXC-300	TRY-003	C3059			PT04 LINE SIDE TO DECS-250 - SYNC CHECK
3056	2#10, 1#10G	PT SIGNAL	120VAC	13.8KV SWITCHGEAR #3	SWG-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	TRY-003				PT04 LINE SIDE TO SEL-700G GEN 3 RELAYS (11G3) - AUTO SYNC AND SYSNC SCOPE (SS1)
3057	6- 2#14 TSP	SIGNAL	24VDC	HPU TERMINAL BOX - NEEDLE POSITION TRANSDUCERS	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3060	TRY-003			NEEDLE POSITIONS - NEZ1, NEZ2, NEZ3, NEZ4, NEZ5 & NEZ6
3058	6- 2#14 TSP	SIGNAL	24VDC	HPU TERMINAL BOX - NEEDLE PROPORTIONAL VALVE	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3060	TRY-003			NEEDLE PROP VALVE - 65NPV01, 65NPV02, 65NPV03, 65NPV04, 65NPV05 & 65NPV06
3059	3#14	SIGNAL	24VDC	HPU TERMINAL BOX - NEEDLE SHUTDOWN SIGNAL	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3061	TRY-003			NEEDLE VALVE RUN - 65SD
3060	2#14 TSP	SIGNAL	24VDC	HPU TERMINAL BOX - DEFLECTOR POSITION TRANSDUCER	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3060	TRY-003			HPU DEFLECTOR POSTION - DZE1
3061	4#14	SIGNAL	24VDC	FIRE CONTROL PANEL	FCP	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	TRY-001				FIRE PROTECTION SIGNALS BETWEEN SEL-700G & FCP
3062	4#14	SIGNAL	24VDC	FIRE CONTROL PANEL	FCP	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	TRY-001				FIRE PROTECTION ALARMS TO UNIT PLC
3063	2#14 TSP	SIGNAL	24VDC	HPU TERMINAL BOX - OIL ACCUMULATOR PRESSURE	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3060	TRY-003			HPU OIL PRESSURE- 63QDX1 & 62QDX2
3064	2#14 TSP	SIGNAL	24VDC	HPU TERMINAL BOX - OIL SUMP LEVEL	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3060	TRY-003			HPU OIL LEVEL 71QGS
3065	2#14 TSP	SIGNAL	24VDC	HPU TERMINAL BOX - OIL SUMP TEMP	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3060	TRY-003			HPU OIL TEMP 23QGS
3066	12#14	SIGNAL	24VDC	HPU TERMINAL BOX - FILTER STATUS	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3061	TRY-003			HPU FILTERS
3067	3#14	SIGNAL	24VDC	HPU TERMINAL BOX - BRAKES VALVE	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3061	TRY-003			BRAKE CONTROL SOLENIOD - 20BK
3068	2#14	SIGNAL	24VDC	HPU TERMINAL BOX - TIV BYPASS VALVE	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3061	TRY-003			TIV BYPASS CONTROL SOLENIOD - 20BY
3069	2#14	SIGNAL	24VDC	HPU TERMINAL BOX - TIV BYPASS VALVE	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3061	TRY-003			TIV CONTROLS - 65PSTIV, 20TIV1 & 20TIV2
3070	7#14	SIGNAL	24VDC	HPU MOTOR STARTER 1	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3062	TRY-003			88QP1 CONTROLS
3071	7#14	SIGNAL	24VDC	HPU MOTOR STARTER 2	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3063	TRY-003			88QP2 CONTROLS
3072	7#14	SIGNAL	24VDC	HPU MOTOR STARTER 3	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3064	TRY-003			88QP3 CONTROLS
3073	4#14	SIGNAL	24VDC	HPU MOTOR STARTER 4	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3065	TRY-003			88QGPKL CONTROLS



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
CABLE SCHEDULE 1

REF DWG(S):

DRAWING NO: H02-D-47-5031-R00

CIRCUIT SCHEDULE 1

ID#	SIZE	TYPE	VOLT	FROM	FROM TAG	TO	TO TAG	C	C	C	C	COMMENTS
3074	4#14	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3091	TRY-003			COOLING WATER PUMP 1 CONTROLS - MOT01
3075	8-3#18 TRI W/SHD	RTD	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3066	TRY-003			GENERATOR RTDS - TD1, TD2, TD3, TD4, TD5, TD6, TD7 & TD8
3076	8-3#18 TRI W/SHD	RTD	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3067	TRY-003			GENERATOR RTDS - TD9, TD10, TD11, TD12, TD13, TD14, TD15 & TD16
3077	8-3#18 TRI W/SHD	RTD	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3068	TRY-003			GENERATOR RTDS - TD17, TD18, TD19, TD20, TD21, TD22, TD23 & TD24
3078	8-3#18 TRI W/SHD	RTD	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3069	TRY-003			BEARING RTDS- TD25, TD26, TD27, TD28, TD29, TD30, TD31 & TD32
3079	8-3#18 TRI W/SHD	RTD	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3070	TRY-003			GEN COOLING RTDS- TD33, TD34, TD35, TD36, TD37, TD38, TD39 & TD40
3080	2#14 W/GND	SIGNAL	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3071	TRY-003			COOLER 1 LEAK DETECTOR SIGNAL - LD1
3081	2#14 W/GND	SIGNAL	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3072	TRY-003			COOLER 2 LEAK DETECTOR SIGNAL - LD2
3082	7C #14	SIGNAL	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3073	TRY-003			SUMP HI/LO LEVEL SWITCHES - OLS1, OLS2, BRAKE LIMITS SWITCHES -BKS1
3083	7C #14	SIGNAL	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3073	TRY-003			BRAKE LIMIT SWITCHES - BKS2, BKS3, &BKS4
3084	2#22 W/SHD	VIBRATION	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3075	TRY-003			LOWER BEARING VIBRATION - VT1, BN CABLE 9571 - AA (AA = 02 - 99 FT)
3085	2#22 W/SHD	VIBRATION	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3075	TRY-003			LOWER BEARING VIBRATION - VT2, BN CABLE 9571 - AA (AA = 02 - 99 FT)
3086	2#22 W/SHD	VIBRATION	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3075	TRY-003			UPPER BEARING VIBRATION - VT3, BN CABLE 9571 - AA (AA = 02 - 99 FT)
3087	2#22 W/SHD	VIBRATION	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3075	TRY-003			UPPER BEARING VIBRATION - VT4, BN CABLE 9571 - AA (AA = 02 - 99 FT)
3088	3#18 W/SHD	VIBRATION	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3075	TRY-003			KEY PHASOR - KP
3089	4#18 W/SHD	SPEED	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3076	TRY-003			SPEED PROBE - ET1
3090	4#18 W/SHD	SPEED	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3076	TRY-003			SPEED PROBE - ET2
3091	4#18 W/SHD	SPEED	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3076	TRY-003			SPEED PROBE - ET3
3092	4#18 W/SHD	SPEED	24VDC	GENERATOR	GEN-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3076	TRY-003			SPEED PROBE - ET4
3093	4#14	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3091	TRY-003			COOLING WATER PUMP 2 CONTROLS - MOT02
3094	4#14	SIGNAL	24VDC	HYDROSTATIC LIFT SYSTEM	HLP-100	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3077	TRY-003			HYDROSTATIC LIFT PRESSURE SWITCH - HPS & FLOW SWITCH
3095	4#14 W/SHD	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3078	TRY-003			COOLING WATER FLOW TRANSMITTER 1 -FM1
3096	7#14	SIGNAL	120VAC	U3 SYNC CONDENSE COOLING WATER PUMP CNTRL PNL	PCP-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3085	TRY-003			
3097	2#14	SIGNAL	24VDC	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	TRY-003				UNIT TRIP 94S
3098	2#14 TSP	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3079	TRY-003			COOLING WATER FLOW TRANSMITTER 2 -FM2
3099	12#14	SIGNAL	24VDC	HPU TERMINAL BOX	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3092	TRY-003			TIV FEEDBACK
3100	12#14	SIGNAL	24VDC	HPU TERMINAL BOX	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3092	TRY-003			TIV FEEDBACK
3101	2#14 TSP	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3079	TRY-003			COOLING WATER FLOW TRANSMITTER 3 - FM3
3102	12#14	SIGNAL	24VDC	U3 EXCITER CONTROL CABINET	EXC-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3093	TRY-003			EXCITER CONTROLS
3103	2#14 TSP	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3079	TRY-003			COOLING WATER VALVE 3 CONTROL POSITON FEEDBACK
3104	2#14	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3078	TRY-003			EXAPNSION TANK LEVEL SWITCH - FT1
3105	2#14	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3078	TRY-003			COOLING WATER STRAINER DIFFERENTIAL SWITCH
3106	2#14 TSP	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3078	TRY-003			COOLING WATER PRESSURE TRANSDUCER - PT1
3107	3#16 TRI W/SHD	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3079	TRY-003			COOLING WATER INLET TEMPERATURE TRANSMITTTER
3108	2#14 TSP	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3078	TRY-003			COOLING WATER PRESSURE TRANSDUCER -PT2
3109	3#16 TRI W/SHD	SIGNAL	24VDC	COOLING WATER SYSTEM	CWS-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3079	TRY-003			COOLING WATER OUTLET TEMPERATURE TRANSMITTTER
3110	12#12	SIGNAL	125VDC	GENERATOR STEP UP TRANSFORMER 3	TRANSF-T3	CONTROL ROOM SWITCHBOARD PANEL 2R	PNL 2R	C667	C648	C618	TRY-001	GSU ALARMS & TRIPS - 26Q1, 49T1, 27T, 27VDC, 27-1, 27-1, 63AX1A, G3AX1B
3111	3#10 W/GDN	POWER	240VAC	CONTROL ROOM SWITCHBOARD PANEL 2R	PNL 2R	GENERATOR STEP UP TRANSFORMER 3	PNL 2R	C667	C648	C618	TRY-001	AC CONTROL POWER
3112	2#10	POWER	125VDC	CONTROL ROOM SWITCHBOARD PANEL 2R	PNL 2R	GENERATOR STEP UP TRANSFORMER 3	PNL 2R	C667	C648	C618	TRY-001	DC CONTROL POWER
3113	2#10	POWER	125VDC	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	CIRCUIT SWITCHER 3	CS-3	C690	C648	C618	TRY-001	DC MOTOR POWER
3114	3#10 W/GDN	POWER	120VAC	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	CIRCUIT SWITCHER 3	CS-3	C691	C648	C618	TRY-001	DC CONTROL POWER
3115	12#12	POWER	125VDC	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	CIRCUIT SWITCHER 3	CS-3	C691	C648	C618	TRY-001	CONTROL WIRING
3116	7#14	SIGNAL	24VDC	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	U3 EXCITER CONTROL CABINET	EXC-300	C3093	TRY-003			CONTROL I/O
3117	2#14	SIGNAL	24VDC	GENERATOR SWITCHGEAR	SWG-300	U3 EXCITER CONTROL CABINET	EXC-300	C3094	TRY-003			52G3 STATUS
3118	2#14	SIGNAL	24VDC	GENERATOR SWITCHGEAR	SWG-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3095	TRY-003			52G3 STATUS
3119	2#14	SIGNAL	24VDC	GENERATOR SWITCHGEAR	SWG-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3095	TRY-003			52G3 STATUS
3120	2#14	SIGNAL	24VDC	GENERATOR SWITCHGEAR	SWG-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5R	PNL 5F/5R	TRY-003				52G3 STATUS
3121	4#14 W/SHD	SIGNAL	24VDC	DEFLECTOR JUNCTION BOX	DP-JB1	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3096	TRY-003			DEFLECTOR POSITION COMMAND
3122	4#14 W/SHD	SIGNAL	24VDC	DEFLECTOR JUNCTION BOX	DP-JB1	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3096	TRY-003			DEFLECTOR POSITION FEEDBACK
3123	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 1 JUNCTION BOX	NP1-JB2	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3097	TRY-003			NEEDLE 1 POSITION COMMAND
3124	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 1 JUNCTION BOX	NP1-JB2	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3097	TRY-003			NEEDLE 1 POSITION FEEDBACK
3125	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 2 JUNCTION BOX	NP2-JB3	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3098	TRY-003			NEEDLE 2 POSITION COMMAND
3126	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 2 JUNCTION BOX	NP2-JB3	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3098	TRY-003			NEEDLE 2 POSITION FEEDBACK
3127	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 3 JUNCTION BOX	NP3-JB4	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3099	TRY-003			NEEDLE 3 POSITION COMMAND
3128	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 3 JUNCTION BOX	NP3-JB4	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3099	TRY-003			NEEDLE 3 POSITION FEEDBACK
3129	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 4 JUNCTION BOX	NP4-JB5	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3100	TRY-003			NEEDLE 4 POSITION COMMAND
3130	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 4 JUNCTION BOX	NP4-JB5	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3100	TRY-003			NEEDLE 4 POSITION FEEDBACK
3131	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 5 JUNCTION BOX	NP5-JB6	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3101	TRY-003			NEEDLE 5 POSITION COMMAND
3132	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 5 JUNCTION BOX	NP5-JB6	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3101	TRY-003			NEEDLE 5 POSITION FEEDBACK
3133	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 6 JUNCTION BOX	NP6-JB7	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3102	TRY-003			NEEDLE 6 POSITION COMMAND
3134	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 6 JUNCTION BOX	NP6-JB7	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3102	TRY-003			NEEDLE 6 POSITION FEEDBACK
3135	3#14	SIGNAL	24VDC	HPU TERMINAL BOX	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3103	TRY-003			20TIBO TURBINE INLET BYPASS OPEN
3136	3#14	SIGNAL	24VDC	HPU TERMINAL BOX	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3103	TRY-003			20TIBCTURBINE INLET BYPASS CLOSE
3137	3#14	SIGNAL	24VDC	HPU TERMINAL BOX	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3103	TRY-003			20TIVO TURRBINE INLET VALVE OPEN
3138	3#14	SIGNAL	24VDC	HPU TERMINAL BOX	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3103	TRY-003			20TIVC TURRBINE INLET VALVE CLOSE
3139	2#14 TSP	SIGNAL	24VDC	HPU TERMINAL BOX	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3104	TRY-003			TIV UPSTREAM PRESSURE
3140	2#14 TSP	SIGNAL	24VDC	HPU TERMINAL BOX	HPU-300	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	C3104	TRY-003			TIV DOWNSTREAM PRESSSURE
3141	2#14 TSP	SIGNAL	24VDC	U3 UNIT & GOVERNOR CONTROL CABINET	GOV-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5F/5R	PNL 5F/5R	TRY-003				UNIT POWER SEL-700G ANALOG OUTPUT
3142	12#14	SIGNAL	24VDC	HPU TERMINAL BOX	HPU-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5F/5R	PNL 5F/5R	C3105	TRY-003			TIV CONTROLS
3143	12#14	SIGNAL	125VDC	GENERATOR SWITCHGEAR	SWG-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5F/5R	PNL 5F/5R	C3106	TRY-003			GENERATOR BREAKER CONTROLS
3144	12#14	SIGNAL	125VDC	GENERATOR SWITCHGEAR	SWG-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5F/5R	PNL 5F/5R	C3106	TRY-003			GENERATOR BREAKER CONTROLS
3145	4#14	SIGNAL	24VDC	U3 EXCITER CONTROL CABINET	EXC-300	CONTROL ROOM SWITCHBOARD PANEL 5F/5F/5R	PNL 5F/5R	C3107				EXCITER TRIP
3146	4#14 W/SHD	SIGNAL	24VDC	DEFLECTOR JUNCTION BOX	DP-JB1	DEFLECTOR POSITION TRANSDUCER	DEZ1	C3108				DEFLECTOR POSITION FEEDBACK TO HPU-300 JB
3147	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 1 JUNCTION BOX	NP1-JB2	NEEDLE 1 POSITION TRANSDUCER	NEZ1	C3109				NEEDLE 1 POSITION FEEDBACK TO HPU-300 JB
3148	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 2 JUNCTION BOX	NP2-JB4	NEEDLE 2 POSITION TRANSDUCER	NEZ2	C3110				NEEDLE 2 POSITION FEEDBACK TO HPU-300 JB
3149	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 3 JUNCTION BOX	NP3-JB4	NEEDLE 3 POSITION TRANSDUCER	NEZ3	C3111				NEEDLE 3 POSITION FEEDBACK TO HPU-300 JB
3150	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 4 JUNCTION BOX	NP4-JB5	NEEDLE 4 POSITION TRANSDUCER	NEZ4	C3112				NEEDLE 4 POSITION FEEDBACK TO HPU-300 JB
3151	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 5 JUNCTION BOX	NP5-JB6	NEEDLE 5 POSITION TRANSDUCER	NEZ5	C3113				NEEDLE 5 POSITION FEEDBACK TO HPU-300 JB
3152	4#14 W/SHD	SIGNAL	24VDC	NEEDLE 6 JUNCTION BOX	NP6-JB7	NEEDLE 16POSITION TRANSDUCER	NEZ6	C3114				NEEDLE 6 POSITION FEEDBACK TO HPU-300 JB



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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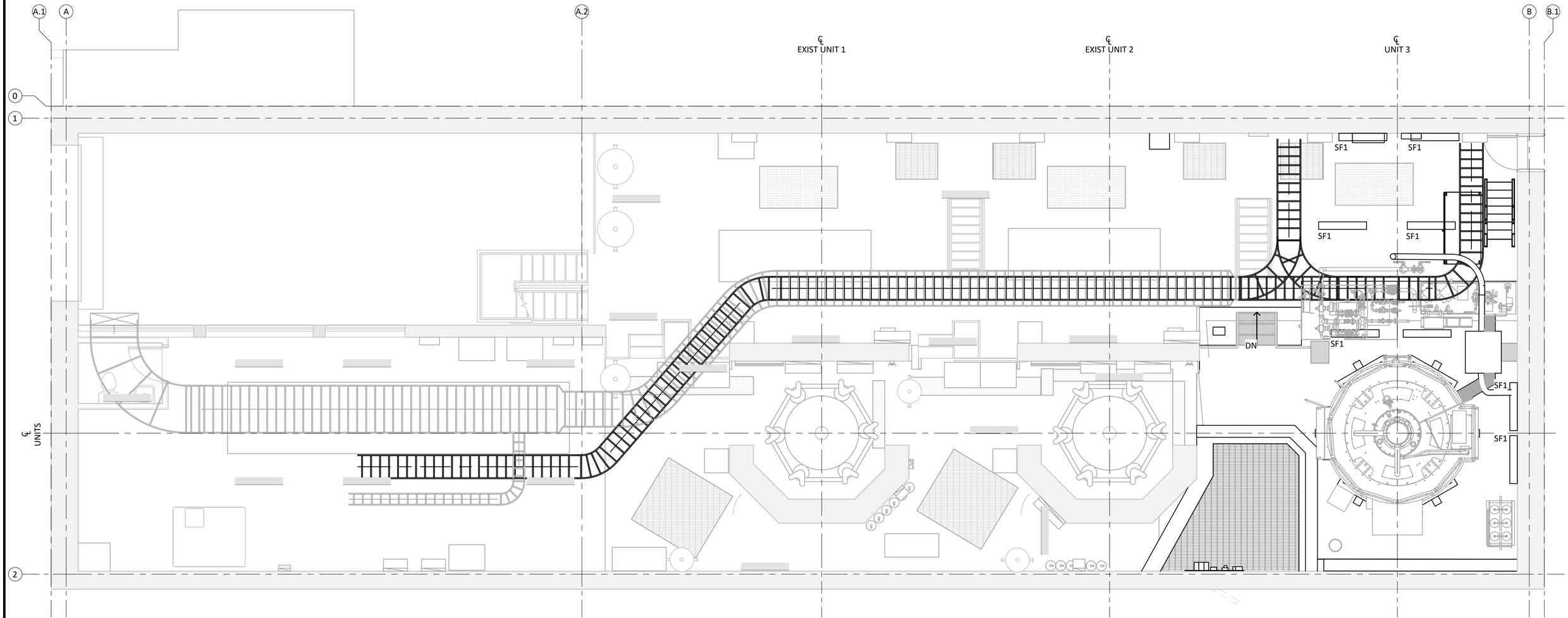
NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
CABLE SCHEDULE 2

REF DWG(S):

DRAWING NO: H02-D-47-5032-R00

LUMINAIRE SCHEDULE					
TYPE	QTY	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	NOTES
SF1	8	LINEAR LED FIXTURE, GASKETED, 4 FT 8000 LUMENS, 120-277V 5000K 80CRI	LITHONIA LIGHTING	FEM L48 8000LM LPACL WD MVOLT GZ10 50K 80CRI	INSTALL APPROXIMATELY 10' AFF



POWERHOUSE POWER AND LIGHTING PLAN

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

0 4' 8'

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-18-2026 No. EE23799 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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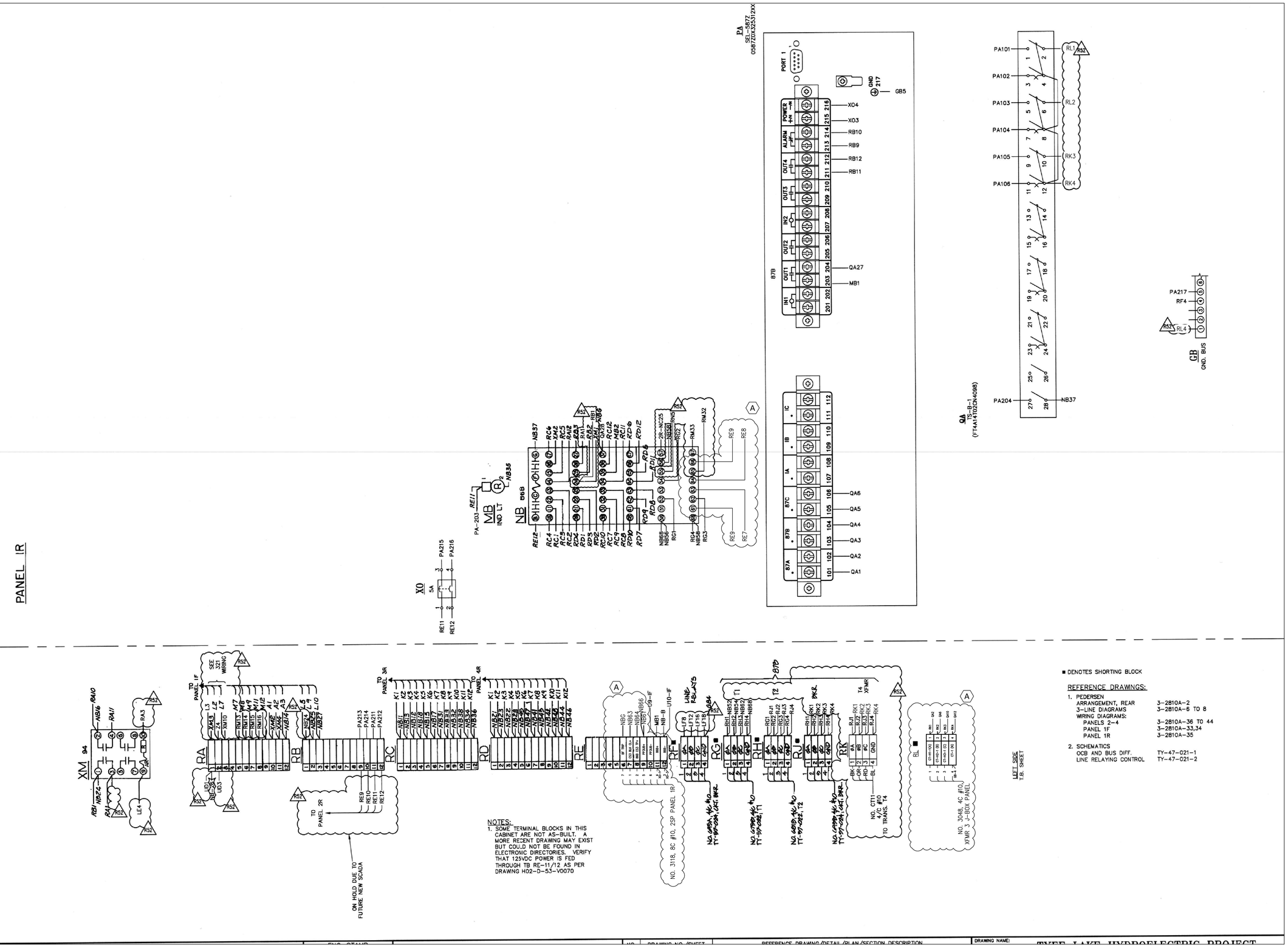
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
POWERHOUSE
POWER AND LIGHTING PLAN

REF DWG(S):

DRAWING NO: H02-D-47-7007-R00

SHEET KEY NOTES:

A. COMPLETE CIRCUIT MODIFICATIONS TO INTEGRATE UNIT 3 INTO EXISTING DIFFERENTIAL CIRUIT.



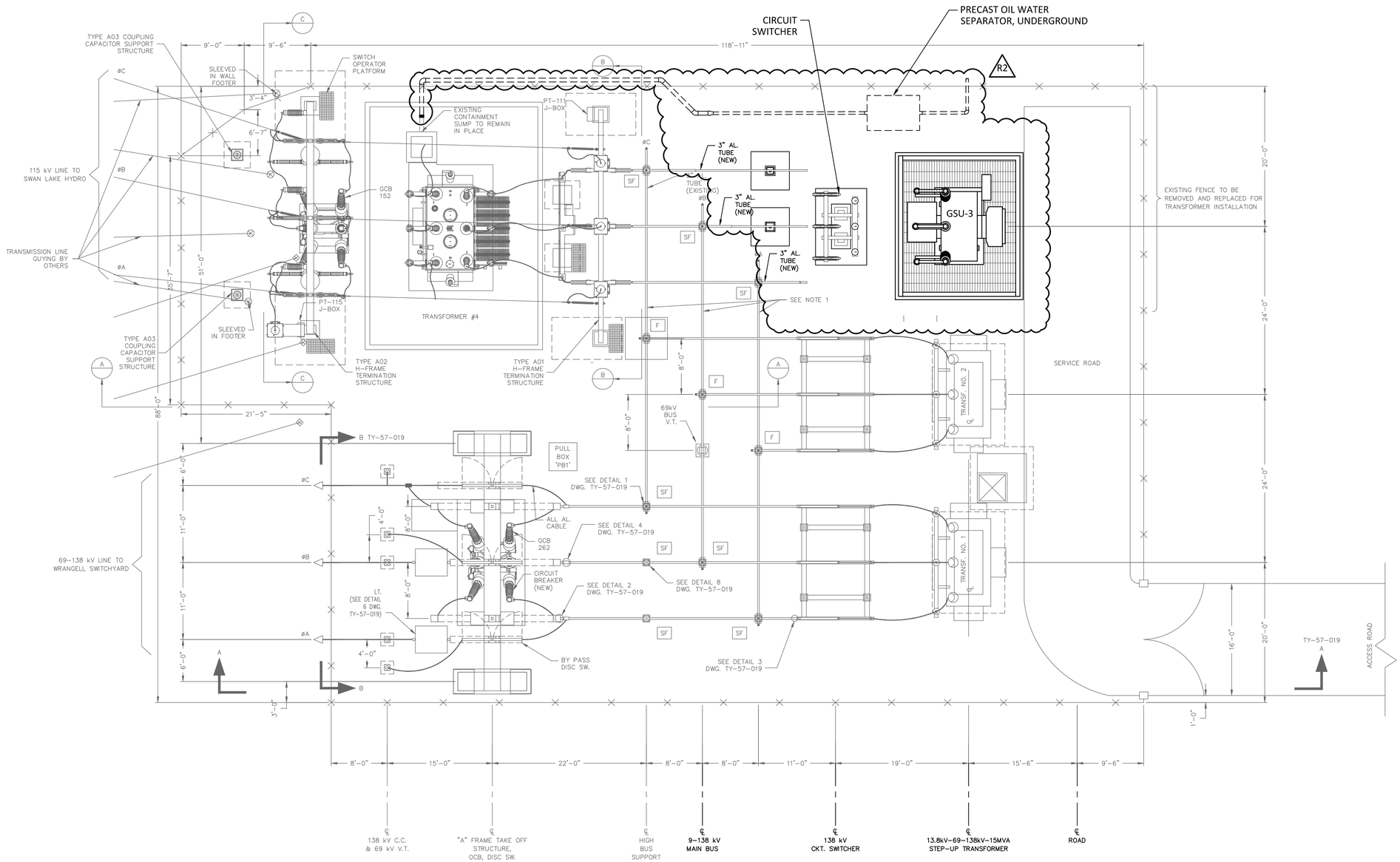
SHEET NOTES:

1. FOUNDATIONS, SF BUS SUPPORTS, BUS AND INSULATORS ARE EXISTING ON MAIN BUS SECTIONS.

LEGEND:

⊗ GUY ANCHOR

◇ GUY ANCHOR



GENERAL ARRANGEMENT

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

0' 8' 16'

N

STATE OF ALASKA 49TH — Yuri Kolesa — Date: 5-17-2026 — No. ME-24035A — PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen Inc		JOB #: T.O. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
2	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026
1	Changed to SEAPA border	MLH 3/15/21	
0	R53 - As-Built	CLG 2-26-10	DWB 2-26-10

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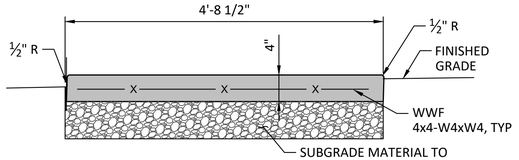
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NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION
A	H02-F-51-0022	SECTION A-A
B	H02-F-51-0023	SECTION B-B
C	H02-F-51-0023	SECTION C-C
D		
E		
F		
G		

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
GENERAL ARRANGEMENT

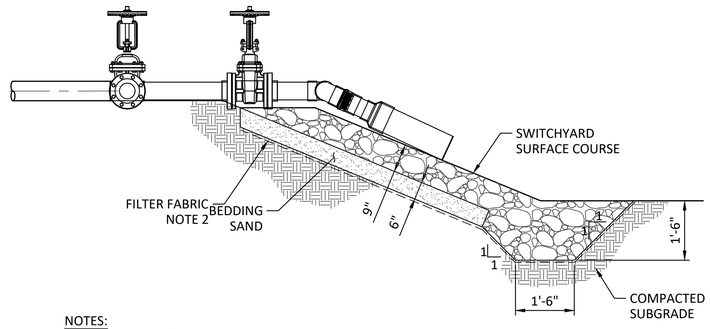
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DRAWING NO.: H02-D-51-0001-R02



NOTES:
1. EXPANSION JOINTS OF ½" PREMOLDED JOINT FILLER SHALL BE PLACED AT 24'-0" MAXIMUM SPACING, AND WHEN ABUTTING EXISTING CONCRETE OR FIXED STRUCTURE.
2. SCORE LINES AT RIGHT ANGLES TO CENTERLINE SHALL BE MARKED AT 60" INTERVALS. ON WALKS EXCEEDING SIX FEET IN WIDTH, A CONTINUOUS SCORE LINE SHALL BE MARKED ON THE CENTERLINE.

C120 CONCRETE SIDEWALK
SCALE: NTS



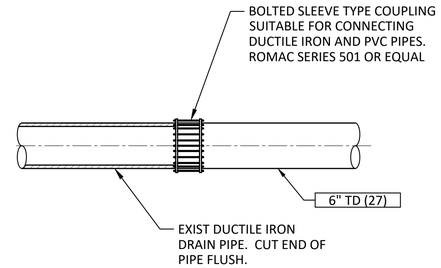
NOTES:
1. FOR BEDDING SAND AND SWITCHYARD SURFACE COURSE GRADATIONS, SEE SPECIFICATIONS.
2. THE NEED FOR FILTER FABRIC SHALL BE DETERMINED BASED ON FIELD CONDITIONS. CONSULT ENGINEER.
3. WIDTH OF OUTFALL SLOPE PROTECTION TO EXTEND A MINIMUM OF ONE FOOT ON EITHER SIDE BEYOND THE EXTENTS OF THE OWS OUTLET PIPE MANIFOLD

INSTALLATION
1. PREPARE THE SLOPE AS DESCRIBED IN THE CONTRACT OR AS DIRECTED BY THE ENGINEER.
2. MINIMIZE CONCENTRATED RUN-ON FROM CROSS-GRADIENT AND UP-GRADIENT SOURCES BY SITE GRADING AND/OR DIRECTING OR DIVERTING RUN-ON OR RUN-OFF AWAY FROM THE SLOPE FACE.
3. IF DIRECTED BY THE ENGINEER, INSTALL THE FILTER FABRIC OR FILTER LAYER, AFTER CLEARING DEBRIS FROM SLOPE INSTALL FILTER FABRIC ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
4. INSTALL THE ROCK STARTING AT THE BOTTOM OF THE SLOPE AND PROCEEDING IN HORIZONTAL LIFTS UPWARDS.
5. PLACE FILL STONES TO THE THICKNESS, HEIGHT, AND LENGTH SHOWN ON THE PLANS. DUMP SMALL ROCKS AND SPREAD BY BULLDOZER OR OTHER SUITABLE EQUIPMENT.

INSPECTION
1. INSPECT FOR DAMAGE TO THE OUTFLOW AREA, INCLUDING DISPLACED FILL STONES, SLUMPING, AND EROSION AT EDGES, ESPECIALLY DOWNSLOPE.

MAINTENANCE
1. REPAIR DAMAGED ROCK ARMOR SLOPE OR EDGES AS SOON AS PRACTICABLE AND BEFORE FURTHER DAMAGE CAN OCCUR.

C202 OWS OUTLET PIPE OUTFLOW DETAIL
SCALE: NTS



NOTES:
1. FIELD VERIFY EXISTING DUCTILE IRON PIPE DIAMETER. INSTALL SAME DIAMETER PVC PIPE, OR USE REDUCING TYPE COUPLING.
2. AFTER INSTALLING THE BOLTED SLEEVE TYPE COUPLING, WRAP THE COUPLING AND JOINT WITH WAX TAPE WRAP THAT CONFORMS TO AWWA C217 AND IS COMPATIBLE WITH PVC PIPE MATERIALS.

C907 DRAIN PIPE CONNECTION DETAIL TO OWS
SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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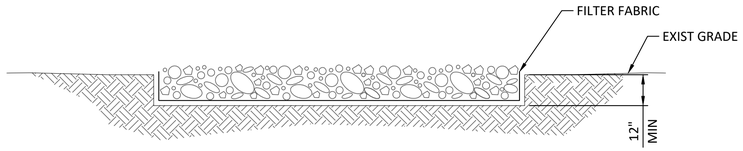
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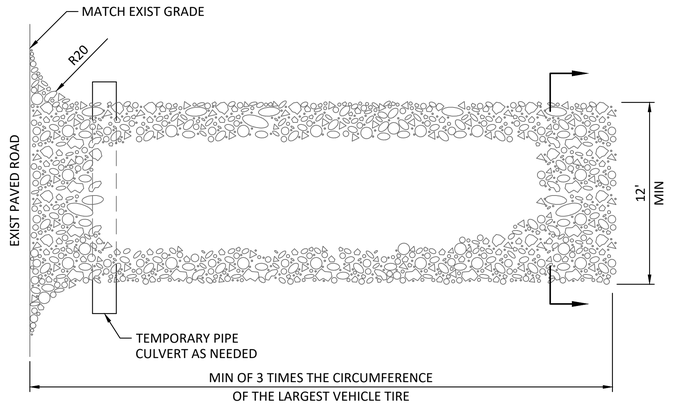
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
CIVIL
STANDARD DETAILS 1

REF DWG(S):
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DRAWING NO.: H02-D-51-0031-R00



SECTION A



PLAN

ROCK CONSTRUCTION EXIT NOTES:

MATERIALS

ROCK: TO MEET SURFACE COURSE SPECIFICATIONS.

INSTALLATION

1. IF DIRECTED BY THE ENGINEER, PLACE THE FILTER FABRIC AS SHOWN IN SECTION A.

MAINTENANCE

1. REMOVE ACCUMULATED SEDIMENT OR MUD.
2. REPLACE ROCK MATERIAL WHEN SURFACE VOIDS ARE FILLED WITH SEDIMENT. REPLACE FABRIC AS NEEDED.
3. TOP DRESS WITH 2 TO 3 INCHES OF SURFACE COURSE WHEN THE PAD BECOMES LADEN WITH SEDIMENT.

INSPECTION

1. INSPECT FOR ROCK THAT HAS BEEN DISPLACED FROM THE PAD.

STABILIZED CONSTRUCTION EXIT GENERAL NOTES:

INSTALLATION

1. INSTALL STABILIZED CONSTRUCTION EXIT PRIOR TO EARTH WORK.
2. CLEAR THE EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER MATERIAL.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP, VEGETATIVE SEDIMENT FILTER OR OTHER PROTECTED OUTLET.
4. EXCAVATE AND GRADE THE AREA FOR ROCK PLACEMENT.
5. INSTALL SIGNS, FENCING OR BARRICADES TO CHANNEL OUTGOING TRAFFIC TO THE STABILIZED CONSTRUCTION EXIT.

INSPECTION

1. INSPECT STABILIZED CONSTRUCTION EXIT FOR SEDIMENT ACCUMULATION AND MATERIAL DISPLACEMENT.
2. INSPECT ROADWAY FOR SEDIMENT TRACK-OUT.
3. INSPECT DITCHES TO ENSURE NO SEDIMENT ACCUMULATION.

MAINTENANCE

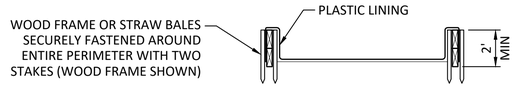
1. MAINTAIN EACH EXIT IN A CONDITION THAT WILL PREVENT TRACKING OF MUD OR SEDIMENT ONTO PUBLIC RIGHT-OF-WAY.
2. REPAIR AND/OR CLEAN OUT ANY STRUCTURES USED TO TRAP SEDIMENT.
3. REMOVE ALL MUD AND SEDIMENT DEPOSITED ON PAVED ROADWAYS.
4. ADD MORE SIGNS, FENCING OR BARRICADES WHEN VEHICLES ARE EXITING THE PROJECT WITHOUT USING THE STABILIZED CONSTRUCTION EXIT. INSTALL ADDITIONAL STABILIZED CONSTRUCTION EXITS IF NEEDED, YET USE SIGNS AND BARRICADES TO MINIMIZE THE NUMBER OF STABILIZED CONSTRUCTION EXITS.
5. PREVENT TRACK-OUT BY USING ADDITIONAL BMPs, SUCH AS A TIRE WASH.

REMOVAL

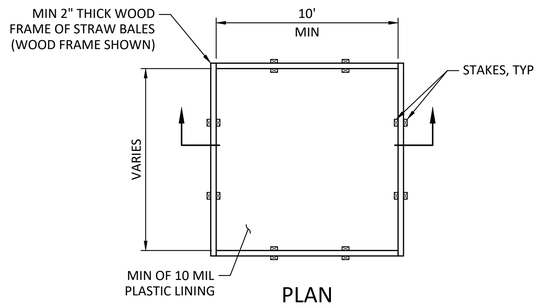
1. REMOVE THE STABILIZED CONSTRUCTION EXIT AND ANY SEDIMENT TRAPPING STRUCTURES AFTER THEY ARE NO LONGER NEEDED, OR WITH FINAL SITE STABILIZATION.
2. REGRADE AND PERMANENTLY STABILIZE THE REMAINING DISTURBED AREAS ACCORDING TO THE PLANS.

C900 ROCK CONSTRUCTION EXIT

SCALE: NTS



SECTION



PLAN

CONCRETE WASHOUT GENERAL NOTES:

MATERIALS

PRE-FABRICATED CONTAINERS: MADE OF STURDY MATERIALS THAT ARE WATER TIGHT.

FABRICATED ON-SITE CONTAINMENT:

1. BARRIER/SIDEWALLS: MAKE SIDEWALLS OF AN ABOVE-GRADE CONTAINMENT AREA FROM EARTHEN BERMS, BARRIER WALLS, WOOD PLANKS, OR OTHER MATERIALS THAT WILL BE STRUCTURALLY SOUND WHEN FILLED WITH WASTE MATERIALS.
2. LINER: IMPERMEABLE PLASTIC SHEETING OF AT LEAST 10 MIL THICKNESS, AND FREE OF HOLES, TEARS, AND OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
3. ANCHORS: SECURE THE LINER FOR ABOVE-GRADE CONTAINMENT AREAS AND SIDEWALL MATERIALS OTHER THAN BERMS WITH ANCHORS. USE SANDBAGS, 6-INCH WIRE STAPLES, AND WOOD OR METAL STAKES AS ANCHORS, BUT NOT LIMITED TO ONLY THEM.

INSTALLATION

1. IF THE WASHOUT IS LOCATED ON UNDEVELOPED PROPERTY OR OFF-PAVEMENT, PROVIDE A STABILIZED CONSTRUCTION EXIT.
2. PLACE CONCRETE WASHOUT CONTAINMENT A MINIMUM OF 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATERBODIES, OR PROVIDE SECONDARY CONTAINMENT FOR THE WASHOUT.
3. PROVIDE SUFFICIENT CAPACITY TO HANDLE THE EXPECTED VOLUME OF SOLIDS AND WASH WATER AT 50% MAX CAPACITY AND ALLOW 12 INCHES MINIMUM OF FREEBOARD.
4. PRE-FABRICATED WASHOUT CONTAINERS ARE USUALLY DELIVERED ASSEMBLED. IF ASSEMBLY IS REQUIRED, FOLLOW MANUFACTURER'S INSTRUCTIONS.
5. SELF-INSTALLED CONTAINMENT:

   a. ABOVE-GRADE WASHOUT: CONSTRUCT THE SIDEWALLS TO THE DIMENSIONS SHOWN ON THE DRAWINGS. IF NOT USING AN EARTHEN BERM FOR THIS PURPOSE, ENSURE THAT THE SIDEWALL MATERIAL IS SECURE AND EACH UNIT IS BUTTED TIGHTLY END TO END. LINE THE ENTIRE AREA WITH THE LINING MATERIAL, BRINGING THE SHEETING UP OVER THE SIDEWALLS AND SECURING THE ENDS WITH SANDBAGS, STAPLES OR OTHER APPROPRIATE ANCHORS.

INSPECTION

1. INSPECT AND VERIFY THAT CONCRETE WASHOUT BMPs ARE IN PLACE PRIOR TO THE COMMENCEMENT OF CONCRETE WORK.
2. DETERMINE IF THE CONCRETE WASHOUT IS FILLED TO 50 PERCENT CAPACITY.
3. FOR SELF-INSTALLED CONTAINMENT:
   a. INSPECT THE PLASTIC LINER TO ENSURE IT IS SECURELY ANCHORED AND INTACT.
   b. INSPECT THE SIDEWALLS FOR LEAKS. ENSURE THE CONSTRUCTION DOESN'T DAMAGE THE SIDEWALLS.
4. FOR PRE-FABRICATED CONTAINMENT, INSPECT THE UNIT FOR LEAKS AND POTENTIAL DAMAGE.
5. IF THERE IS EVIDENCE THAT WASHOUTS ARE OCCURRING IN LOCATIONS OTHER THAN THE DESIGNATED WASHOUT: IMPROVE EXISTING SIGNAGE, INSTALL ADDITIONAL SIGNAGE, INCREASE COMMUNICATION WITH CONCRETE TRUCK DRIVERS, AND PROVIDE CONCRETE TRUCK DRIVERS WITH MAPS OF WASHOUT LOCATIONS WITH RESPECT TO POUR LOCATIONS.

MAINTENANCE

1. CLEAN EXISTING WASHOUTS BEFORE THE WASHOUT IS 50 PERCENT FULL. SOLIDIFY WITH BAGGED GROUT, VACUUM AND DISPOSE OF LIQUIDS IN AN APPROVED MANNER, OR ALLOW FOR EVAPORATION (CHECK WITH THE LOCAL SANITARY SEWER AUTHORITY TO DETERMINE IF THERE ARE SPECIAL DISPOSAL REQUIREMENTS FOR CONCRETE WASH WATER).
2. IF NECESSARY, PROVIDE AN ALTERNATE WASHOUT DURING EXISTING WASHOUT CLEANING.
3. RELINE SELF-INSTALLED CONTAINERS AFTER EACH CLEANING, BECAUSE EQUIPMENT CAN DAMAGE THE LINER. BEFORE RELINING, INSPECT THE CONTAINMENT STRUCTURE FOR SIGNS OF WEAKENING OR DAMAGE AND MAKE ANY NECESSARY REPAIRS. THEN LINE THE STRUCTURE WITH NEW PLASTIC SHEETING, CHECKING THAT IT IS FREE OF HOLES, TEARS, AND OTHER DAMAGE.
4. REPAIR DAMAGED WASHOUTS BEFORE THE NEXT CONCRETE POUR. IF NECESSARY, PROVIDE NEW WASHOUTS UNTIL THE EXISTING WASHOUTS ARE OPERATIONAL.
5. CONTAIN ANY SPILL OR DISCHARGE OF CONCRETE WASTE MATERIALS.

REMOVAL

1. AN OPERATIONAL CONCRETE WASHOUT SHOULD REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT (OR PHASE OF THE PROJECT) IS POURED. WHEN THE CONCRETE WASHOUT IS NO LONGER NEEDED, THE LIQUID MUST BE EVAPORATED OR VACUUMED FOR DISPOSAL AND THE HARDENED SOLIDS MUST BE BROKEN UP, REMOVED, AND PROPERLY DISPOSED OF. DISPOSAL LOCATION TO BE APPROVED BY ENGINEER.
2. REMOVE FROM THE SITE PRE-FABRICATED WASHOUTS AND MATERIALS USED TO CONSTRUCT ABOVE-GRADE CONTAINMENT AREA AND PROPERLY DISPOSE OF THEM.
3. BACKFILL AND STABILIZE HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE CREATION OR REMOVAL OF THE WASHOUT WITH AN APPROVED BMP.

C901 ABOVE GRADE CONCRETE WASHOUT FABRICATED ON-SITE

SCALE: NTS

STATE OF ALASKA 49TH CYRUS NAMIR Date: 2026-05-18 No. 201819 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
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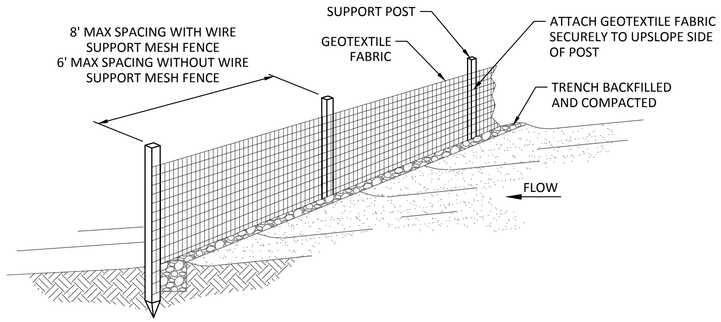
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
EROSION AND SEDIMENT CONTROL
STANDARD DETAILS 2

REF DWG(S):

DRAWING NO.: H02-D-51-0032-R00



SILT FENCE GENERAL NOTES:

MATERIALS
REFER TO ALASKA DOT SPECIFICATION SECTION 633, SILT FENCE.

INSTALLATION
1. INSTALL FENCELINE ALONG A LEVEL CONTOUR AND PERPENDICULAR TO ANTICIPATED SHEET FLOW DRAINAGE PATH(S).
2. ORIENT END SECTIONS UPHILL SLIGHTLY IN A J-HOOK TO PREVENT WATER FROM GOING AROUND THE SILT FENCE.
3. DO NOT EXCEED 100 FEET FOR EACH 1/4-ACRE OF DRAINAGE AREA AND DO NOT EXCEED 500 FEET REGARDLESS OF DRAINAGE AREA.
4. THE DIFFERENCE IN ELEVATION BETWEEN THE HIGHEST AND LOWEST POINT ALONG THE TOP OF THE SEDIMENT FENCE SHALL NOT EXCEED ONE-THIRD THE FENCE HEIGHT.
5. WHERE GROUND SURFACES ARE UNEVEN, INSTALL SHORTER FENCES FOLLOWING CONTOURS (RATHER THAN INSTALLING ONE LONG, CONTOUR-CROSSING FENCE THAT DIRECTS DRAINAGE TO ACCUMULATE IN LOW SPOTS).
6. LOCATE FENCE 3 TO 10 FEET BEYOND TOE OF FILL TO LEAVE ROOM FOR A BROAD, SHALLOW SEDIMENTATION POOL AND FOR EQUIPMENT ACCESS DURING FENCE MAINTENANCE AND REMOVAL.
7. IF FEASIBLE, LEAVE A MINIMUM OF 3.5-FOOT BUFFER BETWEEN FENCING AND SENSITIVE RECEIVING AREAS.
8. PLACE GEOTEXTILE ON THE UPSLOPE SIDE OF POSTS OR, WHEN USING SILT FENCE WITH SEWN-IN POCKETS, PLACE POCKETS ON THE UPSLOPE SIDE OF THE FENCE.
9. EXCAVATE TRENCHES NOT WIDER OR DEEPER THAN NECESSARY FOR PROPER INSTALLATION OF THE SILT FENCE. DO NOT EXCAVATE TRENCHES IN PERMAFROST.
10. AT JOINTS, ROLL ENOUGH OF THE ENDS OF SECTIONS TOGETHER AT SUPPORT POST SUCH THAT THE JOINT PREVENTS SILT-LADEN WATER FROM ESCAPING THROUGH THE FENCE.
11. IF USING THE FRONT WHEEL OF A TRACTOR OR ROLLER, COMPACT THE UPSTREAM SIDE FIRST, THEN EACH SIDE TWICE (A TOTAL OF FOUR TRIPS).
12. KEEP FENCE FABRIC TAUT.
13. WHEN USING SUPPORT MESH, ATTACH GEOTEXTILE TO THESUPPORT MESH WITH FASTENERS SPACED EVERY 24 INCHES AT THE TOP AND MIDSECTION.

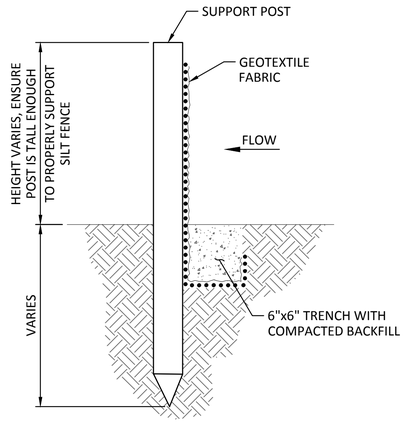
MACHINE SLICE INSTALLATION (NOT IN PERMAFROST)
1. USE A SILT FENCE INSTALLATION MACHINE OR ATTACHMENT TO PLOW OR SLICE THE FABRIC DIRECTLY INTO THE SOIL.
2. BACKFILL SOIL LOOSENED BY THE BLADE INTO THE SLICE AND USE THE TRACTOR TO MECHANICALLY COMPACT THE SOIL.
3. TUCK FABRIC DEEPER INTO THE GROUND WHERE NECESSARY.
4. INSTALL SUPPORT POSTS ALONG THE LENGTH OF THE FENCE FOLLOWING SIMILAR PROCEDURES FOR THE TRENCH METHOD.

WINTER INSTALLATION (NOT IN PERMAFROST)
1. DIG A TRENCH.
2. BACKFILL TRENCH WITH THE LOOSENED SOIL AND COMPACT SOIL PRIOR TO POST INSTALLATION.
3. MOISTEN THE BACKFILLED SOIL SO IT WILL FREEZE UP AND GRIP THE SILT FENCE FABRIC IN PLACE.
4. DO NOT LEAVE LARGE FROST CHUNKS AS THE BACKFILL.

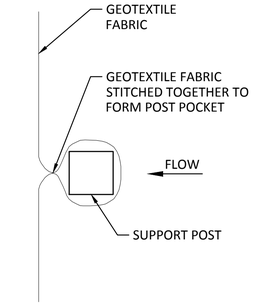
INSPECTION
1. INSPECT FENCELINE FOR CONTINUITY, COLLAPSE, UNDERMINED AREAS, AND DAMAGE. DO NOT EXCAVATE TRENCHES IN PERMAFROST.
2. INSPECT FABRIC FOR TEARS, PUNCTURES, FRAYING,WEATHERING, AND COMPROMISED INTEGRITY.
3. CONFIRM THAT THE FENCE POSTS ARE SECURE.
4. ENSURE THE FENCE IS KEYED IN AND THAT THERE IS NO UNDERCUTTING.
5. LOOK FOR EVIDENCE OF SEDIMENT OR EROSION FLOW LEADING OFF THE DOWNHILL EDGE OF THE FENCE. (THIS MAY BE AN INDICATOR OF DRAINAGE BYPASS OR FENCE UNDERMINE.)
6. NOTE DEPTH OF SEDIMENT BUILD UP AT THE FENCE.
7. LOOK FOR SIGNS OF INADEQUATE PROTECTION OF OFF-SITE SENSITIVE AREAS.
8. CHECK FOR SEDIMENT FLOWING THROUGH THE FENCE.
9. CHECK FOR HOLES IN FENCE WHERE WIRE TIES ARE USED TO SECURE GEOTEXTILE FABRIC TO THE SUPPORT POST.

MAINTENANCE
1. INSTALL ALTERNATE OR ADDITIONAL BMPS AS NEEDED TO PREVENT UNDESIRABLE SEDIMENTATION OF SENSITIVE AREAS.
2. REPLACE DAMAGED FABRIC.
3. REMEDY FENCE SAGS AS NEEDED.
4. REMOVE ACCUMULATED SEDIMENT BEFORE IT ACCUMULATES TO ONE-HALF THE CAPACITY, OR ONE-THIRD OF THE AVAILABLE STORAGE IF PROTECTING A WATER BODY OR STORM DRAIN INLET.
5. DISPOSE OF SILT WASTE IN APPROVED MANNER/LOCATION (TYPICALLY IN A NON-EROSION AREA).
6. IF THERE IS EVIDENCE OF EXCESSIVE SEDIMENTATION AGAINST THE SILT FENCE, PROVIDE INCREASED EROSION CONTROL UPSLOPE.

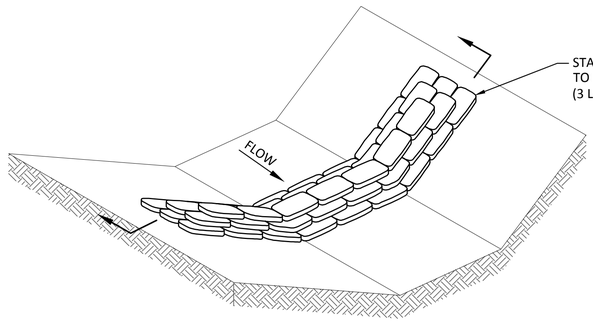
REMOVAL
1. WHEN DISTURBED AREAS ARE PERMANENTLY STABILIZED OR SEDIMENT PROTECTION IS NO LONGER NEEDED, COLLECT AND PROPERLY DISPOSE OF ACCUMULATED SEDIMENT OR SEED IN PLACE.
2. CUT FABRIC AT GROUND LEVEL AND REMOVE SUPPORTS.
3. DISCARD FILTER FENCE AS APPROVED. AVOID DAMAGE TO SENSITIVE AREAS (E.G. WETLAND OR SURFACE WATER).



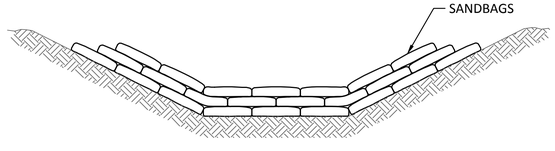
SILT FENCE TRENCH DETAIL
SCALE: NTS



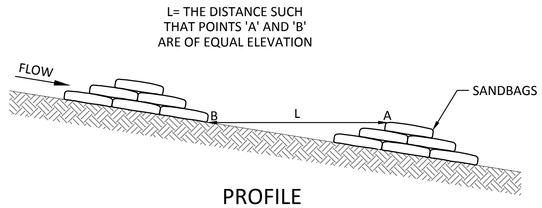
SEWN-IN POCKET DETAIL



PERSPECTIVE



SECTION



PROFILE

SANDBAG NOTES:

MATERIALS
SANDBAG BARRIER: TIGHTLY WOVEN BURLAP OR WOVEN GEOTEXTILE BAG MATERIAL THAT IS SUFFICIENTLY DURABLE TO REMAIN INTACT FOR THE TIME INTENDED. FILL BAGS 3 FULL OF GRAVEL OR SAND WITH A GRADATION SUCH THAT NO FINE SEDIMENT PASSES THROUGH THE BAG. IF THE SANDBAGS ARE NEEDED FOR MORE THAN ONE SUMMER SEASON, PROVIDE BAG MATERIAL THAT HAS ULTRAVIOLET STABILITY OF AT LEAST 70% IN CONFORMANCE WITH ASTM D4355 REQUIREMENTS. SECURELY CLOSE THE SAND BAGS.

INSTALLATION
1. PLACE SANDBAGS SO THAT THE INITIAL ROW MAKES TIGHT CONTACT WITH THE DITCH LINE FOR THE LENGTH OF THE DAM.
2. TIGHTLY ABUT ALL SANDBAGS.
3. STAGGER SANDBAG LIFTS SO THAT THE CENTER OF THE BAG IS PLACED ON THE SPACE BETWEEN BAGS ON THE PREVIOUS LIFT.

INSPECTION
1. ENSURE THE SANDBAGS ARE IN TIGHT CONTACT WITH THE SOIL.
2. LOOK FOR SPLIT, TORN, OR UNRAVELING BAGS.

MAINTENANCE
1. REPLACE DAMAGED SANDBAGS AS NECESSARY.

C902 SILT FENCE GENERAL INSTALLATION
SCALE: NTS

C904 SANDBAG CHECK DAM
SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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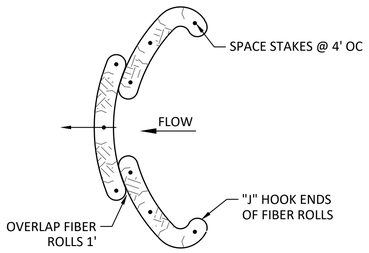
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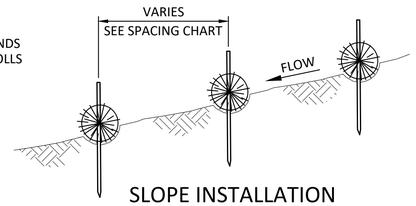
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
EROSION AND SEDIMENT CONTROL
STANDARD DETAILS 3

REF DWG(S):
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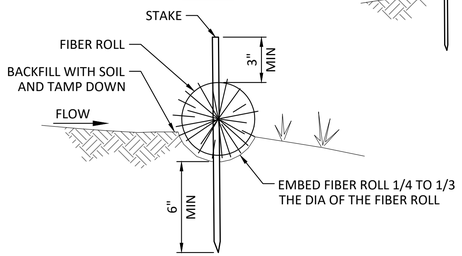
DRAWING NO.: H02-D-51-0033-R00



PLAN



SLOPE INSTALLATION



SECTION

TRENCH INSTALLATION

TYPICAL SPACING CHART	
SLOPE	SPACING (FEET)
1:1	10
1:2	20
1:3	30

TRENCHED INSTALLATION NOTES:

1. DIG TRENCHES AND PLACE FIBER ROLLS IN THE TRENCHES.
2. CURVE BACK THE UPSLOPE END OF THE FIBER ROLL IN A "J" HOOK.
3. SPREAD EXCAVATED MATERIAL EVENLY ALONG THE UPHILL SLOPE AND COMPACT USING HAND TAMPING OR OTHER METHODS.
4. STAKE THE ROLL EVERY 4 FEET AND WITHIN 1-FOOT OF THE ENDS. LEAVE 3 INCHES OF THE STAKE ABOVE THE ROLL.
5. DRIVE STAKES THROUGH THE MIDDLE OF THE FIBER ROLL.
6. IF REQUIRED, PILOT HOLES FOR THE STAKES MAY BE CREATED BY DRIVING A STRAIGHT BAR THROUGH THE ROLL.

SLOPE INSTALLATION NOTES:

1. INSTALL ON A SLOPE TO SHORTEN THE SLOPE LENGTH.
2. START INSTALLATION DOWNSLOPE.
3. SPACE ROLLS ACCORDING TO THE SPACING CHART AND DECREASE SPACING ON MORE ERODIBLE SOILS AND INCREASE SPACING ON ROCKY SOILS.

C905 FIBER ROLLS FOR EROSION AND SEDIMENT CONTROL

SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation

DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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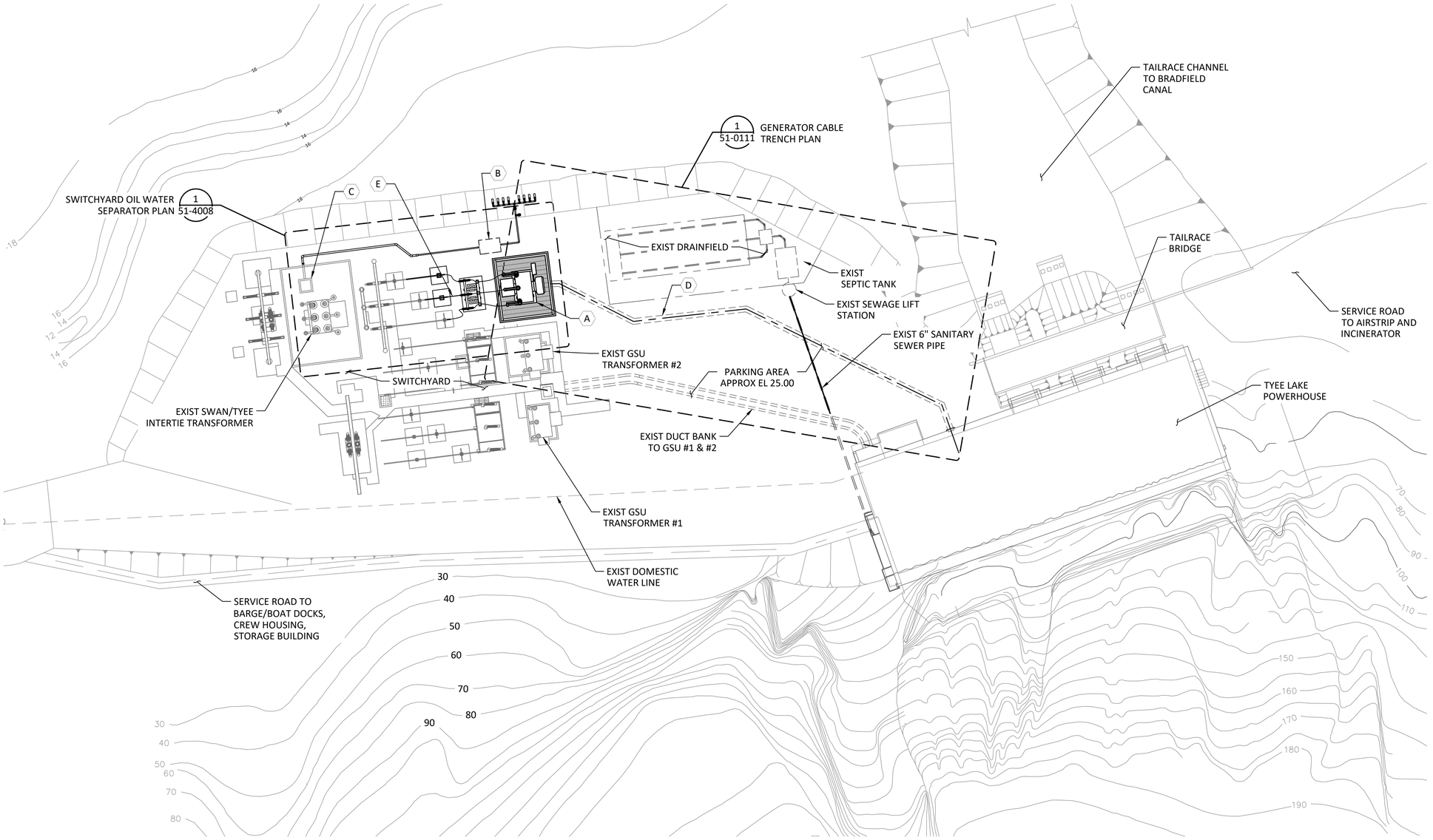
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SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
EROSION AND SEDIMENT CONTROL
STANDARD DETAILS 4

REF DWG(S):

DRAWING NO.: H02-D-51-0034-R00



SHEET NOTES:

1. VERTICAL DATUM: MEAN LOWER LOW WATER FOR NOAA STATION 9451012, BRADFIELD CANAL, AK = 0.00 FT. PROJECT BENCHMARK IS THE POWERHOUSE SERVICE FLOOR LEVEL (ERECTION AREA) ACCEPTED ELEVATION = 25.00 FT.
2. REFER TO SHEET 41-0020 FOR CONTRACTOR STAGING AND LAYDOWN AREAS.
3. REFER TO SPECIFICATION SECTION 01 35 26 FOR SAFETY REQUIREMENTS FOR WORKING AROUND OPERATING POWERHOUSE AND HIGH VOLTAGE LINES.
4. REFER TO SPECIFICATION SECTION 02 41 00 FOR DEMOLITION REQUIREMENTS.
5. COORDINATION WITH SEAPA IS REQUIRED FOR PARTIAL ELECTRICAL SHUTDOWNS FOR INSTALLING NEW DUCT BANK.
6. ACCESS TO THE POWERHOUSE TO BE MAINTAINED DURING CIVIL WORKS. PARKING COORDINATION WITH SEAPA IS REQUIRED DURING NEW DUCT BANK INSTALLATION.
7. SWITCHYARD FENCE TO BE REMOVED DURING CONSTRUCTION. REFER TO SPECIFICATION SECTION 01 35 26 FOR INTERIM SAFETY AND CONTROL MEASURES.

SHEET KEY NOTES:

A. CONSTRUCT GSU TRANSFORMER #3, FOUNDATION, AND CONTAINMENT AREA.

B. INSTALL NEW PRECAST OIL WATER SEPARATOR, UNDERGROUND.

C. TRANSFORMER CONTAINMENT AREAS DRAIN PIPE, TO BE RE-ROUTED TO OWS UNDER THIS CONTRACT.

D. INSTALL NEW UNDERGROUND CONDUITS TO GSU #3.

E. BUS AND CIRCUIT SWITCHER.

CIVIL SITE KEY PLAN

SCALE: 1"= 20'

0" 20' 40'

N

STATE OF ALASKA 49TH
CYRUS NASIRI
Date: 2026-05-18
No. 2016199
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

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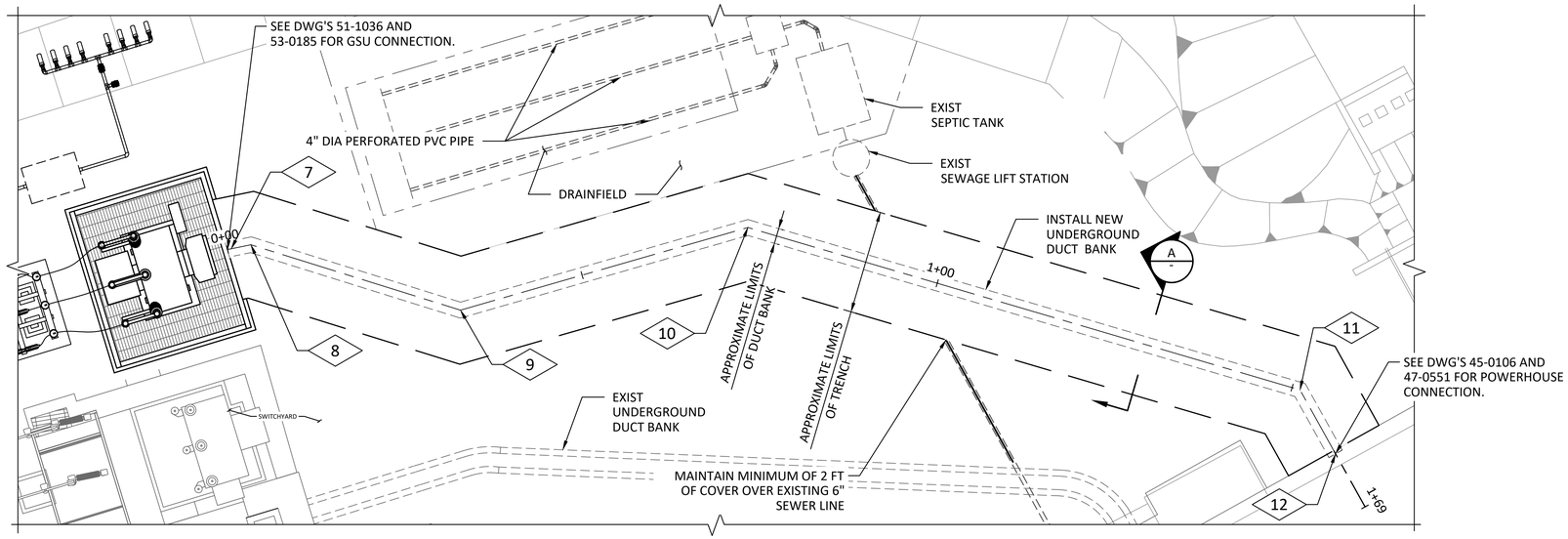
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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
CIVIL SITE PLAN

REF DWG(S):
H02-F-41-0001-R52, H02-D-41-0003-R01

DRAWING NO.: H02-D-51-0110-R00



1 51-0110 GENERATOR CABLE TRENCH PLAN

SCALE: 1"= 10'

0" 10' 20'

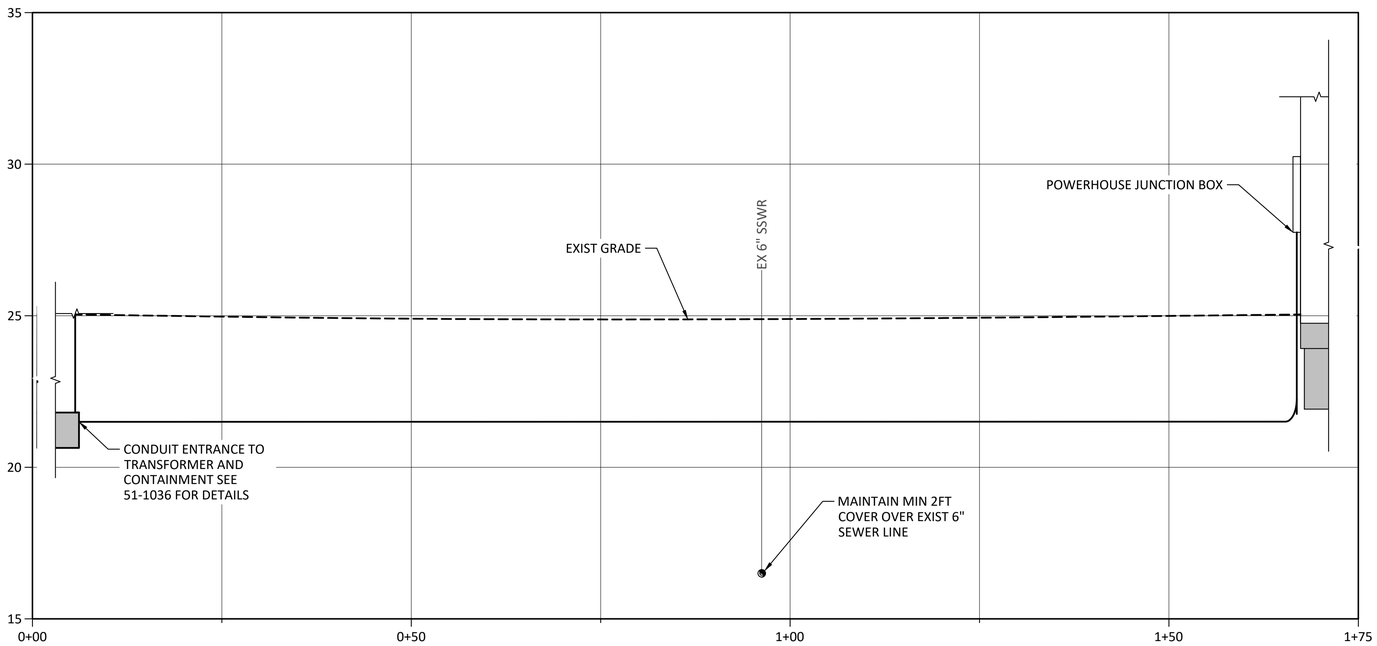
N

SHEET NOTES:

1. VERTICAL DATUM: MEAN LOWER LOW WATER FOR NOAA STATION 9451012, BRADFIELD CANAL, AK = 0.00 FT. PROJECT BENCHMARK IS THE POWERHOUSE SERVICE FLOOR LEVEL (ERECTION AREA) ACCEPTED ELEVATION = 25.00 FT.
2. COORDINATES SHOWN ARE BASED ON ORIGINAL DRAWINGS AND REQUIRE FIELD VERIFICATION BY THE CONTRACTOR.
3. REFER TO SHEET 41-0020 FOR CONTRACTOR STAGING AND LAYDOWN AREAS.
4. REFER TO SPECIFICATION SECTION 01 35 26 FOR SAFETY REQUIREMENTS FOR WORKING AROUND OPERATING POWERHOUSE AND HIGH VOLTAGE LINES.
5. REFER TO HISTORIC DRAWINGS H02-D-53-5001-R51 AND H02-D-53-50002-R52 FOR SWITCHYARD GROUNDING LAYOUT.
6. ACCESS TO THE POWERHOUSE TO BE MAINTAINED DURING CIVIL WORKS. PARKING COORDINATION WITH SEAPA IS REQUIRED DURING NEW DUCT BANK INSTALLATION.

DUCT BANK EXCAVATION CONTROL TABLE

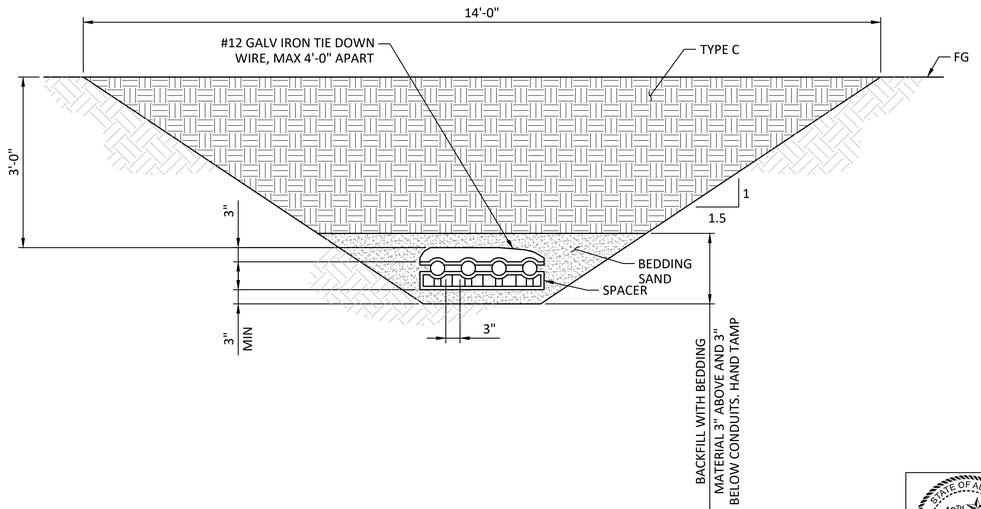
POINT #	NORTHING	EASTING	DESCRIPTION
7	1608294.61	3129073.61	ENTER TO XFRM
8	1608294.70	3129076.32	CL TRENCH 1
9	1608281.21	3129102.74	CL TRENCH 2
10	1608285.65	3129142.94	CL TRENCH 3
11	1608251.40	3129212.80	CL TRENCH 4
12	1608242.09	3129216.07	BLDG ENTER



GENERATOR CABLE TRENCH

SCALE: 1"= 10'

0" 10' 20'



A - DUCT BANK

SCALE: 3/4"= 1'-0"

0' 1' 2'

STATE OF ALASKA 49TH CYRUS NAMIR Date: 2026.05.18 No. 201619 PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
GENERATOR CABLE TRENCH, PLAN, SECTION AND DETAILS

REF DWG(S): H02-D-41-0003-R01

DRAWING NO.: H02-D-51-0111-R00

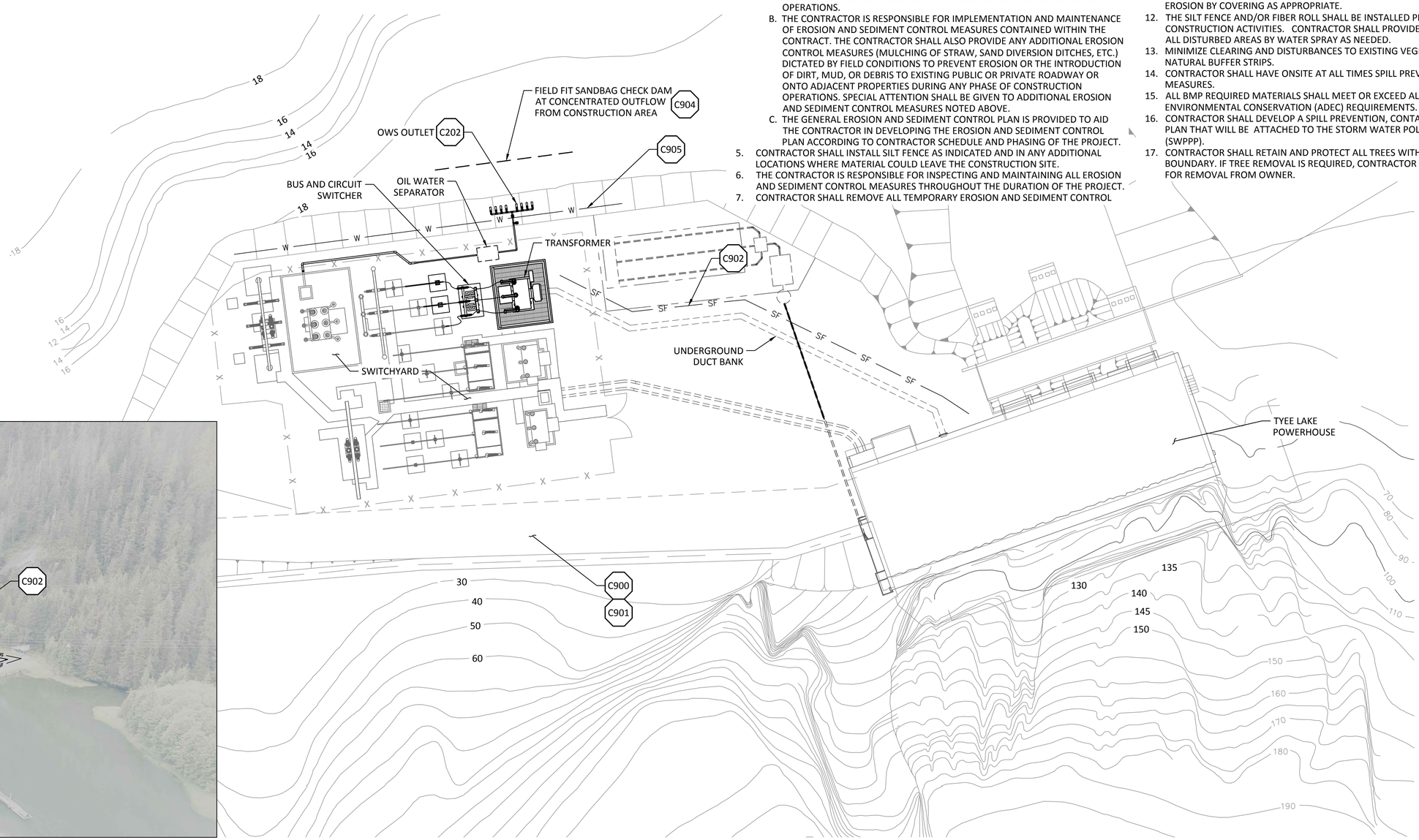
SHEET NOTES:

1. VERTICAL DATUM: MEAN LOWER LOW WATER FOR NOAA STATION 9451012, BRADFIELD CANAL, AK = 0.00 FT. PROJECT BENCHMARK IS THE POWERHOUSE SERVICE FLOOR LEVEL (ERECTION AREA) ACCEPTED ELEVATION = 25.00 FT.
2. SWITCHYARD FENCE TO BE REMOVED DURING CONSTRUCTION. REFER TO SPECIFICATION SECTION 01 35 26 FOR INTERIM SAFETY AND CONTROL MEASURES.

EROSION CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES OR BMPS MUST CONFORM TO THE ALASKA DOT&PF BMP GUIDE.
2. INSTALLATION, INSPECTION, MAINTENANCE, AND REMOVAL OF BMPS MUST CONFORM TO THE ALASKA DOT&PF STANDARD SPECIFICATIONS.
3. EROSION AND SEDIMENT CONTROL STANDARD DETAILS ARE SHOWN ON SHEETS H02-D-51-0002 THRU H02-D-51-0004.
4. THE CONTRACTOR SHALL SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN FOR WORK DURING CONSTRUCTION THAT MEETS ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
   A. ALL SLOPES SHALL BE PROTECTED FROM EROSION DURING ROUGH GRADING OPERATIONS.
   B. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES CONTAINED WITHIN THE CONTRACT. THE CONTRACTOR SHALL ALSO PROVIDE ANY ADDITIONAL EROSION CONTROL MEASURES (MULCHING OF STRAW, SAND DIVERSION DITCHES, ETC.) DICTATED BY FIELD CONDITIONS TO PREVENT EROSION OR THE INTRODUCTION OF DIRT, MUD, OR DEBRIS TO EXISTING PUBLIC OR PRIVATE ROADWAY OR ONTO ADJACENT PROPERTIES DURING ANY PHASE OF CONSTRUCTION OPERATIONS. SPECIAL ATTENTION SHALL BE GIVEN TO ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES NOTED ABOVE.
   C. THE GENERAL EROSION AND SEDIMENT CONTROL PLAN IS PROVIDED TO AID THE CONTRACTOR IN DEVELOPING THE EROSION AND SEDIMENT CONTROL PLAN ACCORDING TO CONTRACTOR SCHEDULE AND PHASING OF THE PROJECT.
5. CONTRACTOR SHALL INSTALL SILT FENCE AS INDICATED AND IN ANY ADDITIONAL LOCATIONS WHERE MATERIAL COULD LEAVE THE CONSTRUCTION SITE.
6. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT.
7. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL FACILITIES, FENCING, AND STAGING AREA MATERIALS WHEN CONSTRUCTION IS COMPLETE. NO CONSTRUCTION DEBRIS, DEMOLITION MATERIALS, OR EXCESS EQUIPMENT SHALL BE LEFT ON SITE.
8. CONTRACTOR SHALL REGRADE DISTURBED SLOPES TO NEAR EXISTING CONDITION AS APPROVED BY THE OWNER.
9. ALL RUNOFF FROM SITE CONSTRUCTION ACTIVITIES AND FROM RAINFALL EVENTS SHALL BE DETAINED ON SITE AND FILTERED PRIOR TO DISCHARGE.
10. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PREVENT:
    A. ACCUMULATION OF CONSTRUCTION WASTE AND LITTER ON SITE.
    B. NO GRADING OR CONSTRUCTION ACTIVITIES SHALL OCCUR OUTSIDE OF THE IMPROVEMENTS SHOWN ON THE CONSTRUCTION PLANS FOR THE PROJECT.
11. STOCKPILED EXCAVATION MATERIALS SHALL BE PROTECTED FROM WATER AND WIND EROSION BY COVERING AS APPROPRIATE.
12. THE SILT FENCE AND/OR FIBER ROLL SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL PROVIDE DUST ABATEMENT OVER ALL DISTURBED AREAS BY WATER SPRAY AS NEEDED.
13. MINIMIZE CLEARING AND DISTURBANCES TO EXISTING VEGETATION - UTILIZE AS NATURAL BUFFER STRIPS.
14. CONTRACTOR SHALL HAVE ONSITE AT ALL TIMES SPILL PREVENTION AND CONTROL MEASURES.
15. ALL BMP REQUIRED MATERIALS SHALL MEET OR EXCEED ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC) REQUIREMENTS.
16. CONTRACTOR SHALL DEVELOP A SPILL PREVENTION, CONTAINMENT AND RESPONSE PLAN THAT WILL BE ATTACHED TO THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
17. CONTRACTOR SHALL RETAIN AND PROTECT ALL TREES WITHIN THE PROJECT BOUNDARY. IF TREE REMOVAL IS REQUIRED, CONTRACTOR SHALL OBTAIN APPROVAL FOR REMOVAL FROM OWNER.

1 / - CONSTRUCTION LAYDOWN AREA
SCALE: NTS



1 / 0092 EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1"= 20'

0" 20' 40'

STATE OF ALASKA 49TH
CYRUS NAJAFI
Date: 2026-05-18
No. 201819
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation		
DESIGNER/PROJECT ENGINEER: McMillen Inc	JOB #: T.O. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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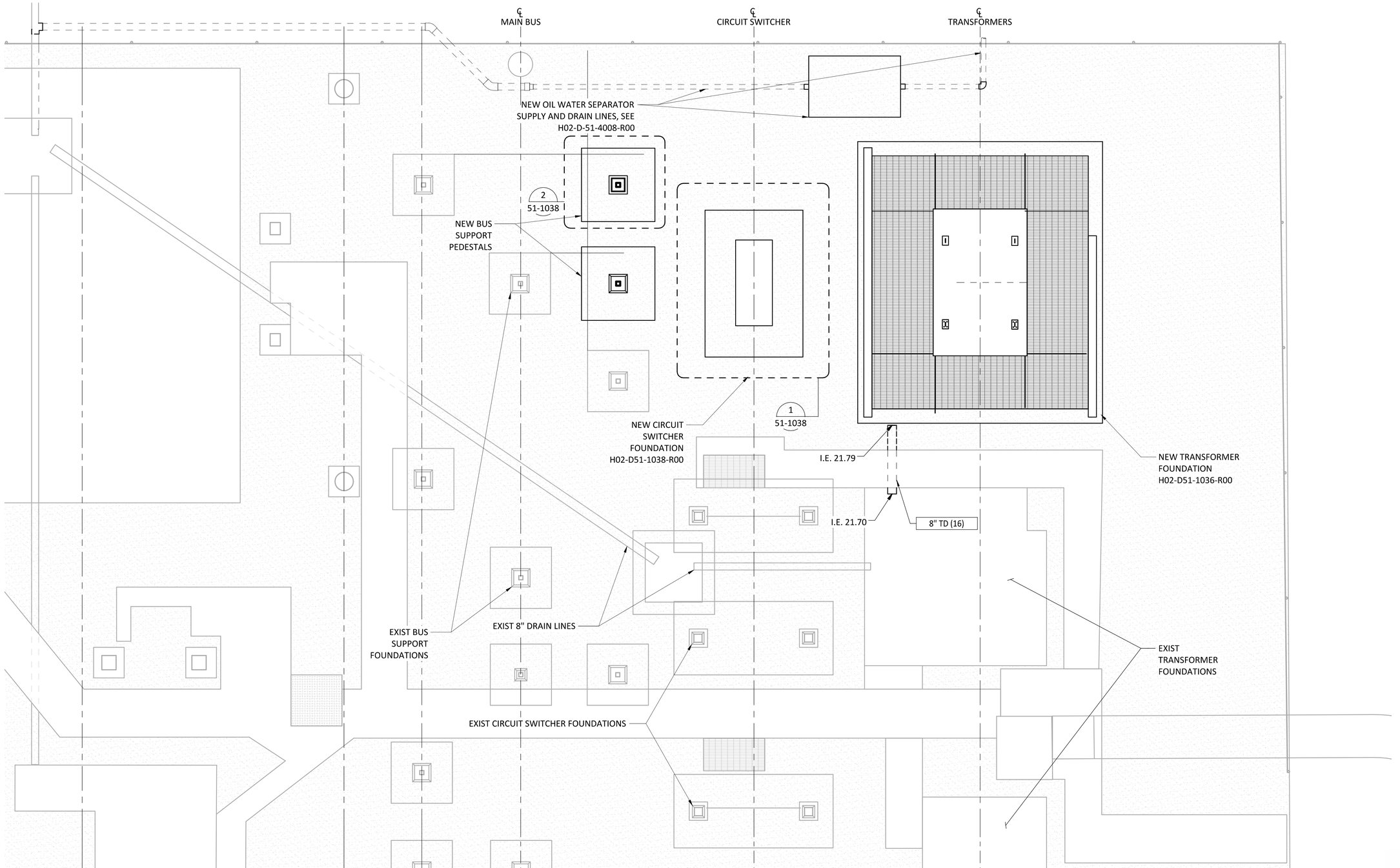
NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
EROSION AND SEDIMENT CONTROL PLAN AND NOTES

REF DWG(S):
–

DRAWING NO.: H02-D-51-0112-R00

SHEET 127 OF 144



SWITCHYARD FOUNDATION PLAN

SCALE: 1/4" = 1'-0" 0 4' 8'

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

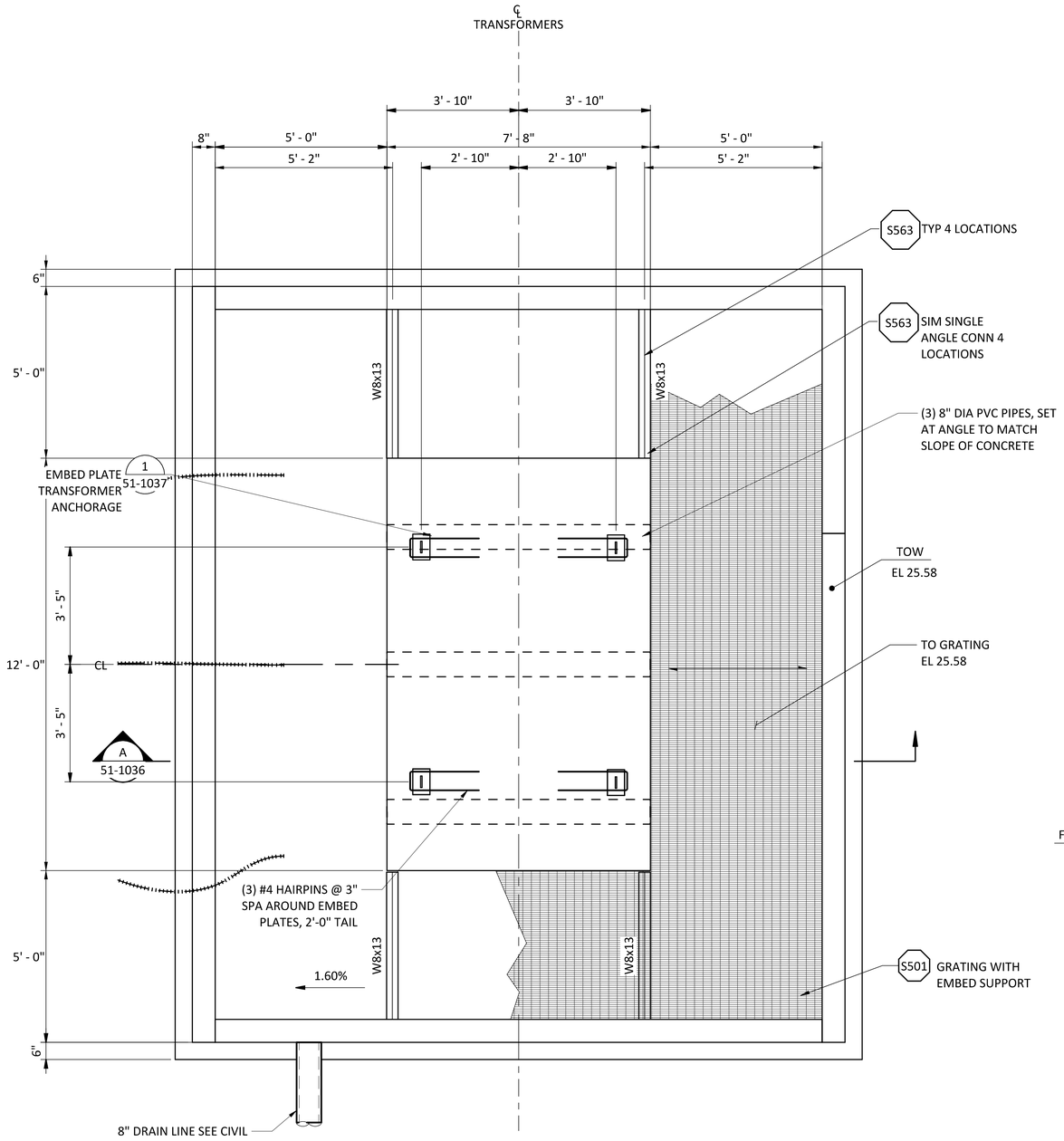
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
FOUNDATION KEY PLAN

REF DWG(S):

DRAWING NO: H02-D-51-1035-R00

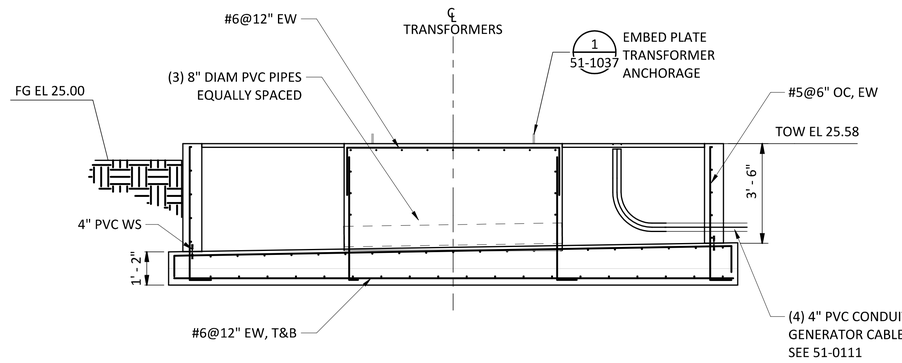
SHEET NOTES:

1. GRATING SHALL BE McNICHOLS 1.5" GALVANIZED BAR GRATING SGW-150.
2. MINIMUM SLAB THICKNESS SHALL BE 1'-2".
3. PROVIDE 4" PVC WATERSTOP AT WALL TO SLAB CONNECTION TYPICAL.
4. SEE SPECIFICATIONS FOR SUBGRADE PREPARATION AND BACKFILL.



SWITCHYARD ARRANGEMENT, TRANSFORMER PLAN (MOD)

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



A - SECTION

SCALE: 3/8" = 1'-0"

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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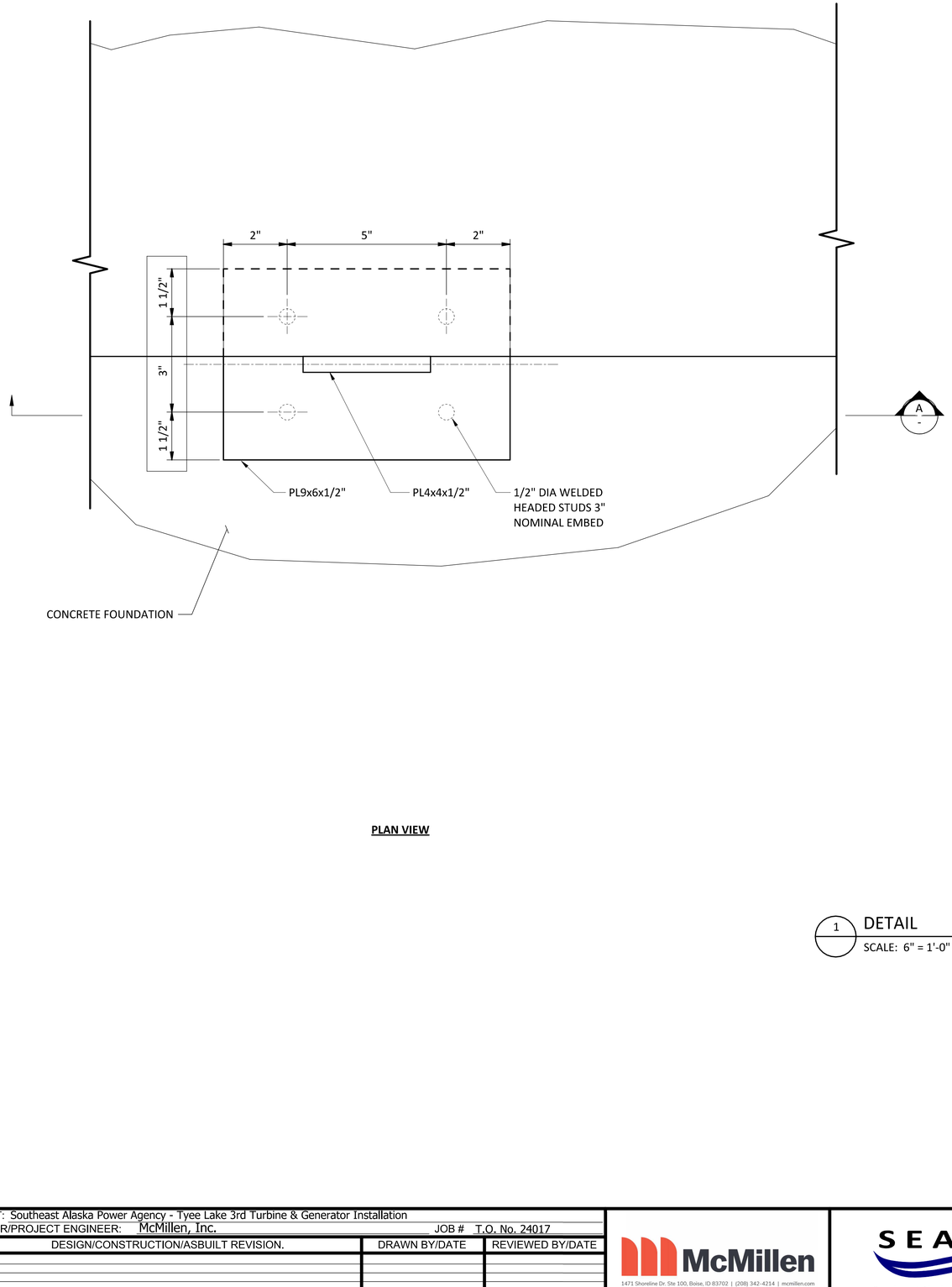
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

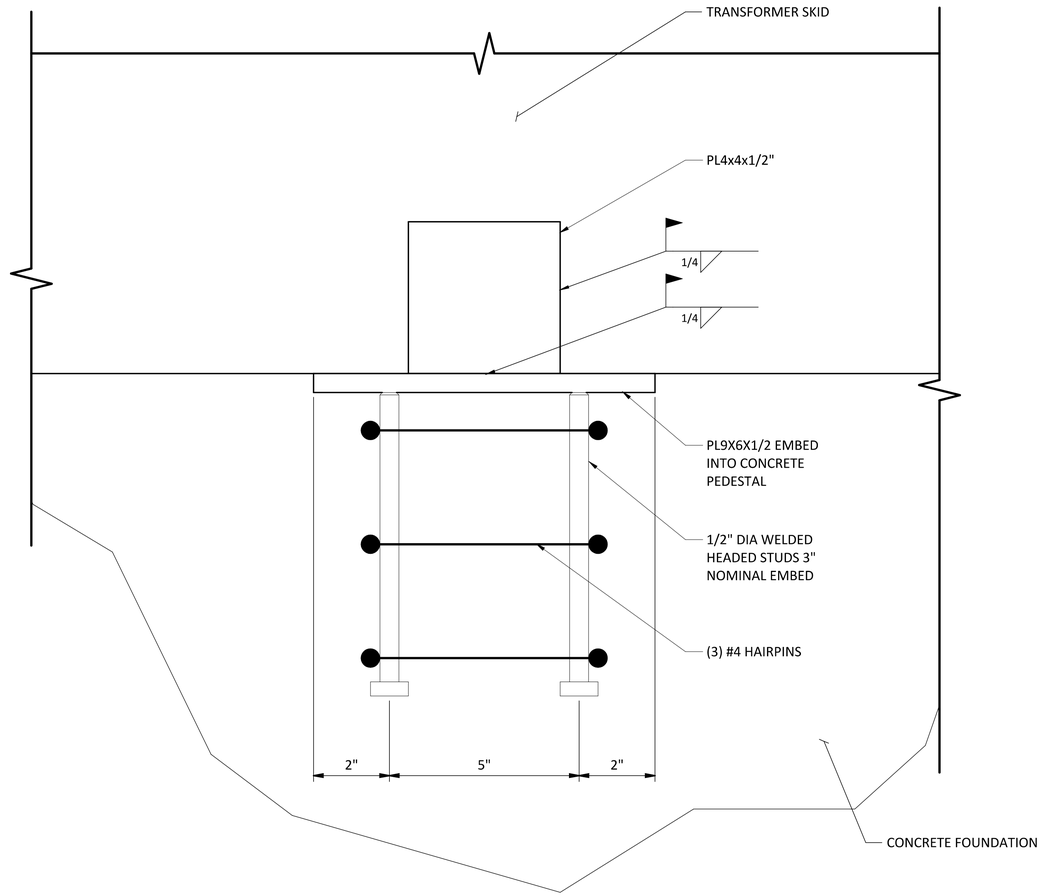
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
TRANSFORMER FOUNDATION STRUCTURAL PLAN AND SECTION

REF DWG(S):

DRAWING NO: H02-D-51-1036-R00



PLAN VIEW



SECTION VIEW A

1 DETAIL

SCALE: 6" = 1'-0" 0 2" 4"



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation

DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

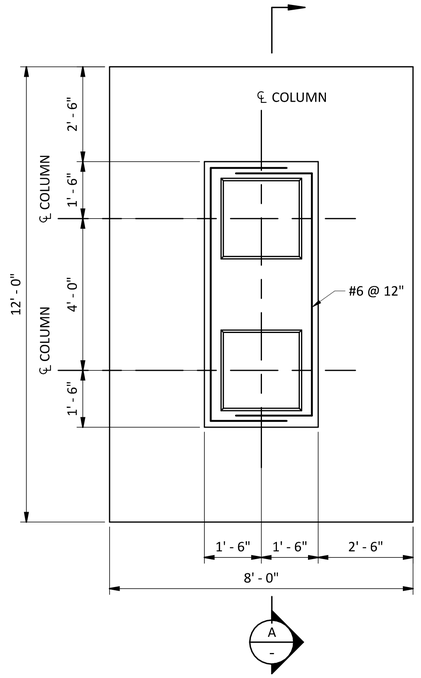
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
TRANSFORMER FOUNDATION STRUCTURAL DETAILS

REF DWG(S):

DRAWING NO: H02-D-51-1037-R00

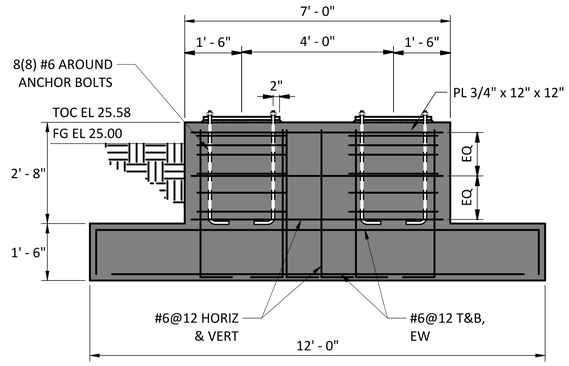
SHEET NOTES:

1. CONTRACTOR SHALL SUBMIT SELECTED CIRCUIT SWITCHER AND BUS BAR SUPPORT GEOMETRY AND LOADING TO ENGINEER FOR REVIEW PRIOR TO CONSTRUCTING FOOTINGS SHOWN.
2. ALL DIMENSIONS AND DETAILS SHOWN TO BE VERIFIED WITH SELECTED CIRCUIT SWITCHER AND BUS BAR MANUFACTURER.



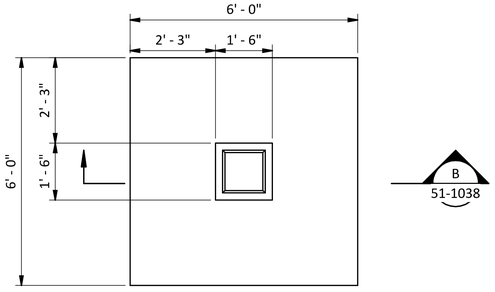
1 / 51-1035 CIRCUIT SWITCHER FOUNDATION

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



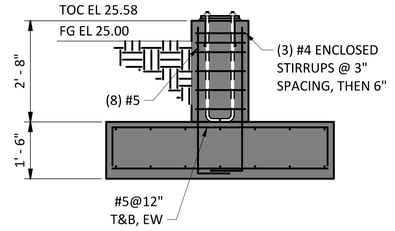
A / - SECTION

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



2 / 51-1035 BUS BAR FOUNDATION

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



B / - SECTION

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

STATE OF ALASKA 49th MARK MERKLEIN No. 185381 REGISTERED PROFESSIONAL ENGINEER 05-18-26

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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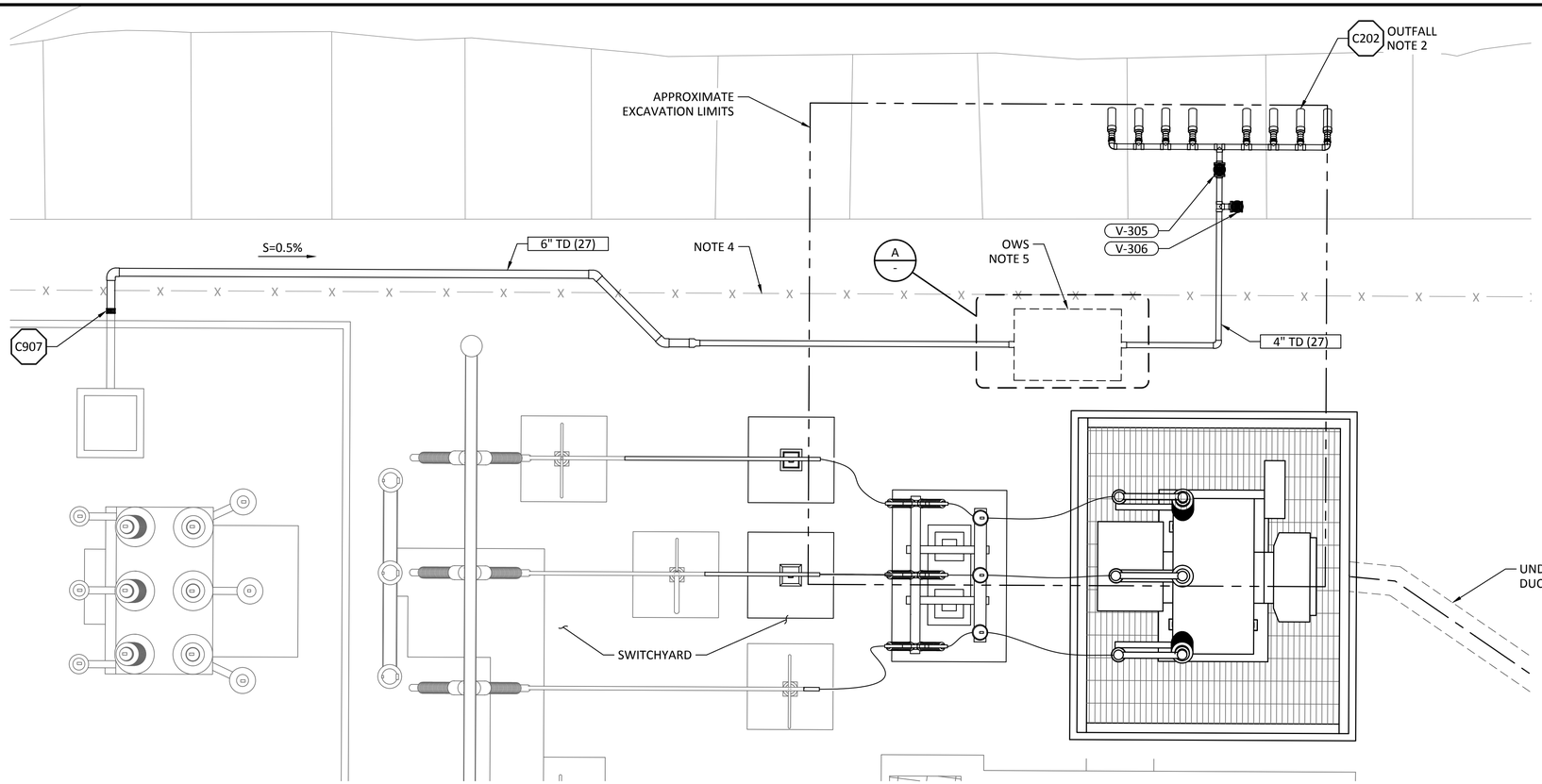
NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
BUS SUPPORT STRUCTURAL REFORCEMENT DETAILS

REF DWG(S):

DRAWING NO: H02-D-51-1038-R00

SHEET 131 OF 144



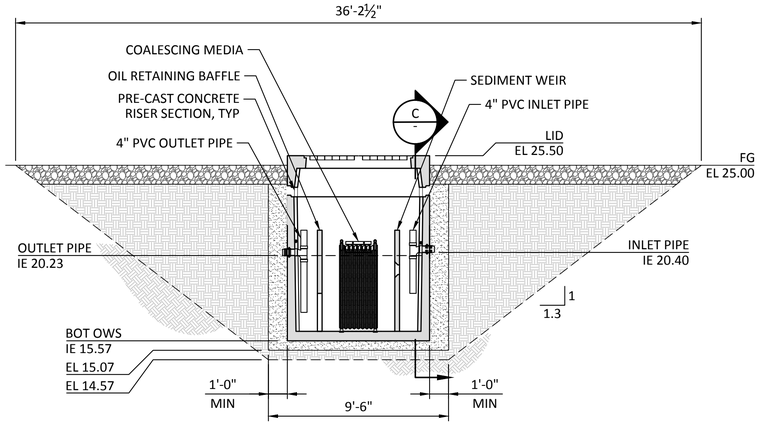
1 / 51-0110 SWITCHYARD OIL WATER SEPARATOR PLAN

SCALE: 1"= 5'

0" 5' 10'

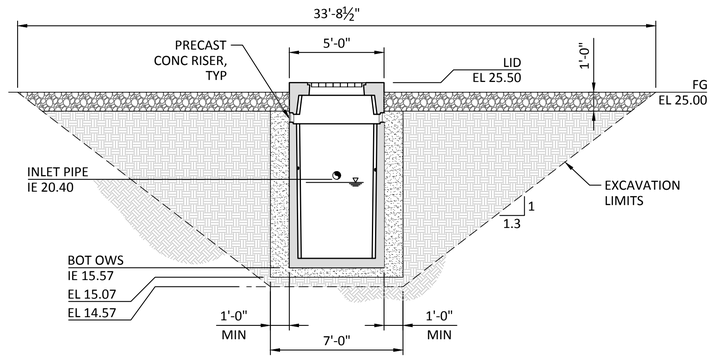
SHEET NOTES:

1. UNDERGROUND UTILITIES SUCH AS GROUNDING GRID WIRES AND LIGHTING CIRCUITS MAY BE PRESENT IN THE VICINITY OF THE WORK AND ARE NOT SHOWN ON THIS DRAWING. REFER TO SEAPA DRAWINGS H02-D-53-5001-R52 AND H02-D-53-7001-R49 FOR ADDITIONAL DETAILS. CONTRACTOR IS RESPONSIBLE FOR AVOIDING UNDERGROUND UTILITIES WHERE POSSIBLE, OR CAREFULLY DISCONNECTING, RE-ROUTING, AND RE-CONNECTING WHERE REQUIRED.
2. INSTALL PETRO-PIPE(S) BY SOLIDIFICATION PRODUCTS INTERNATIONAL, INC. ON THE OUTLET OF THE OIL WATER SEPARATOR IN ACCORDANCE WITH THE PETRO-PIPE MANUFACTURER'S RECOMMENDATIONS.
3. REFER TO SEAPA DRAWING H02-D-51-1010-49 FOR EXISTING CONTAINMENT DETAILS. MANHOLES ARE SHOWN ON THIS DRAWING.
4. CONTRACTOR SHALL DISASSEMBLE AND REMOVE EXISTING CHAIN LINK FENCE AS NEEDED TO ALLOW EXCAVATION ACTIVITIES. REINSTALL FENCE IN THE ORIGINAL ALIGNMENT AFTER EXCAVATION AND BACKFILL WORK IS COMPLETE.
5. THE OWS SELECTED FOR THIS APPLICATION IS PRECAST OLD CASTLE INFRASTRUCTURE 576-CPS OIL/WATER SEPARATOR 140 GPM.
6. VERTICAL DATUM: MEAN LOWER LOW WATER FOR NOAA STATION 9451012, BRADFIELD CANAL, AK = 0.00 FT. PROJECT BENCHMARK IS THE POWERHOUSE SERVICE FLOOR LEVEL (ERECTION AREA) ACCEPTED ELEVATION = 25.00 FT.
7. REFER TO SHEET 41-0020 FOR CONTRACTOR STAGING AND LAYDOWN AREAS.
8. REFER TO SPECIFICATION SECTION 01 35 26 FOR SAFETY REQUIREMENTS FOR WORKING AROUND OPERATING POWERHOUSE AND HIGH VOLTAGE LINES.
9. REFER TO SPECIFICATION SECTION 02 41 00 FOR DEMOLITION REQUIREMENTS.
10. SWITCHYARD FENCE TO BE REMOVED DURING CONSTRUCTION. REFER TO SPECIFICATION SECTION 01 35 26 FOR INTERIM SAFETY AND CONTROL MEASURES.
11. CONSTRUCTION SEQUENCE: OIL WATER SEPARATOR TO BE INSTALLED FIRST PRIOR TO INSTALLATION OF GSU TRANSFORMER #3, BUS, AND CIRCUIT SWITCHER.



B / - OIL WATER SEPARATOR SECTION

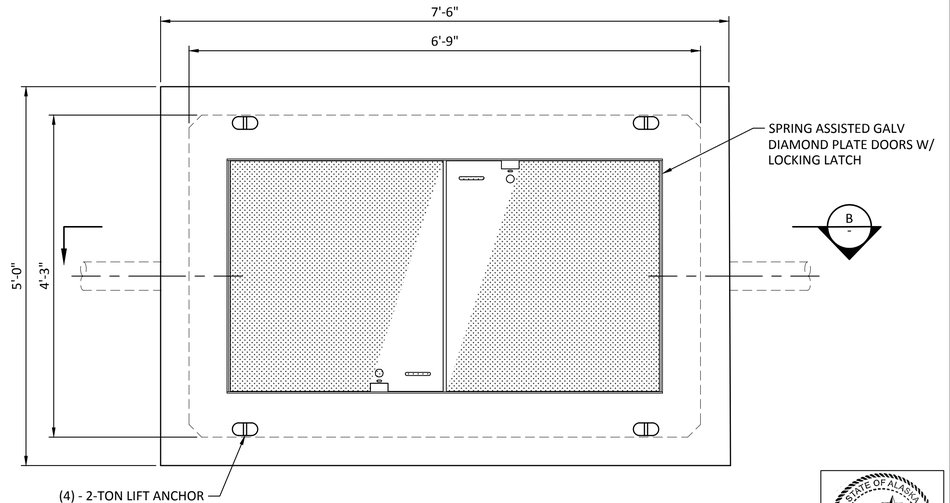
SCALE: NTS



C / - OIL WATER SEPARATOR SECTION

SCALE: 1"= 4'

0' 4' 8'



A / - OIL WATER SEPARATOR PLAN

SCALE: 1"= 1'-0"

0' 1' 2'

STATE OF ALASKA 49TH CYRUS NAMIR Date: 2026.05.18 No. 201819 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation

DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

McMillen
1471 Shoreline Dr. Ste 100, Boise, ID 83702 | (208) 342-4214 | mcmillen.com

SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
OIL WATER SEPARATOR PLAN AND SECTIONS

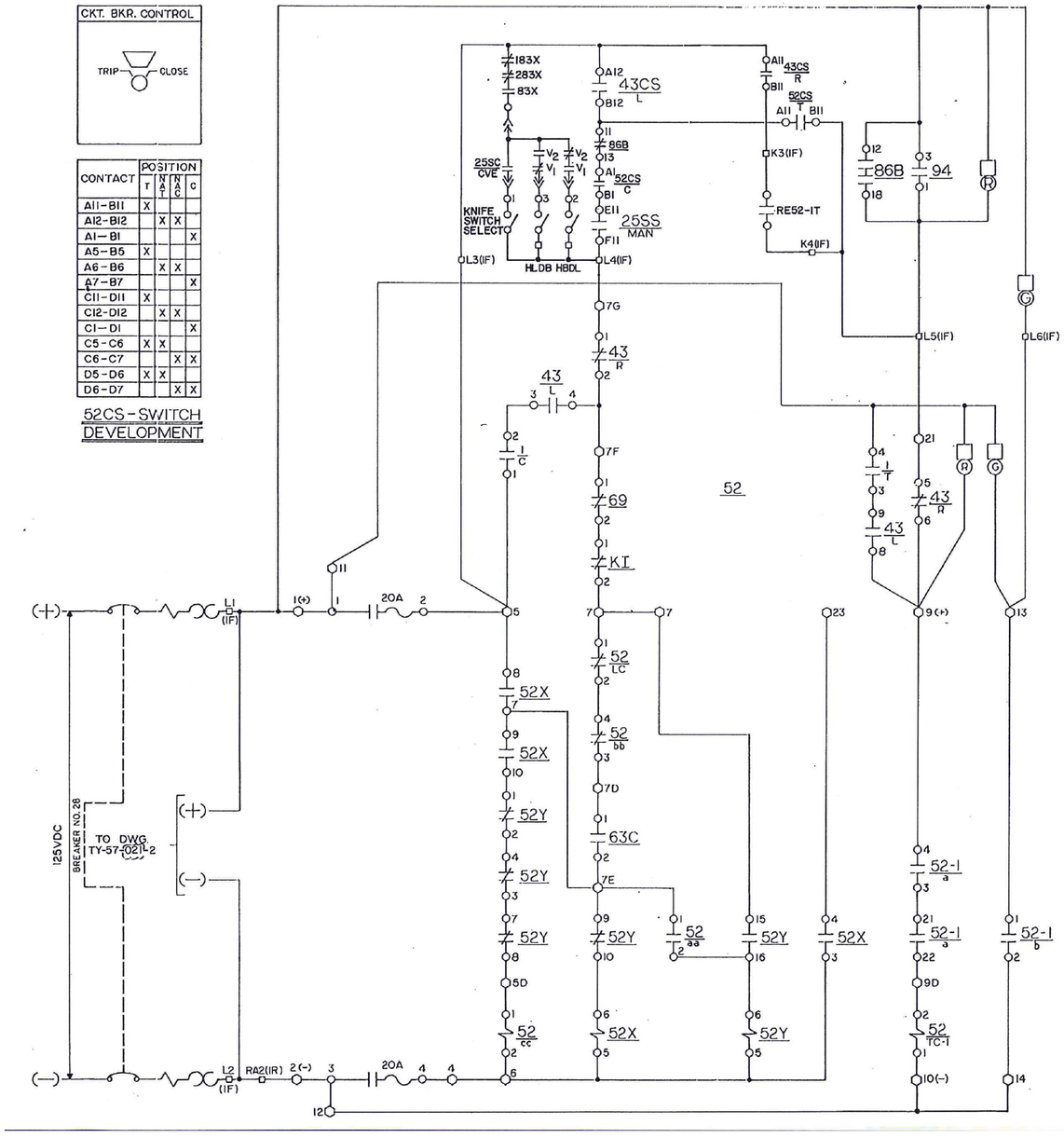
REF DWG(S):
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DRAWING NO.: H02-D-51-4008-R00

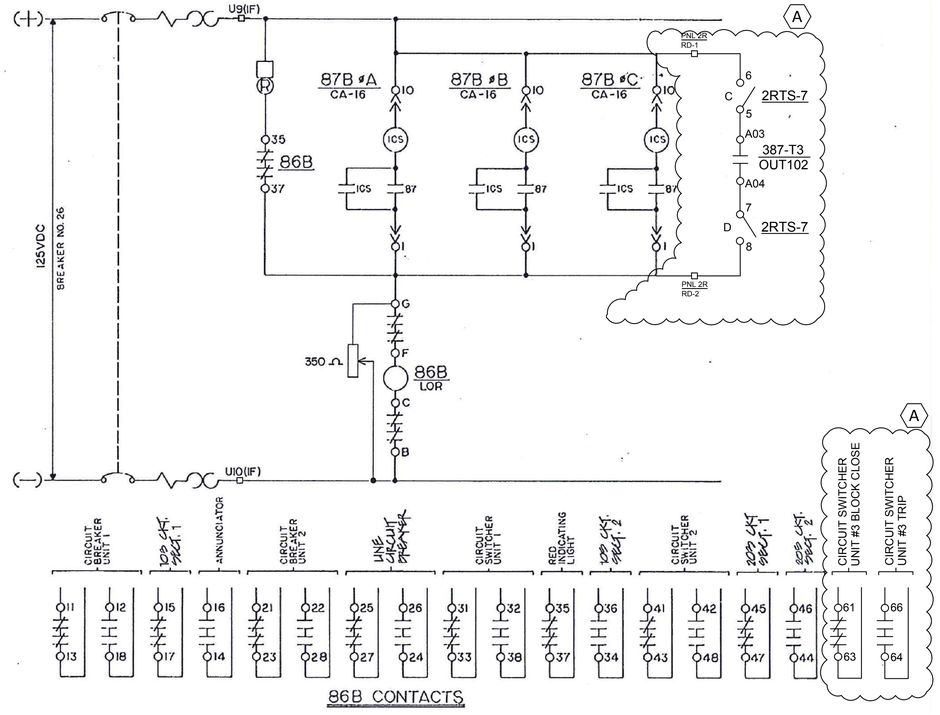
SHEET KEY NOTES:

A. COMPLETE CIRCUIT MODIFICATIONS TO INTEGRATE UNIT 3 INTO EXISTING DIFFERENTIAL CIRUIT.

138KV CIRCUIT BREAKER SCHEME



BUS DIFFERENTIAL RELAYING SCHEME



86B CONTACTS

EXPLANATION

I	CONTROL SWITCH
KI	KEY INTERLOCK
43	TRANSFER SWITCH
52a	AUXILIARY BREAKER CONTACT (OPEN WHEN BREAKER IS OPEN)
52b	AUXILIARY BREAKER CONTACT (CLOSED WHEN BREAKER IS OPEN)
52aa	MECHANISM AUXILIARY SWITCH (OPEN WHEN MECHANISM IS OPEN)
52bb	MECHANISM AUXILIARY SWITCH (CLOSED WHEN MECHANISM IS OPEN)
52cc	BREAKER CLOSING COIL
52 TC-1	BREAKER TRIP COIL
52X	CLOSING RELAY
52Y	ANTI-PUMP RELAY
52LC	MECHANISM LATCH CHECK SWITCH
69	HAND TRIP SWITCH
25SS	SYNCHRONIZING SWITCH
43CS	CONTROL TRANSFER SWITCH
52CS	CIRCUIT BREAKER CONTROL SWITCH
86B	AUXILIARY LOCKOUT RELAY
87B	BUS DIFFERENTIAL RELAY
94	TRIPPING RELAY
R	RED INDICATING LIGHT
G	GREEN INDICATING LIGHT
O	DEVICE TERMINAL
○	BREAKER TERMINAL
□	TERMINAL BLOCK IN CCA
RE52-IT	SUFV BREAKER TRIP
387-T3	TRANSFORMER 3 SEL-387

CKT. BKR. CONTROL	
TRIP	CLOSE

CONTACT	POSITION T	NAT	NAC	C
A11-B11	X			
A12-B12		X	X	
A1-B1				X
A5-B5	X			
A6-B6		X	X	
A7-B7				X
C11-D11	X			
C12-D12		X	X	
C1-D1				X
C5-C6	X	X		
C6-C7			X	X
D5-D6	X	X		
D6-D7			X	X

52CS - SWITCH DEVELOPMENT

CONTACT	POSITION LOCAL	REMOTE
A11-B11		X
A12-B12	X	
A1-B1		X
A5-B5		X
A6-B6	X	
A7-B7		X
C11-D11		X
C12-D12	X	
C1-D1		X
C5-D5		X
C6-D6	X	
C7-D7		X

LOCAL / REMOTE

43CS - SWITCH DEVELOPMENT

REFERENCE DRAWINGS:

PEDERSEN	3-2810A-22, 23
WESTINGHOUSE	2D24263, -6

STATE OF ALASKA — 49th — JEREMY RICHARD WINKLE — EXPIRES 12/31/2022

PROJECT:	Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation		
DESIGNER/PROJECT ENGINEER:	McMillen Inc	JOB #:	T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
1	CHANGED TO SEAPA BOARDER	MLH 3/26/21	
0	R49 – RECORD DRAWING	RDP 3/30/84	RR 3/30/84

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Southeast Alaska Power Agency

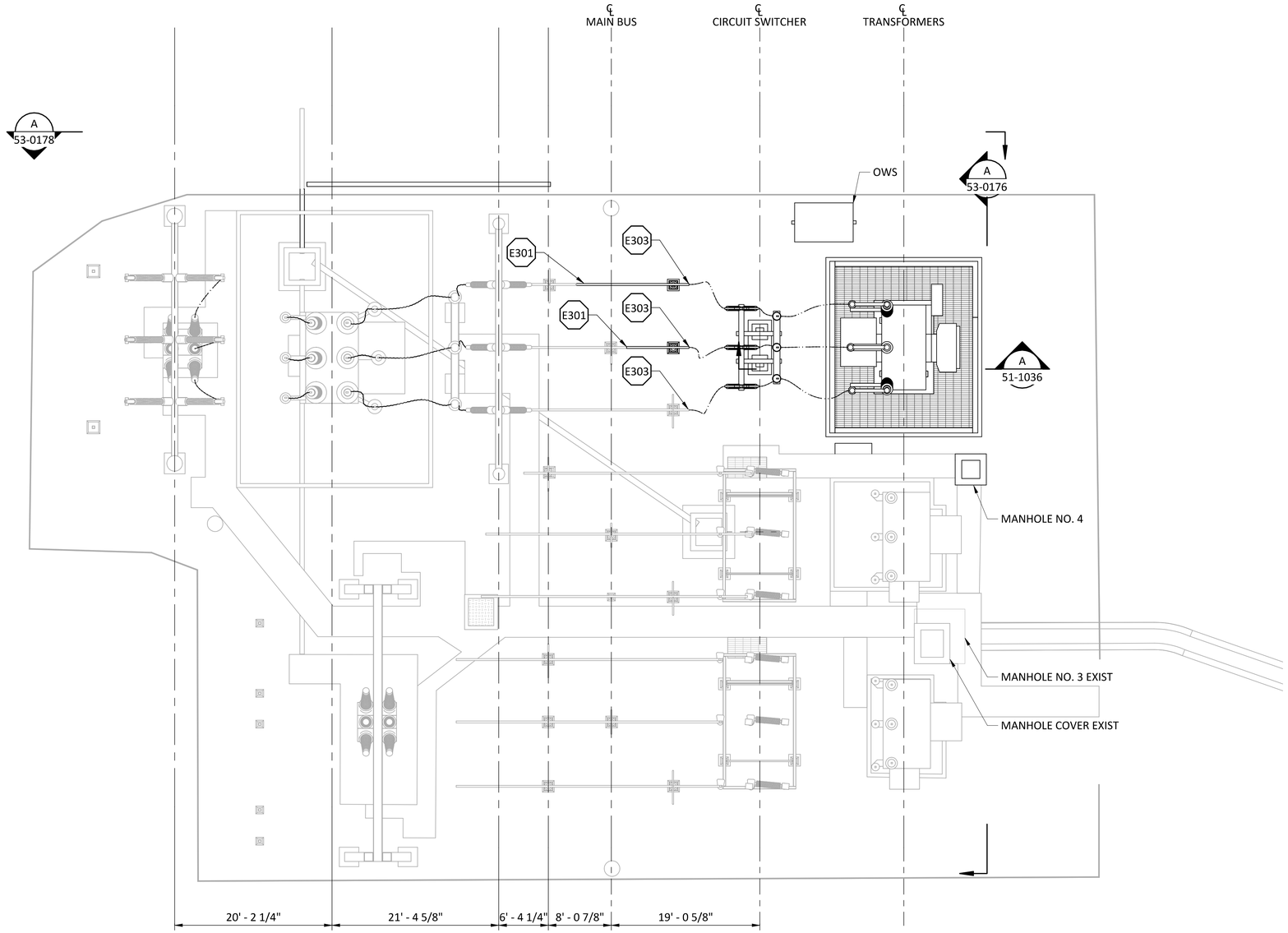
NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: TYEE LAKE HYDRO ELECTRICAL PROJECT
OCB & BUS DIFFERENTIAL
SCHEMATIC DIAGRAM - SHEET 1/2

REF DWG(S): TY-57-021-1

DRAWING NO.: H02-D-53-0001-R01

SHEET 133 OF 144



SWITCHYARD ARRANGEMENT, PLAN (MOD)

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

0 8' 16'

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-18-2026 No. EE037995 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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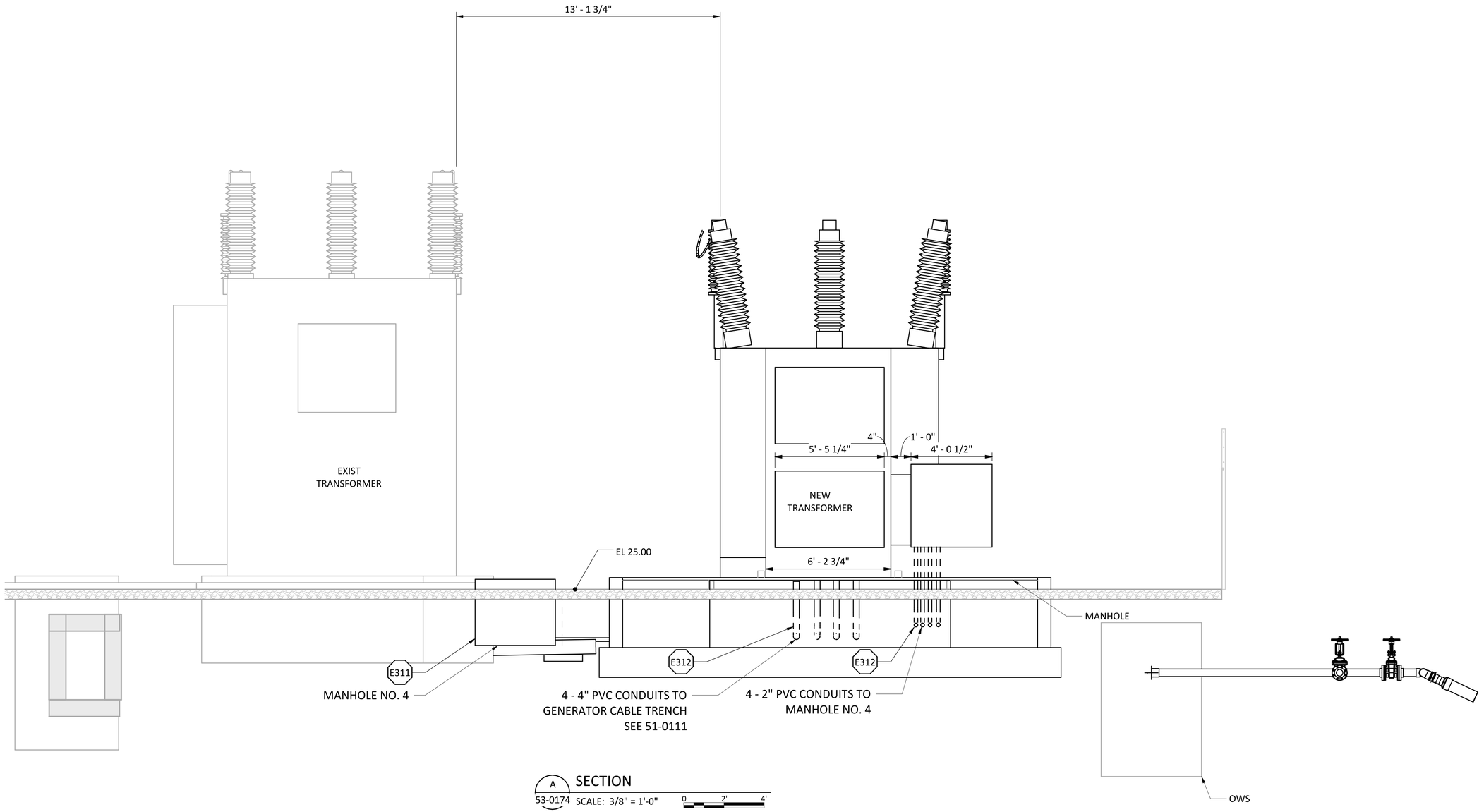
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
ARRANGEMENT, PLAN

REF DWG(S):

DRAWING NO: H02-D-53-0174-R00



A
53-0174 SECTION

SCALE: 3/8" = 1'-0"

0 2' 4'

STATE OF ALASKA
49th
JEREMY RICHARD WINKLE
Date 5-18-2026
No. EE23799
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

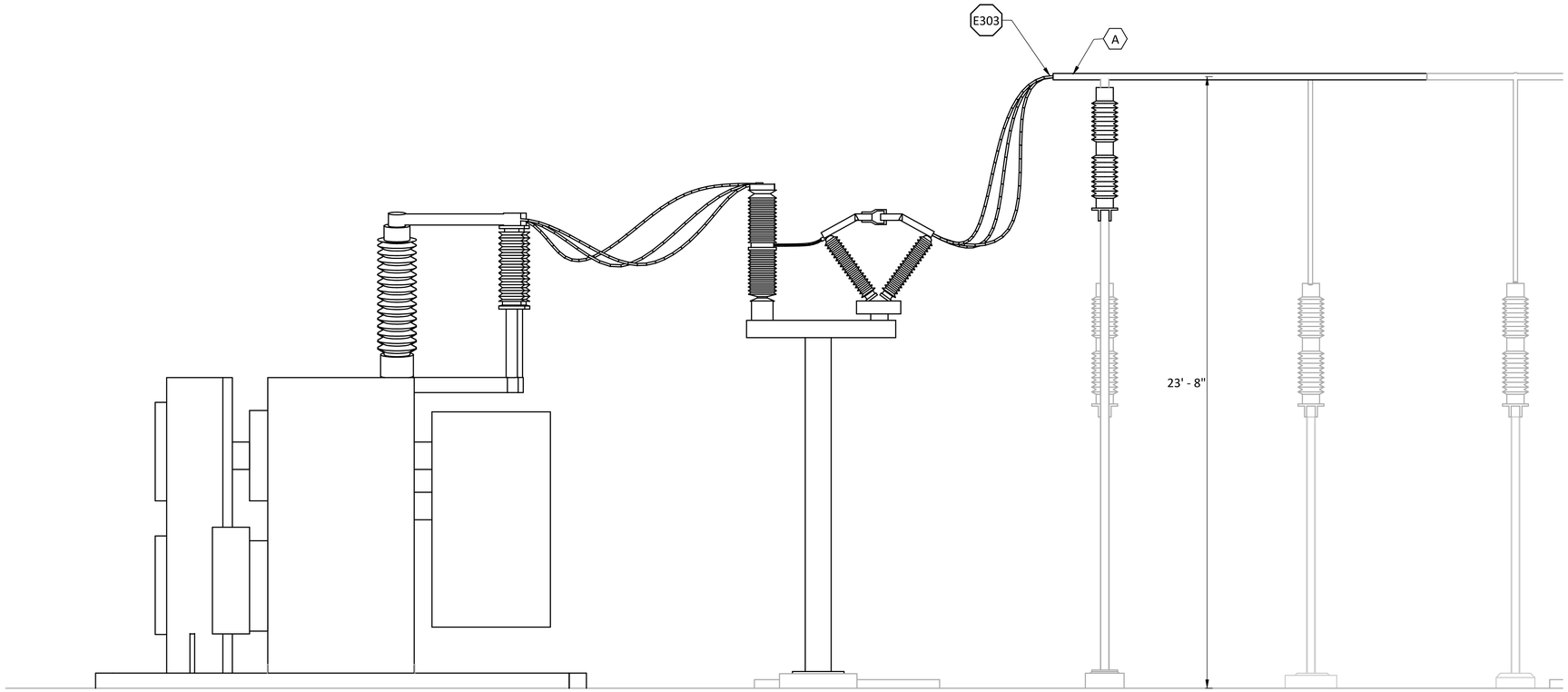
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
ARRANGEMENT, ELEVATIONS 1

REF DWG(S):

DRAWING NO: H02-D-53-0176-R00

SHEET KEY NOTES:

A. NEW ALUMMINUM BAR BUSING TO MATCH THE HEIGHT OF THE EXISTING BUS ~24FT



A SECTION
53-0174 SCALE: 3/8" = 1'-0"

0 2' 4'

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-18-2026 No. EE23799 REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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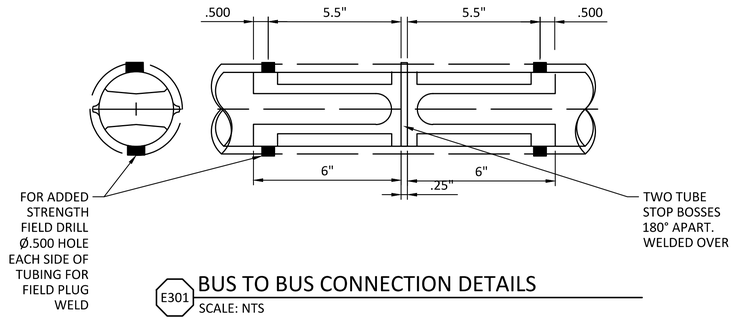
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
ARRANGEMENT, ELEVATIONS 2

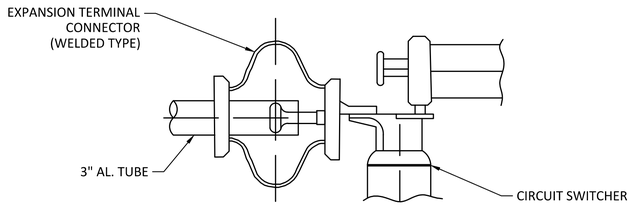
REF DWG(S):

DRAWING NO: H02-D-53-0178-R00



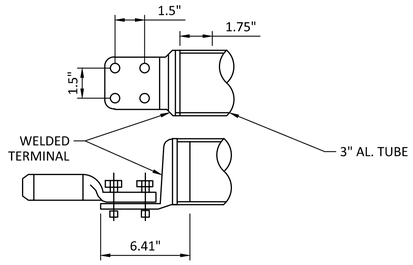
E301 BUS TO BUS CONNECTION DETAILS

SCALE: NTS



E302 BUS TO CIRCUIT SWITCHER CONNECTION DETAILS

SCALE: NTS



E303 BUS TO CABLE CONNECTION DETAILS

SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation

DESIGNER/PROJECT ENGINEER: McMillen Inc JOB #: T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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Southeast Alaska Power Agency

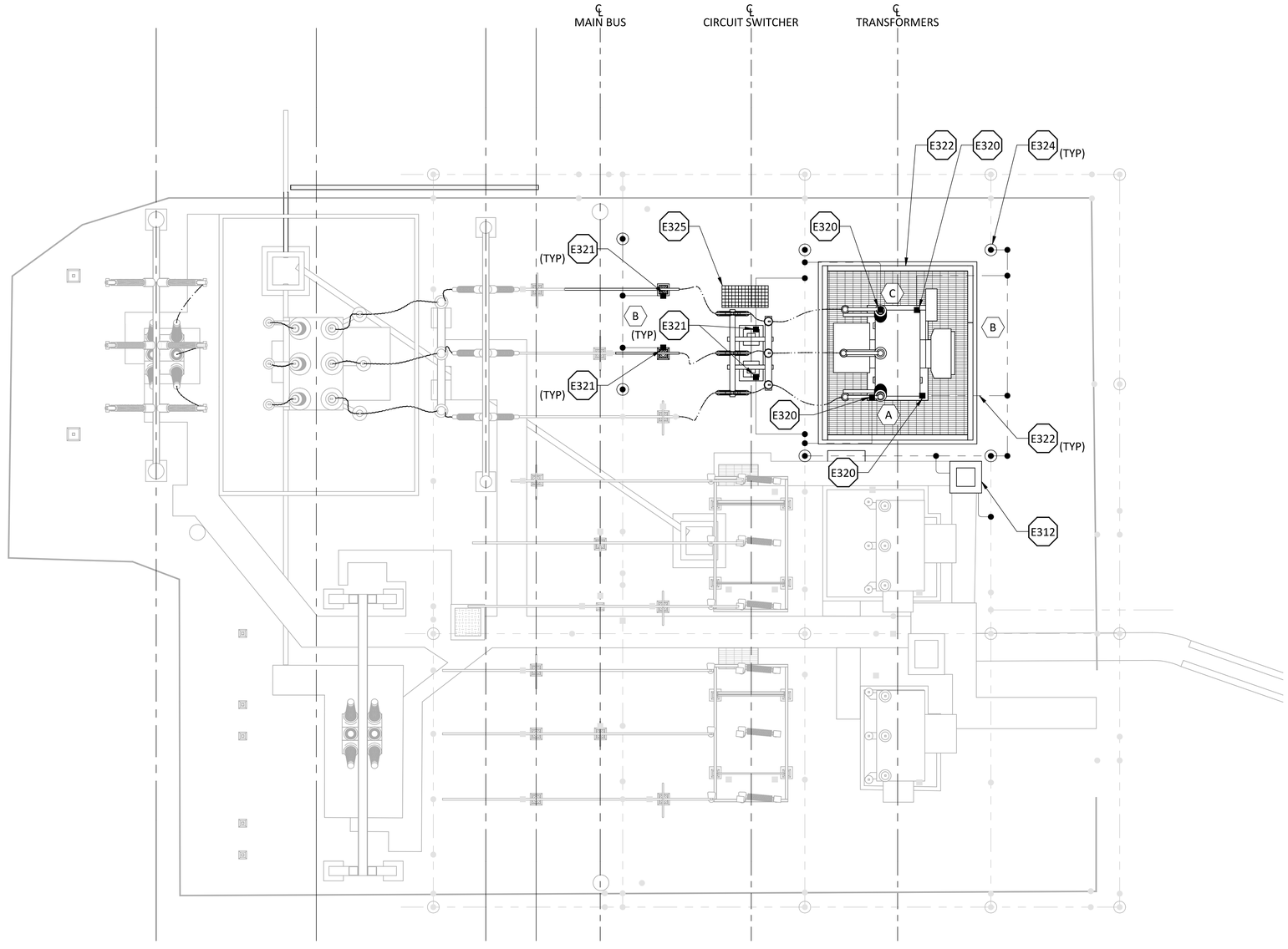
NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
BUS DETAILS 1

REF DWG(S):
-

DRAWING NO.: H02-D-53-0179-R01

SHEET 137 OF 144



SHEET KEY NOTES:

A. EXCAVATE TO EXPOSE EXISTING GROUND GRID AROUND THE AREA OF TRANSFORMER 3 CONTAINMENT.

B. SPLICE EXISTING GROUND GRID. REPAIR GROUND GRID BY ROUTING NEW GROUND CONDUCTORS AROUND CONTAINMENT FOUNDATION AND CONNECT TO EXISTING GROUND GRID ON BOTH ENDS.

C. CONNECT GROUND CONNECTIONS TO TWO HOLE GROUND PADS ON EACH CORNER OF TRANSFORMER 3.

SWITCHYARD ARRANGEMENT, PLAN (MOD)

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

0 8' 16'

N

STATE OF ALASKA 49th
JEREMY RICHARD WINKLE
Date 5.18.2026
No. EE23799
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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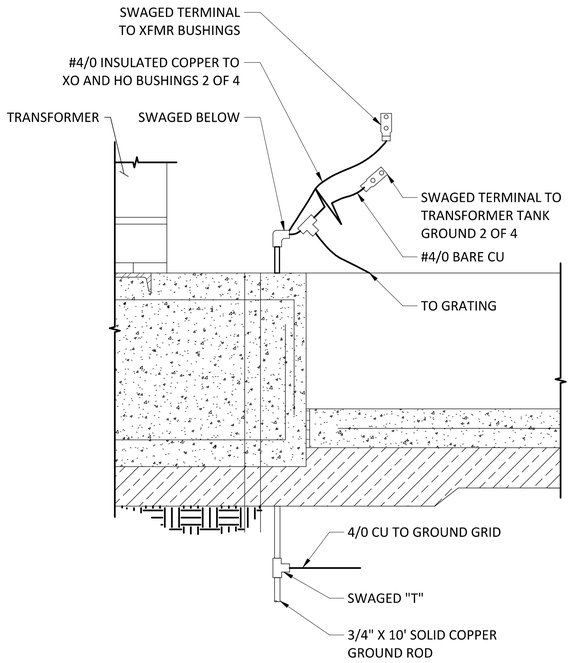
SEAPA
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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

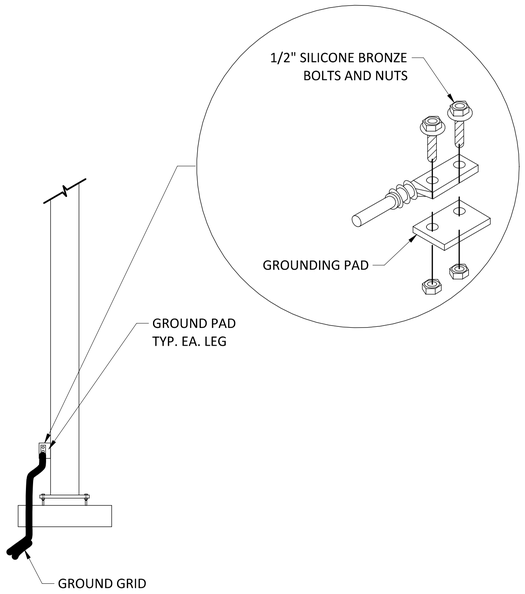
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
GROUNDING PLAN

REF DWG(S):
H02-D-53-5001-R52

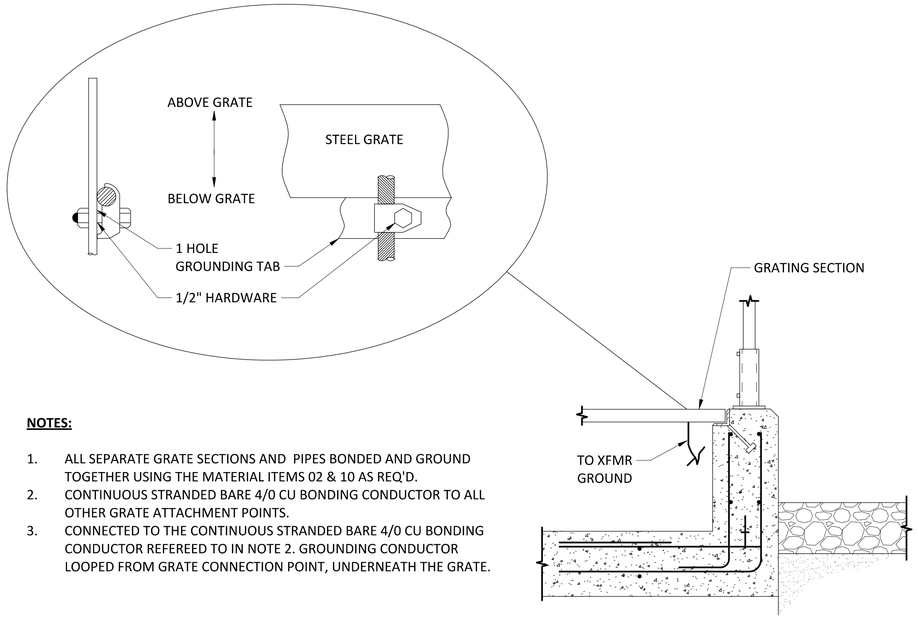
DRAWING NO: H02-D-53-5102-R00



E320 TRANSFORMER GROUND DETAIL
SCALE: NTS



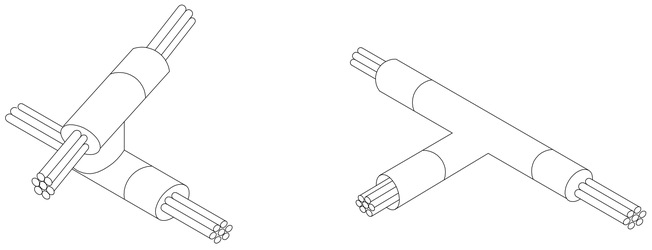
E321 STRUCTURE GROUNDING (TYPICAL)
SCALE: NTS



NOTES:

1. ALL SEPARATE GRATE SECTIONS AND PIPES BONDED AND GROUND TOGETHER USING THE MATERIAL ITEMS 02 & 10 AS REQ'D.
2. CONTINUOUS STRANDED BARE 4/0 CU BONDING CONDUCTOR TO ALL OTHER GRATE ATTACHMENT POINTS.
3. CONNECTED TO THE CONTINUOUS STRANDED BARE 4/0 CU BONDING CONDUCTOR REFEREED TO IN NOTE 2. GROUNDING CONDUCTOR LOOPED FROM GRATE CONNECTION POINT, UNDERNEATH THE GRATE.

E322 TRANSFORMER GRATE GROUNDING DETAILS
SCALE: NTS



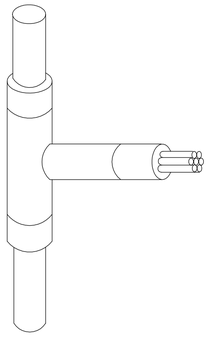
THROUGH CONDUCTOR

SPLIT CROSS BOTH
CONDUCTORS LAY IN

END CONDUCTOR

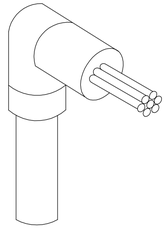
SPLIT "T" "RUN"
CONDUCTORS LAY IN

E323 GROUND GRID INTERSECTION CONNECTOR
SCALE: NTS



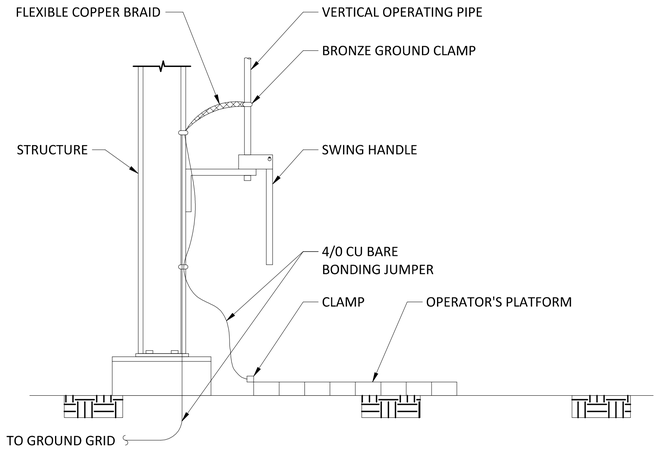
THROUGH CONDUCTOR

SPLIT "T" "RUN" CONDUCTOR LAY IN



END CONDUCTOR

E324 GROUND GRID TO ROD CONNECTOR
SCALE: NTS



E325 SWITCH GROUNDING DETAIL
SCALE: NTS

STATE OF ALASKA
49th
JEREMY RICHARD
WINKLE
Date 5.18.2026
No. EE237994
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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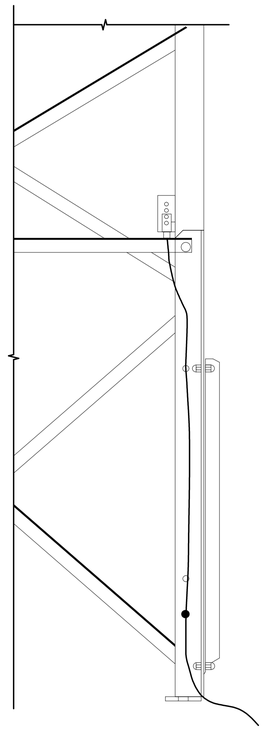
SEAPA
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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

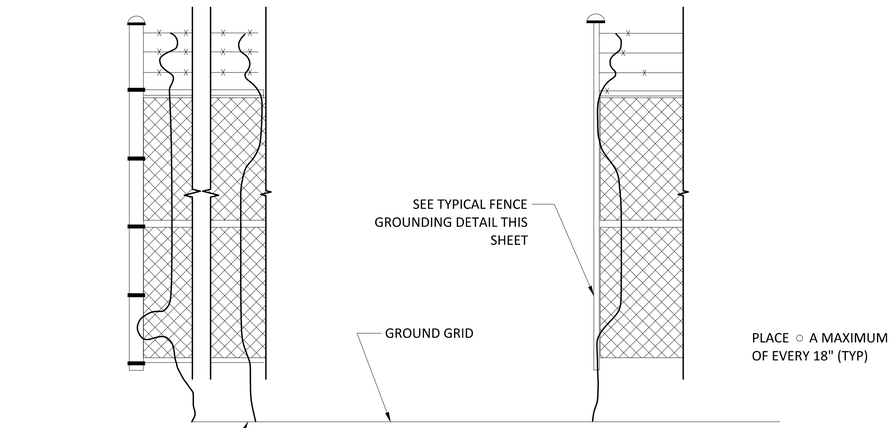
DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
GROUNDING DETAILS 1

REF DWG(S):

DRAWING NO: H02-D-53-5103-R00



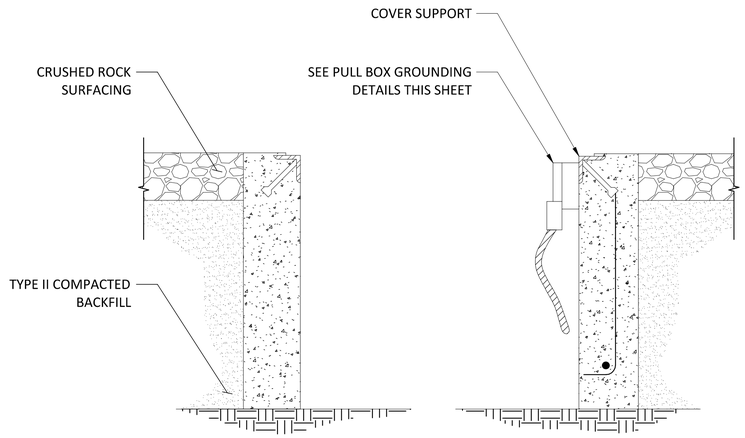
E326 GAS CIRCUIT BREAKER GROUNDING DETAIL
SCALE: NTS



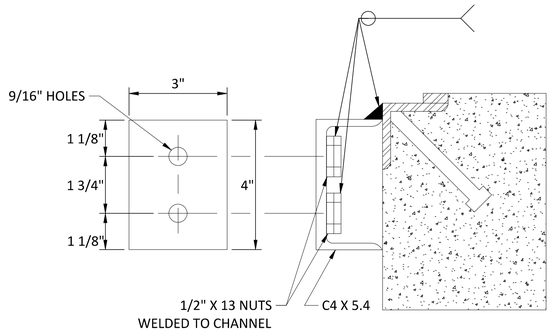
NOTES:

1. ALL FENCE FABRIC GROUNDS ARE #2 SOLID COPPER.
2. GROUNDING TAILS ARE CONTINUOUS 4/0 COPPER TO THE GROUNDING GRID.
3. FENCE POSTS SHALL BE BONDED TO THE GROUNDING GRID AS SHOWN ON PLAN.
4. FENCE FABRIC AND BARBED WIRE SHALL BE BONDED AT EVERY GROUNDED FENCE POST WITH CONNECTORS PLACED AT A MINIMUM OF 18" AND AT EACH STRAND OF BARBED WIRE.

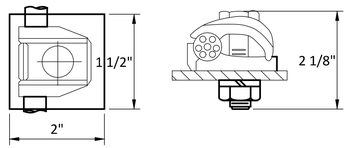
E327 FENCE GROUNDING
SCALE: NTS



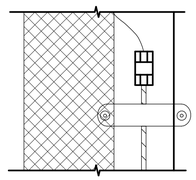
E328 PULL BOX
SCALE: NTS



E329 PULL BOX GROUNDING DETAILS
SCALE: NTS



E330 GROUND CLAMP
SCALE: NTS



E331 TYPICAL FENCE GROUNDING
SCALE: NTS



PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

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NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

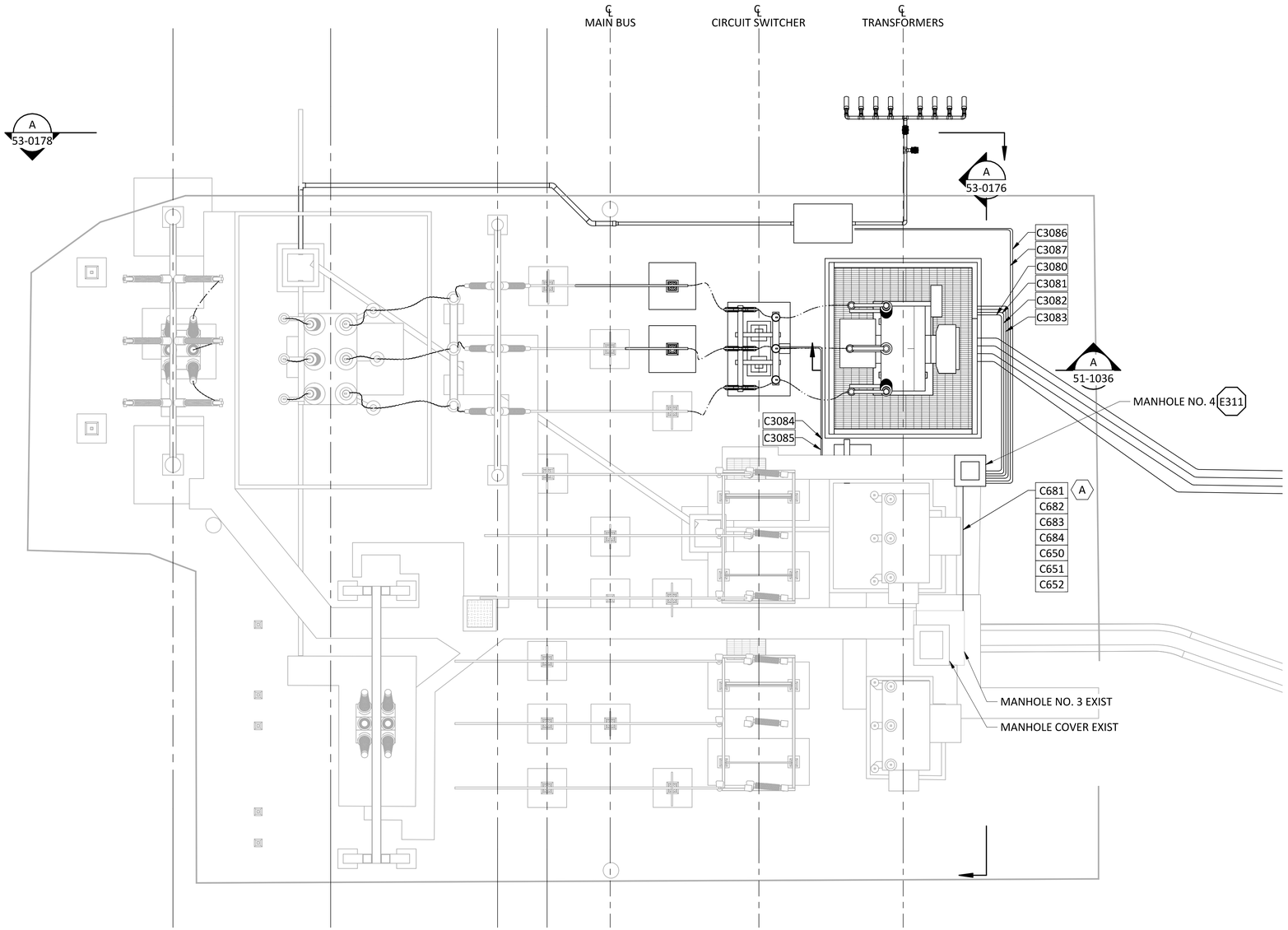
DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
GROUNDING DETAILS 2

REF DWG(S):

DRAWING NO: H02-D-53-5104-R00

SHEET KEY NOTES:

A. EXCAVATE TO FIND EXISTING CONDUIT PLANNED FOR FUTURE TRANSFORMER (C681, C682, C683, C684, C650, C652, C653). INTERCEPT EXISTING 2" CONDUITS (C681,C682,C683,C684). INTERCEPT EXISTING 4" CONDUITS WILL NOT BE USED AND MAY BE CAPPED.



SWITCHYARD CONDUIT PLAN (MOD)

SCALE: 1/8" = 1'-0" 0 8' 16'

N

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5-12-2026 No. EE2377095 REGISTERED PROFESSIONAL ENGINEER

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

McMillen
1471 Shoreline Dr. Ste 100, Boise, ID 83702 | (208) 342-4214 | mcmillen.com

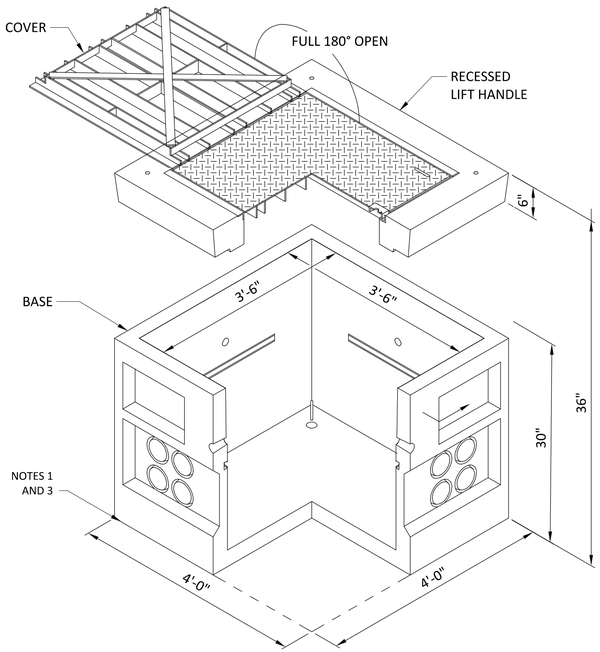
SEAPA
Southeast Alaska Power Agency

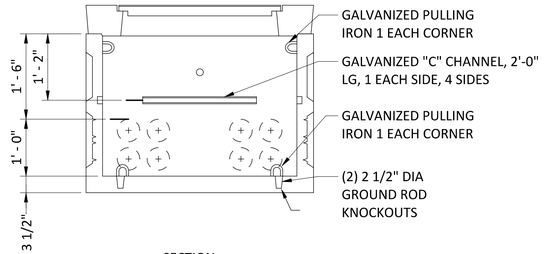
NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
CONDUIT PLAN

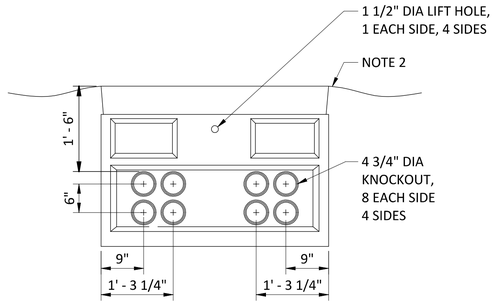
REF DWG(S):

DRAWING NO: H02-D-53-5105-R00





SECTION



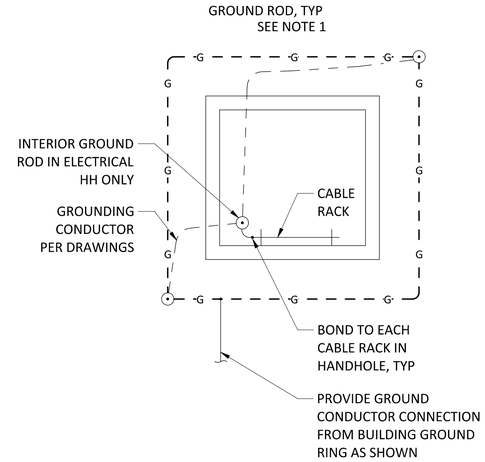
END VIEW

NOTES :

1. PROVIDE GROUNDING PER STANDARD DETAIL ON THIS DRAWING AND DIV 26 SPECIFICATIONS.
2. SLOPE FINISHED GRADE TO DRAIN AWAY FROM VAULT.
3. REFER TO SPECIFICATION SECTION 26 05 43 FOR VAULT REQUIREMENTS.

E311 MANHOLE NO. 4 DETAIL

SCALE: NTS

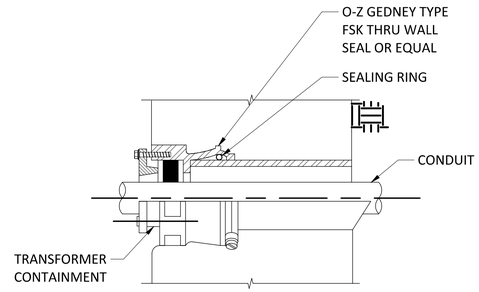


NOTES:

1. FOR FIBER OPTIC PULL BOXES ONLY ONE GROUND REQUIRED.

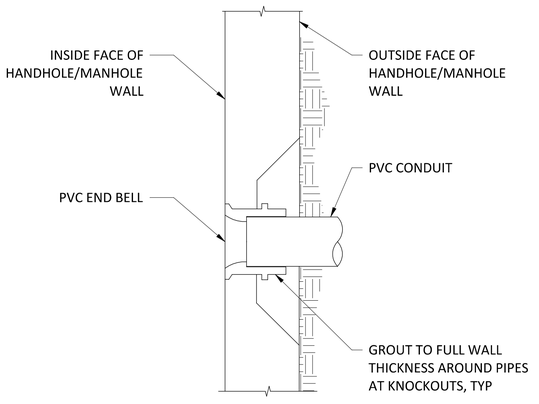
E312 MANHOLE NO. 4 GROUNDING DETAIL

SCALE: NTS



E313 CONTAINMENT WATERTIGHT CONSULT SEAL DETAIL

SCALE: NTS



E314 MANHOLE NO. 4 CONDUIT ENTRANCE DETAIL

SCALE: NTS

STATE OF ALASKA 49th
JEREMY RICHARD WINKLE
Date 5.18.2026
No. EE37996
REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION.	DRAWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

McMillen
1471 Shoreline Dr. Ste 100, Boise, ID 83702 | (208) 342-4214 | mcmillen.com

SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
CONDUIT DETAILS SHEET 1

REF DWG(S):

DRAWING NO: H02-D-53-5106-R00

SHEET 142 OF 144

TB-A

1	
2	
3	
4	
5	
6	26Q1 LIQUID TEMP GAUGE 80 DEG C
7	
8	
9	
10	
11	
12	49T1 SIMULATED WINDING TEMP GAUGE 90 DEG C

NO. 3110, 12C #10, TO TRANSFORMER #3 TO PANEL 1R

TB-E

1	1
2	
3	
4	27-1 ALARM
5	
6	
7	3
8	2
9	
10	27-2 TRIP
11	
12	

TB-I

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

TB-B

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

TB-F

1	63AX1A
2	SUDDEN PRESSURE
3	ALARM
4	63AX1B
5	SUDDEN PRESSURE
6	TRIP
7	
8	
9	
10	
11	
12	

TB-J

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

TB-C

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

TB-G

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

TB-K

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

CBA

4-1

27-1

27-2

27T

27VDC

63X1A

63X1B

TB-D

1	
2	
3	
4	
5	27T AC POWER LOSS
6	
7	
8	
9	
10	27VDC DC POWER LOSS
11	
12	

TB-H

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

DC 1(+) 2(-)
1 2

AC 1(L1) 2(L2) 1(N) 2(G)
1 2 3 4

NO. 3112, 2/C #10
H02-D-47-0540-R00
PNL 2R

NO. 3111, 3/C #10
H02-D-47-0540-R00
PNL 2R

SB8

1	
2	
3	
4	
5	
6	

SB1

1	1
2	
3	2
4	3
5	4
6	

CT-H1-2

NO. 3047, 4/C #10,
H02-D-47-0540-R00, PNL 2R

SB2

1	
2	
3	
4	
5	
6	

CT-H2-2

SB3

1	
2	
3	
4	
5	
6	

CT-H3-2

SB4

1	1
2	2
3	3
4	4
5	
6	

CT-H1-1

NO. 3048, 4/C #10,
H02-F-47-V002-R52, PNL 1R

SB5

1	
2	
3	
4	
5	
6	

CT-H1-2

SB6

1	
2	
3	
4	
5	
6	

CT-H1-3

SB7

1	1
2	
3	
4	
5	2
6	

CT-H0-1

NO. 3049, 2C #10,
H02-D-47-0540-R00, PNL 2R

STATE OF ALASKA 49th JEREMY RICHARD WINKLE Date 5.18.2026 No. EE23799L REGISTERED PROFESSIONAL ENGINEER

PROJECT: Southeast Alaska Power Agency - Tyee Lake 3rd Turbine & Generator Installation
DESIGNER/PROJECT ENGINEER: McMillen, Inc. JOB # T.O. No. 24017

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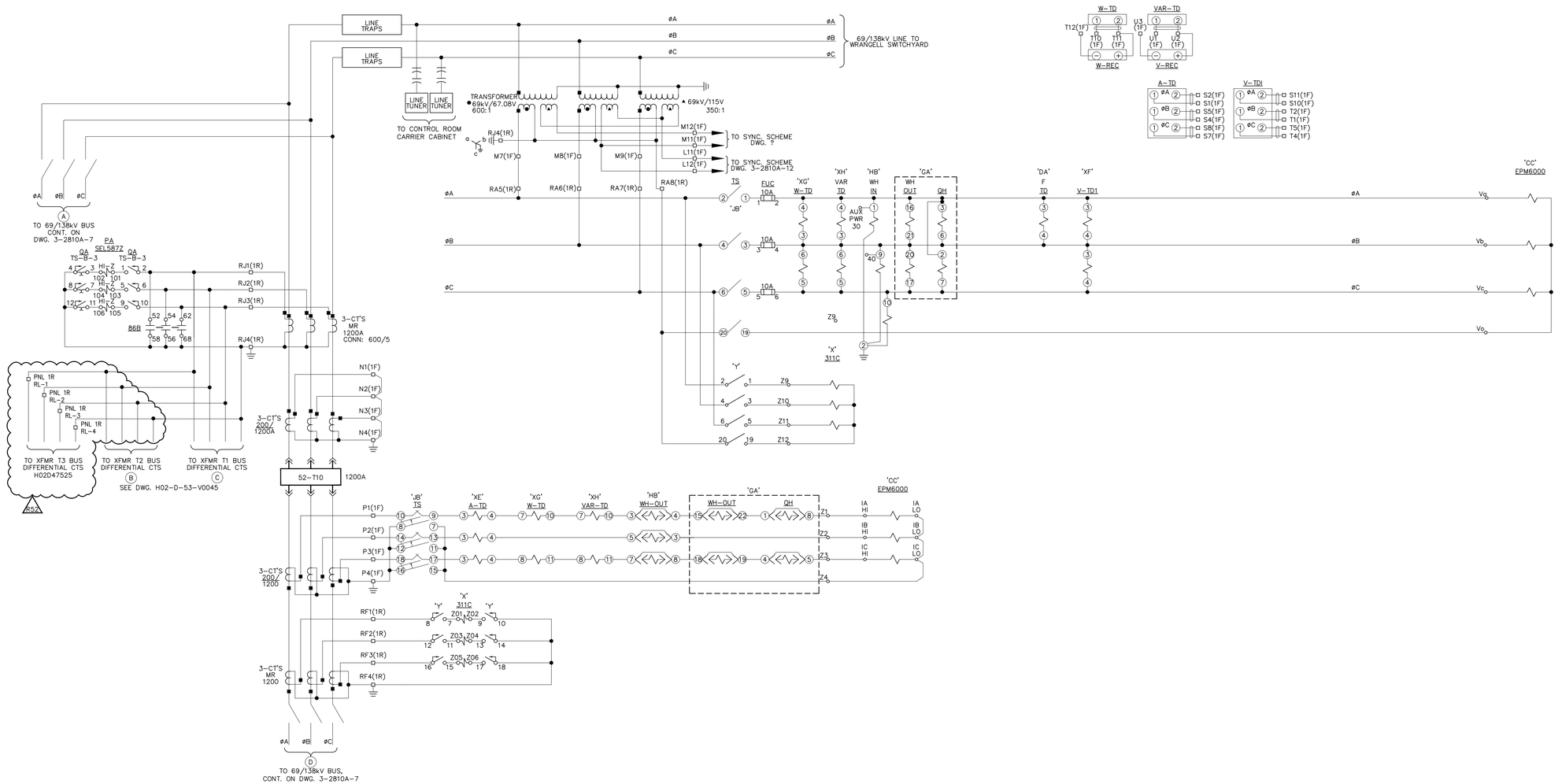
SEAPA
Southeast Alaska Power Agency

NO.	DRAWING NO/SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
WIRING & INTERCONNECTING DIAGRAMS SHEET 1

REF DWG(S):
VIRGINIA TRANSFORMER - 48011MA011

DRAWING NO: H02-D-53-5107-R00



PROJECT:	Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Design		
DESIGNER/PROJECT ENGINEER:	McMillen Inc	JOB #:	T.O. 24017

NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
52	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026
51	AS-BUILT	EAF / 02-26-2010	DWB / 02-26-2010

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DRAWING NAME:
SOUTHEAST ALASKA POWER AGENCY
TYEE 3rd TURBINE & GENERATOR INSTALLATION
SWITCHYARD
MAIN THREE LINE DIAGRAM

REF DWG(S):

DRAWING NO.: H02-F-53-V0044-R52

SHEET 144 OF 144